

# Comprehensive Program Review Report



## Program Review - Technology Services

### Program Summary

#### 2022-2023

**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 novel innovations and emerging technologies.
4. Team - We recognize that no one can know it all. We are successful when we work collaboratively, utilizing the team member's strengths.

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

1. 4,700 work orders were submitted, with 4,530 completed (96%)
2. Replaced or added 1025 desktop computers, laptops, or Chromebooks
4. Hired a System Administrator, Network Engineer, replaced two Senior engineers, two Programmer Analysts, and a Media Specialist.
5. We have completed the migration of our ERP, Banner, to the cloud.
6. Replaced the phone system, wireless network, and roughly half of the wired network equipment

**What improvements are needed?:** Continuous Improvement:

1. Continue with the Infrastructure upgrades by replacing building-to-building Fiber with single-mode Fiber. This type of Fiber provides immediate speed improvements. Single-mode Fiber also provides a measure of future-proofing for increased bandwidth needs with faster speeds achieved by replacing modules at each switch instead of the Fiber in the ground.
2. Upgrade network design to utilize a compartmentalized, regional design that includes redundant links. This design provides more stability for operations and a greater ability to perform maintenance without impacting service.
3. Continue moving our on-campus servers to an internet-hosted services provider, Amazon Web Services (AWS). We spend significant time and money managing our onsite data centers in multiple locations. Moving to a cloud services provider such as AWS allows us to acquire and use infrastructure on-demand and pay for only what we consume.
4. Update IDFs, MDFs, and Server Room access keys to utilize electronic methods that track, log and control access on a user basis and notify IT personnel.
5. Creating a formal helpdesk/support role would take some load off the Micro-Computer technician specialists. So far, the pilot program has demonstrated a noticeable support improvement without additional hiring. Future growth of this position would ideally be with temporary student workers in tandem with a single new hire.
- 6) Upgrade to Banner Self-Service 9 (SS9). The Human Resources (HR) department, Technology Services, and Research

will find efficiency in implementing Position Control and Electronic Personnel Action Forms available through Banner SS9. The upgrade immediately benefits Finance, Financial Aid, and Student Services. In addition, this upgrade will prepare us for the required migration to the new student registration system.

Staffing: (In order of need)

1. IT 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. As a result, most organizations, including California Community Colleges, have recognized the need for full-time staff uniquely trained and qualified to address network and data security. Therefore, adding one FTE Technology IT Services Security Analyst (\$150,000) with the proper credentials is recommended to ensure and maintain the college's security.
2. Data Integration Developer – Effectively utilizing data is a crucial 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 and new architectures to provide a better platform for data-driven decision-making. The 'District's data warehouse needs to be retooled to make this a reality. The new position would give the District a person specializing in data integration tools, operational data stores, data marts, and other data integration solutions. Adding one FTE Data Integration Developer (\$135,000) is recommended to address this growing need.
3. IT Support Specialist – Focused primarily on front-end, real-time support issues reported by phone, email, helpdesk, and person. This role provides remote assistance in installing software, updating systems, account issues, and troubleshooting. Additional tasks include developing support guides, documentation, follow-up communication, and coordinating efforts of student workers—placed at range 35
4. Business Systems Analyst – The use of software-based solutions in the District has continued to increase over time, as well as the number of software applications being used 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 needs. Many institutions have utilized Business Systems Analysts to help them better use the software they currently own. In addition, they help the institution adopt new solutions when needed by translating the business needs into technical requirements for other technology specialists to build or implement. Adding one FTE Business Systems Analyst (\$140,000) is recommended to help the district address these needs moving forward.
5. Senior IT Systems Technician – Encompasses the same responsibilities of the IT Systems Technician (Microcomputer Specialist) but also provides additional technician-level support for network, media, and server tasks. Place at range 45.

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.

#### Classification Alignment

1. Database Administrator - The Banner application technology (stack) has been migrated to the AWS cloud. The current Database Administrator (DBA) supports the database in the new cloud architecture with many new responsibilities, tools, and processes. The DBA is a crucial position, currently at Grade 53, and responsible for the ongoing success of our Student Information System (Banner). Therefore, we recommend moving the DBA to Grade 55, which aligns with our Cloud Applications Engineer and Cloud Infrastructure Engineer positions.
2. 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; 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.

3. Given the growth we've experienced on the Visalia campus, we would continue to keep the four specialist/tech positions in place. We've added many classroom laptop carts and are likely to add three desktop labs in the next year - we have likely already surpassed the case for a 5th Visalia-based specialist. We prefer to stratify the position with the creation of a Senior IT Systems Technician role.

a. Senior IT Systems Technician – Encompasses the same responsibilities of the IT Systems Technician (Microcomputer Specialist) but also provides additional technician-level support for network, media, and server tasks. Creating a senior specialist role is designed for a few things. It adds to the pool of specialists and gives additional resources for the System Administrator, Network Administrator, and media services teams, as we can have these individuals perform hands-on work. System/Network/Media design work would not be part of this role, but hands-on equipment would. This senior position would also be a role that can more readily assist with CTE projects as all current network and media-related tasks (90% of their need). For the next two years, CTE could fund the upgraded salary of this position, so there is no net change to our budget. Place at range 45.

b. IT Systems Technician – Rename Microcomputer Specialist to IT Systems Technician. Update the job description to modernize the terminology. This position will focus on supporting technology from the wall to the end-user equipment. Tasks include end-user support, desktop imaging, equipment receiving, inventory, documentation, lab/laptop provisioning, desktop patch management, desktop endpoint security, etc. Remain at range 35.

c. IT Support Specialist – Focused primarily on front-end, real-time support issues reported by phone, email, helpdesk, and person. This role provides remote assistance in installing software, updating systems, account issues, and troubleshooting. Additional tasks include developing support guides, documentation, follow-up communication, and coordinating efforts of student workers—placed at range 35.

4. Network Administrator - Rename the Network Analyst position to Network Administrator. Update the job description to modernize the terminology. Reclass the position as range 53. This move would align the Network Administrator role with our Systems Administrator and Senior Programmer positions and help balance out our top-level / core infrastructure team.

**Describe any external opportunities or challenges.:** 1. Frequent changes in Federal regulations require on-going updates to ERP system.

2. Constant security threats, attacks, and malicious emails.

**Overall SAO Achievement:** For the 2021-22 year, the Technology Services Department has completed three Service Area Outcomes:

1. Upgraded Banner to the Latest version.

2. Initiated Security monitoring service.

2. Completed phone 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,

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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	
<b>Updates</b> <b>Update Year:</b> 2022 - 2023 <b>Status:</b> Action Completed Phone system is now 100% complete. <b>Impact on District Objectives/Unit Outcomes (Not Required):</b>	09/28/2022

## Link Actions to District Objectives

District Objectives: 2015-2018	
<b>District Objectives</b> - 1.1 - Increase overall enrollment by 1.75% annually	
<b>District Objectives</b> - 4.1 - Improve operational systems based upon data driven decision-making as described in the COS 2.0 manuals.	
<b>District Objectives</b> - 4.2 - Improve the efficiency, effectiveness and communication of human, physical, technological, and financial resources to advance the District Mission.	
District Objectives: 2021-2025	
<b>District Objective 4.2</b> - Improve communication practices needed to support organizational effectiveness and continuous improvement across all District units and constituents from 2021-2025.	
<b>District Objective 4.3</b> - Improve professional development practices District-wide for all District employees to support equity and operational effectiveness from 2021-2025.	

## Action: Hanford Data Center UPS

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

**Leave Blank:**

**Implementation Timeline:** 2021 - 2022

**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:**

Update on Action	
<b>Updates</b> <b>Update Year:</b> 2021-2022 <b>Status:</b> Action Completed New UPS batteries installed.	09/29/2022

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Impact on District Objectives/Unit Outcomes (Not Required):

## 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: 2021-2025

**District Objective 4.2** - Improve communication practices needed to support organizational effectiveness and continuous improvement across all District units and constituents from 2021-2025.

**District Objective 4.3** - Improve professional development practices District-wide for all District employees to support equity and operational effectiveness from 2021-2025.

## Action: 2022-23 Business Systems Analyst

Add one FTE Business Systems Analyst

**Leave Blank:**

**Implementation Timeline:** 2021 - 2022, 2022 - 2023

**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 (\$135,000) 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:**

## Resources Description

**Personnel - Classified/Confidential** - Add one FTE Business Systems Analyst to help the district meet its objectives. (Active)

**Why is this resource required for this action?:** The use of software-based solutions in the District has continued to increase over time, as well as the number of software applications being used 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 needs. Many institutions have utilized Business Systems Analysts to help them better use the software they currently own. In addition, they help the institution adopt new solutions when needed by translating the business needs into technical requirements for other technology specialists to build or implement.

**Notes (optional):**

**Cost of Request (Nothing will be funded over the amount listed.):** 140000

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## Link Actions to District Objectives

District Objectives: 2021-2025

**District Objective 4.2** - Improve communication practices needed to support organizational effectiveness and continuous improvement across all District units and constituents from 2021-2025.

**District Objective 4.3** - Improve professional development practices District-wide for all District employees to support equity and operational effectiveness from 2021-2025.

## Action: 2022-23 Data Integration Developer

Add one FTE Data Integration Developer

Leave Blank:

**Implementation Timeline:** 2022 - 2023

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 (\$130,000) 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:**

## Resources Description

**Personnel - Classified/Confidential** - Add one FTE Data Integration Developer to help the District meet its objectives. (Active)

**Why is this resource required for this action?:** Effectively utilizing data is a crucial 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 and new architectures to provide a better platform for data-driven decision-making. The District's data warehouse needs to be retooled to make this a reality. The new position would give the District a person specializing in data integration tools, operational data stores, data marts, and other data integration solutions.

**Notes (optional):**

**Cost of Request (Nothing will be funded over the amount listed.):** 135000

## Link Actions to District Objectives

District Objectives: 2021-2025

**District Objective 4.2** - Improve communication practices needed to support organizational effectiveness and continuous improvement across all District units and constituents from 2021-2025.

**District Objective 4.3** - Improve professional development practices District-wide for all District employees to support equity and operational effectiveness from 2021-2025.

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## Action: 2022-23 IT Security Specialist

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

Leave Blank:

Implementation Timeline: 2022 - 2023

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: Yes

External Mandate: Yes

Safety/Mandate Explanation: Safety - will help protect individual Personal Identifiable Information. State mandates - require Technology Services to monitor and implement new security measure to protect against Ransom Ware.

### 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: 2021-2025

**District Objective 4.2** - Improve communication practices needed to support organizational effectiveness and continuous improvement across all District units and constituents from 2021-2025.

**District Objective 4.3** - Improve professional development practices District-wide for all District employees to support equity and operational effectiveness from 2021-2025.

## Action: 2022-23 IT Support Specialist

Add one FTE IT Support Specialist to assist the District meet its objectives.

Leave Blank:

Implementation Timeline: 2022 - 2023

Leave Blank:

Leave Blank:

Identify related course/program outcomes:

Person(s) Responsible (Name and Position): Infrastructure Manager



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**Rationale (With supporting data):** Focused primarily on front-end, real-time support issues reported by phone, email, helpdesk, and person. This role provides remote assistance in installing software, updating systems, account issues, and troubleshooting. Additional tasks include developing support guides, documentation, follow-up communication, and coordinating efforts of student workers—placed at range 35

**Priority:** High

**Safety Issue:** No

**External Mandate:** No

**Safety/Mandate Explanation:**

## Resources Description

**Personnel - Classified/Confidential -** Front-end, real-time support Specialist to assist with issues reported by phone, email, helpdesk, and in person. —placed at range 35  
(Active)

**Why is this resource required for this action?:** This position is needed to provide remote assistance in installing software, updating systems, account issues, and troubleshooting. Additional tasks include developing support guides, documentation, follow-up communication, and coordinating efforts of student workers

**Notes (optional):**

**Cost of Request (Nothing will be funded over the amount listed.):** 130000

## Link Actions to District Objectives

District Objectives: 2021-2025

**District Objective 4.2 -** Improve communication practices needed to support organizational effectiveness and continuous improvement across all District units and constituents from 2021-2025.

**District Objective 4.3 -** Improve professional development practices District-wide for all District employees to support equity and operational effectiveness from 2021-2025.

## Action: 2022-23 Senior IT Systems Technician

Add one FTE Senior IT Systems Technician

**Leave Blank:**

**Implementation Timeline:** 2022 - 2023

**Leave Blank:**

**Leave Blank:**

**Identify related course/program outcomes:**

**Person(s) Responsible (Name and Position):** Infrastructure and Security Manager

**Rationale (With supporting data):** The need for this position is to better support the District.

**Priority:** High

**Safety Issue:** No

**External Mandate:** No

**Safety/Mandate Explanation:**

## Resources Description

**Personnel - Classified/Confidential -** Encompasses the same responsibilities of the IT Systems Technician (Microcomputer Specialist) but also provides additional technician-level support for network, media, and server tasks. Place at range 45.  
(Active)

**Why is this resource required for this action?:** Creating a senior specialist role is designed for a few things. It adds to the pool of specialists and gives additional resources for the System Administrator, Network Administrator, and media services teams, as we can have these individuals perform hands-on work. System/Network/Media design work would not be part of this role, but hands-on equipment would. This senior position would also be a role that can more readily assist with CTE projects as all current network and media-related tasks (90% of their need). For the next two years, CTE could fund the upgraded salary of this position, so there is no net change to our budget.

**Notes (optional):**



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Cost of Request (Nothing will be funded over the amount listed.): 130000

## Link Actions to District Objectives

District Objectives: 2021-2025

**District Objective 4.2** - Improve communication practices needed to support organizational effectiveness and continuous improvement across all District units and constituents from 2021-2025.

**District Objective 4.3** - Improve professional development practices District-wide for all District employees to support equity and operational effectiveness from 2021-2025.

## Action: 2022-23 continued replacement of custom EIS

2020-21 continued replacement of custom EIS system.

Leave Blank:

Implementation Timeline: 2020 - 2021, 2022 - 2023

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: 2022 - 2023

09/15/2021

Status: Continue Action Next Year

Pursue EIS replacement or upgrade alternatives. Decided on Invoke Learning DataLakeHouse solution. Initiated implementation September 2022.

Impact on District Objectives/Unit Outcomes (Not Required):

## Link Actions to District Objectives

District Objectives: 2021-2025

**District Objective 4.1** - Increase the effective use of data and transparency in decision making at all institutional levels from 2021-2025.

**District Objective 4.2** - Improve communication practices needed to support organizational effectiveness and continuous improvement across all District units and constituents from 2021-2025.

**District Objective 4.3** - Improve professional development practices District-wide for all District employees to support equity and operational effectiveness from 2021-2025.