Tech IV Plan: copy from Confluence site, which was taken offline 10/30/2015

THE CCC SYSTEM ONLINE TECH IV PLAN

This is a wiki space designed to allow the broader CCC community to provide input, suggested changes, and comments to the Tech I Technology Plan.

This online, collaborative document marks a continuing shift in the way we have been approaching the creation and maintenance of this technology strategy plan. Tech I, the first iteration, was published only in paper format. Later versions, Tech II and Tech III, were published in both paper and electronic format to provide for broader and more cost effective distribution. This version will shift us from simply publishing an updated document once each

year, to a plan which can be updated and adjusted continually, and which also can provide a framework for broader community discussions about our System investments in Technology.

For this version, we have decided to change not only the way the document is distributed, but also the way in which it is ultimately developed, crafted, and maintained. To that end, we are shifting to a Wiki format, in the hope that we can attract a community of interested individuals who can not only help expand and comment on the various sections, but who can also add in information about similar or related projects that may be going on at their local campuses. The idea is to involve a much broader community in the creation and editing of this document, and to make this much more of a "living" plan that reflects current thinking and ideas from our community college faculty, staff, and administrators.

Background
This document is a synthesis of the discussions held during the TTAC Technology Planning retreat on April 29-30, 2010. The information integrates notes recorded at the retreat with the results of sub-group and full group discussions. The document is not intended to provide a detailed description of all conversation but focuses on the highlights and decisions made by the group. The remainder of this document is organized according to the topics of outlined below.

1. Attendees
2. Context for the Retreat
3. Update on 2009-2010 Projects
4. Overview of SOA (Service Oriented Architecture)
5. Discussion of Opportunities and Threats
6. Digital Textbook Pilot
7. Summary of Discussion on Potential Modules for the SOA (by Service Area)
8. Approach to Tech IV (Document, Vision and Timeline)
9. Critical Success Factors in Developing Tech IV
10. Meeting Assessment
11. Next Steps and Close

Context and History

Tech I was the first published Technology Plan. It was followed by Tech II, which focused on Total Cost of Ownership Model. Tech III aligned with the newly-developed CCC System Strategic Plan, which started in 2005 and expires in 2010. This plan, Tech IV, will focus on transition during recession.

Our overall strategy will be to develop and deploy a shared and common Service-Oriented Architecture (SOA). The SOA will help us to leverage our investment in earlier projects and our intent is that TTAC, in a governance role, will help to prioritize what future services should be added to the SOA portfolio.

Environmental Scan and Resources

We used a number of inputs in our Environmental Scan this year, including the latest Gartner "Hype Cycle" report for Higher Education Technology and the 2010 Horizon Report on Emerging Technologies in Education. Here are links to both of these documents:

[2010 NMC Horizon Report](#)
2009 Gartner Hype Cycle for Higher Education
[2010 Horizon Report for K-12](#)
[2010 Executive Summary for the National Education Technology Plan](#)
[2010 National Education Technology Plan](#)
[2010 Educause ECAR Study of Undergraduate Students and IT - Roadmap](#)
[2010 Educause ECAR Study of Undergraduate Students and IT - Full Study](#)

Opportunities and Threats

Pressures for change present both opportunities and challenges. There is always some internal resistance to change. However, in a budget crisis, technology can provide opportunities for changes that can not only significantly reduce costs, but can also provide opportunities to become more efficient through sharing standardized and centralized "common" services. As a result, constituencies may willing to consider options that they might not embrace. For example, librarians are now looking at common database subscriptions and faculty are considering using unified assessments. These changes can provide not only great opportunities for cost savings, but can also help deliver more efficient and effective services. For example, while consolidation of library databases will likely lower our overall costs in this area by at least 50%, but also provide better access to more materials for that lower cost for more students at that lower cost.

The budget crisis is a common overriding challenge that all of our colleges face. We want to help community colleges accommodate increased student enrollment demand and provide access to courses and programs despite lower funding levels and over-subscribed courses.

There is intense pressure to *reform* coming from the federal and the state level. There is a strong desire for improved student success and many ideas about what needs to improve.

There are also pressures related to **accountability**: How should we measure successes in reform? How do we demonstrate that what we do is effective in improving student learning outcomes? What are the outcomes of investments in new technology?

There are questions that arise from the **competitive educational landscape** (e.g., for-profit educational institutions) regarding student perceptions of value. Students are asking, "What am I getting for my money?" Students now have access to a wide range of free or low cost courses, and community colleges must be prepared to respond to competition and demonstrate the value to the student (ROI) of their tuition and effort. Additionally, personal learning is now taking place 24x7 and traditional academic learning has not fully responded to this demand.

The pressure to respond to increased competition and changes in the learning landscape **can** result in beneficial changes. Faculty can take advantage of technology to use their expertise in new ways; staff can focus more easily on higher-value work; and students can better juggle competing demands from family and work while still moving forward to achieve educational goals. We can develop **user-centric technology** as opposed to continuing to deliver knowledge oriented around a single printed textbook. We can teach our students to fish for knowledge instead of just consuming from one source, and we can help them become active and not just passive stewards of their own education.

High-performing organizations routinely use **data-driven decision-making**. This approach brings up a whole series of issues with regard to centralized storage of, security for, and retrieval of data.

Colleges provide **documentation of learning**. Businesses are now hiring based upon demonstrated knowledge and competencies, not simply on certificates or degrees. The world wants people who can think, create, communicate, collaborate and work effectively in teams. We also have a pressing need in education in general to graduate more students in science, technology, engineering, and math (STEM) in addition to more vocational graduates who can fill emerging needs in "green", allied health, and more technical vocational fields.

Faculty will need to learn new skills to fully leverage new technology, as well as taking responsibility for learning new skills and adapting and changing to meet the needs of the new generation of Millennial students. Can we define what academic freedom means in the context of adopting and extending and helping students master new technologies within an educational context?

The legislature supports the use of technology, as do voters. The current Chancellor has been successful in helping move legislation forward through the legislative process and that can be a hugely beneficial opportunity window for the community college System as a whole.

TTIP Projects Update (2009-2010)

TTIP funding was cut by 35% this year, from $26,197,000 to $15,290,000. Part of the decrease was offset with one-time ARRA funds of $1,595,811. We have made a strong effort, working with CENIC, the California Public Utilities Commission, and the California Teleconnect Fund to reduce internet costs for all colleges in the system and also worked diligently to continue to seek out technology-related grants. We are currently implementing a variety of project-related strategies for dealing with the long-term, lower technology funding levels. In this vein, one of the principal goals of the Tech IV Plan is to leverage and build upon our investment in existing projects.

Project	Status
CCC Technology Center	Butte-Glenn Community College District continues to handle CENIC billing centrally for all colleges, the Listserv and Sharepoint services, the new on-line version of TechEdge, the System wide Architecture Committee (SAC) and they co-sponsored the Secure IT conference with CCC, CSU and UC. Additionally, Secure IT is planning to have future conferences in partnership with CISOA.
CCCApply: Systemwide Application	CCC Apply currently integrates with all major Enterprise Resource Planning (ERP) systems. There are 102 member institutes in the system. The next generation, is expected to be a lower cost solution. Open CCCApply is also being developed now as a lower-cost, easily-locally-brandable solution for colleges.
eTranscriptCA Project	The project has widespread participation including 34 CCCs, 17 CSUs, University of Phoenix, National University, USC, and Fresno Pacific. The project was presented at a Higher Ed Workshop on March 16 with 140 attendees.
CCC Curriculum Inventory	Involves electronic submission for program/course approval to the Chancellor's office. Colleges will be able to track where they are in the process and will also be able to search what other colleges have submitted. This is available for both CurricuNET and Non-CurricuNET colleges. A 20% discount to CCs has been arranged for colleges that want to sign up with CurricuNET. CurricuNET is customized but there is also a mapping to ensure the necessary state data is included.

	● Training for colleges is ongoing during April and May. After colleges complete their training they go live with the curriculum inventory.
The GIS Project	A skeleton crew of district and FCCC volunteers currently maintains GIS. It provides ongoing support of GIS research, map and data extracts. Currently looking for a new funding source.
3C Media Solutions	3C Media Solutions is a statewide digital satellite network that is moving to CENIC solutions to help the CCs move off satellites to save money. They offer BOG broadcasts, webcasts and streaming services. Additionally, they offer continued operation of the system uplink and downlink capabilities.
CCC Confer Media	CCC Confer usage continues to expand. There is a perpetual license providing for unlimited users, which has encouraged the expansion of statewide audio and e-conferencing. As a result travels costs for meetings and conferences have been greatly reduced. There are also captioning options available with 3C.
The CVC (California Virtual Campus)	CVC is working in a wide variety of areas. They are providing Open Source Support using Etudes-NG and Moodle, and 24x7 help desk support. They are using an SOA model for student services. They are paying for the license for MERLOT (Multimedia Education Resources for Learning and Online Teaching). CAHSEE has also been very successful, even with no marketing and is still being partially supported by the CVC. CVC, in partnership with CSU East Bay, is working on the CA Online Program Planner (COPP). The current focus is primarily on STEM degrees.
The ePortfolioCA Project	The pilot in Phase I is complete. The project is currently in Phase II and focused on outreach and research. A working group with PESC is developing the technical standards. Phase III will focus on the transition to steady state, where the emphasis will be on delivery of core services.
@ONE Faculty and Staff Development	@ONE has been designed to assist CCC faculty and staff enhance student learning and success through technology by providing training, resources, and support to learn effective uses of technology. There is a certification program and @ONE has also been expanding their technical training offerings.

Affordable Textbook Project	Working extensively to provide a number of options to reduce textbook costs for students including Open Educational Resources (OER), MERLOT textbook offerings and the Digital Textbook Pilot.
The Assessment Project	The Assessment project is in Phase I which incorporates several important steps: assessment instrument selection in the areas of English, math, and ESL; developing the data warehouse; designing the web portal and integration; and developing these elements in the SOA framework while utilizing Federated ID. Phase I will be complete by February 2011. After the feasibility study is complete the intent is to develop and pilot in Phase II from March 2011-August 2012.
CA Educational Technology Collaborative (CCC-CETC) and K-20 California Educational Technology Collaborative (K-20 CETC)	Both initiatives have been developed to foster collaboration and improve services while decreasing costs. They have been set up as nested 501c3s with CENIC.
CalREN: CA Research and Educational Network	Working on upgrades and changes to the infrastructure. Old optical equipment has been taken out of service and replaced with 15454's. We are working on diversity solutions to keep sites from service outages by developing redundant connections. CTF discounts have allowed us to begin providing redundant connections. Currently, 75% of sites have a redundant connection and 10% of sites have dual routers. The intent is to look at topology changes for efficiency and cost savings.
CVS- CalREN Video Services	Is working to migrate to the K-12 HSN Video Services Network to become the K-20 Video Services Network. This will save $500K annually and update the current scheduler and bridges without cost. Conversion will happen during the summer of 2010.

Service-Oriented Architectures (SOA) Overview

Tim Calhoon, Director of the CCC Technology Center, is leading the overall CCC System SOA effort. Tim can be reached at tcalhoon@ccctechcenter.org or 530-879-4091

There are several goals for implementing a System-wide Service-Oriented Architecture:

- Lower costs and more choices for colleges
- Better services to colleges and students
- Easier and faster application to colleges
- Common student identity
- Leverage data to benefit students
- Painless transition for colleges
- Foundation for the future of student services technology

There are four main components that work together in the Service Oriented Architecture:

1. **SOA framework --** takes functions that are currently tightly bundled together with predetermined functionality and changes them to loosely coupled services that communicate over the Internet. This allows for increased flexibility as different services can share pieces.
2. **Enterprise Portal --** The Portal is the common gateway to all CCC system-wide applications. It provides a front-end interface with a single point of contact. The student portal will allow students to accomplish many steps all from one location. Students will be able to explore careers, explore and apply to colleges, apply for financial aid, order transcripts, do academic planning, review and choose course offerings, fill gaps with online courses across CCC system, schedule classes, sequence their academic plan, and organize academic work in ePortfolio.
3. **Federated ID --** The Federated ID makes it possible to have a single system-wide sign-on. This can have a Dynamic Knowledge-Based Authentication, which is much more secure than a username and password. The Federated ID process has two functions, it authenticates (who are you?) and then authorizes (what roles do you have?). There can be a system-wide ID number but it is not necessary. This would eliminate the use of social security number as an identification number. Perhaps switch to CSIS ID instead, which is used currently by K-12.   The ID can be invisible to the student, or not, but it would help to tie information together.
4. **Elastic Cloud Infrastructure --** The Elastic Cloud Infrastructure is a flexible component. It is used â€œon demand. Services are paid for as needed and can be scaled up and down for higher and lower usage times. There are many options for cloud service providers. A major concern is security of data. Therefore, all data must be encrypted before sending and storing. Another option is to have a "private cloud".

SOA Benefits for the colleges?

- **Flexibility.** Individual colleges could choose to keep the existing CCCApply. Xap can keep providing updates. Alternatively, colleges could move to a completely hosted application, or they could choose to develop their own application. The same database, with common storage protocols, will be the foundation, regardless of the approach chosen by a college.
- **Cost savings.** By developing the SOA on a model intended for statewide use there would be a streamlined transition, cost savings and better service. Statewide standardization, with oversight provided by a steering committee, will increase reliability and security.
- **Change Management.** The business culture changes and challenges that will be required in making this change are significant, however industry has already done this and colleges can learn from that process. There will need to be good leadership and professional management as the changes are negotiated. Further an institutional approach to data management and governance is critical.
- **Track performance and usage.** It will be important to track patterns of usage to keep systems current and in alignment with user needs.
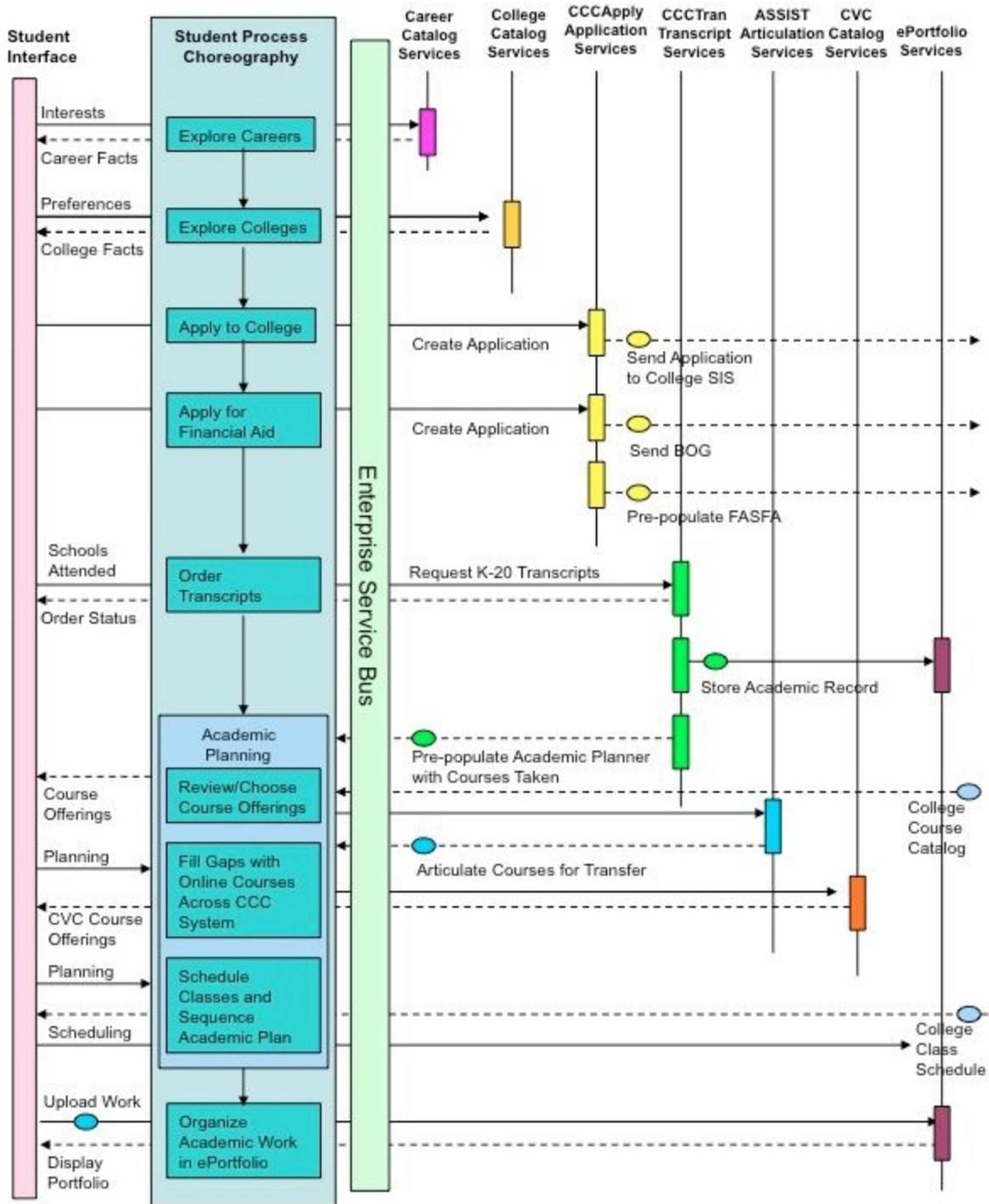
Planning Retreat Comments

The Steering Committee and the Technology Center are overseeing the development of the SOA project. There are already some existing industry guidelines and standards which should be reviewed and modified to reflect CCC as the process proceeds. The Steering Committee should set guidelines and standards for communication between the component pieces and determine which elements are fixed and which can be modified.

The steering committee must be aware of the concern about how to keep this system current. Xap (CCC Apply) has needed revisions for a while but revisions did not occur automatically. We need to have dynamic change plan so that we can keep our systems and processes agile and responsive to changes in our technology and program environments. The SOA approach can be helpful in this area, since each component data or application or service piece is a separate entitiy, linked together with common Web and data services and protocols within the SOA, and thus services can be updated "behind the scenes" and more frequently. Keeping all of the different components working efficiently will be important to the long-term success of the project.

SOA Diagram

CCC Systemwide Service Oriented Architecture

Student Interface	Student Process Choreography	Enterprise Service Bus	Career Catalog Services	College Catalog Services	CCCApply Application Services	CCCTran Transcript Services	ASSIST Articulation Services	CVC Catalog Services	ePortfolio Services

Interests — Explore Careers
Career Facts
Preferences — Explore Colleges
College Facts
Apply to College — Create Application — Send Application to College SIS
Apply for Financial Aid — Create Application — Send BOG
Pre-populate FASFA
Schools Attended — Order Transcripts — Request K-20 Transcripts
Order Status
Store Academic Record
Academic Planning — Pre-populate Academic Planner with Courses Taken
Course Offerings — Review/Choose Course Offerings — College Course Catalog
Planning — Fill Gaps with Online Courses Across CCC System — Articulate Courses for Transfer
CVC Course Offerings
Planning — Schedule Classes and Sequence Academic Plan — College Class Schedule
Scheduling
Upload Work — Organize Academic Work in ePortfolio
Display Portfolio

SOA Roadmap - August 20, 2010

Schedule for CCC Technology Center
prepared on 08/19/10

Prioritized Tasklists	Owner	Remaining	Expected	08/19/10	02/28/11	08/01/11	01/02/12	08/28/12
⚙ CCC Technology Center	TimCalhoon	[2346d - 2590d]	03/20/12					
⚙ CCC Technology Roadmap Tasklist	CCCTC	[964d - 1181d]	03/20/12					
● Development Environment CCC Technology Roadmap > OpenCCCApply Roadmap	UNICON Developm	[30d - 90d]	11/11/10					
● Hosting CCC Technology Roadmap	UNICON SysAdmin	[60d - 120d]	12/23/10					
● Federated Identity CCC Technology Roadmap > OpenCCCApply Roadmap	UNICON Developm	[60d - 120d]	03/17/11					
● Portal CCC Technology Roadmap > OpenCCCApply Roadmap	UNICON User Exp	[30d - 90d]	11/11/10					
● CCCExplore (Colleges Directory) CCC Technology Roadmap	CCCTC Developm	[30d - 60d]	10/21/10					
● CVC Portal Interface CCC Technology Roadmap	CCCTC User Expe	[30d - 60d]	01/13/11					
⚙ OpenCCCApply CCC Technology Roadmap	CCCTC	[510d - 675d]	03/20/12					
● CCCApply SOA Data Services CCC Technology Roadmap > OpenCCCApply Roadmap	UNICON Developm	[30d - 90d]	06/09/11					
● CCCApply Residency SOA Service CCC Technology Roadmap > OpenCCCApply Roadmap	UNICON Developm	[30d - 90d]	09/01/11					
● Interface with XAP CCC Technology Roadmap	CCCTC	[30d - 90d]	11/24/11					
● College Administrative Interface CCC Technology Roadmap	CCCTC Developm	[60d - 120d]	12/23/10					
⚙ Student Interface CCC Technology Roadmap	CCCTC Developm	[101d - 169d]	06/30/11					
● Standard Application w Spanish Help CCC Technology Roadmap	CCCTC Developm	[60d - 120d]	04/28/11					
● BOG Fee Waiver CCC Technology Roadmap	CCCTC Developm	[30d - 60d]	06/30/11					
● Integrate & Test Interface and Services Layers CCC Technology Roadmap	CCCTC Developm	[30d - 60d]	11/03/11					
● Helpdesk CCC Technology Roadmap	CCCTC RFP Tean	[30d - 90d]	11/11/10					
● Pilot CCC Technology Roadmap	CCCTC	[30d - 90d]	02/16/12					
● Release CCC Technology Roadmap	CCCTC	[15d - 30d]	03/20/12					
● Online Course (CVC) Directory CCC Technology Roadmap	CCCTC Developm	[60d - 120d]	02/24/11					

SOA - Student Services Delivery

The TTAC Retreat working group discussed ways to reduce friction for students in the system. Their emphasis was on ways to solve issues with improved (easier and more efficient) navigation (interface design, sign-on) of the system and communication. Some students will need assistance, so a student "concierge" or some way to provide immediate access to information and answers to common questions without waiting 48 hours for an appointment would be extremely useful. However, the biggest services improvement would be through providing access 24x7, in multiple delivery modes, coupled with the ability to register, apply for financial aid and other basic interactions without having to re-enter identification information multiple times. Given these issues, the highest priority service that could be provided to the student services group would be a single point of entry *Federated Identity (ID)*.

Summary of Recommended Actions Steps and Proposed Benefits

Phase 1: 0-12 months
- Focus on developing the brand, logo and marketing plan (Target internal stakeholders);
- Conduct environmental scan and surveys with the colleges, students, and staff.

Phase 2: 0-24 months
- Navigator/ Workflow (Two-way data flow – FAFSA, BOG)
- Financial aid
    - Single point BOG, FAFSA, scholarship
    - Enter basic data and system tells you what financial aid you qualify for
    - Provide status on financial aid application
-
- College and Career (Directory Service)
- eTextbooks- Instant access piece
- Consider all other infrastructure (Apply, Confer, etc)
- Begin thinking about possible mobile and web applications
- Engage in a discussion about universal design

Phase 3: 24-48 months
- Academic Planning Tools including Ed Planning/Assist/eTranCA/Catalog
- Virtual Support Service/ Student Concierge
- Course Catalog/Description/Outline/SLO Competencies
- ePortfolio
- Employer mining (link to college and career directory – create a continuum of service). Provide students the choice of sharing information with potential employers when they set up their information in the system. Sharing connections with a company like Monster.com may also be useful to both employers and students.

Benefits
- Increased student engagement and decreased costs for all of the colleges;
- Clarify required student processes;
- Students develop an Ed Plan that will decrease the time to earning a degree or certificate; and

A more accurate Ed Plan will enable increased planning effectiveness both for the students and for the faculty, staff and administration.

SOA - Instructional Services

Summary of Instructional Services Discussion at TTAC Planning Retreat

The instructional services group identified the users of instructional services to be:

- Classroom: Faculty
- Non Classroom:
- Librarians
- Counselors
    - Students
    - Researchers
    - Instructional aids
    - Community of employers
    - Lab paraprofessionals
    - Other inter-segmental groups
    - Classified staff (curriculum staff, scheduling)
    - Administrators

The group discussed wide ranging issues such as the budget, the digital divide, basic skills, business and inter-segmental alignments. They also discussed increased calls for accountability (accreditation and assessment issues), research-driven program reviews and the management, storage and retrieval of data for all of the types of accountability and evidence for those measures. Additionally, they discussed access issues with regard to library resources, class availability and staff development.

Given these issues the highest priority services for this group would involve resources and resource management: a library of student learning outcomes (SLOs) and SLO Assessment Tools for courses, programs and institutions; library resources (available 24 x 7, local and remote); and web based data management tools to deal with accreditation. Other potential services/ideas identified included:

- Gather tools and best practices (i.e. program review) from all colleges to make available to everyone
- Open source solutions for library automation, library services, tutoring services
- Micro-tutoring delivery system
- Contextualized learning
- Basic skills courses
- Staff development
- Faculty interactions
- Communications at discipline level – statewide
- Subscription-based tutoring services (students to pay), i.e. Learning Express, Smart Thinking
- Common course numbers
- Digital Textbooks

- Conduct more outreach with Foundations and other funding sources to support initiatives. E.g., Gates foundation to provide faculty and students iPads

Summary of Actions Steps and Benefits (Planning Retreat Day 2)

The most important projects for this group fit into two broad categories:

1) Web-based data management tools to facilitate accreditation. Tools include:
- SLOs and SLO assessment tools
- Student side- ePortfolio
- Curriculum course inventory
- Program review and academic planning
- Enrollment management

2) Information Access
- Digital textbooks/ library interface
- Basic Skills/ tutorial components
- Smart Thinking- online tutoring
- Others (that already exist)

Benefits
- Overall integration of systems and information;
- Improved ability to track information and develop required accreditation reports;
- Easier access for students, faculty and staff to information that will make everyone's jobs more efficient.

SOA - Administrative Services

Summary of Administrative Services Discussion (Day 1)

The administrative services group looked at all of the different functions such as fiscal, human resources, facilities, IT, public information officers, safety, maintenance and operations, as well as providing access to information desired by researchers, the board of trustees and the community. The primary issues facing administrative services all revolve around cost, productivity, reporting and accountability. As a result this group felt that the most useful services pertain to: Executive Information Systems (EIS), Fusion (a facilities management tool), compliance requirements, and document imaging and storage. Calendaring (scheduling/resources) would also improve classroom utilization. Other services discussed by not considered a priority include:

- Energy (WOW)

- Facilities Management (Class Management) & Planning
- Enrollment Management (Program Review)
- Modeling
- Universal Calendaring
- MIS Data (pull)
- Employee Evaluation
- Hiring Application (consortium)
- Disaster Recovery
- NIMS/SIMS
- License Management (SW)
- Work orders
- Workflow and Approval

Decision Criteria

The full group discussed criteria that might be used to identify and prioritize which services to adapt. In addition to the need for a Federated ID selection criteria include:

- Usability with college portals (reusable);
- Leverages elastic cloud;
- Evaluate service as to whether can/must be implemented sequentially or independently;
- Enables CCC to achieve economies of scale;
- Provides opportunity for cost savings and efficiency gains; and
- Positively impacts student satisfaction.

### *Summary of Actions Steps and Benefits (Planning Retreat Day 2)*
For this group the most important tools fall into the Executive Information System (EIS) for integrated data collection and retrieval as well as improving Fusion (a program that inventories physical facilities and keeps track of repairs, etc.) into an item that is SOA ready. It is a priority to develop Fusion in order to anticipate changes to infrastructure. Otherwise, a college may end up building a facility that will be obsolete before it is completed. The most important aspect of the administrative projects is the ability to integrate the data. Currently there are many pockets of data but there is a need to put them into a useful format.

Benefits
- Improved decision-making -- based on better access to the data.
- Opportunity for decision-makers at different colleges to learn from each other.
- Ability to store and retrieve that data would make the accreditation process work much more smoothly.

CCC Systemwide Technology Platform

The California Community Colleges (CCC) Technology Center is developing a CCC Systemwide Technology Platform standard that will allow the system to build new Web 2.0 applications that work together, provide sharable services to the colleges, and can incorporate legacy functionality as we transition to the next generation.
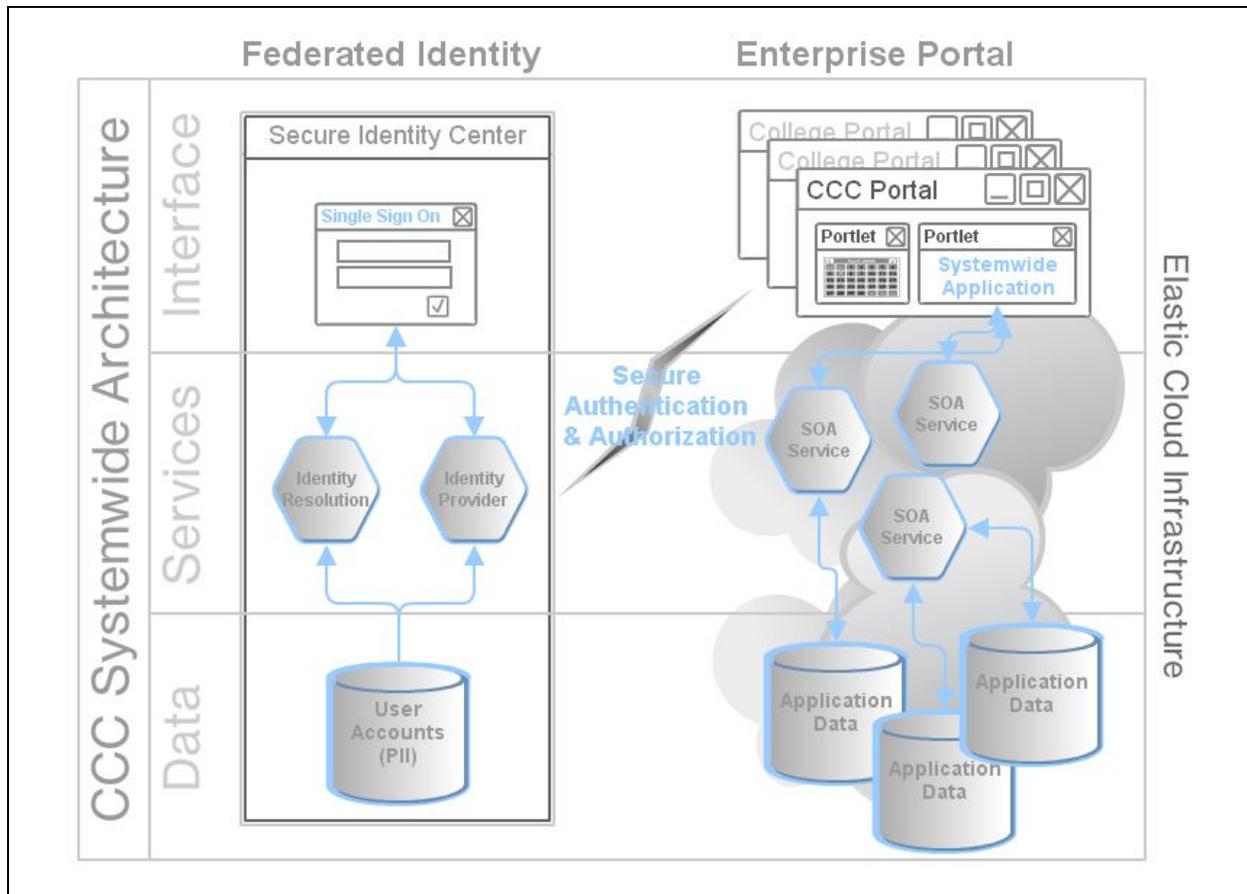
The Systemwide Technology Platform: is composed of four technologies:

- Service-Oriented Architecture (SOA) Under this model, siloed applications are deconstructed into their component services and connected via secure internet communications. This enables these component services to be reused by college or vendor applications and combined into composite applications.
- Enterprise Portals: Most of the colleges are moving to some form of portal interface for their students. If we provide our systemwide applications as portlets to the colleges, they can be plugged in to provide additional services and functionality for students. In

addition, a systemwide portal would tie together our applications with a common front end.

- Federated Identity Both CSU and UC have Federated Identity initiatives based on the InCommon Federation. InCommon includes over 200 Higher Education Institutions, Government Agencies and Vendors. Federated Identity enables a common Log-In for the student/staff across applications and institutions while increasing security and privacy. The greatest potential benefit for CCC may be in transferring identity from CCC to CSU or UC.
- Elastic Cloud Infrastructure The emergence of elastic cloud platforms, where the computing power behind deployed applications is monitored to scale up or down to service demand loads, has made it possible to efficiently handle the annual cyclic student demand on student services applications without having to build a large data center to handle peak loads.

Secure Identity Center: A hardened data center will be employed to secure Personal Identification Information (PII) contained in account profiles and submitted applications to college. In addition to providing Authorization and Authentication to systemwide services, the Identity Center will resolve account conflicts and eliminate duplicate accounts.
Scope: There are a number of systemwide and intersegmental applications that provide services to our students and colleges in use across the state right now.

- CaliforniaColleges.edu Explore careers and find colleges that provide education in those areas.
- CCCApply Apply to college.
- eTranscript California Secure delivery of transcripts.
- California Virtual Campus Catalog Search for online courses across the state.
- ASSIST Find out how courses articulate between institutions.
- ePortfolio California Collect, evaluate and showcase your work.

These applications and future applications will be built on the CCC Systemwide Technology Platform. Future applications may include a student academic planner and transfer counselor workbench.

Affordable Learning Initiative

The California Community Colleges Technology Division has been working diligently for a number of years to help provide a wide range of affordable learning materials to our faculty and students. We have provided fiscal and in some cases programmatic support to three major content initiatives.

MERLOT

For a number of years, the CCC System has been a full member partner with MERLOT (www.merlot.org), an online collaborative and community effort in conjunction with the California State University System and a number of other partner higher education Systems, non-profit organizations and corporate sponsors.

MERLOT, which stands for Multimedia Educational Resource for Learning and Online Teaching, provides our faculty, staff, and students with a wide variety of high-quality, free, peer-reviewed multimedia content, all arranged by discipline in an extensive and growing collection of digital learning resources. MERLOT also provides Discipline and Partner Online Communities where faculty can share relevant collections of discipline and course-level online teaching materials and resources in a collaborative online space.

The California Virtual Campus Project Director, Dr. Vicki Suter, serves as a MERLOT Project Director and CVC funds not only her time, associated travel, and effort; but also pays the System annual membership fee ($25,000) and funds MERLOT meeting and annual conference travel for the three principal faculty Editors who are selected by the Statewide Academic Senate. These editors currently include Dr. Michelle Pilati (Rio Hondo), who is currently serving in a discipline-editorial board equivalent role as MERLOT's JOLT (Journal of Online Learning and Teaching) and who previously served on the Psychology Editorial Board; Dr. David Megill (Mira Costa) - Music Editorial Board; and Dr. Larry Green (Lake Tahoe), who serves on the Mathematics Editorial Board.

The CVC Staff also serves as Co-Host for the annual MERLOT International Conference and has been instrumental in bringing together the MERLOT, the Sloan-C International Symposium for Emerging Academic Technologies and an annual Moodle "Moot" in a shared venue and shared-resources conference venue. CVC Co-Hosted the first California Sloan-C Symposium in 2009 and partnered with the California Moodle community to offer the first "joint" conference which then expanded this year into a [three-organization mega-event](#) in July 2010 in San Jose that showcased the very best of what's new in online teaching and learning.

CCC Digital Textbook Initiative
The CCC DIgital Textbook Initiative is a CCC Technology Division-funded pilot project that has been staffed and working closely with a consortium of textbook publishers to develop an digital textbook offering for all California Community College students. The pilot involves three community colleges and will makes an array of all-digital versions of common textbooks available to students at these institutions for half the cost of a physical textbooks. Students will still have the option of purchasing paper textbooks, but for the first time will have a lower cost, all-digital alternative available to them. The pilot will interface the service with each college's learning management system (LMS) and give us an opportunity to work through any unforeseen issues in a limited and controlled environment before we try to expand the arrangement offering to all other colleges. You can follow the link above for a more detailed discussion of this pilot effort.

[Community College Consortium for Open Educational Resources (CCCOER)](#)
CCCOE) is a joint effort led by Foothill-DeAnza Community College District to help develop and use open educational resources, in particular, open textbooks. This consortium now has over 150 members. CVC provided $50,000 in one-time funding in 2008-2009 to CCCOER to help ensure that the CCCOER content meta-data schema was fully compatible with the California State University Digital Marketplace Project.

Digital Textbook Pilot

This project does not offer a single solution but rather embraces a broad spectrum of options from "fee to free". Our intention is to provide students with choices -- students still get quality content, but in a variety of formats and at prices they can afford. There is a definite need for more affordable options for students as many students simply do not buy textbooks because they cannot afford them. Current research shows that the primary buyers of e-textbooks are working adult students. They cite cost and availability as the main reasons. Students want to be able to study whenever and wherever they access to a computer.

CourseSmart is comprised of the five largest publishers: Pearson, McGraw-Hill, Cengage, Wiley, Bedford, Freeman and Worth. Akin to ITunes for digital music, CourseSmart provides over 8,500 titles in digital form, at **51% the cost of a new print book**, available as either downloadable or browser-based versions. To create greater transparency about the availability of digital texts, the Chancellor's office is providing support for a series of CourseSmart pilots, paying for the integration of the CourseSmart offering in the SIS, LMS and/or bookstore Web environments in three community college districts. The goal for these pilots is to better understand the impact of various institutional Web presences on sell-through, and help institutions create the technical infrastructure necessary for more efficient and effective distribution of digital textbooks.

Goals of Multi-Phased Pilot Strategy:

- Increase transparency of the largest inventory of digital textbooks (CourseSmart LLC);
- Provide financial investment for infrastructure in pilot campuses i.e. integration of digital textbook library within SIS, LMS and/or bookstore POS;
- Integration into students' workflow (Pilot schools so far have elected to use the campus student information system and the bookstore POS);
- Negotiate discounts on behalf of pilot sites to provide greater cost savings;
- Create master enabling agreements with major publishers for custom print and electronic texts;
- Support open textbook scholarship via mini-grants to create derivatives of Flatworld Knowledge titles to speak more directly to community college student demographics. (Open content within a commercial venture); and

- Support pilot of emergent publisher platforms to enable blending of commercial and open content at chapter and asset levels. (Customizable books with chapter sequencing, etc.)

This project will lower costs, expand choice, and providing better service to students. It can also simplify faculty textbook selection as well. Ease of access is also helpful for students, as notes and highlighted sections in eTextbooks can be accessed anywhere the student has the ability to login.

Pilot development will integrate CourseSmart LLC and brand it locally as an institutional offering. Additionally, various integration strategies will be investigated to understand the relationship between student buying behavior and specific access points (bookstore POS and SIS integration points). Student and faculty surveys will be developed to evaluate the offerings.

[CourseSmart White Paper Discussion from Sept 2010 TTAC meeting](#)

[Digital Textbook Proposal from CourseSmart](#)

Critical Success Factors in Developing Tech IV

- **An Effective communication and marketing plan**.
  - The plan should include good graphics, and should not just be available in print. The plan should make clear the rationale for the initiatives and also demonstrate the benefits to the colleges in overcoming the issues and barriers that face students and others. It is important to demonstrate how these projects solve problems in an understandable and accessible way. This is not just a description of the benefits; rather it is a demonstration of how the system will work and make processes easier.
  - The plan should be supported with a system-wide project website. This will be a common point for sharing details of the projects. This should include space for input and comments. Case studies that demonstrate how other colleges successfully implement changes are also important.

- **Internal and External Best Practice Information**
  - The plan should include a scan/survey of current initiatives underway with the CCC and should involve a gap analysis between the vision and what exists now. There should be an investigation of whether or not there is interest in participation from the CSUs. Investigate what the reasons are that some community colleges are not currently using technology that is available.

- - Model initiatives that are successful at the college level to encourage adoption, e.g., curriculum inventory.
    - Research what other states are doing (Florida, North Carolina, Texas). Which states have successfully developed projects that scale up?

  - **Champions**
    - Internal Champions. Buy-in from the faculty, Student Senate and Academic Senate is essential.
    - External Champions. TechNet is concerned about the quality of workers coming out of the educational system and therefore might lobby the legislature for changes to improve worker quality.
    - Lobbying groups
    - Key legislators

  - **Funding.** Sponsor for one time up front support – look to Foundations, State, private industry. Should research and consider new ways of operating and funding IT (e.g., subscriptions, etc).

CCCAssess

This project formally started on October 20, 2009, when the first of two pilot project grants was formally approved by the Gates Foundation, followed shortly thereafter by a matching grant from Hewlett Foundation. Both grants were for identical amounts: $250,000, for a total of $500,000 for the pilot effort.

This goal of the pilot project is to develop a proof of concept paper and a series of pilots necessary to implement a systemwide centralized testing and assessment delivery and test data warehouse for the California Community College (CCC) system.

The long-term, post-pilot project concept would involve the creation of a centralized assessment warehouse that would both deliver a small and finite number of tests (1-2 per curricular area maximum) and store the scores centrally in a data warehouse. The key element to the viability of the long-term concept is eventually securing State funding to change the funding model of assessment instruments from one of local cost and delivery to one of central delivery where all testing costs are paid for centrally, thus allowing colleges to give an unlimited number of tests to students. Our thoughts are, that while campuses cannot be ordered to use a centralized test, they can be economically incentivized to do so by centrally paying for these costs. This type of delivery model and data warehouse will serve to reduce the number of testing instruments currently used, create score portability, will likely homogenize cut scores, and will provide for the potential inclusion of other assessment instruments (such as K-12 CAHSEE, EAP, STAR, and CST test results, along with transcript data such as highest and last levels of high school

math/English taken), thus creating a multiple-measures rubric for placement. The project has the potential to affect all 2.8 million CCC students at all 110 campuses.

Bonnie Edwards, from the TRIS Division, was assigned as the Project Manager and began work pulling the effort together.

The initial kickoff meeting was held at the Chancellor's Office on December 15, 2009, with the following agenda:

Agenda:

1. Define pilot phase roadmap
a. Key goals/outcomes
b. Requirements to achieve outcomes (high level)
c. Timeline
2. Develop list of possible Advisory Committee Members

CCCAssess Project Overview

1. PROPOSAL OVERVIEW

This proposal seeks funding to create a proof of concept paper and a series of pilots necessary to implement a systemwide centralized testing and assessment delivery and test data warehouse for the California Community College (CCC) system (hereinafter referred to conceptually as CCCAssess)

The California Community College system serves 2.8 million students annually at its 110 campuses. Current testing/placement/assessment practices leave the selection of assessment instruments in math, English and ESL up to the local campus.   As such, campuses have created a multitude of different testing instruments, and there is little commonality across the system. Students are faced with different tests, different cut scores, and non-portability of scores. Campuses also do not achieve any economy of scale for the purchase of these testing instruments, and there is no central repository of test scores in the system. Since colleges pay for these testing instruments from their own local matriculation budgets, colleges are not incentivized to deliver large quantities of tests, and many students are not directed and placed upon entry into college.

The long-term project concept involves the creation of a centralized assessment warehouse that both delivers a small and finite number of tests (1-2 per curricular area maximum) and stores the scores centrally in a data warehouse. The key element to the concept is eventually securing State funding to change the funding model of assessment instruments from one of local cost and delivery to one of central delivery where all testing costs are paid for centrally, thus allowing

colleges to give an unlimited number of tests to students. Although campuses cannot be ordered to use a centralized test, they can be economically incentivized to do so by paying for the costs centrally. This type of delivery model and data warehouse will serve to reduce the number of testing instruments currently used, create score portability, will likely homogenize cut scores, and will provide for the potential inclusion of other assessment instruments (such as K-12 CAHSEE, EAP, STAR, and CST test results, along with transcript data such as highest and last levels of high school math/English taken), thus creating a multiple-measures rubric for placement. The project has the potential to affect all 2.8 million CCC students at all 110 campuses.

The applicant is the California Community Colleges Chancellor's Office (CCCCO). As the CCCCO is a State agency and not eligible to receive such a grant, the CCCCO will be using the Butte College Foundation as the fiscal agent. The Butte Foundation serves as the fiscal agent for all projects related to the CCC Technology Center, the grantee of the CCC Technology, Research and Information Systems Division (TRIS). The Butte Tech Center has a long standing history of successfully implementing large-scale centralized technology projects in the CCC system.

Total requested amount is $500,000 (split between two funders, $250,000 each).

1. PROJECT DESCRIPTION

The following are issues related to testing and assessment in the CCC system:

- Too many testing instruments statewide in math, English, ESL.
- Non-uniformity/comparability/mobility of test scores/cut scores from one institution to another.
- Colleges economically disincentivized to maximize the number of assessments given.
- No capture or delivery of non-CCC delivered testing instruments (K-12 tests: STAR, CST, CAHSEE, EAP) or highest/last levels of courses taken in K-12.
- No cost economy of scale systemwide as all tests are purchased locally and not in consortium.

There is a perceived need in the CCC system to eliminate the inefficiencies of the current practices surrounding assessment and placement. This project is an important first step in moving the CCC system to a centralized testing delivery mode and consolidation of instruments.

The project aims to gather the necessary information for the CCCCO to form a future Budget Change Proposal (BCP) to the State to change the funding stream for the acquisition and delivery of assessments. In order to properly scope the full-scale implementation of centralized testing, a number of factors must be researched so a proper cost estimate can be garnered.

A proposed BCP solution to the problem seeks to do the following:

- CCCCO creates a centralized assessment warehouse/service utility that hosts all test instruments and delivers them via the web to local campus assessment labs or creates an assessment virtual lab.
- CCCCO negotiates a master purchased "enterprise" license of a fixed number of testing instruments for each curricular area to be assessed (math/Eng/ESL) to drive down costs; tests are centrally delivered.
- All costs of central delivery would have to be borne by a set-aside of Prop 98 funds and not charged locally. It is likely that funds would need to be redirected to the Telecommunications and Technology Infrastructure Program (TTIP), which is the funding mechanism currently used to deliver other systemwide technology implementations. All existing local matriculation monies now used on testing instruments would be kept locally and redirected to counseling services. Colleges would thus be incentivized to provide a maximal number of assessments to students, including testing all students if they so choose.
- Colleges would not be required to participate in this service and may still elect to use locally purchased testing instruments, but costs of these will be borne locally and not centrally, thus incentivizing (but not mandating) the use of a small defined number of test instruments statewide. It is likely, in the face of the costs being borne locally or centrally, that most colleges will choose to have their testing costs offset centrally, even if it meant changing instruments.
- Scores from examinations would be delivered to local ERP systems (Datatel, Banner, Peoplesoft) in real-time and also stored in a central assessments data repository, along with student name and student_id (normally SSN).
- Scores from other testing instruments (K-12 STAR, CST, CAHSEE, EAP) could potentially be uploaded to the warehouse also with student name and student_id for cross reference. Some negotiation and possible changes in the California Education Code will need to occur to enable this due to segmental resistance to share test data, along with privacy concerns.
- The central data repository builds a private/password protected assessment web application that allows counselors to call up test data from CCC exams and all other K-12 testing information to provide multiple measures for placement. CCCTran (electronic transcripts) would be used to extract K-12 electronic transcript data "on the fly" to identify math/Eng/ESL courses taken in high school to add to the elements used for assessment/placement.
- An associated research function could, over time, develop optimization algorithms of placement success based on these test scores/highest levels of subject taken, thus "optimizing" placement into courses that have historically been shown to have the highest rates of success for students with a particular test score pattern.
- Students can have the delivery of success rates in all other courses at a campus created on the fly for them for each level of remediation successfully completed, thus providing an optimization of course selection instrument to students. For instance, for all students at College X that have completed remedial math class Y, here is the success rates in all

other courses at College X for all students that have passed math class Y. This serves as a guide to remedial students as to which non-remedial courses a student has a better/worse likelihood of completing, given their level of remediation.

- The central data repository delivers a student "pre-test" application, delivered publicly over the web to prospective students. A student can thus take a branched online assessment and get preliminary placement information before they take the actual test. This enables a student to "study" for the test, and should allow for higher placement, which usually results in fewer levels of remediation to occur, and thus greater student success.
- Colleges can still locally validate their placements and create their own local cut scores, but can draw upon a larger n= from a central repository for the validation. If multiple instruments are used (Accuplacer AND Compass, for instance), a derivation and cross-test validation of equivalent cut scores is possible so students do not have to re-take the same/different test when moving to another institution.

In order for the aforementioned conceptual project to be implemented, a proof of concept paper and a limited pilot is desired to back up the eventual BCP. *This is the focus of this grant proposal.* These include the answering of the following business critical questions and piloting some of the critical applications necessary to eventually build the centralized assessment warehouse:

- What is the technical viability of delivering an enterprise version of testing instruments (Accuplacer/Compass/etc) over the web? Do such enterprise products exist, and do they scale to a system our size?
- What is the likely volume of tests annually, given no economic barriers? What are the current volumes of tests, and what is an estimated maximum number of tests that might be given and delivered?
- What barriers impede the collection of K-12 test data? (feasibility, timing of collection, possible legislative bill to remove barriers, privacy concerns) What K-12 testing instruments might be viable and available to be used for inclusion into such a warehouse?
- Are testing companies likely to provide a pricing model that is suitable for the project knowing theirs will be one of the "preferred" statewide tests? Are they willing to engage as full partners in a pilot/feasibility study, or are they institutionally resistant? What type of pricing might we get where a single testing company is used versus one where multiple companies are used?
- What is the implementation of CCCTran to enable this, especially for K-12 transcripts?
- What is the implementation of the K-12 student identifiers (non-SSN based) and how accurately can these be matched to CCC SSN? (a pilot with California Department of Education on "fuzzy matching" algorithms.)
- Legislation surrounding the implementation of the EAP initiative has been passed, enabling CCC students to use the EAP test results in making academic decisions. The CCC system needs to build an EAP "delivery" system where students can access their

scores and be directed to other CCC resources. As EAP scores would be one piece of the full build out of CCCAssess, the creation of an EAP warehouse and score delivery acts as a pilot for other instruments that would be used in CCCAssess.

- It is possible (yet currently not known) whether CCCCO could invite pilot volunteer colleges to give up their locally run testing delivery systems and have them delivered centrally, thus providing a technical proof of concept for the warehouse. This would be desired, but not necessary.

There are a number of key partner organizations that have already endorsed the concept of CCCAssess, most notably the CCC Assessment Task Force, which has authorized the procurement of grant funds for the project. The Task Force contains representatives from CCC Faculty/Academic Senate, Chief Executive Officers, Matriculation Officers, Research and Planning Officers, and the Chancellor's Office. The project is endorsed by Jack Scott, Chancellor of the CCCs.

1. STRATEGY ALIGNMENT

The project is in full alignment with the CCC Strategic Plan and the recommendations of the CCC Assessment Task Force. There is currently a strong movement amongst academic policymakers and researchers that point toward a standardization of testing instruments and test scores. The project aligns with the Gates Higher Education strategic initiative.

1. IMPLEMENTATION AND RESULTS

The most significant outcomes of the grant are as follows:

1. Create a "proof of concept" white paper that identifies the parameters of key critical components of the project's full implementation. These include:

    1. Contacting and negotiating with assessment test vendors about the technical feasibility of delivering a scaled, enterprise version of a delivery system and warehouse, connection with local ERP systems, and possible pricing models;
    2. Estimate the annual volume of tests given where no economic barriers exist to providing the maximum number of tests to students;
    3. Contact and negotiate with the California Department of Education (CDE) regarding the availability and legal barriers to accessing and warehousing K-12 test results (CAHSEE, STAR, CST, EAP);
    4. Contact and negotiate with CDE regarding the availability of electronic transcripts that can be pulled on the fly to add in student transcript data to the assessment process;
    5. Develop a cost model for full development of such a testing and assessment warehouse for a future BCP.

2. Implement a pilot EAP test score warehouse and web application delivery to students wishing to access their EAP scores and provide guidance materials to them.
3. Implement a pilot "course selection optimization" website that delivers subsequent course success rates for students at various levels of basic skills/remediation aptitude.
4. Seek pilot colleges already on one assessment instrument who have existing contracts with the testing vendor and use them as a pilot to centralize delivery of a virtual assessment lab.

These discrete outcomes can occur in parallel of each other, and are not necessarily sequential. Progress will be measured by requiring monthly updates from the staff and contractors hired to perform these discrete sub-projects. A master project manager will be responsible for all aspects of project completion.

1. ORGANIZATIONAL CAPACITY

The CCCCO currently has little capacity to undertake such a project within the confines of State service; this is why the grant is proposed to run through the Butte Foundation, which acts as a nonprofit auxiliary of the CCC Technology Center at Butte College, a grantee of the CCCCO. Butte currently employs a staff of seven technologists and project managers dedicated to servicing the systemwide consolidated technology needs of the CCC system. Butte has the capability of contracting with technologists on an ad-hoc basis for grant projects, and has existing expertise to lend to the grant. It is expected that this project will need the labor of 2 project managers and a certain number of hours of existing staff time for server setup and application development.

The organizational structure is as such: the project will be overseen by CCCCO TRIS Division Vice Chancellor Patrick Perry and Technology Director Catherine McKenzie, both of whom report to Chancellor Jack Scott. The Chancellor's Office TRIS Division (Perry and McKenzie) is the grantor to Butte CCD, the grantee for TTIP funds ($26 million annual allocation.) The Tech Center at Butte is overseen by Director Douglas Cremer, who oversees all Tech Center staff. The Butte Foundation is operated by Director John Gliha.

The project fits well into the system goal of streamlining the assessment process and reducing the number of instruments in use today.

The TRIS Division has a long history of successful technology implementations, including the following:

- Providing and managing system internet connectivity and system fiber network
- Providing systemwide teleconferencing/e-conferencing/videoconferencing (CCCConfer)
- Providing a statewide electronic college application (CCCApply)
- Providing systemwide electronic transcript delivery (CCCTran)

- Providing centralized distance education hosting and service delivery (California Virtual Campus)
- Providing systemwide intersegmental data warehousing and curricular alignment services (Cal-PASS)
- Providing systemwide technology faculty and staff development (@ONE)
- Collecting and disseminating all student enrollment records (MIS Data Collection, Data Mart, Data on Demand)

The Tech Center at Butte has been a grantee of the CCCCO for over 10 years and is well-known and established as the hub of technological information and innovation in the CCC system. They have successfully handled and managed over $200 million of technology funds for the system, and charge a very low overhead.

1. BUDGET

See budget template.

The project is requested to be funded by two grants (Gates, Hewlett) at 50% each. Both halves must be granted to successfully move forward.

It is anticipated that the grant amount should fully cover the costs of the proof of concept paper and the implementation of the pilots.

Full implementation, should the pilots and concept paper point toward moving forward, is dependent on the State's willingness and desire to fund a centralized assessment and testing solution. Given the current state of finances in California, such a funding window is not likely to occur for at least two years, which gives the pilots an adequate window to prove the concept. Ultimately, this will lead to a better BCP request, and will give time for the system and its advocates to fully support the concept and lobby on its behalf.

1. RISKS

Since the proof of concept paper is exploratory, there is little risk involved in it; it is merely gathering the necessary information needed to move forward. There are some risks involved in the EAP pilot; it is possible that CDE might not allow the EAP test data to be used as is requested by the CCCCO due to privacy restrictions. There is little risk in piloting the course selection optimization application as all information necessary is currently collected in the CCCCO MIS data collection. It is technically possible that we might not find a willing set of colleges to pilot a centralized assessment delivery, although to date, some have already expressed interest in being a pilot college.

1. LESSONS LEARNED AND EVALUATION

Evaluation for this project will come in various forms. For the proof of concept paper, success will be defined as completion of the necessary information gathering and ultimately a green light to pursue State funding. Evaluation for the three other pilots will also be measured by completion and eventual usage of the pilot products and their eventual scalability to a systemwide application. For the EAP pilot and course selection optimization pilots, getting students to the data and website will be measured in volume of hits. It is likely that secondary evaluation of the actual changes in student outcomes as a result of these applications will need to occur, but this is not covered in the current grant request.

1. SUSTAINABILITY

The CCCCO has the capability in its MIS Division and at the Butte Tech Center to scale up these web application pilots systemwide and maintain them on an ongoing basis; it is only the application development portion that we have resource constraints with. While we would like to assume the centralized assessment concept becomes a permanently funded item in the CCC system budget, the actual creation of such a funded item in the budget is dependent on the State. Should the concept eventually be adopted (it has already been endorsed by the Legislative Analyst Office), the funding stream attached to it should easily sustain the project on an ongoing permanent basis.

CCCAssess Project Overview Document

Background and Motivation
California's Community Colleges face the challenge of accurately assessing and placing the growing numbers of students seeking entrance. Historically, each college has borne the financial and administrative burden of assessing and placing students in the curricular areas of Math, English and English as a Second Language (ESL). The California Community College System is looking for the financial and process efficiencies that could be achieved through a centralized common assessment model that serves the entire community college system and has received two grants to complete a feasibility study and pilot to prove the concept.

Testing Instruments

The current model allows each college to select a testing instrument and/or apply customized changes to an instrument, resulting in a number of different testing instruments within the CCC System. These variations generate:

- Many different testing instruments statewide in Math English and ESL.
- Testing instruments that lack uniformity, comparability and mobility from one CCC institution to another.
- Expenses related to the retesting of the same students who attend multiple institutions.

- Difficulty generating success algorithms across the state for research purposes.

Financial Climate

Purchasing testing instruments by individual college eliminates the collective purchasing power of the entire California Community College System. Ultimately,

- Colleges (and the System) pay full price for each administered test.
- Colleges are economically disincentivized to maximize the number of assessments given.

*Multiple-Measure Placement *

In addition, the current model does not capture or deliver non-CCC testing instruments such as K-12 tests, STAR, CST, CAHSEE, EAP or transcript making multiple-measure placement difficult for the increasingly mobile Community College Student.

Goals

The ultimate goal of the Common Assessment Model is to deliver an unlimited number of assessment tests to the colleges free of charge.

Additional goals of the project include:

- Select and administer a single common testing instrument for each of the curricular areas of Math, English and English as a Second Language.
- Create a centralized assessment test utility that delivers the centrally selected testing instruments to students via internet.
- Develop a secure central data repository for CCC and K-12 testing instruments.
- Provide an Assessment Portal for CCC counselors to access testing instrument results and transcript data from K-12 in addition to CCC administered test data
- Administer a student "pre-test" that could be delivered via the internet to prospective students before taking the actual assessment tests.
- Negotiate a price break based on testing instrument volume.
- Allow optional college participation. Colleges may continue to offer locally selected and purchased testing instruments but costs will be borne locally instead of centrally.
- Deliver assessment scores to local IT systems.
- Implement sufficient standards to allow for the development of optimization algorithms of placement success based on test score and highest level of subject taken.

Scope and High Level Timeline

The scope of the pilot phase will include:

- Phase 1: Jan 2010 – Feb 2011: Test instrument selection, development of the technical feasibility document, business and cost model, legislative impacts
- Phase 2: Mar 2011 – Aug 2012: Finalized Technical design documents, Assessment Portal, Data Repository, pilot tests with participating institutions

Deliverables
- One common testing instrument for each curricular area of Math, English and English as a Second Language
- Technical Feasibility Document
- Business and Cost Model
- Reports: The Common Assessment pilot is a two year pilot and must submit status reports to the grantees on the following dates: First Reporting Dates: Hewlett 1/16/2010, Gates 2/01/2011 Second Reporting Dates: Hewlett 1/16/2011, Gates 2/1/2012 Third Reporting Dates: Hewlett 11/16/2012, Gates 10/1/2012 An additional report to the Board of Governors is due February 28, 2011.

Project Structure

The Common Assessment Project will be lead by the Telecommunications and Technology Unit at the California Community Colleges Chancellor's Office.

The team will consist of the following groups to support the project's goals:

- Instrument Selection Task Force
  - Responsible for gathering and analyzing testing instruments and data. Drive the test instrument selection process and make the final decision regarding test instrument selection.
- Technical Team
  - Responsible for gathering and analyzing technical data for test instrument vendors, assessment portal and website, data repository and security. Develop the technical feasibility documentation.
- Advisory Committee
  - Include representatives from the following entities to provide input into the project direction and decisions:
    - California Community College Chancellor's Office
    - Legislative Analyst's Office
    - Department of Finance
    - State Department of Education
    - Academic Senate of the California Community Colleges
    - Research and Planning Group for California Community Colleges
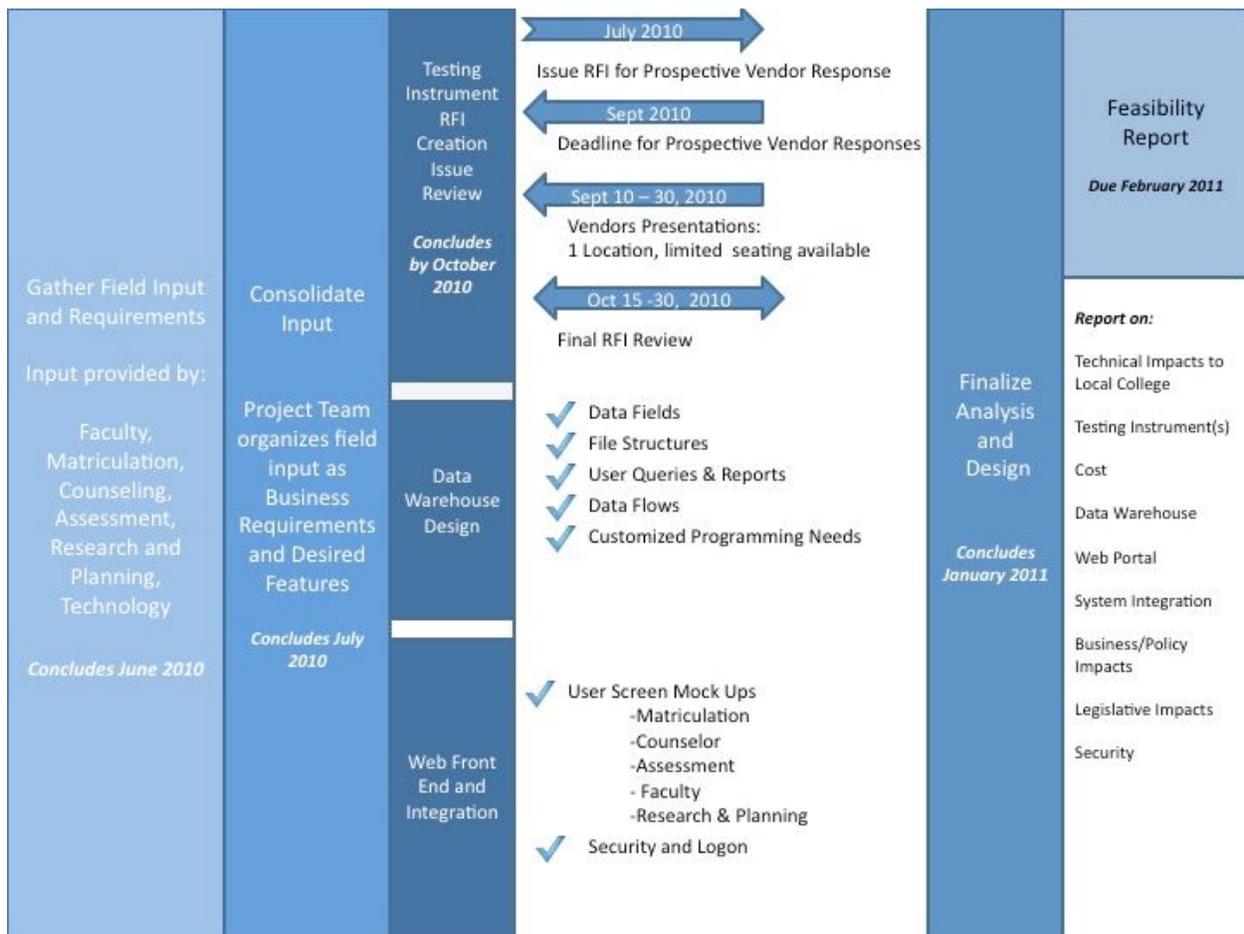   - CCC Matriculation Professionals Association

Next Steps
- Identify members and solicit involvement in the Advisory Committee and Instrument Selection task force.
- A formal and detailed project plan will be forthcoming as the project requirements solidify.

CCC Assess Project Planning Diagram

Notes from CCCAssess Initial Kickoff Meeting

Centralized Assessment and EAP Planning Meeting (12/15/09)

Attendees
Patrick Perry
Linda Michaelowski

Morgan Lynn
Barry Russell
Catherine McKenzie
Doug Cremer
Tim Calhoon
Jeff Spano
Sonia Ortiz-Mercado
Mike Magee
Bonnie Edwards

The proposal that came out of the initial planning meeting was to break the pilot into two components. In addition, test selection is no longer a requirement for starting the technical implementation. EAP is now being tied to the CCCAssess pilot.

Component 1: Technical Implementation utilizing existing tests from pilot colleges.
Component 2: Selection of a single testing instrument per curricular area. Run simultaneously with Phase 1.

Area	Details	Owner(s)
K-12 Data	Address and review legislative laws governing the collection, storage and sharing of K-12 data (STAR, CST, CHASEE)	Mike Magee
Costs	Provide cost figures for current assessment expenses at the colleges. Figures exist from 2 years ago.	Linda Michaelowski
	Meet with vendors for cost estimates.	Regan / Bonnie
	Set up meeting with Marlene, Mike, Linda, etc. to discuss strategy to drive costs through the Legislature. Are cost estimates needed by April or May?	Bonnie
Multiple Measures	Determine if Math and English can be parsed and/or identified in electronic transcripts	Tim Calhoon
	Determine if CalPADS and/or CalPASS would be able to provide additional and valuable multiple measures.	??
EAP	Request data about which high schools feed into which colleges from the GIS system (John Roach)	Bonnie Edwards
	EAP Technical Needs : Students need web access by July and colleges need EAP data by September	EAP Technical Group

Pilot Selection	List of EAP Pilots as possible CCCAssess pilots	Bonnie Edwards Sonia Ortiz-Mercado
	Finalize list of Pilot colleges	Group
Advisory Committees	Create list and contact potential Advisory Committee members.	Group
Data Storage	Set up meeting with Amir, Karik, Gold , Sonia, Caterina(csu), ?? to discuss where data will be stored, etc	Patrick
? Need more info	need advisor to help design the transfer/counselor	?

Workgroups and Committees

EAP Technical Workgroup
Doug Cremer or Tim Calhoon
This workgroup will analysis the EAP requirements and develop a technical work plan to support the EAP efforts.

CCCAssess Advisory Committees
The CCCAssess project will have two advisory committees. One committee will be charged with Instrument selection and the other will be more wide reaching and oversee the project's many areas.

Instrument Selection Committee
This workgroup will select one testing instrument per curricular area and act as a review group for program/policies and procedures.
Kitti Moore-Walkie
CSU – Marsha
Research and Planning
Matriculation
Janie McKigh
Assessment
CSSO
Academic Senate
Regan Coruthers

Overall CCCAssess Advisory Committee
The Advisory Committee represents the Community College System and will advise/drive the CCCAssess project plan to an ultimate successful statewide implementation.

CIO
CSSO
CISO
Senate
RP
Matriculation (1)
Assessment (1)
Technology
Student Representative (Reed)
LAO
Finance

Additional Topics of Discussion:

Additional Assessment Website Feature:
Advisement tool that contains list of success probability (maybe side contract with Tom and Vinod)

This piece could be immediately available to the colleges/students. Gives success range: high/med/low probability for courses.

Opens
1. How will EAP interact technically and programmatically with the CCCAssess project? We need to clarify roles and responsibilities in this space.
2. Clearly define the roles, responsibilities and authority for each of the advisory committees.

CCC Assess Advisory Committee Meeting Minutes May 18, 2010

CCC EAP Project

Planning Retreat Attendees (2010)

- Dr. Bill Scroggins, President/Superintendent, College of the Sequoias and TTAC Chair
- Patrick Perry, Vice Chancellor of Technology, Research and Information Systems, CCC Chancellor's Office
- Dr. Ann Beheler, VP of Academic Affairs, Porterville College
- Marie Boyd, Curriculum Chair and SLO Coordinator, Chaffey College
- Tim Calhoon, Butte College, CCC Technology Center

- Regan Caruthers, Consultant, Digital Textbook PIlot
- Doug Cremer, Executive Director, Butte Center, and SAC chair
- Steve Crow, VP of Admin Services and IT, College of the Siskiyous
- Bonnie Edwards, Senior Information Systems Analyst, Chancellor's Office
- Ricardo Foreman, Technical Support Specialist, Santa Ana College
- Caryn Jones, CCC Technology Center
- John Koetzner, Librarian, Mendocino College
- Tim Kyllingstad, Senior Technical Support/Assistive Technology Specialist, Cerritos College
- Stephanie Low. Dean, Curriculum and Instruction, Chancellor's Office
- Catherine McKenzie, Director, Technology Unit, CCC Chancellor's Office
- Vangie Meneses, Vice President, Office of Student Services, Coastline Community College
- Jim Mathews
- Wheeler North, Faculty, San Diego Miramar, and TTAC Vice Chair
- Laurie Vasquez, Assistive Technology Specialist, Santa Barbara City College, and Chair of DETAC
- John Wagstaff, Chief Technology Center, El Camino College and El Camino-Compton Center
- Mary Beth Baker, facilitator and consultant