

Coast Community College District Strategic Technology Plan 2016-2019

December 5, 2016

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I. Overview, Mission, and Vision

Overview

The Strategic Technology Plan for the Coast Community College District is intended to provide an overall framework for the strategic implementation of technology within the District. The purpose of the plan is to align the application of technology to the District's Mission and Vision, and Strategic Goals and Objectives to support the Colleges' Missions and Visions. It provides a roadmap for major technology initiatives undertaken by the District for the next three years. The plan is reviewed and evaluated annually, accomplishments are reported, and objectives are tracked to assess progress. The timelines in the plan may be adjusted based on these periodic reviews.

This plan is divided into seven sections. The first section includes the vision and mission of the District and the Coast Colleges: Coastline Community College, Golden West College and Orange Coast College. The second section outlines the key technology issues and trends that have informed the guiding principles and objectives of the plan. The third section provides a brief overview of the process used to develop the plan. The fourth section outlines the plan's strategic guiding principles and objectives. The fifth section provides a cross walk between the objectives of the Strategic Technology Plan and the objectives in the existing college technology plans at the time the Strategic Technology Plan was developed. The sixth section provides a summary listing of the objectives of the Strategic Technology Plan with their associated deadlines and dependencies on other objectives, if applicable. The seventh section provides a glossary of key technical terms that appear in the plan.

District Vision Statement

Transforming lives and enriching communities through excellence in education, innovation, and opportunities.

District Mission Statement

Coast Community College District serves the diverse educational needs of its local and global communities. The District promotes academic excellence and student success, empowering students to achieve their educational goals by providing innovative, high quality, accessible, and flexible programs and services leading to associate degrees, transfer, workforce development, certificates, basic skills readiness for college, and careers. The District seeks to transform students into lifelong learners and engaged community members.

Coastline Community College Vision Statement

Creating opportunities for student success.

Coastline Community College Mission Statement

Coastline Community College offers degrees and certificates to local, global, traditional, and non-traditional students through accessible, flexible, and innovative education and services with a commitment to excellence at all academic levels demonstrated by student learning achievement outcomes.

Golden West College Vision Statement

Golden West College is committed to excellence and endeavors to provide an optimum teaching and learning environment. This will be demonstrated by innovation which embraces demographic and technological changes.

Golden West College Mission Statement

Golden West College provides an intellectually and culturally stimulating learning environment for its diverse student population. The College provides enriching and innovative educational programs that help students meet their individual goals: transfer to four-year institutions, earn associate degrees, complete certificates in career and technical education, advance their careers, and demonstrate college readiness. The College is committed to academic excellence, community engagement, and student success through continuous assessment and improvement of student learning and institutional effectiveness.

Orange Coast College Vision Statement

To be the standard of excellence in transforming lives through education

Orange Coast College Mission Statement

Orange Coast College serves the educational needs of its diverse local and global community. The college empowers students to achieve their educational goals by providing high quality and innovative programs and services leading to academic degrees, college transfer, certificates in career and technical education, basic skills, and workforce development to enable lifelong learning. The college promotes student learning and development by fostering a respectful, supportive and participatory campus climate of student engagement and academic inquiry.

II. Key Technology Issues and Trends¹

1. **Optimizing Educational Technology:** Collaborating with faculty and academic leadership to understand and support innovations and changes in education and to optimize the use of technology in teaching and learning, including the appropriate level of technology to use.
2. **Student Success Technologies:** Improve student outcomes through an institutional approach that strategically leverages technology.
3. **E-Learning and Online Education:** Providing scalable and well-resourced e-learning services, facilities, and staff to support increased access to and expansion of online education.
4. **Business Intelligence and Analytics:** Developing effective methods for business intelligence, reporting, and analytics to ensure they are relevant in

¹ Adapted from Educause January/February 2016 issue

institutional priorities and decision making and can be easily accessed and used by administrators, faculty, staff and students.

5. **Enterprise Application Integrations:** Integrating enterprise applications and services to deliver systems, services, processes, and analytics that are scalable and constituent centered.
6. **Institutional Data Management:** Improving the management of institutional data through data standards, integration, protection, and governance.
7. **Information Security:** Developing a holistic, agile approach to information security to create a secure network, develop security standards and protocols, and reduce institutional exposure to information security threats.
8. **IT Funding Models:** Developing IT funding models that sustain core services, support innovation, and facilitate growth.
9. **IT Organizational Development:** Creating IT organizational structures, staff roles, and staff development strategies that are flexible enough to support innovation and accommodate ongoing changes in higher education, IT service delivery, technology and analytics.

III. Planning Process

The development of the District Strategic Technology Plan 2016-2019 has been an evolution of documentation and planning. The District Consultation Council (DCC) Technology Subcommittee is the district-wide participatory governance group with responsibility for district-wide technology planning and evaluation. The DCC Technology Subcommittee advises, informs and makes specific recommendations to the District Consultation Council regarding major technology initiatives and projects throughout the district and future directions. For recommendations that have budgetary implications, the DCC Technology Subcommittee's recommendations go to the Chancellor's Cabinet first.

The DCC Technology Subcommittee has primary responsibility for developing and providing oversight for implementing an overall district-wide information technology strategic plan, informed and coordinated with the college plans (bi-directional), and maintaining an ongoing implementation effort aimed at achieving the goals of the plan. The DCC Technology Subcommittee is co-chaired by the Vice Chancellor Educational Services and Technology and one of the faculty co-chairs of the college technology committees. The DCC Technology Subcommittee was established and started meeting in October 2015.

The DCC Technology Subcommittee worked for a year, starting in October 2015, on developing the District Strategic Technology Plan 2016-2019. Iterative drafts of the plan

incorporated feedback from consultation with representatives of all constituencies through discussions with the Academic Senates, Associated Student Governments, Classified Senates, Collective Bargaining Units, Association of Confidential Staff, College Technology Committees, and College Councils or College Planning and Budgeting Committees.

As a subcommittee of the District Consultation Council, which is the main district-wide participatory governance committee with broad representation from all constituent groups, the DCC Technology Subcommittee advanced the draft plan to the District Consultation Council for review, discussion and approval. The District Consultation Council approved the plan on December 5, 2016.

IV. Strategic Guiding Principles and Objectives

Guiding Principle 1. Prioritize and maximize the utilization of technologies that advance teaching, learning and student support district-wide, are customer focused and driven by the needs of and consultation with students, faculty, and staff.

Objective 1.1. By December 2017, increase direct student and faculty support of various technologies used in the learning environment through the creation of a student information technology help desk and enhancement of support for faculty.

1.1.1 By June 2017, define scope and services of the student information technology helpdesk

1.1.2 Based on analysis above, by December 2017, implement phase 1 of the student information technology helpdesk.

1.1.3 By December 2017, enhance technical support for faculty teaching evening, weekend and online classes.

Objective 1.2. By June 2017, review and clarify IT governance structure and processes, including alignment between district-wide and college processes and governance.

Objective 1.3. By June 2017, deploy redesigned student portal to provide integrated digital concierge functionality.

Objective 1.4. By June 2017, fully transition to Canvas as the district-wide learning management system.

Objective 1.5. By June 2017, establish and implement standards and procedures for enhanced usability and accessibility of District IT controlled software and web interfaces.

1.5.1 Train IT and other staff with responsibility for web based applications in usability and accessibility standards, as well in conducting usability testing.

1.5.2 Include time for usability and accessibility testing on PC, Mac, and mobile devices in future project planning.

Objective 1.6. By June 2018, build and deploy a district-wide student performance dashboard.

Objective 1.7 Every spring, analyze data gathered from employee and student satisfaction surveys, feedback, and other measures on information technology products and services.

Objective 1.8 Make consistent use of business intelligence and predictive analytics district-wide to enhance student success.

Guiding Principle 2. Maintain district-wide, at the minimum, appropriate state of the market level for all IT related services and resources.

Objective 2.1 Every other spring, subgroups of the DCC Technology Subcommittee will visit local feeder high schools and four-year colleges and universities where we transfer students and provide an update to the DCC Technology Subcommittee on the technologies utilized by these institutions.

Objective 2.2 By March 2017, complete an analysis of all student labs and related faculty/staff computers to determine the best hardware/software/configuration based on curriculum and industry standards.

2.2.1 By March 2017, complete an analysis of Virtual Desktop Infrastructure (VDI) feasibility district-wide and determine a plan for implementation, as applicable.

2.2.2 By December 2017, establish a strategy for continuous support and replacement of non-VDI computers for students.

2.2.3 By December 2017, complete VDI implementation district-wide, where applicable, as identified through analysis, per established plan, including related continuous improvement/problem resolution process.

2.2.4 By December 2017, provide remote connectivity for students to VDI based computer labs.

2.2.5 By June 2019, research and implement, as feasible, remote connectivity for students to applications and non-VDI based computers.

Objective 2.3 By June 2017, implement a district-wide Printer Management solution.

Objective 2.4 By December 2017, upgrade and improve the telecommunication infrastructure.

2.4.1 The Avaya Telephone/Voicemail System is near end-of-support. Modernize the telephone infrastructure to provide increased functionality at a reduced cost for students, faculty, and staff. Provide a platform that would enable IT to implement additional applications and features that would benefit students with interactive mobile apps and faculty and staff with collaboration tools.

2.4.2 The Telecommunication Service Provider expires in March 2017. By February 2017, complete vendor selection process and implement new solution to add functionality, reduce cost, and provide additional Disaster Recovery.

2.4.3 By July 2017, increase the Telecommunication Wide Area Network (WAN) links from a 1Gbps to a 10Gbps fully mesh network to enable the capability to provide VDI services to GWC and CCC and to provide Disaster Recovery in the event of a WAN failure.

Objective 2.5 By June 2018, analyze and determine an Enterprise Voice over Internet Protocol (VoIP) strategy.

Objective 2.6 By December 2017 complete the Virtual Data Center to consolidate 370+ servers into a multi-tenancy, 64 virtual server repository.

Objective 2.7 By June 2017, analyze the current versus needed levels of IT resources – staff, skills and knowledge – to effectively and efficiently support all operational needs.
2.7.1 By December 2017, develop a plan to address the results of the analysis.

Guiding Principle 3. Take advantage of cloud-based computing options that will improve teaching, learning, productivity and/or functionality. Standardize and improve technologies where feasible, cost-effective, scalable, and desirable. When available, consider systems made available through state initiatives (e.g., online orientation, student portal).

Objective 3.1 By December 2016, implement robust and enhanced student, faculty, and staff-friendly enterprise wireless network capabilities for support of teaching and learning programs and support activities district-wide.

Objective 3.2. By June 2017, implement dependable and consistent district-wide process for requesting, reviewing, prioritizing and completing new IT projects.

3.2.1 By June 2017, develop and implement a common and standardized form and process for submitting a request for a new IT project and subsequent review and prioritization.

3.2.2 By June 2017, implement reliable and consistent district-wide framework for communicating and tracking status of IT projects.

Objective 3.3 By June 2017, develop a strategy to standardize baseline elements of computing software, hardware, and audio visual system design for classrooms and other campus rooms. Common technology platforms will achieve quality for maintenance and reliable system upgrades, classroom renovations and new building projects.

Objective 3.4 By June 2018, implement an identity management system with the benefit of achieving a unified Single Sign-On for all applications.

Guiding Principle 4. Maximize optimization for mobile computing.

Objective 4.1 By June 2018, develop strategy and model for supporting Bring Your Own Device for faculty, staff and students which would take into consideration issues such as wireless resources, security and student equity.

Objective 4.2 By December 2017, research, analyze and implement solutions to facilitate student access to key processes and services such as online registration using mobile devices from anywhere, anytime.

Guiding Principle 5. Consider total-cost-of-ownership when making investments in new technological resources.

Objective 5.1 By December 2017, establish a replacement cycle of various IT equipment and streamline the process for replacement.

5.1.1 By June 2017, create and publish a capture document that aggregates the complete system inventory at the District Office and colleges, establishes replacement criteria, and calculates recommended replacement dates and costs based on acquisition date and/or device model number and warranty expiration.

5.1.2 By December 2017, create and implement a plan to establish ongoing and sustainable funding for replacement of computing equipment (e.g., computers, printers, projectors).

5.1.3 Commit to continuing to build the endowment for technology from Measure M funds and establish expected amounts to be contributed to the endowment from each bond issuance.

Objective 5.2 Evaluate and enhance the software acquisition, tracking/inventory control, licensing, replacement, utilization, and supporting infrastructure to ensure productivity, efficiency, and cost effectiveness.

5.2.1 By June 2017, create and publish a capture document that aggregates current IT supported and externally supported software at the District Office and colleges, tracks upgrades needed and licensing and maintenance costs.

5.2.2 By December 2017, create and implement a plan to establish ongoing and sustainable funding for licensing of software.

Guiding Principle 6. Implement and maintain structures and systems that provide for security of data, information and information technology assets.

Objective 6.1 By December 2016, develop an actionable plan to execute on the security items with zero to minimal cost.

Objective 6.2 By December 2016, develop a comprehensive Project Plan to be used for implementation of an information assurance, information security and cyber security strategy.

Objective 6.3 By July 2017, create and implement a data security plan, including a data capture document of data elements that fall under the Family Educational Rights and Privacy Act (FERPA) or Personally identifiable information (PII) standards, guidelines for handling security events, and security auditing of user access privileges.

Objective 6.4 By June 2017, develop a comprehensive governance structure and organization-wide risk management strategy plan that provides the necessary protection of organizational IT assets

6.4.1 Define the acceptable risk level for the district

6.4.2 Develop security objective and strategies

6.4.3 Establish funding to support the implementation of the risk management strategy plan

Objective 6.5 By December 2017, implement broader tools and mechanisms to provide secure off-campus access for employees, as appropriate, to technology resources and information.

Guiding Principle 7. Implement and maintain adequate disaster recovery and business continuity district-wide. If the Banner Enterprise Resource Planning System and related applications will be hosted off site, the objectives below will be addressed.

Objective 7.1 By June 2018, complete discovery and analysis of business continuity needs district-wide and associated disaster recovery options. Investigate cloud-based options in support of business continuity and disaster recovery.

Objective 7.2 By June 2019, establish and implement a strategy for district-wide business continuity and disaster recovery of agreed upon critical systems. Update, modernize, and consolidate backup and recovery technologies.

7.2.1 Develop a Business Impact Analysis by March 2019

7.2.2 Develop a Business Continuity Plan by March 2019

7.2.3 Develop an Emergency Response Plan by March 2019.

Guiding Principle 8. Establish and implement sustainable training for faculty, staff and students in existing as well as new and emerging technologies.

Objective 8.1 By June 2017, create and implement sustainable training models for various constituencies to ensure timely and ongoing training of and/or communication of updates to faculty, staff, and students in current and new technologies, where applicable, in conjunction with dedicated associated funding.

- a. Faculty
- b. Students
- c. Staff (functional users)
- d. IT staff

Guiding Principle 9. Pursue managed services options for information technology where feasible, cost-effective and desirable.

Objective 9.1 By June 2017, review and evaluate current IT solutions for potential to move to managed services and/or cloud-based services for selected systems and applications.

9.1.1 By December 2017, develop a business case to migrate the Microsoft Exchange Outlook and e-mail archiving for employees to the cloud.

9.1.2 By June 2019, implement recommendations based on analysis of the viability of Enterprise Resource Management (ERP) hosting and managed services.

Objective 9.2 By June 2017, analyze current technology resources that can be utilized to satisfy unmet operational needs or to streamline and improve current operational processes (e.g., utilize Banner and/or SharePoint workflow to automate many of the current manual processes and remove the need for paper based processes such as travel requests).

Objective 9.3 By June 2017, investigate the utilization and effectiveness of the current student e-mail system provided by the district and develop recommendations, with student input, if found necessary to migrate to a different solution.

V. Crosswalk between Strategic Objectives and Objectives in the Existing College Technology Plans, District Initiatives or Regulatory/Legal Requirements

Objective #	Topic	Related to Documentation
1.1	Student Help Desk and Increase Faculty Support	OCCTP (16), GWCTP (17), CCCTP (59), FB
1.2	Review IT Governance Structures	CCCTP (73-74), FB
1.3	Redesign Student Portal (MySites)	DI, FB
1.4	Canvas Implementation	GWCTP (17), DI
1.5	Usability & Accessibility	FB, CCCTP (54)
1.6	District-wide Student Dashboard	OCCTP (17), GWCTP (19), CCCTP (53, 85-86)
1.7	Annual IT Surveys	CCCTP (85), DI
1.8	Business intelligence and predictive analytics for student success	FB

Objective #	Topic	Related to Documentation
2.1	Annual Local College and High School Technology Review	FB
2.2	Analysis of existing labs and faculty/staff computers and VDI	GWCTP (10, 13), CCCTP (iv - Abstract, 81), DI
2.3	Printer Management Solution	GWCTP (14), CCCTP (69-70)
2.4	Telecommunication infrastructure	DI
2.5	Enterprise VOIP	DI
2.6	Virtual Data Center	DI
2.7	IT resources	DI
3.1	Improve Wireless Network Capabilities	OCCTP (20, 23), CCCTP (83), FB
3.2	IT Project Review and Prioritization	OCCTP (19, 21), CCCTP (85)
3.3	Technology Baseline Standard	DI
3.4	Single Sign-On	OCCTP (20)
4.1	BYOD Support	FB, CCCTP (49, 63)
4.2	Mobile Access to Key Processes and Services	OCCTP (16), GWCTP (11), CCCTP (49, 63, 75-76)
5.1	Establish Hardware Replacement Cycle	OCCTP (18, 20), GWCTP (10), CCCTP (iii – Abstract, 77-78)
5.2	Software Inventory & Acquisitions Management	OCCTP (20), GWCTP (12-13), CCCTP (iii – Abstract, 66, 71, 78, 80-81)
6.1	Actionable plan to address zero or no cost security related processes	REG, OCCTP (6), GWCTP (10-11), CCCTP (78-79), DI
6.2	Data Security Plan	REG, OCCTP (6), GWCTP (10-11), CCCTP (78-79), DI
6.3	Information Security Plan	REG, OCCTP (6), GWCTP (10-11), CCCTP (78-79)
6.4	Risk Governance and	REG, OCCTP (6), GWCTP (10-11),

Objective #	Topic	Related to Documentation
	Management Plan	CCCTP (78-79)
6.5	Employee Off-Campus Access	OCCTP (20), FB, DI
7.1	Business Continuity and Disaster Recovery Evaluation	REG, OCCTP (20), GWCTP (11), CCCTP (67-69)
7.2	Business Continuity and Disaster Recovery Strategy	REG, OCCTP (20), GWCTP (11), CCCTP (67-69)
8.1	IT Training Models	OCCTP (18, 19), GWCTP (13, 16), CCCTP (61, 85), FB
9.1	Managed/Cloud Based Services; Enterprise Resource Management Hosting	GWCTP (9, 13), CCCTP (iv – Abstract, 44), DI
9.2	Workflow Efficiencies	OCCTP (22), GWCTP (12), CCCTP (68), FB
9.3	Student E-mail System	CCCTP (75)

OCCTP – OCC Technology Plan 2013-14, CCCTP – Coastline Technology Plan 2012-2017, GWCTP – GWC Technology Plan 2012-2017, DI – District Initiative, FB – Feedback gathered from constituents, REG – Regulations & Legal Issues

VI. Timeline and Dependency of Plan Objectives

Deadline	Objective #	Topic	Dependency
Dec 2017	1.1	Student Help Desk and Increase Faculty Support	
June 2017	1.1.1	Define student help desk	
Dec 2017	1.1.2	Implement phase 1 of student help desk	1.1.1
Dec 2017	1.1.3	Enhance after hours and weekend faculty support	
June 2017	1.2	Review IT Governance Structures	
June 2017	1.3	Redesign Student Portal (MySites)	
June 2017	1.4	Canvas Implementation	
June 2017	1.5	Usability & Accessibility	
June 2018	1.6	District-wide Student Dashboard	

Deadline	Objective #	Topic	Dependency
Annual	1.7	Annual IT Surveys	
Ongoing	1.8	Business intelligence and predictive analytics	
Biennial	2.1	Annual Local College and High School Technology Review	
March 2017	2.2	Analysis of existing labs and faculty/staff computers and VDI	
March 2017	2.2.1	VDI feasibility analysis	
Dec 2017	2.2.2	Strategy for continuous support and replacement of non-VDI computers for students.	2.2.1
Dec 2017	2.2.3	VDI implementation district-wide, where applicable	2.2.1
Dec 2017	2.2.4	Remote connectivity for students to VDI based computer labs.	2.2.3
June 2019	2.2.5	Remote connectivity for students to applications and non-VDI based computers	
June 2017	2.3	Printer Management Solution	
Dec 2017	2.4	Telecommunication infrastructure	
Feb 2017	2.4.1	Replace Avaya Telephone/Voicemail System	
Feb 2017	2.4.2	Replace current Telecommunication Service Provider	
July 2017	2.4.3	Increase the Telecommunication Wide Area Network (WAN) links from 1Gbps to 10Gbps	2.4.2
June 2018	2.5	Enterprise VOIP	2.4
Dec 2017	2.6	Virtual Data Center	
June 2017	2.7	IT resources	
Dec 2016	3.1	Improve Wireless Network Capabilities	
June 2017	3.2	IT Project Review and Prioritization	
June 2017	3.2.1	Develop and implement a form and process for reviewing and prioritizing new IT projects	
June 2017	3.2.2	Implement framework for communicating and tracking status of IT projects	
June 2017	3.3	Technology Baseline Standard	
June 2018	3.4	Single Sign-On	
June 2018	4.1	BYOD Support	

Deadline	Objective #	Topic	Dependency
Dec 2017	4.2	Mobile Access to Key Processes and Services	
Dec 2017	5.1	Establish Hardware Replacement Cycle	
June 2017	5.1.1	Create and publish a document that aggregates all inventory districtwide and establishes replacement criteria and calculates costs	
Dec 2017	5.1.2	Create and implement a plan to establish ongoing and sustainable funding of computing equipment	5.1.1
	5.1.3	Commit to continuing to build the endowment for technology from Measure M	
	5.2	Software Inventory & Acquisitions Management	
June 2017	5.2.1	Create and publish a document that aggregates current IT supported and externally supported software districtwide, tracks upgrades needed and licensing and maintenance costs.	
Dec 2017	5.2.2	Create and implement a plan to establish ongoing and sustainable funding for software licensing	5.2.1
Dec 2016	6.1	Actionable plan to address zero or no cost security related processes	
Dec 2016	6.2	Comprehensive Project Plan to be used for implementation of an information assurance, information security and cyber security strategy.	
July 2017	6.3	Information Security Plan	
June 2017	6.4	Risk Governance and Management Plan	
Dec 2017	6.5	Employee Off-Campus Access	
June 2018	7.1	Business Continuity and Disaster Recovery Evaluation	
June 2019	7.2	Business Continuity and Disaster Recovery Strategy	7.1
March	7.2.1	Business Impact Analysis	

Deadline	Objective #	Topic	Dependency
2019			
March 2019	7.2.2	Business Continuity Plan	7.2.1
March 2019	7.2.3	Emergency Response Plan	
June 2017	8.1	IT Training Models	
June 2017	9.1	Managed/Cloud Based Services; Enterprise Resource Management Hosting	
Dec 2017	9.1.1	Business case to migrate the Microsoft Exchange Outlook & email archiving for employees to the cloud	
June 2019	9.1.2	Implement recommendations based on analysis of the viability of Enterprise Resource Management (ERP) hosting and managed services.	
June 2017	9.2	Workflow Efficiencies	
June 2017	9.3	Student E-mail System	

VII. Glossary of Terms

Cloud computing

Cloud computing, also known as on-demand computing, is a kind of internet-based computing, where shared resources and information are provided to computers and other devices on-demand. It is a model for enabling ubiquitous, on-demand access to a shared pool of configurable computing resources. Cloud computing and storage solutions provide users and enterprises with various capabilities to store and process their data in third-party data centers. It relies on sharing of resources to achieve coherence and economies of scale, similar to a utility (like the electricity grid) over a network. At the foundation of cloud computing is the broader concept of converged infrastructure and shared services. Cloud computing services can be private, public or hybrid. Private cloud services are delivered from a business' data center to internal users. This model offers versatility and convenience, while preserving management, control and security. Internal customers may or may not be billed for services through IT chargeback. In the public cloud model, a third-party provider delivers the cloud service over the Internet. Public cloud services are sold on-demand, typically by the minute or the hour. Customers only pay for the CPU cycles, storage or bandwidth they consume. Leading public cloud providers include Amazon Web Services (AWS), Microsoft Azure, IBM/SoftLayer and Google Compute Engine.

Disaster recovery and business continuity

Disaster recovery (DR) involves a set of policies, procedures, systems and infrastructure to enable the recovery or continuation of vital technology infrastructure and systems following a natural or human-induced disaster. Business continuity encompasses a defined set of planning, preparatory and related activities which are intended to ensure that an organization's critical business functions will either continue to operate despite serious incidents or disasters that might otherwise have interrupted them, or will be recovered to an operational state within a reasonably short period. As such, business continuity includes three key elements and they are

1. Resilience: critical business functions and the supporting infrastructure are designed and engineered in such a way that they are materially unaffected by most disruptions, for example through the use of redundancy and spare capacity;
2. Recovery: arrangements are made to recover or restore critical and less critical business functions that fail for some reason.
3. Contingency: the organization establishes a generalized capability and readiness to cope effectively with whatever major incidents and disasters occur, including those that were not, and perhaps could not have been, foreseen. Contingency preparations constitute a last-resort response if resilience and recovery arrangements should prove inadequate in practice.

Enterprise resource planning (ERP)

Enterprise resource planning (ERP) is a category of business-management software—typically a suite of integrated applications—that an organization can use to collect, store, manage and interpret data from many business activities.

ERP provides an integrated view of core business processes, often in real-time, using common databases maintained by a database management system. ERP systems track business resources—persons, courses, classes, programs, positions, vendors, internal departments, budgets, etc.—and the status of business commitments: enrollments, orders, purchase orders, payroll, etc. The applications that make up the system share data across various departments (admissions and records, financial aid, instruction, accounting, etc.) that provide the data. ERP facilitates information flow between all business functions and manages connections to outside stakeholders. Enterprise system software is a multibillion-dollar industry that produces components supporting a variety of business functions. IT investments have become the largest category of capital expenditure in United States-based businesses over the past decade. Though early ERP systems focused on large enterprises, smaller enterprises increasingly use ERP systems.

The ERP system integrates varied organizational systems and facilitates error-free transactions and production, thereby enhancing the organization's efficiency. However, developing an ERP system differs from traditional system development. ERP systems run on a variety of computer hardware and network configurations, typically using a database as an information repository.

The ERP used by the district is the Ellucian Banner suite.

Managed Services

Managed Services is the proactive management of an IT asset, object or system by a third party typically known as a Managed Services Provider (MSP), on behalf of a customer. The operative distinction that sets apart a MSP is the proactive delivery of their service. Managed services are the practice of day-to-day management responsibilities and functions as a method for improving operations and reducing expenses.

Although the terminology varies, typically the person or organization that owns or has direct oversight of the organization or system being managed is referred to as the offeror, client, or customer; and the person or organization providing the managed service is the service provider or Managed Services Provider (MSP).

Generally the client remains fully accountable for the overall management and control of the organization or system - including the functionality and performance of the managed service.

Personally identifiable information (PII)

Personally identifiable information (PII) is any data that could potentially identify a specific individual. Any information that can be used to distinguish one person from another and can be used for de-anonymizing anonymous data can be considered PII.

Single sign-on (SSO)

Single sign-on (SSO) is a session and user authentication service that permits a user to use one set of login credentials (e.g., name and password) to access multiple applications. The service authenticates the end user for all the applications the user has been given rights to and eliminates further prompts when the user switches applications during the same session. On the back end, SSO is helpful for logging user activities as well as monitoring user accounts.

State of the market

As opposed to "state of the art" which implies the very best available, "state of the market" represents the broadly available and expected, currently utilized level of technology for hardware and software. The term "state of the art" refers to the highest level of general development, as of a device, technique, or scientific field achieved at a particular time. It also refers to the level of development (as of a device, procedure, process, technique, or science) reached at any particular time as a result of the common methodologies employed.

The Family Educational Rights and Privacy Act (FERPA)

The Family Educational Rights and Privacy Act (FERPA) (20 U.S.C. § 1232g; 34 CFR Part 99) is a Federal law that protects the privacy of student education records. The law applies to all schools that receive funds under an applicable program of the U.S. Department of Education.

FERPA gives parents certain rights with respect to their children's education records. These rights transfer to the student when he or she reaches the age of 18 or attends a school beyond the high school level. Students to whom the rights have transferred are "eligible students."

Parents or eligible students have the right to inspect and review the student's education records maintained by the school. Schools are not required to provide copies of records unless, for reasons such as great distance, it is impossible for parents or eligible students to review the records. Schools may charge a fee for copies.

Parents or eligible students have the right to request that a school correct records which they believe to be inaccurate or misleading. If the school decides not to amend the record, the parent or eligible student then has the right to a formal hearing. After the hearing, if the school still decides not to amend the record, the parent or eligible student has the right to place a statement with the record setting forth his or her view about the contested information.

Generally, schools must have written permission from the parent or eligible student in order to release any information from a student's education record. However, FERPA allows schools to disclose those records, without consent, to the following parties or under the following conditions (34 CFR § 99.31):

- School officials with legitimate educational interest;
- Other schools to which a student is transferring;
- Specified officials for audit or evaluation purposes;
- Appropriate parties in connection with financial aid to a student;
- Organizations conducting certain studies for or on behalf of the school;
- Accrediting organizations;
- To comply with a judicial order or lawfully issued subpoena;
- Appropriate officials in cases of health and safety emergencies; and
- State and local authorities, within a juvenile justice system, pursuant to specific State law.

Schools may disclose, without consent, "directory" information such as a student's name, address, telephone number, date and place of birth, honors and awards, and dates of attendance. However, schools must tell parents and eligible students about directory information and allow parents and eligible students a reasonable amount of time to request that the school not disclose directory information about them. Schools must notify parents and eligible students annually of their rights under FERPA. The actual means of notification (special letter, inclusion in a PTA bulletin, student handbook, or newspaper article) is left to the discretion of each school.

Total cost of ownership

Total cost of ownership (TCO) is an estimation of the expenses associated with purchasing, deploying, using and retiring a product or piece of equipment. TCO includes both direct and indirect, short- and long-term costs of a product or system over the life

cycle of the product or system. The purchase price of hardware and software is typically less than 50% of the total direct costs.

Virtual desktop infrastructure

Virtual desktop infrastructure (VDI) is the practice of hosting a desktop operating system within a virtual machine (VM) running on a centralized server. VDI is a variation on the client/server computing model, sometimes referred to as server-based computing. The term was coined by VMware Inc.

Voice over Internet Protocol (VoIP)

Voice over Internet Protocol (VoIP) is a technology that allows making voice calls using a broadband Internet connection instead of a regular (or analog) phone line. Some VoIP services may only allow one to call other people using the same service, but others may allow one to call anyone who has a telephone number - including local, long distance, mobile, and international numbers. Also, while some VoIP services only work over a computer or a special VoIP phone, other services allow one to use a traditional phone connected to a VoIP adapter.

Wide Area Network (WAN)

A wide area network (WAN) is a telecommunications network or computer network that extends over a large geographical distance. Wide area networks are often established with leased telecommunication circuits. Business, education and government entities use wide area networks to relay data among staff, students, clients, buyers, and suppliers from various geographical locations. In essence, this mode of telecommunication allows a business to effectively carry out its daily function regardless of location. The Internet may be considered a WAN. Related terms for other types of networks are personal area networks (PANs), local area networks (LANs), campus area networks (CANs), or metropolitan area networks (MANs) which are usually limited to a room, building, campus or specific metropolitan area respectively.