Comprehensive Program Review Report

Program Review - Technology Services

Program Summary

2021-2022

Prepared by: Glen Profeta

What are the strengths of your area?: The mission of the Technology Services department is to provide quality service and user satisfaction.

The core values of the Technology Services department are:
1. Integrity – Be responsible stewards of systems, processes, and data.
2. Continuous Improvement - By understanding our user's expectations and continuously improving products, services, and processes.
3. Innovation - Stay abreast of developments in technology and identify areas that could benefit from them.
4. Team - We recognize that no one can or does know it all. We are successful only when we work collaboratively, utilizing the individual strengths of the team members.

In the last year, the Technology Services department has completed the following:

1. 4,770 work-orders submitted and 4,529 work-orders completed (95%)
2. Replaced or added 140 desktop computers, laptops, or Chromebooks
4. Hired an Applications Manager, two Programmer Analysts, Cloud Applications Engineer, Media Coordinator, Network Engineer, and two Microcomputer Specialists
5. Completed the migration of our ERP, Banner, to the cloud

What improvements are needed?: Continuous Improvement:

1. Complete the migration, resolve any open issues in result of, and provide training for the new COS phone system. The new system will take advantage of the latest Voice over IP (VoIP) technology that provides greater flexibility and customization as it operates on our recently upgraded network.

2. Cloud migration. We are moving our on-campus servers to an internet hosted services provider, Amazon Web Services (AWS). We currently spend a significant amount of time and money, managing on-site data centers in multiple locations. Moving to AWS provides a way to acquire and use infrastructure on-demand and pay only for what we consume.

3) Update IDF, MDF, and Server Room access keys to utilize electronic methods that track, log, and control access on a user basis. Where this is not possible, place a log sheet and instructions to ensure that IT personnel are notified with access events and the event is recorded.

4) Upgrade Banner self-service to the latest version (9)

5) Enhance HR/Finance Banner functionality with the implementation of Position Control, FLAC, and budget forecasting (Axiom).

Staffing:

1. Security Specialist - The District's security practices have not kept pace with technology. In the ever-changing

landscape of technology, any institution that houses Personally Identifiable Information (PII) is a target. Most organizations, including California Community Colleges, have recognized the need for full-time staff uniquely trained and qualified to address network and data security. It is recommended to add one FTE Security Analyst ($150,000), with the proper credentials to ensure and maintain security, to Technology Services.

2.   Business Systems Analyst – The use of software based solutions at the district has continued to increase over time as well as the number of software applications being used in order to meet the needs of our students and employees. Maintaining and implementing new solutions requires full-time staff to understand the business functions to ensure that technology solutions meet those business needs. Many institutions have utilized Business Systems Analysts to help them better utilize the software they currently own as well as help the institution adopt new solutions when needed by translating the business needs into technical requirements for other technology specialists to build or implement. It is recommended to add one FTE Business Systems Analyst ($85,000) to help the district address these needs moving forward.

3.   Data Integration Developer – Utilizing data effectively is a key element to the success of the district. We must find new ways to manage this ever-growing resource. The current way we aggregate our data needs to be updated to utilize new industry standard practices as well as new architectures to provide a better platform for data driven decision making. The district's data warehouse needs to be retooled in order to make this a reality. This new position would provide the district with a person specializing in data integration tools, operational data stores, data marts and other data integration solutions. It is recommended to add one FTE Data Integration Developer ($90,000) to address this growing need.

4.   Database Administrator - The Banner application stack has been migrated to the AWS cloud and the current Database Administrator is now supporting the database in the new cloud architecture with many new responsibilities, tools, and processes. This position is currently at grade 53 and it is a key position responsible for the ongoing success of our Banner implementation, in order to address the new duties and requirements for this position it is recommended to move it to grade 55 which aligns it with our Cloud Applications Engineer and Cloud Infrastructure Engineer positions.

5.   Senior Programmer Analyst - Over time, and past hiring practices have created a misalignment of salary for the Technology Services department's Senior Programmer Analyst position. Two positions are considered equivalent in responsibility;

a) System Administrator, 2) Senior Programmer Analyst.

The Senior Programmer Analyst is currently three (3) grades below the System Administrator and Web Master. A salary survey (one at State Center) shows that a typical senior programmer earns between $91,000 and $124,000 annually. To correct this situation and maintain competitiveness in the industry that will attract qualified candidates, the current grade of 50 is recommended to be increased by $5,640 annually to grade 53.

6:     Microcomputer Specialist – Segment this role into two distinct functions.

     a) IT Support Specialist – Focused primarily on front-end, real-time support issues that are reported by phone, email, helpdesk, and in person. This role may involve installing
     software, updating systems, provide remote support, troubleshooting issues, and escalating support needs where appropriate.

     b) IT Systems Specialist – Focused primarily on backend tasks and projects like desktop imaging, equipment receiving, inventory, documentation, lab/laptop provisioning,
     desktop patch management, desktop endpoint security, etc. This role may provide additional support for the Network Analyst and Systems Administrator.

Staff skills are vital and a priority for our department. The changes expected in technology requires unique skills. One of the most significant challenges for COS is to have the skill sets available to meet the technical objectives that will keep us competitive. We can meet the need by filling the gaps that our current positions don't address and provide our existing staff training. Existing staff will need to become proficient with Cloud-based computing and, specifically, Amazon Web Services (AWS).

All staffing requests above support, District objective 4.2, improve the efficiency, effectiveness, and communication of technological resources to advance the district mission aligns with this request.

Wolverton remodel – the space that the Applications group currently occupies needs to be remodeled. The carpets need to be replaced and additional power outlets and network ports need to be installed to accommodate the growing needs of the department. The nature of our jobs requires minimal distraction and the current structure does not provide enough spaces once fully staffed. The current cubicles do not provide enough soundproofing which makes it difficult to hear and concentrate when others are on calls or online meetings. We also need to plan for future growth and are requesting a redesign of the space with new cubicles that will provide more individual spaces, allow us to reclaim much needed conference room space, and increase soundproofing which should increase the productivity of the group.

Describe any external opportunities or challenges.: 1. Constant changes in Federal regulations requiring updates to ERP system. 2. Constant security threats, attacks, and malicious emails.
Overall SAO Achievement: For the 2020-21 year, the Technology Services Department has completed three Service Area Outcomes:

1. Upgraded Banner to the Latest version.
2. Moved Banner to Amazon Web Services.
2. Completed cabling upgrade.

Changes Based on SAO Achievement: None
Outcome cycle evaluation: Overall the department is moving forward as planned with proposed outcomes. The work being completed sometimes reveals other work that must be done and sometimes this work is completed by other departments. This is a positive effect in moving the district toward effectiveness and efficiency.

Action: Phone System

Upgrade desktop phones and supporting infrastructure.

Leave Blank:
Implementation Timeline: 2021 - 2022
Leave Blank:
Leave Blank:
Identify related course/program outcomes: Operational requirement
Person(s) Responsible (Name and Position): Glen Profeta - Dean, Technology Services, Greg Meinert - Infrastructure and Security Manager
Rationale (With supporting data): Technology Services supports a wide-area network infrastructure across three geographical sites. These critical systems that the Visalia campus and both centers depend on must be maintained for the District to conduct business. The most significant change will come with our phone system and how it functions - today modern telephony use the same network that computers use and are IP based. This infrastructure has minimum requirements for bandwidth, capacity, and security. This request aligns with District Objective 4.2 to improve organizational effectiveness by strengthening operations of and communication between District departments, divisions, and constituents.
Priority: High
Safety Issue: No
External Mandate: No
Safety/Mandate Explanation:

Update on Action

Updates

Update Year: 2021-2022   09/15/2021
Status: Continue Action Next Year
Phone system is in progress at 90%, the completion date is anticipated for October 30, 2021.
Impact on District Objectives/Unit Outcomes (Not Required):

Link Actions to District Objectives

District Objectives: 2018-2021

District Objective 4.2 - Improve organizational effectiveness by strengthening operations of and communication between District departments, divisions, and constituents

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District Objectives: 2015-2018
District Objectives - 1.1 - Increase overall enrollment by 1.75% annually
District Objectives - 4.1 - Improve operational systems based upon data driven decision-making as described in the COS 2.0 manuals.
District Objectives - 4.2 -Improve the efficiency, effectiveness and communication of human, physical, technological, and financial resources to advance the District Mission.

Action: Hanford Data Center UPS

Install batteries for Universal Power Supply (UPS) for Hanford Data center.

Leave Blank:
Implementation Timeline: 2020 - 2021
Leave Blank:
Leave Blank:
Identify related course/program outcomes:
Person(s) Responsible (Name and Position): Network Engineer
Rationale (With supporting data): A UPS will provide fail-over capability and a "graceful" shutdown for extended power outages.
Priority: High
Safety Issue: No
External Mandate: No
Safety/Mandate Explanation:

Resources Description

Adjustment to Base Budget - Periodic service maintenance   (Active)
Why is this resource required for this action?: On-going maintenance is needed to replace batteries periodically - $8000.
Notes (optional):
Cost of Request (Nothing will be funded over the amount listed.): 8000

Link Actions to District Objectives

District Objectives: 2018-2021
District Objective 4.2 - Improve organizational effectiveness by strengthening operations of and communication between District departments, divisions, and constituents

Action: Positive Attendance Lab Hours tracking software

Purchase a Positive Attendance Lab Hours tracking software (AccuTrak or Accudemia) for regulatory and reporting requirements

Leave Blank:
Implementation Timeline: 2020 - 2021
Leave Blank:
Leave Blank:
Identify related course/program outcomes:
Person(s) Responsible (Name and Position): Applications Manager
Rationale (With supporting data):
Priority: Medium
Safety Issue: No
External Mandate: Yes
Safety/Mandate Explanation: CCC Supplemental Learning Assistance and Tutoring Regulations and Guidelines
Title 5, 58050 Conditions for Claiming Attendance (apportionment)

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Update on Action

Updates

Update Year: 2021-2022   09/15/2021
Status: Action Completed
Accudemia purchased and implemented
Impact on District Objectives/Unit Outcomes (Not Required):

Link Actions to District Objectives

District Objectives: 2018-2021

District Objective 4.2 - Improve organizational effectiveness by strengthening operations of and communication between District departments, divisions, and constituents

Action: Cloud Application Engineer

Recruit for Cloud Application Engineer to maintain and develop cloud specific applications.

Leave Blank:
Implementation Timeline: 2020 - 2021
Leave Blank:
Leave Blank:
Identify related course/program outcomes:
Person(s) Responsible (Name and Position): Applications Manager
Rationale (With supporting data): Moving our infrastructure and applications to the cloud requires additional, advanced skills.
Priority: High
Safety Issue: No
External Mandate: Yes
Safety/Mandate Explanation:

Update on Action

Updates

Update Year: 2021-2022   09/15/2021
Status: Action Completed
Position hired.
Impact on District Objectives/Unit Outcomes (Not Required):

Link Actions to District Objectives

District Objectives: 2018-2021

District Objective 4.2 - Improve organizational effectiveness by strengthening operations of and communication between District departments, divisions, and constituents

Action: Banner Migration to the Cloud (AWS)

COS Enterprise Resource Planning (ERP) system (Banner) resides on old hardware, in an onsite server room. Moving to a cloud hosted service provides for on demand use and upgrading, with fault tolerance and disaster recovery built-in.

Leave Blank:
Implementation Timeline: 2020 - 2021
Leave Blank:
Leave Blank:
Identify related course/program outcomes:

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Person(s) Responsible (Name and Position): Glen Profeta - Dean, Technology Services, Greg Meinert - Infrastructure and Security Manager
Rationale (With supporting data):
Priority: High
Safety Issue: No
External Mandate: No
Safety/Mandate Explanation:

Update on Action

Updates

Update Year: 2021-2022   09/15/2021
Status: Action Completed
Project completed, February 2021.
Impact on District Objectives/Unit Outcomes (Not Required):

Link Actions to District Objectives

District Objectives: 2018-2021

District Objective 4.2 - Improve organizational effectiveness by strengthening operations of and communication between District departments, divisions, and constituents

Action: Business Systems Analyst

Add one FTE Business Systems Analyst

Leave Blank:
Implementation Timeline: 2021 - 2022
Leave Blank:
Leave Blank:
Identify related course/program outcomes:
Person(s) Responsible (Name and Position): Manager of Applications
Rationale (With supporting data): The use of software based solutions at the district has continued to increase over time as well as the number of software applications being used in order to meet the needs of our students and employees. Maintaining and implementing new solutions requires full-time staff to understand the business functions to ensure that technology solutions meet those business needs. Many institutions have utilized Business Systems Analysts to help them better utilize the software they currently own as well as help the institution adopt new solutions when needed by translating the business needs into technical requirements for other technology specialists to build or implement. It is recommended to add one FTE Business Systems Analyst ($85,000) to help the district address these needs moving forward.

See data integration job titles - Bing – Data Integration Specialist, Sr. Data Integration Developer (SSIS)
Priority: High
Safety Issue: No
External Mandate: No
Safety/Mandate Explanation:

Link Actions to District Objectives

District Objectives: 2018-2021

District Objective 4.2 - Improve organizational effectiveness by strengthening operations of and communication between District departments, divisions, and constituents

Action: Cloud Infrastructure Engineer

Program Review - Technology Services

Responsible for executing the architecture of cloud network services.

Leave Blank:
Implementation Timeline: 2020 - 2021
Leave Blank:
Leave Blank:
Identify related course/program outcomes:
Person(s) Responsible (Name and Position): Infrastructure and Security Manager
Rationale (With supporting data): Moving our infrastructure and applications to the cloud requires additional, advanced skills.
Priority: High
Safety Issue: No
External Mandate: No
Safety/Mandate Explanation:

Update on Action

Updates

Update Year: 2021-2022   09/15/2021
Status: Continue Action Next Year
Position in scheduled to be hired by October 2021.
Impact on District Objectives/Unit Outcomes (Not Required):

Resources Description

Personnel - Classified/Confidential - Recruit for Cloud Infrastructure Engineer to design and develop strategy for implementation and ongoing optimization of a cloud environment. Develop Cloud network architectures (i.e., AWS VPCs, subnets, VPN. (Active)
Why is this resource required for this action?:
Notes (optional):
Cost of Request (Nothing will be funded over the amount listed.): 150000

Link Actions to District Objectives

District Objectives: 2018-2021

District Objective 4.2 - Improve organizational effectiveness by strengthening operations of and communication between District departments, divisions, and constituents

Action: Security Specialist

Recruit a Security Specialist to address on-going network and data security.

Leave Blank:
Implementation Timeline: 2020 - 2021
Leave Blank:
Leave Blank:
Identify related course/program outcomes:
Person(s) Responsible (Name and Position): Infrastructure and Security Manager
Rationale (With supporting data): Increased network and email attacks, coupled with the personal information that technology services is responsible to safeguard requires additional, advanced skills.
Priority: High
Safety Issue: No
External Mandate: No
Safety/Mandate Explanation:

Program Review - Technology Services

Update on Action

Updates

Update Year: 2021-2022   09/15/2021
Status: Continue Action Next Year
Added to Program Review for approval
Impact on District Objectives/Unit Outcomes (Not Required):

Resources Description

Personnel - Classified/Confidential - In the ever-changing landscape of technology, any institution that houses Personally Identifiable Information (PII) is a target. Most organizations, including California Community Colleges, have recognized the need for full-time staff that is uniquely trained and qualified to address network and data security. (Active)

Why is this resource required for this action?: To safeguard student and staff data, and provide protection against on-going network and personal account and Identity attacks.
Notes (optional):
Cost of Request (Nothing will be funded over the amount listed.): 150000

Link Actions to District Objectives

District Objectives: 2018-2021

District Objective 4.2 - Improve organizational effectiveness by strengthening operations of and communication between District departments, divisions, and constituents

Action: Data Integration Developer

Add one FTE Data Integration Developer

Leave Blank:
Implementation Timeline: 2021 - 2022
Leave Blank:
Leave Blank:
Identify related course/program outcomes:
Person(s) Responsible (Name and Position): Applications Manager
Rationale (With supporting data): Utilizing data effectively is a key element to the success of the district. We must find new ways to manage this ever-growing resource. The current way we aggregate our data needs to be updated to utilize new industry standard practices as well as new architectures to provide a better platform for data driven decision making. The district's data warehouse needs to be retooled in order to make this a reality. This new position would provide the district with a person specializing in data integration tools, operational data stores, data marts and other data integration solutions. It is recommended to add one FTE Data Integration Developer ($90,000) to address this growing need.

Search Class Specifications | Business Systems Analyst - Confidential | Class Spec Details (schooljobs.com) Business Systems Analyst
Priority: High
Safety Issue: No
External Mandate: No
Safety/Mandate Explanation:

Link Actions to District Objectives

District Objectives: 2018-2021

District Objective 4.2 - Improve organizational effectiveness by strengthening operations of and communication between District departments, divisions, and constituents

Action: 2020-21 continued replacement of custom EIS

2020-21 continued replacement of custom EIS: SEP and 311 reports

Leave Blank:
Implementation Timeline: 2020 - 2021
Leave Blank:
Leave Blank:
Identify related course/program outcomes:
Person(s) Responsible (Name and Position): Applications Manager
Rationale (With supporting data): We will continue moving significant items from the custom EIS system to non-custom applications. One significant EIS report is the regulatory 311 report. We are working with an external consultant (SIG) to move this in the first half of 2021. Additionally, during 2020-2021, we will start the work to implement Degree Works student education plans, which will replace the custom EIS SEP. Both projects are part of the long-term process to decommission the EIS tool since it poses a significant risk to the college.
Priority: Medium
Safety Issue: No
External Mandate: No
Safety/Mandate Explanation:

Update on Action
Updates

Update Year: 2021-2022   09/15/2021
 Status: Continue Action Next Year
 Pursue EIS replacement or upgrade alternatives
 Impact on District Objectives/Unit Outcomes (Not Required):

Link Actions to District Objectives

District Objectives: 2018-2021
District Objective 4.2 - Improve organizational effectiveness by strengthening operations of and communication between District departments, divisions, and constituents