



[www.tk20.com](http://www.tk20.com)

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RFP #LU214-16-009  
1/13/2016

**Submitted by Tk20, Inc.**

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**Submitter**

Katelin Trowbridge, Regional Sales Consultant

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## Table of Contents

<b>RFP Cover Sheet</b> .....	<b>3</b>
<b>Transmittal Letter</b> .....	<b>4</b>
<b>Offeror Data Sheet</b> .....	<b>6</b>
<b>Additional References</b> .....	<b>7</b>
<b>Narrative Statement</b> .....	<b>8</b>
<i>Executive Summary</i> .....	<b>8</b>
<i>Qualifications, Background and Relevant Experience</i> .....	<b>10</b>
<i>Services Summary</i> .....	<b>13</b>
<i>Key Personnel Involved in the Project</i> .....	<b>15</b>
<i>Business Outlook and Continuity Strategy</i> .....	<b>20</b>
<i>Scope of Work based on Statement of Needs</i> .....	<b>21</b>
A. Assessment, Planning & Budgeting Management Requirements .....	<b>21</b>
B. Data Collection Requirements.....	<b>32</b>
C. Assessment, Planning & Budgeting Management Report Requirements.....	<b>42</b>
D. Accreditation Management Requirements .....	<b>46</b>
E. Requirements for Additional Applications .....	<b>49</b>
F. Usability Requirements .....	<b>62</b>
G. Technical, Security and Maintenance Requirements.....	<b>70</b>
H. Support and Training Requirements.....	<b>100</b>
<b>Implementation Overview</b> (addressed in Support and Training Requirement (pp. 100-14)	
<b>Price Proposal</b> .....	<b>115</b>
<b>Small Business Subcontracting Plan (N/A)</b> .....	<b>117</b>
<b>Addenda</b> .....	<b>119</b>
<b>Appendices:</b>	
<i>Hardware Requirements Guide</i>	
<i>Single Sign-on and Central Authentication</i>	
<i>Guidelines for Data Import</i>	

REQUEST FOR PROPOSALS (RFP)

Issue Date: December 2, 2015  
 Title: Assessment, Planning, Budgeting and Accreditation Management System

RFP#LU214-16-009  
 Commodity Codes: 20820, 20853, 92014, 92015

Issuing Agency: COMMONWEALTH OF VIRGINIA  
 Longwood University  
 Materiel Management & Purchasing  
 201 High Street, Lancaster Hall, Room 207  
 Farmville, Virginia 23909

OPTIONAL PRE-PROPOSAL CONFERENCE:  
 Friday, December 11, 2015 at 9:00 a.m.  
 Lancaster Hall, 2<sup>nd</sup> Floor, Room #223  
 Longwood University  
 Farmville, Virginia

Location Where Work Will Be Performed: Longwood University, Farmville, Virginia 23909

Initial Period of Contract: From March 1, 2016 through February 28, 2017. \*Optional four (4) successive one (1) year renewals.

**Sealed Proposals Will Be Received Until 2:00 p.m. on January 5, 2016** For Furnishing The Goods/Services Described Herein. **Proposals Shall Be Date/Time Stamped By The University Upon Receipt.**

All Inquiries For Information Should Be Directed To: Cathryn B. Mobley, Director of Financial Operations & Materiel Management, at fax (434) 395-2246 or email mobleycb@longwood.edu using ATTACHMENT A – WRITTEN PRE-PROPOSAL QUESTION FORM. Questions are due by 12:00 noon on December 16, 2015.

IF PROPOSALS ARE MAILED, SEND DIRECTLY TO ISSUING AGENCY SHOWN ABOVE. IF PROPOSALS ARE HAND DELIVERED, DELIVER TO: Materiel Management & Purchasing, Lancaster Hall, 2<sup>nd</sup> Floor, Room 207, 201 High Street, Farmville, Virginia. **Note: If you use an express delivery service, you may be told the University is a next day delivery location, but make sure the carrier guarantees arrival by 2:00 p.m.**

In Compliance With This Request For Proposals And To All The Conditions Imposed Therein And Hereby Incorporated By Reference, The Undersigned Offers And Agrees To Furnish The Services In Accordance With The Attached Signed Proposal Or As Mutually Agreed Upon By Subsequent Negotiation.

State Corporation Commission (SCC) ID#: N/A See Note Attached or statement describing why offeror is not required to have a SCC ID# must be furnished with your proposal.

eVA Member: [] Yes [ ] No  
 eVA Vendor ID#: V50000003646

Check all that apply: Small Business [ ] N/A  
 Woman-Owned Business [ ]  
 Minority-Owned Business [ ]

**Note: Offeror shall be a member of eVA on the Date and time designated for receipt of proposals to be awarded this contract.** See General Terms and Conditions X, page 24 for information on registration.

DSBSD Certificate Number N/A  
 Certification Date \_\_\_\_\_/\_\_\_\_\_/\_\_\_\_\_  
 Expiration Date \_\_\_\_\_/\_\_\_\_\_/\_\_\_\_\_

Name And Address Of Firm:

Tk20  
10801 Mopac Expy Ste 740  
Austin, TX Zip Code 78759

Date: 01-05-16

By: [Signature]  
 (Signature In Ink)

Name: Bhupi Bhasin  
 (Please Print or Type)

Title: President

E-mail: \_\_\_\_\_

Phone: (512) 401-2000  
 (Toll Free, if available)

Fax: (512) 372-4540  
 (Toll Free, if available)

## TRANSMITTAL LETTER

December 28, 2015

Deborah J. Cooper, CUPO, VCO  
Longwood University  
Buyer Specialist/Contracts Administrator  
201 High Street, Lancaster Hall, 2nd Floor, Room 207C  
Farmville, Virginia 23909

Re: RFP# LU214-16-009 -- Assessment, Planning, Budget and Accreditation Management System

Dear Ms. Cooper:

Enclosed is the Tk20 proposal in response to the Request for Proposal for an Assessment, Planning, Budget and Accreditation Management System for Longwood University. We appreciate the opportunity to provide Longwood University with an end-to-end assessment solution that will promote easier, more efficient outcomes assessment and accreditation processes across all levels of the institution.

Tk20 CampusWide COMP™ is a highly configurable and comprehensive system that will allow the university to manage all assessment, planning, program review, institutional effectiveness and accreditation activities in a central location, to facilitate goal alignment across the organization, and to conduct a wide variety of direct and indirect assessments (e.g. course assessments, portfolios, field/internship assessments, juried assessments, surveys, course evaluations). The system will empower you to collect all your data systematically, at every level of the institution, and to generate real-time reports for compliance, analysis, and program improvement.

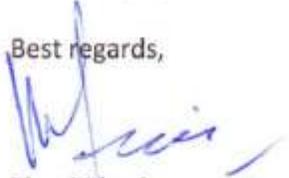
In one licensable product, you can document and align goals and outcomes, create curriculum maps, develop assessment plans, strategic plans, improvement initiatives and corresponding budget items, collect data from designated users, and house important documents. The Tk20 system centralizes and streamlines many of the data collection and reporting processes that institutions need to undertake to meet accreditation standards, such as SACS Standards on Institutional Effectiveness. The university can also use Tk20's accreditation module to co-develop formatted regional and programmatic accreditation reports (e.g. SACSCOC, CAEP) and periodic program review reports. Embedded course assessment, electronic portfolios, unit assessments, student advisement, field experience placement and assessments, surveys, course evaluations, document management are all provided with the CampusWide solution.

The system also offers extensive capabilities for integrated assessment by empowering you to incorporate data from a variety of sources; this includes not only assessment data generated in Tk20, but also data imported from your student information system and from other external systems. Tk20 integrates with all common LMS systems, including Blackboard, Moodle, Canvas, D2L and Sakai. Data is fully connected and resident in one system, providing easy, immediate and seamless reports.

If there are any questions or comments regarding the responses in this proposal, please contact Katelin Trowbridge, Regional Sales Consultant at 718-274-9668, or [ktrowbridge@tk20.com](mailto:ktrowbridge@tk20.com)

We understand that the selection of an enterprise assessment system is very important to all of the stakeholders at Longwood University. We know this will have a major impact on the institution and we are committed to partnering with you to provide a complete and comprehensive solution which is efficient and effective in meeting your overall assessment needs. We look forward to working with you on the deployment of this solution.

Best regards,

A handwritten signature in blue ink, appearing to read 'Bhupi Bhasin'.

Bhupi Bhasin  
President  
Tk20, Inc.

**ATTACHMENT C – OFFEROR DATA SHEET (TO BE COMPLETED BY OFFEROR AND RETURNED WITH PROPOSAL)**

A. **Qualification of Offeror:** The Offeror must have the capability and capacity in all respects to fully satisfy all of the contractual requirements. Indicate below the length of time you have been in business providing the goods/services required herein.

14 Year(s) \_\_\_\_\_ Month(s)

B. **References:** List three (3) colleges or universities for whom you have provided this type of goods/services that Longwood has your permission to contact.

1. St. Cloud State University – Ms. Holly Evers, Assessment and Accreditation Coordinator  
 College/University  
720 4th Ave S, St Cloud, MN 56301  
 Address  
320.308.2942 2/15/2013 - present  
 Phone Number Date(s) of Service  
hpevers@stcloudstate.edu  
 Email Address

2. Webster University -- Dr. Julie Weissman, Director of Institutional Effectiveness  
 College/University  
470 E Lockwood Ave, Webster Groves, MO 63119  
 Address  
314.246.4256 6/1/12 - present  
 Phone Number Date(s) of Service  
julieweissman22@webster.edu  
 Email Address

3. George Mason University – Karen Manley, Administrative & Communications Coordinator  
 College/University  
4400 University Dr., Fairfax, VA 22030  
 Address  
703.993.8834 8/4/2014 - present  
 Phone Number Date(s) of Service  
kmanley@gmu.edu  
 Email Address

## Additional References

### **Texas State University**

Mr. Whitten Smart  
Sr. User Service Consultant  
[ws15@txstate.edu](mailto:ws15@txstate.edu)  
512.245.8622  
Service Dates: 11/2010 - present

### **A. T. Still University**

Ms. Jane Hawthorne  
Data and Contract Manager  
[jhawthorne@atsu.edu](mailto:jhawthorne@atsu.edu)  
480.219.6087  
Service Dates: 6/2010 - present

### **University of St. Thomas**

Mr. Jerome Duepner  
CUA for Education  
Assessment  
[jduepner@stthomas.edu](mailto:jduepner@stthomas.edu)  
651.962.4878  
Service Dates: 7/2011 - present

### **SUNY College at Brockport**

Mr. Keith Nobles  
Assessment and Tk20 Support  
[knobles@brockport.edu](mailto:knobles@brockport.edu)  
585.395.2896  
Service Dates: 7/2011 - present

### **Corban University**

Mr. Ben Moll  
Director of Assessment  
[BMoll@corban.edu](mailto:BMoll@corban.edu)  
503.375.7089  
Service Dates: 12/2010 - present

### **Middle Tennessee State University**

Dr. Phillip Waldrop  
Associate Dean  
[phillip.waldrop@mtsu.edu](mailto:phillip.waldrop@mtsu.edu)  
615.898-5573

### **Jefferson College of Health Sciences**

Dr. Glen Mayhew  
Associate Dean for Institutional Effectiveness  
(540) 985-8539  
[GRMayhew@jchs.edu](mailto:GRMayhew@jchs.edu)  
Service Dates: 1/2013 - present

### **University of North Georgia**

Dr. Betsy Cantrell  
Director of Planning and Institutional Research  
[Betsy.Cantrell@ung.edu](mailto:Betsy.Cantrell@ung.edu)  
678.717.3941  
Service Dates: 9/2011 - present

### **Virginia Union University**

Dr. Patty Young  
Director of Assessment  
[pyoung@vuu.edu](mailto:pyoung@vuu.edu)  
804.257.5605  
Service Dates: 6/2008 - present

### **Bob Jones University**

Mr. Phil Gerard  
Director of IE  
[pgerard@bju.edu](mailto:pgerard@bju.edu)  
864.242.5100 x1015  
Service Dates: 6/2012 - present

### **Frontier Nursing University**

Ms. Marilyn Lyons  
Data Analyst  
[Marilyn.Lyons@frontier.edu](mailto:Marilyn.Lyons@frontier.edu)  
859-253-3637 extension 2520  
Service Dates: 4/2012 - present

## Narrative Statement

### *Executive Summary*

Longwood University is weighing the important decision to adopt an institution-wide solution to streamline assessment data collection and reporting, to support evidence-based quality and planning processes for institutional improvement, and to manage accreditation activities.

Tk20 is ideally suited to meet the university's needs and goals, by providing integrated, end-to-end, web-based solutions for assessing the performance of your entire institution, both academic and non-academic. Tk20's CampusWide™ COMP solution will empower you to customize assessment and accreditation processes, to track activities, and to centrally manage documents and data, in order to promote greater transparency, communication and collaboration across the campus. Using Tk20 CampusWide COMP, you can perform assessments at every level of the institution (e.g. course, program, General Education, campuswide), and then generate instant reports on the data. The ability to aggregate assessment data in real-time will facilitate more timely data-driven decisions for program design and renewal, and for improvements in teaching and learning. These solutions are designed to make assessment practices more efficient, systematic and sustainable, and to yield more meaningful results to the academic community.

The CampusWide system will allow you to manage all of your planning, program review, institutional effectiveness and accreditation activities in a central location, including: documenting and aligning goals and outcomes, creating curriculum maps, developing assessment plans, strategic plans, improvement initiatives and corresponding budget items, collecting data from designated users, and housing important documents. The Tk20 system centralizes and streamlines many of the data collection and reporting processes that institutions need to undertake to meet accreditation standards, such as SACS standards on institutional effectiveness. You can also use Tk20's accreditation module to co-develop formatted regional and programmatic accreditation reports (e.g. CAEP, CSWE, AACSB, CCNE, CAAHEP, CAATE etc.) and periodic program review reports.

The CampusWide COMP system fully manages direct assessments of student learning (e.g. assignments, portfolios, field/internship assessments, juried assessments). These workflows promote broad-based faculty and student engagement, adding greater meaning and value to assessment processes for these stakeholders. Faculty will have access to a rich set of evaluation and feedback tools that can assist in improving student learning, and student performance dashboards that can support timely interventions with individual students. Students can track their progress through their program requirements and view their improvements over time, helping synthesize their learning across diverse course activities and encouraging their investment in key learning outcomes.

The COMP system has the flexibility to support a variety of assessment processes, which may vary from unit to unit. To support online assignment submission and grading, this system offers Single-Sign and Gradebook integration for all common LMS systems. Alternatively, student work can be submitted and evaluated directly in Tk20, or faculty can make course-based "observations" that do not require student submission, but could include file attachments. Regardless of the workflow, you can then use Tk20's powerful reporting system to aggregate and analyze assessment data across key assignments, courses, programs or across the entire institution.

A key area of the COMP system is the field experience module which can help the university manage field experience data and field-based assessments more efficiently. You can any number of custom fields throughout the module, thus empowering the institution to collect a wealth of data about site characteristics and demographics, field personnel and students. Designated users can place students individually or in bulk, and notify field staff (e.g. cooperating teachers, clinical instructors), university supervisors and students about the placements. Once students are placed, university field coordinators can distribute online placement binders to the students. These binders provide a central location from which students can view their placement requirements and can submit work samples, videos, and other required documents (e.g. time log, self-assessment, evaluation of the site). Field personnel, university supervisors and other designated users can view some or all of the student binder (depending on permissions), can complete evaluations and other forms and can upload files. Your field office will not need to send credentials to the cooperating teachers; they can click on a link in an email to access the student binder and the evaluations that they need to submit. Any data entered into the field experience module can be aggregated in real time reports. This includes site and staff characteristics, yearly demographic data, forms that students have completed within their binders and the assessment results. These reports can then be used as supporting evidence for accreditation and to drive program improvements.

The COMP system provides clients with a holistic view of institutional and program effectiveness, by allowing them to connect assessments to other processes that improve student outcomes, such as learner-centered portfolios and advisement. Tk20's portfolios allows educators to scaffold key competencies in order to promote integrated student learning, and to conduct formative and summative assessments across multiple years such as for General Education programs. After graduation, alumni can continue to modify and share their portfolios (such as with potential employers) as they embark on their career paths. In the advisement module, direct and indirect assessments can appear alongside additional key indicators of student performance, such as test scores, transcripts and students' progress through program requirements. Corresponding reports on this student data will allow you not only to provide systematic evidence of student learning, but also to track performance trends from admission to graduation, and to make timely interventions with students in order to promote retention.

The CampusWide COMP system supports several other types of assessment and data collection processes that you can then use as substantiating evidence in your assessment plans. Using the COMP system you can:

- Create course evaluation instruments, make them available to your students, and schedule them as needed during your terms with the ability to report on an individual or aggregate basis
- Create surveys to obtain feedback from your students, alumni, faculty, or other community stakeholders
- Use the juried assessment feature to bulk upload student artifacts and then perform random, blind assessments of the student work using multiple evaluators
- Develop faculty portfolios, track faculty qualifications and manage faculty rosters for accreditation and to support tenure/promotion processes

Tk20 system's high level of configurability provides extensive capabilities for integrated assessment by empowering you to incorporate data from a variety of sources; this includes not only assessment data generated in Tk20, but also data imported from your student information system, and from other external systems. Through the deployment of the CampusWide product, you can systematically collect and consolidate assessment information in a centralized repository, reduce the number of stand-alone applications you may currently use, improve the efficiency of handling assessment information and provide enhanced assessment reporting.

The system is built for reporting. The CampusWide system includes over 100 reports developed in collaboration with our users. These reports offer extensive capabilities for analyzing performance to promote data-driven

insights and more efficient and effective decisions. Our users consistently inform us that Tk20 reports give them a vast base of viewing capability pertaining to the performance of their students, programs and units. In the COMP system, for example, you can view detailed reports, aggregated or per student, on various assessments related to student competencies in any program or unit, aligned with your outcomes and goals. All of the CampusWide solutions include reports that facilitate collaboration and real-time monitoring throughout the institution. For example, dashboard reports allow you to see the status of institutional performance at a glance and easily monitor real-time program, assessment data and analytics.

Another element in the design is the use of customizable features. Specific forms and assessment instruments can be created which allow the individual units to maintain continuity with many existing processes. This allows users to quickly adapt to the new environment since many of the terms are familiar. We can also support your existing authentication environment, making it easier for your faculty, staff and students to use the system.

Tk20 provides a complete solution, not just a software application: The system is bundled with all the services that you will need for a rapid and successful implementation. These include detailed training for different users, set up of data import from your student information and other systems, system configuration, integration into your portal and single sign-on environments, server hosting, updates and data migration.

Partnership with Tk20 is straightforward and proactive. As part of the licensing process Tk20 will provide Longwood University with an assigned Implementation Project Coordinator. This person will assist the institution in the deployment process, be involved in project management and be the main point of contact for support, training, adoption and system configuration. All Implementation Project Coordinators are former educators and assessment specialists, and are highly trained in the product and assessment areas.

Instead of having point solutions that may not “talk” to each other, and expensive, a-la-carte pricing, Tk20 clients receive a complete product and service solution that includes customized adoption and configuration services, training sessions, system upgrades, technical support, maintenance and available server hosting at our location- all for a flat annual fee. Your data always resides within your custom CampusWide system, optimized for your institution and processes.

## ***Qualifications and Relevant Experience***

As assessment and accreditation becomes more complex, data intensive and time critical, Tk20 is focusing on delivering best-in-class assessment solutions for colleges and universities. This includes a comprehensive system that is easy to use for students, faculty and administrators, flexibility to adapt to changing assessment and accreditation requirements, and a commitment to quality and innovation that will empower us to deliver the functionality our customers require.

Tk20's mission is to collaborate with customers and to provide the highest quality comprehensive products, support, and services through continuous improvement to ensure complete customer satisfaction. Our value statements are as follows:

- We are committed to the highest level of integrity in every aspect of our business.
- We are committed to a teamwork environment where every employee is a valued member, treated with respect, encouraged to contribute and recognized and rewarded for his/her efforts.

- We value our customers as partners.
- We seek sustainable, profitable growth by encouraging relentless pursuit of our vision, simplicity of style, speed of action, innovation and leadership in all of our chosen business activities.
- We accept our individual and team responsibilities and we meet our commitments. We take responsibility for our performance in all of our decisions and actions.

As a company, we are strategically focused on the following:

- Ensure that our customers are highly satisfied with our products, services and support.
- Ensure that our employees are extremely cared for and find personal growth.
- Ensure that we have a process of continuous improvement in everything that we do.
- Ensure that the company is growing and consistently profitable.

Our company objectives are to:

- Increase products/services by expanding existing customer base for comprehensive and specialized program assessment.
- Improve the overall customer experience and satisfaction.
- Delivery high quality applications to improve assessment and student learning.
- Extend the intuitive nature and ease of use for all user groups.
- Ensure release deadlines are maintained.

Founded in 2002 by experts in data management and reporting, the state of the industry at the time reflected a deep fragmentation of solutions, with student learning and program data trapped in multiple systems that did not allow for collaboration. Reporting for program quality, institutional effectiveness and accreditation necessitated an immense amount of effort, involving extraction of data from multiple systems, satisfying multiple ownerships and manual generation of reports.

The founders of Tk20, in collaboration with serving members of higher education administration, faculty and experts in assessment, created comprehensive systems that provided extensive abilities for integrated assessment and real-time reporting. In addition, these systems had the inherent ability to import data from student information systems, test scores, and/or data from any other system, as well as the capability of exporting it. Data was fully connected and resident in one system, providing easy, immediate and seamless reports. Tk20 began with solutions for colleges of education and soon expanded with solutions for entire institutions.

The Tk20's system provides built-in ability for assessments as part of courses, electronic portfolios, field experiences/internships, surveys, student advising, course evaluations and various other direct and indirect means. Tk20 also allows clients to manage all planning, program review, institutional effectiveness and accreditation activities in a central location, including: documenting and aligning goals and outcomes, creating curriculum maps, developing assessment plans, strategic plans, improvement initiatives and corresponding budget items, tracking faculty qualifications and housing important documents. The Tk20 system centralizes and streamlines many of the data collection and reporting processes that institutions need to undertake to meet regional accreditation standards, such as SACS standards on institutional effectiveness, and clients can also use Tk20's accreditation module to co-develop formatted regional and programmatic accreditation reports.

In addition, data imports from student information systems, external test scores and other sources provide a comprehensive view of information by which student learning and program quality can be assessed. Seamless

reports at individual, program and unit levels provide administrators with the data that they need for program improvement and general reporting.

A large array of accompanying services ensures that these systems are customized based on the needs of each institution and that they are fully and comprehensively adopted. These include detailed training for different users, set up of data import from Banner and other systems, system configuration, integration into your portal and single sign-on environments, server hosting, updates and data migration.

Tk20 has extensive experience in working with colleges and universities on the deployment of comprehensive assessment solutions. Over the years we have developed and refined our deployment process, which allows us to create efficient and effective methods for implementation across different types and sizes of institutions. We have an entire Product Consulting organization that focuses on the project management, deployment, best practices and institutional engagement for college/university implementations. We have an Engineering Services organization that works extensively with college/university IT staff on the technical deployment of comprehensive solutions. Together this group, plus other support staff, allow us to develop the best project plan for our over two hundred partner institutions to achieve their goals.

We can provide examples of successful CampusWide implementations across the SACS region and the country such as George Mason University, Middle Tennessee State University, University of North Georgia, Bob Jones University, Texas State University, Asbury Theological Seminary, Frontier Nursing University, A. T. Still University, Webster University, St. Cloud State University, University of St. Thomas, National Defense University, University of Jamestown, University of Michigan – Flint and University of Illinois Chicago and CSU Channel Islands. Teacher Ed clients in Virginia also include Virginia State University, Norfolk State University, Radford University and Virginia Commonwealth University.

An essential component of our success is cultivating very close, longstanding partnerships with our clients. Across our client community, our partner institutions have worked with us on average five years, and we have a 98% client retention rate. We have grown steadily since our inception, with 36 new clients added over the past year.

Known for our research and innovation, Tk20's products and services enjoy an outstanding reputation amongst its growing client community and in the overall assessment industry. Tk20 continually researches the market and works with our customers to enhance the product and support offerings. This methodology has been instrumental in keeping the focus on assessment and driving product and service enhancements.

Over the next twelve months, Tk20 will launch two major releases and at least one minor release, which adheres to Tk20's standard Agile release schedule. Each of these releases contains both new components and enhancements to existing features. Our product goals include adding new features to increase the power of reporting, a new user interface, improved user workflows, enhancements to the planning module, advanced course assessment functionality (such as a more sophisticated exam/quiz feature) and enhanced integration capabilities with LMS and SIS systems.

Our product development strategy is grounded in a mission-driven commitment to continuous improvement. Development efforts, deployments and processes are continuously being assessed and refined. We work with industry consultants to validate market conditions and assessment changes which impact our overall focus, direction and practices. All of this is used to provide the highest quality comprehensive products, support and services to our current and future customers.

Client Profile. The company supports hundreds of thousands of individual users at colleges and universities in forty-five states, and serves international clients as well.

Employee Profile. Tk20, based in Austen Texas, has over 190 employees, of which 40 were added in the past 18 months. One hundred sixty-five are involved in direct support to institutions with 99 in product development, 44 in product implementation, and 22 as dedicated customer support (note: 16 members of the implementation team also provide customer support, bringing the total number of personnel involved in customer support to 38).

Management Team. Tk20's management team consists of Bhupi Bhasin, co-founder and President of Tk20, Jana Wilson, CFO, Deanna Nelson, VP of Sales & Marketing, Milind Gokhale, Senior Director of Engineering Services, Bhakti Sanap, Senior Director of Software Development, Abby Stott, Manager of Client Engagement and Alicia Villarreal, Manager of Implementation and Training.

## ***Services Summary***

The following services are included in the license:

- **Customized adoption services**
  - Creation of a custom project plan based on your priorities, guidance and help with system configuration leading to optimal system set up for production
- **System Configuration**
  - Configuration of forms, assessment tools, standards, accreditation templates and institutional hierarchy
- **Training**
  - One day onsite, two day unit administrator training at Tk20 for two administrators. Customized online training is also part of standard implementation services
- **First Line of Support**
  - Phone support 8 a.m. - 8 p.m. EST M-F; 24/7 email support
  - User Guides, Training Guides, Online Tutorials
- **Standard & Custom Reports**
  - Five custom reports will be included as part of the license. Additional custom report services can be purchased upon request.
  - ODBC access
  - Ad hoc server
- **Fully Managed Hosting**
  - Tk20 provides servers and Tk20 hosts
- **Integration**
  - Data import from student information system and other systems
  - Remote Authentication for Single Sign-on
  - LMS integration (e.g. Canvas)
- **Upgrades**
  - Automatic data migration for product upgrades

## ***Additional Services***

- Additional custom reports
- Additional onsite training or additional training at Tk20 corporate office
- A permanent training server/test environment
- Special Projects

### **Legacy Data & Migration Special Projects**

Tk20 has resources to migrate existing assessment records to the new Tk20 system. Before any project can be performed, Tk20 would need to assess the scope, requirements and desired outcomes for the project to determine the feasibility, risk and cost. If approved, Tk20 can then perform this task as part of a special project. Your assigned Implementation Project Coordinator (IPC) would manage the migration project in collaboration with Tk20's Manager of Projects and designated college personnel. The IPC would work with Longwood

University to ensure that the project deliverables are mutually understood, including, but not limited to: development of a scope of work, customization of assessment data fields, configuration of existing records, delineation of timetables, and any other project requirements. Tk20's configuration team would then perform the work of transferring certain records into the Tk20 system. Tk20 will provide unlimited file storage for these records. You would therefore be able to access this data just as easily as new assessment plan data that you had entered into the Tk20 system, and will also be able to report on it.

## ***Key Personnel Involved in the Project***

### **Alicia Villarreal**

#### **Manager of Implementation and Training**

Tk20, Inc. - Assessment Solutions at Work

January 2015 – Present

#### Responsibilities:

- Build, maintain, and reinforce partner relationships with Tk20
- Create, analyze, and respond to internal and external feedback loops relating to customer satisfaction
- Plan for resources for partner institution implementations, including contract assignments, recruiting, and hiring
- Monitor and report out on student account purchases
- Create and update implementation process documentation
- Lead team meetings
- Create calendar of training webinars for clients
- Monitor and analyze support requests to identify training needs or product development requirements
- Evaluate performance of team members regularly and provide subsequent feedback for continuous improvement
- Communicate regularly with internal and external stakeholders to increase visibility of implemented partner institutions (e.g. webinar proposals, conference presentations)
- Collaborate with sales to increase effectiveness of sales demonstrations to prospective customers
- Collaborate with internal teams to communicate product development priorities and record product enhancements
- Develop, measure, and maintain a strategic plan for team
- Plan and execute an increasingly larger and more successful User Conference for customers

#### **Implementation Project Coordinator**

Tk20, Inc. - Assessment Solutions at Work

January 2013 – January 2015

- Collaborate with partner institution to develop and execute customized project plans for effective software implementation
- Provide superior skills-based training on software functionality and best practices for data collection and reporting
- Review and analyze current assessment practices and make recommendations for transitioning to an electronic assessment process

- Utilize effective listening skills and incorporate feedback loops to ensure customer satisfaction
- Coordinate three successful customer events each year as part of the events planning team

### **Instructor at Texas Virtual Academy**

K12 2012 – 2013

- Developed and delivered online courses to elementary and middle school students
- Mentored and coached students and learning coaches
- Analyzed student data and developed action plans in response to data

### **Fifth- and sixth-grade teacher, Team Leader**

Orenda Education

August 2011 – August 2012

Gateway College Preparatory School, Georgetown, TX

- Founding faculty member of Gateway Elementary and Gateway Intermediate Schools
- Developed fifth- and sixth-grade science, technology, and world languages curriculum
- Designed and maintained class wiki and Moodle pages
- UIL Ready Writing Coach
- International Club Sponsor
- Developed and maintained training materials
- Coordinated staff professional development

### **French Teacher, Associate Dept. Chair**

Round Rock ISD

August 2010 – August 2011 (1 year 1 month)

### **French I-V Advanced Placement and International Baccalaureate**

- Mentored and advised struggling freshmen student and teacher
- Created College Board-approved AP French syllabus and administered IB exam
- Developed AP and IB curriculum
- Designed advertising materials for French program
- Increased enrollment in French program by 15 percent
- Developed and maintained training materials
- Coordinated staff professional development
- Increased pass rates for AP and IB French exams by 200%

### **French Teacher**

Frisco ISD

August 2004 – August 2010

Centennial High School, Frisco, TX

### **French I-IV Advanced Placement**

- Initiated planning for and created district French curriculum and campus LOTE mission statement
- Created and delivered educator professional development opportunities
- Doubled enrollment in French program
- Increased district pass rate of AP French tests
- Designed wikis and advertising materials for French program and LOTE department

- Assessed district LOTE software and textbooks for adoption and purchase
- Oversaw creation of new district French programs
- Mentored and advised first-year teacher, student teacher, and struggling teachers
- Created College Board-approved AP French syllabus and curriculum for entire school district
- Coached French students in regional and national French competitions
- Coordinated community cultural festivals and program preview nights
- Organized cultural trips throughout the Dallas-Fort Worth Metroplex and abroad to France and Spain
- Organized school-wide community service opportunities
- Assistant Academic Decathlon coach
- French Club Sponsor

### **French Teacher**

Denton ISD

April 2001 – August 2004

Billy Ryan High School, Denton, TX

### **French I-IV Advanced Placement**

- Mentored first-year teacher and student teacher
- Increased enrollment in French program
- Designed advertising materials for French program and LOTE department
- Created College Board-approved AP French syllabus and curriculum for entire school
- Organized large-scale community events, cultural festivals, and school preview nights
- Coached French students in regional and national French competitions
- Organized cultural trips throughout the Dallas-Fort Worth Metroplex and abroad to France
- Organized school-wide community service opportunities
- Whiz Quiz coach
- French Club Sponsor

### **Education**

Texas State University-San Marcos

M.Ed, Secondary Education and Teaching, Curriculum and Instruction, 4.0

2011 – 2012

University of North Texas

B.A., French

1997 – 2001

### **Milind Gokhale**

Milind joined Tk20 in 2003 as a Software Engineer and is a founding employee. Prior to that, he was a team lead for development of PassPort, an assessment software product developed at the University of Louisiana, for supporting reporting to NCATE. As a software engineer, he helped develop the HigherEd product and see it successfully installed at our early customers.

As the Manager and Director of Engineering Services, Milind helped establish the Services division and has been its primary architect. His team has successfully facilitated technical implementations of our products over the years, with the installation of product updates, single sign-ons, support requests, development of special projects, and the myriad data imports. He has recently established the CREW team to enable faster development of our products.

Milind also directed and oversaw continuous improvements to our data center, helping turn it into a professional and high quality managed environment with excellent infrastructure, sophisticated tools and processes, high levels of security, and emergency handling capabilities, that has served our customers extremely well.

#### **Vice President of Software Engineering & Services**

Tk20, Inc. - Assessment Solutions at Work  
November 2014 – Present

#### **Senior Director of Engineering Services**

Tk20, Inc. - Assessment Solutions at Work  
March 2014 – November

#### **Director of Engineering Services**

Tk20, Inc. - Assessment Solutions at Work  
February 2010 – March 2014

#### **Database Architect**

Tk20, Inc. - Assessment Solutions at Work  
February 2005 – February 2010

- Work closely with CEO, Engineering and Product Managers to plan ongoing feature development, product maintenance, and management of development teams
- Work with clients and Business Analysts to determine software requirements and system impacts
- Enhance existing software by analyzing and identifying areas for optimization or refactoring
- Generates technical documentation for various services offered
- Assist in application maintenance by monitoring and correcting software defects
- Investigate new technologies and techniques and researches ongoing industry developments
- Mentor junior developers in industry best practices, procedures, and concepts

#### **Software Programmer**

Tk20, Inc. - Assessment Solutions at Work  
February 2002 – February 2005

#### **Lead Programmer/Analyst (University of Louisiana, Lafayette): June 2002 – Dec 2003**

- **PASS-PORT K-12** is a web-based performance assessment system designed to support the Louisiana Teacher Assistance and Assessment (LaTAAP) program. Worked with specialized set of tools developed by Tk20 Inc during this period. This system is being used by Louisiana State Department of Education.
- Responsibilities include Requirement analysis, Object Modeling, leading the development and testing teams.

#### **Lead Programmer for PASS-PORT 1.0 Jan 2001 – May 2002**

- Currently deployed in 19 universities in Louisiana, PASS-PORT is a **web**-based system that provides college of education candidates, university faculty and administrative staff a tool to gather, demonstrate and evaluate the performance data on pre-service teachers and professional teachers during the first three years of service after graduation. The System was developed using ASP as a programming language.  
<http://www.pass-port.org>

#### **Development of ERP Systems June 1999 – May 2000**

- Project was mainly involved with developing database independent System that handles all the material and financial accountings for a company
- Worked as a Visual Basic 6.0 programmer
- Worked with MS-Access and SQL-server as backend.

#### **Technical Skills**

**Programming Languages:** VB.NET, VisualBasic 6.0, Pascal, Java, Lisp, C, C++, Perl

**Operating Systems:** Red Hat Linux 9.0, Windows 2000/NT, MAC, Sun Solaris

**Web Development:** .NET framework, J2EE, JSP, Tomcat, JBoss, ASP, XML, SQ

#### **Education**

Masters in Computer Science, University of Louisiana at Lafayette  
Aug 2000 to May 2002, GPA 3.9/4.0

## ***Business Outlook & Continuity Strategy***

Tk20 has maintained healthy growth in customers, revenues, and employees since its founding in 2002. The majority of the company is owned by its founders who are closely involved in its daily operations. The company maintains considerable cash reserves and invests a substantial part of its profits towards future growth.

We take the following steps to ensure business and solution continuity:

1. We establish and maintain a very close partnership with our customers. At the beginning of implementation, a new customer is assigned an Implementation Project Coordinator (IPC), who co-develops with the institution/unit a customized implementation plan. The IPC is the customer's point person at Tk20 for ongoing solution consulting and training. Our comprehensive support model has garnered us an outstanding reputation and consequently, many of our clients are Tk20 advocates that help us gain "word of mouth" business. Our exceptional product consultant and support team is instrumental in Tk20's very strong track record of successful implementations and an over 95% rate of customer retention.
2. We have a dedicated Product Management team that collaborates with our client community on new features and enhancements and communicates clients' needs internally to product development, UX and testing teams. This team directly supports our company mission, which is "to collaborate with customers to provide the highest quality comprehensive products, support, and services through continuous improvement to ensure complete customer satisfaction." This team also gathers information and feedback from the product consultant team, the sales team and non-Tk20 institutions in order to ensure that Tk20 development priorities continues to be aligned with the ever changing assessment and accreditation landscape.
3. Tk20 has been profitable for years and we ensure a manageable rate of growth by staying profitable.
4. We always retain a very comfortable cash buffer to tide us over through any adverse business conditions.
5. We are relentlessly innovative and believe in providing very cost effective, comprehensive solutions to our customers. Accordingly, we continue to be a premier source of solutions in our market.
6. We adhere closely to our employee mission statement, which is to "provide our employees with a safe, fun, and stable environment that facilitates the achievement of personal goals through a culture of innovation and the free exchange of ideas." Tk20 has very low employee turnover and a long retention rate, with many founding employees still with the company.

## Scope of Work – Statement of Needs

### **A. Assessment, Planning, and Budgeting Management Requirements:**

#### **1. Manage academic and non-academic assessment across the University to document planning and budget needs related to meeting institutional strategic goals.**

Academic and non-academic assessment data can be documented and tracked in a variety of ways:

- Designated users can document and align outcomes for academic and non-academic units. For example, an Early Childhood Education program could align their outcomes to NAEYC standards, or a History program could align their outcomes to General Education outcomes or institutional learning goals.
- Unit-level assessment plans can be developed that specify how outcomes will be measured, as well as denoting corresponding results, analysis, recommendations and action plans. Assessment plan categories such as “Analysis” can be customized, including the category nomenclature, the number of categories and the data entry fields for each.
- Various types of evidences can be associated with unit-level assessment plans. This may include:
  - Unit-level measures, such as a portfolios, surveys, or juried assessments
  - Student outcomes data that has been aggregated up at the unit level. For example, in a course-embedded assessment, you can select all courses that share a common rubric (potentially across the entire institution), and then filter by program, student major etc.
- Assessment plan data can be reviewed by designated users (formatively and/or summatively) and be reported by unit
- Unit level budget items along with associated action items can be submitted and tracked in the Budget Administration area. Reports can also display alignments between goals and action items, rationales, priorities, budget amounts requested vs. received etc.
- Progress on assessment plans and strategic planning activities can be viewed from drill down dashboards and reports. Examples:
  - In the assessment plan unit dashboard, one can view by assessment cycle, how many outcomes and goals have been documented for each unit, how many have completed data entry, how many outcomes/goals have been Met, Partially Met, Not Met etc.
  - In the strategic plan dashboard, one can view alignments between Institutional Strategic Goals/Objectives and Unit Outcomes (note: this nomenclature is customized), and can also view the percent completion of corresponding outcome items.
  - Both dashboards allow the user to drill down into plan data.
- Annual or multi-year program reviews can be developed and tracked within Tk20

#### **2. Document and coordinate assessment and strategic plans, periodic program reviews, annual reports and corresponding action plans.**

The Tk20 system incorporates assessment plans and records, program reviews, strategic planning and budgeting. Using Tk20 will allow you to:

- Document and coordinate student learning outcomes, program objectives and institutional goals across all levels of the institution, and align to external standards such as from accreditation bodies and/or state agencies.

- Create curriculum maps that align goals and outcomes.
- Develop and coordinate assessment and strategic plans, periodic program reviews, annual reports and corresponding action plans to promote continuous improvement initiatives across the campus.
- Manage a wide variety of assessment data and link substantiating evidences to plans, including student learning outcomes data, and other assessment data from academic and non-academic units
- Track action items by unit, monitor associated budget requests, and review them by planning cycle.
- Run real-time status reports to monitor progress and view key performance results.

Tk20's planning module allows institutions to manage, streamline and coordinate academic and non-academic assessment planning, strategic planning and budgeting. This module demonstrates assessment/strategic planning alignment with the institutional mission and communicates the initiatives to a larger population to garner campus wide support, to facilitate program renewal and institutional improvements, and to meet accreditation needs.

The assessment planning solution facilitates a holistic assessment approach by providing you with a 360 degree view of your programs, departments, and student data, which will empower you to make meaningful data-driven decisions over multiple cycles.

For any unit, you can define your mission, develop and align goals, objectives and/or outcomes, create curriculum maps, specify key measures, systematically collect data, analyze results, make recommendations for improvement and document associated actions. Moreover, data imports allow you to incorporate information from other systems into your plans and to produce a variety of real-time reports to enable detailed views of all your units, including student learning. Subsequent assessment planning is thus based on sound assessment practices for continuous improvement. All assessment cycles and results are visually displayed for ease of review.

The strategic planning feature allows you to document and track strategic goals and objectives. This feature links to the assessment planning feature in order to establish a consistent workflow for overall Institutional Effectiveness. Departments can manage and track the status of the assigned strategic initiatives at the end of the strategic planning period and/or in intermittent planning cycles.

Action items can be developed in alignment with strategic planning assessment results to “close the loop” and also inform future strategic planning endeavors. Tk20 can customize templates to capture a variety of data elements associated with your continuous improvement initiatives, including budgeting, expenditures, and resource commitments. This information can be associated with academic and non-academic goals/objectives/outcomes and tracked as part of the planning and budget process, in order to link planning and assessment to resource allocation and to promote fiscal accountability.

For both strategic plans and assessment plans, designated users can generate a variety of reports to oversee processes, verify goal/outcome alignment at various levels, assure quality and completeness of plans, and track performance results against benchmarks.

### ***Customized Processes***

Tk20's Planning Module can be fully customized to support your existing or desired academic and non-academic assessment processes. One of the strengths of the system is that it is not just a repository to store information but will establish a data collection and reporting framework for compiling, organizing, tracking, and analyzing information. The CampusWide system allows you to collect your data systematically, plan your assessments, compare them against specified outcomes/objectives, and generate detailed reports for compliance, analysis, and program improvement.

In order to maintain continuity with your existing processes, your assessment vocabulary can be incorporated throughout the system. Examples include, but are not limited to the following:

- Assessment plan and strategic plan templates
- Assessment plan and strategic plan data entry fields
- Form elements (e.g. Data collection forms, measures forms, results forms, analysis forms, actions forms or any other form created in Tk20)
- Goals/Outcomes nomenclature (e.g. Strategic Goal, Objective, Learning Objective, Outcome, Student Learning Outcome, Competency or any other description in use at the university)
- Budget item descriptors
- Plan status descriptors
- Curriculum map fields

Your assessment vocabulary will also appear in report rows, columns and/or data fields.

An unlimited amount of needed assessment and program review information can be managed through the platform's planning module. The system has the ability to categorize data with your preferred nomenclature such as "Results" (assessment data), "Analysis of the Data Collected," and "Recommendations for Improvement." It also allows built-in development of an "Action Plan" based on the findings and recommendations. This action plan can be reviewed and resources revised.

Within the system, you can define different longitudinal cycles for the various units and programs. Outcomes are designated by assessment period so longitudinal data can be compared over time. You can have one or more versions of the data for program review and other periodic activities. The system collects and retains information for each one of those versions so that you can review you data and compare any two elements at any point in time.

### ***Assessment Hierarchy and Outcomes Alignment***

The system will be configured with a customized assessment hierarchy, which will support an unlimited number of institutional levels (e.g. course, program, division and institution) for assessment management, data collection, collaboration, planning and review processes. The assessment hierarchy will create a relationship between different units, including the institution, divisions, programs and courses. Once the relationship is created, one can define the mission, goals, outcomes and objectives for all units in your institution, including non-academic units such as student services, admissions, libraries and other administrative services.

Goals, outcomes and objectives can be articulated at all levels in the organizational hierarchy and linked horizontally and vertically across the entire institution. This linkage, through outcomes mapping, allows alignment between courses, programs, departments, colleges/schools and the institution, creating a complete map of the institution's outcomes and goals. These entities can also map to external standards, such as national, regional, state or discipline-specific accreditation standards.

***Standards***

The system will come preloaded with editable standards, including SACS, discipline-specific accreditation standards, and any other national, regional, state, local and/or professional group standards that the institution requires. The standards can be aligned to any of your rubrics and forms (such as evaluation forms, program review forms or assessment data collection forms), other assessment instruments, your goals/outcomes at every level of your organizational hierarchy (e.g. institution, division, department, program, course), your curriculum maps and any other assessment processes, in order to create reports for your regional and specialized accrediting organizations. Your rubric criteria and form elements can also be tagged with learning goals/outcomes for reporting purposes.

***Curriculum Maps***

The system includes the ability to develop and evaluate curriculum maps. These curriculum maps show the relationship between goals, learning outcomes, and assessment methods of a program or course. The Curriculum Mapping function allows you to clearly demonstrate when, where, and how student learning outcomes are assessed at the course level. Through this feature, you can construct a clear picture of the cohesion and comprehensiveness of curricula taught in various programs throughout the institution, including General Education. To support curricular improvement efforts, the Tk20 system also offers the ability to collect feedback on the curriculum map and aggregate the feedback in reports.

***Documentation of Assessment Results and Narratives***

The Tk20 system will allow you to develop a standardized assessment plan and/or program review structure for all units or to develop various types of plan and program review templates for specific units. This structure will contain various categories into which designated staff will enter corresponding narratives.

You may use the system's pre-populated categories (e.g. measure, result, recommendations, analysis and actions) or modify them as desired. Each category is also associated with a pre-built form template (measures form, results form, action form etc.). You may use or modify these pre-built form templates and/or fully customize each form, not only with open-ended text areas, but also radial buttons, drop downs, check boxes, Likert Scales, tables etc. This form data can then be aggregated in reports.

Designated users may have various levels of access to plan data. They may have View/Edit or View Only privileges, and/or have the ability to provide feedback. Users can be affiliated with one or more units. They can then view, edit and/or provide feedback for the unit(s) with which they are affiliated.

***Flexible Data Collection***

The system will provide multiple types of tools for conducting assessments including the ability to collect form-based data and imported external data. For certain types of CampusWide licenses in which students are using the system, such as the CampusWide COMP and RE Solutions, you can also conduct a variety direct and indirect assessments within Tk20 and link the results to the planning dashboard. These direct and indirect assessments include course-embedded assessments, which may be administered through LMS integration, as well as assessment portfolios, field/clinical evaluations, juried assessments, surveys and course evaluations.

For licenses where students are not using Tk20, the system also allows for managers of assessment activities to seek input from selected users through several data collection methods.

These include:

- Data entry of course/instructor level assessment data, such as rubric scores.
- Data upload of assessment data at various levels, such as course/course section, program, department, college/school, division etc.
- Data collection requests, customized forms sent to one or more individuals for collecting any desired assessment information pertaining to various levels (e.g. course, program etc.
- These different types of requests can be directed to select users for observations and feedback on assessment activities, including faculty, program chairs, department chairs, etc.
- The user who sends the request can also establish a frequency such as to send the request immediately, on specific date(s), or to send a recurring request. Once the designated user(s) have completed the request, the information is automatically linked to the assessment activity and is displayed on the unit plan dashboard.

### ***Workflow Management***

Tk20 will empower you to easily develop and manage the workflow for key program review and planning tasks through setting dates/deadlines for activities, such as the collection/entering of data associated with student learning outcomes. At-a-glance monitoring reports then enable you to check statuses of completion for each deadline set. A built-in messaging system provides for the sending of reminders as needed for various tasks. For example, a faculty member may receive an email prompt notifying of a pending task. Once this task has been completed, the administrator receives notification that the task is complete. The task for the faculty member will show as completed and not pending thus closing the loop. This applies to data collection tasks.

Task assignment and tracking is supported through the Tk20 CampusWide system through the “task” notification function within the product. The system allows for users to easily receive notification on program review and assessment activities indicated by a flag on the home page that appears upon login. Tasks are listed in order by date and are linked directly to the task itself, allowing for simple, one click navigation. This will provide notification of users of their responsibilities within defined workflow processes. This will include the actions required by the user and due dates for each user. Email alerts will also notify users of a needed action. The Unit Dashboard, associated with our workflow capabilities, would provide administrators with status on the progress of the workflow process in areas outside their individual unit.

The system also provides the capability of establishing a collaborative process that allows multiple individuals to collaborate and offer feedback on any process which can be stated and accompanied by supporting documents. A reminder function allows stakeholders to be reminded to complete their part in the process.

### ***Quality Assurance***

Administrators will also be able to provide feedback on program review and assessment planning activities, during development as well as after data entry has been completed. All documented feedback will be stored with the associated plans. This feedback feature, and associated feedback reports, will allow you to assure quality and consistency in assessment planning and review processes across the institution.

**3. Tie outcomes and assessment results directly to action items and report on the status of initiatives, goals achieved, and budgets for planned improvement actions.**

Action items can be developed in alignment with strategic planning assessment results to “close the loop” and also inform future strategic planning endeavors. The system will allow you to fully customize “Action Plan” data entry fields as well as fields for documenting “Results and Analysis.” (data entry fields may include open text areas, drop down menus, radio buttons, tables, numbers, placeholders for files etc.)

One of the primary features of the planning module is the ability to prepare budget requests in association with action items. You can also customize fields for Budget Request type, Priority and Approval Status. One can provide a justification for the request, note the allotted amount and submit to designated administrators for approval. This feature will assist with developing an effective strategic planning process and demonstrate alignment with accreditors’ requirements to link budgeting to institutional planning.

As part of the planning functionality, Tk20 can customize templates to capture a variety of data elements for planning, budgeting, expenditures, and resource commitments. This information can be associated with academic and non-academic goals/objectives/outcomes and tracked as part of the planning and budget process. This will allow the ability to link planning and assessment into budgeting and fiscal accountability.

For both strategic plans and assessment plans, designated users can generate a variety of reports to oversee processes, verify goal/outcome alignment at various levels, assure quality and completeness of plans, and track performance results against benchmarks.

**4. Track action items by unit, monitor associated budget requests, and review them across one or more planning cycles**

Unit level budget items along with associated action items can be submitted and tracked in the Budget Administration area. Reports can also display alignments between goals and action items, rationales, priorities, budget amounts requested vs. received etc. These reports will display information for one or more planning cycles.

***Action Plans***

Action plan templates can be developed in both the assessment planning and strategic planning area. The system includes “out of the box” planning templates that can be fully customized to accommodate your preferred nomenclature and data entry fields. An unlimited number of fields can be added with a variety of response modalities, such as open text areas, radio buttons, check boxes, drop downs, tables, numbers, placeholders for files etc.

Action plans can be viewed in a number of ways, depending on permissions. These include the ability to:

- Drill down from the Assessment Planning and Strategic Planning dashboards. Users can view Action Plan details and completion status by Planning Cycle and Unit. The user may be associated with some or all of the institutional hierarchy, and this will determine what units they can view in these dashboards. (These dashboards can also be disabled in the Security area if you do not want certain roles to access this information at all).

- Browse Action Plans in the Assessment Plan/Strategic Plan Data Entry area. Security settings will determine whether users will have the ability to Browse Assessment Plan Data and/or Strategic Plan Data **OR** to Browse and Edit/Create. Access to either of these areas can also be turned off for particular roles.
- Generate Action Plan reports (depending on permissions).

## 5. Track progress for projects requiring long-term planning.

### ***Workflow Management & Status Reports***

Tk20 will empower you to easily develop and manage the workflow for key assessment, planning, program review and accreditation tasks through setting dates/deadlines for activities, such as the collection/entering of data associated with direct and indirect assessments.

At-a-glance monitoring reports then enable you to check statuses of completion for each deadline set. A built-in messaging system provides for the sending of reminders as needed for various tasks. For example, a faculty member may receive an email prompt notifying of a pending task. Once this task has been completed, the administrator receives notification that the task is complete. The task for the faculty member will show as completed and not pending thus closing the loop. This applies to data collection tasks.

Task assignment and tracking is supported through the Tk20 CampusWide system through the “task” notification function within the product. The system allows for users to easily receive notification on program review and assessment activities indicated by a flag on the home page that appears upon login. Tasks are listed in order by date and are linked directly to the task itself, allowing for simple, one click navigation. This will provide notification of users of their responsibilities within defined workflow processes. This will include the actions required by the user and due dates for each user. Email alerts will also notify users of a needed action. The Unit Dashboard, associated with our workflow capabilities, would provide administrators with status on the progress of the workflow process in areas outside their individual unit.

The system also provides the capability of establishing a collaborative process that allows multiple individuals to collaborate and offer feedback on any process which can be stated and accompanied by supporting documents. A reminder function allows stakeholders to be reminded to complete their part in the process.

Tk20 also facilitates long-term planning in that you can collect, store and aggregate assessment and strategic plan data for an unlimited number of assessment cycles.

## 6. Align/map goals and outcomes from the course/unit level to goals, standards, outcomes and objectives at various levels across the institution, up to the institutional mission and strategic plan.

### ***Assessment Hierarchy and Outcomes Alignment***

The system will be configured with a customized assessment hierarchy, which will support an unlimited number of institutional levels (e.g. course, program, division and institution) for assessment management, data collection, collaboration, planning and review processes. The assessment hierarchy will create a

relationship between different units, including the institution, divisions, programs and courses. Once the relationship is created, one can define the mission, goals, outcomes and objectives for all units in your institution, including non-academic units such as student services, admissions, libraries and other administrative services.

Goals, outcomes and objectives can be articulated at all levels in the organizational hierarchy and linked horizontally and vertically across the entire institution. This linkage, through outcomes mapping, allows alignment between courses, programs, departments, colleges/schools and the institution, creating a complete map of the institution's outcomes and goals. These entities can also map to external standards, such as national, regional, state or discipline-specific accreditation standards.

### ***Standards***

The system will come preloaded with editable standards, including SACS, discipline-specific accreditation standards, and any other national, regional, state, local and/or professional group standards that the institution requires. The standards can be aligned to any of your rubrics and forms (such as evaluation forms, program review forms or assessment data collection forms), other assessment instruments, your goals/outcomes at every level of your organizational hierarchy (e.g. institution, division, department, program, course), your curriculum maps and any other assessment processes, in order to create reports for your regional and specialized accrediting organizations. Your rubric criteria and form elements can also be tagged with learning goals/outcomes for reporting purposes.

- 7. Manage a wide variety of assessment data (including student learning outcomes data and other assessment data from academic and non-academic units) from multiple units/levels for comprehensive planning.**

### ***Flexible Data Collection***

The system will provide multiple types of tools for conducting assessments including the ability to collect form-based data and imported external data. In the CampusWide COMP solutions, you can conduct a variety direct and indirect assessments within Tk20 and link the results to the planning dashboard. These direct and indirect assessments include course-embedded assessments, which may be administered through LMS integration, as well as assessment portfolios, field/clinical evaluations, juried assessments, surveys and course evaluations.

The system also allows for managers of assessment activities to seek input from selected users through several data collection methods. These include:

- Data entry of course/instructor level assessment data, such as rubric scores.
- Data upload of assessment data at various levels, such as course/course section, program, department, college/school, division etc.
- Data collection requests, customized forms sent to one or more individuals for collecting any desired assessment information pertaining to various levels (e.g. course, program etc.
- These different types of requests can be directed to select users for observations and feedback on assessment activities, including faculty, program chairs, department chairs, etc.

The user who sends the request can also establish a frequency such as to send the request immediately, on specific date(s), or to send a recurring request. Once the designated user(s) have completed the

request, the information is automatically linked to the assessment activity and is displayed on the unit plan dashboard.

- 8. Define any number and type of outcomes as well as any number and type of assessment methods for each outcome. Examples of outcomes could include but are not limited to: general education outcomes, individual course outcomes, program outcomes. Examples of assessment methods could include but are not limited to: student papers and projects, capstone course projects, portfolio evaluation, nationally normed tests (e.g. ETS Major Field Achievement Test), unit specific and pre/post testing, surveys and interviews.**

You can define and number and type of outcomes and assessment methods. You can also aggregate results of methods data to determine what methods are being used most frequently, the proportion of direct to indirect assessment measures etc. The Tk20 platform is fully customizable in order to maintain continuity with your existing processes. Customized terminology/naming conventions can be incorporated throughout the system for Longwood University. Examples include, but are not limited to the following:

- Goals/Outcomes nomenclature (e.g. Strategic Goal, Objective, Learning Objective, Outcome, Student Learning Outcome, Competency or any other description in use at the university)
- Form elements (e.g. Measures templates, data collection forms, results forms, analysis forms, actions forms or any other form created in Tk20)
- Assessment plan and strategic plan templates
- Assessment plan and strategic plan data entry fields
- Budget item descriptors
- Plan status descriptors
- Curriculum map fields
- Accreditation module (e.g. report templates and nomenclature, evidence room categories)
- Faculty qualifications module (e.g. master categories, data entry fields)
- Field experience module (e.g. site, yearly data and staff nomenclature and data entry fields)

Your assessment vocabulary will also appear in report rows, columns and/or data fields.

The Tk20 system does not just provide the ability to customize nomenclature and assessment templates but also the exceptional flexibility to add an unlimited number of fields to most areas of the system, immediately through the user interface. These custom fields include a whole variety of response modalities, including, but not limited to the following:

- Rubrics
- Rich text field boxes (this allows respondent to add formatted text, images, tables, charts and embedded multi-media)
- Radial buttons
- Check boxes
- Drop down menus
- Likert scales
- Integers (whole number and fractional)
- Tables with formulas
- User attributes

- Courses
- Files (respondent can browse for files on computer or drag-and-drop-files into forms)

Not only can you customize the system from the user interface, but the system also provides the ability to *import* an unlimited number of custom data elements to most areas of the Tk20 system and to combine imported data with data that has been produced within Tk20.

Moreover you can use Tk20 to administer a wide variety of assessment types, such as course assignments, portfolios, juried assessments, field/internship assessments, surveys and course evaluations.

The unparalleled flexibility of the Tk20 system will allow for full customization of the CampusWide system to support your existing or desired academic and non-academic assessment processes.

- 9. Manage program reviews for academic and non-academic areas using templates customized by the University. Outcomes and goals from the assessment process must be able to be seamlessly linked to program review items within the solution.**

An unlimited amount of needed assessment and program review information can be managed and linked together within the platform's planning module. The system has the ability to categorize data with your preferred nomenclature such as "Results" (assessment data), "Analysis of the Data Collected," and "Recommendations for Improvement." It also allows built-in development of an "Action Plan" based on the findings and recommendations. This action plan can be reviewed and resources revised.

- 10. Assign particular outcomes or metrics for review in particular years. For example, a program or unit must be able to indicate that some outcomes are assessed every year and other outcomes are assessed every other year.**

You can define this in assessment plan template. You can also establish a start date for an outcome that is associated with a particular cycle and can also disable outcomes that are no longer being used.

- 11. Allow flexibility in the length and frequency of assessment cycles for different entities in the hierarchy (annual vs. 6 year program review; academic vs. non-academic).**

You can define any number of different longitudinal cycles with different start and end dates for the various units and programs in the assessment period area. In the strategic planning area, you can also define any number of strategic planning periods, as well as planning cycles for each period, with different start and end dates.

- 12. Create customized assessment templates for different entities in the hierarchy, including the ability to change the order, labels and other descriptive information. For example, the solution must allow for the same or different assessment nomenclature for different groups of academic departments and administrative units.**

### ***Customized Processes***

Tk20's Planning Module can be fully customized to support your existing or desired academic and non-academic assessment processes. One of the strengths of the system is that it is not just a repository to

store information but will establish a data collection and reporting framework for compiling, organizing, tracking, and analyzing information. The CampusWide system allows you to collect your data systematically, plan your assessments, compare them against specified outcomes/objectives, and generate detailed reports for compliance, analysis, and program improvement.

In order to maintain continuity with your existing processes, your assessment vocabulary can be incorporated throughout the system. Examples include, but are not limited to the following:

- Assessment plan and strategic plan templates
- Assessment plan and strategic plan data entry fields
- Form elements (e.g. Data collection forms, measures forms, results forms, analysis forms, actions forms or any other form created in Tk20)
- Goals/Outcomes nomenclature (e.g. Strategic Goal, Objective, Learning Objective, Outcome, Student Learning Outcome, Competency or any other description in use at Longwood University)
- Budget item descriptors
- Plan status descriptors
- Curriculum map fields

Different outcomes/goal nomenclature and assessment plan templates can be associated with your various academic and non-academic units. Your assessment vocabulary will also appear in report rows, columns and/or data fields.

Plan templates can be customized in a variety of ways for each unit, including, but not limited to changing the order of data entry items, category labels, adding different data entry elements etc.

An unlimited amount of needed assessment and program review information can be managed through the platform's planning module. The system has the ability to categorize data with your preferred nomenclature such as "Results" (assessment data), "Analysis of the Data Collected," and "Recommendations for Improvement." It also allows built-in development of an "Action Plan" based on the findings and recommendations. This action plan can be reviewed and resources revised.

Within the system, you can define different longitudinal cycles for the various units and programs. Outcomes are designated by assessment period so longitudinal data can be compared over time. You can have one or more versions of the data for program review and other periodic activities. The system collects and retains information for each one of those versions so that you can review you data and compare any two elements at any point in time.

**13. Align relationships between course objectives and an academic program (curriculum mapping), and institutional objectives in a parallel or hierarchical format.**

***Assessment Hierarchy and Outcomes Alignment***

The system will be configured with a customized assessment hierarchy, which will support an unlimited number of institutional levels (e.g. course, program, division and institution) for assessment management, data collection, collaboration, planning and review processes. The assessment hierarchy will create a relationship between different units, including the institution, divisions, programs and courses. Once the relationship is created, one can define the mission, goals, outcomes and objectives for all units in your

institution, including non-academic units such as student services, admissions, libraries and other administrative services.

Goals, outcomes and objectives can be articulated at all levels in the organizational hierarchy and linked horizontally and vertically across the entire institution. This linkage, through outcomes mapping, allows alignment between courses, programs, departments, colleges/schools and the institution, creating a complete map of the institution's outcomes and goals. These entities can also map to external standards, such as national, regional, state or discipline-specific accreditation standards.

### ***Curriculum Maps***

The system includes the ability to develop and evaluate curriculum maps. These curriculum maps show the relationship between goals, learning outcomes, and assessment methods of a program or course. The Curriculum Mapping function allows you to clearly demonstrate when, where, and how student learning outcomes are assessed at the course level. Through this feature, you can construct a clear picture of the cohesion and comprehensiveness of curricula taught in various programs throughout the institution, including General Education. To support curricular improvement efforts, the Tk20 system also offers the ability to collect feedback on the curriculum map and aggregate the feedback in reports.

- 14. Configure, manage and document a systematic review and quality assurance process, so that designated personnel at the University can review collected information and provide support and guidance to programs and departments throughout the assessment and planning process.**

### ***Feedback/Quality Assurance***

Administrators will also be able to provide feedback on program review and assessment planning activities, during development as well as after data entry has been completed. All documented feedback will be stored with the associated plans. This feedback feature, and associated feedback reports, will allow you to assure quality and consistency in assessment planning and review processes across the institution. Feedback can also be collected and aggregated for accreditation reports that have been shared online with external reviewers and other stakeholders.

## **B. Data Collection Requirements:**

- 1. Collect assessment data (e.g., surveys, rubrics, and formative assessments) and manage assessment plans in the same Solution – not one or the other. It is imperative that the technology for collecting and managing assessment data are not disconnected systems offered by different technology providers.**

Tk20 is ideally suited to meet Longwood University's needs and goals, by providing an integrated, end-to-end, web-based solution for assessing the performance of your entire university, both academic and non-academic. The Tk20 system is designed to make assessment practices more efficient, systematic and sustainable, and to yield more timely and meaningful results to the academic community. Using Tk20 CampusWide COMP, you can perform assessments at every level of the institution (e.g. course, program, General Education, campuswide), and then generate real-time reports on the data in order to inform program design and renewal, and to promote improvements in teaching and learning.

CampusWide will allow you to manage all of your planning, program review, institutional effectiveness and accreditation activities in a central location, including: documenting and aligning goals and outcomes, creating curriculum maps, developing assessment plans, strategic plans, improvement initiatives and corresponding budget items, tracking faculty qualifications and housing important documents. The Tk20 system centralizes and streamlines many of the data collection and reporting processes that institutions need to undertake to meet accreditation standards, such as SACS standards on institutional effectiveness. You can also use Tk20's accreditation module to co-develop formatted regional and programmatic accreditation reports (e.g. CAEP, CSWE, AACSB, CCNE, CAAHEP, CAATE etc.) and periodic program review reports.

The CampusWide COMP system fully manages direct assessments of student learning (e.g. assignments, portfolios, field/internship assessments, juried assessments). These workflows promote broad-based faculty and student engagement, adding greater meaning and value to assessment processes for these stakeholders. Faculty will have access to a rich set of evaluation and feedback tools for formative and summative assessments that can assist in improving student learning, and student performance dashboards that can support timely interventions with individual students. Students can track their progress through their program requirements and view their improvements over time, helping synthesize their learning across diverse course activities and encouraging their investment in key learning outcomes.

The COMP system has the flexibility to support a variety of assessment processes, which may vary from unit to unit. To support online assignment submission and grading, this system offers Single-Sign and Gradebook integration for all common LMS systems (e.g. Blackboard, Moodle, D2L, Canvas, Sakai). Alternatively, student work can be submitted and evaluated directly in Tk20, or faculty can make course-based "observations" that do not require student submission, but could include file attachments. A general education committee or any of your academic units can also use the juried assessment feature to bulk upload student artifacts and then perform random, blind assessments of the student work using multiple evaluators. Regardless of the workflow, you can then use Tk20's powerful reporting system to aggregate and analyze assessment data across key assignments, courses, programs or across the entire institution.

The COMP system provides clients with a holistic view of institutional and program effectiveness, by allowing them to connect assessments to other processes that improve student outcomes, such as learner-centered portfolios and advisement. Tk20's portfolios allows educators to scaffold key competencies in order to promote integrated student learning, and to conduct formative and summative assessments across multiple years such as for General Education programs. After graduation, alumni can continue to modify and share their portfolios (such as with potential employers) as they embark on their career paths. In the advisement module, direct and indirect assessments can appear alongside additional key indicators of student performance, such as test scores, transcripts and students' progress through program requirements. Corresponding reports on this student data will allow you not only to provide systematic evidence of student learning, but also to track performance trends from admission to graduation, and to make timely interventions with students in order to promote retention.

The university can also use the CampusWide system to administer indirect assessments, such as surveys and course evaluations. The Course Evaluation feature will allow designated users to create course evaluation instruments, distribute them your students, and schedule them as needed during your terms.

The system's survey functionality will make it easy to obtain feedback from your students, alumni, faculty, or other community stakeholders. Respondents can access surveys and course evaluations from an email link and complete forms conveniently on mobile devices. Administrators can set up multiple automated reminders, track response rates and generate aggregated results that can be linked to assessment plan results.

Tk20 system's high level of configurability provides extensive capabilities for integrated assessment by empowering you to incorporate data from a variety of sources; this includes not only assessment data generated in Tk20, but also data imported from your student information system, and from other external systems. Through the deployment of the CampusWide product, you can systematically collect and consolidate assessment information in a centralized repository, reduce the number of stand-alone applications you may currently use, improve the efficiency of handling assessment information and provide enhanced assessment reporting.

The system is built for reporting. The CampusWide system includes over 100 reports developed in collaboration with our users and also includes custom reports as part of the license. It offers extensive capabilities for analyzing performance and making data-driven improvements over time, and the extensive reporting capabilities provide a solid foundation for collaboration and real-time monitoring throughout the institution. Dashboard reports allow you to see the status of institutional performance at a glance and easily monitor real-time program, assessment data and analytics.

Our users consistently inform us Tk20 reports give them a vast base of viewing capability pertaining to the performance of their students, programs and units. You can view detailed reports, aggregated or per student, on various assessments related to student competencies in any program or unit, aligned with your outcomes and goals. These reports can be structured to be accessed by users at different levels based on your priorities.

### ***Formative Assessments***

Tk20 supports formative assessment activities in a variety of ways to improve student learning and to facilitate timely interventions with students that are not meeting performance expectations. This includes, but is not limited to, the following scenarios:

- Preferences can be set for assignments, course binders, portfolios and field experiences so that one or more formative assessments can be performed before the student has submitted their final product.
- Multiple assessment tools can be used in these contexts. Therefore, you may elect to include a formative evaluation method such as a rubric that only contains performance benchmarks and comment areas, but not point values.
- At any time, students can also request feedback (such as narrative comments, rubric-based feedback) from individuals (faculty, classmates etc.) or various user groups that have been set up in Tk20. Those who are providing feedback can also annotate the student's artifact.
- A number of methods can be used to provide additional formative feedback to students.
  - An evaluator can use the embedded document viewer to annotate students' submission(s) (e.g. Word, PDF, Excel). If this is a summative assessment, then this feedback can improve their results in subsequent coursework.

- The video annotation feature can be used to provide comments directly on student videos. As above, even if this is a summative assessment, the student can play back the annotated video to help them further develop their skills and competencies.
- Students can also choose to share videos with designated individuals and/or entire course sections. Those who view the video can provide annotated comments and the student can comment on their own video as well.

The system also allows academic programs to set up “Transition Point” templates so that students can track their progress through requirements at various stages of their degree program. In addition, they may view their academic records within their account profile (depending on which visibility privileges have been established by a System Administrator, student may view test scores, transcripts, transition points, course schedules, key assessments, field placement records etc.)

Moreover, a wide variety of real-time reports can facilitate timely interventions with underachieving students in order to promote retention. These reports can display both aggregated and row-by-row results. For example, you can generate an advisement report that will display all of the requirements for a particular degree program and indicate which have been met/not met for each student. You may also run reports for coursework, portfolio, or fieldwork assessments that display both aggregated and individual results and allow you to drill down to lists of students that are not meeting specific rubric criteria. In addition, you can create artifact templates that require students to complete self-assessments (rubrics, rating scales etc.) and/or reflections on their learning over time, and then aggregate these results.

### ***Summative assessments***

The CampusWide COMP system empowers faculty and staff to collect and assess direct evidence of learning and development of students’ key skills and competencies that are essential to their success in college and beyond. The system supports both formative and summative assessments of student learning, allowing faculty to both provide feedback and guidance to students throughout the learning process, and to evaluate student learning against benchmarks.

Various types of summative assessments can be performed in the CampusWide COMP system, such as in course assignments, course-based observations, course binders, portfolios and field activities. The results can then be aggregated and associated with assessment plans. Examples of summative assessments include, but are not limited to, the following:

- In coursework, various “high stakes” assignments can be assessed using one or more rubrics. Rubrics can be combined with all other types of form elements (e.g. open text areas, tables, drop down menus, Likert scales, places to add files attachments etc.). Entire rubrics, rubric criteria rows, or any other form elements can be tagged with standards or outcomes.
- Course binders may contain multiple assignments organized by a set of tabs. These assignments are usually related to each other, and may culminate in a summative assessment of the binder as a whole. Multiple rubrics or other evaluation methods may be used, which means that the individual assignments can be assessed as well (formatively and/or summatively).
- Faculty may make summative observations of students, using rubrics or other evaluation methods. For example, a student may give a final oral presentation during a class session that is instantly scored by faculty. Note: the Observations feature can also be used in situations where

students have not submitted work electronically. In that case, an artifact may be attached to the assessment by the instructor, if desired.

- Various academic programs and/or the institution may require a culminating portfolio that contains evidence that the student has achieved certain core learning outcomes. The portfolio may contain one or more rubrics and/or other evaluation form elements.
- In field experiences/internships, one or more evaluators can complete summative assessments of student's performance in fieldwork. In conjunction with various types of field placements, a field experience coordinator will create one or more field experience binder templates that centralizes requirements and establishes permissions. Students will submit required artifacts (e.g. files, videos, online forms created in Tk20) into the field experience binder. One or more designated evaluators can then view some or all of the binder, depending on their permissions, and can complete one or more evaluations (using rubrics and/or other evaluation methods).
- The Juried Assessments feature can also be used to perform summative assessments. This feature enables random, blind scoring of student artifacts. These artifacts can be bulk uploaded into Tk20, or could be work that students had previously submitted (e.g. courses assignments, portfolios).

## 2. Create rubrics and attach them directly to measures in multiple assessment plans.

Tk20's sophisticated rubric functionality includes:

- Ability for an assessment tool to contain multiple form elements/rubrics.
- Ability for both form elements and rubrics to be aligned to multiple sets of standards/outcomes.
- Ability to break rubric into sections, set different point values or point scales for each section, and to calculate both section scores and overall scores.
- Weighted scoring, fractional scoring and scoring scales.
- Ability for assessor to provide feedback in multiple areas (e.g. per criterion, overall comments). Feedback can include rich text comments, images, videos and an unlimited number of files.

The system supports a rubric library and will support all of your unit-specific and faculty-specific rubrics. Tk20 will configure all your rubrics within the system. Your product consultant will also provide training so that you can create new rubrics on your own, if desired.

You can create new rubrics using a wizard and preview them as they are being built. Rubrics can be created using a checklist, as well as various points and various types such as holistic, analytical, general and task-specific. In addition, rating scales and weights may be assigned as desired. You will also be able to control when a rubric is available for viewing and availability for use by either choosing to make the rubric active or not. Permissions can be defined for access to these rubrics by users and by departments.

The system comes preloaded with editable standards related to SACS as well as discipline-specific accreditation standards. The standards can be aligned to your rubrics, other assessment instruments and assessment processes to create reports for the regional and specialized accrediting organizations. Your rubrics can also be tagged with program and/or institutional learning outcomes and rubrics/rubric data can be linked directly to assessment plans..

Rubrics are a component of the system's fully integrated, multi-purpose Form Builder. The Form Builder can be used to configure a variety of assessment instruments including those for direct and indirect assessments and to customize assessment plan data fields. It includes the ability to perform online course evaluations and surveys, customize artifacts for containing products built by students and other users, as

well as the ability to customize application forms. The form builder will also enable you to designate 'academic gates' or 'transition points'. These can be a set of requirements that students meet through their course of study and is an excellent instrument for recording student retention rates and identifying areas where retaining students may be challenging.

Overall, the form builder provides the foundation for much of the system's configurability, flexible data collection and customized reporting, and is used to create, store and share a variety of system forms/templates. These include, but are not limited to:

- Assessment tools
- Survey forms
- Course evaluations
- Field experience forms
- Customized artifact templates
- Self-assessments
- Reflections
- Feedback
- Advisement Notes
- Transition points
- Degree plans
- Applications
- Applications review forms
- Assessment plan templates (measures, results, analysis, recommendations etc.)
- Assessment data collection forms
- Action plan templates

Forms elements can be created using a wide variety of modalities, including, but not limited to:

- Rubrics
- Rich text field boxes (this allows respondent to add formatted text, images, tables, charts and embedded multi-media)
- Radial buttons
- Check boxes
- Drop down menus
- Likert scales
- Integers (whole number and fractional)
- Tables with formulas
- User attributes
- Courses
- Files (respondent can browse for files on computer or drag-and-drop-files into forms)

All form elements can be aligned with standards (such as form questions and rubric criteria). All form data will be centrally stored and used to generate a variety of reports throughout the system with the appropriate permissions.

3. **Enable juried assessment, either paper or digital, with easy upload of digital work in bulk including ability for calculation and data analysis within system**

### ***Juried Assessments***

- Create a jury pool of assessors.
  - Bulk upload artifacts, make observations, or assess a performance task that a student previously submitted (e.g. coursework, portfolios).
  - Assess all artifacts or determine a percentage of artifacts to be randomly assessed.
  - Juried Assessment reports allow you to aggregate data from jury pools that have conducted random and blind evaluations of student artifacts in Tk20.
4. **Support entering and tracking rubric-based and narrative feedback on student artifacts by multiple users (rating by committee), including examining inter-rater reliability.**

There are numerous ways that the Tk20 system supports multiple, concurrent evaluations in order to examine inter-rater reliability. These include the following contexts:

- **Portfolios.** Portfolios can be administered at various levels, such as university-wide, departments, programs, individual users, users within courses or other designated user groups. These portfolios can have any number of evaluators. A routing sequence can also be defined for staged evaluations (e.g. stage 1, stage 2, stage 3 etc.). For example, you may have several evaluators that complete a mid-point assessment, and subsequently, a set of evaluators that completes a final assessment.
  - **Course Observations.** Various evaluators can make concurrent course-based observations. Individual evaluators can also complete multiple assessments of each student just by clicking “Add New.” Course observations may also be used in situations where a student did not submit an artifact electronically; in this case, an evaluator could attach student work to the evaluation (e.g. attach an assignment, exam etc. to a rubric or other evaluation form).
  - **Field Experiences.** Field experiences can include any number of evaluators with also any number of custom roles (e.g. field coordinator, program director, cooperating teacher, clinical instructor, preceptor etc.) Depending on permissions, these evaluators will be able to access some or all of a student field binder (which may include student work and any required forms) and can complete one or more evaluation forms.
  - **Juried Assessments.** A jury pool can be established for conducting random and blind evaluations of student work. Student work can be bulk uploaded into Tk20, or student work that has already been submitted into Tk20 can be used for juried assessments (such as work that may have previously been assessed in a course, portfolio etc.)
  - **Feedback/Shared Artifacts.** Students can obtain feedback on their artifacts (e.g. files, videos) from multiple users, such as faculty and peers.
5. **Enable and document rubric-based and narrative feedback on assessment practices to program and administrative units (institutional-level rubric & rating by committee).**

Multiple evaluators can also be used to review assessment practices in the context as assessment plans, program reviews and accreditation reports, and this feedback can be compiled in aggregate and comprehensive reports. Examples:

- **Assessment Plan and Program Review Feedback.** Multiple users, with the appropriate permissions, can provide feedback on assessment plans and program reviews. Feedback forms could include narrative comments, rubrics, Likert scales, placeholders for files, or any other type of form element.
- **Accreditation Report Feedback.** Multiple users, with the appropriate permissions, can provide feedback on accreditation reports. Feedback forms could include narrative comments, rubrics, Likert scales, placeholders for files, or any other type of form element. External stakeholders and others that do not have access to the “Accreditation Management” module, can access the accreditation report through a “shared site” in order to provide feedback.

**6. Allow seamless upload of student artifacts created externally from Canvas.**

To support course-based assessment of student learning, Tk20 offers integration with Canvas Gradebook as well as Single-Sign On. Students can create assignments, essays, video presentations, capstone projects, Website URLs or any other artifact in use at your institution. Special Tk20 features such as streaming video with annotation, embedded document viewing and course dashboard reports will be available within your LMS interface.

CampusWide can be completely customized for all activity related to course, program and/or unit-level assessments, including artifacts, observations, and course or program-level portfolios.

Tk20 uses a standard LTI (Learning Tools Interoperability) protocol that was created by the IMS Global Learning Consortium. LTI protocol enables you to link courses and assignments between the Tk20 assessment system and your LMS system. This allows students and faculty to have a seamless integrated experience in accessing assignments within the context of the course. Students and faculty are automatically logged on to both systems through their standard LMS sign-on process.

From within the Canvas system, students can create assignments, essays, video presentations, capstone projects, Website URLs or any other artifact in use at your institution. Students can also access evaluations and feedback, track their progress through curricular requirements and view their improvements over time, which can help synthesize their learning across diverse course activities and encourage their investment in key learning outcomes.

Faculty can evaluate students on key assessments from within the LMS and can send grades, scored as part of the Tk20 assessments, back to their LMS gradebook. Special Tk20 features such as streaming video with annotation, embedded document viewing and course dashboard reports will be available within the LMS interface. Faculty will therefore have access to a rich set of evaluation and feedback tools that can assist in improving student learning, and dashboards that can support timely interventions with individual students.

As you collect student assessment data at various levels, you will be able to generate a variety of real time reports to examine individual, cohort, program, school, and campuswide data. These reports will demonstrate achievement of student learning outcomes and various standards to verify unit and program effectiveness and to meet accreditation needs. The reports will also allow you to track the progress of your students, analyze aggregate results to identify problem areas, and drive improvements in student learning outcomes.

## 7. Share documents/data in accordance with level of user access or with specified users.

### ***Custom User Roles & Permissions***

- Ability to create an unlimited number of custom user roles with specific permissions.
- All tabs and side menu items, throughout the system, can be enabled or disabled by the unit administrator so that the various custom roles have a streamlined interface that focuses on the specific tasks they need to perform. Tabs and side menu items can be turned on/off for more than one role at the same time to make this easy to administer.

Both role-based and unit-based permissions may be set for individual users. There are also various instances where granular permissions may be assigned.

### ***Role-Based Permissions***

Access to the Tk20 application is restricted by role type. In addition to a username and password, every user is assigned a role or roles. Tk20 comes configured with standard roles, such as administrator, faculty, student, etc. Additional roles can be created as needed. The different roles are given different privileges. Administrative privileges are granted only to those users designated as administrators by the institution. These permissions are easily changed as needed online, in the Administrative privileges area of the system.

Your institution will be able to define the roles and provide access to the system through the set of defined privileges. There is no limit to the number of roles that can be created using the system. Individual users can have more than one role in the system. Temporary users, such as external assessors, guest, etc., can also be granted access to the system and provided with certain privileges.

- Ability to create an unlimited number of custom user roles with specific permissions.
- All tabs and side menu items, throughout the system, can be enabled or disabled by the unit administrator so that the various custom roles have a streamlined interface that focuses on the specific tasks they need to perform. Tabs and side menu items can be turned on/off for more than one role at the same time to make this easy to administer.

### ***Unit-based Permissions***

Unit-based permissions are usually established through an SIS dataload. These can also be established or modified in the Administration tab (as well as in the Set Up area of the Planning tab, if an administrator has made this area active for certain roles). Unit-based permissions will associate individual users with one or more units (e.g. an academic program, department, division, school, individual campuses and/or the entire university). These unit-based permissions may be applied through many areas of the system and may be combined with role-based permissions. Examples include, but are not limited to the following:

- In the assessment planning area, users may have access to specific outcome/standard sets, assessment plans and areas of the Unit Dashboard based on their unit-based permissions. Designated users will also only provide feedback for the units to which they have been assigned. Some roles, such as administrators in an Office of Institutional Research and Analysis, may be associated with all units throughout the university because they will be managing assessment and planning processes.

- “Organizational Security” can be activated by report administrators, which will allow users to view report data only from their assigned units.
- Various templates and forms can be associated with units so that only members from those units can access them. This includes (but is not limited to):
  - Templates -- Assessment and action plans, coursework, portfolio, field placement, applications, faculty qualifications and artifact templates.
  - Forms -- All online forms such as assessment tools, surveys, course evaluations, data collection forms and feedback forms.

### ***Granular Permissions:***

Granular permissions can be established for individual users in cases where data is likely to be sensitive. Examples:

- Reports may be assigned to individuals, roles and/or units depending on the sensitivity of data.
- Management of faculty qualifications, including administration of roster data and reports is assigned to individual users within a designated academic unit (e.g. department, division, school etc.).
- Management of accreditation reports is assigned to particular report administrators. Individual committee members will have Edit/Comment or View/Comment access for specific sections of the report. Evidence files linked to various sections of the accreditation report may be left open, or permissions may be established for individuals and/or designated committees. Access to an online version of the report may also be assigned to specific individuals (including external users).

### **8. Upload supporting files (e.g., Word, PowerPoint, Excel, PDF), store them in a user- friendly manner that maintains role-based access, and link them to multiple assessment components.**

Supporting files (such as Word, PowerPoint, Excel, PDF) can be easily uploaded individually or in bulk, through a bulk upload feature. Through Tk20’s Database Extenders feature, you can add custom fields to most areas of the Tk20 system that include placeholders for file attachments. Supporting files can be linked to multiple assessment components, including, but not limited to: assessment and action plans, program reviews, accreditation reports, rubrics and evaluation forms.

### **9. Provide a library of resources with instruments built by higher education institutions and pre-built rubrics, including the American Association of Colleges & Universities VALUE rubrics.**

The system supports a rubric library (such as for VALUE rubrics) and will support all of your unit-specific and faculty-specific rubrics. Tk20 will configure all your rubrics within the system. The system will also come preloaded with editable standards, including SACS, discipline-specific accreditation standards, and any other national, regional, state, local and/or professional group standards that the institution requires.

### **c. Assessment, Planning and Budgeting Management Reports Requirements:**

- 1. Produce meaningful standard and ad hoc/custom reports. Reports must be customizable to specific nomenclature, data elements and entity groupings.**

The comprehensive nature of the CampusWide system enables easy access to data for real-time reporting purposes at various levels. The system offers over 100 standard reports and allows for the creation of custom reports under the software license agreement. These include both aggregate and comprehensive reports on student-level assessment in portfolios, program assessment, program improvement and unit-wide reports.

**Below is a selection of some types of reports you can generate in the CampusWide system:**

- Categorized assessments let you generate individual and aggregated reports on the meeting of student learning outcomes, various standards, and the tracking of the progress of your students, including through their program requirements.
- Standards-based reports allow you to target evidence to regional and programmatic accreditation requirements and to your unit-wide/program learning goals.
- Planning reports allow you to real-time oversight into the status and performance of all programs and offices participating in assessment, planning and budgeting activities.
- Mapping reports allow you to analyze alignment of mission statements, outcomes, institutional goals and accreditation standards.
- Feedback reports allow you to evaluate the effectiveness of assessment processes across academic and non-academic units.
- Juried Assessment reports allow you to aggregate data from jury pools that have conducted random and blind evaluations of student artifacts in Tk20.
- Course-based data lets you generate reports on the learning of your students in assignments, projects, quizzes and exams and also allows you to view faculty-to-student and course ratios.
- Survey reports will aggregate feedback from students, faculty, alumni, employers etc.
- Import of data from the Student Information System enables you to combine your assessment data with student demographics.
- Import of test scores let you combine external measures with your internal assessment data.
- Specialized field experience features enable you to generate reports on the distribution of students at different field sites, qualifications of their mentors, the diversity composition of the field work, and their corresponding assessments.
- The Tk20 system includes complete capability to generate your reports for regional accreditation, professional accreditation, state certification requirements as well as annual report and periodic program review processes.
- Export functionality allows you to share reports with others or to manipulate the data for further analysis.

These reports, combined with the other features in CampusWide, give you the ability to loop-back and institute improvements in all the activities of your unit. Since your data is always available instantaneously, not only can you track the performance of your unit, you can also monitor the improvements you institute on a regular basis.

The 'reporting security' mechanism allows you to control user groups and individual users to whom reports can be made available, as well as the location (where and how) reports are made available to system users. All reports can be exported for customization and use in formats compatible with Microsoft Office suites, ODBC data extracts, HTML and XML.

The system contains built-in report templates related to assessment processes and results, using a combination of quantitative and qualitative data elements. These reports are structured at the aggregate and comprehensive levels.

### ***Planning Tab Reports***

Authorized users can access a variety of real-time planning and program review reports to gauge effectiveness and facilitate process oversight; these include dashboard reports to view summary and status information on assessment data collected by organizations. These reports also include the ability to drill down to specific objectives/outcomes, artifacts and assessment periods. "Longitudinal Assessment Plan" reports allow multi-year viewing of the data along with corresponding action steps, to demonstrate improvement in processes, institutional/unit effectiveness and student learning.

### **Mapping Reports**

Tk20's suite of planning reports includes mapping reports that allow you to analyze alignment of mission statements, outcomes, institutional goals and accreditation standards. These reports are based on the alignments you establish using the "Outcome Mapping Feature," whereby you can create a variety of alignments, including, but not limited to: course outcomes to program outcomes, course/program outcomes to General Education outcomes, or course/program outcomes to accreditation standards. Curriculum maps also easily display where courses have been mapped to outcomes.

Once outcome alignment and/or curriculum mapping has been performed, reports can then be generated to verify alignments or identify gaps.

### **Feedback Reports**

The planning module also includes a feedback feature that will allow you to provide narrative, form element and/or rubric-based feedback to those individuals developing plan data. This feedback becomes the basis for reports that will allow you to evaluate the effectiveness of assessment processes across academic and non-academic units, to assure plan quality, to identify areas for improvement and to facilitate engagement for all participants in the process.

### **Action Plan & Budgeting Reports**

Finally, Tk20 planning reports allow you to more easily manage improvement initiatives and to verify allocation of resources to those initiatives, by allowing you to track action items by unit, monitor associated budget requests, and review them by planning cycle.

### **Process Management/Oversight Reports**

Throughout the system, the institution can easily create and manage the workflow for key tasks through setting dates/deadlines for activities, such as the collection/entering of data associated with student learning outcomes. Monitoring reports then allow you to check statuses associated with these deadlines. For each deadline set, the system will provide a status on their completion. A built-in messaging system allows for the sending of reminders as needed for various tasks. For example, a faculty member may

receive an email prompt notifying of a pending task. Once this task has been completed, the administrator receives notification that the task is complete. The task for the faculty member will show as “*completed*” and not “*pending*,” thus closing the loop. This applies to feedback and approval tasks.

The CampusWide solution also allows for the creation of custom reports under the software license agreement. Custom reports can be configured with specific data columns, fields and parameters to support longitudinal data analysis by program or other demographics. These can be created using the Report Builder in the Administration tab, or Tk20 can build these reports for you at no additional charge. Tk20 can also provide database/ODBC access and documentation for the database schema to allow generation of reports other than the existing built-in report templates.

Tk20 is nearing completion of an ad hoc reporting module, which is a key focus of our next major release, *Graphite*. This functionality should be in place within the university’s timeframe for implementation.

We can offer database/ODBC access to partner institutions that seek to integrate with data modeling systems outside of the Tk20 system. Tk20 can provide documentation for the database schema to allow generation of reports other than the existing built-in report templates.

**2. Save and share ad hoc/custom report parameters and generate saved reports in real time.**

Users may save report parameters for standard reports and then generate reports in one click. This will also allow them to visualize the data in different ways, such as with rubric data grouped together in a stacked bar chart, or with rubric data viewed separately in pie charts and/or bar charts. Tk20 is nearing completion of an ad hoc reporting module, which is a key focus of our next major release, *Graphite*. (*Graphite* is in final testing stage and can be demonstrated live). This functionality should be in place within the university’s timeframe for implementation.

**3. Run reports that summarize/aggregate assessment practices, results, etc. across units in relation to shared, overarching goals/outcomes/objectives and across multiple cycles.**

Authorized users can access a variety of real-time assessment, strategic planning and program review reports to gauge effectiveness and facilitate process oversight; these include dashboard reports to view summary and status information on assessment data collected by organizations. These reports also include the ability to drill down to specific objectives/outcomes, artifacts and assessment periods. “Longitudinal Assessment Plan” reports allow multi-year viewing of the data along with corresponding action steps, to demonstrate improvement in processes, institutional/unit effectiveness and student learning.

**4. Generate reports to analyze outcomes and/or standards assessed across multiple measures, courses and programs.**

The comprehensive nature of the CampusWide system enables easy access to data for real-time reporting purposes at various levels. The system offers over 100 standard reports and allows for the creation of custom reports under the software license agreement. These include both aggregate and comprehensive reports on student-level assessment in portfolios, program assessment, program improvement and unit-wide reports.

**Below is a selection of some types of reports you can generate in the CampusWide system:**

- Categorized assessments let you generate individual and aggregated reports on the meeting of student learning outcomes, various standards, and the tracking of the progress of your students, including through their program requirements.
- Standards-based reports allow you to target evidence to regional and programmatic accreditation requirements and to your unit-wide/program learning goals.
- Planning reports allow you to real-time oversight into the status and performance of all programs and offices participating in assessment, planning and budgeting activities.
- Mapping reports allow you to analyze alignment of mission statements, outcomes, institutional goals and accreditation standards.
- Feedback reports allow you to evaluate the effectiveness of assessment processes across academic and non-academic units.
- Juried Assessment reports allow you to aggregate data from jury pools that have conducted random and blind evaluations of student artifacts in Tk20.
- Course-based data lets you generate reports on the learning of your students in assignments, projects, quizzes and exams and also allows you to view faculty-to-student and course ratios.
- Survey reports will aggregate feedback from students, faculty, alumni, employers etc.
- Import of data from the Student Information System enables you to combine your assessment data with student demographics.
- Import of test scores let you combine external measures with your internal assessment data.
- Specialized field experience features enable you to generate reports on the distribution of students at different field sites, qualifications of their mentors, the diversity composition of the field work, and their corresponding assessments.
- The Tk20 system includes complete capability to generate your reports for regional accreditation, professional accreditation, state certification requirements as well as annual report and periodic program review processes.
- Export functionality allows you to share reports with others or to manipulate the data for further analysis.

These reports, combined with the other features in CampusWide, give you the ability to loop-back and institute improvements in all the activities of your unit. Since your data is always available instantaneously, not only can you track the performance of your unit, you can also monitor the improvements you institute on a regular basis.

**5. Produce reports in multiple formats, including Excel, CSV, Microsoft Word, HTML and PDF.**

Reports can be produced and in a variety of export formats such as Excel, CSV, Word, HTML and PDF.

**6. Add custom logos and graphics within the application and on reports.**

Tk20 will create a banner for Longwood University so that your logo and colors will display on the landing page and all tabs. You can also customize the login page in the Administration tab. The interface can be customized by role such that unused tabs and side menu items can be turned off in order to provide a simple, streamlined user experience. In the “News” Section of the Homepage you may post any items of interest to various roles or user groups. This section can include images and any other multimedia content such as flash animation, videos etc.

A Rich Text Editor is available throughout the Tk20 system so that you can add your branding to forms, assignments, assessment plans, accreditation reports etc.

## D. Accreditation Management Requirements:

### 1. Create documents required by regional, national, and program level accreditors.

Tk20's accreditation module will allow you to:

- Oversee a multi-year process and track committee activities over time.
- Promote collaboration within and across academic and non-academic units.  
Centrally store all data, reports and documentation.
- Create an online exhibit room that includes program effectiveness data and evidence of continuous improvement for accreditors and other stakeholders.
- Easily share out a formatted final report.

CampusWide streamlines your accreditation preparation, such as SACS and programmatic accreditation processes. The system will be pre-loaded with accreditation templates which you can modify as needed, and an unlimited number of fully customized accreditation report templates can also be configured in the user interface. The accreditation module defaults to a dashboard that allows those involved in the process (e.g. administrative officers, steering committee, working groups) to view the status of the accreditation report for each standard, including whether narrative responses have been completed, are in progress, or have not been started, and whether or not substantiating evidence has been attached.

The module's Overview tab is also organized by standard, but provides further detail and interactivity. In this area, you can view/edit responsible parties (e.g. chairs, committee members), add due dates, view recent activity by name and date, and drill into the standards to view narrative responses and corresponding evidence

The Narrative area features a rich text field where you can collaboratively develop responses for each standard and log comments to promote institutional memory. In this area, you can attach a variety of evidences to support each standard. This may include meeting minutes, reports, results of surveys, committee outcomes, or anything else that various units consider important and want to access readily. Committee members (e.g. working groups) can also interact in this area; they can add and download comments and can also chat or email each other directly from the narrative page.

The Evidence Room has a portfolio structure, and gives you the ability to categorize and compile all your accreditation documents to share with accreditors in conjunction with an accreditation visit. With the appropriate permissions, administrators, faculty and staff can upload documents to the Evidence Room and share them with each other. The Evidence Room includes Focus Areas to let you group documents that share a common purpose. For instance, if you had several documents that you wished to exhibit to a committee; you could create a Focus Area with a unique name. All documents added to this Focus Area are then treated as part of this group and can be retrieved in one place, instantaneously. Moreover, you can provide guest access to the Evidence Room and restrict their visibility to specific documents.

Finally, the accreditation module allows you to share a formatted final report with accreditors and other external stakeholders that may also include evidence files. This report can be sent to others as a zipped file; this file would include a PDF or Word version of the report, and you can choose to include linked evidences organized in folders. You may also set up a shared site so that designated users can access the report online (either all of it, or designated sections). The shared site can be password protected or you

can password protect certain evidences (or not allow users to see evidences at all). You can also set up a customized form in order to receive feedback on the report and can track analytics from the shared site in an activity log.

**2. Provide up to date and pre-loaded templates for forms and reports required by SACSCOC, AACSB, ASHA, CAAHEP, CAATE, CAEP, CACREP, CCNE, CEC, COAPRT, CSWE, IACS, NASAD, NASM, and NAST.**

The system will be pre-loaded with accreditation templates which you can modify as needed, and an unlimited number of fully customized accreditation report templates can also be configured in the user interface.

**3. Develop customized accreditation templates not already part of the Solution.**

The system will be pre-loaded with accreditation templates which you can modify as needed; an unlimited number of fully customized accreditation report templates can also be configured in the user interface.

**4. Easily upload and manage supporting documentation in multiple file formats for use in multiple accreditation reports, with the ability to track where each document is linked.**

The Tk20 system includes a searchable document repository that you can use to compile and categorize all your institutional documents in one location. With the appropriate permissions, administrators, faculty and staff can upload documents to the Document Room and share them with each other. Documents can be easily bulk uploaded through Drag and Drop functionality. This can include meeting minutes, reports, results of surveys, committee outcomes, or anything else that various units consider important and want to access readily. Tk20 reports can also be saved into the document room.

The Document Room includes Focus Areas to let you group documents that share a common purpose. For instance, if you had several documents that you wished to exhibit to a committee; you could create a Focus Area with a unique name. All documents added to this Focus Area are then treated as part of this group and can be retrieved in one place, instantaneously. To facilitate searching, you can also tag documents with keywords. Moreover, you can provide guest access and restrict visibility to specific documents in the room.

Documents can be bulk uploaded and links can be created using multiple file formats. Evidence can be associated with accreditation report narrative by dragging and dropping evidence onto the narrative text.

**5. Support multiple authors and tracked changes.**

In the accreditation module, multiple users can be assigned editing privileges to particular sections of an accreditation report. While a particular author is editing a narrative section, it will display as “checked out,” and be automatically checked back in as soon as that author saves their work (or if a configurable timeout period has elapsed; by default, this is set for 90 minutes). The module includes a dashboard that denotes status of each section (e.g. not started, in progress etc.), as well as the corresponding number of evidence files associated with each section. In the overview tab, users can view more detail such as last activity, committee members assigned, due dates, number of characters entered and status of completion. Designated users can also download the report and attach previous versions to the evidence room. Alerts can be sent when changes to the narrative have been made and users can log time-stamped comments about changes. A versioning feature is on the roadmap for a future release.

**6. Seamlessly integrate assessment data and other data maintained in the Solution into accreditation reports.**

Assessment data collected in Tk20 can be aggregated and saved in real-time reports. These reports can be stored in an accreditation report evidence room and easily linked to report narrative via a drag and drop feature. Other types of evidences can also be stored in the evidence room, such as student artifacts or external documents that have been imported into Tk20.

**7. Make all compiled accreditation forms and supporting documentation available on a CD/DVD or USB flash drive in a format that is acceptable for submission to the accrediting agency.**

In the accreditation module, you can export accreditation reports in PDF, Word or HTML and can choose to include evidence documents. The evidence documents can be linked to the narrative so that you when you click on a link, the corresponding evidence file will open.

**8. Automatically generate the four column SACSCOC faculty roster form based on data maintained in the system and course data from Banner, with live links to faculty credentials and course syllabi.**

Tk20 creates the SACS faculty roster through a custom report to ensure that we accommodate any unique requirements for each institution. As data sources, the custom report reads from existing faculty roster and transcript records in the faculty qualifications functionality. Records for approval to teach specific courses and/or in specific disciplines are stored in faculty profile information. The report then generates the roster and lists relevant degrees for disciplines and/or courses taught. Additional justification narrative for exceptions can be created and stored for each faculty member. Please note that Tk20 has planned enhancements on the roadmap in 2016 to streamline the faculty roster data collection and reporting process.

**9. Provide custom report options to display faculty credentials data to meet program accreditation report requirements and to generate lists of faculty based on criteria such as department, discipline, degree, terminal degree, rank, awards, etc.**

Custom reports can be created as part of the license. Faculty credential data is also displayed on the standard report, Faculty Qualifications 001. This report can be filtered in a variety of ways, such as by category (e.g. credential type, grant type, research/scholarly activity type), term, tenure status, rank, employment status, department, individual faculty member etc.

**10. Allow individual faculty to access and update data in their individual profile and to create customized CVs.**

The faculty qualifications module will allow you to create Faculty Activity Portfolio templates that can be customized with categories and data entry fields (this customization can be specific to a particular academic unit as well). Faculty can then access their activity portfolio to provide information related to various activities such as Research, Grants, Experience, etc. They can also edit their profile, such as create/update a biography, references, contact information etc. Cvs can also be attached within the module. A cv builder is on the product roadmap for a future release (likely within 18 months).

## **E. Requirements for Additional Applications:**

**The offeror's proposed solution should meet the following requirements:**

### **1. E-portfolios:**

#### ***Portfolios***

Tk20 allows for the creation of various types of portfolios including academic assessment portfolios, co-curricular portfolios and presentation portfolios for professional development. Students can create multiple portfolios for different purposes and reuse artifacts in any of the portfolios. All portfolios can be created by a non-technical person using an intuitive web interface. A wizard will guide users through each step of the process.

Tk20 portfolios enable students to upload, view and download documents, items and artifacts in all variety of formats, including PDF, HTML, Mp3, ZIP, Flash Video multimedia, URLs, and other file formats. If desired, increased disk space can be provided to an individual user or a group or users.

Students can create an unlimited number of portfolios for employment, professional certification, applications, document repositories or for any other personal use.

The portfolio component allows students to easily share their work, if they choose, via an external link to allow for outside viewing by others such as faculty, peers, and potential employers. This external access can be designated to certain individuals as needed and for a timeframe chosen by the student. The viewer will have access to only the portfolio contents that the creator wishes to share. Students can also export their portfolio in HTML format

The portfolio system is one component of the overall assessment system available from Tk20. The Tk20 platform has the flexibility to fully support the assessment processes currently used at Longwood University. If desired, Tk20 will provide the university with the ability to capture student assessment data in a central location and analyze it in relation to institutional, school, program and course goals. By systematically capturing this information, directly aligning it with the institution's goals and retaining it in a centralized assessment repository, it will create an efficient and effective assessment environment for students, faculty and staff.

The system will allow the university to collect and evaluate student information, work, and activities through the structured assessments and artifacts collected in the electronic portfolios. The portfolio can be used to capture student artifacts at course, program and institutional levels and in field/clinical experiences.

Tk20's portfolios will allow each level of the unit and the university to create their own style of portfolio as required by each individual program in order to meet each assessment and accreditation requirement. Modifications of standardized portfolios are based on the number of tabs, assessment tools, assessment stages, and artifacts you require. Portfolios can also be developed to track all types of co-curricular activities, such as internships, career development programs, other experiential/service learning programs and student engagement in campus clubs or organizations. As an example, a student can include or submit a video or audio file of their non-classroom activity such as a debate, sports event, theater performance,

recital etc. as part of their portfolio. As long as the activity can be captured it can be included as an artifact in the portfolio.

To support formative and summative assessments of student learning, and to track co- curricular experiences, the Tk20 system allows designated users (e.g. unit administrators, faculty) to create portfolio templates with multiple collection areas, including specific instructions that correspond with each area, and associated rubrics. The portfolio template, as well as the rubric(s), may also be aligned to specific standards and goal

Furthermore, the creator of the portfolio template may designate which artifact types are required; this may include a pre-built artifact form or forms (such as a lesson plan or a dispositions self-assessment). One may send a portfolio to an individual student, to all the students in a particular course or program, or to any user group with defined criteria.

Faculty can assess all types of student work samples in Tk20, including streamed videos, embedded documents and form responses that students have completed in Tk20. Assessment tools can include standards-based rubrics or customized evaluation forms, as well as narrative feedback.

When portfolios are submitted, they are routed through the system to users that have been defined as assessors for the student. More than one assessor can be associated with a portfolio in one or multiple stages of assessment. A routing sequence is defined and the portfolio can be assessed by multiple assessors simultaneously, or in sequence, depending on the configuration. The person creating the portfolio template has control over what part of the portfolio is viewed by each assessor and can assign different assessors to different students' portfolios. Assessors will be able to navigate through the portfolio using one screen or multiple screens.

Students can recall either the artifact or the entire portfolio if it has not been assessed. Students may also make feedback requests that correspond to specific artifacts and this feedback will be attached to those artifacts in the portfolio.

Portfolio assessment data that has been collected and stored can be retrieved by college, department, program, course, year, semester, or other parameters in customized reports to promote program renewal and other continuous improvement initiatives, and to meet requirements of accreditation and licensing agencies.

In addition to university /program-defined assessment portfolios. Students may create an unlimited number of presentation portfolios for personal use, such as for different career opportunities or other types of professional development needs. Students will be set up for seven years of access and therefore will be able to continue to modify their portfolios after they graduate.

**a. Link e-portfolio artifacts directly to specific assessment outcomes at various levels across the institution.**

Artifacts can be linked to assessment outcomes in several ways, to accommodate different institutional/unit-level needs. 1) The portfolio itself can be organized by standards/outcomes (for example: the main sections of the portfolio may be entitled, written communication, critical thinking etc., and the student would then upload artifacts that demonstrate achievement of these specific outcomes. 2)

the artifacts themselves can be linked to standards/outcomes 3) aggregated results and sample student artifacts can be linked to assessment plan, to provide substantiating evidence that a performance benchmark has been achieved.

**b. Create structured templates as well as allow students to build their own creative portfolio.**

Structured templates can be created for academic and/or co-curricular assessment portfolios (such as a co-curricular portfolio that evaluates career readiness). Students can also create an unlimited number of presentation portfolios for career opportunities, professional development, or any other type of personal use. When students create presentation portfolios, they can choose how it will be organized (e.g. naming the sections of the portfolio, determining what artifacts will be included, linking to test scores and transcripts that are stored in Tk20, etc.)

**c. Share portfolios with internal and external audiences such as potential employers or admissions committees in multiple formats (i.e., published to the web, printed, or saved as a single file).**

Portfolios can be shared with internal/external audiences via a link in an email (this email message can be customized). They can choose to share all of the portfolio or just certain sections. They can also post the link elsewhere (a personal website etc.) so that others can access their portfolio. The portfolio can also be exported in html format.

**d. Upload multiple file formats, including video and audio files, to a portfolio.**

Any type of file can be added to a portfolio, and/or you can require a student to complete an "artifact template." An artifact template would be used for a structured response, such as a standard lesson plan or a self-assessment. Artifact template responses can be aggregated in real-time reports.

**e. Track and analyze data gleaned from portfolio-related activities.**

The Tk20 system provides a wide variety of real-time reports that allow for tracking of portfolio activities, as well as aggregating corresponding assessment data. For example, the report, "Portfolios 047: Comprehensive Report on Assessment Portfolios, displays comprehensive data on portfolios sent in Tk20. You can narrow down your results by program (if the portfolio was sent to a program) and/or providing a date range (indicating the date the portfolio was sent out). This report will display results such as the number of recipients, submissions, and assessments.

**f. Monitor engagement in portfolio development and evaluation. For example, use dashboards and reports to see which students are adding work to their portfolios and when they are submitting it for feedback or evaluation.**

The Tk20 system provides a wide variety of real-time reports that allow for tracking of portfolio activities, as well as aggregating corresponding assessment data. To track engagement, you can run a real-time report that shows status of work completed per student, including whether required artifacts have been submitted, the status of review etc. Feedback on individual artifacts can also be requested and tracked (these will appear as a pending task for the user(s) from whom feedback was requested). Evaluators can also provide formative feedback on the portfolio overall and this formative feedback can be aggregated in real-time reports.

**g. Provide both formal and informal feedback to students using rubrics, forms, and comments.**

Tk20 portfolios allows educators to scaffold key competencies in order to promote integrated student learning, and to conduct formative and summative assessments across multiple years.

Tk20 supports formative assessment activities in a variety of ways to improve student learning and to facilitate timely interventions with students that are not meeting performance expectations. This includes, but is not limited to, the following scenarios:

- Preferences can be set for assignments, course binders, portfolios and field experiences so that one or more formative assessments can be performed before the student has submitted their final product.
- Multiple assessment tools can be used in these contexts. Therefore, you may elect to include a formative evaluation method such as a rubric that only contains performance benchmarks and comment areas, but not point values.
- At any time, students can also request feedback (such as narrative comments, rubric-based feedback) from individuals (faculty, classmates etc.) or various user groups that have been set up in Tk20. Those who are providing feedback can also annotate the student’s artifact.
- A number of methods can be used to provide additional formative feedback to students.
  - An evaluator can use the embedded document viewer to annotate students’ submission(s) (e.g. Word, PDF, Excel). If this is a summative assessment, then this feedback can improve their results in subsequent coursework.
  - The video annotation feature can be used to provide comments directly on student videos. As above, even if this is a summative assessment, the student can play back the annotated video to help them further develop their skills and competencies.
  - Students can also choose to share videos with designated individuals and/or entire course sections. Those who view the video can provide annotated comments and the student can comment on their own video as well.

For summative assessment, various academic programs and/or the institution could require a culminating portfolio that contains evidence that the student has achieved certain core learning outcomes. The portfolio may contain one or more rubrics, other evaluation form elements and comments.

**h. Generate reports in real time with direct links to archived learning artifacts. Filter the data in a variety of ways to analyze student performance.**

Tk20 offers a wide variety of real-time reports, including portfolio reports with direct links to student artifacts that have been aligned to standards/outcomes. Assessment report data can be filtered in ways, such as by program, date range, assessment tool(s) or individual student. Our upcoming Graphite release will allow you to create ad hoc reports where you can set numerous filters, including, but not limited to customized student demographics, program, major, evaluator role, linked standards, and/or evaluation form elements (such as filtering by those students that received particular performance ratings on a rubric). (Graphite is in final testing stage and can be demonstrated live). This functionality should be in place within the university’s timeframe for implementation.

**i. Maintain student artifacts and portfolios so that students can access them after they leave the University.**

Students will be set up for seven years of access (or a longer period can be negotiated). Student artifacts and data will remain in the system for as long as the institution desires.

## 2. Surveys:

### a. Provide internal and external web-based data collection.

#### ***Surveys***

Tk20's survey feature will allow you to:

- Create surveys to obtain feedback from your students, alumni, faculty, or other community stakeholders and tie results directly to assessment planning measures for reporting.
- Allow users to complete surveys easily at designated kiosks, on personal computers or on mobile devices in order to promote engagement, increase response rates and facilitate improvements across campus.

Tk20's survey wizard allows you to create a survey with a few simple steps and can be completely customized per your requirements. You can create a survey as simple or complex as you like. You can also include text answers, multiple choice questions, Likert scale forms, tables – and they can all be created easily. While creating the survey, you may preview as it is being built.

A user group builder lets you select the precise group of respondents (e.g. students, faculty, staff, employers, field supervisors and other external stakeholders) allowing selection based on considerations such as department, school, year of graduation, GPAs, test scores, etc. You may make your surveys anonymous or identified. The wizard will also guide you through the scheduling and dissemination of the surveys. You can schedule surveys to be sent on the dates of your choice, literally months in advance. Automatic reminders inform users about expiration dates. You can also allow for the completion of the survey after the due date, if desired.

Once a survey is created, it can be reused through templates. Administrators can create templates for other users, who can then send surveys with a few simple clicks of a mouse. Surveys can be completed either as a task through the system or as a link embedded in emails for respondents who do not have system accounts. Responses can be submitted easily online either from designated kiosks personal computers or mobile devices.

At any point that a survey is being completed, administrators can open the survey and view the percentage of individuals that have responded along with aggregated answers for each question. Built-in reports provide full and immediate access to your survey data. The answers are automatically collated and aggregated. Specific survey reports include: Aggregate reports on survey form, Report on survey emails, Detailed report on survey form, Pending results, Completed Results, etc. Reports can also be exported to other systems.

#### ***Course Evaluations***

Tk20 course evaluation functionality will allow you to:

- Create course evaluation instruments, make them available to your students, schedule them as needed during your terms and customize reporting of results on an individual or aggregate basis.
- Ability to send term-based course evaluations to all courses or designated courses.
- Ability to automatically send to students that have enrolled in the course after the evaluation was sent out.
- Ability to automatically send multiple course evaluation reminders with custom messages.

CampusWide gives you extensive capability to evaluate all your courses online. The Tk20 system deploys course evaluations by leveraging the information imported from the institution’s student information system and combining with the course evaluation functionality. Using the course evaluation wizard, one can easily create customized evaluation instruments, make them available to students, and schedule them as needed. Students are notified about the course evaluation through the system and/or by email.

The Tk20 system uses a fully integrated Form Builder for creating online course evaluation forms. The form builder supports many response modalities, including:

- Open text boxes with rich text formatting
- Check boxes
- Radio buttons
- Drop down menus
- Likert scales
- Tables
- Files
- User attributes (so user doesn’t need to type in their name, program etc.)
- Dates
- Numbers

When the form is created, you can indicate which responses are required; these will be designated with an asterisk, and those items would need to be completed prior to submission of the course evaluation.

During implementation, we will configure all of your course evaluation forms in the Tk20 system. We are happy to provide this service on an ongoing basis, if desired. We will also fully train you on building the course evaluation forms yourself in the user interface.

To bring enrollment data into Tk20, clients extract flat files from their Student Information System (e.g. Banner, Datatel, homegrown) and transmit it to our secure FTP site on a particular schedule (usually three to four times a semester). Some Student Information Systems are able to automate the file transmission. Once the data is received, it is loaded into the Tk20 system.

Once the enrollment data is available in Tk20, designated users can set up course evaluations. The course evaluation set up wizard will allow you to:

- Send a course evaluation form to all courses or designated courses, for one or more terms. When searching for specific courses, you can filter the search, such as by the courses associated with a department.
- Set a due date and determine whether students can still submit after the due date.

- Send now or schedule a future date/time to distribute the course evaluation.
- Determine whether you want to send only one course evaluation form to sections with multiple instructors.
- Automatically send the course evaluation to students who have enrolled after the course evaluation was sent out.
- Determine whether you want students to receive an email link (and whether you want to include a custom message)
- Establish multiple reminders. You can set up one recurring reminder with a corresponding message, or add multiple reminders, each with specific dates/times and a different message. Reminders can be set up both before and after the course evaluations are distributed to users.

To access the course evaluations, student can receive a link in an email. If desired, we can set up single sign on/central authentication so that students can use their university credentials. Based on the preferences of our client community, students receive one email that brings them to all the course evaluations that they need to complete (as opposed to a separate email for each course section).

Students may complete their course evaluations conveniently online using personal computers or mobile devices. Students can save a draft so that they can start an evaluation and finish later (there is a Save Draft button and a Submit button next to each other). When they click the submit button they will get a prompt that gives them a chance to cancel if they weren't actually ready to submit their responses.

Students will receive “smart reminders”. That is, only those students that have not completed their evaluations will receive reminders. Administrators will be able to view in the system when the reminders were sent out.

Designated users may generate a variety of real-time reports on course evaluation data and can view both aggregate and individual responses. Data can be conveniently exported to other systems for additional statistical analysis. Each report will allow you to set different parameters and display options. In addition, we will create custom reports on your behalf as part of the license. Tk20 is nearing completion of an ad hoc reporting module, which is a key focus of our next major release, Graphite. (Graphite is in final testing stage and can be demonstrated live). This functionality should be in place within the university's timeframe for implementation.

You can also provide faculty access to report where they can view status and results for their own classes. When a Course Evaluation is sent out, the individual administering the course evaluation indicates a beginning and end date/time. In the reports area, designated users can set “Administrative Super Parameters” that determine whether a faculty member can view results before the Course Evaluation end date or after the end date has passed. If one sets a super parameter that only allows visibility after the end date has passed, one can also specify the number of days after the end date. For example, one could indicate that faculty members can view their results 14 days after the end date.

**b. Integrate survey data with assessment management for association to outcomes at any level (from institutional to unit level) and for data analysis and report generation.**

Through Tk20's assessment plan measures feature, surveys and course evaluations can be associated with one or more outcomes at any unit level and will appear as evidence in assessment plan(s), to substantiate achievement of designated benchmarks.

**c. Provide all basic survey functionality such as open- and closed-ended questions, drop-down menus, question matrices and cross-tab analysis.**

Survey and course evaluations functionality allows for a wide variety of response modalities, such as:

- Rich text field boxes (this allows respondent to add formatted text, images, tables, charts and embedded multi-media)
- Radial buttons, Check boxes and Drop down menus
- Likert scales
- Integers (whole number and fractional)
- Tables with formulas
- User attributes
- Rubrics (such as for the user to complete a self-assessment)
- Courses
- Files (respondent can browse for files on computer or drag-and-drop-files into forms)

Some user attributes can also be auto-populated, such as user name, ID #, academic program etc. Survey and course evaluation form elements can be aligned with standards (such as form questions and rubric criteria). All survey and course evaluation form data will be centrally stored and used to generate a variety of standard and custom reports throughout the system with the appropriate permissions.

**d. Send system emails and reminder emails to increase response rates.**

Surveys and course evaluations can be accessed via a link in an email. The link will take the recipient directly to the form(s) that they need to complete and submit. The creator of the survey/course evaluation can set up multiple individual reminders or recurring automated reminders. Recipients will receive “smart reminders”. That is, only those recipients that have not completed their survey/course evaluation(s) will receive reminders.

**e. Survey a variety of internal and external audiences including faculty, site staff, alumni, alumni employers and other constituencies. Surveys can be sent to any internal and/or external audiences.**

Tk20 offers two types of surveys, standard and kiosk. Standard surveys appear as pending tasks within the Tk20 system and also can be distributed to email addresses, whereby the recipient can click on a link to go directly to the survey form. These surveys can be completed by students, faculty, staff, and any external audience (e.g. employer, alumni, cooperating teacher), provided that their names and email addresses are in the Tk20 system. Tk20 also offers another type of survey, called a Kiosk survey. In this case, the system will generate a url and you can set a passkey. You will then distribute the url and passkey via your own mail merge method, or you may be setting up Kiosks on campus for collecting anonymous feedback. This could be used for any type external recipients where you are electing not to store any of their information in Tk20 (e.g. Names, email addresses).

Course evaluations can be distributed to all course or specific courses (such as within a designated academic unit). Course evaluations appear as pending tasks within the Tk20 system and also can be distributed to email addresses, whereby the recipient can click on a link to go directly to the survey/course evaluation form.

**f. Add additional recipients after the survey has been distributed.**

Surveys: Individual recipients, user groups and/or students enrolled in particular courses can be added after the survey has been distributed.

Course evaluations: Additional courses can be added after the course evaluation has been distributed. You can also have the course evaluation automatically sent to students that have enrolled after the course evaluation has been distributed.

**g. Export survey results based on selected criteria in a variety of file formats, including Excel, CSV, Word and PDF.**

All existing survey reports can be exported in Excel. In our upcoming Graphite release (in final testing stage), ad hoc survey reports can be exported in a variety of formats, such as Excel, PDF, HTML and Word. New standard survey reports are also slated for summer 2016 release. These reports will include additional analytic views and export formats (e.g. Excel, PDF, HTML and Word). Course evaluation reports can be exported in Excel, PDF, HTML and Word.

**3. Field Experience and Placement:**

**a. Provide essential clinical experience and internship support for the health professions, counseling, social work, education and the social sciences.**

Tk20's Field Experience Module will allow you to:

- Import data from an external system into the Tk20 field placement module.
- Streamline field placements/internships for education, health professions, business and/or social sciences by integrating information from cooperating sites, site staff, site demographic data, and students eligible for placements into one centralized system.
- Create an unlimited number of custom fields throughout the module.
- Allow students to search site listings (e.g. clinic, agency, school etc.).
- View advisement data (e.g. student information, test scores, transcripts, transition points, key assessments) can be displayed in a split screen view while placing students.
- Place students individually or in bulk (through a csv file).
- Send placement notifications individually or in bulk.
- Create and distribute field experience binders. Tk20 has a specific field binder functionality where all requirements (artifacts, forms) are collected in one place for an outside evaluator (e.g. cooperating teacher, field supervisor, internship mentor).
- Manage field experience data and field-based assessments more efficiently and generate real time reports that provide supporting evidence for accreditation.

The CampusWide System provides specialized field experience/internship features that enable different departments to collect and house data on their sites, coordinators, and student placements, including credentials, compliance records and the placement history. Field experience reports display the distribution of students at different field sites, qualifications of their mentors, site demographics, and field-based assessments. The system will allow you to collect and centrally store field experience

assessment data and run real-time reports by school, department, program, course, year, semester, or other parameters. Since this module is highly configurable, it can support a variety of co-curricular activities, such as internships or other types of experiential/service learning.

The system will house all desired data on your field sites (e.g. agencies, clinics, schools) and your field instructors/supervisors, clinicians or mentors for the purposes of placing students. Site, staff and student data will be available to the Field Coordinators when placing these students. This built-in feature facilitates better placement decisions for the students and for the field instructors, supervisors and other site mentors.

The CampusWide application allows you to associate a Field Experience binder with each placement. These online binders, which are essentially field-based portfolios, may be sent to students for the assessment of specific artifacts, evaluation of performance in the field and journaling. Field Experience Binder templates can be customized per program requirements and can be assessed by both field evaluators and university personnel.

Field experience templates can be associated with a program or a course. These templates can be sent electronically to individual students, cooperating teachers, clinicians, external mentors/assessors, and university supervisors in the associated program or course.

These templates are created for the purpose of including guidelines for:

- Field experience entries
- Assessors, within and outside the campus
- Creation of student artifacts
- Observation and evaluation forms associated with the field experience

Field experience artifacts can support multimedia contents, links to multimedia content and all and all electronic document file formats.

- b. Create multiple customized templates for placement site data (including contact information and site demographics) and cooperating staff data (including experience and credentials) to meet the needs of student teaching, clinical field experience, internships and other remote educational experiences such as study abroad programs.**

Tk20's Database Extender allows for multiple customized templates so that you can add any number of data entry fields to Site Information, Cooperating Staff Data and Field Placement Records. The field experience module can be used to administer a variety of field experience processes, including, but not limited to practicum, student teaching, clinical, internship/experiential learning etc.

**The field experience module is used in five main ways: 1) Database 2) Student Placement 3) Field Experience Binders 4) Assessment 5) Reporting.**

## **I. DATABASE**

- You can use Tk20 to create a customized database that includes, site and staff characteristics (e.g. cooperating teachers, field instructors, preceptors, university

supervisors etc.), district information, yearly data, student placement records, document storage etc.

- Associated documents can be added easily through drag and drop and/or bulk upload.

## II. STUDENT PLACEMENT

- Students’ academic information and progress through program requirements can be displayed to facilitate the placement process.
- Customized site characteristics, placement type and/or requirements can be designated while placing the student and will display in the placement notification.
- Place students individually or in bulk (through a csv file).
- You can allow students to search site listings to facilitate matching.
- Send placement notifications to student, field instructor and/or liaison.
  - Notifications will appear prominently on the Tk20 home page and can also be sent to external email addresses.
  - Notifications can be sent during placement or at a later time, and either individually or in bulk.

## III. FIELD EXPERIENCE BINDERS

- Create and distribute field experience binders. Tk20 has a specific field binder functionality where all requirements (artifacts, forms) are collected in one place for students and evaluators (e.g. cooperating teacher, field instructor, university supervisor, faculty field liaison).
- When the template is created, you can set a variety of preferences, including:
  - Visibilities to particular tabs (so that a field instructor will not see the student’s evaluation of the site, for example).
  - A release date for the field instructor/faculty field liaison to access an evaluation form.
  - Whether students can see assessments.
  - Whether you want to set a due date for the entire binder, specific tabs or specific attachments within each tab.
  - Whether students can submit after the due date(s)
  - Whether the binder should be distributed immediately or at a later date.

## IV. ASSESSMENT

- When the student submits their binder, designated evaluators will be able to view the binder (either all of it or specific tabs, depending on permission settings).
- A split screen view will display the student binder on the left hand side, and any forms that the evaluator(s) need to complete will display on the right (such as assessments).
- You can set permissions so that the evaluators cannot see each other’s form responses or can only see selected responses.
- You will not need to distribute Tk20 login credentials to sites; site evaluators (e.g. cooperating teacher, preceptor) can just click on a link in an email to access evaluation forms and student field experience binders.

## V. REPORTING

- Real time reports can display site characteristics, track placement activities and display aggregated results of forms that students and evaluators have completed (e.g. field instructors, faculty field liaisons).
- Reports can be displayed in graphical and/or data table formats.
- Various filters can be applied to each standard report
- All reports can be exported; reports can also be saved to a document room.
- Tk20 can create custom reports on your behalf as part of the license.
- Ad hoc reports can be created in the user interface in our upcoming Graphite release (Graphite is in final testing stage and can be demonstrated live).

**c. Integrate with faculty credentials to link to and track University supervisors.**

In the faculty qualifications area, units such as the College of Education can create any number of custom categories so that they can track university supervisor activities. Data on university supervisors can also be imported into Tk20 from external systems (such as an SIS) and displayed in the Field Experience and Faculty Qualifications areas.

**d. Allow students to submit placement application forms online.**

Tk20's integrated application process allows students to apply for program admission directly through the system, even if they do not yet have a Tk20 account. Tk20 supports all other types of application processes as well, such as applications for field experiences, internships or other co-curricular programs. With the appropriate permissions, administrators and/or faculty can develop customized application forms for academic and non-academic units. Forms are routed to designated personnel, so that systematic decisions can be made on program admissions and other types of applications. The system allows for full communication between faculty/staff and students for feedback and counseling during the process, and provides a robust set of reports that allows the university to review the qualifications of applicants, number of students admitted, and the reasons for the decisions. All data is integrated with other data in the system for seamless reporting with other aspects of student performance within the unit.

**e. Match student applications with cooperating sites and staff maintained in the Solution.**

Site and staff data as well as student advisement data can be displayed in a split screen view while placing students to facilitate placement decisions. Advisement data includes application records, test scores, transcripts, key assessments, placement history, demographics and other academic records.

Real-time field experience reports can also assist in making new placements by displaying the current distribution of students at different field sites, qualifications of their mentors (e.g. cooperating teachers), site demographics, and field-based assessments.

Tk20 can also create a custom report to filter the field site database in specific ways to identify the best sites for placement. Moreover, in our upcoming Graphite release, ad hoc reports can filter by specific application form responses to help facilitate placements. (Graphite is in final testing stage and can be demonstrated live). This functionality should be in place within the university's timeframe for implementation.

**f. Collect key demographic data and descriptive statistics for a variety of student activities outside the classroom experience.**

Using Tk20's Database Extender feature, any number of custom demographic fields can be added to the Student User detail. These can then be custom report fields and report parameters. Information about student activities can also be collected from students using various online forms, such as artifact templates, surveys and application forms. This information would be stored within the student's academic record in the Advisement tab, and can also be accessed while placing students (with the appropriate permissions).

**g. Easily collect field experience assessments from cooperating site staff who are not associated with the University.**

This is very easily managed in Tk20. You will not need to distribute Tk20 login credentials to site staff; site evaluators (e.g. cooperating teacher, preceptor) can just click on a link in an email to access evaluation forms and student field experience binders. You can set visibilities so that the designated evaluators can view all of the student binder or just selected sections of it. A split screen view will display the student binder on the left hand side, and any forms that the evaluator(s) need to complete will display on the right (such as assessments). Student binders will allow external evaluators to view required artifacts such as teacher work samples, videos, time logs, self-assessments, reflections etc., in conjunction with completing the online evaluation forms. Their form responses can then be aggregated in real-time reports.

**h. Manage and report on placements, University supervisor assignments, cooperating site staff, and the status of applications and assessments based on multiple criteria, including location (state where site is located), academic program, and specific course requirement.**

- Real time reports can display site characteristics, track placement activities and display aggregated results of forms that students and evaluators have completed (e.g. field instructors, faculty field liaisons).
- A variety of filters are included with these reports, such as location, placement template (e.g. requirements), demographics, evaluator type, course, academic program etc.
- Reports can be displayed in graphical and/or data table formats.
- Various filters can be applied to each standard report
- All reports can be exported; reports can also be saved to a document room.
- Tk20 can create custom reports on your behalf as part of the license.
- Ad hoc reports can be created in the user interface in our upcoming Graphite release (Graphite is in final testing stage and can be demonstrated live). This functionality should be in place within the university's timeframe for implementation.

**i. Integrate with e-portfolios for student artifacts related to field experiences.**

Field Experience artifacts can be integrated into student portfolios and portfolio artifacts can also be integrated into field experience binders.

## F. Usability Requirements

1. **Easily accommodate changes in the entity hierarchy without loss of data and/or need to reenter data (e.g., change in school, change in department).**

The university can easily make changes to the institutional hierarchy in the Planning set up area. Tk20 will configure the hierarchy on your behalf at the beginning of implementation (this is a standard service that we provide to all clients – these services also include configuration or forms, rubrics, standards and accreditation templates). Nomenclature for existing units can be changed without loss of data and/or new units can be added over time.

2. **Present a visual interface that is user-friendly, provides multiple ways to access Solution components, and limits the number of clicks to move from one function to another.**

Tk20 CampusWide solutions are designed to be user-friendly, intuitive and customizable to accommodate a diverse set of users, units and programs involved in assessment activities. One of the key elements in the design is the tabular interface structure which provides access to specific functionality for each defined user role. This allows the user to only focus on the critical functions associated with a specific role and the most optimal way to perform them. The system also contains a number of user-friendly wizards and filters to guide users through specific functions, such as entering assessment data, conducting assessment activities and reporting results.

Another element in the design is the use of customizable features. Specific forms and assessment instruments can be created which allow the individual units to maintain continuity with many existing processes. This allows users to quickly adapt to the new environment since many of the terms are familiar. We can also support your existing authentication environment, making it easier for your faculty, staff and students to use the system.

The Tk20 system is designed to work with all common browsers on the PC, MAC and UNIX based systems. It is specifically tested for Explorer, Firefox, Safari, Opera and Google Chrome browsers. Since this is web based application, the Tk20 interface can be accessed using mobile devices, just like any other website. No additional plugins are necessary. Students and faculty may complete surveys, course evaluations or other types of form responses conveniently online using personal computers or mobile devices. Faculty may also use a mobile device to assess student work, such as with a rubric or evaluation form. Our system is specifically tested for the activities that are most typically performed on mobile devices by our users (e.g. surveys, course evaluations, assessments) and we test on common mobile devices such as iPhones, iPads, iPods and Android tablets.

Over the past couple of years, Tk20 has improved student and faculty workflows to minimize clicks and added user friendly new features such as drag-and-drop for importing files. With our upcoming Graphite release we've clarified and simplified the entire interface, improving the system for all users. Our pages are tested for visual consistency, and all pages will use same set of patterns to reduce user learning curves. With a clear hierarchy of information importance, the new layout is understandable at a glance. Graphite will have a clear page flow so that all users, whether using a mouse or just a keyboard, can more easily and quickly fill out forms using the tab button to jump from input to input (Graphite is in final testing stage and can be demonstrated live).

**3. Provide a “dashboard” view of program/unit assessment activities, progress toward meeting goals and deadlines.**

The Tk20 system features a variety of dashboards, including the following:

**Unit Dashboard**

Annual records for multiple years can be accessed from the unit dashboard which will allow designated users to view summary and status information on assessment data collected by the entire university or specific units (depending on permissions). In the assessment plan unit dashboard, one can view by assessment cycle, how many outcomes and goals have been documented for each program, how many have completed data entry, how many outcomes/goals have been Met, Partially Met, Not Met etc. The dashboard includes the ability to drill-down to specific objectives/outcomes, artifacts and assessment periods. During plan data entry users can also indicate when records are complete, and completion status will appear on the dashboard as well as in oversight reports.

**Strategic Plan Dashboard**

The strategic planning area includes a dashboard that demonstrates alignments between Strategic Plan Goals/Objectives and Unit Strategies (note: this nomenclature is customizable). The dashboard also displays percent completion of action items and allows users to drill down for further detail.

**Accreditation Module Dashboard**

The accreditation module defaults to a dashboard that allows those involved in the process (e.g. administrative officers, steering committee, working groups) to view the status of the accreditation report for each standard, including whether narrative responses have been completed, are in progress, or have not been started, and whether or not substantiating evidence has been attached.

**Course/Assignment Dashboard**

Faculty can access students’ performance through dashboards. These dashboards are a visual account of the status and the performance of students within courses. If an integration with Canvas has been established, then faculty can also access the course dashboard from Canvas in order to facilitate timely interventions with those students that are not meeting performance benchmarks.

**4. Quickly view details about specific assessment plans to evaluate progress as well as see summarized results from multiple programs/departments.**

***Planning, Program Review & Budgeting***

The Tk20 system incorporates assessment plans and records, program reviews, strategic planning and budgeting. Using Tk20 will allow you to:

- Document and coordinate student learning outcomes, program objectives and institutional goals across all levels of the institution, and align to external standards such as from accreditation bodies and/or state agencies.
- Create curriculum maps that align goals and outcomes.
- Develop and coordinate assessment and strategic plans, periodic program reviews, annual reports and corresponding action plans to promote continuous improvement initiatives across the campus.

- Manage a wide variety of assessment data and link substantiating evidences to plans, including student learning outcomes data, and other assessment data from academic and non-academic units
- Track action items by unit, monitor associated budget requests, and review them by planning cycle.
- Run real-time status reports to monitor progress and view key performance results.

Tk20's planning module allows institutions to manage, streamline and coordinate academic and non-academic assessment planning, strategic planning and budgeting. This module demonstrates assessment/strategic planning alignment with the institutional mission and communicates the initiatives to a larger population to garner campus wide support, to facilitate program renewal and institutional improvements, and to meet accreditation needs.

The assessment planning solution facilitates a holistic assessment approach by providing you with a 360 degree view of your programs, departments, and student data, which will empower you to make meaningful data-driven decisions over multiple cycles.

For any unit, you can define your mission, develop and align goals, objectives and/or outcomes, create curriculum maps, specify key measures, systematically collect data, analyze results, make recommendations for improvement and document associated actions. Moreover, data imports allow you to incorporate information from other systems into your plans and to produce a variety of real-time reports to enable detailed views of all your units, including the learning of your students. Subsequent assessment planning is thus based on sound assessment practices for continuous improvement. All assessment cycles and results are visually displayed for ease of review.

The strategic planning feature allows you to document and track strategic goals and objectives. This feature links to the assessment planning feature in order to establish a consistent workflow for overall Institutional Effectiveness. Departments can manage and track the status of the assigned strategic initiatives at the end of the strategic planning period and/or in intermittent planning cycles.

Action items can be developed in alignment with strategic planning assessment results to "close the loop" and also inform future strategic planning endeavors. Tk20 can customize templates to capture a variety of data elements associated with your continuous improvement initiatives, including budgeting, expenditures, and resource commitments. This information can be associated with academic and non-academic goals/objectives/outcomes and tracked as part of the planning and budget process, in order to link planning and assessment to resource allocation and to promote fiscal accountability.

For both strategic plans and assessment plans, designated users can generate a variety of reports to oversee processes, verify goal/outcome alignment at various levels, assure quality and completeness of plans, and track performance results against benchmarks.

### ***Customized Processes***

Tk20's Planning Module can be fully customized to support your existing or desired academic and non-academic assessment processes. One of the strengths of the system is that it is not just a repository to store information but will establish a data collection and reporting framework for compiling, organizing, tracking, and analyzing information. The CampusWide system allows you to collect your data

systematically, plan your assessments, compare them against specified outcomes/objectives, and generate detailed reports for compliance, analysis, and program improvement.

In order to maintain continuity with your existing processes, your assessment vocabulary can be incorporated throughout the system. Examples include, but are not limited to the following:

- Assessment plan and strategic plan templates
- Assessment plan and strategic plan data entry fields
- Form elements (e.g. Data collection forms, measures forms, results forms, analysis forms, actions forms or any other form created in Tk20)
- Goals/Outcomes nomenclature (e.g. Strategic Goal, Objective, Learning Objective, Outcome, Student Learning Outcome, Competency or any other description in use at the university)
- Budget item descriptors
- Plan status descriptors
- Curriculum map fields

Your assessment vocabulary will also appear in report rows, columns and/or data fields.

An unlimited amount of needed assessment and program review information can be managed through the platform's planning module. The system has the ability to categorize data with your preferred nomenclature such as "Results" (assessment data), "Analysis of the Data Collected," and "Recommendations for Improvement." It also allows built-in development of an "Action Plan" based on the findings and recommendations. This action plan can be reviewed and resources revised.

Within the system, you can define different longitudinal cycles for the various units and programs. Outcomes are designated by assessment period so longitudinal data can be compared over time. You can have one or more versions of the data for program review and other periodic activities. The system collects and retains information for each one of those versions so that you can review you data and compare any two elements at any point in time.

### ***Assessment Hierarchy and Outcomes Alignment***

The system will be configured with a customized assessment hierarchy, which will support an unlimited number of institutional levels (e.g. course, program, division and institution) for assessment management, data collection, collaboration, planning and review processes. The assessment hierarchy will create a relationship between different units, including the institution, divisions, programs and courses. Once the relationship is created, one can define the mission, goals, outcomes and objectives for all units in your institution, including non-academic units such as student services, admissions, libraries and other administrative services.

Goals, outcomes and objectives can be articulated at all levels in the organizational hierarchy and linked horizontally and vertically across the entire institution. This linkage, through outcomes mapping, allows alignment between courses, programs, departments, colleges/schools and the institution, creating a complete map of the institution's outcomes and goals. These entities can also map to external standards, such as national, regional, state or discipline-specific accreditation standards.

### ***Standards***

The system will come preloaded with editable standards, including SACS, discipline-specific accreditation

standards, and any other national, regional, state, local and/or professional group standards that the institution requires. The standards can be aligned to any of your rubrics and forms (such as evaluation forms, program review forms or assessment data collection forms), other assessment instruments, your goals/outcomes at every level of your organizational hierarchy (e.g. institution, division, department, program, course), your curriculum maps and any other assessment processes, in order to create reports for your regional and specialized accrediting organizations. Your rubric criteria and form elements can also be tagged with learning goals/outcomes for reporting purposes.

### ***Curriculum Maps***

The system includes the ability to develop and evaluate curriculum maps. These curriculum maps show the relationship between goals, learning outcomes, and assessment methods of a program or course. The Curriculum Mapping function allows you to clearly demonstrate when, where, and how student learning outcomes are assessed at the course level. Through this feature, you can construct a clear picture of the cohesion and comprehensiveness of curricula taught in various programs throughout the institution, including General Education. To support curricular improvement efforts, the Tk20 system also offers the ability to collect feedback on the curriculum map and aggregate the feedback in reports.

### ***Documentation of Assessment Results and Narratives***

The Tk20 system will allow you to develop a standardized assessment plan and/or program review structure for all units or to develop various types of plan and program review templates for specific units. This structure will contain various categories into which designated staff will enter corresponding narratives.

You may use the system's pre-populated categories (e.g. measure, result, recommendations, analysis and actions) or modify them as desired. Each category is also associated with a pre-built form template (measures form, results form, action form etc.). You may use or modify these pre-built form templates and/or fully customize each form, not only with open-ended text areas, but also radial buttons, drop downs, check boxes, Likert Scales, tables etc. This form data can then be aggregated in reports.

Designated users may have various levels of access to plan data. They may have View/Edit or View Only privileges, and/or have the ability to provide feedback. Users can be affiliated with one or more units. They can then view, edit and/or provide feedback for the unit(s) with which they are affiliated.

### ***Flexible Data Collection***

The system will provide multiple types of tools for conducting assessments including the ability to collect form-based data and imported external data. For certain types of CampusWide licenses in which students are using the system, such as the CampusWide COMP and RE Solutions, you can also conduct a variety direct and indirect assessments within Tk20 and link the results to the planning dashboard. These direct and indirect assessments include course-embedded assessments, which may be administered through LMS integration, as well as assessment portfolios, field/clinical evaluations, juried assessments, surveys and course evaluations.

For licenses where students are not using Tk20, the system also allows for managers of assessment activities to seek input from selected users through several data collection methods. These include

- Data entry of course/instructor level assessment data, such as rubric scores.

- Data upload of assessment data at various levels, such as course/course section, program, department, college/school, division etc.
- Data collection requests, customized forms sent to one or more individuals for collecting any desired assessment information pertaining to various levels (e.g. course, program etc.
- These different types of requests can be directed to select users for observations and feedback on assessment activities, including faculty, program chairs, department chairs, etc.
- The user who sends the request can also establish a frequency such as to send the request immediately, on specific date(s), or to send a recurring request. Once the designated user(s) have completed the request, the information is automatically linked to the assessment activity and is displayed on the unit plan dashboard.

### ***Workflow Management***

Tk20 will empower you to easily develop and manage the workflow for key program review and planning tasks through setting dates/deadlines for activities, such as the collection/entering of data associated with student learning outcomes. At-a-glance monitoring reports then enable you to check statuses of completion for each deadline set. A built-in messaging system provides for the sending of reminders as needed for various tasks. For example, a faculty member may receive an email prompt notifying of a pending task. Once this task has been completed, the administrator receives notification that the task is complete. The task for the faculty member will show as completed and not pending thus closing the loop. This applies to data collection tasks.

Task assignment and tracking is supported through the Tk20 CampusWide system through the “task” notification function within the product. The system allows for users to easily receive notification on program review and assessment activities indicated by a flag on the home page that appears upon login. Tasks are listed in order by date and are linked directly to the task itself, allowing for simple, one click navigation. This will provide notification of users of their responsibilities within defined workflow processes. This will include the actions required by the user and due dates for each user. Email alerts will also notify users of a needed action. The Unit Dashboard, associated with our workflow capabilities, would provide administrators with status on the progress of the workflow process in areas outside their individual unit.

The system also provides the capability of establishing a collaborative process that allows multiple individuals to collaborate and offer feedback on any process which can be stated and accompanied by supporting documents. A reminder function allows stakeholders to be reminded to complete their part in the process.

### ***Quality Assurance***

Administrators will also be able to provide feedback on program review and assessment planning activities, during development as well as after data entry has been completed. All documented feedback will be stored with the associated plans. This feedback feature, and associated feedback reports, will allow you to assure quality and consistency in assessment planning and review processes across the institution.

### ***Planning Tab Reports***

Authorized users can access a variety of real-time planning and program review reports to gauge effectiveness and facilitate process oversight; these include dashboard reports to view summary and status information on assessment data collected by organizations. These reports also include the ability to

drill down to specific objectives/outcomes, artifacts and assessment periods. “Longitudinal Assessment Plan” reports allow multi-year viewing of the data along with corresponding action steps, to demonstrate improvement in processes, institutional/unit effectiveness and student learning.

### **Mapping Reports**

Tk20’s suite of planning reports includes mapping reports that allow you to analyze alignment of mission statements, outcomes, institutional goals and accreditation standards. These reports are based on the alignments you establish using the “Outcome Mapping Feature,” whereby you can create a variety of alignments, including, but not limited to: course outcomes to program outcomes, course/program outcomes to General Education outcomes, or course/program outcomes to accreditation standards.

Once this mapping has been performed, standard and/or custom reports can then be generated to verify alignments or identify gaps.

Curriculum maps also easily display where courses have been mapped to outcomes and standard or custom reports can also be created to verify mapping and identify gaps.

### **Feedback Reports**

The planning module also includes a feedback feature that will allow you to provide narrative, form element and/or rubric-based feedback to those individuals developing plan data. This feedback becomes the basis for reports that will allow you to evaluate the effectiveness of assessment processes across academic and non-academic units, to assure plan quality, to identify areas for improvement and to facilitate engagement for all participants in the process.

### **Action Plan & Budgeting Reports**

Finally, Tk20 planning reports allow you to more easily manage improvement initiatives and to verify allocation of resources to those initiatives, by allowing you to track action items by unit, monitor associated budget requests, and review them by planning cycle.

### **Process Management/Oversight Reports**

Throughout the system, the institution can easily create and manage the workflow for key tasks through setting dates/deadlines for activities, such as the collection/entering of data associated with student learning outcomes. Monitoring reports then allow you to check statuses associated with these deadlines. For each deadline set, the system will provide a status on their completion. A built-in messaging system allows for the sending of reminders as needed for various tasks. For example, a faculty member may receive an email prompt notifying of a pending task. Once this task has been completed, the administrator receives notification that the task is complete. The task for the faculty member will show as “*completed*” and not “*pending*,” thus closing the loop. This applies to feedback and approval tasks.

## **5. Describe how product(s) addresses accessibility to ensure the application is accessible to people with disabilities. Describe testing for adherence to accessibility guidelines and standards.**

The current version of Tk20 is generally accessible. Tk20 has made it our highest priority to close any gaps in accessibility. In our upcoming Graphite release (final testing stage), nearly all of the system has been flipped to a new interface that is fully accessible, with assistive technologies to accommodate all abilities and ensure every user has ready access to the platform’s full functionality. All areas that students use and most faculty workflows have been transitioned to the new UI in this release. The only exception for

faculty/administrators are the three areas that are still being transitioned to the new UI – these are Planning, Accreditation Management and Faculty Qualifications. These areas would still be considered generally accessible. Tk20 plans to transition these areas to the new interface in the spring, in conjunction with planned enhancements. The below description summarizes the methods and strategies we are using to achieve full accessibility across the Tk20 user interface.

### **Accessible Coding**

Graphite incorporates best-in-field accessibility practices such as new cross-browser compatible skip links, role markers, and unique accessible multi-select fields. We are extensively using ARIA, an accessible markup language that helps screen reader users stay oriented in our information-rich application. ARIA acts as a signpost for screen reader software, describing the type of element and the actions that element can complete, and clarifying any hard-coded associations with descriptions or labels. For parts of the system that are mainly visual, such as images or other visual elements, we supply screen-reader only text to create a functional and invisible text alternative.

### **Universal Design**

With Graphite, we've clarified and simplified the entire interface, improving the system for all users. Our pages are tested for visual consistency, and all pages will use same set of patterns to reduce user learning curves. With a clear hierarchy of information importance, the new layout is understandable at a glance. Graphite will have a clear page flow so that all users, whether using a mouse or just a keyboard, can more easily and quickly fill out forms using the tab button to jump from input to input.

### **New Features and Keyboard Interfaces**

We are building brand-new features into Graphite which allow students, faculty, and administrators to create accessible images, videos, and text content. We are also paying special attention to our keyboard controls to give keyboard-only users new ways to manipulate data. We have created new and easy keyboard control commands for drag-and-drop interfaces, file trees, icons, modules, and many more elements of Graphite.

### **Extensive Testing for Accessibility**

Graphite is undergoing multiple rounds of rigorous testing for accessibility, with each page in the system being individually verified by staffers trained in accessibility practices, as well as a series of automated validations using accessibility checker software such as WAVE. We have also tested the usability of our system with individuals who have disabilities (such as users who are blind and use screen readers). We don't want a single feature, page, or component to fall through the cracks of our intensified accessibility efforts.

### **Company-wide Accessibility Training**

Tk20's goal is to be completely accessible, both internally and with our customers. We have attended accessibility conferences to learn about the most up-to-date accessible interfaces and practices. We have hosted a series of company-wide internal training sessions to bring everyone up to speed in industry best practices for not only user interfaces, but also any supporting documentation in Word, PowerPoint, or other programs. Tk20's employees are enthusiastic about the changes because accessibility is an important part of our company mission, and in Graphite we are making these changes a reality.

## **G. Technical, Security and Maintenance Requirements:**

### **1. Capability for import/integration with Banner data (i.e. course, faculty).**

The Tk20 application was designed to support the importing of data through a highly developed API so that you can generate reports on all of your data, not just the assessment data the system aggregates. This will give you a seamless view of all your data for your students, courses, programs and the entire institution. The application has built-in support for integrating with common institutional student information systems, such as Banner. The system also allows data to be imported from external test scores, other assessment systems and other databases. Data can be imported, as long as the data can be extracted from the other system, provided electronically and available in a spreadsheet or comma delimited format.

The typical mechanism for the set-up of data import is a Tk20 generated 'mapping file,' that serves as an interface between the systems. This mapping file will be adjusted to be in sync with your information systems on campus on a regular basis. Once the data is imported, your system is populated with your institutional data and the hierarchy needed for assessment planning. Through this process we create an integrated centralized repository of student, demographic and assessment data for assessment and accreditation purposes. CampusWide also exports data to other systems. Its integrated export module can export data in a variety of formats, to suit different systems. Portfolios can be exported to CD format. All reports generated in the system can be exported to Microsoft Excel for further analysis with programs such as SPSS or for integration with other documents. Our process for Data Import will support every version of this product.

Tk20 will work with you to create an account so that you can deposit your files on a secure FTP server hosted at Tk20's Data Center. A service representative will work with you to obtain your connection information and provide you with an account.

**In the Appendix Section, please refer to the document titled "Guidelines for Data Import".**

### **2. Assessment data integration and collection capability with Canvas.**

The Tk20 system has the flexibility to support a variety of assessment processes, which may vary from unit to unit. To support online assignment submission and grading, this system offers Single-Sign and Gradebook integration for all common LMS systems (e.g. Canvas, D2L, Moodle, Sakai, Blackboard). Alternatively, student work can be submitted and evaluated directly in Tk20, or faculty can make course-based "observations" that do not require student submission, but could include file attachments. Regardless of the workflow, you can then use Tk20's powerful reporting system to aggregate and analyze assessment data across key assignments, courses, programs or across the entire institution.

In addition to Single-Sign and Gradebook integration for course assignments, a generic single sign on with common LMS systems can also be established for the other types of direct and indirect assessment activities.

Tk20 uses a standard LTI (Learning Tools Interoperability) protocol that was created by the IMS Global Learning Consortium and is a certified tool provider for LTI v.1.1. This certification enables Single Sign-On and Gradebook integration with all common LMS systems (e.g. Canvas, D2L, Moodle, Sakai, Blackboard).

In order to establish this integration, both vendors need to have completed the conformance process for LTI v. 1.1. IMS Global Conformance Status is listed here: <http://www.imsglobal.org/cc/statuschart.cfm>

LTI protocol will allow you to link courses and assignments between the Tk20 assessment system and Canvas. Tk20 will provide links to courses and assignment setup in Tk20. These links are added via a LTI Tool Provider area in Canvas. After the link has been added and embedded in the course, it is available to instructors and students in the course. When the student or faculty clicks on the link, data about the user is sent to Tk20 in order to verify their permissions to view and interact with Tk20 courses and assignments. The type of user information that will be sent is determined during the implementation and setup.

This allows students and faculty to have a seamless integrated experience in accessing assignments within the context of the course. Students and faculty are automatically logged on to both systems through their standard LMS sign-on process.

From within Canvas, students can create assignments, essays, video presentations, capstone projects, Website URLs or any other artifact in use at your institution. Students can also access evaluations and feedback, track their progress through curricular requirements and view their improvements over time, which can help synthesize their learning across diverse course activities and encourage their investment in key learning outcomes.

Faculty can evaluate students on key assessments from within the LMS and can send grades, scored as part of the Tk20 assessments, back to their Canvas gradebook. Special Tk20 features such as streaming video with annotation, embedded document viewing and course dashboard reports will be available within the LMS interface. Faculty will therefore have access to a rich set of evaluation and feedback tools that can assist in improving student learning, and dashboards that can support timely interventions with individual students.

### **3. Support role-based access to data in which user roles can be set up to facilitate authorization to access, review, and contribute content.**

One of the key elements in the design is the tabular interface structure which provides access to specific functionality for each defined user role. This allows the user to only focus on the critical functions associated with a specific role. By doing so, the user is able to thoroughly understand the critical functions and the most optimal way to perform them.

Both role-based and unit-based permissions may be set for individual users. There are also various instances where granular permissions may be assigned.

#### **Role-Based Permissions**

Access to the Tk20 application is restricted by role type. In addition to a username and password, every user is assigned a role or roles. Tk20 comes configured with standard roles, such as administrator, faculty, student, etc. Additional roles can be created as needed. The different roles are given different privileges. Administrative privileges are granted only to those users designated as administrators by the institution. These permissions are easily changed as needed online, in the Administration tab..

Your institution will be able to define the roles and provide access to the system through the set of defined privileges. There is no limit to the number of roles that can be created using the system.

Individual users can have more than one role in the system. Temporary users, such as external assessors, guest, etc., can also be granted access to the system and provided with certain privileges.

- Ability to create an unlimited number of custom user roles with specific permissions.
- All tabs and side menu items, throughout the system, can be enabled or disabled by the unit administrator so that the various custom roles have a streamlined interface that focuses on the specific tasks they need to perform. Tabs and side menu items can be turned on/off for more than one role at the same time to make this easy to administer.

### **Unit-based Permissions**

Unit-based permissions are usually established through an SIS data load. These can also be established or modified in the Administration tab (as well as in the Set Up area of the Planning tab, if an administrator has made this area active for certain roles). Unit-based permissions will associate individual users with one or more units (e.g. an academic program, department, division, school, individual campuses and/or the entire university). These unit-based permissions may be applied through many areas of the system and may be combined with role-based permissions. Examples include, but are not limited to the following:

- In the assessment planning area, users may have access to specific outcome/standard sets, assessment plans and areas of the Unit Dashboard based on their unit-based permissions. Designated users will also only provide feedback for the units to which they have been assigned. Some roles, such as administrators in an Office of Institutional Research and Analysis, may be associated with all units throughout the university because they will be managing assessment and planning processes.
- “Organizational Security” can be activated by report administrators, which will allow users to view report data only from their assigned units.
- Various templates and forms can be associated with units so that only members from those units can access them. This includes (but is not limited to):
  - Templates -- Assessment and action plans, coursework, portfolio, field placement, applications, faculty qualifications and artifact templates.
  - Forms -- All online forms such as assessment tools, surveys, course evaluations, data collection forms and feedback forms.

### **Granular Permissions**

Granular permissions can be established for individual users in cases where data is likely to be sensitive:

- Reports may be assigned to individuals, roles and/or units depending on the sensitivity of the data.
- Management of faculty qualifications, including administration of roster data and reports is assigned to individual users within a designated academic unit (e.g. department, division, school etc.).
- Management of accreditation reports is assigned to particular report administrators. Individual committee members will have Edit/Comment or View/Comment access for specific sections of the report. Evidence files linked to various sections of the accreditation report may be left open, or permissions may be established for individuals and/or designated committees. Access to an online version of the report may also be assigned to specific individuals (including external users).

#### **4. Secure, web-based hosted service accessible from any major web browsers including Google Chrome, Mozilla Firefox, Internet Explorer and Safari**

The Tk20 CampusWide solution is a web-based application that allows users to develop, enter, review and revise outcomes assessment at any time and from any location where they have an internet connection. The software is designed to work with all common browsers on the PC, MAC and UNIX based systems. It is specifically tested for Explorer, Firefox, Safari, Opera and Google Chrome browsers. No additional applets or plugins are required for end-user devices.

The Tk20 system is built using a highly secure, enterprise-class design. It includes a scalable, platform-independent, and application-server independent design and a well-defined API that administers security, authenticates users, manages sessions, and checks access. Tk20 takes the following steps to ensure security of data belonging to its clients:

- All servers run the Linux operating system, a far more secure operating system than Windows with respect to system intrusions, trojans and viruses.
- Data from each individual client is housed in a separate server. Tk20 does not house data from multiple clients on the same server.
- Tk20's application has an N-tier architecture. The database has its own separate tier and is isolated from the rest of the application. Only the application tier has authorization to access the database, leading to complete data isolation and security. All connections to the database are authenticated with respect to authorization for access.
- Authentication, authorization, and session management is self-contained within each component.
- Instance-level authorization gives administrators a very detailed level of control over an end user's access to information and functionality.
- Security information is cached in a user-specific database table created at login and destroyed at logoff.
- Administrators can control access for all types of clients including Web servers and other enterprise applications.
- All passwords are encrypted in the database
- All communication between users and the system, and between the various system tiers is encrypted.
- User communication utilizes the https protocol.
- All servers are protected behind multiple Cisco firewalls.
- All servers are continuously monitored for proper and expected operation.
- Servers are housed in a secure data center. Access to the data center and the servers is strictly controlled. The center has smoke detection, continuous power arrangement, a Liebert system and battery backups. The center has multiple T1 connections from independent sources.
- All data is backed up daily on hard drives. Backed up data is transferred every three days onto tapes. The tapes are stored in a separate facility from the servers.

The security model uses the façade of the Security Manager component. The Security Manager controls security for all services by delegating tasks to other security components. It communicates with the Logger to record all security operations. Finally, it ensures that the system checks every CRUD operation for authorization and access control.

## 5. Data backup

### Data Backups

There are multiple levels of backup that TK20 implements to ensure that your data is secure.

#### **Level 1: RAID 1**

All TK20 servers are configured to have RAID 1 to ensure that a hard disk failure will not interrupt the service. RAID 1 provides a mirror of your entire system. All hard disks are hot swappable, meaning as soon as the replacement for the corrupted/damaged hard disk arrives, it can easily be plugged in again without any service interruption.

#### **Level 2: Onsite Full Backup + Incremental Backup + Continuous Backup**

##### **Daily Backup Creation**

The Tk20 backup system works once a day for a month. The backup system stores an entire month's worth of backups so that at the beginning of the next month it will begin to overwrite the previous month's first backup. Backups are scheduled once a day in the early morning. This is done to ensure that there is no degradation in performance of the application during the backup process. Both, the user uploaded files as well as system data are backed up by this process so that in the case of a recovery situation all users will be able to completely recover their state from the time the backup was taken. Once the files have been generated a checksum is generated for them in anticipation of eventual transfer over the network to the central repository.

##### **Transfer of Backups**

Once the files are backed up, we now need to securely transfer them off of the system into the secure central backup repository. The backup process is initiated by our central backup server. Through our backup software, we are able to automate different aspects of our backup process such as:

- a. Encryption before transfer to our backup server.
- b. Decides if a full backup or an incremental backup is required
- c. Checksum to validate backup were successful.
- d. Daily report of backup to our engineer for analysis.

After the tapes are written, they are stored to a secure offsite location for safe keeping.

#### **Level 3: Offsite Full Backup + Incremental Backup + Continuous Backup**

Offsite backup happens every 3 days for an entire year. We do a full backup for the first day and do incremental backups the next two days before writing to the tape.

### Continuous Backup

The continuous backup strategy provides for the recovery to any point in time even though backup only happens once a day for onsite or once every 3 days for offsite. With continuous data protection, there are no backup schedules. When data is written to disk, it is also asynchronously written to a second location.

### 6. Logging/tracking and reporting access and use

The system supports auditing via transactional logging features. Software provides support for transactional logging. It can provide audit trail of all the changes made in the system. There is a provision to selectively manage the logging of several sets of objects for capturing the events in the system.

The system uses log4j to generate and handle logging. Detailed logging is usually turned off to optimize performance, but can be activated as needed by modifying the system configuration file within the application server. Logs older than 7 days are archived. Configuration files can be accessed through batch reporting.

- There are also a variety of real-time user activity reports that can be generated within the UI (provided the user has permissions to access these reports). Examples include, but are not limited to: Administration 028 displays This report displays faculty activity based on term, including courses taught, the number of each type of key assessments that have sent to students over a particular time frame (e.g. assignments, projects, course binders), the number of times faculty have logged in and last login. This report can be filtered in various ways, such as by course section, term and individual faculty member.
- Administration 038 displays what types of data have been collected for the selected term (e.g. course assignments, portfolios, field binder data, surveys etc.), as well as the number of faculty and students that have logged into the system and last login.
- Administration 044 displays number of logins and last login for each user. This report can be filtered in a variety of ways, such as by individual user, user role, and date range.

### 7. Describe the toolset from which your application is derived.

The application is written in Java, and is comprised of three tiers: a web tier, an application tier, and a database tier. All tiers function independently, and have their own interfaces for communication. They can be physically located in the same server, or have multiple servers allocated to each one, depending upon load and configuration. Each tier is further described below:

#### The Web Tier

The Web tier represents the standard user interface for users of the system. It utilizes a presentation layer implemented with JSPs, a controller controlling program and data flow, and servlets for logical representation and communication, all working in an Apache-Tomcat container and communicating with the middle tier via an application programming interface (API), comprised of generated Enterprise Java Bean (EJB) skeleton interfaces. All user interaction with the application is via the web, using the encrypted https protocol, for security/encryption.

### **The Application Tier**

The Application tier consists of EJBs and Mbeans, running in a Jboss application server. This tier contains system logic, object behavior rules, and communication interfaces for communication with other systems in multiple ways. It communicates with the web tier, through an EJB skeletal interface, for normal user interaction. Additionally, it contains an XML/Object interface for enabling data imports and direct data loads from other systems. An 'external password authentication' interface allows external user-authentication lookup, for single sign-on. Finally, it contains and utilizes Jakarta's OJB Object Relational Bridge O/R mapper, for object-based communication with the database tier.

### **The Database Tier**

The Database tier uses the Postgres relational database for storage of data elements. Data is stored in a set of related tables, indexed for optimal access. All sensitive information, such as user Ids, passwords, etc. are stored in encrypted format. Access to the database is strictly password restricted. Security profile information is cached in a user-specific database table created at login and destroyed at logoff.

## **8. Describe hardware and software requirements for proposed system(s).**

The Tk20 CampusWide solution is a web-based application designed to work with all common browsers on the PC, MAC and UNIX based systems. It is specifically tested for Explorer, Firefox, Safari, Opera and Google Chrome browsers. No additional applets or plugins are required for end-user devices. If our managed hosting is chosen, there are no additional hardware requirements (see below response for server hardware requirements if co-location or institutional hosting are preferred).

## **9. Describe supported server hardware platforms. Describe support for the following operating systems: Linux and Windows.**

### ***Server Requirements***

#### **Introduction**

The Tk20 system uses an n-tier, Java 2 Enterprise Edition architecture, built using a proven, open-source operating system and software components.

It is written in Java, and comprises of three tiers: a web tier, a middle tier, and a database tier. All tiers function independently, and have their own interfaces for communication. They can be physically located in the same server, or have multiple servers allocated to each one, depending upon load and configuration.

#### **Recommended Hardware Configuration**

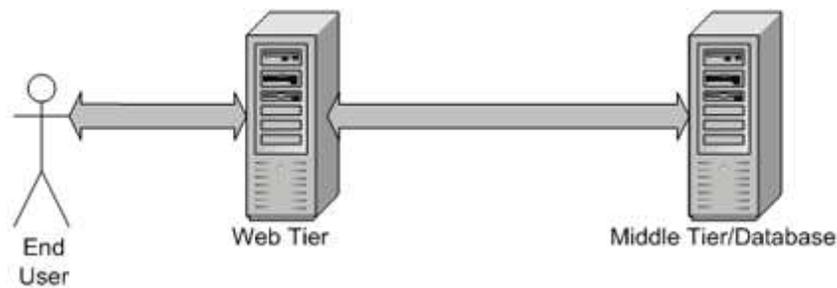
The Tk20 system can be deployed using a single server or have multiple servers allocated to different tiers of the application depending on the load and configuration. The number of servers depends on the estimated number of users and the concurrent load at any given time. Based on our experience working with more than 100 institutions of different sizes and the functionality provided by Tk20 software the following is our recommended hardware requirement matrix:

Total Number of Users	Recommended Servers to be purchased
Less than 500	1
500-3000	2 (2-tier deployment)
3000-10,000	3 (3-tier deployment)
10,000-50,000	4 (3-tier deployment with file server)

## 2-Tier Deployment

Tk20 uses several software components, mainly Apache/Tomcat on the web tier as http server and Servlets container, JBoss as application server and postgres as a database. Our recommended hardware configuration is to have two separate machines with one machine hosting the web tier and the other machine hosting the middle tier and database.

The recommended 2-tier deployment topology is depicted in the diagram below.



The factors for considering two separate physical servers include performance, vertical scalability, security and redundancy. Separating the more resource-intensive presentation layer from the business and the database layer gives us dedicated resources to the application components in these layers. The web tier server is configured to work independently on I/O intensive tasks like managing user files uploaded using our system, caching for better speeds, session management and features that are found in authentication-based web systems. See the hardware matrix section for scalability of the system based on the load. The components involved in a presentation layer are more prone to regular software component upgrades, so separating the physical server will help maintain it easily without affecting the business and the database layer. The second physical machine is used to host the application server and the database server. Since our machines are identical in this set up, it also serves as redundant hardware for failover.

Additionally, in a multi-tier architecture, access to each tier is restricted to the tier above it, effectively securing the tiers behind the firewall. For example, while clients (users accessing the system through a web) access the web server, they neither have access to the middle tier/database servers nor are they aware of their existence.

## N-Tier Architecture

Many elements need to be considered when deciding on the architecture of the application, such as performance, scalability and future development issues. N-tier architecture refers to the architecture of

an application that has at least three "logical" layers -- or parts -- that are separate. Each layer interacts with only the layer directly below, and has a specific function that it is responsible for. Because each layer can be located on physically different servers, they scale out and handle more server load. Also, what each layer does internally is completely hidden to other layers and this makes it possible to change or update one layer without recompiling or modifying other layers.

This is a very powerful feature of n-tier architecture, as additional features or change to a layer can be done without redeploying the whole application.

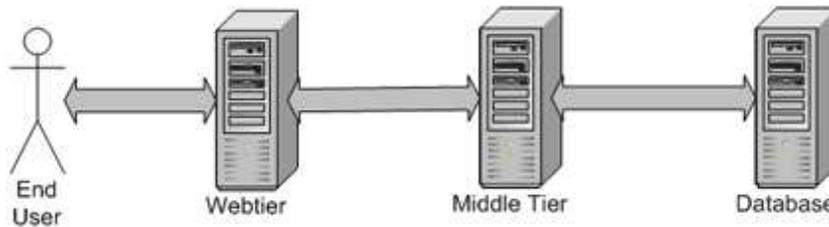
An n-tier application usually has three tiers, and they are called the presentation tier, the business tier and the data tier. The presentation layer is the layer responsible for displaying the user interface and "driving" that interface using business tier classes and objects. The business tier is the layer responsible for accessing the data tier to retrieve, modify and delete data to and from the data tier and send the results to the presentation tier. The data tier is the database or the source of the data itself.

### ***Deployment Topology***

#### **Three-Tier Deployment**

Depending upon the total number of concurrent users using the system and the intended functional use of the system, the deployment topology can be changed such that the middle tier and database tier are deployed on the separate machines, resulting in the three-tier deployment topology.

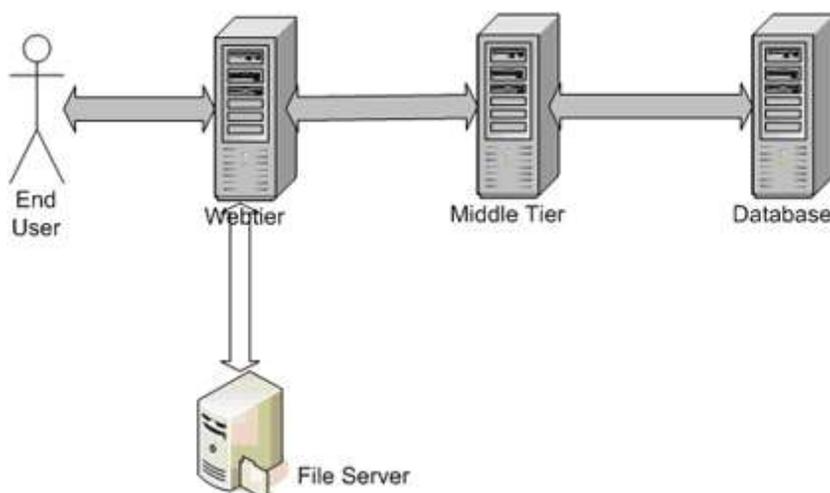
The three-tier deployment topology is depicted in the diagram below.



#### **Three-Tier Deployment with File Server**

In addition to the servers hosting the application, an additional server can be purchased to store the files uploaded by system users as part of application usage. A file server can be purchased at any time and can be seamlessly integrated into the existing hardware after the configuration.

A three-tier deployment topology with an additional file server is depicted in the diagram below.



### **Training Server**

Tk20 is a comprehensive system that includes involvement from multiple groups of users including administrators, faculty, students, and additional assessors outside the institution. Training is a vital piece of the adoption and it is our recommendation that a separate server be purchased that is dedicated to this purpose. The training server will allow administrators of the system to conduct training sessions as needed with the individual groups on and off campus without impact on your production server or data reports. In addition to training, this will allow administrators of the system to test functionality, view the system from other users' perspectives, and troubleshoot questions that may arise.

### **Server Specifications**

Tk20 recommends servers with specifications similar to the following:

<b>PowerEdge R410:</b>	Chassis w/up to 4 cabled HDs and Quad-Pack LED Diagnostics (224-6303)
<b>Processor:</b>	Intel Xeon E5504, 2.0Ghz, 4M Cache, Turbo, HT, 800MHz Max Mem (317-1208)
<b>Additional Processor:</b>	Intel Xeon E5504, 2.0Ghz, 4M Cache, Turbo, HT, 800MHz Max Mem (317-1276) (317-1220)
<b>Memory:</b>	8GB (8x1GB), 1066 MHz, Single Ranked UDIMMs for 2 Processor (317-1285)
<b>Primary Hard Drive:</b>	146GB 15K RPM Serial-Attach SCSI 3.5" Cabled Hard Drive (341-9200)
<b>2nd Hard Drive:</b>	146GB 15K RPM Serial-Attach SCSI 3.5" Cabled Hard Drive (341-9200)
<b>Hard Drive Configuration:</b>	Add-in SAS6/iR (SATA/SAS Controller) which supports 2 Hard Drives – Raid 1 (341-9183)

<b>Operating System:</b>	Red Hat Enterprise Linux 5.3, 2S; Fl x 64, 1yr, Auto-Entitle, Lic & Media (421-0921)
<b>Power Supply:</b>	Power Supply, Redundant, 500W (330-4141)
<b>Server Accessories:</b>	Keyboard and Optical Mouse, USB, Black, English (310-8360) (310-9638)
<b>CD-ROM or DVD-ROM Drive:</b>	DVD-ROM, Internal (313-5884) (313-7834)
<b>Bezel:</b>	Bezel (313-7839)
<b>Documentation Diskette:</b>	Electronic System Documentation, OpenManage DVD Kit (330-4148)
<b>Chassis Configuration:</b>	Sliding Ready Rails With Cable Management Arm (330-4140)
<b>Service:</b>	3Yr Basic HW Warranty Repair with SATA Ext: 5x10 HW-Only, 5x10 NBD Onsite (993-7452) (993-9412) (994-2610) (994-4500) (994-6019) (994-6058) (994-6627)
<b>Installation:</b>	On-Site Installation Declined (900-9997)
<b>Power Cords:</b>	No Additional Power Cord (310-9057)
<b>1st Hard Drive:</b>	HD Multi-Select (341-4158)
<b>Embedded Management:</b>	Baseboard Management Controller (313-7919)

**Please refer to Appendix, "Hardware Requirements" document for detailed information.**

**10. Describe support for load balancing and system failover including any and all vendor specific preferences. Also include and vendor specific configuration guides.**

As part of Tk20’s normal business practice, we guarantee system availability to be greater than 99.6% provided that scheduled and pre-arranged downtimes are not included in such computations. Tk20 is able to guarantee uptime of 99.9% at AWS Level II facility (additional charges apply).

Tk20’s CampusWide system was designed to handle the performance, scalability, and concurrency needs of an enterprise application. The underlying architecture allows dynamic expansion in its ability to handle larger loads for both, numbers of users and increased usage. In other words, CampusWide responds quickly and efficiently even when thousands of users are running the system and multiple users are working with the same data at the same time. To meet these needs, CampusWide applied the following design principles to CampusWide:

- Use the “send and forget” philosophy means that most communication from the client to the middle tier is stateless. This includes most Enterprise JavaBeans (EJBs) and all queries.
- Use EJBs, which have low overhead, object pooling, and true failover support.
- Cache objects through the OR Mapper.
- Retrieve large result sets from queries as a user attempts to access them instead of retrieving the entire set and storing in on the client.

- Pool database connections. As query requests are completed, connections are released to the pool.
- Reduce the number and frequency of Remote Method Invocations (RMI) by bundling data.
- Cluster application servers to improve object availability and load balancing.
- Use the Optimistic Locking Model in the OR Mapper to handle concurrency.
- Because of the nature and design of the enterprise architecture, TK20 is able to provide high availability to system users.

Tk20 is also making enhancements to its scalability architecture to improve both vertical and horizontal scaling, and will include load balancer at the front. We are also moving towards database sharding to manage larger loads.

**Please refer to Appendix, "Hardware Requirements" document for detailed information.**

**11. Describe how scalability is accomplished as the criticality of the system(s) and number of users increases.**

As part of Tk20's normal business practice, we guarantee system availability to be greater than 99.6% provided that scheduled and pre-arranged downtimes are not included in such computations. Tk20 is able to guarantee uptime of 99.9% at AWS Level II facility (additional charges apply).

Tk20's CampusWide system was designed to handle the performance, scalability, and concurrency needs of an enterprise application. The underlying architecture allows dynamic expansion in its ability to handle larger loads for both, numbers of users and increased usage. In other words, CampusWide responds quickly and efficiently even when thousands of users are running the system and multiple users are working with the same data at the same time. To meet these needs, CampusWide applied the following design principles to CampusWide:

- Use the "send and forget" philosophy means that most communication from the client to the middle tier is stateless. This includes most Enterprise JavaBeans (EJBs) and all queries.
- Use EJBs, which have low overhead, object pooling, and true failover support.
- Cache objects through the OR Mapper.
- Retrieve large result sets from queries as a user attempts to access them instead of retrieving the entire set and storing in on the client.
- Pool database connections. As query requests are completed, connections are released to the pool.
- Reduce the number and frequency of Remote Method Invocations (RMI) by bundling data.
- Cluster application servers to improve object availability and load balancing.
- Use the Optimistic Locking Model in the OR Mapper to handle concurrency.
- Because of the nature and design of the enterprise architecture, TK20 is able to provide high availability to system users.

Tk20 is also making enhancements to its scalability architecture to improve both vertical and horizontal scaling, and will include load balancer at the front. We are also moving towards database sharding to manage larger loads.

**12. Describe the system capabilities and options for the backup and restoration of the database.**

Tk20 uses monitoring tools that monitor the general health of the servers as well as the application it runs on. The monitoring tools are used to alert the technicians about impending errors or problems related to the application, logging into the system, disk space etc. All system operations are monitored and alerts are generated and sent to email/pagers based on the escalation workflow implemented in these monitoring tools. To address system failures, an inventory of hot swaps is maintained for critical equipment, including spare preconfigured switches for storage, access network are stored if needed. Additionally, the architecture of the network design has redundancies built into its design and if any of the devices fail, the monitoring system triggers an internal escalation email.

Disaster recovery from either a catastrophic occurrence or user error is necessary when dealing with an enterprise system. Tk20 maintains a spare set of servers at any time for disaster recovery. The servers used are highly redundant for CPUs, power supplies and storage drives. The internet connections are provided by independent and multiple providers. Outage of customer servers is an extremely rare occurrence.

During any server outage, alternative servers are immediately brought into production with backed up data. This is done within four hours of known outage.

Once the underlying failure has been resolved, Tk20 will restore the system to the base state with all components installed and configured. Next, the application is re-installed and tested. Finally, if the current data can be salvaged from the machine then it will be used. More likely however we will be required to rely on the backup that was taken before the service interruption. To do this the most recent backup is identified and transferred back to the newly restored server from the backup repository. This backup is then re-installed on the server and application usage can continue as normal.

Daily backups are made to assure no more than 24 hours' worth of data is at risk. These are complete snapshots of the data and system, so the entire system can be replicated from the snapshots very quickly.

### ***Data Backups***

There are multiple levels of backup that TK20 implements to ensure that your data is secure.

#### **Level 1: RAID 1**

All TK20 servers are configured to have RAID 1 to ensure that a hard disk failure will not interrupt the service. RAID 1 provides a mirror of your entire system. All hard disks are hot swappable, meaning as soon as the replacement for the corrupted/damaged hard disk arrives, it can easily be plugged in again without any service interruption.

#### **Level 2: Onsite Full Backup + Incremental Backup + Continuous Backup**

#### **Daily Backup Creation**

The Tk20 backup system works once a day for a month. The backup system stores an entire month's worth of backups so that at the beginning of the next month it will begin to overwrite the previous month's first backup. Backups are scheduled once a day in the early morning. This is done to ensure that there is no degradation in performance of the application during the backup process. Both, the user uploaded files as well as system data are backed up by this process so that in the case of a recovery situation all users will be able to completely recover their state from the time the backup was taken. Once the files have been generated a checksum is generated for them in anticipation of eventual transfer over the network to the central repository.

### **Transfer of Backups**

Once the files are backed up, we now need to securely transfer them off of the system into the secure central backup repository. The backup process is initiated by our central backup server. Through our backup software, we are able to automate different aspects of our backup process such as:

- a. Encryption before transfer to our backup server.
- b. Decides if a full backup or an incremental backup is required
- c. Checksum to validate backup were successful.
- d. Daily report of backup to our engineer for analysis.

After the tapes are written, they are stored to a secure offsite location for safe keeping.

### **Level 3: Offsite Full Backup + Incremental Backup + Continuous Backup**

Offsite backup happens every 3 days for an entire year. We do a full backup for the first day and do incremental backups the next two days before writing to the tape.

### **Continuous Backup**

The continuous backup strategy provides for the recovery to any point in time even though backup only happens once a day for onsite or once every 3 days for offsite. With continuous data protection, there are no backup schedules. When data is written to disk, it is also asynchronously written to a second location.

### **13. Describe the average client response time for all the various functions of the proposed system.**

We perform internal performance testing and have achieved end-to-end response metrics of approximately 3 seconds.

Customer Support Response Time Goals: Most non-critical support requests will receive a response in 24 hours or less. Tk20 agrees to use reasonable efforts to acknowledge software Defects reported to Tk20 by Licensee and to use all reasonable efforts to provide Workarounds and Updates. Acknowledgements will be sent to Licensee via email, or if no email is available, via fax. In case of critical Defects that render the system substantially unusable, Tk20 will assign personnel within four (4) business hours after Licensee reports the Defect, to resolve the defect. Licensee must provide Tk20 with a contact on-site to assist with data gathering, testing, and applying any fixes or patches.

**14. Describe services not available during scheduled backups.**

There aren't any services that are unavailable during scheduled backups.

**15. Describe the staffing required by the University to support the system including performing backups, installing new releases, creating reports, etc.**

Staffing required is partly based on what hosting model the university chooses (please see below descriptions regarding what services Tk20 will provide).

Tk20 has a very well established, systematic and highly effective support and training model. We provide unlimited, ongoing tier one support for all users by phone from 8 am to 8 pm on weekdays and 24/7 by email. In their Tk20 account, students, faculty and staff can access searchable help materials tailored for each role, including common support topics quick guides and full support manuals. As part of the license, tk20 includes both a day of onsite training and also unlimited online training. Onsite training for faculty members is usually team taught with the product consultant and the designated Tk20 unit administrator (UA) at the client institution.

Like all assessment management providers, we require a lead contact (the UA) to administer the system at the client institution. We also always employ the train-the-trainer model to promote campus administrators as credible sources of Tk20 information early on during implementation. In implementing the system, it is essential that clients designate a central unit administrator to compile key implementation documentation and to have the capability to offer local training and support to stakeholders on campus. We have found this to be a key indicator of success with our partner institutions.

In addition, it is not expected for partner institutions to use all aspects of the Tk20 system “right out of the box” for the entire length of the license agreement. Over time, changes/tweaks will need to be made to the system as the unit’s assessment plan changes. This will require at least one person (the unit administrator) to take ownership of the Tk20 system to ensure data is being collected consistently and effectively. There is usually at least one designated individual that is responsible for administering the system, providing training, creating reports etc. The UA is usually within an office of Institutional Research, Assessment and/or Institutional Effectiveness (e.g. assessment coordinator, director of IR or IE etc.) They are rarely in a technical role.

For a robust implementation and sustainable long term use, we also strongly encourage broad engagement across the campus. Key participants may include a Director of Outcomes Assessment and/or a Director of Institutional Research, programmatic accreditation coordinators, an LMS administrator, and at the outset someone from your IT department (for set up of data loads from your Student Information System and single sign-on/central authentication). For assessment planning, every program should have an assessment representative who will enter their outcomes/assessment plans into Tk20.

In terms of level of effort, Tk20 should not require additional time that the departments/programs wouldn't already be spending on assessment. On the contrary, as an electronic system, Tk20 is designed to streamline and simplify assessment activities in order to significantly reduce the level of effort required for manual data collection and other paper-based assessment activities.

## ***Hosting models and accompanying services***

### **Institutional hosting:**

The institution will purchase the necessary hardware based on guidance from Tk20 engineering team. The institution has the option to ship the servers to Tk20 to be appropriately setup, configured and returned or we can assist you in installing the software and required components remotely. Tk20 will provide guidance to your IT department to ensure data security, optimal use and response times. Tk20 will also provide updates, patches and bug fixes and ongoing support to your IT department. Technical support for an institutional hosted environment is provided in the license fee.

### **Co-location hosting:**

In a co-located environment, the institution will purchase the server and send it to Tk20. Tk20 will be responsible for installing the software and the required components to access the software and migration. We will then host your server at the Tk20 Data Center. Tk20 will monitor the server on an ongoing basis to ensure data security, optimal processing power, memory, and user response times. Tk20 will be responsible for the regular back up the data on the server on a regular basis and maintain it in a safe location. Tk20 will be responsible for the updates, patches and bug fixes. In the event of corruption or loss of data, Tk20 shall restore backed up data on the server on an emergency basis. Tk20 will also provide a Disaster Recovery Plan.

### **Managed-hosting:**

In a managed-hosted environment, Tk20 will provide the servers and operate the environment at designated service levels. It will be Tk20's responsibility to install the software and the required components to access the software and migration. Tk20 will monitor the server on an ongoing basis to ensure data security, optimal processing power, memory, and user response times. Tk20 will be responsible for capacity planning, hardware upgrades, backing up the data on the server on a regular basis and maintaining it in a safe location. Tk20 will be responsible for the updates, patches and bug fixes. In the event of corruption or loss of data, Tk20 shall restore backed up data on the server on an emergency basis. Tk20 will also provide a Disaster Recovery Plan.

## **16. Describe any standard and proprietary API's, integration / connection resources, and development languages and tools that extend your toolset.**

The software integrates with various IDM systems for user authentication. We support SAML, Shibboleth, CAS, LDAP, AD integration. There aren't any open proprietary APIs that are available to all clients but those can be developed based on the need.

## **17. If the Vendor application requires authentication from the University, then the Vendor must be able to integrate with the University LDAP and/or CAS.**

Tk20 supports a variety of standard authentication and authorization methods. Our Engineering services will work with your IT staff to implement and configure the authentication module to authenticate the users against external sources such as LDAP servers, Active Directory, Shibboleth, Radius servers etc. Alternatively, single sign on integration of your Tk20 system with Central Authentication Systems or Cosign is possible.

**In the Appendix Section, please refer to the Remote Authentication and Single Sign-on Document for Detailed Information.**

**Note: The application does not require single sign-on/central authentication. Credentials can be entered directly into the Tk20 system.**

- 18. Describe the client operating system and browser requirements for your toolset. List any additional client-side software required for development/management of your toolset. Describe any aspects of your application that do not support the Macintosh.**

The Tk20 CampusWide solution is a web-based application that allows users to develop, enter, review and revise outcomes assessment at any time and from any location where they have an internet connection. The software is designed to work with all common browsers on the PC, MAC and UNIX based systems. It is specifically tested for Explorer, Firefox, Safari, Opera and Google Chrome browsers. No additional applets or plugins are required for end-user devices.

- 19. Describe requirements for application servers. Describe specific platform recommendations or requirements for certified configuration (e.g. Oracle Application Server, WebLogic, and Apache Tomcat) include either specific application server version or required J2EE version.**

The Tk20 CampusWide application uses a 3-tier, Java 2 Enterprise Edition architecture, built using proven, open-source operating system, CentOS Linux, and configurable software components. The application will run on standard Intel-based server technology. We have also configured the system in a virtual environment using VMware.

The application is written in Java, and is comprised of three tiers: a web tier, an application tier, and a database tier. All tiers function independently, and have their own interfaces for communication. They can be physically located in the same server, or have multiple servers allocated to each one, depending upon load and configuration. Each tier is further described below:

#### **The Web Tier**

The Web tier represents the standard user interface for users of the system. It utilizes a presentation layer implemented with JSPs, a controller controlling program and data flow, and servlets for logical representation and communication, all working in an Apache-Tomcat container and communicating with the middle tier via an application programming interface (API), comprised of generated Enterprise Java Bean (EJB) skeleton interfaces. All user interaction with the application is via the web, using the encrypted https protocol, for security/encryption.

#### **The Application Tier**

The Application tier consists of EJBs and Mbeans, running in a Jboss application server. This tier contains system logic, object behavior rules, and communication interfaces for communication with other systems in multiple ways. It communicates with the web tier, through an EJB skeletal interface, for normal user interaction. Additionally, it contains an XML/Object interface for enabling data imports and direct data loads from other systems. An 'external password authentication' interface allows external user-authentication lookup, for single sign-on. Finally, it contains and utilizes Jakarta's OJB Object Relational Bridge O/R mapper, for object-based communication with the database tier.

### **The Database Tier**

The Database tier uses the Postgres relational database for storage of data elements. Data is stored in a set of related tables, indexed for optimal access. All sensitive information, such as user Ids, passwords, etc. are stored in encrypted format. Access to the database is strictly password restricted. Security profile information is cached in a user-specific database table created at login and destroyed at logoff.

[Please refer to Appendix, "Hardware Requirements" document for detailed information.](#)

## **20. Describe support for web servers (i.e. Apache, Weblogic and WebSphere).**

### **The Web Tier**

The Web tier represents the standard user interface for users of the system. It utilizes a presentation layer implemented with JSPs, a controller controlling program and data flow, and servlets for logical representation and communication, all working in an Apache-Tomcat container and communicating with the middle tier via an application programming interface (API), comprised of generated Enterprise Java Bean (EJB) skeleton interfaces. All user interaction with the application is via the web, using the encrypted https protocol, for security/encryption.

[Please refer to Appendix, "Hardware Requirements" document for detailed information.](#)

## **21. Describe the supported database platforms.**

### **The Database Tier**

The Database tier uses the Postgres relational database for storage of data elements. Data is stored in a set of related tables, indexed for optimal access. All sensitive information, such as user Ids, passwords, etc. are stored in encrypted format. Access to the database is strictly password restricted. Security profile information is cached in a user-specific database table created at login and destroyed at logoff.

[Please refer to Appendix, "Hardware Requirements" document for detailed information.](#)

## **22. Describe support for real-time access to data through some other method (e.g. on-the-fly access to database through ODBC, ADO, JDBC, LDAP, etc. allowing dynamic web content and applications).**

We can offer database/ODBC access to partner institutions that seek to integrate with data modeling systems outside of the Tk20 system. Tk20 can provide documentation for the database schema to allow generation of reports other than the existing built-in report templates. We can work with you to setup master slave sync of the database that will go you almost real time sync.

## **23. Describe storage including file formats.**

Tk20 provides unlimited storage. The Tk20 system is designed to accept all types of files for student portfolios, assignments, field experience artifacts, faculty activity portfolios, assessment plan evidences and document repositories. The system also supports embedded document viewing and video files.

- 24. Describe your approach to test and production environments including licensing requirements and any additional costs. If licensing is based on number of users, describe the models used to obtain numbers both for current and future usage.**

Tk20's annual subscription fee for CampusWide is typically based on FTE.

A couple of options are available for a test environment/training server. We can provide temporary free access to a test environment for occasional, short-term use. This would typically be thirty days of access in the first year and 15 days of access in subsequent years. This does not need to be thirty days of consecutive use, but rather thirty days total through the year.

However, since training and testing are essential to the adoption, we recommend purchasing a dedicated test environment/training server. The training server will allow administrators of the system to conduct training sessions with individual groups of faculty, students, staff and external assessors without impact on your production server or data reports. In addition to training, this will allow administrators of the system to test functionality, view the system from other users' perspectives, and troubleshoot questions that may arise. Tk20 can provide this for an annual fee of \$5000, either for the length of the contract or for whatever period of time you may need it (one year, two years, three years etc.)

- 25. Describe how the product uses network communications to provide its services. Include the purpose and circumstances of all sessions, both amongst internal components and between internal and external components. Specify the communications protocols, listening port numbers, client initiation port numbers, and encryption used between the applicable components: Client workstation(s) to/from server(s); Server to-from server if applicable; Client workstation(s) to/from external server(s) ( e.g. directories, databases, file shares, vendor sites ) ; Server(s) to/from external server(s) ( e.g. directories, databases, file shares, vendor sites) ; Are there any unencrypted communications? If so, please list all data that is passed in the clear.**

Tk20 software is a 3-tier web application. Users access the application using https protocol by pointing their browser at a specific URL. Internally the software stack includes Apache, tomcat, JBoss, hibernate and postgres. Depending upon the deployment topology these components may reside on a single server or separate servers. The middle tier server running jboss needs access only from a webtier server running apache/tomcat. DB needs access on port 5432 both from web and middle tier servers. For user's authentication, there could be additional ports that may need to be open, but that would depend on your requirements in terms of user authentication. We do support SSL based LDAP/AD authentication in addition to other portal based integrations for user authentication. Tk20 does not require sensitive data to be stored in the database for software implementation. If Tk20 is a custodian of password information, that information is encrypted in the database using SHA1 MD5 one way hash. We plan to upgrade to SHA2 or higher by Fall 2016.

- 26. Describe the communications path of any sensitive data.**

Tk20 does not require sensitive data to be stored in the database for software implementation. If Tk20 is a custodian of password information, that information is encrypted in the database using SHA1 MD5 one way hash. We plan to upgrade to SHA2 or higher by Fall 2016.

**27. Describe how users and processes are authenticated before gaining access to data and services. Include authentication between components and between the product and external services. Are all authentication components encrypted when crossing the network?**

Logical access to the application is only available through authentication via encrypted passwords and IDs which prevent unauthorized access.

The system is designed to be highly secure. All access is controlled by usernames and passwords. Data is fully encrypted between the users and the system (https protocol) and between system tiers. Access to the database is allowed only from the middle tier and is encrypted and password protected. In addition, all user sensitive data is stored and encrypted in the database.

The application is written in Java, and is comprised of three tiers: a web tier, an application tier, and a database tier. All tiers function independently, and have their own interfaces for communication. They can be physically located in the same server, or have multiple servers allocated to each one, depending upon load and configuration. Each tier is further described below:

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**The Database Tier**

The Database tier uses the Postgres relational database for storage of data elements. Data is stored in a set of related tables, indexed for optimal access. All sensitive information, such as user Ids, passwords, etc. are stored in encrypted format. Access to the database is strictly password restricted. Security profile information is cached in a user-specific database table created at login and destroyed at logoff.

Tk20 supports all standard authentication and authorization methods. Our Engineering services will work with your IT staff to implement and configure the authentication module to authenticate the users against external sources such as LDAP servers, Active Directory, Radius servers etc. Alternatively, single sign on integration of your Tk20 system with Central Authentication Systems or Cosign is possible.

**[Please refer to Appendix, Remote Authentication and Single Sign-on document.](#)**

**28. Describe auditing methodologies and capabilities for managing integrity and change control. Describe elements captured with the audit process.**

The system supports auditing via transactional logging features. Software provides support for transactional logging. It can provide audit trail of all the changes made in the system. There is a provision to selectively manage the logging of several sets of objects for capturing the events in the system.

The system uses log4j to generate and handle logging. Detailed logging is usually turned off to optimize performance, but can be activated as needed by modifying the system configuration file within the application server. Logs older than 7 days are archived. Configuration files can be accessed through batch reporting. Different application servers, generate their own logs – such as http access logs, tomcat logs, jboss logs etc that are managed using log4j and rotated after a week as a default setting. That can be changed upon request.

**29. Describe use of LDAP(S) for authentication and/or authorization**

Tk20 supports all standard authentication and authorization methods. Our Engineering services will work with your IT staff to implement and configure the authentication module to authenticate the users against external sources such as LDAP servers, Active Directory, Radius servers etc. Alternatively, single sign on integration of your Tk20 system with Central Authentication Systems or Cosign is possible.

**Please refer to Appendix, Remote Authentication and Single Sign-on document.**

**30. Describe handling of matching on attributes for authentication and authorization.**

**Please refer to Appendix, Remote Authentication and Single Sign-on document.**

**31. Describe the method(s) and granularity of authorization of access to data and services (e.g. individual accounts, LDAP groups, Active Directory accounts)**

**Please refer to Appendix, Remote Authentication and Single Sign-on document.**

**32. Describe how and where any sensitive data, including authentication information, is stored on clients, servers, and participating external devices. Is it cryptographically protected? If so, provide details.**

Tk20 does not require sensitive data to be stored in the database for software implementation. If Tk20 is a custodian of password information, that information is encrypted in the database using SHA1 MD5 one way hash. We plan to upgrade to SHA2 or higher by Fall 2016.

**33. Describe auditing and logging capabilities and data. Include the information recorded with each event. For example, Successful and failed authentication, Successful and failed authorization, Successful and failed policy change.**

The system supports auditing via transactional logging features. Software provides support for transactional logging. It can provide audit trail of all the changes made in the system. There is a provision to selectively manage the logging of several sets of objects for capturing the events in the system.

The system uses log4j to generate and handle logging. Detailed logging is usually turned off to optimize performance, but can be activated as needed by modifying the system configuration file within the application server. Logs older than 7 days are archived. Configuration files can be accessed through batch reporting. Different application servers, generate their own logs – such as http access logs, tomcat logs, jboss logs etc that are managed using log4j and rotated after a week as a default setting. That can be changed upon request.

- 34. Describe the effects of auditing and logging on a production implementation. Is the proposed system sized for full audit capability?**
- Describe enterprise audit capabilities
  - List the events and logs that can be sent to an external syslog server
  - List the events and logs that cannot be sent to a syslog server

**Please see above response in questions # 33.**

- 35. Describe the maintenance philosophy including frequency of updates, approach to completing updates, and model for obtaining them.**

Tk20 provides clients with product upgrades of the software on an ongoing basis. This process involves enhancement of existing functionality and the addition of new functionality. Enhancements are always shared with our users in advance. Major upgrades usually twice a year. Engineering Services will transparently migrate your dataset to work with the new release of the application. We work with client timetables regarding when they want to transition to a new release and we will support the previous release for up to 18 months.

Tk20 uses a Product roadmap to document all the proposed changes to the system. The employees on the change control committee meet at predetermined times to evaluate proposed enhancements and new feature requests for their validity and accuracy. Proposed changes are assigned a priority and scheduled to be developed in an appropriate release. Enhancements and new features are subsequently developed using Tk20 Agile methodology and is later deployed as part of Tk20 product release.

- 36. Describe capabilities for remote support and indicate what action shall be taken by the University to take advantage of that service.**

All Tk20 users may contact Tk20 to receive live phone support from a Product Consultant 8 a.m.-8 p.m. during weekdays and can receive 24/7 support by email. Support materials including comprehensive manuals will be distributed during training and are also available online. Additionally, a searchable online helpdesk is available within the user interface. Besides the ability to search by topic, this area includes Quick Guides for specific functionalities, FAQ's, Helpdesk articles and full User Guides (e.g. Student User Guide, Faculty User Guide, Reports Guide, Unit Administrator Guide). This support is provided to all clients – the university does not need to take any special action to use this service. Online training and webinars are provided via GoToMeeting video conferencing software. These meetings are accessed through a weblink and/or a dial-in number.

**37. Describe maintenance options and whether they vary in cost by time of day, etc.**

Please see below. Maintenance is included for all clients as part of the annual license. Costs does not vary by time of day.

Tk20's Products team will provide you with ample resources to support a rapid deployment and a sustainable implementation. During implementation, you will be assigned an Implementation Project Coordinator, who will co-develop with you a customized implementation plan, as well as a team of Feature Specialists who will assist with implementing specific functionalities. Post-implementation, you will have a dedicated Client Engagement contact. Everyone in the Products group are implementation specialists with backgrounds in teaching and specialized knowledge of assessment. All Tk20 users may contact Tk20 to receive live phone support from a Product Consultant 8 a.m.-8 p.m. during weekdays and can receive 24/7 support by email.

Tk20 agrees to use reasonable efforts to acknowledge software Defects reported to Tk20 by Licensee and to use all reasonable efforts to provide Workarounds and Updates. Acknowledgements will be sent to Licensee via email, or if no email is available, via fax. In case of critical Defects that render the system substantially unusable, Tk20 will assign personnel within four (4) business hours after Licensee reports the Defect, to resolve the defect. Licensee must provide Tk20 with a contact on-site to assist with data gathering, testing, and applying any fixes or patches.

Tk20 uses an internal ticketing system for tracking support requests and as needed, escalating critical support requests to Tk20 management.

Note the different hosting models offered below and corresponding engineering services:

**Institutional hosting:**

The institution will purchase the necessary hardware based on guidance from Tk20 engineering team. The institution has the option to ship the servers to Tk20 to be appropriately setup, configured and returned or we can assist you in installing the software and required components remotely. Tk20 will provide guidance to your IT department to ensure data security, optimal use and response times. Tk20 will also provide updates, patches and bug fixes and ongoing support to your IT department. Technical support for an institutional hosted environment is provided in the license fee.

**Co-location hosting:**

In a co-located environment, the institution will purchase the server and send it to Tk20. Tk20 will be responsible for installing the software and the required components to access the software and migration. We will then host your server at the Tk20 Data Center. Tk20 will monitor the server on an ongoing basis to ensure data security, optimal, processing power, memory, and user response times. Tk20 will be responsible for the regular back up the data on the server on a regular basis and maintain it in a safe location. Tk20 will be responsible for the updates, patches and bug fixes. In the event of corruption or loss of data, Tk20 shall restore backed up data on the server on an emergency basis. Tk20 will also provide a Disaster Recovery Plan.

**Managed-hosting:**

In a managed-hosted environment, Tk20 will provide the servers and operate the environment at designated service levels. It will be Tk20's responsibility for installing the software and the required

components to access the software and migration. Tk20 will monitor the server on an ongoing basis to ensure data security, optimal, processing power, memory, and user response times. Tk20 will be responsible for capacity planning, hardware upgrades, backing up the data on the server on a regular basis and maintaining it in a safe location. Tk20 will be responsible for the updates, patches and bug fixes. In the event of corruption or loss of data, Tk20 shall restore backed up data on the server on an emergency basis. Tk20 will also provide a Disaster Recovery Plan.

**38. Describe services that may be required in the normal course of operating the system that are not covered under the maintenance contract.**

Longwood University can elect to purchase the following:

- Additional custom reports
- Additional onsite training or additional training at Tk20 corporate office
- A permanent training server/test environment

Upon client request, Tk20 has also occasionally performed data migration (when a client transitions from another vendor) and custom development; these types of request would need to be scoped and approved as a special project (in conjunction with a quote).

**39. Describe the maintenance costs for the first year, and, on the basis of an annually renewable contract, the maintenance costs for each of the following five (5) years.**

Over 90% of Tk20 clients sign multi-year agreements, which affords them significant benefits of fixed pricing, discounted rates and stable terms across the agreement period. These multi-year subscriptions are paid annually – we do not require our clients to pay for multiple years up front. Since the baseline price is lower at the end of the five year term, this also begets cost savings in the terms that follow it. Tk20 is not able to recognize revenue in a comparable way with one year agreements that include renewal options. Moreover, the need to perform renewals also adds administrative costs to the process. Our customer retention rate is exceeds 95%.

Tk20 is please to provide Longwood University with the following pricing options:

**Proposal #1: CampusWide Comprehensive License – Five year subscription agreement, paid annually**

**Annual License Fee - \$ 65,000. Pricing based on a five year agreement.**

**Includes accounts for all students, Longwood University faculty and staff, and external assessors (e.g. accreditors, cooperating teachers, clinical instructors etc.). Student accounts will be set up for seven years of access.**

Salesperson		Email	Quote Valid Through	
Katelin Trowbridge		<a href="mailto:ktrowbridge@tk20.com">ktrowbridge@tk20.com</a>	4/30/2016	
Qty	Description	Unit Price	Line Total	
1	<b>CampusWide Comprehensive License</b> which includes maintenance and support.	<b>\$65,000</b>	<b>\$65,000</b>	
1	<b>Customized adoption services</b> - creation of a custom project plan based on your priorities, guidance and help with system configuration leading to optimal system set up for production	included	included	
1	<b>Data import</b> - Setup for import of data from your student information system and others, depending on your need for import	included	included	
1	<b>System configuration</b> – configuration of your assessment tools, forms, accreditation templates, standards and institutional hierarchy	included	included	
1	<b>First level of Support for all users</b>	included	included	
1	<b>Automatic data migration for product upgrades</b>	included	included	
1	<b>User Guides, Training Guides, Online Tutorials</b>	included	included	
1	<b>Training.</b> <ul style="list-style-type: none"> <li>• One day of onsite training. Additional onsite training is \$ 2000 for the first day and \$ 800 for each additional consecutive day.</li> <li>• Two day training for two administrators at Tk20 (additional attendees are \$500 each).</li> <li>• Customized online training for administrations and key faculty/staff is also part of regular implementation services.</li> </ul>	included	included	
1	<b>Remote Authentication for Single Sign-on</b>	included	included	
	<b>Reporting.</b> <ul style="list-style-type: none"> <li>• <b>Standard and custom reports.</b> Five custom reports will be included with the license, each report not to exceed 5 hours of development time. Tk20 will develop additional custom reports as a charged service, calculated at \$150/hour.</li> <li>• <b>Ad hoc server.</b></li> <li>• <b>ODBC set up and training.</b></li> </ul>	included	included	
1	<b>Fully Managed Hosting (TK20 provides Servers and Tk20 Hosts)</b>	included	included	
		Total	<b>\$65,000</b>	

**Proposal #2: CampusWide Comprehensive License – One year agreement with renewal options**

Year one license Fee - \$ 65,000.

Includes accounts for all students, Longwood University faculty and staff, and external assessors (e.g. accreditors, cooperating teachers, clinical instructors etc.). Student accounts will be set up for seven years of access.

Salesperson		Email	Quote Valid Through	
Katelin Trowbridge		<a href="mailto:ktrowbridge@tk20.com">ktrowbridge@tk20.com</a>	4/30/2016	
Qty	Description	Unit Price	Line Total	
1	<b>CampusWide Comprehensive License</b> which includes maintenance and support.	\$65,000	\$65,000	
1	<b>Customized adoption services</b> - creation of a custom project plan based on your priorities, guidance and help with system configuration leading to optimal system set up for production	included	included	
1	<b>Data import</b> - Setup for import of data from your student information system and others, depending on your need for import	included	included	
1	<b>System configuration</b> – configuration of your assessment tools, forms, accreditation templates, standards and institutional hierarchy	included	included	
1	<b>First level of Support for all users</b>	included	included	
1	<b>Automatic data migration for product upgrades</b>	included	included	
1	<b>User Guides, Training Guides, Online Tutorials</b>	included	included	
1	<b>One day onsite training, Unit Administrator Training at Tk20 and online training</b>	included	included	
1	<b>Remote Authentication for Single Sign-on</b>	included	included	
1	<b>Fully Managed Hosting (TK20 provides Servers and Tk20 Hosts)</b>	included	included	
		Total	\$65,000	
1	Maintenance and Support year two	\$67,000	\$67,000	
1	Maintenance and Support year three	\$69,000	\$69,000	
1	Maintenance and Support year four	\$71,000	\$71,000	
1	Maintenance and Support year five	\$73,000	\$73,000	

**40. Describe the procedures for obtaining services for all types of maintenance (e.g., installation of corrective code, enhancements, applicable "escalation" procedures for providing additional assistance in diagnosing a failure that is not resolved in a timely manner to include notification procedures and timing as well as what higher levels of assistance will be made available.)**

Tk20's Products team will provide you with ample resources to support a rapid deployment and a sustainable implementation. During implementation, you will be assigned an Implementation Project Coordinator, who will co-develop with you a customized implementation plan, as well as a team of Feature Specialists who will assist with implementing specific functionalities. Post-implementation, you will have a dedicated Client Engagement contact. Everyone in the Products group are implementation specialists with backgrounds in teaching and specialized knowledge of assessment. All Tk20 users may contact Tk20 to receive live phone support from a Product Consultant 8 a.m.-8 p.m. during weekdays and can receive 24/7 support by email.

Tk20 agrees to use reasonable efforts to acknowledge software Defects reported to Tk20 by Licensee and to use all reasonable efforts to provide Workarounds and Updates. Acknowledgements will be sent to Licensee via email, or if no email is available, via fax. In case of critical Defects that render the system substantially unusable, Tk20 will assign personnel within four (4) business hours after Licensee reports the Defect, to resolve the defect. Licensee must provide Tk20 with a contact on-site to assist with data gathering, testing, and applying any fixes or patches.

Tk20 uses an internal ticketing system for tracking support requests and as needed, escalating critical support requests to Tk20 management.

Note the different hosting models offered below and corresponding engineering services:

**Institutional hosting:**

The institution will purchase the necessary hardware based on guidance from Tk20 engineering team. The institution has the option to ship the servers to Tk20 to be appropriately setup, configured and returned or we can assist you in installing the software and required components remotely. Tk20 will provide guidance to your IT department to ensure data security, optimal use and response times. Tk20 will also provide updates, patches and bug fixes and ongoing support to your IT department. Technical support for an institutional hosted environment is provided in the license fee.

**Co-location hosting:**

In a co-located environment, the institution will purchase the server and send it to Tk20. Tk20 will be responsible for installing the software and the required components to access the software and migration. We will then host your server at the Tk20 Data Center. Tk20 will monitor the server on an ongoing basis to ensure data security, optimal, processing power, memory, and user response times. Tk20 will be responsible for the regular back up the data on the server on a regular basis and maintain it in a safe location. Tk20 will be responsible for the updates, patches and bug fixes. In the event of corruption or loss of data, Tk20 shall restore backed up data on the server on an emergency basis. Tk20 will also provide a Disaster Recovery Plan.

**Managed-hosting:**

In a managed-hosted environment, Tk20 will provide the servers and operate the environment at designated service levels. It will be Tk20's responsibility for installing the software and the required

components to access the software and migration. Tk20 will monitor the server on an ongoing basis to ensure data security, optimal, processing power, memory, and user response times. Tk20 will be responsible for capacity planning, hardware upgrades, backing up the data on the server on a regular basis and maintaining it in a safe location. Tk20 will be responsible for the updates, patches and bug fixes. In the event of corruption or loss of data, Tk20 shall restore backed up data on the server on an emergency basis. Tk20 will also provide a Disaster Recovery Plan.

- 41. Describe the nature of any continuing research and development performed by the manufacturer to detect and correct problems in the system design, to improve efficiency, and/or to enhance the capabilities of the system proposed.**

Tk20 identifies and prioritizes future enhancements to the software through ongoing dialogue with institutions of higher education. Primary methods include collaborating with current customers, advisory group consultation, and user conferences. Tk20 is an active participant in regional and national assessment and accreditation conferences. In this way, the product can evolve with the ever changing needs of the academic community.

We have a dedicated "Customer Solutions" team that collaborates with our client community on new features and enhancements and communicates clients' needs internally to product development, UX and testing teams. This team directly supports our company mission, which is "to collaborate with customers to provide the highest quality comprehensive products, support, and services through continuous improvement to ensure complete customer satisfaction." This Customer Solution team also gathers information and feedback from the product consultant team, the sales team and non-Tk20 institutions in order to ensure that Tk20 development priorities continues to be aligned with the ever changing assessment and accreditation landscape.

- 42. Describe the procedures followed in distribution of information to Longwood University pertinent to system problems encountered at other locations along with the solutions to those problems, when such information is relevant to the University's software.**

Tk20 agrees to use reasonable efforts to acknowledge software Defects reported to Tk20 by Licensee and to use all reasonable efforts to provide Workarounds and Updates. Acknowledgements will be sent to Licensee via email, or if no email is available, via fax. In case of critical Defects that render the system substantially unusable, Tk20 will assign personnel within four (4) business hours after Licensee reports the Defect, to resolve the defect. Licensee must provide Tk20 with a contact on-site to assist with data gathering, testing, and applying any fixes or patches.

Tk20 uses an internal ticketing system for tracking support requests and as needed, escalating critical support requests to Tk20 management.

- 43. Describe procedure for handling upgrades. Specify how often upgrades are made to the application software and how "patches" and "fixes" to the systems are handled.**

Tk20 provides clients with product upgrades of the software on an ongoing basis. This process involves enhancement of existing functionality and the addition of new functionality. Enhancements are always shared with our users in advance. Major upgrades usually twice a year. Engineering Services will transparently migrate your dataset to work with the new release of the application. We work with client

timetables regarding when they want to transition to a new release and we will support the previous release for up to 18 months.

Tk20 identifies and prioritizes future enhancements to the software through ongoing dialogue with institutions of higher education. Primary methods include collaborating with current customers, advisory group consultation, and user conferences. Tk20 is an active participant in regional and national assessment and accreditation conferences. In this way, the product can evolve with the ever changing needs of the academic community.

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Tk20 will be responsible for the updates, patches and bug fixes. Tk20 will deliver bug-fix patches on a regular basis. The frequency of patches will depend on the severity of issues found. Urgent security patches will be applied within one week. General package patching is done on a regular schedule (no less than once a month). Minor bugs will be fixed in releases scheduled once or twice each year.

**44. Describe the nature of system enhancements in development that are scheduled for release in the next twelve months.**

Over the next twelve months, Tk20 plans to launch two major releases and two minor releases, which adheres to Tk20's standard Agile release schedule. Each of these releases contains both new components and enhancements to existing features. Our product goals include adding new features to increase the power of reporting, a new user interface, improved user workflows, enhancements to the planning and accreditation modules and enhanced integration capabilities with LMS systems.

**45. Describe all responsibilities of both the contractor and Longwood University in the isolation and diagnosis of system failures.**

Tk20 agrees to use reasonable efforts to acknowledge software Defects reported to Tk20 by Licensee and to use all reasonable efforts to provide Workarounds and Updates. Acknowledgements will be sent to Licensee via email, or if no email is available, via fax. In case of critical Defects that render the system substantially unusable, Tk20 will assign personnel within four (4) business hours after Licensee reports the Defect, to resolve the defect. Licensee must provide Tk20 with a contact on-site to assist with data gathering, testing, and applying any fixes or patches.

Tk20 uses an internal ticketing system for tracking support requests and as needed, escalating critical support requests to Tk20 management.

#### 46. Describe "escalation" procedure.

##### **Implementation/Project management**

The project plan is a very detailed document that includes every deliverable along with dates and responsibilities. Status reports are generated monthly and corresponding status meetings ensure that everyone stays on track.

Task management is ensured by bringing in the services of all the various groups that are needed. For instance, the engineering team for the set-up of the servers, single sign on, and the import of data, the training team for the delivery of training at various levels, and the configuration team for the configuration of data.

The sign-off processes and documents occur at various stages especially at the start and end of individual semesters.

Issues and risks are managed on an ongoing basis. It is the job of your IPC to ensure that the project stays on track and the deliverables are being met. Issues are raised as they arise and at focal points (especially at the end of each month) to ensure communication takes place in regards to items that may be behind track. Escalation of these issues takes place both at Tk20 as well as at your location if needed.

##### **Support**

Tk20 agrees to use reasonable efforts to acknowledge software Defects reported to Tk20 by Licensee and to use all reasonable efforts to provide Workarounds and Updates. Acknowledgements will be sent to Licensee via email, or if no email is available, via fax. In case of critical Defects that render the system substantially unusable, Tk20 will assign personnel within four (4) business hours after Licensee reports the Defect, to resolve the defect. Licensee must provide Tk20 with a contact on-site to assist with data gathering, testing, and applying any fixes or patches.

Tk20 uses an internal ticketing system for tracking support requests and as needed, escalating critical support requests to Tk20 management.

##### **Data Breach**

In the event that data or metadata has been compromised, internal escalation procedures ensure that the executives are notified on the breach first. The executive staff then meets to:

- Assess the seriousness of the incident
- Assess the extent of the damage/breach
- Identify the vulnerability
- Estimate if any additional resources may be needed to mitigate the incident.
- Ensure that proper follow-up reporting and communication to the customer occurs.
- Procedures are adjusted so that response to future incidences if any is improved.

If an unauthorized access occurs, Tk20 will notify Longwood University within 24 hours of discovery.

Tk20 has never had a data breach since the company was founded in 2002.

##### **Outages**

Tk20 uses monitoring tools that monitor the general health of the servers as well as the application it runs on. The monitoring tools are used to alert the technicians about impending errors or problems related to the application, logging into the system, disk space etc. All system operations are monitored and alerts are generated and sent to email/pagers based on the escalation workflow implemented in the monitoring tools. To address system failures, an inventory of hot swaps is maintained for critical equipment, including spare preconfigured switches for storage, access network are stored if needed. Additionally, the architecture of the network design has redundancies built into its design and if any of the devices fail, the monitoring system triggers an internal escalation email.

Disaster recovery from either a catastrophic occurrence or user error is necessary when dealing with an enterprise system. Tk20 maintains a spare set of servers at any time for disaster recovery. The servers used are highly redundant for CPUs, power supplies and storage drives. The internet connections are provided by independent and multiple providers. Outage of customer servers is an extremely rare occurrence.

During any server outage, alternative servers are immediately brought into production with backed up data. This is done within four hours of known outage.

Once the underlying failure has been resolved, Tk20 will restore the system to the base state with all components installed and configured. Next, the application is re-installed and tested. Finally, if the current data can be salvaged from the machine then it will be used. More likely however we will be required to rely on the backup that was taken before the service interruption. To do this the most recent backup is identified and transferred back to the newly restored server from the backup repository. This backup is then re-installed on the server and application usage can continue as normal.

Daily backups are made to assure no more than 24 hours' worth of data is at risk. These are complete snap shots of the data and system, so the entire system can be replicated from the snap shots very quickly.

## **H. Support and Training Requirements:**

### **1. Service and support 24x7x365 available to Customer via telephone, email, fax, and remote access.**

Tk20 offers support to all Tk20 users. This includes synchronous customer support via phone, web meetings and/or videoconference during weekday business hours, Monday to Friday 8 a.m. to 8 p.m. EST and 24/7 asynchronous support via email.

### **2. On-site consultation and training for identified University staff must be included with implementation unless other approach is agreed upon by the University.**

Your Implementation Project team will guide and prepare you to maximize the use of the CampusWide solution fully and confidently. The team will provide regular, ongoing training for your administrators as needed. This personalized support approach, both technical and consultative, establishes a strong partnership between Tk20 and our client institutions which has been an essential component of customer satisfaction and retention. We also promote collaboration within our client community through meetings at conferences, our annual Tk20 User Conference, and the online Tk20 user forums.

The training process includes our “Train the Trainer” method. Through this method, trainings for faculty, staff and other personnel are broken down into simple steps that are easily learned and shared with others. The Implementation Project team will work with the designated trainers on your campus, whether they are the Unit Administrator or someone from an on-campus office, until those people are well-trained and comfortable with the system’s capabilities. As part of the CampusWide software license, Tk20 will provide on-site training to the various faculty, trainers, support and administrative personnel in using of the Software. If the institution requires additional on-site training, this can be provided for an additional fee.

We offer the following options for training. These are in addition to the careful guidance and training you will receive from the Implementation Project Team throughout the implementation process:

**Unit Administrator Training:**

This two-day training, specifically targeted for administrators of the system, is held twice a year. The primary goal is to provide administrators with a broad knowledge of the system as a whole as well as its specific functionalities, which will facilitate a smooth implementation and easy ongoing use in a campus-wide environment.

**Online Customized Trainings:**

Tk20 will work with you to schedule a web conference in which functionalities can be presented and explained to your Unit Administrators or other key members of your team. Training spans from the basic how-to’s of using the modules, to a more in-depth explanation of best practices.

**Onsite Customized Trainings:**

Tk20 will send an Implementation Specialist to your campus for a fee that is dependent on the specific type of training you request. Tk20 will work with the department to define the specific requirements for this engagement and any associated costs. One day of onsite training is included in the CampusWide license.

- 3. The Offeror shall impart a full understanding of what the Solution can and cannot do with regards to assessment, accreditation, and additional applications, establish the criteria for a successful implementation, and guide the University in setup and configuration of the Solution to its specific needs.**

Tk20 realizes that the support of the system is crucial to the ongoing effective operation and satisfaction of your institution. Therefore, the Tk20 CampusWide license agreement includes online training and Unit Administrator training at Tk20, consulting, user support, and technical support. Tk20 will assign an Implementation Project team, headed by an Implementation Project Coordinator, to Longwood University as part of the license process. Your Implementation Project Coordinator (IPC) will be your main point of contact for implementation, configuration and system setup, adoption services, support and training.

Your IPC has access to all the Tk20 resources that may be required for a successful deployment including those associated with engineering services for system setup and integration; product services for system configuration, and product training and support. The combination of these resources and our systematic approach will lead to a successful deployment. The IPC will provide training on system navigation, administration and general functionality. Additionally, the IPC is available to collaborate on assessment best practices and accreditation requirements to identify the best assessment solutions for the institution.

The IPC will be an advocate for Longwood University to assist with any services or training needed to ensure optimal use of the Tk20 system.

Your Implementation Project team also includes several Product Consultants, who will work closely with you to ensure rapid deployment of specific functionalities and will provide corresponding in-depth training. Everyone on the team are implementation specialists who are not only highly trained on all features of the Tk20 system, but also have expertise in assessment and change management.

Post-implementation, you will have a dedicated Client Engagement contact. Everyone in the Products group are implementation specialists with backgrounds in teaching and specialized knowledge of assessment.

Tk20 has a highly systematic process for guiding implementation of your assessment system. This consists of an initial meeting for planning, that leads to the development of a project plan (managed by Tk20) covering all aspects of setup, configuration, training, single sign-on, data imports, phased implementation by unit and by functionality, depending upon your priorities.

The project plan is a very detailed document that includes every deliverable along with dates and responsibilities. Status reports are generated monthly and corresponding status meetings ensure that everyone stays on track.

Task management is ensured by bringing in the services of all the various groups that are needed. For instance, the engineering team for the set-up of the servers, single sign on, and the import of data, the training team for the delivery of training at various levels, and the configuration team for the configuration of data.

The sign-off processes and documents occur at various stages especially at the start and end of individual semesters.

Issues and risks are managed on an ongoing basis. It is the job of your IPC to ensure that the project stays on track and the deliverables are being met. Issues are raised as they arise and at focal points (especially at the end of each month) to ensure communication takes place in regards to items that may be behind track. Escalation of these issues takes place both at Tk20 as well as at your location if needed.

With over 190 employees, Tk20 has ample resources to work within your timeline for rolling-out the system. The amount of time it takes to phase in particular features and/or specific units using those features, varies by institution, and depends on each client's state of readiness, internal resources and ability to meet with the IPC.

For CampusWide clients, our standardized process for beginning the implementation includes the following:

- Server installation. This consists of the setup of the basic system on servers, the setup of data imports from your SIS/ERP system, integration into your single sign-on system or authentication environment, and any other server issues.
- System configuration. We will configure your institutional hierarchy, rubrics, forms, key assessments and any applicable accreditation standards. To ensure that your system represents

the data that you will need to collect, this process includes testing to ensure that the full system is functioning as per expectations.

- Account provisioning for various types of users (e.g. students, faculty, administrators).
- Setting up data import from your Student Information System and other external systems.
- Training, which usually begins in the planning tab (e.g. documenting and aligning student learning outcomes, building curriculum maps and developing of assessment plans).
- Identifying Early Adopters (e.g. particular campus and/or unit such as business and/or General Education).
- Depending on your program, unit and institutional needs, working together to phase in those features of the system that will allow you to collect direct and indirect evidence of student outcomes, such as course-embedded assessments with Canvas integration, portfolio assessments and surveys.

Information that you need to provide includes, but is not limited to:

- Longwood University's institutional hierarchy (designating all the divisions, departments, programs etc. from which you want to collect assessment data).
- SIS data and/or data from external systems (for provisioning student, faculty and administrator accounts).
- Course schedules for students and faculty (if doing course evaluations and/or course assessments).
- Any rubrics/key assessments and forms that you want Tk20 to configure in the system. The Tk20 system will also include SACS standards, all of your programmatic accreditation standards and accreditation templates.
- Information on your accreditors and corresponding standards you want us to add to the system.

Based on our experience with other CampusWide clients, we can roll out planning, course assessments, portfolios, surveys/course evaluations and accreditation management within the first year. If needed, key features can be rolled out concurrently (such as planning and course assessments). However, for a successful implementation, it is essential to designate early adopters so that deployment can be performed in manageable stages for your various units and the institution as a whole.

**4. Offeror must provide a recommended training outline/schedule in collaboration with the University. Training and implementation may be staggered over an extended timeframe.**

Tk20 has a highly systematic process for guiding implementation of your assessment system. This consists of an initial meeting for planning, that leads to the development of a project plan (managed by Tk20) covering all aspects of setup, configuration, training, single sign-on, data imports, phased implementation by unit and by functionality, depending upon your priorities.

The project plan is a very detailed document that includes every deliverable along with dates and responsibilities. Status reports are generated monthly and corresponding status meetings ensure that everyone stays on track.

Task management is ensured by bringing in the services of all the various groups that are needed. For instance, the engineering team for the set-up of the servers, single sign on, and the import of data, the

training team for the delivery of training at various levels, and the configuration team for the configuration of data.

The sign-off processes and documents occur at various stages especially at the start and end of individual semesters.

## ***Project Planning***

This section contains some “pre-implementation” recommendations and a sample project plan.

We would recommend drafting an initial plan for successful adoption that assesses key priorities and timeline, resources, state of readiness and how specific processes may be streamlined/improved once a system is in place. This is helpful preparation for rolling out an institution-wide system that may be undertaken during your selection process. Talking with other Tk20 users may help determine what approach will work best for Longwood University. Your Implementation Project Coordinator will also be able to advise on best practices as well, but this “pre-work” can help you “hit the ground running.”

- **Key priorities and timeline:** Consider the various planning, self-study development, data collection and reporting activities that you *can* potentially do in Tk20. Determine which capabilities are critical needs, which are highly desired, which are helpful but inessential, and which are low priority. When do you want or need to have specific capabilities in place?
- **Resources questions:** Who and/or what is needed to move forward? (e.g. IT, Canvas administrator, assessment coordinator) Who will administer the Tk20 system? Do you have sufficient resources to roll out different functionalities concurrently or would it be best to phase in more gradually?
- **State of readiness:** This may determine what you do first in Tk20 and help identify early adopters. For example, if your program review and assessment planning processes are well established, then you may want to begin work in the planning area and phase in other functionalities later. If you have a particular program that has already established rubrics and a key course-embedded assessment (like a capstone project), then they may be an “Early Adopter” for course assessment with Canvas integration.
- **Process improvement:** Activities that may have been necessary using paper-based data collection may be modified (or some things no longer necessary) when using an electronic system. Some processes will evolve as you familiarize yourself with the new system, but it is helpful to outline what the existing processes are and be able to readily communicate them. This will be very useful when you begin working with an implementation team, since they will be devising with you the best way to translate your current/desired processes into the technology environment and providing guidance on best practices.

**Tk20, Inc.**  
**Sample University**  
**CampusWide Project Plan**

**Project Name:** Sample University Project Plan

**Prepared By:** Tk20 Implementation Project Coordinator

**Date:** September 6, 2014

## Overview

Project	Initial Timeline	Implementation
<b>A. Pre-Implementation</b>	August 2014	
<b>B. Planning &amp; Assessment</b>		
a. Assessment Planning I	September 2014	
b. Curriculum Maps	September 2014	
c. Assessment Planning II	October 2014	
d. Assessment Planning III	October 2014	
e. Assessment Planning IV	November 2014	
f. Strategic Planning	Spring 2015	
<b>C. Nursing</b>		
a. Course Assignments	Fall 2014	
b. Portfolios	Spring 2014	
<b>D. General Education</b>		
a. Course Assignments	Fall 2014	
b. Juried Assessments	Spring 2015	
<b>E. Course Evaluations</b>	Pilot: Fall 2014	
	Institution-Wide:	
	Spring 2015	

## A Pre-Implementation

*Goal:* To identify immediate priorities for system use, identify key stakeholders and their roles and responsibilities, and establish a solid foundation for future activity in the system by importing a complete, quality dataset.

No.	Requirement	Lead	Due Date	Comments/ Clarification
1.	Deploy servers	Tk20 Engineering Services	Complete	<ul style="list-style-type: none"> <li>Production and training servers deployed</li> <li>URLs shared along with login instructions</li> </ul>
2.	LDAP set up	Tk20 – Sample Univ.	Aug. 27	<ul style="list-style-type: none"> <li>LDAP set up for user logins</li> </ul>

3.	<i>Intro, Navigation, and Document Room Training session</i>	Tk20/Sample Univ.	Aug. 27	<ul style="list-style-type: none"> <li>Tk20 introduces Sample Univ. to their system</li> <li>Training on basic navigation and Document Room usage</li> </ul>
4.	Provide SIS Data for Import	Sample Univ.	Aug. 28	<ul style="list-style-type: none"> <li>Initial files received</li> <li>Analysis underway</li> </ul>
5.	Analyze SIS Data	Tk20 - Engineering	Aug. 31	<ul style="list-style-type: none"> <li>Engineering analyzes test files</li> <li>Data load processed</li> </ul>
6.	Review SIS Data Reports	Tk20/UA	Sept. 4	<ul style="list-style-type: none"> <li>Tk20 identifies and demos reports related to SIS data</li> <li>UA verifies data and uses reports to monitor progress</li> </ul>
7.	Key Contacts	Sample Univ.	Aug. 27	<ul style="list-style-type: none"> <li>Unit Administrator and his/her roles identified</li> <li>Program Managers/representatives for Early Implementer groups identified</li> </ul>
8.	Implementation Meeting	Tk20/Sample Univ.	Sept. 5	<ul style="list-style-type: none"> <li>Implementation process and priorities identified</li> </ul>
9.	Identify Early Implementers	Sample Univ.	Sept. 5	<ul style="list-style-type: none"> <li>Identified Nursing, Gen Ed &amp; initial groups for Assessment Planning component</li> </ul>
10.	Provide Sample Letters, example websites, Support FAQs	Tk20	Aug. 27	<ul style="list-style-type: none"> <li>Tk20 uploaded examples to Document Room</li> </ul>
11.	Share Support & Infrastructure Matrix	Tk20	Sept. 5	<ul style="list-style-type: none"> <li>Tk20 uploaded info to Document Room</li> <li>Discussed info during implementation meeting</li> </ul>
12.	Provide system administrator/IT contact information for log in page	Sample Univ.	Sept. 7	<ul style="list-style-type: none"> <li>Sample provides contact information to place on Tk20 login page for Sample Univ. users with non-tech support questions/concerns</li> <li>Tk20 Configuration team posts on login page</li> </ul>

## B Planning

*Goal: Utilize Tk20 for systematic collection, reporting, and analysis of missions, outcomes/goals, and outcome/goal alignment for the Univ. Assessment Project & Gen Ed division assessment.*

*We will first focus on system setup, including the organizational hierarchy and nomenclature. We will then collect foundational items, such as mission statements, outcomes/goals, outcome mapping/alignment.*

*We will use Tk20's Curriculum Maps functionality to help Early Implementer programs/departments identify where in their curricula outcomes are being addressed, at what level/emphasis, and identify the measurement being employed at the course level. This will pave the way for implementing assessment plans among the same Early Implementers groups.*

*Altogether, this will provide a complete set of planning data and training on functionality in Tk20. Sample Univ. will then roll this out campus-wide at the pace they deem appropriate.*

No.	Requirement	Lead	Due Date	Comments/ Clarification
1.	Organizational Hierarchy	Sample Univ.	Sept. 14	<ul style="list-style-type: none"> <li>Tk20 provides sample organizational hierarchy</li> <li>Sample Univ. provides hierarchy for configuration</li> </ul>
2.	Hierarchy Analysis and Configuration	Tk20/Sample Univ.	Sept. 19	<ul style="list-style-type: none"> <li>Tk20 analyzes structure for data collecting units</li> <li>Tk20 Configuration team builds hierarchy</li> <li>Sample Univ. verifies the hierarchy</li> </ul>
<b>Assessment Planning I</b>				
3.	Mission, goals/outcomes, alignment for institutional level & Early Implementer groups	Sample Univ.	Sept. 19	<ul style="list-style-type: none"> <li>Sample Univ. uploads mission, vision, outcomes, mapping/alignment for the institution and EI groups</li> <li>Tk20 analyzes and chooses 1 complete set for training</li> </ul>
4.	Assessment Planning I Training	Tk20/Sample Univ. UA	Sept. 21	<ul style="list-style-type: none"> <li>Tk20 trains on unit setup, configuration of mission, goals/outcomes, alignment using some uploaded data</li> <li>Sample Univ. reps continue with data entry</li> </ul>
5.	Assessment Planning I Training Part B	Tk20/Sample Univ.	Sept. 21	<ul style="list-style-type: none"> <li>Tk20 trains on configuration of course outcomes, alignment using some uploaded data</li> <li>Sample Univ. reps continue with course outcomes data entry</li> </ul>
6.	Planning Reports	Tk20	Ongoing	<ul style="list-style-type: none"> <li>Tk20 identifies relevant monitoring and analysis reports</li> <li>Sample Univ. uses these to monitor data entry</li> </ul>
<b>Curriculum Maps</b>				
7.	Curriculum Map Template	Tk20	Sept. 21	<ul style="list-style-type: none"> <li>Tk20 provides a Curriculum Map template</li> </ul>
8.	Upload 1 completed Gen Ed program curriculum map	Sample Univ.	Sept. 28	<ul style="list-style-type: none"> <li>Sample uploads completed curriculum maps</li> <li>Tk20 analyzes completed map</li> </ul>

9.	Curriculum Map Training	Tk20 – Sample Univ.	Oct. 1	<ul style="list-style-type: none"> <li>Tk20 trains Sample on Curriculum Maps using 1 of Sample’s example maps</li> <li>Sample implements and creates additional maps</li> </ul>
10.	Curriculum Map Reports	Tk20	Ongoing	<ul style="list-style-type: none"> <li>Tk20 identifies relevant reports</li> <li>Sample uses these reports to monitor and analyze progress</li> </ul>
<b>Assessment Planning II</b>				
11.	Sample Early Implementer (EI) Assessment Plan	Sample Univ.	Oct. 2	<ul style="list-style-type: none"> <li>Upload Sample’s 1 assessment plan example to Document Room</li> <li>Tk20 analyzes</li> </ul>
12.	Assessment Planning II Training	Tk20 / Sample	Oct. 5	<ul style="list-style-type: none"> <li>Tk20 trains Sample on Assessment Periods, Assessment Plan Data Entry using sample assessment plan data provided</li> <li>Sample continues with assessment plan data entry for remaining EI groups</li> </ul>
13.	Assessment Planning Part B Training	Tk20/Sample	Oct. 12	<ul style="list-style-type: none"> <li>Tk20 trains Sample on Course Data Entry using sample course assessment plan data provided</li> <li>Sample continues with assessment plan data entry for remaining EI groups</li> </ul>
14.	Planning Reports	Tk20	Ongoing	<ul style="list-style-type: none"> <li>Tk20 identifies relevant monitoring and analysis reports</li> <li>UA and Sample Univ. uses these to monitor the implementation</li> </ul>
<b>Assessment Planning III: Advanced Measures</b>				
15.	Identify 1-2 programs to begin Advanced Measures	Tk20 /Sample Univ.	Complete	<ul style="list-style-type: none"> <li>General Education program identified</li> </ul>
16.	Assessment and Measures Template	Tk20	Oct. 1	<ul style="list-style-type: none"> <li>Tk20 provides Assessment and Measures template</li> <li>Sample completes this for General Education, identifying assessments that meet Gen Ed outcomes</li> </ul>
17.	Analyze Template	Tk20	Oct. 8	<ul style="list-style-type: none"> <li>Tk20 analyzes completed matrix</li> <li>Tk20 identifies potential internal/external measures to use for Advanced Measures</li> </ul>

18.	Advanced Measures Training	Tk20 / Sample Univ.	Oct. 12	<ul style="list-style-type: none"> <li>Tk20 trains Sample on Advanced Measures, using 1-2 identified measures from the template</li> <li>Sample continues to set up Advanced Measures for General Education</li> </ul>
19.	Advanced Measures Reports	Tk20	Ongoing	<ul style="list-style-type: none"> <li>Tk20 identifies relevant reports</li> <li>Sample uses these to monitor and analyze progress</li> </ul>
20.	Advanced Measures Expansion	Sample Univ.	Ongoing	<ul style="list-style-type: none"> <li>Systematic expansion of Advanced Measures within and beyond General Education</li> </ul>
<b>Assessment Planning IV: Feedback and Reports</b>				
21.	Demo Assessment Plan Feedback	Tk20	Oct. 19	<ul style="list-style-type: none"> <li>Tk20 demonstrates how feedback works and feedback form options</li> </ul>
22.	Develop Feedback Rubric	Sample Univ.	Oct. 26	<ul style="list-style-type: none"> <li>Sample develops customized feedback rubric</li> </ul>
23.	Configure Feedback Rubric & Form builder Training	Sample Univ. /Tk20	Oct. 31	<ul style="list-style-type: none"> <li>Tk20 trains on Form Builder</li> <li>Tk20 guides Sample to build the Feedback rubric using Form Builder</li> </ul>
24.	Assessment Plan Feedback Training	Tk20 /Sample	Nov. 5	<ul style="list-style-type: none"> <li>Tk20 trains Sample to use Assessment Plan Feedback function with 1 completed assessment plan</li> </ul>
25.	Introduce Feedback to EI groups	Sample Univ.	Nov. 9	<ul style="list-style-type: none"> <li>Sample discusses and trains EI reps on Assessment Plan Feedback function at Dec. 2 Assessment Meeting</li> </ul>
<b>Strategic Planning</b>				
26.	Provide Sample's Strategic Plan (2012-2017)	Tk20	Nov. 16	<ul style="list-style-type: none"> <li>Sample Univ. uploads the 2010-2015 plan to the Document Room</li> <li>Tk20 analyzes</li> </ul>
27.	Demo Strategic Planning Module	Tk20	Nov. 18	<ul style="list-style-type: none"> <li>Tk20 demos the Strategic Planning module</li> <li>Tk20 makes recommendations for accommodating Sample's plan</li> </ul>

28.	Identify Data Entry Personnel for Different Levels	Sample Univ.	Nov. 22	<ul style="list-style-type: none"> <li>• UA responsible for setup</li> <li>• 1 representative per program/unit identified for unit-level data entry</li> <li>• Same representative submits budget request for the unit/program</li> <li>• Office of Finance and Budget representative identified for Budget Administration</li> </ul>
29.	Strategic Planning Training I & II	Tk20 / Sample	Nov. 30	<ul style="list-style-type: none"> <li>• Tk20 trains UA on SP module using items pulled from the 2012-2017 plan</li> </ul>
30.	Strategic Planning Training	Sample Univ. UA	Dec. 5 – Jan. 12	<ul style="list-style-type: none"> <li>• UA trains identified personnel on SP components</li> </ul>
31.	Continued Data Entry	Sample	Jan., Feb. 2013	<ul style="list-style-type: none"> <li>• Data entry by Sample Univ. units continue</li> </ul>

## C Nursing

*Goal: As 1 of the Early Implementer groups identified, Nursing will focus on Assessment Planning in Fall (see section B above).*

*In the Fall, Nursing aims to implement a Nursing Portfolio, a key assessment for NURS 220. We will begin organizing that portfolio in Spring 2015. Nursing also plans to use Course Based Assessments (assignments) to collect key assessments that take place in 2 undergraduate courses.*

*Additionally, Sample Univ. intends to use Tk20's Course Evaluations functionality campus-wide by Fall 2015. The Nursing program will do an early course evaluations rollout in Spring 2015.*

No.	Requirement	Lead	Due Date	Comments/ Clarification
1.	Identify Project Manager	Nursing	Complete	<ul style="list-style-type: none"> <li>• Lilly Greenstein identified</li> <li>• Communication method identified</li> </ul>
<b>Course Assignments</b>				
2.	Provide Course Matrix	Tk20	Sept. 9	<ul style="list-style-type: none"> <li>• Tk20 uploads a course matrix to the Document Room</li> </ul>
3.	Complete Course Matrix	Nursing	Sept. 23	<ul style="list-style-type: none"> <li>• Nursing completes the course matrix for 2 Nursing courses</li> </ul>
4.	Upload Course Assignments & Rubrics	Nursing	Sept. 30	<ul style="list-style-type: none"> <li>• Nursing uploads the course assignment descriptions and corresponding rubrics for 2 Nursing courses</li> </ul>

5.	Analysis and Meeting	Tk20 – Nursing	Oct. 6	<ul style="list-style-type: none"> <li>Tk20 analyzes provided materials</li> <li>Nursing and Tk20 discuss implementation of assignments</li> <li>Discuss communication to students/faculty and training/support for students/faculty</li> </ul>
6.	Form Builder Training & Configure Rubrics	Nursing	Oct. 17	<ul style="list-style-type: none"> <li>Tk20 trains Nursing on Form Builder in Tk20</li> <li>Nursing configures rubrics in Tk20 using Form Builder by target assignment distribution date</li> </ul>
7.	Communication	Nursing	Sept. 9- Oct. 7	<ul style="list-style-type: none"> <li>Early communication to involved faculty</li> <li>Update syllabi and program website for students</li> <li>Communication re: training to faculty</li> </ul>
8.	Assignment Templates and Assignment Cycle Training	Nursing / Tk20	Oct. 19	<ul style="list-style-type: none"> <li>Tk20 trains Nursing to configure Assignment Templates</li> <li>Tk20 trains Nursing on the assignment cycle</li> </ul>
9.	Send Assignment	Nursing / Tk20	Oct. 29	<ul style="list-style-type: none"> <li>Send assignment in Tk20</li> </ul>
10.	Train Assessors	Nursing	Oct. 30 & 31	<ul style="list-style-type: none"> <li>Conduct training session for assessors</li> </ul>
11.	Monitor Assignments	Nursing	Oct. 29 – Dec. 5	<ul style="list-style-type: none"> <li>Use Tk20 reports</li> </ul>
<b>Portfolios (Preparation for Spring 2015 Implementation)</b>				
12.	Portfolio Implementation Matrix	Tk20	Oct. 22	<ul style="list-style-type: none"> <li>Tk20 uploads Portfolio Implementation matrix to the Document Room</li> <li>Nursing completes and returns for Tk20 analysis</li> </ul>
13.	Portfolio Implementation Meeting	Tk20 / Nursing	Oct. 29	<ul style="list-style-type: none"> <li>Tk20 analyzes Nursing matrix</li> <li>Meeting to discuss portfolio components and implementation</li> <li>Discuss communication to students/assessors and support of students/assessors</li> </ul>
14.	Communication	Nursing	Oct / Nov.	<ul style="list-style-type: none"> <li>Early communication to involved faculty about upcoming change</li> <li>Update syllabi and program website for students</li> <li>Communication re: training to faculty</li> </ul>
15.	Configure Rubrics	Tk20 / Nursing	Nov.	<ul style="list-style-type: none"> <li>Nursing builds rubrics in Form Builder</li> </ul>

16.	Portfolio Template Builder Training	Tk20 / Nursing	Dec. 31	<ul style="list-style-type: none"> <li>Tk20 trains on Portfolio Template Builder</li> <li>Review the sending/monitoring process</li> </ul>
17.	Send Portfolios	Tk20 / Nursing	Jan. 10	<ul style="list-style-type: none"> <li>Tk20 and Nursing send out Nursing portfolios</li> <li>Tk20 identifies monitoring and analysis reports to use</li> </ul>

## D General Education

*Goal: As 1 of the Early Implementer groups identified, Gen Ed will focus on Assessment Planning in Fall 2014 (see section B above).*

*In the Fall 2014, Gen Ed plans to use Course-Based Assessments (assignments) to collect key assessments that take place in 2 undergraduate courses.*

*Additionally, Gen Ed will use Juried Assessments in Spring 2015 to assess a percentage of student writing artifacts collected outside of Tk20 anonymously. This will allow Sample Univ. to evaluate the General Education Writing Outcome.*

No.	Requirement	Lead	Due Date	Comments/ Clarification
1.	Identify Project Manager	Gen Ed	Complete	<ul style="list-style-type: none"> <li>Scout Gallegly identified</li> <li>Communication method identified</li> </ul>
<b>Course Assignments</b>				
2.	Provide Course Matrix	Tk20	Sept. 5	<ul style="list-style-type: none"> <li>Tk20 uploads a course matrix to the Document Room</li> </ul>
3.	Complete Course Matrix	Gen Ed	Sept. 14	<ul style="list-style-type: none"> <li>Gen Ed completes the course matrix for 1Gen Ed student learning outcome</li> </ul>
4.	Upload Course Assignments & Rubrics	Gen Ed	Sept. 14	<ul style="list-style-type: none"> <li>Gen Ed uploads the course assignment descriptions and corresponding rubrics for Gen Ed' Writing outcome</li> </ul>
5.	Communication	Gen Ed	Sept. – Oct.	<ul style="list-style-type: none"> <li>Early communication to involved faculty</li> <li>Update syllabi and program website for students</li> <li>Communication re: training to faculty</li> </ul>

6.	Analysis and Meeting	Tk20 / Gen Ed	Sept. 18	<ul style="list-style-type: none"> <li>Tk20 analyzes provided materials</li> <li>Gen Ed and Tk20 discuss implementation of assignments</li> <li>Discuss communication to students/faculty and training/support for students/faculty</li> </ul>
7.	Configure Rubrics	Gen Ed	Sept. 25	<ul style="list-style-type: none"> <li>Gen Ed configures rubrics in Tk20 using Form Builder in time to meet the target assignment distribution date</li> </ul>
8.	Assignment Templates and Assignment Cycle Training	Gen Ed/ Tk20	Oct. 1	<ul style="list-style-type: none"> <li>Tk20 trains Gen Ed to configure Assignment Templates</li> <li>Tk20 trains Gen Ed on the assignment cycle</li> </ul>
9.	Send Assignment	Gen Ed / Tk20	Oct. 8	<ul style="list-style-type: none"> <li>Send assignment in Tk20</li> </ul>
10.	Train Assessors	Gen Ed	Oct. 11	<ul style="list-style-type: none"> <li>Conduct training session for assessors</li> </ul>
11.	Monitor Assignments	Gen Ed	Oct. 11 – Dec. 5	<ul style="list-style-type: none"> <li>Use Tk20 reports</li> </ul>
<b>Juried Assessments</b>				
12.	Demo Juried Assessments	Tk20	Jan. 17	<ul style="list-style-type: none"> <li>Show Sample Univ. how Juried Assessment work</li> <li>Discuss Sample's objectives for the artifact assessments using Juried Assessments</li> </ul>
13.	Prepare Student Artifact Submissions and Assessment Tool	Sample Univ.	Feb. 5	<ul style="list-style-type: none"> <li>Collect student artifacts on single computer</li> <li>Remove student names and replace with numbers</li> </ul>
14.	Identify and Communicate with Jury Pool	Sample Univ.	Feb. 5	<ul style="list-style-type: none"> <li>Identify assessors in the Jury Pool</li> </ul>
15.	Training on Juried Artifact Template Builder	Tk20 / Sample Univ.	Feb. 28	<ul style="list-style-type: none"> <li>Work together to develop the Juried Assessment Template</li> <li>Develop assessment tool using Form Builder</li> </ul>
16.	Train Jury Pool	Sample Univ.	Mar. 10	<ul style="list-style-type: none"> <li>Sample Univ. trains Jury Pool members to assess student artifacts distributed to them</li> </ul>
17.	Juried Assessment Implementation	Sample Univ.	Mar. 25- Apr. 15	<ul style="list-style-type: none"> <li>Send our Juried Assessment request in Tk20</li> <li>Jurors assess artifacts distributed to them</li> </ul>
18.	Tk20 Reports	Tk20/ Sample Univ.	Ongoing	<ul style="list-style-type: none"> <li>Use reports to evaluate Juried Assessment results</li> </ul>

**5. Training materials and documentation must accompany training sessions.**

Support materials including comprehensive manuals will be distributed during training and are also available online. Additionally, a searchable online helpdesk is available within the user interface. Besides the ability to search by topic, this area includes Quick Guides for specific functionalities, FAQ's, Helpdesk articles and full User Guides (e.g. Student User Guide, Faculty User Guide, Reports Guide, Unit Administrator Guide).

**6. The University reserves the right to order refresher training to cover new capabilities and for new employees.**

Tk20 provides partner institutions with release notes and also training both before and after the new release. We offer a free webinar to partner institutions prior to a new release. This will provide clients with a broad overview of new functionality. Subsequently, each client's Tk20 product consultant will work further with the institution to train appropriate stakeholders on new functionality.

Tk20 will have resources available for refresher training and training for new employees. Tk20 provides the following options for training:

**Unit Administrator Training:**

- This two-day training is specifically targeted at administrators of the system. The primary goal is to give administrators a broad knowledge of the system as a whole and its specific functions, which will allow them to comfortably begin implementing/using it in a campus-wide environment.

**Online Customized Trainings:**

- Tk20 will work with you to schedule a web conference in which functionalities can be presented and explained to your Unit Administrators or other key faculty and staff. Training spans from the basic how-to's of using the modules, to a more in-depth explanation of best practices.

**Onsite Customized Trainings:**

- Tk20 will send an Implementation Specialist to your campus for a fee that is dependent on the specific type of training you request. Tk20 will work with the institution to define the specific requirements for this engagement and any associated costs (note: one-day of onsite training is included in the license).

**7. On-line help within the Solution components is desirable.**

Tk20 provides a searchable online helpdesk within the user interface. Besides the ability to search by topic, this area includes Quick Guides for specific functionalities, FAQ's, Helpdesk articles and full User Guides (e.g. Student User Guide, Faculty User Guide, Reports Guide, Unit Administrator Guide).

**8. Topics/Areas of training must include administration of application, assessment plan configuration and management, accreditation template configuration and management, customization, report writing, creation of templates, rubrics and scales for electronic portfolios, managing assessment of portfolios, creating and administering surveys, generating output, advice on how to train faculty and students, and helpful hints and tips for using the Solution.**

Tk20 will cover all of these topics as part of regular implementation training. Product consultants will provide training on both system functionality *and* best practices.

## Price Proposal

We are pleased to provide Longwood University with the following options:

**Proposal #1: CampusWide Comprehensive License – Five year subscription agreement, paid annually**

Annual License Fee - \$ 65,000. **Pricing based on a five year agreement.**

**Includes accounts for all students, university faculty and staff, and external assessors (e.g. accreditors, cooperating teachers, clinical instructors etc.). Student accounts will be set up for seven years of access.**

Salesperson		Email	Quote Valid Through	
Katelin Trowbridge		<a href="mailto:ktrowbridge@tk20.com">ktrowbridge@tk20.com</a>	4/30/2016	
Qty	Description	Unit Price	Line Total	
1	<b>CampusWide Comprehensive License</b> which includes maintenance and support.	<b>\$65,000</b>	<b>\$65,000</b>	
1	<b>Customized adoption services</b> - creation of a custom project plan based on your priorities, guidance and help with system configuration leading to optimal system set up for production	included	included	
1	<b>Data import</b> - Setup for import of data from your student information system and others, depending on your need for import	included	included	
1	<b>System configuration</b> – configuration of your assessment tools, forms, accreditation templates, standards and institutional hierarchy	included	included	
1	<b>First level of Support for all users</b>	included	included	
1	<b>Automatic data migration for product upgrades</b>	included	included	
1	<b>User Guides, Training Guides, Online Tutorials</b>	included	included	
1	<b>Training.</b> <ul style="list-style-type: none"> <li>• One day of onsite training. Additional onsite training is \$ 2000 for the first day and \$ 800 for each additional consecutive day.</li> <li>• Two day training for two administrators at Tk20 (additional attendees are \$500 each).</li> <li>• Customized online training for administrations and key faculty/staff is also part of regular implementation services.</li> </ul>	included	included	
1	<b>Remote Authentication for Single Sign-on</b>	included	included	
	<b>Reporting.</b> <ul style="list-style-type: none"> <li>• <b>Standard and custom reports.</b> Five custom reports will be included with the license, each report not to exceed 5 hours of development time. Tk20 will develop additional custom reports as a charged service, calculated at \$150/hour.</li> <li>• <b>Ad hoc server.</b></li> <li>• <b>ODBC set up and training.</b></li> </ul>	included	included	
1	<b>Fully Managed Hosting (TK20 provides Servers and Tk20 Hosts)</b>	included	included	
		Total	<b>\$65,000</b>	

**Proposal #2: CampusWide Comprehensive License – One year agreement with renewal options**

Year one license Fee - \$ 65,000.

Includes accounts for all students, university faculty and staff, and external assessors (e.g. accreditors, cooperating teachers, clinical instructors etc.). Student accounts will be set up for seven years of access.

Salesperson		Email	Quote Valid Through	
Katelin Trowbridge		<a href="mailto:ktrowbridge@tk20.com">ktrowbridge@tk20.com</a>	4/30/2016	
Qty	Description	Unit Price	Line Total	
1	<b>CampusWide Comprehensive License</b> which includes maintenance and support.	\$65,000	\$65,000	
1	<b>Customized adoption services</b> - creation of a custom project plan based on your priorities, guidance and help with system configuration leading to optimal system set up for production	included	included	
1	<b>Data import</b> - Setup for import of data from your student information system and others, depending on your need for import	included	included	
1	<b>System configuration</b> – configuration of your assessment tools, forms, accreditation templates, standards and institutional hierarchy	included	included	
1	<b>First level of Support for all users</b>	included	included	
1	<b>Automatic data migration for product upgrades</b>	included	included	
1	<b>User Guides, Training Guides, Online Tutorials</b>	included	included	
1	<b>One day onsite training, Unit Administrator Training at Tk20 and online training</b>	included	included	
1	<b>Remote Authentication for Single Sign-on</b>	included	included	
1	<b>Fully Managed Hosting (TK20 provides Servers and Tk20 Hosts)</b>	included	included	
		Total	<b>\$65,000</b>	
1	Maintenance and Support year two	\$67,000	\$67,000	
1	Maintenance and Support year three	\$69,000	\$69,000	
1	Maintenance and Support year four	\$71,000	\$71,000	
1	Maintenance and Support year five	\$73,000	\$73,000	

Note: Over 90% of Tk20 clients sign multi-year agreements, which affords them significant benefits of fixed pricing, discounted rates and stable terms across the agreement period. These multi-year subscriptions are paid annually – we do not require clients to pay for multiple years upfront. Since the baseline price is lower at the end of a multi-year term, this also begets cost savings in the following terms. Tk20 is not able to recognize revenue in a comparable way with one year agreements that include renewal options. The need to perform renewals also adds administrative costs to the process.

**ATTACHMENT B – SMALL BUSINESS SUBCONTRACTING PLAN**

**Definitions**

**DSBSD:** Department of Small Business and Supplier Diversity.

**Small Business:** “Small Business” means an independently owned and operated business which, together with affiliates, has 250 or fewer employees, or average annual gross receipts of \$10 million or less averaged over the previous three years. Note: This shall not exclude DSBSD-certified women- and minority-owned businesses when they have received DSBSD small business certification.

**Women-Owned Business:** Women-owned business means a business concern that is at least 51% owned by one or more women who are citizens of the United States or non-citizens who are in full compliance with United States immigration law, or in the case of a corporation, partnership or limited liability company or other entity, at least 51% of the equity ownership interest is owned by one or more women who are citizens of the United States or non-citizens who are in full compliance with United States immigration law, and both the management and daily business operations are controlled by one or more women who are citizens of the United States or non-citizens who are in full compliance with the United States immigration law.

**Minority-Owned Business:** Minority-owned business means a business concern that is at least 51% owned by one or more minority individuals or in the case of a corporation, partnership or limited liability company or other entity, at least 51% of the equity ownership interest in the corporation, partnership, or limited liability company or other entity is owned by one or more minority individuals and both the management and daily business operations are controlled by one or more minority individuals.

**All small businesses must be certified by DSBSD by the due date of the solicitation to participate in the SWaM program. Certification applications are available through DSBSD online at [www.dmbv.virginia.gov](http://www.dmbv.virginia.gov) (Customer Service).**

**Offeror’s Name:** Tk20

**Preparer Name:** Katelin Trowbridge **Date:** 1/8/15

**Instructions**

- A. If you are certified by DSBSD as a small business, complete only Section A of this form. This shall not exclude DSBSD-certified women-owned and minority-owned businesses when they have received DSBSD small business certification.
- B. If you are not a DSBSD-certified small business, complete Section B of this form. For the offeror to receive credit for the small business subcontracting plan evaluation criteria, the offeror shall identify the portions of the contract that will be subcontracted to DSBSD-certified small business in this section. Points will be assigned based on each offeror’s proposed subcontracting expenditures with DSBSD-certified small businesses for the initial contract period as indicated in Section B in relation to the offeror’s total price.

**Section A - Not applicable**

If your firm is certified by DSBSD, are you certified as a (**check only one below**):

<input type="checkbox"/> Small Business	Certification Number: _____
<input type="checkbox"/> Small and Women-owned Business	
<input type="checkbox"/> Small and Minority-owned Business	Certification Date: _____

**Section B - Not applicable**

Populate the table below to show your firm's plans for utilization of DSBSD-certified small businesses in the performance of this contract. This shall not exclude DSBSD-certified women-owned and minority-owned businesses when they have received the DSBSD small business certification. Include plans to utilize small businesses as part of joint ventures, partnerships, subcontractors, suppliers, etc.

**Plans for Utilization of DSBSD-Certified Small Businesses for this Procurement**

Small Business Name & Address DSBSD Certificate #	Status if Small Business is also: Women (W) Minority (M)	Contact Person, Telephone & Email	Type of Goods and/or Services	Planned Involvement During Initial Period of the Contract	Planned Contract Dollars During Initial Period of the Contract
<b>Totals \$</b>					

LONGWOOD  
UNIVERSITY

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toll: 711

December 8, 2015

ADDENDUM 1 TO ALL OFFERORS:

Reference Request for Proposals (RFP): LU214-16-009  
Commodity: Assessment, Planning, Budgeting and Accreditation Management System  
Dated: December 2, 2015  
For Delivery To: Longwood University  
Materiel Management  
Farmville, Virginia 23909  
Proposal Due: **January 5, 2016 at 2:00 p.m. Local Time**  
Pre-Proposal Conference (PPC): December 11, 2015 at 9:00 a.m. Local Time

This Addendum 1 to the RFP is being issued to notify potential offerors of the availability for WebEx attendance at the above referenced PPC. Below is the link to the WebEx and the meeting number and password needed to join the WebEx. If you plan on attending the PPC via WebEx, please send an email to [cooperdj@longwood.edu](mailto:cooperdj@longwood.edu) by 5:00 p.m. Local Time on Thursday, December 10, 2015 indicating the person(s) who will attend and the company name and address. You must have access to a camera and microphone to participate in the WebEx.

[https://longwoodstaff.webex.com/mw3000/mywebex/default.do?service=1&siteurl=longwoodstaff&nomenu=true&main\\_url=%2Fmc3000%2Ffe.do%3Fsiteurl%3Dlongwoodstaff%26AT%3DMI%26EventID%3D399025017%26UID%3D0%26Host%3DQUhTSwAAAALXm7gwI YUNstQd5X3WXOf ErrbXVEIZ rQ96bH CC 2wzfeVSuC11epRWb6mfHOEiki5ePHECZQpBcXtYpwR90%26FrameSet%3D2%26MTID%3Dm35ea8254d8126241fb87c62deb19d786](https://longwoodstaff.webex.com/mw3000/mywebex/default.do?service=1&siteurl=longwoodstaff&nomenu=true&main_url=%2Fmc3000%2Ffe.do%3Fsiteurl%3Dlongwoodstaff%26AT%3DMI%26EventID%3D399025017%26UID%3D0%26Host%3DQUhTSwAAAALXm7gwI YUNstQd5X3WXOf ErrbXVEIZ rQ96bH CC 2wzfeVSuC11epRWb6mfHOEiki5ePHECZQpBcXtYpwR90%26FrameSet%3D2%26MTID%3Dm35ea8254d8126241fb87c62deb19d786)

Meeting Number: 549 738 472  
Meeting Password: HgdexXqm

All other general terms, conditions, and specifications shall remain the same.

**Note:** A signed acknowledgment of this addendum must be submitted with your proposal. Signature on this addendum does not substitute for your signature on the original proposal document. The original proposal document must be signed.

Very truly yours,

*Cathryn B. Mobley*

Cathryn B. Mobley, CPA, CUPO, VCCO, VCO  
Director of Financial Operations & Materiel Management

Tk20  
Name of Firm: Bhupi Bhasin  
President, Tk20  
Signature/Title:   
Date: 01-05-16

LONGWOOD  
UNIVERSITY

201 High Street  
Farmville, Virginia 23909  
tel: 434.595.2093  
fax: 434.595.2246  
tts: 711

December 9, 2015

ADDENDUM 2 TO ALL OFFERORS:

Reference Request for Proposals (RFP): LU214-16-009  
Commodity: Assessment, Planning, Budgeting and Accreditation Management System  
Dated: December 2, 2015  
For Delivery To: Longwood University  
Materiel Management  
Farmville, Virginia 23909  
Proposal Due: January 5, 2016 at 2:00 p.m. Local Time  
Pre-Proposal Conference (PPC): December 11, 2015 at 9:00 a.m. Local Time

This Addendum 2 to the RFP is being issued to notify potential offerors of the change in location for the PPC. The PPC will be held in Room 300A of French Hall (#6 on the attached Campus Map-Directory).

All other general terms, conditions, and specifications shall remain the same.

**Note:** A signed acknowledgment of this addendum must be submitted with your proposal. Signature on this addendum does not substitute for your signature on the original proposal document. The original proposal document must be signed.

Very truly yours,

*Cathryn B. Mobley*

Cathryn B. Mobley, CPA, CUPO, VCCO, VCO  
Director of Financial Operations & Materiel Management

Tk20  
Name of Firm  
*[Signature]*  
Signature/Title  
**Bhupi Bhasin  
President, Tk20**  
01-05-16  
Date

LONGWOOD  
UNIVERSITY

201 High Street  
Farmville, Virginia 23909  
tel: 434.395.2093  
fax: 434.395.2246  
tts: 711

December 18, 2015

ADDENDUM 3 TO ALL OFFERORS:

Reference Request for Proposals (RFP): LU214-16-009  
Commodity: Assessment, Planning, Budgeting and Accreditation Management System  
Dated: December 2, 2015  
For Delivery To: Longwood University  
Materiel Management  
Farmville, Virginia 23909  
Proposal Due: **January 13, 2016 at 2:00 p.m. Local Time**  
Pre-Proposal Conference (PPC): December 11, 2015 at 9:00 a.m. Local Time

This Addendum 3 to the RFP is being issued to extend the due date for receipt of proposals as noted above; provide answers to questions submitted by prospective offerors; and to publish the PPC conference registry.

1. Reference Page 1, 5<sup>th</sup> Paragraph, Sealed Proposals Will Be Received Until: Several requests to extend the due date for receipt of proposals were submitted.

**RESPONSE:** The University has extended the due date for receipt of proposals as noted above.

2. Reference Section B., Page 5, Statement 1.: What is the thought behind not letting the assessment data come from different technology providers? Very few, if any firms, are going to have the expertise in Collecting Data and the development of Surveys. What if we could provide a seamless solution using the best of breed technologies? Is this acceptable?

3. Reference Purpose, Page 4, Paragraph 1. Topic Vendor Hosted Solution: Is Longwood University open to AWS, Azure, etc. for the hosted solution? Would you be interested in having this application in the cloud? Are you looking for this to be a VPC solution or Public?

**RESPONSE:** The University is willing to entertain requests for use of AWS, Azure, etc. and public cloud services. Final decisions will be based on security standards.

4. Reference Section V, Page 12, RFP Response: Is Pricing Considered Proprietary or should it be included with the Technical Response?

**RESPONSE:** Pricing should be included as a separate section in accordance with RFP sections V.B.5 (page 15) and XII (page 37).

Office of the Director of Material Management,  
Central Stores, and Property Control



5. Reference Section VII, Page 15, Contract Administration: Is the University looking for a Fixed Price Bid or an Open Time and Materials Bid or a blend of both?

**RESPONSE:** The referenced section refers to the relationship between the vendor and Longwood – a contract administrator will be assigned and will be the main point of contact for the vendor. This solicitation is not an Invitation for Bids, rather a Request for Proposals, thus a “bid” is not what we are requesting, rather the vendors best proposal of a product that will meet our needs.

6. Reference Section IV, Page 4, Statement of Needs: How many total users and how many concurrent users will hit this system?

**RESPONSE:** Just with the assessment and accreditation management component, there would be over 200 faculty/staff/administration users with different levels of utilization; i.e., read-only, report-writers. With inclusion of the eportfolio, students from freshmen to senior levels could be using, so around 5,000 student users.

7. General Question: When would you be making a final decision on the vendor of choice?

**RESPONSE:** The University’s plan is to have the vendor selected in 2016 by March/April, administration training in May/June with several academic program pilots and faculty training rollout beginning in August; starting with academics due to next accreditation report requirements and gradually adding nonacademic.

8. General Question: Will a link to the recording of the WebEx be made available?

**RESPONSE:** It appears the recording of the WebEx session was compromised when it was necessary to restart it, so a link to the recording is not available.

All other general terms, conditions, and specifications shall remain the same.

**Note:** A signed acknowledgment of this addendum must be submitted with your proposal. Signature on this addendum does not substitute for your signature on the original proposal document. The original proposal document must be signed.

Very truly yours,



Cathryn B. Mobley, CPA, CUPO, VCCO, VCO  
Director of Financial Operations & Material Management

Tk20

Name of Firm



**Bhupi Bhasin**  
resident, Tk20

Signature/Title

01-05-16

Date



# **Campustools Hardware Requirements**



**Your complete assessment  
and reporting solution**

## Table of Content

<b>CAMPUSTOOLS HARDWARE REQUIREMENTS.....</b>	<b>3</b>
INTRODUCTION .....	3
RECOMMENDED HARDWARE CONFIGURATION .....	3
<i>2 Tier Deployment.....</i>	<i>3</i>
<i>N-tier Architecture .....</i>	<i>5</i>
<i>Tiered Deployment.....</i>	<i>6</i>
HARDWARE MATRIX .....	8
TRAINING SERVER .....	8
SERVER SPECIFICATIONS .....	9
<i>Recommended Server Specifications - Web tier Server .....</i>	<i>9</i>
<i>Recommended Server Specifications - Middle tier server.....</i>	<i>10</i>
<i>Recommended Server Specifications - Database server .....</i>	<i>11</i>
<i>Recommended Server Specifications - Training Server .....</i>	<i>12</i>

# Campustools Hardware Requirements

## ***Introduction***

The Tk20 Campustools system uses a n-tier, Java 2 Enterprise Edition architecture, built using proven, open-source operating system and software components.

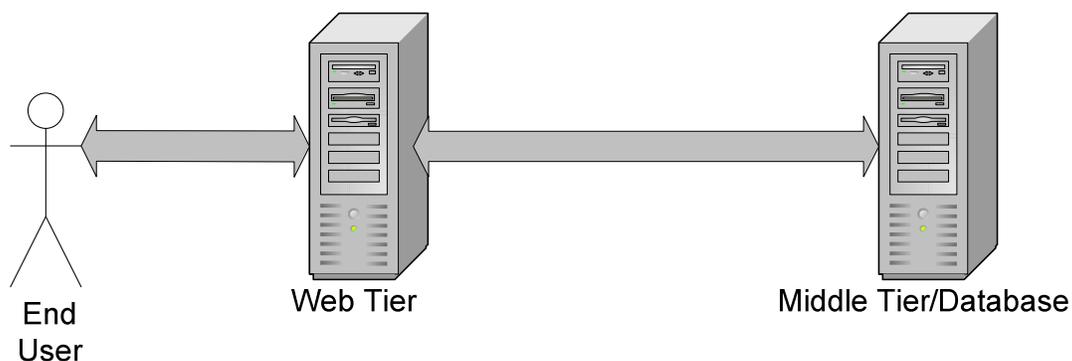
It is written in Java, and comprises of three tiers, a web tier, a middle tier, and a database tier. All tiers function independently, and have their own interfaces for communication. They can be physically located in the same server, or have multiple servers allocated to each one, depending upon load and configuration.

## ***Recommended Hardware Configuration***

### **2 Tier Deployment**

Tk20 Campustools system can be deployed using a single server or have multiple servers allocated to different tiers of the application depending on the load and configuration. Campustools uses several software components, mainly Apache/Tomcat on the web tier as http server and Servlets container, JBoss as application server and PostgreSQL as a database. Although all three tiers can be installed in one server for smaller loads, our recommended hardware configuration is to have 2 separate machines with one machine hosting the web tier and the other machine hosting the middle tier and the database.

The recommended 2-tier deployment topology is depicted in the diagram below



The factors for considering two separate physical servers include performance, vertical scalability, security and redundancy. Separating the more resource intensive presentation layer from the business and the database layer gives us dedicated resources to the application components in these layers. The web tier server is configured to work independently on I/O intensive tasks like managing user files uploaded using our system, caching for better speeds, session management and features that are found in

authentication-based web systems. See the hardware matrix section for scalability of the system based on the load. The components involved on a presentation layer are more prone to regular software component upgrades, so separating the physical server will help maintaining it easily without affecting the business and the database layer. The second physical machine is used to host the application server and the database server. Since our machines are identical in this set up, it also serves as redundant hardware for failover.

Additionally, in a multi-tier architecture, access to each tier is restricted to the tier above it, effectively securing the tiers behind the firewall. For example, while clients (users accessing the system through a web) access the web server, they neither have access to the middle tier/database servers nor are they aware of their existence.

## **N-tier Architecture**

Many elements need to be considered when deciding on the architecture of the application, such as performance, scalability and future development issues. N-Tier architecture refers to the architecture of an application that has at least 3 "logical" layers - or parts -- that are separate. Each layer interacts with only the layer directly below, and has specific function that it is responsible for.

Because each layer can be located on physically different servers hence they scale out and handle more server load. Also, what each layer does internally is completely hidden to other layers and this makes it possible to change or update one layer without recompiling or modifying other layers.

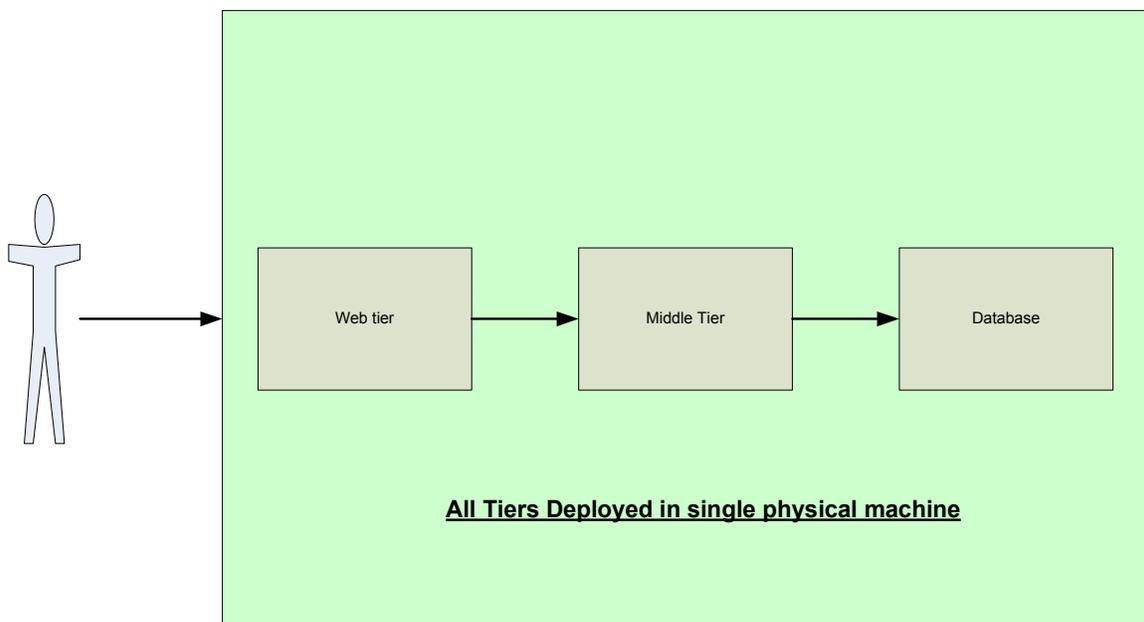
This is a very powerful feature of n-Tier architecture, as additional features or change to a layer can be done without redeploying the whole application.

An n-Tier application usually has three tiers, and they are called the presentation tier, the business tier and the data tier. Presentation Layer is the layer responsible for displaying user interface and "driving" that interface using business tier classes and objects. Business Tier is the layer responsible for accessing the data tier to retrieve, modify and delete data to and from the data tier and send the results to the presentation tier. Data tier is the database or the source of the data itself.

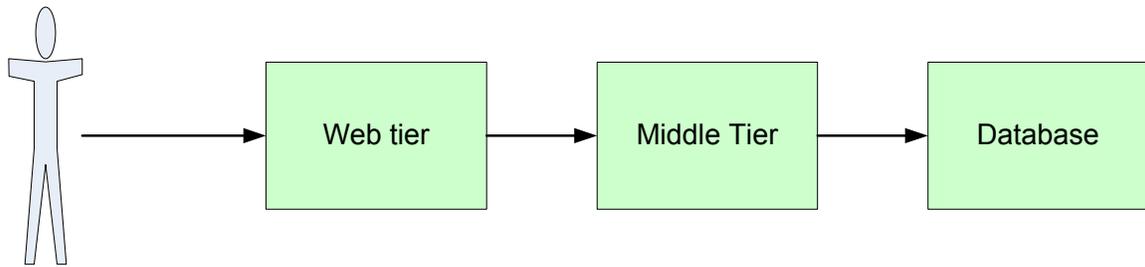
## Tiered Deployment

Depending upon the total number of concurrent users using the system and the intended functional use of the system, the deployment topology can be changed such that the middle and database tiers are deployed on separate machines resulting in the 3-tier deployment topology. For smaller loads, all the tiers can be installed in one physical servers resulting in single tier topology

### Deployment for smaller loads: Single tier deployment



**Deployment for larger loads: 3 tier deployment**



**Each tier deployed in a separate machine**

## ***Hardware Matrix***

Based on our experience working with more than 100 institutions of different sizes and the functionality provided by Tk20 software following is our recommended hardware requirement matrix.

Total Number of Users	Recommended Number of Servers
Less than 500	1 (1-tier deployment)
500-3000	2 (2-tier deployment)
3000-7000	3 (3 tier deployment)
7000-20000	4 (3 tier deployment with file server)

## ***Training Server***

Tk20 is a comprehensive system that includes involvement from multiple groups of users including administrators, faculty, students, and additional assessors outside the institution. Training is a vital piece of the adoption and it is our recommendation that a separate server be purchased that is dedicated to this purpose. The training server will allow administrators of the system to conduct trainings as needed with the individual groups on and off campus without impact on your production server or data reports. In addition to training, this will allow administrators of the system to test functionality, view the system from other user's perspectives, and trouble shoot questions that may arise.

## Server Specifications

### Recommended Server Specifications - Web tier Server

<b>PowerEdge R410:</b>	PowerEdge R410 Chassis w/ up to 4 Hot-Plug Hard Drives, LCD diagnostics
<b>Processor:</b>	Intel® Xeon® E5503, 2.0Ghz, 4M Cache, 800MHz Max Mem
<b>Additional Processor:</b>	Intel® Xeon® E5503, 2.0Ghz, 4M Cache, 800MHz Max Mem
<b>Memory:</b>	8GB Memory (4x2GB), 1333MHz, Single Ranked UDIMMs for 2 Processors
<b>Hard Drive Configuration</b>	RAID 1 for PERC/SAS 6ir, PERC H200/H700 Controllers
<b>Hard Drives</b>	Qty: 2, 146GB 15K RPM Serial-Attach SCSI 3Gbps 3.5in Hotplug Hard Drive
<b>Rails:</b>	Sliding Ready Rails without Cable Management Arm
<b>Operating System:</b>	No Operating System
<b>Power Supply:</b>	Power Supply, Redundant, 500W (330-4141)
<b>Primary Controller</b>	SAS 6/iR SAS internal RAID adapter for Hot Plug Configuration, PCI-Express
<b>Internal Optical Drive</b>	No CD/DVD
<b>Bezel:</b>	No Bezel (313-7839)
<b>System Documentation</b>	Electronic System Doc, OpenManage DVD Kit with Dell Management Console
<b>Power Supply</b>	Power Supply, Redundant, 500W
<b>Power cords</b>	2x NEMA 5-15P to C13 Wall Plug, 125 Volt, 15 AMP, 10 Feet (3m), Power Cord
<b>Installation Services</b>	No Installation
<b>Hardware Support Services:</b>	3Yr Basic Hardware Warranty Repair: 5x10 HW-Only, 5x10 NBD Onsite

## Recommended Server Specifications - Middle tier server

<b>PowerEdge R410:</b>	PowerEdge R410 Chassis w/ up to 4 Hot-Plug Hard Drives, LCD diagnostics
<b>Processor:</b>	Intel® Xeon® E5503, 2.0Ghz, 4M Cache, 800MHz Max Mem
<b>Additional Processor:</b>	Intel® Xeon® E5503, 2.0Ghz, 4M Cache, 800MHz Max Mem
<b>Memory:</b>	8GB Memory (4x2GB), 1333MHz, Single Ranked UDIMMs for 2 Processors
<b>Hard Drive Configuration</b>	RAID 1 for PERC/SAS 6ir, PERC H200/H700 Controllers
<b>Hard Drives</b>	Qty: 2, 146GB 15K RPM Serial-Attach SCSI 3Gbps 3.5in Hotplug Hard Drive
<b>Rails:</b>	Sliding Ready Rails without Cable Management Arm
<b>Operating System:</b>	No Operating System
<b>Power Supply:</b>	Power Supply, Redundant, 500W (330-4141)
<b>Primary Controller</b>	SAS 6/iR SAS internal RAID adapter for Hot Plug Configuration, PCI-Express
<b>Internal Optical Drive</b>	No CD/DVD
<b>Bezel:</b>	No Bezel (313-7839)
<b>System Documentation</b>	Electronic System Doc, OpenManage DVD Kit with Dell Management Console
<b>Power Supply</b>	Power Supply, Redundant, 500W
<b>Power cords</b>	2x NEMA 5-15P to C13 Wall Plug, 125 Volt, 15 AMP, 10 Feet (3m), Power Cord
<b>Installation Services</b>	No Installation
<b>Hardware Support Services:</b>	3Yr Basic Hardware Warranty Repair: 5x10 HW-Only, 5x10 NBD Onsite

## Recommended Server Specifications - Database server

<b>PowerEdge R410:</b>	PowerEdge R410 Chassis w/ up to 4 Hot-Plug Hard Drives, LCD diagnostics
<b>Processor:</b>	Intel® Xeon® E5503, 2.0Ghz, 4M Cache, 800MHz Max Mem
<b>Additional Processor:</b>	Intel® Xeon® E5503, 2.0Ghz, 4M Cache, 800MHz Max Mem
<b>Memory:</b>	8GB Memory (4x2GB), 1333MHz, Single Ranked UDIMMs for 2 Processors
<b>Hard Drive Configuration</b>	RAID 1 for PERC/SAS 6ir, PERC H200/H700 Controllers
<b>Hard Drives</b>	Qty: 2, 146GB 15K RPM Serial-Attach SCSI 3Gbps 3.5in Hotplug Hard Drive
<b>Rails:</b>	Sliding Ready Rails without Cable Management Arm
<b>Operating System:</b>	No Operating System
<b>Power Supply:</b>	Power Supply, Redundant, 500W (330-4141)
<b>Primary Controller</b>	SAS 6/iR SAS internal RAID adapter for Hot Plug Configuration, PCI-Express
<b>Internal Optical Drive</b>	No CD/DVD
<b>Bezel:</b>	No Bezel (313-7839)
<b>System Documentation</b>	Electronic System Doc, OpenManage DVD Kit with Dell Management Console
<b>Power Supply</b>	Power Supply, Redundant, 500W
<b>Power cords</b>	2x NEMA 5-15P to C13 Wall Plug, 125 Volt, 15 AMP, 10 Feet (3m), Power Cord
<b>Installation Services</b>	No Installation
<b>Hardware Support Services:</b>	3Yr Basic Hardware Warranty Repair: 5x10 HW-Only, 5x10 NBD Onsite

## Recommended Server Specifications - Training Server

<b>PowerEdge R410:</b>	PowerEdge R410 Chassis w/ up to 4 Hot-Plug Hard Drives, LCD diagnostics
<b>Processor:</b>	Intel® Xeon® E5503, 2.0Ghz, 4M Cache, 800MHz Max Mem
<b>Additional Processor:</b>	Intel® Xeon® E5503, 2.0Ghz, 4M Cache, 800MHz Max Mem
<b>Memory:</b>	8GB Memory (4x2GB), 1333MHz, Single Ranked UDIMMs for 2 Processors
<b>Hard Drive Configuration</b>	RAID 1 for PERC/SAS 6ir, PERC H200/H700 Controllers
<b>Hard Drives</b>	Qty: 2, 146GB 15K RPM Serial-Attach SCSI 3Gbps 3.5in Hotplug Hard Drive
<b>Rails:</b>	Sliding Ready Rails without Cable Management Arm
<b>Operating System:</b>	No Operating System
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<b>Installation Services</b>	No Installation
<b>Hardware Support Services:</b>	3Yr Basic Hardware Warranty Repair: 5x10 HW-Only, 5x10 NBD Onsite



# **SINGLE SIGN-ON & AUTHENTICATION SERVICES**

Updated: 4/2/14

## Table of Contents

<b>Introduction</b>	<b>1</b>
<b>Architecture</b>	<b>2</b>
<b>Central Server Authentication</b>	<b>3</b>
<b>Active Directory/LDAP Authentication</b>	<b>4</b>
Project Plan	4
Authentication Process	5
Integration Requirements Checklist	7
<b>Single Sign-on</b>	<b>8</b>
<b>Integration with Shibboleth</b>	<b>9</b>
<b>Integration with CAS</b>	<b>10</b>
<b>Integration with Cosign</b>	<b>11</b>
<b>Token-Based Authentication</b>	<b>12</b>

## Technical Support and Product Information

[www.Tk20.com](http://www.Tk20.com)

### Tk20 Corporate Headquarters

10801 MoPac Expressway Suite 740

Austin, TX 78759

USA

Tel: 512-401-2000

*Tk20 Single Sign-on & Authentication Services*

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# Introduction

Most universities use Single Sign-On as a method of one-time access for users. These users authenticate once and then gain access to resources of multiple software systems.

Universities must also maintain a single source of authentication information for all users on campus. Multiple users validate this information against a common repository.

Tk20 software is designed to meet these needs.

The architecture is flexible for integration with external web portals. The software is designed to support authentication against different authentication sources. It can also be configured to authenticate various types of users against different authentication sources on a single deployment.

# Architecture

The Tk20 system uses an n-tier, Java 2 Enterprise Edition Architecture. It is built using a proven, open-source operating system and software components. It is written in Java, and comprised of three tiers: a web tier, middle tier, and database tier. Tiers function independently with their own interfaces for communication. They can be physically located in the same server, or have multiple servers allocated to each one (depending on the load and configuration).

One component deployed as part of the Tk20 installation in the application server (JBOSS) is the Pluggable Authentication Module (PAM). PAM is the heart and soul of this architecture.

Different types of users exist in the university environment, such as Student, Faculty, Cooperating teachers, Program coordinators, etc. In the Tk20 system, each user is assigned a role.

## **Possible campus situations:**

- Some or all users have campus accounts and are required to access campus services with a web portal.
- The campus maintains only one source of authentication information and all clients needing access must access the central repository.
- There is a set of users needing access to the Tk20 system, but their authentication information is not centrally managed by campus.

Tk20 software is designed to meet all of the above needs through configuration management.

In the Tk20 system, it is possible to specify the authentication source for each user type. For example, it is possible to direct students and faculty to an external LDAP (Lightweight Directory Access Protocol) server for authentication and direct cooperating teachers to a Tk20 local database for authentication. Depending on the configuration data, PAM initiates the implementation class and carries out remote authentication against any authentication source.

# Central Server Authentication

For universities maintaining a central repository of authentication information and needing clients to access the repository, Tk20 is designed to communicate with external authentication sources to look up the authentication information.

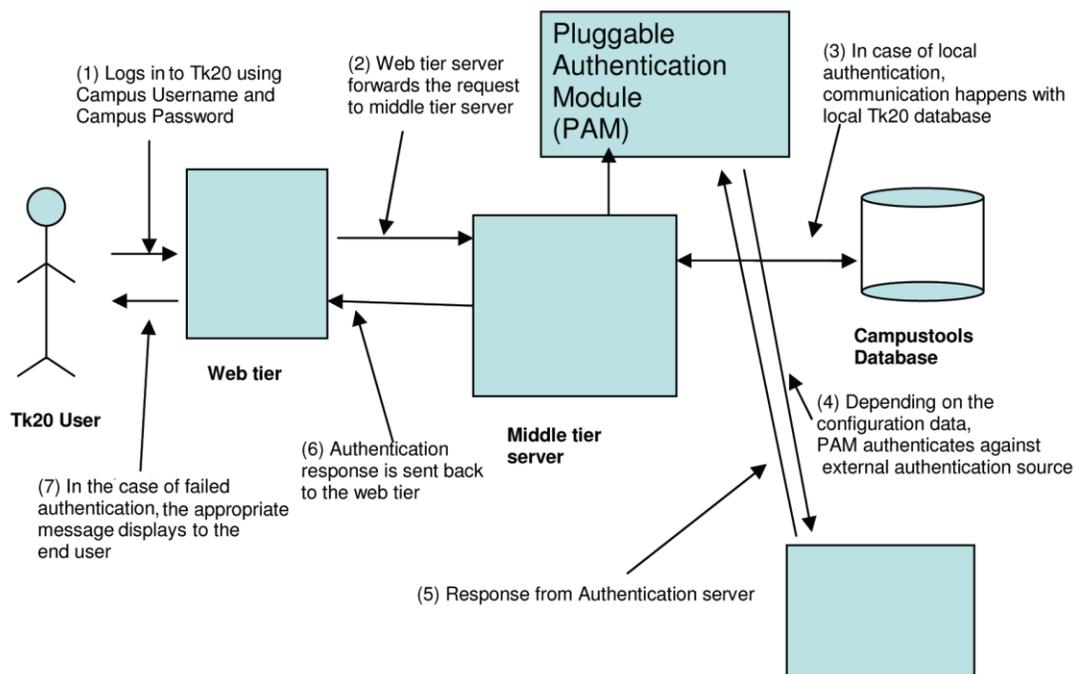
A few examples of external authentication sources that Tk20 software currently authenticates users against include:

- LDAP servers
- Active Directory
- Radius Server
- Central Authentication Services (CAS)
- Banner Authentication

The architecture is flexible to enhance this ability against any other authentication source. During remote authentication, all Tk20 users access the system with the Tk20 URL. Depending on the type of user trying to access the system and the configuration data, the PAM decides to which authentication source to connect, in order to authenticate the user.

In the case of a failed authentication, a message displays indicating a failed login. In the case of a successful authentication, the system runs the authorization checks on the user before granting access. This is depicted in the diagram below.

**Remote Authentication Architecture Diagram**



# Active Directory/LDAP Authentication

## Project plan

1. **Requirement gathering** – Projects begin with an initial meeting between Tk20 Engineering Services and university personnel to clearly communicate requirements and exchange any information necessary to begin the integration. To configure your system to connect and authenticate users against your Active Directory/LDAP server, Tk20 requires cooperation and information from the institution.

**Configuration for ports and firewall** – The test and production instances should be able to connect to the Active Directory/LDAP server for authentication.

*Note: If hosting the Tk20 server on campus, you may need to provide a temporary test server for integration configuration and testing. Once there is access to the test box, Tk20 installs, customizes and tests the Active Directory/LDAP authentication.*

*If Tk20 hosts your server, there is a dedicated test instance throughout the duration of the project. The external IP address of this instance is 208.123.86.162.*

*In both cases, the test instance should connect to your Active Directory/LDAP server through the firewall for authentication testing. Once testing is successful, Tk20 provides the IP address of the production box that originates the authentication requests.*

**Connection parameters** – The university must provide Tk20 with the connection parameters to the Active directory/LDAP server. The system initiates the connection request with these parameters. (Further details are mentioned in the *Integration Requirements Checklist* found on page 9.)

**Configuration parameters** – The university must provide Tk20 with the parameters to configure the search base and search filter. (Further details are mentioned in the “Integration Requirements checklist.”)

**Test account configuration** – The university must provide Tk20 with test account credentials for authentication testing throughout the duration of the project.

2. **Configuration** – Engineering Services configures the Tk20 system according to the configuration and connection parameters supplied by the university.
3. **Testing** – Tk20 will try to simulate the login process for different users in the system. Tk20 will create an account in the system with the same username as the test account on Active Directory and will follow the following test cases:

	Test Case	Success Criteria
1	User with inactive Tk20 account logs in with correct credentials.	Message displays: <i>This user account is inactive.</i>
2	User with unpaid Tk20 account logs in with correct credentials.	Message displays: <i>Your login was unsuccessful. Your student account has not been activated in the system.</i>
3	User with expired Tk20 account logs in with correct credentials.	Message displays: <i>This user account is inactive.</i>
4	User logs in with correct credentials but does not exist in Tk20 system.	Message displays: <i>Invalid username/ password.</i>
5	User logs in with incorrect username.	Message displays: <i>Invalid username/ password.</i>
6	User logs in with correct username; incorrect password.	Message displays: <i>Use remote password.</i>
7	User logs in with correct login credentials; has active/paid account.	Message displays: <i>Successful login.</i>
8	User with active/paid account logs into Tk20 and is authenticated against external authentication source.	Message displays: <i>Successful login.</i>
9	User with active/paid account logs in to Tk20 and is authenticated locally against the Tk20 database.	Message displays: <i>Successful login.</i>
10	User logs in to Tk20 and is authenticated for the first time.	User is presented with a password change screen.
11	Superadmin Login Test.	Message displays: <i>Successful login.</i>
12	Faculty log in via link in the notification email.	User is directed to the appropriate login page, based on their portal.

4. **Production rollout** – Usernames in Tk20 (coming through data extracts) need to match those in the Active Directory/LDAP server. Usually students and faculty are authenticated against the Active Directory/LDAP; the system can be expanded to allow additional users be authenticated against your Active Directory/LDAP. This is achieved by identifying the additional roles within Tk20 that need authentication against Active Directory/LDAP. Tk20 Engineering Services configures the system to authenticate these users against your Active Directory/LDAP server.

### Authentication Process

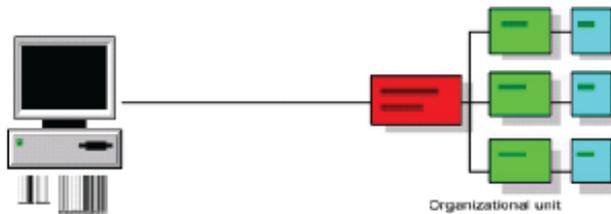
The built-in support for Active Directory/LDAP authentication process is explained below.

1. **Initial bind** –The Tk20 system tries connecting to the Active Directory/LDAP server using the connection parameters provided. If able to connect, it continues to Step 2 after the successful bind.

If the system is unable to connect to the Active Directory/LDAP server, or if the bind is unsuccessful, the authentication process is terminated and the user is unable to log in to the system.

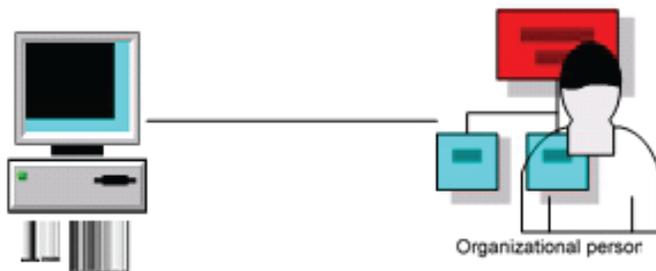


- 2. User search** – The system enters this stage only if the initial bind is successful. Here, the system searches for the user created in the Active Directory/LDAP server within the configured search base. If it finds the user, it proceeds to Step 3. If not, authentication fails and the user is unable to log in to the system.



- 3. Authentication bind** – The system reaches this stage only if the initial bind is successful and the system successfully finds the user in the Active Directory/LDAP server. Now the system tries authenticating the user with the entered username and password against the Active Directory/LDAP server.

If authentication fails, an appropriate message displays to the user. The user should contact the local Tk20 administration on campus for further assistance. If authentication is successful, the system forwards the request to the authorization module.



*Note: Tk20 software does not support failover authentication or multiple search bases. In the case of failed authentication, the campus help desk is your first point of contact.*

### Integration Requirements Checklist:

Please provide the following parameters for integration of Tk20 software against your Active Directory/LDAP server for user authentication.

1. **Active Directory/LDAP server.**
2. **Port of communication.** (If the communication must occur over ssl, please provide the certificate in der format, so that Tk20 can import it. If the cert is signed by multiple CAs, please provide the certs in the entire certificate chain.)
3. **Search/user base.**
4. **Bind account DN.** (Please provide full DN of account. For example, CN=Tk20 LDAP, CN=Users, DC=xxx, DC=xxx.)
5. **Bind account password.**
6. **User attribute for searching.** (Filter is created based on this attribute.)
7. **Attributes that may be requested to be returned after the initial bind.** (Tk20 uses these to get the DN for the user.)
4. **Test account username.**
5. **Test account password.**

# Single Sign-on

Single Sign-On provides users with access to multiple environments with a single, secure password. Most universities maintain their web portals; on-campus users would use single authentication information to log in. Once logged in, they can access various websites or services, such as Tk20.

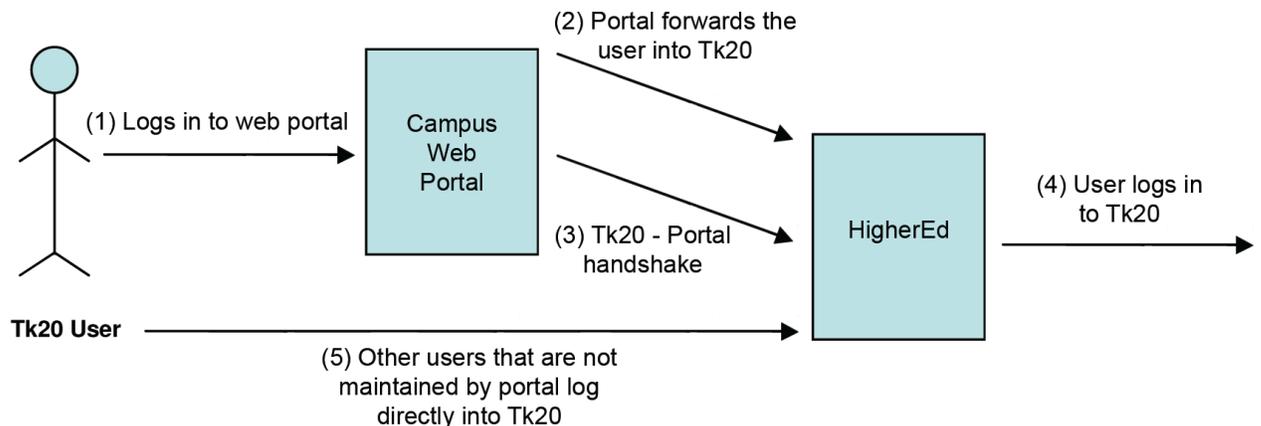
Typically, in this scenario, once the user is authenticated via the portal, a request forwards to Tk20. When the software receives the request, a secure handshake with the web portal ensures the request is legitimate.

After the request is validated, information pertaining to the user attempting access to Tk20 is exchanged. The software ensures that the user trying to access Tk20 is a valid Tk20 user.

After passing the checks, the user is immediately directed to the Tk20 account home page in the application. In this case, the user does not see the Tk20 login page because the authentication only happens once when the user logs in to the web portal on campus. Tk20 merely integrates with the web portal, ensures the proper authorization and allows the user into the Tk20 system.

The Tk20 system is designed to allow access to users who do not have access to the campus portal, but do need access to Tk20. In such cases, the authentication information of such users is maintained locally in the Tk20 database.

The sequence of events during this process is depicted below.



# Integrated with Shibboleth

Tk20 Engineering Services works with the university to integrate the software with the on-campus Shibboleth web Single Sign-On authentication framework. After the successful user authentication Idp needs to pass the username of the user to SP for authorization.

## Information the customer provides for integration:

- **Portal login URL** – If users need to be authenticated against the portal, they should log in through the Tk20 login page. The user is redirected to the portal login URL for authentication.
- **Logout URL** – This is the landing URL for users when they logout from Tk20.
- **Please note** – This is only applicable for users authenticated via Shibboleth. Users authenticated against the local Tk20 database are forwarded to a default Tk20 logout URL.
- **Users for Shibboleth authentication** – The university needs to identify the sets of users that are authenticated with Shibboleth (faculty, students, etc.). Engineering Services configures the system with those users marked for authentication with Shibboleth.
- **Idp Metadata** – The university must provide the metadata from Idp provider.
- **entityID** – The university must provide the entityID to be configured in SP shibboleth2.xml.
- **Username attribute** – Tk20 needs to know which attribute will have the username information to configure attribute-map.xml based on that information.

## Information that Tk20 Engineering Services provides:

- Tk20 provides the URL to acquire SP Metadata for both the production and test instance.

# Integrated with CAS

Tk20 Engineering Services works with the university to integrate the software with your on-campus Central Authentication Services (CAS) web Single Sign-On authentication framework.

The Tk20 integration against CAS is based on authenticating the users manually with CAS Java Objects. The servlet that CAS returns to (service URL processor servlet) expects to receive a ticket parameter. If this servlet is accessed by the user directly, the system redirects the user to the CAS login page. This servlet retrieves the username of the user attempting to access the resource via the service ticket validator.

## Information the customer provides for integration:

- **Portal login URL** – If users need to be authenticated against the portal, they should log in to Tk20 with the Tk20 login page. They will then be redirected to the portal log in URL for authentication.
- **Logout URL** – This is the landing URL for users when they logout from Tk20. Please note: This is only applicable for users authenticated via CAS. Users authenticated against the local Tk20 database are forwarded to the default Tk20 logout URL.
- **Users for CAS authentication** – The university needs to identify the sets of users that are authenticated with CAS (faculty, students, etc.). Engineering Services configures the system with those users marked for authentication with CAS.
- **CAS validator URL** – The university needs to provide the CAS validator URL to use when validating the tickets.

## Information that Tk20 Engineering Services provides:

- Tk20 provides the Service URL for both the testing and production instance.

# Integrated with Cosign

Tk20 Engineering Services works with the university to integrate the software with the on-campus Cosign web Single Sign-On authentication framework.

Tk20 implements the Cosign integration based on creating and configuring the Apache filter to access a protected resource. The AJP connector must be configured so the environment variables can pass from Apache to the servlet container (Tomcat). The processor servlet reads the username with the request variable.

## Information the customer provides for integration:

- **Portal login URL** – If users need to be authenticated against the portal, they should log in to Tk20 with the Tk20 login page. They will then be redirected to the portal log in URL for authentication.
- **Logout URL** – The landing URL for users when they logout from Tk20. Please note—this is only applicable for users authenticated via Cosign. Users authenticated against the local Tk20 database are forwarded to the default Tk20 logout URL.
- **Users for Cosign authentication** – The university needs to identify the sets of users that are authenticated with Cosign (faculty, students, etc.). Engineering Services configures the system with those users marked for authentication with Cosign.
- **Cosign host name** – The Cosign host name is used to authenticate users.

## Information that Tk20 Engineering Services provides:

- Tk20 provides a cosign service URL for both, testing and production instance.

# Token-Based Authentication

Tk20 Engineering Services works with the university to integrate the software with the on-campus portal using Token-Based authentication. The Single Sign-On framework provides a secured way for users to access the TK20 System.

## This authentication framework is based on the following tokens:

1. SHA1 hashed username
2. Timestamp

Tk20 would like your portal to post the SHA1 hashed username and current time in milliseconds (GMT format) to a Tk20 system URL that will be shared with you. Tk20 will then use the hashed username to determine the user trying to access TK20 system and the timestamp for validating the authenticity of the request and then forwards the request to authorization module.

## Information the customer provides for integration:

- **Portal login URL** – If users need to be authenticated against the portal, they should log in to Tk20 with the Tk20 login page. They will then be redirected to the portal log in URL for authentication.
- **Logout URL** – The landing URL for users when they logout from Tk20. Please note: This is applicable only for users authenticated via the Token-Based mechanism. Users authenticated against a local Tk20 database will be forwarded to a default Tk20 logout URL.
- **Hashed User Name** – HTTP POST of the SHA1 hashed username in the parameter 'username.'
- **Time Stamp** – HTTP POST the current timestamp in milliseconds from January 1, 1970 (GMT). This is considered the UNIX timestamp format. Paste the timestamp in the parameter 'currenttime.'

## Information that Tk20 Engineering Services provides:

Tk20 provides a protected resource URL for both the testing and production



**GUIDELINES FOR  
DATA IMPORT**

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*Guidelines for Data Import*

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## Table of Contents

<b>Introduction</b>	<b>4</b>
Mechanism for Import	4
Data Format for Import	4
Example of Format	4
General Guidelines for Extracts	5
Explanation of the Unique Identifier	5
<b>Report 1 – Student Data</b>	<b>7</b>
<b>Report 2 – Course Data</b>	<b>9</b>
<b>Report 3 – Faculty Data</b>	<b>11</b>
<b>Report 4 – Student Course Schedule</b>	<b>13</b>
<b>Report 5 – Faculty Course Schedule</b>	<b>14</b>
<b>Report 6 – Contact Information</b>	<b>15</b>
<b>Report 7 – Transcripts</b>	<b>16</b>
<b>Report 8 – Test Information</b>	<b>17</b>
<b>Files to be Updated After the Add-Drop Period</b>	<b>18</b>
<b>Frequency of Data Updates into Tk20</b>	<b>19</b>
<b>How to Deposit Data Files</b>	<b>20</b>
<b>Dataload Process</b>	<b>21</b>
Initial Data Analysis:	21
Subsequent Data Imports	21

# Introduction

Your institution has purchased the Tk20 system. Tk20 will allow your institution to collect data on student and institutional performance. In order for the system to function properly, you will provide data from your student information system during each semester. The frequency for which data is provided will be determined by your institution. This document explains exactly what data the Tk20 system will need from the student information system.

## ***Data from the Student Information System (SIS)***

### **Mechanism for Import**

Tk20 will provide a utility to import the data.

### **Data Format for Import**

The first line on each file will define the attribute corresponding to each column. Each attribute will be delimited by the pipe (|) character. All attributes, regardless of whether or not data is present, will have the pipe character to delineate the attribute.\*

### **Example of Format**

In each data file, the first line defines the column heading and all subsequent lines contain the data.

```
FirstName | MiddleName | LastName | PID | Title | Gender | Ethnicity  
Tewanna | L | Clemons | 253799499 | Ms. | F | African American  
Camille | L | Wooten | 252799598 | Ms. | F | Caucasian  
Marcie | | Collins | 998775882 | Ms. | F | Asian Grace
```

\*Note: In the last record in the example above, note that the pipe demarking the middle name field still exists, even though the middle name for that record is not provided.

## General Guidelines for Extracts

- An asterisk (\*) next to an item in a list indicates required data. Certain functions in Tk20 cannot operate without the required data.
- For each report, we have tried to identify the most common attributes your institution might want to track in Tk20. Other than the required attributes identified by an asterisk, all other attributes are optional. The more attributes you provide in the extracts, the better your reporting capabilities will be.
- The titles of the column headings can be anything you need. For example, you can call the 'First Name' attribute 'First' or 'Firstname' or 'First Name,' etc. There are no requirements for capitalization or formatting on the column headings.
- You may include additional attributes in your extracts if your institution wishes to store and track that information in Tk20. Additional attributes may reside in the same report as long as there is a column heading for the attribute and the data in each row satisfies formatting requirements.
- If any of the data contains codes, the code descriptions may be provided separately. For example, if test codes are provided for test scores, a separate file may be provided that indicates what each test code stands for. Alternatively, an additional column in the test score report can be provided that lists the description for each code.
- Under each data category for which we need a file, we have included the desired file name and an example. Naming the files correctly will make it easier for us to process the data immediately. In general, name the file using the word provided, followed by an underscore, followed by the date in yyymmdd format.
- The date for the filename is the date the file is uploaded onto the server.
- For example: Transcripts\_20031125.CSV
- Extract files can have any extension or no extension as long as the data is in the pipe delimited format.

## Explanation of the Unique Identifier

The "unique identifier" is an element that can uniquely identify a record within a set of records. The unique identifier is key to Tk20's ability to accurately import data and ensures that each record in a file is unique. It is also imperative that the same unique identifier is used for the record each time the file is provided for dataload. The same form of unique identifier must be used for referencing the record.

For example, if each student record is identified by a Campus ID in the student file, the student schedule file, listing all courses for which the student has registered, should also uniquely identify each student by the Campus ID only.

When the Tk20 dataload utility loads the file, it processes the file line-by-line. During the process, it searches for the unique identifier in the system. If it finds a record with that unique ID, it updates the remaining attribute information for that record. If it does not find a record with that unique ID, it creates a new record with that ID and imports all the other attributes provided in the file.

**Example:**

FirstName | MiddleName | LastName | PID | Title | Gender | Ethnicity  
Tewanna | L | Clemons | 253799499 | Ms. | F | African American  
Camille | L | Wooten | 252799598 | Ms. | F | Caucasian  
Marcie | | Collins | 998775882 | Ms. | F | Asian Grace

For example, when the data is loaded from the example file above, the dataload utility will check to see if a record with ID 253799499 exists in the system. If it finds that record, it updates other attributes for that record. If it does not find one, it creates a new record with ID 253799499 and imports all other attributes.

# Report 1 – Student Data

Provided below are data fields that you may include in the student file. You are able to include additional data fields, if you require specific student data for reporting purposes.

*Example File Name: Student\_20140105*

1. First Name\*
2. Middle Name
3. Last Name\*
4. Username\* (*Required only if your Tk20 system is integrated with Single Sign On or Active Directory Authentication for student authentication. In that case, this username needs to match the Single Sign On username.*)
5. Student Identification Number\* (Unique Identifier)
6. Email\*
7. Term Name\*
8. Term Code\*
9. Date of Birth
10. Major Code<sup>1</sup>
11. Major Name<sup>1</sup>
12. Program Code<sup>1</sup>
13. Program Name<sup>1</sup>
14. Minor
15. GPA
16. Classification
17. Year
18. Race
19. Ethnicity
20. Gender
21. Religious Affiliation
22. Phone Number
23. Attending Status
24. Advisor First Name<sup>2</sup>
25. Advisor Last Name<sup>2</sup>
26. Advisor PID<sup>2</sup>
27. Matriculation
28. Primary Language

**Example:**

First Name | Middle Name | Last Name | Student ID | TermCode | TermName | PGRM Code  
| PGRM Name

Tewanna | L | Clemons | 253799499 | 201410 | Spring 2014 | ECED| Early Childhood

Camille | L | Wooten | 252799598 | 201410 | Spring 2014| ELED| Elementary Ed

Marcie | H | Collins | 998775882 | 201410 | Spring 2014| GERMFLD| K-12 German Ed

Grace | B | Wooten | 249883726 | 201410 | Spring 2014| ELED| Early Childhood Ed

<sup>1</sup>Tk20 can accommodate single or multiple program and major associations. If multiple programs and majors exist for one student, please create a new column for each applicable program/major code and name (i.e., Program Code 1 | Program Name 1 | Program Code 2 | Program Name 2, etc.).

<sup>2</sup>All fields must be provided for successful import.

# Report 2 – Course Data

Please provide the following information for every course.

*File Name: Course\_201410105*

1. SectionID\* (Unique Identifier)<sup>1</sup>
2. Section Title\*
3. Course Number\*
4. Course Subject
5. Section Number\*
6. Credit Hours
7. Term Code\*
8. Term Name\*
9. Term Start Date\*<sup>2</sup>
10. Term End Date\*<sup>2</sup>
11. Meeting Days
12. Course Section Begin Date
13. Course Section End Date
14. Campus
15. Organization(s)

**Example:**

SectionID | Course Number | Term code | Term name | Term Start | Term End | Section Title | Section Number | Credit Hours | Meeting Days | Campus

11321201410 | ARCH3131 | 201410 | Spring 2014 | 01/15/2014 | 05/23/2014 | World Archeology | 01 | 3.0 | TRS | MAIN

11322201410 | ARCH3133 | 201410 | Spring 2014 | 01/15/2014 | 05/23/2014 | Cultural Anthropology | 01 | 3.0 | MWF | MAIN

<sup>1</sup>If your sectionIDs repeat in subsequent terms, please append the term code to sectionID to make the sectionIDs unique as shown in the example. If your sectionIDs repeat in subsequent terms and you decide to leave the sectionIDs as they are (without the concatenation of term code) in this extract, you will need to include the term code information in reports 4 and 5.

<sup>2</sup>Each term may only have one start date and one end date in Tk20. If you have multiple start and end dates for one term name, please include the earliest start date and latest end date.

<sup>3</sup>Tk20 can accommodate single or multiple organization associations. If multiple organization associations exist, please create a new column for each organization (i.e., Organization 1 | Organization 2 | Organization 3, etc.).

# Report 3 – Faculty Data

Please provide the following information for all faculty members.

*File Name: Faculty\_20140105*

1. Faculty Identification Number\* (Unique Identifier)
2. First Name\*
3. Middle Name
4. Last Name\*
5. Username\* (*Required only if your Tk20 system is integrated with Single Sign On or Active Directory Authentication for faculty authentication. In that case, this username needs to match the Single Sign On username.*)
6. Email Address\*
7. Term Code\*
8. Term Name\*
9. Gender
10. Ethnicity
11. Title
12. Classification
13. Date Tenure Attained
14. Rank<sup>1</sup>
15. Date Rank Attained<sup>1</sup>
16. Hire Date
17. Organizations<sup>2</sup>

## **Example:**

First Name | Middle Name | Last Name | ID Number | Gender | Ethnicity | Term Code | Term Name

Catherine | Cummings | Woody | 010320447 | F | White (Non-Hispanic Origin) | 201410 | Spring 2014

Marjorie | Pitman | Briggs | 109407848 | F | White (Non-Hispanic Origin) | 201410 | Spring 2014

Catherine | Jones | James | 229883792 | F | White (Non-Hispanic Origin) | 201410 | Spring 2014

Kim | Pitman | Thomas | 668557362 | F | White (Non-Hispanic Origin) | 201410 | Spring 2014

<sup>1</sup>Rank and date rank attained must be provided together for successful import.

<sup>2</sup>Tk20 can accommodate single or multiple organization associations. If multiple organization associations exist, please create a new column for each organization (i.e., Organization 1 | Organization 2 | Organization 3, etc.).

---

# Report 4 – Student Course Schedule

This file will contain the course schedule for the entire student population. For each student identified in the course schedule, the SectionID will identify the courses in which the student is registered. For a student registered for 6 courses, the student's ID number will be repeated 6 times in this file.

*File Name: StudentSchedule\_20140105*

1. Student Identification Number\*
2. SectionID\*
3. Activity Type\*<sup>1</sup>

**Example:**

Student ID Number | SectionID | Activity Type

253799499 | 11321201410 | A  
253799499 | 11322201410 | A  
253799499 | 11327201410 | D  
249883726 | 45344201410 | A  
249883726 | 33441201410 | A

<sup>1</sup> An additional column can be added that indicates whether the record is for course addition or for course drop.

---

# Report 5 – Faculty Course Schedule

This file will contain the teaching schedule for all faculty members. For each faculty member identified, the SectionID will identify the section that the faculty member is teaching. For a faculty member teaching 6 courses, the faculty ID number will be repeated 6 times in this file.

*File Name: FacultySchedule\_20140105*

1. Faculty Identification Number\*
2. SectionID\*
3. Activity Type\*

**Example:**

Faculty ID Number | SectionID | Activity Type

010320447 | 11321201410 | A  
109407848 | 11322201410 | A  
109407848 | 45344201410 | D  
668557362 | 33441201410 | A

<sup>1</sup> An additional column can be added that indicates whether the record is for course addition or for course drop.

# Report 6 – Contact Information

Please provide the following contact information for each student and faculty member. The ID number should be used to associate the contact information to each person. For persons that have more than one set of contact information, the file should contain multiple entries.

*File Name: Contact\_20140105*

1. Identification Number\*
2. Address Line 1\*
3. Address Line 2
4. City\*
5. State\*
6. Zip Code\*<sup>1</sup>
7. Address Type\*<sup>2</sup>
8. Telephone Number

## Example:

ID Number | Address Line 1 | Address 2 | City | State | Zip code | Address Type | Area Code  
| Telephone

252632222 | 173 Brinson Street | | Rocky Ford | GA | 30455 | HOME | 912 | 8634237  
992840293 | 873 Dalton Street | | Rocky Ford | GA | 30455 | HOME | 912 | 8634237  
125792222 | 218 North 12th Avenue | | Rocky Ford | GA | 30455 | HOME | 912 | 8634237  
783632222 | PO BOX 23 | | Rocky Ford | GA | 30455 | PO | 912 | 8636003

<sup>1</sup>Alphanumeric zip codes are accepted for international addresses.

<sup>2</sup>Address type refers to the location related to the provided address (e.g., Home, Work, Permanent, University, Temporary, etc.).

# Report 7 – Transcripts

Please provide transcripts with the following information for each student. Align each transcript with the corresponding student ID number. You will only need to provide transcripts for the most recent two terms.

*File Name: Transcripts\_20140105*

1. Student Identification Number\*
2. Section Name
3. Course Number\*
4. Term Name\*
5. Grade\*
6. GPA
7. Credits
8. Section
9. Institution

**Example:**

Student ID Number | Course Name | Term code| Term name | Course Number | Section |  
Credit Hours | Grade | Institution

252632222 | World History | 201340 | Fall 2013 | HIS305 | 01 | 3.0 | B | Tk20 University  
765987367 | American Literature since 1940 | 201340 | Fall 2013 | ENGL315 | 02 | 3.0 | B  
345974567 | Introduction to Philosophy | 201340 | Fall 2013 | PHL301 | 01 | 3.0 | A  
397764502 | College Algebra | 201340 | Fall 2013 | MATH305 | 03 | 3.0 | A

# Report 8 – Test Information

Please provide the following test information for each student. If a student has multiple test scores, you will need to repeat the student ID number for each test score. Tk20 will also accept files directly from ETS in flat format (.txt).

*File Name: Test\_20140105*

1. Student Identification Number\*
2. Test Date\*<sup>1</sup> – Please indicate the date taken for all tests. This will help us display a test history (yyyymmdd format).
3. Test Name\*
4. Test Code\*
5. Test Score\*

**Example:**

Student ID Number | Test Code | Test Name | Test Score | Test Date

252632222 | SAT1 | SAT | 1780 | 20121120

252632222 | 0571 | Praxis I | 182 | 20140304

<sup>1</sup> Please indicate the date taken for each test to record a test history when the same test was taken multiple times.

# Files to be Updated After the Add-Drop Period

After the final date of the add-drop period has passed, you will need to send Tk20 updated versions of the following files in case any of the data has changed since the initial dataload for that term.

1. Report 1 – Student Data
2. Report 2 – Course Data
3. Report 3 – Faculty Data
4. Report 4 – Student Schedules
5. Report 5 – Faculty Schedules

The first three files can be provided in their entirety. For Report 4 and Report 5, we will need only the changes since these files were previously provided for that term.

# Frequency of Data Updates into Tk20

Based on our experience working with several institutions of varying sizes, we typically load the data 3 times a semester.

1. In the beginning of the semester
2. After the Add/Drop period
3. At the end of the semester

If it is necessary to refresh the data in your Tk20 system more frequently, Tk20 will be able to work with you to load those reports. In the event that you do send data more frequently, we request that you send us only the changes (deltas) from the previous files for all the reports.

Tk20 experiences a high volume of dataload requests during the aforementioned times. Your Product Consultant will guide you on best practices for data import and will also provide specific details regarding import time depending upon institutional needs and the amount of data included in each set of extracts.

# How to Deposit Data Files

There are two options for how you make data extracts available to Tk20 so that we can import this data.

## Option 1 – Manual Upload

In this option, you will need to access Tk20 and upload the files in the Document Room to make them available for Tk20 to import into the database. The steps are given below

1. Log in to Tk20 using your username & password. The URL, username, and password will be provided to you by your Tk20 Product Consultant.
2. Click on the Document Room Tab.
3. Click on Configuration Documents in the side menu. Your Product Consultant will work with you to develop the best organizational system. In general, it is recommended to create separate folders for each set of extracts or to create folders by term.
4. Click the green plus sign to the right of the desired folder to upload a file.
5. Choose “Computer File” from the dropdown menu.
6. Browse for the file and give it a title.
7. Click Upload.
8. Repeat for additional files.

## Option 2 – Upload to Secure FTP server

In this option, Tk20 will work with you to create an account so that you can deposit your files on a secure FTP server hosted at Tk20’s Data Center. If you decide to use this option, a service representative will work with you to obtain your connection information and provide you with an account.

**Note:** If you host the server on your campus, you can deposit the files directly on the application server under /home/tk20/dataloads/<date> directory. If the server resides on your campus, we do not recommend that you send the files over the network to Tk20’s SFTP server. If your deployment topology contains more than 1 server, please deposit the files on the front end server.

# Dataload Process

## Initial Data Analysis:

Once you make the initial set of SIS extracts available to us, Tk20's Services Team will analyze all the extracts to ensure that they conform to the above guidelines, required fields are provided, and necessary translation tables are provided. We will also identify any additional fields provided by you and determine where to store these fields in Tk20. During this process, Tk20's Services Team may request follow-up meetings with you as needed until all the data or format related issues are resolved.

Tk20's Services Team will then create the necessary configuration/scripting to import the data from these extracts into the Tk20 system's database. During this process, extensive validation and testing takes place to ensure that all data elements are loaded and displayed correctly in the application.

## Subsequent Data Imports

We assume that the format specifications of any of these extracts will not change over time. In the event that you need to add or remove fields from these extracts in subsequent data import requests, we request that you let us know at least three weeks in advance so that we modify the scripts accordingly. Our internal processes for testing and validation are also applied to subsequent data imports to ensure that the quality of this service is maintained.