2015 Interim Report to the College

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Executive Summary

This Interim Report covers the period from July 2014 through January 2015 and provides updates, analyses, and reporting on activities, initiatives, and services related to Information Technology at SUNY Empire State College. Foci for this time period included: (i) initial discovery and assessment of the state and condition of technology at the College, (ii) risk mitigation, (iii) strategic planning, and (iv) launch of initiatives in preparation for achievement of three-year goals and objectives. The initial state of hardware and software infrastructure at the College was found to be legacy, generally unsecure, and struggling to enable the administrative and academic computing needs of institutional stakeholders. Physical environments, such as College data centers in 2 Union Avenue and 3 Union Avenue generate substantial risk with respect to application availability, data assurance, and security; in sum, considerably inadequate to support the enterprise computing needs of the College.

An audit report by Data Blue Corporation, delivered on September 16, 2014, indicated numerous structural, security, and process liabilities with how College data was accessed and stored. Moreover, the College network lacked adequate protection from outside threats. As a result, the decision to move away from local Saratoga Springs infrastructure through a partnership with the University of Albany was made to support the College’s advancement to a modern (hybrid cloud) computing paradigm. Further risk mitigation in response to audit findings and internal assessments included an initiative to consolidate directory (access) structures, begin work on standard security classes for access to data, and implement network identity management.

Working in close collaboration with the co-chairs of the College’s Integrated Technology Committee (ITC), strategic planning began in preparation for a three-year agenda of goals and enabling objectives in support of ESC 2.0. Internal organization restructuring, guided by stakeholder needs and strategic planning, resulted in a matrixed Information Technology organization capable of sustaining a robust catalog of services to the College. As well, internal process changes are now guided by best practices via instantiation of the Information Technology Infrastructure Library (ITIL) service management framework. ITIL is defined by an integrated set of best-practice processes for delivering Information Technology services to customers. The primary objective involves maximizing value to students, faculty, and staff by aligning Information Technology resources with business needs. At ITIL’s core is the basic idea that value is provided in the form of business-aligned Information Technology Services. In support of this service management framework, the College’s Service Desk will take on new vitality and responsiveness through new software and physical space. The first floor of 3 Union Avenue was remodeled to accommodate a robust Service Desk operation, supported by two Client Services personnel and technical support specialists across the state.

Resources are being applied as appropriate to support the College’s movement into active Business Intelligence (BI.) Christopher Jackson and Cindy He are now working on a decision-center concept, using the IBM Cognos tool, to support data-driven decision making. In the proposed model, decision-centers would support functional areas of the College such as Undergraduate, Graduate, Nursing, Alumni and Advancement, and Student Services. The Cognos tool brings self-service reporting capabilities to the desktop, thus avoiding extended wait time in the creation of ad-hoc reports. The College would maintain centrally a standard set of operational reports while timely, functional ad-hoc reporting would be available at each decision-center. Plans include application of resources to support what is anticipated to be a growing institutional consumerism of data reporting and analytics.
Return on investment does not support additional developmental work of the College’s legacy systems and infrastructure, namely the Lotus/Domino platform and the Datatel Colleague student information system (essentially the College’s enterprise resource planning, or ERP, system.) New application development on existing legacy systems is frozen in light of future plans for new enterprise system investment. One essential success imperative in the modernization of the College’s systems and infrastructure involves decoupling the current patchwork of systems in favor of a unified architecture for all enterprise applications. The strategy to obviate current platforms that are now at end-of-life involves discontinuation of any plans for further related application development. Time and attention will be given to support and maintenance of current systems while “sunsetting” of legacy applications occurs.

Information Technology priorities in the Roadmap will be based on the College’s need to protect and sustain its resources and data, provide systems that function effectively, and enable the College to compete in a global environment. Risk mitigation is a top priority and supports decisions related to the College’s data center, network, and computing environments. Moreover, changes in how the College’s network and data maintain security through unified authentication schemes and central identity management will mitigate risk. The security fabric that supports the College’s information systems involves coordination between network security, data security, and application security. Additionally, physical security of the computing environment is included in a risk mitigation strategy. A secondary priority involves well-designed enterprise information system architecture (EISA) that maintains integrity and efficacy through enforcement of integrative, interoperable, and homogenous technology stacks. Finally, a third priority involves competitive advantage and the College’s ability to work with technologies that provide increasing levels of support to our students.

Multiple initiatives are now underway in various stages of project planning; updates on key initiatives are noted in this report. Key initiatives include a move to Microsoft Office 365 cloud solutions, a Constituent Relationship Management (CRM) system, a new Empire State College website and intranet, and a new electronic catalog. In preparation for future migration to a new enterprise resource planning (ERP) system, three College-wide task forces are working to: (i) develop a College-wide data dictionary; (ii) develop and implement appropriate data security classes and role-based permission structures; and (iii) develop and implement a College-wide e-catalog with course naming and numbering convention. Moreover, in preparation for construction of a CRM-driven College website, three College-wide teams are meeting to reach consensus regarding: (i) information architecture and new creative; (ii) content management strategy; and (iii) technical integrations.

The Preliminary Draft of a Three-year Strategic Roadmap includes five goals and 35 supporting objectives. The goals and objectives are organized by functional areas of responsibility. The Three-year Strategic Roadmap will be completed as it moves through College review involving the Information Technology Advisory Committee, the President’s Council, and the Cabinet. A collaborative shared governance retreat is planned for March 5-6, 2015 for ITC in Saratoga Springs to work on the Three-year Strategic Roadmap. A final draft of the Roadmap is anticipated no later than July 1, 2015. Following publication of the final draft, Interim Reports of progress toward Roadmap goals and objectives will be published to the College each winter, with an Annual Report of progress published each summer.

Finally, as a basis for strategic planning, new mission, vision, and value statements for the Information Technology organization have been developed in concert with all members of the Information Technology organization and with advice and input from the ITC. A clearly stated mission and vision that supports ESC 2.0, along with value statements for how we collaborate and work together, create a solid foundation for the
work ahead. The following narrative introduces the newly aligned Information Technology organization; articulates its mission, vision, and values; analyzes the organizational strategy and structure; and reports on key initiatives now underway in support of a Three-year Strategic Roadmap.

Introduction

The dedicated professionals who work with Information Technologies are excited to play an important role in ESC 2.0 and the future of Empire State College. In support of the College mission and vision, the Information Technology organization has made significant progress in building a new organization focused on service, quality, and innovation. In the 21st century, Empire State College is challenged to compete globally for students and provide learning opportunities to students in multiple new modes of access and delivery, while maintaining and enhancing its mentoring model, a foundation concept for the College. Empire State College, as a distributed institution specializing in non-traditional education, requires robust technologies that enable and support convergent modalities of learning. In concert with ESC 2.0, the Information Technology organization has repositioned itself to provide improved service levels, enable the College for sustainable growth, build competitive advantage, support a continuum of life-long learning, and serve as a catalyst for innovation that supports the re-emergence of non-traditional students.

Recognition of and appreciation for outstanding employee performance constitutes a major part of who we are as an Information Technology service provider. At the quarterly [OIT] Division Meeting held Tuesday, December 9, four Information Technology professionals were recognized with outstanding service awards. **Kay Watkins** was honored for outstanding work in the area of Project Management. Her tireless work and expertise in managing multiple critical initiatives is widely recognized. **Kevin Carroll** was honored for his dedication and perseverance in resolving several critical issues related to aging hardware and poor operating environments for critical applications. His efforts were widely recognized and appreciated by his management and peers. **Jim Stoner** was honored for his expertise, collaborative work ethic, and willingness to lend a helping hand to all who ask. As well, **Ruffin Pauszek** was honored for his work in technical support and training, working long hours to ensure adequate service desk coverage for the College. Congratulations and a big “thank you” to all honorees.

As one reads this Interim Report to the College, he or she will note progression of themes toward the Three-year Strategic Roadmap. This Interim Report, in addition to an Annual Report, will report regularly on progress toward specific goals and associated objectives as will be stated in the final Roadmap document that will serve to guide the College’s Information Technology organization and initiatives. Currently in preliminary draft form, the Information Technology Three-year Strategic Roadmap (2015-2018) is in working distribution with the Information Technology directors and assistant directors, and the co-chairs of the College’s Information Technology Advisory Committee (ITC.) Each year a new theme will emerge to build on the prior year’s theme, resulting in a three-year guide that delivers on the spirit and requirements of ESC 2.0.

**Year 1** of the Roadmap involves “rebuilding and restructuring.” The most important technology assets we possess are people; as such, the Information Technology organization has re-organized for improved performance. As well, repurposed positions involving new skillsets and position descriptions are part of restructuring. Rebuilding initiatives are focused on mitigating liabilities with infrastructure and data by partnering with SUNY University of Albany on a new data center facility in support of new hybrid cloud computing capabilities. A secondary data center facility in Buffalo (to begin construction in 3rd Quarter 2015)
will provide for disaster recovery and continuity of operations, as well as host the College’s *virtualized* data warehouse.

*Year 2* of the Roadmap will involve “re-imagining.” The College will benefit from new applications, computing models such as cloud computing, virtual Internet Protocol (IP) learning spaces, and bring-your-own-device (BYOD), as well as new technologies based on modeled and re-engineered business processes. Moreover, the College will benefit from partnerships within SUNY that support new enterprise resource planning (ERP) applications, data analysis, and academic research. As a result, Empire State College will be better positioned to thrive in educating 21st century learners and respond to our mission of access by making technology as available and useable to as many people as possible. Additionally, re-engineering of the College’s wireline and wifi networks will be a priority in support of state-wide (and potentially world-wide) synchronous learning delivery modes.

*Year 3* of the Roadmap will involve ‘re-emerging.” As Empire State College re-emerges as an innovative leader in higher education, it will be prepared to meet the challenge of growing demand for new and more innovative ways to learn efficiently and complete a degree. Based on objectives that re-build the technology infrastructure, re-engineer business processes for efficiency, modernize enterprise applications, and ensure return-on-investment of technology spend, the final year of the Roadmap will yield a secure, available, scalable, reliable, and robust enterprise architecture and service organization that meets the current and future technology needs of students, faculty, and staff.

Moreover, movement toward an enterprise view of the College with respect to technology services will be an on-going focus. Synergistically, the technology whole of the College is much greater than the sum of its parts. As a result, enterprise thinking, technology planning, and services must include our International Programs, Military and Veterans Program, Alumni Relations, and Advancement. Examples of this enterprise thinking will be seen herein in initiatives such as the SUNY Empire State College Website Initiative and the Constituent Relationship Management (CRM) Initiative. International Programs will sponsor the pilot program and roll-out of Empire State College’s Virtual Student Center, Alumni Relations and Academic Affairs will benefit from the new CRM software, and Advancement will work closely with Information Technology to ensure web-based opportunities for giving to the College.

To ensure consistent levels of service across the College, the Technical Support Specialists (TSSs) were aligned with the Information Technology Services organization. With TSSs working in concert with the ITIL process, the College’s Service Desk and the new incident (trouble ticket) system, improved communication, resolution, or escalation of technical issues is now possible. TSSs, no longer geographically restricted, but able to work with technology across the College can now load balance to ensure faster time to resolution of technical problems. TSSs will be continuously trained to use remote access technologies for troubleshooting, learn to work within the ITIL framework, and participate in team learning activities that improve our technical support capabilities. In similar fashion, the Faculty Instructional Technologists (FITs), now termed Educational Technologist, were aligned to provide better support to and communication with students, faculty, and instructional designers. Working in concert with (faculty) subject matter experts and instructional designers, the new Educational Technologist role will provide support for course development, enterprise educational technologies, learning space design, and emerging technologies.
Division Designation: Adding “Service” to our Name

The College’s Information Technology organization is generally referred to as the Office of Integrated Technologies, or simply OIT. As a service bureau, the organization is tasked with providing College-wide support through services. Technology organizations generally should focus on the service aspect as related to stakeholders in the organization, in this case our students, faculty, and staff. An attitude of service should be inherent in the College’s Information Technology organization, as well as a name that reflects a core attitude of service. In concert with this focus, the reference to the College’s Information Technology organization as Information Technology Services will serve to impart internal and external recognition of the organization for its primary role as a service provider. The Information Technology Service Catalog will be refined, developed, and made available in the new College-wide service desk application known as ServiceNow®. Moving forward, references to the College’s Information Technology support organization will be Information Technology Services, or simply ITS.

Mission, Vision, and Values Statements

Mission Statement

Information Technology Services serves to provide support, coordination, management, and leadership to the administrative and academic computing initiatives and activities of SUNY Empire State College. Functioning as a service organization, Information Technology Services works collaboratively across the College community to:

- enable and consistently improve SUNY Empire State College’s administrative technologies to deliver quality education services and outcomes based on data-driven decisions;
- provide innovative, connected, and sustainable technology environments and services where teaching and learning can occur anytime and anyplace;
- digitally connect SUNY Empire State College’s stakeholders together locally and globally through information and communication technologies;
- collaboratively research and explore new and advanced modes of teaching and learning via emerging technologies and tools related to 21st century higher education in support of SUNY Empire State College’s mission, vision, and goals.

Vision Statement

SUNY Empire State College Information Technology Services will function in a unified manner in the delivery and maintenance of academic, administrative, and general campus information and communication technology services. Appropriate standards, processes, and procedures for technology service management and delivery will be followed to meet the priorities of the College, while keeping College information assets secure and available. Information Technology Services will be responsive to the needs of its constituencies; provide technology leadership, solutions, and quality services; and be strategically aligned with the mission and direction of the College.

Values Statement

SUNY Empire State College Information Technology Services affirms the following core values:

- An environment of integrity, mutual trust, transparency, and open communication
• An ideal of excellence, fostered by a belief in quality, teamwork, and service
• An esprit de corps personified by a positive attitude toward our work
• A spirit of courage and risk-taking that nurtures technological creativity, innovation, and leadership
• An appreciation and mutual respect for diverse backgrounds and opinions

Organizational Development Strategy

Shifts in business perspective from Information Technology as a cost to that of investment have impacted higher education in multiple ways. Technology should enable and support the majority of business processes and workflows that allow the College to function efficiently and effectively in a globally competitive environment. Moreover, technology platforms facilitate learning and instruction at an increasing rate and in new modalities. As such, technology plays a strategic role in the future of the College and should strive to achieve an acceptable return-on-investment, given the amount of capital expenditures (capex) and operating expenditures (opex.) Many capex strategies are now migrating to opex strategies, as seen in BYOD, cloud computing, and virtual network designs. In response, the College’s Information Technology organization achieved realignment during Summer and Fall 2014 to provide for tighter coupling of education and technology, new technology skill sets, a focus on service, development of an enterprise architecture, and ability to leverage the College’s state-wide network.

Establishment of a technology group to focus on educational and emerging technologies was a major milestone toward tighter coupling between education and technology. Consolidation of the Faculty Instructional Technologists, and renaming of the title to Educational Technologist, serves to provide an aligned and enabled resource to all students and faculty with respect to enterprise educational technologies. Educational technologies include not only learning management systems (LMSs), but also hosted systems that support digital content, provide for student interactions and engagement, allow for research, testing, and development, and otherwise support the mentoring and learning process. Emerging technologies involve movement of the College to the horizon of new applications that ensure innovation in education. As nascent technologies arrive, educational technologists are now available to enable and support students and faculty in their experimentation and use. Educational technologists also play a role in the new science of learning space design. Tight coupling between education and technology in this context involves development of “use cases” that build physical and virtual learning spaces based on faculty requirements elicited from use cases, or in other words, how technology, space, and pedagogy intersect. Faculty driven use cases are essential to the process.

Organizational development strategies also include opportunities for new and enhanced skill sets. The need for expertise in cloud computing services, analytic data environments, security via next generation firewalls, mobile computing, integrated communications, digital content management and delivery, business process modeling, and information system architecture is represented in organizational changes as can be noted in this report’s section on New Organizational Structure. New organizational structures were put in-place to accommodate the College’s movement away from local data center management to a hosted hybrid cloud computing model in preparation for more scalable and reliable delivery of applications, integration at a data level, and a structured approach and methodology to enterprise computing.

Essentially, the College’s (hardware and software) technology infrastructure is in need of simplification, modernization, and architected enterprise system thinking. As a result, the Information Technology
organization has been restructured and aligned to support these goals, while at the same time transforming itself into a service management organization that optimizes return-on-investment. The overarching taxonomy for the new organizational structure involves decomposition of ITS into functional groups, and decomposition of functional groups into teams.

**New Organizational Structure**

SUNY Empire State College Information Technology Services (ITS) serves to provide technology infrastructure and systems, administrative and academic computing applications, and technical support services to the College’s students, faculty, and staff. Organizationally, the division is composed of five groups: Enterprise Systems and Infrastructure (ESI), Enterprise Architecture and Applications (EAA), User Technical Support Service (UTSS), Educational and Emerging Technologies (EET), and Project Management (PM). These five groups compose a service organization that reports to the Office of the Vice President for Integrated Technologies and Chief Information Officer (Appendix A.)

The Office of the Vice President for Integrated Technologies and Chief Information Officer (CIO) provides leadership, coordination, management, and support for the strategic technology vision of the College. In response to the ITS mission and vision, this Office works to optimize technology resources and advance Empire State College.

The Educational and Emerging Technologies Group (Appendix B) works to build and maintain physical and virtual learning spaces for the College. This Group focuses on campus collaborations with faculty and instructional designers to derive use cases that drive learning space technology design and decision-making. Additionally, this Group serves to facilitate an on-going discussion related to emerging technologies used as teaching or learning tools in today’s higher education learning environments. The Group supports all College-wide enterprise educational technology applications, systems, and tools including the Learning Management System, Learning Object Repository, Content Delivery Network, e-Portfolio, and more. Moreover, this Group is involved with support for digital and metaliteracy professional development, including personal learning clouds. Educational and Emerging Technologies works to ensure technologies interoperate in a reliable manner, are robust in functionality, and transparent to faculty and students who use them.

The ITS Enterprise Systems and Infrastructure Group (Appendix C) designs, constructs, and maintains the physical components of the College’s wireline and wireless networks, data center, telecommunications, and hybrid cloud computing infrastructure. Working to achieve a reliable, available, sustainable, scalable, and secure hosting and computing environments, this group also is tasked with networked systems security and administration. Additionally, the Group works to improve the use of enterprise information management and business intelligence platforms and tools to enhance decision support and data-driven decisions.

The Project Management Group (Appendix D) provides project intake and life-cycle management of College technology related projects. This Group works with College stakeholders to conduct project planning, build requirements, design solutions, guide development, ensure testing, and manage implementations of strategic projects. The Project Management Group works across and in concert with Enterprise Systems and Infrastructure, Enterprise Applications, User Technical Support, and Educational and Emerging Technologies to accomplish project goals.

The ITS Enterprise Architecture and Applications Group (Appendix E) selects, supports, integrates, and maintains enterprise and departmental level software applications through all phases of the system
development life-cycle process. Working to advance the technology value proposition of data-to-information-to-knowledge, this Group is responsible for the College’s Enterprise Resource Planning (ERP) system and ancillary transactional systems. The Enterprise Applications Group is responsible for the implementation of the College’s digital ecosystem, integrity of the College’s Information Systems Architecture (ISA), and system integration. Moreover, the Group serves to improve the efficiency of College-wide academic and administrative business processes through modeling and automation of workflows.

The User Technical Support Service Group (Appendix F) serves as a single point of contact for technology support needs for students, faculty, and staff. The Group works with all College-wide stakeholders to achieve optimal computing experiences, resolve technical issues, and complete technology service requests. Moreover, this Group provides client services to College stakeholders that strive to consistently improve technical support and the end-user computing experience in the new normal: mobile, online education, cloud, and BYOD environments. Technology purchasing and logistics reside as a function of this Group, as well as coordination with College asset and inventory management. Additionally, this Group coordinates and provides training opportunities for students, faculty, and staff as required to support the release of new and existing applications and systems.

**Information Technology Services on the Web**

In early spring, a new Information Technology Services website (Figure 1) will launch and feature new information regarding Information Technology services, and easy access to the virtual Service Desk. Moreover, College stakeholders will have quick access to technology policies, news, tier 0 (i.e., Knowledge Base) support, the Service Catalog, and contact information for the Service Desk. The new website also will serve as a mechanism to get to know the dedicated technology professionals who work each day to ensure positive and productive computing experiences across the College.

![Figure 1: New 2015 ITS Website](image-url)
Key Initiatives
Constituent Relationship Management (CRM) Software

Project planning for this initiative began in July 2014 with movement through requirements elicitation and analysis over Summer and Fall 2014. CRM software will enable the College to improve recruitment and student retention, automate business processes related to admissions, enrollment, financial aid, and student services, and extend potential and current student satisfaction through enhanced communications and engagement. Walter Lewis serves as the Project Manager for this initiative and works with two internal College groups: (1) a CRM planning and advising group composed of Mark Claverie, Anna Miarka-Grzelak, MaryBeth Litz, Regina Lundy, and Stephanie Thomas; and (2) a CRM selection committee composed of Anna Miraka-Grzelak, Brett Sherman, Cammie Baker-Clancy, Carl Burkart, Christopher Jackson, Christopher Rolley, Desiree Drindak, Donna Carey, Jennifer D’Agostino, Kelly Hermann, Kelly Mollica, Kristina Delbridge, Linda Hamell, Lyndsey Nadeau, Mark Claverie, Maureen Winney, Dr. Mitchell Nesler, Theresa Vanvalis, and Charley Summersell. Working with constituents from across the College (including Admissions, Recruitment, Academic Support, Marketing, Financial Aid, Academic Affairs, Graduate Programs, External Affairs, Deans, C-PIE, Nursing, and the Student Information Center) the CRM selection committee elicited, analyzed, and formally documented requirements on which to evaluate potential CRM software vendor solutions. Moreover, requirements were elicited through a Request for Information (RFI) process over the Fall 2014 time period when three best-of-breed vendors for CRM software (Oracle, TargetX, and Talisma) provided presentations to the CRM selection committee. As a result, a Request for Proposal (RFP) was generated and released publicly on Monday, January 12, 2015. The due date for responses to the RFP was Friday, February 13, 2015.

In preparation for award of contract and initiation of a project plan to move forward with a College CRM system, student recruitment, admissions, and enrollment business processes are being modeled in “as-is” state. Enterprise systems require enterprise thinking and a foundation of uniform business processes on which the technology workflows and dataflows are modeled. Once essential business processes are modeled in current state, senior administrators and the CRM selection committee, along with other governance bodies, will examine the optimal business process to model a future state on which a new CRM-driven website can operate and achieve broad impact. A current, best estimate from Procurement positions contract award and project initiation in the early April timeframe. Next steps after contract award include final selection by the CRM selection committee of the CRM software vendor and instantiation of a project plan to guide construction of a College-wide CRM driven website via a project life-cycle approach. Target date for completion of the project to the implementation phase is nine months from award of contract. The CRM Software RFP is available for review at http://www.esc.edu/integrated-technologies/oit-news/crm-rfp.html.

For additional information, contact Walter Lewis, ESC Director of Project Management [walter.lewis@esc.edu]

SUNY Empire State College Website Initiative

Our College website initiative will serve to optimize use of the Terminal Four (T4) content management system, strengthen our brand, brand promise, value proposition, creative design, information architecture, content strategy, and technology integration with CRM software. The RFI process began in early Fall 2014 with presentations by four leading agencies who work in the higher education space and completed at the end of December 2014. Each group presented to Dr. Hancock, Dr. Ntoko, Dr. Nesler, Dr. Arnold, and MaryCaroline Powers in preparation for construction of a RFP based on requirements related to the College’s
need to promote its brand, strengthen its competitive position, and fully leverage web-based technologies. Agencies invited to present as part of the RFI process included mStoner Agency, New City Agency, Navigation Arts, and iFactory Agency.

Walter Lewis serves as the Project Manager for this College-wide initiative and worked with Procurement to finalize the RFP for public release. Public release of the RFP was January 19, 2015. Following this public release, interested parties will have an opportunity to respond to the RFP, with a due date of February 12, 2015. The current, best estimate for ability to award contract is sometime in April 2015, with subsequent project launch in the early May timeframe. The Empire State College website project and the CRM Software project will work in tandem to support the multiple mutual dependencies between the two initiatives. The project is anticipated to span a nine-month timeline from time of contract award. The College website initiative RFP is available for review at http://www.esc.edu/integrated-technologies/oit-news/web-redesign-rfp.html.

In preparation for the Agency project, a College committee, chartered by the President, deconstructed into three teams will convene bi-monthly beginning in late January to discuss and prepare support information related to: (1) website information architecture and creative design; (2) content management; and (3) technology integration. Team membership includes the following:

Team 1 (Website Information Architecture and Creative Design): Christopher Rolley, MaryCaroline Powers, Anna Miarka-Grzelak, Casey Lumbra, Jill Evans, Kay Watkins, Kelly Mollica, Tom Mackey, Kirstie Szlasa, and Rhianna Rogers

Team 2 (Content Management): MaryCaroline Powers, Anna Miarka-Grzelak, Casey Lumbra, Jill Evans, Walter Lewis, Meg Benke, Tom Mackey, and Lisa Johnson.

Team 3 (Technology Integration): Casey Lumbra, AJ LaComba, Kay Watkins, Mark Claverie, Walter Lewis, Lisa Johnson, Katherine Watson, and John Beckem

Michael Mancini and Dr. Mitchell Nesler serve as at-large members on all three teams.

For additional information, contact Walter Lewis, ESC Director of Project Management [walter.lewis@esc.edu]

New Information Technology Service Desk Launch

ServiceNow® software, a cloud-based technology platform, features a robust environment in which information technology organizations can provide enterprise services through a defined catalog of technology-related services. College technical resources, such as technical support specialists, can now be optimized without geographic restrictions via ServiceNow®. The new Information Technology Service Desk (Figure 2) is accessible on the web at www.esc.edu/service-desk. The Service Desk provides multiple methods of contact for technical support, including email. In addition to calling or interacting through an easy-to-use virtual service desk interface, students, faculty, and staff can open incident (problem) tickets or request services via an email to servicedesk@esc.edu.

The new Service Desk launched on Monday, January 12, 2015 and is fully integrated with single-sign-on capabilities for ease of use. Student, faculty, and staff can submit an “Incident Ticket” (Ask a technical question or report a technical problem); “Search for Answers” (Search for technical self-help information in the Knowledge Base); “Browse the Service Catalog” (Review all Information Technology services provided); or “Place
a Service Request” (Request a technical service or item, including hardware, software, programming, training, or other.)

Figure 2: Empire State College’s New Institution-wide Service Desk

As well, College students, faculty, and staff can review current technology news, review the status of open incident tickets and service requests, check current system statuses, or receive dial-in numbers and current hours of operation. Hours of operation were extended on January 2, 2015 for the following: Sunday 1-9 p.m. EST; Monday-Thursday 9 a.m. – 9 p.m. EST; Friday 9 a.m. – 5 p.m. EST; and Saturday 9 a.m. -1 p.m. EST.

For additional information, contact Paul Ryan, ESC Director of User Technical Support Services [paul.ryan@esc.edu]

Data Center relocation, Hybrid Cloud computing, and Virtualization

The Memorandum of Understanding between Empire State College and the University of Albany with regard to a co-location arrangement in the new University of Albany Data Center has been signed by all parties. Construction of Empire State College’s new hybrid cloud infrastructure in the University of Albany Data Center has begun. Initial steps includes cabinet assignments and configurations, purchase of a new storage area network with 36TBs of primary storage, networking components to include a new next-generation firewall, and sufficient compute resources to power hundreds of virtual machines. The new cloud infrastructure will provide a secure, reliable, and available environment in which to host the College’s enterprise computing applications. Completion of the new primary cloud computing facility is anticipated for mid-summer 2015 at which time migration of the College’s enterprise applications and systems to the new facility will begin.

Following successful migration of all enterprise applications and systems to the new facility, a secondary facility, hosted by ITEC, will come online in the 3rd Quarter of 2015 in Buffalo, NY to provide fail-over capability to primary enterprise systems, and host the primary environment for the College’s virtualized data
warehouse. Plans for the secondary facility in Buffalo are currently incomplete, but will be included in the first year of initiatives in the ITS 3-year Strategic Roadmap.

For additional information, contact AJ Lacomba, ESC Director of Enterprise Systems and Infrastructure
[aj.lacomba@esc.edu]

Directory Consolidation and Identity Management

Of major concern and importance is the College's ability to securely manage access to data and services. Critical “behind the scene” improvements in how this is accomplished involve consolidation of user directory services from which authentication is driven. During the month of February 2015 and into late March 2015, the College will implement new technology to synchronize its two main directory structures: Active Directory and Lotus. This first step toward robust identity and access management will lay a foundation for implementation of Microsoft Office 365, a cloud-based email, calendar, storage, and application solution. Over a six-week period, information technology staff will work with Technotics, a boutique technology consultancy that specializes in integration of legacy technologies. The backend changes will generally be transparent to the end-user, and notification of any planned system outages will be announced as far in advance as possible. In the near future, all users should anticipate a planned forced password change.

For additional information, contact AJ Lacomba, ESC Director of Enterprise Systems and Infrastructure
[aj.lacomba@esc.edu]

Microsoft 365: email, calendaring, and storage

Microsoft Office 365 features a number of products and services, managed and configured through an online portal, to provide students, faculty (including adjuncts), staff, and alumni with essential services and productivity tools. This initiative will work in concert with heavy involvement by our ITC members, who will serve in initial pilots and usability testing during the product release. This major move to a modern, cloud-based integrated system also will enable and empower users to communicate seamlessly through our current learning management system, Moodle. Of importance in our migration to Microsoft 365 is the use of a unified calendaring system for the College. The timeline for this initiative first involves completion of the directory synchronization between the College’s “Active Directory” and the “Lotus” directory to achieve a common framework for authentication using one’s username and password. Directory synchronization, as described above, is scheduled for completion by the end of March 2015. Continuation of the Office 365 project will commence in April 2015 with testing by core (ITS) accounts; ITC members, technicians, and select faculty and administrative staff accounts; and finally migration of all faculty and staff accounts with creation of student accounts. The migration and co-existence phases of the process are scheduled to conclude at the end of September 2015 with de-commission and retirement of the Lotus email and calendaring system in the 4th Quarter of 2015.

For additional information, contact AJ Lacomba, ESC Director of Enterprise Systems and Infrastructure
[aj.lacomba@esc.edu]

Academic Research Network

The purpose of the Academic Research Network (ARN) is to provide an available and flexible technology platform for faculty and student development, testing, experimentation, instruction, and research. Initially funded through the BMI Grant for Competency Based Education in a Bachelor of Science in Information
Technology program, the ARN will serve to initially deliver technology environments and applications used in Information Technology education. Once in-place, the ARN will have the potential to expand to various curricular areas of study that may require a technology environment or application to support learning. Students and faculty will be allowed to self-provision a virtual environment that meets the technology needs of the learning opportunity, and/or enables facilitation of learning through experimentation and research. Faculty use of the ARN involves various grant funded opportunities to research technology related to areas of study.

For additional information, contact Joshua Gaul, ESC Director of Educational and Emerging Technologies [joshua.gaul@esc.edu]

Quality Assurance and Continuous Improvement

In Fall 2014 Empire State College joined the consortium of higher education institutions involved in the Higher Education TechQual+ Project. The TechQual+ core survey was developed through multiple rounds of qualitative and quantitative data collection from the participating institutions and is designed to help institutions understand what end users expect from Information Technology organizations. The survey allows for systematic exploration of Information Technology service outcomes in a way that provides for comparisons across institutions. Last October the survey was open for a two-week period to the College as part of an on-going quality assurance and continuous improvement initiative. This initiative is also supported by data collection through daily follow-up phone interviews regarding closed incident/service tickets. A routine “client service” function involves phone calls and/or digital surveys to a statistically valid, random population of students, faculty, and staff to determine the perception of quality in service. In sum, the data is used to continuously improve service levels, enhance communication, and inform Information Technology directors relative to the performance and expectations in their respective areas of concern.

For additional information, contact Walter Lewis, ESC Director of Project Management [walter.lewis@esc.edu]

Business Process Modeling and Notation

During Fall 2014 three ITS personnel (Michelle Paine, Steve Simon, and Stephanie Thomas) completed formal training in Business Process Modeling and Notation (BPMN) and subsequently have worked with stakeholders to improve, make more efficient (i.e., “lean out” and re-engineer), and document current state of business processes in preparation for modeling of future state enterprise business processes. This initiative and investment in upgraded skills represents the importance of the enterprise business process as a foundation for system integrations and improved workflow capabilities. As a first effort, and in preparation for the College’s implementation of an enterprise-wide CRM system, BPMN is working to finalize the College’s business process model for recruitment and enrollment management. A CRM implementation success imperative involves alignment of the College’s business process, activities, and best practices with the inherent workflow of the CRM system. Leaders from respective areas of marketing, recruitment, enrollment management, admissions, and academic affairs are meeting to re-engineer and finalize a College-wide process in this area with expected results prior to the anticipated start of the College’s CRM project in April 2015.

For additional information, contact Mark Claverie, ESC Director of Enterprise Architecture and Applications [mark.claverie@esc.edu]
Sharepoint Intranet/Portal

As the College has certain requirements to protect data and information, but make available to College students, faculty, and staff secure environments in which to stay informed, collaborate, and conduct business, the requirements analysis leading to design and development of a new College intranet/portal is underway. An initiative that will work in harmony with the College’s external, public-facing web site, this authenticated portal site using Microsoft Sharepoint technology will serve the authenticated, internal needs of College stakeholders. Leading this initiative under the direction of Mark Claverie will be Kathy Farrell, and Patricia Wheeler. Essentially, the content and functionality currently available in three systems (MyESC, ESCnet, and the Commons) will converge into one platform featured as a secure intranet portal. Work on this project began in January 2015 and will run concurrently with the College web site initiative.

For additional information, contact Mark Claverie, ESC Director of Enterprise Architecture and Applications [mark.claverie@esc.edu]

Thin-client retirement

Thin-clients, as hardware devices, will be retired over the next 12 months and replaced with either low form-factor PCs or laptops. The popularity of the hardware thin-client device reached a zenith a little more than a decade ago when economics drove thin-client decisions. In an era when PCs averaged $2,000 in price (a capex model) and thin-client devices averaged $250 in unit price, the economic margin was intact to justify a move to this computing paradigm. With radical drop in prices to price points where PCs now function in an opex strategy and model, virtual desktop infrastructure (VDI) technology has matured, mobile computing has proliferated, and browser technologies have evolved, the business case and economics for working with a hardware thin-client model is no longer sound. The thin-client computing model, now in software form where the browser serves as the thin-client, is still contemporary and viable and will serve as the basis for delivering custom, secure, and mobile computing environments via VDI technology. As a result of this initiative, end-users will enjoy a robust computing experience through a PC or laptop and also the ability to benefit from virtual computing environments on the same device.

For additional information, contact Paul Ryan, ESC Director of User Technical Support Services [paul.ryan@esc.edu]

Collaboration Spaces, IP Source/Destination learning spaces, and Node Nexus

Working in concert with College Facilities planners, architects, and managers, Information Technology Services is jointly engaging with Academic Affairs to create Technology Enabled Active Learning (TEAL) spaces. Such TEAL spaces currently include Collaboration Spaces that support individual and small group mentoring and learning, as well as IP source and destination learning spaces where student engagement and delivery of instruction can occur synchronously state-wide. Collaboration Spaces allow for seamless discovery and sharing, collaboration, and digital engagement by and between faculty and students. Such spaces also will support advancement of the bring-your-own-device (BYOD) computing model. IP source spaces allow for origination and delivery of mentoring and instruction in a one-to-many (1:M) manner with one or more destination spaces. Prototyping for the IP source and destination learning spaces as a proof-of-concept and to build pedagogical efficacy will launch this spring at the Metro Center and Staten Island Unit. Expansion of this mode of delivery will involve the addition of other locations in the future. To enable expansion planning,
existing facilities can be technologically retrofitted while new facilities (i.e., Rochester and Long Island) will be constructed with the learning space designs.

Our College network is only as secure and available as its weakest link. Inferior wiring and networking infrastructure can radically degrade network performance, availability, and reliability. In many cases, College network infrastructure is dependent on joint-use space with facilities management, other services, or other “space available” locations. As a result, expensive and critical College network components can be subject to unauthorized access, extreme climate conditions, unregulated environments, and less-than-pristine conditions that can adversely affect the operation and performance of network components. Internet Protocol (IP) nodes to support convergence and multi-mode instruction involve tight coupling. Node Nexuses improve critical campus infrastructures and junctures through physical upgrades, secure management, and close proximities. In Rochester with the construction of a new facility, an innovative space known individually as a “node nexus” will be constructed to support improved network security, availability, reliability, scalability, and performance. This space will serve to improve convergence of voice, data, and video IP traffic, and also will serve as a teaching tool in the study of technology infrastructure, thus achieving higher return-on-investment and a balance of form and function.

For additional information, contact Joshua Gaul, ESC Director of Educational and Emerging Technologies [joshua.gaul@esc.edu] or AJ Lacomba, ESC Director of Enterprise Systems and Infrastructure [aj.lacomba@esc.edu]

Content Delivery Network

Enhancement of current and new and innovative modes of learning is widely dependent on digital content. In the 21st century, a repository for academic content (including digital learning objects) is required to support various (converged) modes of instruction. To support faculty needs for delivery of digital content the content delivery network (CDN) acts as a centralized, secure, available, and searchable repository and delivery mechanism that provides the functionality required by teaching faculty, instructional designers, students, and other stakeholders in the academic environment. The CDN serves to: (i) create a permanent host environment for digital academic content; (ii) provide appropriate user interfaces for transcoding, upload, and content management; (iii) provide online search capability of College digital content and learning objects, and (iv) provide for just-in-time knowledge delivery. Working closely with major stakeholders of academic content (i.e., teaching faculty, instructional designers, librarians, students, and course developers), this initiative provides for secure and available hosting and access to both static and dynamic educational content. The current facility for digital content delivery, Ensemble, is inadequate in many respects. For example, the ability to create and manage a structured taxonomy for the objects, integration capability with our LMS, ability to meta-tag for contextual searching, lack of World Wide Web content caching, and so forth. To resolve these issues and provide for a robust delivery of digital content, a move to Kaltura© is planned for Spring 2015 and involves re-hosting of current Ensemble digital content into structured, managed design. A modern and robust CDN will allow advancement of next-generation online course design, searchable content interface for just-in-time knowledge, world-wide streaming capability, and uniform transcoding and meta-tagging of video objects.

For additional information, contact Joshua Gaul, ESC Director of Educational and Emerging Technologies [joshua.gaul@esc.edu]
Flat World (Learning Management Platform)

As a result of the College’s participation in the NGLC Breakthrough Models Incubator initiative (funded by the Bill & Melissa Gates Foundation), Flat World’s technology was selected as the learning management platform on which to develop and deliver a BS in Information Technology competency-based education (CBE) program. Flat World, an emerging technology company headquartered in Washington DC, provides agile digital solutions that support mobile, personalized learning. The Flat World learning platform represents innovative movement to open systems platform architecture as opposed to the monolithic design of LMSs. The College’s Information Technology Services Educational and Emerging Technologies Group is currently working with Flat World to integrate authentication services and provide other educational technology support services to Empire State College students and faculty. Currently, course development in a CBE mode of delivery using Flat World is scheduled to begin in the spring, with Fall 2015 as a target date for a launch of initial course sections. The Flat World platform will integrate as part of the College’s hybrid cloud computing architecture.

For additional information, contact Joshua Gaul, ESC Director of Educational and Emerging Technologies [joshua.gaul@esc.edu]

Virtual Student Center Pilot

Working with Empire State College’s International Programs, a virtual student center is under design and development with international student piloting scheduled for Summer 2015. The virtual student center will feature social media constructs in which students, alumni, sponsors, and potential employers can meet, interact, and find levels of engagement heretofore impossible. The virtual student center will accommodate specific needs for active military and veterans who are students and alumni of the College, and provide multimedia resources that encourage and enable scholastic success. As with any student center, the Empire State College virtual student center will enable communication, sharing, information, activities, and opportunities for meeting the vast numbers of stakeholders who constitute the College. Working with Uvize, a Boulder, Colorado based company, provides cloud hosted software to enable community and “sense of place” in the College through connecting students, alumni, and other constituents. Although originally developed to support military veterans, Uvize has worked with Empire State College to broaden its application to the College enterprise. Working in partnership with Uvize, Empire State College International Programs will lead the way in piloting our virtual student center, with subsequent plans to involve Empire State College students and alumni in United States domestic locations.

For additional information, contact Joshua Gaul, ESC Director of Educational and Emerging Technologies [joshua.gaul@esc.edu]

Bring-Your-Own-Device (BYOD) Pilot Study

One area where higher education is responding to the new normal and the global shift from the information age to the connected/knowledge age involves personalization of technology. The BYOD concept is rooted in requirements for mobility in computing, personalization in computing, economics of work/life/education balance, Internet ubiquity, and peer/institution connectedness. Moreover, such an institutional shift from a capex strategy to an opex strategy makes available funds that can be redirected to other innovative forms of enabling technology. Empire State College’s BYOD program is currently in planning for a pilot implementation. Working in collaboration with College stakeholders at three sites (Latham, Metro, and
Syracuse) and key stakeholders in financial aid, student accounts, and marketing, the pilot study will involve students funding the purchase of a device of their choosing through financial aid, purchasing the device with other financial resources, using an existing personal device, or receiving a device through an award. In any case, a student would be provided with a “loaner” device if he or she were unable to obtain a device through a preferred method.

A 2013 study conducted by the Educause Center for Analysis and Research notes that 58% of higher education students own three or more Internet capable devices. The same report also notes that over 60% of students say that technology makes them feel more connected to the institution, their faculty, and their peers. With an owned personal device, students are able to stay connected to the digital world post-graduation, support life-long learning, and also continue to interact more easily with the College. As the device is owned by the student, he or she can access and work within College sponsored virtual environments, learning platforms, and social media applications in a mobile fashion anywhere and anytime. In the pilot study, the BYOD program will work through refinement of issues associated with student communications, engagement, process, procurement, and service. Students will be provided with guidance on personal device specifications required, and will also have the convenience to purchase a device through an institutional site hosted by Dell Computers.

For additional information, contact Joshua Gaul, ESC Director of Educational and Emerging Technologies [joshua.gaul@esc.edu]

**e-Catalog**

The e-catalog initiative involves selection of a system that integrates with the College ERP and website to manage and deliver a searchable view of College offerings, and feature flexible workflow management to tightly integrate learning opportunity and course information with the College ERP. Information sessions have been well attended by a cross-section of the College population involving two best-of-breed products: Acalog and CourseLeaf. The project team includes Dr. Tom Mackey, Dr. Shelley Dixon, Dr. Bridget Nettleton, Dr. Tai Arnold, Mary Edinburgh, Mark Claverie, Bob Perilli, Paul Miller, Jessica Lansing, Frank VanderValk, Cathy Leaker, and Pat Ryan.

For additional information, contact Mark Claverie, ESC Director of Enterprise Architecture and Applications [mark.claverie@esc.edu]

**Technology Risk Profile**

**Information Security and Data Assurance**

In response to College data security concerns, a Data Governance Group now meets regularly with the goal to create security roles and permissions that protect confidential, sensitive, and FERPA protected data. The Data Governance Group includes Amanda Treadwell, Anna Miarka-Grzelak, Anne Lane, Christopher Jackson, Cindy He, David Henahan, Eileen McDonnell, Jessica McCaffery, John McKenna, Joshua Gaul, Kristin Fitzsimons, Kristina Delbridge, Laura Decker, Linda Frank, Mary Edinburgh, Maureen Winney, Mitchell Nesler, Pamela Malone, Rick Barthelmas, Sandra Billert, Sandra Blackman, Susan Bruce, Suzanne Hayes, Tai Arnold, Vicki Schaaake, and Bob Perilli. A field trip for the group to SUNY Oneonta for the purpose of learning how a conventional ERP system (Banner) implements security classes with associated roles and permissions is scheduled for late February; a similar field trip is planned in early March to University of Albany to learn how security classes with associated roles and permissions are created for Peoplesoft. The
College’s current risk profile for data breach is high, thus security will be a specific area of concern and focus going forward.

**Failing and legacy infrastructure**

The College’s current hosting environments for computing and data center operations is inadequate and places the College at high risk in unplanned system outages, data losses, and inability to recover in the event of a disaster. Aggressive planning, and support from Paul Tucci, resulted in a successful partnership with University of Albany to co-locate the Empire State College data center operations into their new $23M tier-3 facility. Empire State College is building a modern architected private cloud computing operation that will join various public cloud applications to create a resilient, secure, and reliable hybrid cloud computing environment for the College. During the six-month period between April-September 2015, all College enterprise applications and services will be relocated to the Albany computing facility.

**Data Protection and Disaster Preparedness**

Based on the external audit and internal discovery, current practice regarding secondary and tertiary backups of data and best practices for off-site storage of back-up data, are not to a satisfactory enterprise standard. Issues with secondary and tertiary backups of data will be remediated through migration to new primary and secondary data centers, and through establishment of best practices with respect to handling of enterprise data. New internal controls have been put in-place while longer-term solutions are designed. The College’s risk of data loss remains a concern until new infrastructure is in place to support industry best practices for data protection, disaster preparedness, and continuity of operations.

**What’s Next?**

Empire State College Information Technology Services will continue to work toward achievement of goals and objectives in the Three-Year Strategic Roadmap. Moreover, a culture of change toward improved levels of service, continuous improvement, responsive stakeholder technology solutions, and closer connections between education and technology will continue. Empire State College is rebuilding its technology infrastructure and capabilities to ensure sustainability and efficacy in its business and academic operations. Although multiple challenges exist with legacy infrastructure and systems, dated skill sets, and resources, our future is bright in that through proper planning, advice through shared governance, and dedicated people, the College will build technology services that enable and support the ESC 2.0 vision. Technology is integrated into the fabric of our College and allows us many opportunities to better use technology as an enabler of student success. Next steps involve Empire State College students, faculty, and staff at all levels working collaboratively to consistently innovate and improve how we achieve value from technology. Many thanks for all your support!
Appendices

Appendix A: Information Technology Services Directors

Vice President IT and CIO
Samuel S. Conn, Ph. D.

Secretary
Leslie Dussault

Staff Assistant
Deb Snyder

Director for Educational and Emerging Technologies
Josh Gaul

Director for Enterprise Systems and Infrastructure
A. J. Lacombe

Director for Project Management
Walter Lewis

Director for Enterprise Arch and Apps
Mark Claverie

Director for User Support Services
Paul Ryan
Appendix B: Educational and Emerging Technologies Group

Director for Educational and Emerging Technologies

Josh Gaul

Assistant Director for Learning Mgt Systems

Anne Lane

Academic Research Network & Server Systems

Tony Costa

Assistant Director for Instructional Technologies

VACANT

Senior Educational Technologist

VACANT

Application Management and Support Assistant

Cynthia Burgher

Educational Technologist CNIC

Sheryl Coleman

Educational Technologist GVC

VACANT

Educational Technologist HVC

Adam Deyglio

Educational Technologist UC

Jase Teoh

Educational Technologist METRO

Carolina Kim

Educational Technologist METRO

Ryan Moodie

Educational Technologist NEC

Michael Fortune

Educational Technologist NFC

Nathan Whitley-Grassi
Appendix C: Enterprise Systems and Infrastructure Group

A. J. Lacomba
Director for Enterprise Systems and Infrastructure

Todd Myles
Assistant Director for Cloud Computing

Kevin Carroll
Assistant Director for Server Systems

Bill Melvin
Assistant Director for Networking

Adam Cross
Systems Administrator

Ed Davis
Systems Administrator

John Koch
Systems Administrator

Keith Johnson
Server Systems Technician

Tim Stewart
Telecom Facilities and VOIP Manager

VACANT
Lead Network Engineer

Robert Catanzarita
Network Engineer

Robert Webb
Network Engineer

Cindy He
Database Administrator
Appendix D: Project Management Group

- Director for Project Management: Walter Lewis
- Project Manager: VACANT
- Project Coordinator: Kay Watkins

Appendix E: Enterprise Architecture and Applications Group

- Director for Enterprise Applications: Mark Claverie
- Assistant Director for Enterprise Integration: Stephen Simon
- Associate Director for Enterprise Applications: Robert Perilli
- Lead Web Designer: Katherine Watson
- Manager: Regina Lundy
- Assistant Director: Michelle Paine
- Web Programmer: VACANT
- Manager: Jim Stoner
- Lead Programmer/Analyst: Stephanie Thomas
- Project Coordinator: Sandra Blackman
- Programmer/Analyst: Mary Beth Litz
- Web Programmer: VACANT
- Programmer/Analyst: Michele Ryan
- Programmer/Analyst: Jeremy Stone
- Web Programmer: Sandra Billert
- Programmer/Analyst: Jim Stoner
- Programmer/Analyst: Glen Keller
- Web Programmer: Patricia Wheeler
Appendix F: User Technical Support Services

Director for User Support Services
Paul Ryan

Service Desk Manager
Ruffin Pauszek

Supervisor of TSS Group
Deb Zanet

Lead Service Desk Operator
Matt Weinell

Service Desk Operator
Mary Ann Bacher

Service Desk Operator
Jessica Kenyon

Service Desk Operator
Rob Kearns

Technical Support Specialist
GVC
Adam Bradley

Technical Support Specialist
NEC
Reynolds Jones

Technical Support Specialist
LIC
Gus Boyle

Technical Support Specialist
NFC
Regina Talley

Technical Support Specialist
METRO
Jin Chun

Technical Support Specialist
HVC
Chris Tayko

Training Coordinator
Ed Peck

Client Services Representative
Kathy McCullagh-Pauszek

Client Services Representative
Christine Charoensook

Service Desk Manager
Ruffin Pauszek

Service Desk Operator
Mary Ann Bacher

Service Desk Operator
Jessica Kenyon

Service Desk Operator
Rob Kearns

Technical Support Specialist
GVC
Adam Bradley

Technical Support Specialist
NEC
Reynolds Jones

Technical Support Specialist
LIC
Gus Boyle

Technical Support Specialist
NFC
Regina Talley

Technical Support Specialist
METRO
Jin Chun

Technical Support Specialist
HVC
Chris Tayko

Training Coordinator
Ed Peck

Client Services Representative
Kathy McCullagh-Pauszek

Client Services Representative
Christine Charoensook