California Community Colleges

Telecommunications and Technology Advisory Committee

Summer 2022 Bi-Monthly Meeting

July 28, 2022

Agenda

- Welcome
- Chancellor's Office Updates
- Annual Technology Priorities
- Systemwide Security Strategy and FY22-23 Funding
- Systemwide Technology Management
- Wrap-up

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The *Vision* + Digital Equity

Anyone in California seeking a postsecondary education, regardless of what they look like, where they live, time since high school, and their preferred education modality should have on-demand access.

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Chancellor’s Office Updates

Chancellor's Office Updates

Annual TTAC leadership change

- Gratitude to Dr. Ginni May (ASCCC)
- Welcome Dr. Michelle Bean (ASCCC)!

Chancellor's Office leadership changes

- Dr. John Hetts as Executive Vice Chancellor
- Chancellor Oakley tenure ends August 1

Favorable FY22-23 Budget for CCCs

- IT infrastructure and security investments: $75M one-time, $25M ongoing

June 2022 TTAC Updates (emailed)

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Annual Technology Priorities

FY21-22 System Technology Priorities

- Use of CCCID on current and continuous students
- Enroll more students through Course Exchange
- Use SuperGlue
- Automate fraud monitoring

FY22-23 Technology Priorities

- Validate college technology inventory
- Eliminate end of life software and hardware
- Implement multi-factor authentication locally systemwide
- Provide guidance on patching and software updates
- Mature systemwide technology support (i.e., Security Center, regional cybersecurity teams, and InfoSec TAP)
- Document system technology architecture via grant renewal process
- Progress demonstrably on implementation of change control

Technology Participatory Governance

Technology Participatory Governance

- Distance Education and Education Technology Advisory Committee (DEETAC)
- Data Warehouse Advisory Group
- Student Metrics Advisory Committee (to restart FY22-23)
- Systemwide Architecture Committee

Systemwide Architecture Committee

Provide the technical review and support of TTAC

Summer 2022 charge is to:

- Review technology inventory results and support maturity model development (overall, security, accessibility)
- Support ID Proofing RFI review
- Provide input on the self-assessment associated with the FY22-23 ongoing funds

Systemwide Security (including Fraud Mitigation)

Fraud Mitigation Strategy Updates

- Systemwide technology inventory (91% completed)
- Evaluate use of the CCC Data Warehouse (complete)
- Systemwide Data-driven identity verification contract (complete)
- ID Proofing Request for Information (in progress)
  - RFI review starting July/August 2022
  - Recommendations to Chancellor's Office expected by September 2022
- Other implementations
  - Identity and Access Management selection (complete)
  - Bi-directional SuperGlue expected Fall 2022
  - Systemwide IPQS implementation underway

Revisiting the System-level Security Support

The Security Center, housed at the Tech Center largely provides access to security-related services and tools, but:

- Relies on an “If you build it…” approach that is inequitable
- To date has no role in overseeing the CCCApply Spam filter
- Understands gaps between security-related services and tools provided versus those (likely) needed

Security Center Tool Example

Tools

Splunk - 39 colleges

Tenable - 40 districts

Spirion - 48 districts

InCommon - 55 districts

Services

Penetration Testing - 49 colleges

Phishing Testing - 2 districts

Security Lab - 10 colleges

Web Application Testing - 4 districts

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Proposed FY22-23 Statewide Security Services

Creating a more secure system

July 28, 2022

Statewide Security Services – Current State

- Tools-based approach
- Lack of clarity in roles and responsibilities
- Limitations in level of service
- Little-to-no remediation assistance
- Does not attend to institutional inequities

TAP InfoSec
Strategy
Fraud Prevention
Policies
EdTech Assessments

Security Center
Security Tools
Penetration Test
Phishing
Security Lab

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CalSecure Standards – Current State

PHASED ORDER OF PRIORITY OF CYBERSECURITY CAPABILITIES *

ONE	TWO	THREE	FOUR	FIVE
• Anti-Malware Protection	• Asset Management	• Data Loss Prevention	• Disaster Recovery	• Identity Lifecycle Management
• Anti-Phishing Program	• Incident Response	• Log Management	• Enterprise Sign-On	• Insider Threat Detection
• Multi-Factor Authentication	• Continuous Patch Management	• Network Threat Detection	• Mobile Device Management	• Network Access Control
• Continous Vulnerability Management	• Privileged Access Management	• Network Threat Protection	• Application Development Security	• Enterprise Encryption
	• Security and Privacy Awareness Training	• Threat Intelligence Platform	• Application Whitelisting	• Mobile Threat Defense
	• Security Continuous Monitoring 24x7	• Application Security	• Software Supply Chain Management	
	• Cloud Security Monitoring	• Operational Technology Security		

Proposed Future State

PHASED ORDER OF PRIORITY OF CYBERSECURITY CAPABILITIES *

ONE	TWO	THREE	FOUR	FIVE
• Anti-Malware Protection	• Asset Management	• Data Loss Prevention	• Disaster Recovery	• Identity Lifecycle Management
• Anti-Phishing Program	• Incident Response	• Log Management	• Enterprise Sign-On	• Insider Threat Detection
• Multi-Factor Authentication	• Continuous Patch Management	• Network Threat Detection	• Mobile Device Management	• Network Access Control
• Continous Vulnerability Management	• Privileged Access Management	• Network Threat Protection	• Application Development Security	• Enterprise Encryption
	• Security and Privacy Awareness Training	• Threat Intelligence Platform	• Application Whitelisting	• Mobile Threat Defense
	• Security Continuous Monitoring 24x7	• Application Security	• Software Supply Chain Management	
	• Cloud Security Monitoring	• Operational Technology Security		

Framework for Statewide Security Future State

TAP InfoSec
Oversight,
strategy,
and standards

Security Center
Monitoring,
incident response,
and tooling

Regional Teams
Remediation,
implementation,
and support

“Offense”

“Defense”

“Special Teams”

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TAP InfoSec

Oversight, strategy, and standards

Strategic.
- System-level strategic oversight of Statewide Security Services.
- Communication plan (conferences, roadshows, surveys, etc.).
- ID Proofing / IAM rollout planning.
- Monitoring and reporting on system maturity and progress.

Tactical.
- Coordination of Statewide Security Services.
- EdTech portfolio security assessments.
- Fraud prevention expertise.
- Information Security Policy and Procedure guidance.

Assessments.
- Annual self-assessment platform for all districts.
- Security assessments for 24 districts (1/3 of system) each year.
- Penetration tests for 24 districts (1/3 of system) each year.

Security Center

Monitoring, incident response, and tooling

Security Operations Center (SOC).
- 24x7x365 monitoring, detection, and response for colleges.
- Develop playbooks for immediate response.
- Onboarding 36 districts (1/2 the system) in year one.
- Active onsite Incident Response.
- Threat Hunting.
- Alerts and Cyber Intelligence (MS-ISAC)
- Potential for cybersecurity student internships

Tooling.
- Microsoft A5
- Tenable
- Splunk
- Spirion
- InCommon
- Phishing (KnowBe4)

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Regional Teams

Remediation, implementation, and support

Remediation.
- Provide 28,000 hours of services to districts, prioritizing those with greatest need
- Regional support by area: North, Bay Area, South, and Greater Los Angeles
- Facilitate hard to hire security skillsets to districts
- Collaborate with TAP and Security Center to remediation critical vulnerabilities identified through Tenable

Solutions.
- Design and implement Identity and Access Management Solution
- Deployment improved Endpoint Detection and Response

Refresh.
- Replacement of end-of-life (or near EOL) software / hardware at colleges.

Identity and Access Management (IAM)

Microsoft A5

- Superior secondary features such as EDR, Data Loss Prevention, Identity Governance and Auditing
- Significantly lower cost
- **Recommend** immediate investment for systemwide adoption and maintenance of the master data record

Okta

- Superior IAM product with better offering and strategy (Forrester)
- Strong partnership with Ellucian
- **Recommend** colleges use available funds to purchase (through CollegeBuys), but additional work needed to for colleges already using Okta and those in talks for adoption – particularly given ERP alignment

Grant Organization, Management & Oversight

How are the EdTech Grants Set Up?

The EdTech Grants are up for renewal and relatively few understand how they are set up:

- Per statute, the Chancellor's Office cannot spend taxpayer funds directly and must use a community college district as fiscal agent
- Funding is organized into fiscal agency or grants
- Grants are typically competitively bid by an individual community college district
- Grantees are independent from, but work on behalf of the CCC system, based on agreements with the Chancellor's Office (who obtains direction from legislation and the Board of Governors)

Shifting EdTech Management Approach

Prioritizing digital equity has surfaced:

- Gaps in enterprise architecture
- Uneven and low utilization of products, tools and services
- Logistical challenges with product licensing and support
- Only moderate use of analytics
- Chancellor's Office capacity limitations

A new approach to EdTech grant management seems appropriate to optimize college/district utility.

Concerns about EdTech Management

- Inadequate documentation for resiliency and evolution
- Outsized
- Lack of attention to system-level decision-making
- Poor attention to complexities around communication (e.g., grantees should reflect Chancellor's Office direction)
- Vendor "preferences" do not derive from or are inconsistent with the Chancellor's Office messaging
- Inconsistent contracting and licensing structures (e.g., CollegeBuys in many places, but not all)
- Lack of transparency around contracts and licensing (e.g., requests for Chancellor's Office commitment for $500k of Prop 98 funds with no contract to review)

Systemwide Investments in Tools and Services

- A “tools/services-first” approach has guided the systemwide technology strategy to date
- This is good for well-resourced colleges/districts, but not clear if valuable for less well-resourced institutions given inequities in local IT (and other) capacity
- TTAC should help inform the criteria for when/how systemwide tools/services are funded, or unfunded

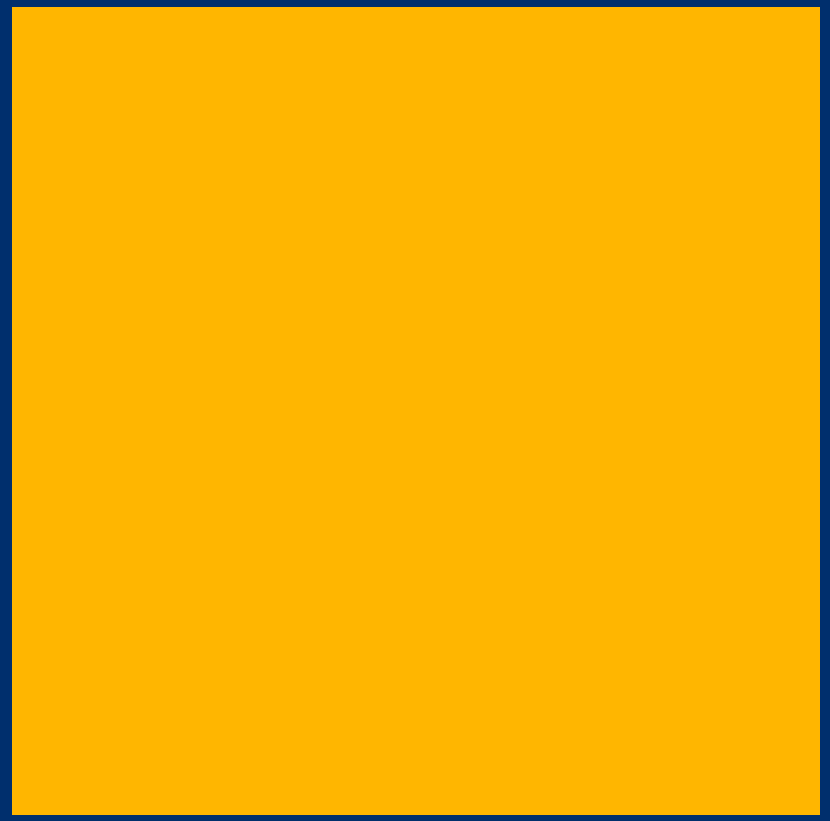
Cost Review Example

Tool/Product	FY21/22 Adoption	Approx Annual Cost	$ per "Active" College	$ if Systemwide Adoption
TOOL 1	53	$2,100,000	$40,000	$18,000
TOOL 2	56	$1,200,000	$21,000	$10,000
TOOL 3	16	$1,200,000	$75,000	$10,000
TOOL 4	58	$767,000	$13,000	$7,000

Note: None of these tools were in start-up phase during FY20/21

Proposed Criteria

- Purpose of the tool/service
- Ease of implementation/decommissioning
- Number of colleges and districts implementing
- Number of colleges and districts using
- Number of students per college and district actively using
- Measurable relationship to student success
- Ability to evaluate
- Cost per student, college and district



Upcoming Work & Wrap Up

A Recession is Coming

- What statewide technology infrastructure needs to be in place to ensure local resilience?
- How does the Chancellor's Office help ensure a resilient ecosystem exists locally?
- What would "regional" technology support look like?

Upcoming (Fall 2022) Work

- Finalize EdTech renewals and RFA
- Execute systemwide application review strategy
  - Support SSS maintenance
  - Execute a Systemwide Application TaskForce
  - Commence listening tour and provide PD support as we ‘make do’
  - Identify legislative advocacy for simplification
- Expand systemwide security protection
  - Systemwide support for Microsoft a5 Security Add-on
  - ID Proofing RFI review and selection or RFP
  - Finalize initial allocation method for one-time and ongoing funds

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Thank you!

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