North Orange County Community College District
District Services Administrative Review

District Service: Information Services

District Services Administrative Review Author: Deborah Ludford, District Director, Information Services with input from District Information Services staff, campus President's/Provost, campus Senates and the Vice Chancellor's and based on research regarding optimal organization structure from Gartner Group

1. **Description**:

   Information Services is completing the first year of the "*District Information Services Technology Plan 2016-2018*". The latest update is below (double click to open) and was updated in November 2016 to incorporate the Chancellor's Goals:

Information Services Tech Plan 2(

   The objectives for the three-year period of the plan include:

   - ✓ Provide tools/systems to assist in monitoring and tracking improvements in completion rates for degrees, certificates, diplomas, transfers, transfer-readiness requirements, and courses.
   - ✓ Provide, maintain and improve systems that support student learning.
   - ✓ Provide tools/systems to assist in monitoring and tracking improvements in the reduction of the achievement gap among race/ethnicity groups.
   - ✓ Provide tools/systems to assist with the improvement of students' success rates.
   - ✓ Provide more comprehensive decision-making tools and systems.
   - ✓ Support best practices in strategic and comprehensive planning with appropriate systems and expertise.
   - ✓ Lead and/or participate in District-wide collaborative projects to improve services and/or efficiencies.
   - ✓ Provide better tools/systems to help staff across the District to be more effective and efficient.
   - ✓ Monitor potential new technologies/systems for applicability at NOCCCD.
   - ✓ Provide system and technology training.

2. **Assessment of Prior Year Strategies for Improvement:**

Prior year strategies for improvement, the resources involved and the status of the prior are provided in the table below:

Strategy	Resources Involved	Status
Upgrade the mobile application, myGateway, Banner systems over the next two years to better meet needs of students and staff	I.S. Department and consulting services as needed	Mobile application has been upgraded; myGateway due to be upgraded Spring 2017; Banner upgrades to begin in Fall 2017
With the cooperation of the three campuses, complete the installation of Office 365 at all sites and provide collaborative tools such as District-wide calendaring, document sharing and instant messaging in addition to traditional email	I.S. Department in cooperation with campus ACT departments	Project completed. Note Fullerton College is using Microsoft Exchange with Office 365 applications.
Complete project for Disaster Recover/Business Continuity	Nick Wilkening; Peter Teipe	Approved by Board on November 22, 2016; implementation to be completed in Spring 2017
Complete the refresh of department web pages and support the new District website	Deborah Ludford; Karla Garcia in cooperation with Public Affairs	Project completed.
Provide a tracking system and communication system to provide status updates on Information Services projects, department goals, and accomplishments to users on an ongoing basis	I.S. Department	Project completed.
Complete the Network Refresh network assessment and network design; begin the implementation process based on the findings from the assessment and design	Nick Wilkening; Boaz Carmi along with WTC Consulting and campus ACT Departments	Network Refresh assessment due to be complete in March 2017

Continue to work on project list items	I.S. Department staff	Ongoing. Tracking system implemented which identifies completed (241), ongoing (99) and development projects (53) and are visible on the website at: http://www.nocccd.edu/is-planningprojects
Consider re-instituting the training position in Information Services to expand and improve the training services offered by the department	Deborah Ludford; Fred Rocha and Nick Wilkening	Analysis of Institutional Capacity in progress; meeting with Senates and members of Chancellor's Staff for input; preliminary findings included in Administrative Review
Evaluate job descriptions to better meet District-wide needs	District Technology Roundtable	Completed Technical Support positions; working on Network positions during the Network Refresh project; discussion continues on remaining positions. Evaluation during Institutional Capacity review for I.S. only.
Execute the action items identified in the *"District Information Services Technology Plan 2016-18"*	I.S. Department Staff	Status of items provided in Section 1 embedded document.

3. **Data**:

Below is a list of documents that assisted in formulating the strategy for next year:

- ✓ *The 2015 NOCCCD Technology Survey* (survey of Faculty, Staff, Students on service satisfaction). Note the next survey will be conducted in Spring 2017.

Tech Qual Report 2016 with Comment

- ✓ *2015 District-wide Satisfaction Survey for Information Services*– double click on Icon below to view document:

2015 Sat Survey Results-Info Services

Note the next survey will be conducted in Spring 2017.

- ✓ Information Services Committed Costs 2015-2025 (analysis of contract/committed costs of current systems and infrastructure to support those systems) – double click on Icon below to view document:

10 Yr Maint breakdown 2016-20

- ✓ *Project List* as of November 2016 – click on website link below to view Development, Ongoing and Completed projects:

http://www.nocccd.edu/is-planningprojects

- ✓ *Gartner Research Hype Cycle for Education 2016*

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- ✓ *Campus Computing Survey 2016* – click on website link below to view results:

http://www.campuscomputing.net/cc2016

4. **Data Analysis**:

The *NOCCCD District Information Services Technology Plan 2016-2018* identifies those things that will be done in support of the District Strategic Directions and Chancellor's Goals. This document outlines the Information Services Goals and Activities that should be undertaken to meet the District Strategic Directions and Chancellor's Goals. This document was updated in June 2016. See the link in Section 1 above.

In addition, the *Technology Quality Survey* which was conducted in 2015 District-wide amongst staff and students clearly indicate that the major source of frustration is the availability of a reliable network, both wired and wireless, and the need to upgrade outdated systems. Students were the only group who were positive about the websites and online services and indicated they were easy to use. The survey also indicated the need for more collaborative tools across the District. Training with regard to technology continues to be a need amongst the user community. This survey will be administered again in Spring 2017 to assess improvements and/or new challenges.

The *2015 District wide Satisfaction Survey for Information Services* provides the following analysis based on responses form 419 District employees (note that the next survey will be in Spring 2017):

Top Takeaways

- 95% of those who responded use the services of District Information Services to some level which is about the same as last year
- 73% of respondents feel District Information Services provide solutions in anticipation of users' needs which is down from 74% the year before and 77% the year before that; with increased staff the department is addressing the backlog of user needs
- 80% of respondents feel District Information Services provides adequate training compared to 79% the prior year; training continues to be a need with most requests being for Purchasing and Finance training a role that I.S. has not done in the past
- 84% of respondents feel that when they call with a question the answer is prompt
- 67% of those respondents who use the District systems feel they have the opportunity to provide feedback in the District Information Services planning process, down from 73% the prior year; Technology Coordinating Council and Banner Steering are the main vehicles for the planning functions
- 78% find CatTales informative which is down from 81% indicating the communication is becoming less effective
- Open ended responses were changed to only solicit negative feedback; areas of concern focused on training and outdated systems

Positive Reinforcement

- 90% of those who responded felt that when they contact District Information Services with a question it is answered accurately
- 85% of respondents felt that communications from District Information Services regarding systems are helpful
- 88% of respondents felt that communication from District Information Services are timely

Opportunities and Possible Next Steps

- Outdated Banner/myGateway systems are due to be upgraded by the vendor over the next year; District I.S. should move forward with these upgrades
- Consider re-instituting training position in I.S. which was eliminated in tougher budget times
- Continue on path of using an updated mode of communications with staff District-wide

Further, an analysis of the financial resources in the 10-year Information Services Committed Costs 2016-2025 document indicates that with the current cash allocation, Information Services will fall short of meeting its obligated costs by $94,000 for the systems currently in use during the 2016-17 year. This changed from last year because of the addition of seven new systems and the implementation of the Disaster Recovery/Business Continuity project (highlighted in the 10-year Maintenance Breakdown above) whose maintenance costs total $190,000 annually. To meet the shortfall in 2016-2017, carryover funds are being depleted to meet the obligations.

Finally, the I.S. Development Project list identifies those projects requested by members of the District or identified by the Information Services staff based on the Gartner Hype Cycle for Education, 2016 that are needed or worth exploring to better serve the institution. This list indicates a large backlog of unmet needs across the District. Many of the projects have been focused on Human Resources and Student Success. There is a growing need for more Project attention for Finance and Financial Aid. Finance/Financial Aid is the only area without a specified Project Leader for technology initiatives and needs to be addressed. Currently, an existing staff member is temporarily filling this role on a 50% basis. Staff completed 241 projects to date this year (I.S. Completed Projects List). In addition, there are 99 ongoing maintenance projects (I.S. Maintenance Project List) that require approximately 60% of staff time.

5. **Strategies for Improvement**:

The department was asked to engage in Institutional Capacity Planning. Included in the strategy for improvement is both short term and long term strategies for improvement.

Background

The District has allocated resources to address Institutional Capacity issues over the short and long term. Information Services sees this as an opportunity for the department to examine its functions and structure and prepare for the future demands of technology across the District.

Information Services is in the first year of three-year technology plan which is closely aligned with the District Strategic Directions and the Chancellor's Goals. The objectives identified for the three-year plan include:

- ✓ Provide tools/systems to assist in monitoring and tracking improvements in completion rates for degrees, certificates, diplomas, transfers, transfer-readiness requirements, and courses.
- ✓ Provide, maintain and improve systems that support student learning.

- ✓ Provide tools/systems to assist in monitoring and tracking improvements in the reduction of the achievement gap among race/ethnicity groups.
- ✓ Provide tools/systems to assist with the improvement of students' success rates.
- ✓ Provide more comprehensive decision-making tools and systems.
- ✓ Support best practices in strategic and comprehensive planning with appropriate systems and expertise.
- ✓ Lead and/or participate in District-wide collaborative projects to improve services and/or efficiencies.
- ✓ Provide better tools/systems to help staff across the District to be more effective and efficient.
- ✓ Monitor potential new technologies/systems for applicability at NOCCCD.
- ✓ Provide system and technology training.

District Information Services was asked by the Chancellor to examine the organizational structure and processes used in the department and propose both short term and long term changes that would improve the organizational capacity of the department as well as address key retirements expected in the next 2-3 years. A process to do this was proposed and executed to get wide input on the future organizational capacity and structure of the Information Services department.

Process Used to Gather Input

The management team engaged in planning using the following process:

1. Review research and gather information about effective organizational structures
    a. Review Gartner and other relevant research – Completed initial search; spoke with analyst; reviewed additional research regarding best practices in organizational structure
    b. Review organizational structures of other successful institutions – Collected FHDA, SBCCD, CLPCCD, CCSF, KCCD for review
2. Collect input from those the department serves including:
    a. Chancellor and Chancellor's Staff
        i. Meet with each member-
            1. Irma Ramos-met 10/24/16
            2. Fred Williams-met 10/10/16
            3. Cherry Li-Bugg-met 10/18/16
            4. Greg Schulz-TBD
            5. Valentina Purtell-met 1/30/17
            6. Bob Simpson-met 11/22/16
        ii. Review Chancellor's Goals-Completed; incorporated in *District Information Services Technology Plan 2016-2018*
    b. Existing committees
        i. Technology Coordinating Council-discussed on 10/18/16 and 11/15/16

ii. I.S. Steering Committee and all subcommittees including Student Team, Financial Aid Team-Completed December 14th

c. Campus Faculty and Staff
   i. Senates
      1. Cypress-Brian Seiling 10/11/16; Senate 11/10/16
      2. Fullerton-Pete Snyder 11/8/16; Senate 12/1/16
      3. SCE-Adam Gottdank 11/8/16; Senate TBD

d. Information Services Staff Members-Completed; all staff were given the opportunity to provide input

3. Compare findings from research and input with District Information Services Technology Plan to identify any adjustments that are needed

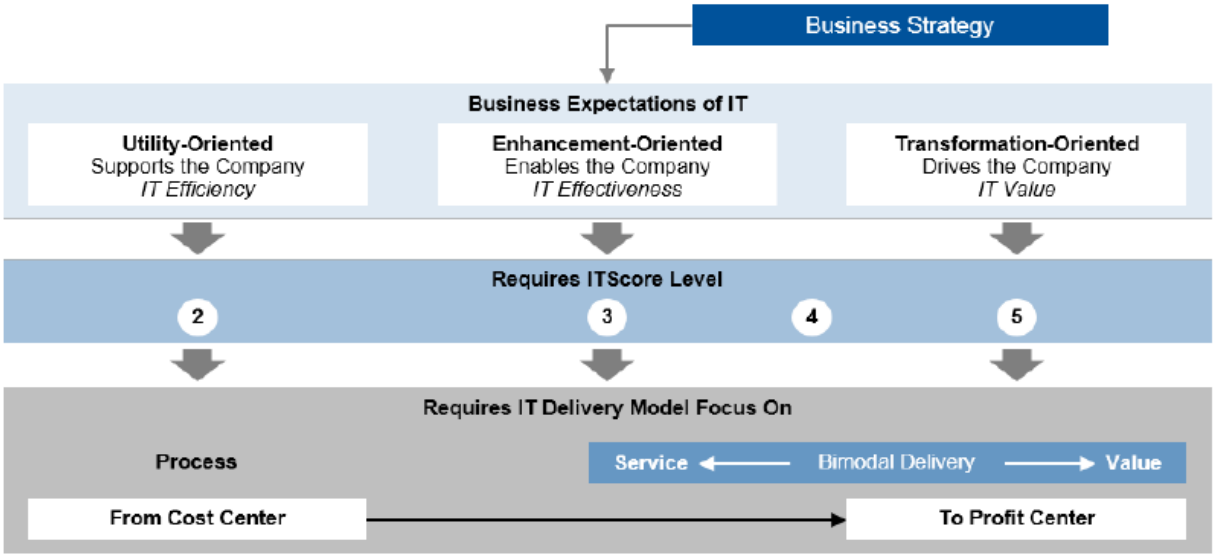
Gartner Research Findings

Numerous documents were analyzed which discussed the evolution of IT organizations. Key items were shared with those interviewed and with department staff to aid in the discussion. Gartner prepared a "CIO Survey Peer Report" for the District which indicated:

- ✓ NOCCCD is a typical performer in the education industry
- ✓ The next steps to top performance are:
  - Scale digital efforts to all constituents (OnBase, etc.)
  - Invest in key technologies including 3D Printing, Data Science & Analytics, Machine Learning & Artificial Intelligence, User Experience Design, Web-scale Infrastructure, Cybersecurity and Application Program Interface (API), Robotics, Internet of Things and Services Platform Design
  - Participate in cost optimization opportunities
  - Establish deeper relationships with users & more effective engagement with business stakeholders by being more like partners than utility providers
  - Improve customer satisfaction with Information Services-led business innovation driven by user identified business needs
  - Use a bimodal approach to systems development (provide staff time for both system maintenance and innovation)
- ✓ Things that are good happening in Information Services are:
  - Investment in predictive analytics (CRM Advise and Machine Learning)
  - Investment in information security including tools, staff, training and policy development
  - Investment in a disaster recovery/business continuity technology solution that also provides a more extensive testing environment
  - Providing opportunities for users to explore new solutions (OnBase, CRM Advise, Elevate, DegreeWorks, Perform, Softdocs, Cornerstone, Prompt.ed etc.)

The following figure is a summary of the key research regarding the evolution of IT organizations as envisioned by Gartner:

Figure 1. Business Expectations of IT Mapped to ITScore and Required Delivery Focus



Source: Gartner (January 2017)

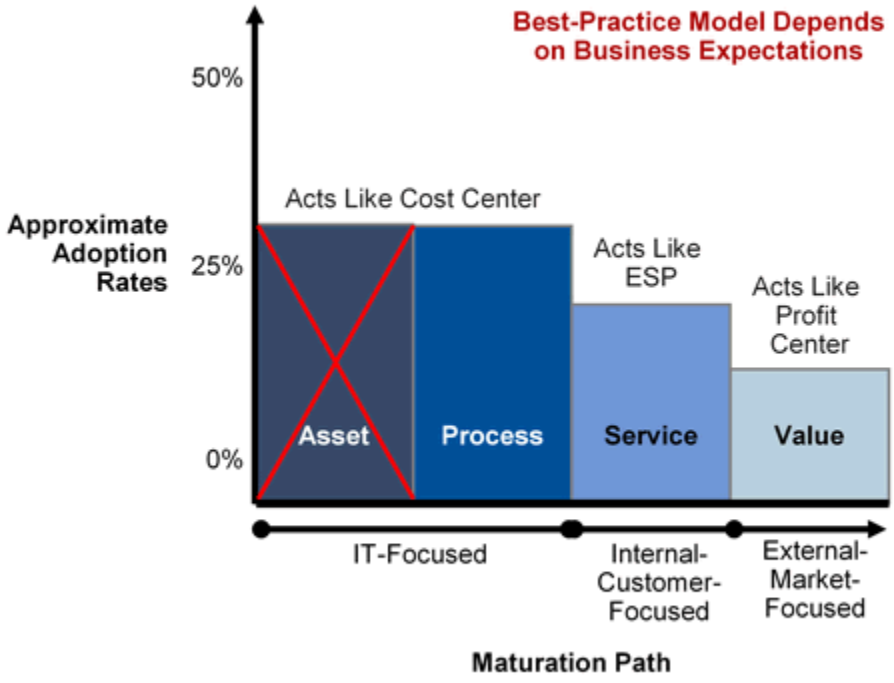
Based on input from stakeholders and Gartner analyst recommendations, Information Services is currently an ITScore level 2 Utility-oriented organization focused on efficiency, with some elements of level 3 Enhancement-oriented focus on enabling business units to function well. Information Services should strive to become a full ITScore Level 3 organization with elements of ITScore 5 which is introduction of technologies to transform the business and add real value. There are three strategies that will aid in moving the organization in this direction according to Gartner:

- ✓ Change the focus from IT-Centric Outcomes to Business Outcomes
- ✓ Invest in Bimodal IT to encourage innovation
- ✓ Invest is Business Process and Relationship management

Specific staffing predications by Gartner indicate that Data Scientists, Business Process Architects, Information Security Analysts and Enterprise Architects will be the critical jobs in the next 3-5 years.

There are four delivery models including Asset optimized, Process optimized, Service optimized and Value optimized delineated by Gartner as shown in the chart below:

Figure 1. IT Delivery Model Maturation Framework



Source: Gartner (June 2011)

Asset optimizing organizations are quickly becoming obsolete. Process optimizing organizations is the model of choice for IT organizations that are cost centers. Efficiency is the goal with predictable and repeatable results. Service optimizing organizations operate as a competitive service provider, becoming the top choice for business units. In value optimizing organizations IT becomes a profit center and a product of the business. Information Services has elements of the first three: asset, process and service but remains predominately an asset optimizing organization at this time. To meet the needs of the future, this needs to change.

To do this Information Services must first become a process optimizing partner for the business units and then ultimately a service optimizing organization for the District. The key attributes of the models are presented in the chart below and the current state of Information Services is indicated:

Table 1. Organizational Architecture for IT Delivery Models

Enlarge Table

	Asset	Process	Service	Value
Funding	Fixed annual IT budget; no chargeback or chargeback based on high-level allocation	Fixed annual IT budget and chargeback allocation for infrastructure; possibly zero-sum budgeting and chargeback for projects	Cost or market-based fee for service; zero-sum budgeting	Market-based fee for service; profit/loss-based budget with discretionary revenue stream
Organizational Structure	Functional or technical silos	Process/function matrix with functional silos dominating	Process/function matrix with multidisciplinary process teams dominating; some competency centers staffed as internal consultancies	IT-business matrix around core business processes or value centers
Process Design	None	Compliance to "standard" (generally ITIL, possibly also combined with elements of CMMI, COBIT and Six Sigma)	Process improvements correlated to required service outcomes; outcomes measured in relation to IT service-level agreements	IT process improvements correlated to business processes; outcomes measured in business process or business outcome terms
Human Capital	Technical expertise	Process expertise	Solution, relationship and business expertise	Business expertise and innovation expertise
Sourcing	Mostly internal, some external staff augmentation	Mostly internal, some selective outsourcing based on "commodity" services	Strategic multisourcing based on explicit competitiveness of internal capabilities	Strategic multisourcing based on business core competencies and strategic intent for IT
Tools/Automation	Opportunistic device monitoring, help desk "ticketing" tools	"ERP" for IT	"CRM" for IT	IT back-office "off the shelf"; significant internal development for retained competitive advantage

Source: Gartner (June 2011)

This move to a Process Optimizing and then Service Optimizing organization will require Information Services to re-design the organizational structure to be a process/function matrix organization with business and relationship building expertise.

Other Key Factors in Institutional Capacity

Information Services will also need to address key retirements over the next 2-3 years. This includes the retirement of an I.T. Technician II (Help Desk), User Support Analyst (Training/Banner Security), IT Specialist Network (Network), IT Project Leader (Application Services) and a Systems Analyst-Applications (Oracle Database Administrator/Banner Upgrade Specialist).

Current Organization Structure

On the following page is the current structure of the Information Services department:

INFORMATION SERVICES
Staff Functionality Flow

Responsible for application and technology leadership. Provide standards and direction for stable growth and maintenance of technology platforms and services.

Systems Analyst – Technology	Systems Analyst – Technology	IT Security Analyst / System Administrator	Systems Analyst – Application	Systems Analyst - Application
Boaz Carmi	**Hank Eggers**	**Tim Nguyen**	**Mike Kessler**	**Adam Howard**
Network Systems	Server OS	Information Security	Banner Development	Banner Development
Network Administrator	System Interfaces	System Administrator	Oracle Development	Oracle Development
AC Wireless	System Administrator		Self Service Apps	Interface Solutions, Workflow

Responsible for project and staff assignments. Provide needed coordination of resources for new technology and maintenance of existing services.

IT Project Leader Application Services	IT Project Leader Application Services	IT Project Leader Application Services	IT Project Leader Web Services	IT Project Leader Technical Support
Allan Abutin	**Jason McPheron**	**Richard Oberlin**	**Brad Rippe**	**Peter Teipe**
Program Analysis Interface programs design & support	Program Analysis Interface programs design & support	Program Analysis Interface programs design & support	WebSTAR, Mobile and Portal Maintenance and Development	Technical Project Leadership
Banner HR ACA Time & Attendance	Banner Student DegreeWorks	System-wide Banner & Library Support	Chair of WebSTAR Committee	Telecomm Standards/RFI Responses
Hyland OnBase	SSSP Clearinghouse	User Reports/Design	Coordination with Campus Webmasters	Disaster Recovery Data Backup
APEX	Blackboard Snapshot	User Training Standards	Development, design, support for self-service applications	Technical Training Standards
	Website Interface	IT Specialist Staffing Allocation	ID Sync to AD maintenance	Office 365

IT Specialist Systems Applications	IT Specialist Systems Applications	IT Specialist Network	IT Specialist Network
Lance Aponte	**Chris Taylor**	**Quamrul Shahid**	**Malcolm Ridley**
Argos Reports	SQL Routines	Network Systems	LAN Systems
Support for project leaders	Data Warehouse Project	Network Administrator	Computer Room Support
User Documentation - Training	Banner Mods / Argos Reports	AC Wireless	Office 365 Collaboration Software
Financial Aid assistance	Fin Aid Module/Upgrades	SQL Database	File / Printer Servers
Luminis Assistance	MAPPER Support		Broadcast Video Systems
	Code interfaces to Banner		Telecomm Support
	User Documentation - Training		

Responsible for coordination of customer needs for direct support. Provides second line customer support. Provides interaction between staff and customers.

Data Quality Analyst	User Support Analyst
Hani Amin	**Erin Ridley**
Mgmt Information Systems (MIS)	E-Visions Forms
User Documentation/Training	Service Desk Controls/Maintenance
Chair Research Team	User & Technical Documentation
Data submissions to external agencies	User Training
Mandated Reporting (MR)	Anaheim Campus Phone Systems Support
Interface support	Service Desk 2nd line
	Banner Table Controls and Maintenance
	Security Administration

Responsible for direct service for customer needs on exiting systems. Provides first line customer support. Provide support for network and desktop systems.

IT Technician II	IT Technician II
Tony Lee	**Gary Schneider**
LAN Support	HP Support
Telephone System Repair	System Backups
Videoconferencing	Production
Desktop Support	Desktop Support
Service Desk 1st line	Service Desk 1st line
User/Technical Documentation - Training	User/Technical Documentation - Training

Director

Deborah Ludford

Provide overall direction and resource allocation

Administrative Assistant III

Karla Garcia

Support for management functions

Budget

Manager, IT Applications Support

Fred Rocha

Provide for a stable application environment.

Provide overall accountability for support and resource management.

Provide direction and management of customer and vendor relations.

Manager, IT Technical Support

Nick Wilkening

Provide for a stable technical environment.

Short Term Changes to the Organizational Structure to achieve ITScore 2/Process Optimizing

Gartner recommends a two phased approach to moving an organization from an ITScore1/Asset optimizing organization to an ITScore 3/Service optimized organization. First the Information Services organization needs to move to a predominantly process optimizing organization (ITScore2/process optimized) and then on to a service optimized organization (ITScore3/service optimized). Based on the Gartner research findings and the input from District constituencies the following short term changes are recommended to move the Information Services department to a process focused organization enabling business units to function well. The focus is that of a close partnership between the business units and Information Services.

Recommended Change	Justification
Move to a process/function matrix organizational structure with emphasis on functional areas such as HR, Finance and Student	✓ Moves the organization from IT-Centric outcomes to Business outcomes ✓ Recommended structure from Gartner for a Process organization ✓ More effective use of staff as they are assigned to teams based on their area of expertise ✓ Provide more focused customer service because teams are focused on project by functional area ✓ Provide timely problem resolution because staff focus on business outcomes
Split current IT Security Analyst/Systems Administrator into two distinct positions: ✓ IT Security Analyst (report to Director/CEO) ✓ Systems Administrator	✓ Allows systems administrators to keep up with the increased upgrade workload and major security patches required in today's environment ✓ Raises awareness of security in the organization ✓ Provides the ability for the Security Analyst to focus strictly on security policy, training, procedures and guidelines
Convert User Support Analyst (Training/Banner Security) to Communication/Training Coordinator and move security component to IT Security Analyst	✓ Consolidates the security function ✓ Raises awareness of security in the organization ✓ Facilitates the communication with customers in the value of IT services ✓ Provides better and more frequent communication regarding technology and security issues ✓ Provides ability to develop various types of training including on-demand, in class, etc.
Add three Business Process Analysts to support functional areas (HR, Finance, Student) with optimization of their business processes and to leverage system capabilities not currently used	✓ Invests in business processes that envelope the systems ✓ Focus on relationship management and continuous improvement
Cross train staff to address key retirements including I.T. Technician II (Help Desk), IT Specialist Network (Network), IT Project Leader (Application Services) and a Systems Analyst-Applications (Oracle Database Administrator/Banner Upgrade Specialist)	✓ Prepares the organization for the transition due to the loss of key personnel ✓ Increases knowledge across the organization ✓ Encourages innovation and career growth

Revise job titles, roles and responsibilities to align with the new structure with clear pathways for career growth. New job titles will include: ✓ Network Administrator, Sr. Network Administrator ✓ Systems Analyst, Sr. Systems Analyst ✓ Systems Administrator, Sr. Systems Administrator ✓ Sr. Data Analyst ✓ Programmer I, II, III, Sr. Programmer ✓ IT Support Specialist I, II, III	✓ Clear growth path for staff across the District ✓ Clarify roles and responsibilities ✓ Uses industry specific titles to attract more qualified candidates in hiring of professional staff

The new process optimized organization chart is presented on the following page:

District Information Services ITScore2/Process Optimized

Strategy/Communications/Security/Business Value

- District Director, Information Services
- IT Security Analyst
- Communications and Training Coordinator
- Administrative Assistant III

Project Management/Coordination/Process

- District Manager, Applications Support
- District Manager, IT Technical Support
- Business Process Analysts
- IT Project Leaders

Technical Operations/Implementation

- Senior Systems Analyst/ Systems Analyst
- Senior Systems Administrator /Systems Administrator
- Senior Network Administrator /Network Administrator
- Senior Data Analyst
- Senior Programmer/ Programmer III, II, I
- IT Support Specialist III, II, I

Technical teams formed based on functional project needs/scope; system maintenance assigned to individual team members

Long Term Changes to the Organizational Structure to achieve ITScore3/Service Optimizing

Once the ITScore 2/Process optimization recommended changes are completed and the organization is efficient and able to achieve predictable and repeatable results (approximately 1-2 years) the following changes need to be implemented in order to achieve ITScore 3/Service optimization:

Recommended Change	Justification
Reorganize to a process/function matrix with multi-disciplinary process teams; competency centers staffed as internal consultants	✓ Recommended structure from Gartner for a Service organization to operate as a competitive service provider ✓ Encourages the introduction of technologies to transform the business and add real value ✓ More effective use of staff to focus on service needs ✓ Provide more focused customer service ✓ Provide timely problem resolution with teams composed on multi-disciplinary experts ✓ Encourages innovation and thinking outside normal functional areas
Upgrade job titles, roles and responsibilities to align with those needed for a service optimized organization. Job titles include: ✓ Enterprise Network Engineer I, II ✓ Enterprise Systems Engineer I, II ✓ Enterprise Systems Programmer I, II, III ✓ Systems Integration Specialist ✓ Information Security Engineer ✓ Chief Technology Officer ✓ Director, Systems Applications ✓ Director, IT Infrastructure and Operations	✓ Allows the introduction of a more holistic approach to systems development and maintenance ✓ Aligns with other community college job titles ✓ Attracts more qualified talent ✓ Fosters solution, relationship and business expertise

The service optimizing organizational chart is presented on the following page:

District Information Services ITScore3/Service Optimized

Strategy/Communications/Security/Business Value

- Chief Technology Officer
- Information Security Engineer
- Communications and Training Coordinator
- Administrative Assistant III

Project Management/Coordination/Process

- Director, Systems Applications
- Director, IT Infrastructure and Operations
- Business Process Analysts
- IT Project Leaders

Technical Operations/Implementation

- Enterprise Systems Programmer I, II, III
- Enterprise Systems Engineer I, II
- Enterprise Network Engineer I, II
- Senior Integration Specialist
- Senior Programmer /Programmer III, II, I
- IT Support Specialist III, II, I

Multi-disciplinary process teams formed; competency centers staffed as internal consultants; system maintenance assigned to individual team members

6. **Resource Requests**:

Needs identified in previous years that are still needed include:

Need	Justification	Cost
Network Refresh Project	✓ Identified in *NOCCCD District Information Services Technology Plan 2016-2018* ✓ Requested in previous Administrative Review	$15-$30 million one-time; ongoing equipment maintenance costs to be determined in assessment phase
Financial Aid full time Project Lead	✓ Financial Aid demands have grown ✓ High risk ✓ Audit requirements regularly ✓ Quarterly product updates ✓ New rules every legislative session ✓ Temporary 50% Project Lead insufficient and cannot be extended ✓ Campuses currently brings in SIG 3-4 weeks each year and with full time attention we may be able to reduce this need	Approximately $15,000/year ongoing
Network Supervisor for Network Refresh and beyond	✓ Multi-year project that may result in need for permanent position with more central coordination than is done now ✓ Requires constant supervision of vendor during project ✓ Tight coordination with campuses which will continue ✓ Temporary 6% increase for Systems Analyst no longer viable	$6,500 for 6% stipend currently in effect; $22,500/year cost increase for a permanent position based on comparative salaries

Ongoing budget needs identified in the implementation of the NOCCCD *District Information Services Technology Plan 2016-2018* and the Information Services Committed Costs 2015-2025:

Need	Justification	Cost
Ongoing Maintenance of newly added systems in 2015-16	✓ Identified in *NOCCCD District Information Services Technology Plan 2016-2018* ✓ Requested in previous Administrative Review	$100,667 ongoing
SPSS Districtwide	✓ Used in instructional programs ✓ Used by the Researchers ✓ Used by staff	$24,979/year ongoing
Qualtrics Survey Tool with SMS capabilities	✓ Requested by researchers	$3,100/year ongoing
Strong Workforce Support	✓ Regional Data Enhancement project that we will need to support ✓ Support for research staff ✓ Mandated reporting for projects	$35,000/on-going

Ongoing budget needs identified for future years:

Need	Justification	Cost
Oracle Enterprise Licensing	✓ Will allow for "hot-site" at the Disaster Recovery site ✓ Will allow the unlimited use of Oracle database for any systems the District chooses to acquire or develop ✓ Allows use of Oracle in the classroom across the District ✓ Allows for cloud based use of Oracle	$305,000 one-time; $60,000/year ongoing

In addition, the following Short Term and Long Term Institutional Capacity needs have been identified:

Institutional Capacity Short Term Needs

Need	Justification	Cost
Identity Management Consulting/Product (to coincide with the Network Refresh project)	✓ Single Sign On requires well thought out planning and good technology choices ✓ Required for new version of Banner ✓ Compatible with Network Refresh direction ✓ Current environment complex with four separate systems in place ✓ Current District/Campus staff not experts ✓ Current AD Sync process time intensive for IS to maintain- it was intended to be a short term solution ✓ Campuses don't feel the maintenance effects because they kept same structure- hesitant to change ✓ Campus desire to remain independent ✓ Looking for a product that will do all SSO provisioning which will result in significant staff time savings (1 FTE for I.S. and .25 FTE for each campus)	$54,200-$81,300/year ongoing
Build Out DR environment to act as a Development/Test environment	✓ Creates Test/Development environment for staff ✓ Significantly reduces downtime needs ✓ System more available to end users ✓ Creates a more complete "warm" site for emergencies	$70,000 one time; Vendor must receive P.O. by November 30th to take advantage of $66K reduction
Change Management Tracking/Knowledge Base System	✓ Try system in I.S. first and allow campuses to add in later ✓ Centralized knowledge base of all technology problems across the District	$1360/month for I.S. only
Research Project Analyst	✓ Hire one of our researchers on an overtime basis to configure new VM environment from a	$19,230 one time

	research perspective for 34 weeks at 8 hours per week ✓ Outside service would be costlier per hour ($125+) compared to $70 for our own staff ✓ Tests out Business Analyst idea to see if it works well	
Time & Attendance Go-Live and Documentation Consulting	✓ Outside expert to validate that most effective and efficient option is implemented appropriately ✓ Assistance to document processes and procedures so as staff changes there is training material and documented practices ✓ This is for one-time activities needed to insure success	$25,900 one time
Consulting Services for Revitalization, Business Process Re-engineering & Banner Functional Training	✓ Banner upgrade will result in new ways to use the system that end users must master; the current version was implemented in 1999 ✓ Processes were developed across the District over time and may be ineffective and inefficient ✓ Human Resources/Finance are good areas to begin with because the system was developed in those areas to process payroll and not designed to take advantage of full functionality; very little has changed in the way Banner is used in those areas ✓ HR has expressed interest in doing this ✓ HR and Finance have had turnover in staff which offers a good opportunity for evaluation and change	$15,000 - $45,000 per functional area H.R. hired Nicola Perry
DataMart Consulting	✓ Increases research capacity	$12,500 one time
Security Essentials Online Training Development	✓ Technology Coordinating Council has formed a subcommittee just to work on Security	$24,500 one time

	✓ Technology Coordinating Council has developed two goals; one is security training and the other is Security Policy development ✓ Current 50% Security Officer is not sufficient ✓ Biggest vulnerability is our data being compromised via human error ✓ Training that is user friendly and easy to accomplish is most desirable ✓ Online training and website resources offers the best alternative to reach the most people with least institutional impact	
Staff Training/Overtime	✓ Banner will go through a major upgrade on a completely new technology stack ✓ Five+ new systems have been acquired this year alone for which we provide support and services ✓ Anticipate 3-5 retirements over the next two years requiring more detailed training for those who currently backup to those leaving ✓ Training for new technologies and new systems is essential for success of department staff	$30,000 one time Looking for ways to bring this training on site so many in the District can take advantage of the training including campus staff as needed
Predictive Analytics	✓ Continue work on use of predictive analytics ✓ Purchase GPU cards to expand this ability	$1,500 one-time (will submit for an Innovation Fund Grant)

Institutional Capacity Long Term Needs

The following are the necessary resources required to move to a process/function matrix organizational structure with emphasis on functional areas such as HR, Finance and Student:

Need	Justification	Cost
Key Retirement Replacements/Job Description Updates including: ✓ IT Technician II converted to IT Support Specialist II ✓ User Support Analyst converted to Communications and Training Coordinator ✓ IT Specialist, Network converted to Network Administrator ✓ Systems Analyst, Applications converted to Senior Systems Analyst ✓ IT Project Leader to be replaced in same position	✓ Prepares the organization for the transition due to the loss of key personnel ✓ Replaces key retirements ✓ Moves organization towards ITScore2/process optimization ✓ Provides ability to develop various types of training including on-demand, in class, etc. ✓ Increases knowledge across the organization ✓ Encourages innovation and career growth	Approximately $40,000/year ongoing based on comparative positions Note: this assumes ongoing dollars to support CCCD library system
Positions required to move organization to ITScore2/process optimized include: ✓ Add three Business Process Analysts to support functional areas (HR, Finance, Student) ✓ Split current IT Security Analyst/Systems Administrator into two distinct positions: ✓ IT Security Analyst (report to Director/CEO) ✓ Systems Administrator	✓ Moves the organization from IT-Centric outcomes to Business outcomes ✓ Recommended structure from Gartner for a Process organization ✓ More effective use of staff as they are assigned to teams based on their area of expertise ✓ Provide more focused customer service because teams are focused on project by functional area ✓ Provide timely problem resolution because staff focus on business ✓ Invests in business processes that envelope the systems ✓ Focus on relationship management and continuous	New Systems Analyst $86,844/year ongoing Three New Business Process Analysts $86,720/year ongoing

	improvement Consolidates the security function ✓ Raises awareness of security in the organization ✓ Facilitates the communication with customers in the value of IT services ✓ Provides better and more frequent communication regarding technology and security issues	
Achieve ITScore3/service optimized organization by reorganization of the department to a process/function matrix with multi-disciplinary process teams; with competency centers staffed as internal consultants. This includes an upgrade of job titles, roles and responsibilities to align with those needed for a service optimized organization. Job titles include: ✓ Enterprise Network Engineer I, II ✓ Enterprise Systems Engineer I, II ✓ Enterprise Systems Programmer I, II, III ✓ Systems Integration Specialist ✓ Information Security Engineer ✓ Chief Technology Officer ✓ Director, Systems Applications ✓ Director, IT Infrastructure and Operations	✓ Recommended structure from Gartner for a Service organization to operate as a competitive service provider ✓ Encourages the introduction of technologies to transform the business and add real value ✓ More effective use of staff to focus on service needs ✓ Provide more focused customer service ✓ Provide timely problem resolution with teams composed on multi-disciplinary experts ✓ Encourages innovation and thinking outside normal functional areas	TBD based upgrade of job title, roles and responsibilities with comparative positions having similar duties. Note: This is done once the ITScore2/process optimized organization is in place. Per Gartner research it is important to achieve ITScore2/process optimized first before moving to the ITScore3/service optimized structure.