INFORMATION TECHNOLOGY SERVICES

STRATEGIC INITIATIVES 2003-05

Larry Merkley
Vice Provost of Information Technology
June 27, 2003
June 26, 2003

John Simpson
Campus Provost & Executive Vice Chancellor

Dear John:

Re: Strategic Information Technology (IT) Infrastructure

As you know, the campus expects information technology to enable the restructuring of many of its academic support services and to achieve campus strategic goals. To accomplish this will require a significant investment in critical IT infrastructure projects and services. Although the state budget problems have shifted the priority for dealing with some aspects of IT infrastructure, these needs have been identified and communicated to the campus through ITC over the last few years.

This document, together with the attached Power Point presentation, outlines the IT division’s high-level project initiatives for the next two years intended to provide that infrastructure. These projects build on the work reviewed and supported by ITC and reflected in the campus long-term plan. This report also includes suggested funding principles and potential funding sources.

Informed by UCSC’s serious and pressing budgetary difficulties, the IT division has thoroughly reviewed IT infrastructure needs for the purpose of providing current and focused project solutions that support EBC’s proposed solutions to our budgetary problems. To that end, we selected three strategic goals that governed the selection and shape of these projects. These goals are:

- Reduce campus costs
- Reduce exposure to risk
- Develop selected strategic opportunities specific to critical long-term campus goals

Background

The decision to form the IT division in February came after lengthy and careful consideration of ways to best organize and direct campus IT resources in order to achieve goals that came from the long-term planning process. The campus had evolved a highly decentralized set of IT services, and had enabled the central IT organization (CATS) to generate a large operating deficit. The combined effect of these events was a steady reduction in quality and capacity of central IT services relative to divisional requirements, and a proliferation of replacement solutions to meet local needs.

Recent projects coordinated by AVCOR have produced several recommendations intended to reduce costs to the campus. Many of these proposed solutions require IT investments in the form of specific software applications to realize what are typically process savings elsewhere. However, to fully realize these cost reductions, the campus
needs to move beyond simply the implementation of a software application toward a fully user-centric solution, characterized by the AIS project as the 70-20-10 model. To achieve this, a series of critical IT infrastructure investments is needed that will enable not only the particular software applications to fully realize the proposed savings, but that will also allow other applications not yet considered to share that infrastructure and further reduce costs.

One of the more significant proposals from the AVCOR-facilitated review was to consolidate divisionally centered IT services. Savings in server hosting, workstation support, web development, and even application and database management were suggested. To realize these savings, while providing competent user support, the IT division will literally need to reinvent itself as it develops a new and radically different customer service model.

This proposal suggests projects and investments that will address the immediate budgetary requirements of the campus, and at the same time will achieve many of the goals expected from an IT organization before budgetary reductions became a major campus concern.

**ITS Project Summaries**

These projects taken together provide those elements of IT infrastructure being proposed as necessary to meet requirements for the next two fiscal years. The costs proposed are net of commitments already made to projects that are now in development and those that have been recently funded and completed.

While all of the proposed projects are necessary, not all projects need to be started immediately. Some projects may be tied to specific funding sources, and may wait until those funds are secured. For example, the EBC review process has identified “IT fees” as an important approach to bringing new funds to address instructional support requirements. In that case, it seems clear that upgrades to classrooms and computer labs might be targets for IT fee funds.

Having said that, there are some projects that are critical to meeting EBC expectations to reduce costs, and which need immediate support in order to be ready on time. For example, directory services as part of the portal project is on the critical path for every software application now being considered, as well as others that will follow. To make a time & attendance solution fully cost-efficient, a connection to the directory will be needed.
The set of proposed projects with their respective components is as follows:

**Portal**
- Directory (Identity Management Services)
- Web Services
- UCSC Portal
- Central Email Service

**Security**
- Security Risk Management
- Access Policy Design

**Network**
- Wireless Phase 2
- Rate Model
- CCU Priorities
- New Building Requirements
- Telecommunications and Network Plan

**Data Center**
- UPS/Generator
- Servers

**Instructional Technology**
- Labs
- Classrooms
- Course Redesign

**ITS Organization**
- Project Management Office
- Space Planning
- Communications
- Incident Management

**IT Service Consolidation**
- Servers
- Workstation support
- Databases
- Applications
- Web development
- Special purpose student labs
Each project is described below.

**Portal**

**Directory (Identity Management Services)**

The central Directory will become the authoritative source for identity management for all applications on campus. It will provide a central service through which applications such as the portal can authenticate users (provide positive identification of users) and authorize access (permission and access rules).

The lack of a clear source of information about people, their roles at the university, their status, etc., is a major obstacle to the integration of services in the manner outlined by the New Business Architecture.

The identity management service will allow the consolidation of accounts and account management processes across existing applications and those applications currently under development. These services will also provide several new self-service data management features for UCSC clients, and delegated administration features that allow for on-line management of the account creation process—a function that is currently handled by a paper-intensive process.

This project is on the critical path for the portal and other projects.

**Web Services**

The web services group will provide both academic and administrative clients with web page and web based application development services. By acting as a central "service bureau" the web services group will be able to free up departmental resources from web development and maintenance activities, and create a uniform look and feel for all official University web pages.

By leveraging economies of scale for both infrastructure and talent, the web services group will be able to provide more web-based content at a lower cost, and higher standard of quality.

**UCSC Portal**

The portal project provides centralized and unified access to all applications on campus. Every user has their own "home page" that provides a unique and customizable view of information and applications that are relevant to them.

The portal is an "enabling" technology that will help achieve the University's strategic objectives of reduced and avoided costs and reduced risk exposure.

This project will implement and deploy PeopleSoft’s Enterprise Portal, Version 8.8. The application, already licensed as part of the AIS project, is available at no
additional expense for broad campus use to deploy native PeopleSoft functionality and to integrate functionality from other internal applications as well as services from external sites and applications.

**Central Email Services**

Departmental mail servers have proliferated around campus in order to address voids in central email services. The result is increased redundancy and costs, and decreased security.

This project will upgrade key features that are missing from the current central email services, including a web interface to our email services, improved mailing list maintenance and security enhancements such as virus scanning and "spam" marking. The system will meet current standards for email protocols, security and support practices. The central servers will operate at a level of redundancy and reliability that meets current expectations as well as anticipated growth.

Several departmental service providers are willing to convert to central email service after this upgrade is completed.

**Security**

**Security Risk Management**

The Information Systems security landscape is rapidly changing, wherein threats and vulnerabilities are exposing institutions to risks and losses of consequence that necessitate a more focused Security program than exists at UCSC today.

For example, UCSC does not currently have a prioritized view of campus-wide applications or systems, based on business processes or regulatory requirements or revenue generation or other critical factors. We are therefore unable to identify the priorities for investment towards risk management of the highest threats with the highest consequences. As a result, security investments are made (or not) according to local risks rather than those of the campus as a whole.

We can no longer operate in this manner - there is increasingly a campus responsibility towards compliance and protection. An improved Security Risk Management program with a campus-wide view is critical for UCSC to identify campus risks and implement appropriate controls for acceptance, transferal, avoidance or mitigation relative to threats and consequences.

A Security Risk Management Program would also include campus-wide policies, regular risk assessments, standards and corresponding control measures and other security plans and procedures.
Access Policy Design

This project will create the authoritative source for data and system access policies.

Currently UCSC finds itself in a quagmire of various access rules, controls, procedures, and practices including:

1. There is a lack of understanding of data stewardship; some feel they possess the data and the money committed to steward it.

2. The technical infrastructure required to support current data access controls is complex, unwieldy, uncoordinated, and poses significant technical challenges.

3. Individuals on campus who know the available resources can easily get the information they need either from the large systems or from shadow systems. Those who are not aware of and/or trained on the available resources find it difficult to access information.

4. Access restrictions complicate deployment of reporting tools, which are in high demand to improve planning and accountability.

5. A common way we now deal with accountability problems (a breach in policy or practice) is to deny access to everyone in a certain group.

6. Existing systems find it difficult to remove practices that are constraining and unhelpful since overall policy does not exist and “status quo” remains.

The objective of this project is to create a policy of comprehensive and open access to information, within legal and security requirements.

Benefits include reduced risks by setting enforceable standards, as well as potentially reduced system administration costs.

Network

Wireless Phase 2

A new wireless network service called "Slugs Unplugged" will be available by Fall Term 2003. It will allow mobile devices such as laptops, notebooks, and PDAs to connect to the UCSC campus network and Internet. The objective of Phase 1 is to provide wireless coverage for most of the campus public areas where students are likely to study and congregate. Phase 2 will enable the creation of new mobile and learning-spaces and workspaces and could eventually reduce the reliance on labs and their associated costs.
Rate Model

Convert the current network and telecom services fee model (i.e. per jack fees) to a head count fee structure based on number of "communications workers."

Benefits include:
- A fee model that is adaptable to the new wireless services, and is not based on a per jack model.
- The merging of separate network and telecom charges into a single charge that reflects the merging of the technologies.
- Reduces the incentive for departments to turn off services, which would have a negative impact on the remaining ratepayers.
- Merged fee will also allow the merging of funds that are currently managed separately.
- Reduces administrative burden for departments since they no longer have to track the number of jacks used in their department.
- Potential to capture significantly larger portions through indirect cost charges to research projects.

CCU Priorities

This project will bring selected building wiring closets up to campus standards.

These upgrades will result in productivity increases, and cost reductions. The current congestion in the wiring closets restricts the ability to make full use of or reconfigure assignable square feet. It also poses health and safety hazards to the technicians, and leaves the campus open to a number of operational and security threats to the network.

New Building Requirements

This project will equip new Physical Sciences and the Engineering II buildings with voice and data networks. We need to ensure that media and network capabilities in these buildings will meet campus standards.

Telecommunications and Network Plan

This project will engage a consultant to assist with the development of future campus telephone and network needs.

The existing telecom infrastructure dates back to the mid 1980's. The useful life going forward appears to be less than 5 years. Additionally the advent of new
technologies such as voice over IP may enable the campus to realize significant savings by converting to a converged network architecture.

The primary benefits of this project will be to establish the financial basis for budgeting and accumulating reserves, as well as establishing a timeline for the migration to the new technology.

Data Center

UPS/Generator, Servers

The Data Center upgrade is essential for the consolidation and centralization of servers and services. When the upgrade is complete, ITS will be able to offer reliable hosting and application management services at competitive rates. This will allow the University to greatly reduce the number of unsupported, unsecured, and redundant servers on campus.

UCSC needs to improve the safety, capacity and reliability of the campus Data Center, including the addition of seismically isolated cabinets, a unified uninterruptible power supply (UPS) and a backup generator.

These improvements will allow IT services to be maintained despite significant power outages and earthquakes. Along with improvements to the fire suppression system and HVAC, the data center will become a more robust and reliable location for housing servers for other units on campus.

Instructional Technology

Labs

This project includes funding for equipment renewal for Instructional Computing Labs.

The demand for labs has increased commensurate with the increase in the number of students. However the growth in the IC budget has not kept pace with the increased demand. The labs have not been fully funded for replacing the $1.5M in equipment inventory, which requires a $500,000 annual investment. The current annual replacement budget is only $123,000. The shortfall has been covered by funds from the IC reserve fund that will be depleted by June 2004. An additional $377,000 annual investment is required for equipment replacement beginning July 2004.

Classrooms

Install Media One Packages featuring video/data projectors in ten existing, high demand classrooms. Coordinate the remodeling of existing instructional space with Physical Planning and Construction and Physical Plant.
Course Redesign

Create a Course Redesign process modeled after the Pew Grants to improve learning outcomes and reduce costs.

- Identify program areas which would benefit from Course Redesign
- Develop “readiness criteria” for program and course selection
- Use an Instructional Development process for course redesign
- Specify evaluation requirements and processes related to learning outcomes
- Create cost/benefit models to determine continued funding
- Create cost/benefit models to be used with future Course Redesign projects

ITS Organization

Project Management Office

With the number of strategically critical projects that ITS is undertaking, a rigorous and formalized project-portfolio management methodology is essential to success. The development of a Project Management Office (PMO) will create a central authority to help insure the success of multiple projects across campus by providing project management expertise, training, and tools. This group will form the nucleus of a team that would provide early feasibility and scope analysis for new projects and those that are presented as crises.

Space Planning

We will need accommodation for the FTE’s required who will work on the projects. As well, there may be requirements for space to accommodate potential movement of some IT professionals involved with the IT service consolidation proposal.

Also, at present IT professionals are scattered in five separate buildings, two in different off campus locations. While some separation is necessary to be close to customers, people on project teams and those doing similar work benefit from proximity.

A space plan needs to deal with proximity, new staff, and relocated staff requirements.

Communications Specialist

This represents a new position essential to the effectiveness of ITS, particularly during the next few years of rapid and extensive change. IT organizations typically operate with a staff that includes editors and web content providers who support a Communications Manager. For our purposes, we need a specialist now as one of the highest priority positions to be filled. Over time we can address ways to add support to that position.
Incident Management

A new web-based support management system and support model that integrates all departments of ITS is needed.

A centrally deployed and managed web-based help desk application will improve the efficiency of ITS customer support, as well as increase service visibility and subunit accountability. Customer support and service issues will be tracked throughout the incident lifecycle, and the tracking process can be made visible to customers.

The current application, Request Tracker, while centrally deployed and web-based, is inadequate to the task of providing the expanded scope of coverage; therefore a new solution is needed. An interim solution of an upgraded RT server is pending, to meet new ITS security guidelines and provide more reliable service.

IT Service Consolidation

ITS is currently faced with two distinct strategic objectives: contributing to the campus wide cost reduction effort, while simultaneously improving IT capabilities and service levels.

These objectives are not mutually exclusive. Server and IT service consolidation and centralization represent clear opportunities to achieve both reduced campus wide costs and risk exposure, while increasing service levels.

Although additional initial investments may be required to develop new infrastructure, the expanded capabilities can result in significant cost savings in following years.

Funding Principles

Attached to this report is a summary of projects and cost estimates associated with each project, both one-time and permanent. Also, there is a set of suggested funding options below. The projects will be funded from a combination of sources, some of which may even change over time. The following set of principles and assumptions should help determine which funding source or sources will fund particular projects:

1. All funds now held by the ITS Division are, in essence, campus funds and are available to be committed to any or all projects as needed.
2. Existing reserves are presently held in anticipation to meet future capital replacement projects. To the extent that reserves are used to fund these proposed infrastructure projects, there needs to be provision to either restore the balances at some point, or to support financing strategies when it becomes necessary to complete these large capital projects.
3. We would expect to establish Executive Level Agreements (ELA’s) for major group of projects or services. For example we might have one ELA for the Portal
project which represents at least three component projects: Directory, Web Services, and the Portal itself. These ELA’s would be developed over the next several months.

4. Some projects must be funded immediately in order to meet timelines set by various EBC cost reduction project timelines. In those cases, we ask that interim approval be granted to commit existing funds for a period of up to six months, during which time we would expect to complete ELA’s for all projects.

5. In some cases it may be helpful to commit one-time reserves for what are actually permanent positions. It is of course critical that we not start something that we can’t finish or support. Therefore, in each case where we agree to commit one-time funds for permanent commitments, we need a commitment to make those commitments permanent at or before the one-time reserve funding sources are depleted.

6. If it is necessary to reduce services or service levels in order to create resources for any of these projects, we will communicate clearly the anticipated impacts.

7. We will work with your offices to develop an IT infrastructure funding model that factors in:
   - Growth in population being served
   - Growth in services and/or service levels
   - Provisions for differentiated services and support levels
   - Inadequacies in the current funding model for IT infrastructure for new buildings and renovation projects.

**Funding Options**

We expect that funding for these projects will be drawn from the following potential sources:

1. ITS reserves and carry forwards – ITS maintains several reserves that are primarily derived from its recharge operations and are intended to support equipment renewal, and hardware and software upgrades. In addition some areas have undesignated surpluses resulting from cost savings and campus growth. These funds amount to approximately $6 million.

2. New fees – The most likely fee source is the IT fee proposed by the EBC budget process. A typical fee at non-UC campuses is $100 to $200 per student per year. For 15,000 students at $150 this would provide $2.25 million annually.

3. Recharges – There exists the potential to increase existing recharge rates, although there would be understandable resistance to that option.

4. Outside sources – It may be possible to work with some sources (including vendors) to develop revenue-generating proposals. For example, we may be able to attract as much as $100,000 for each of the next several years resulting from discussions now continuing with Apple Computer.

5. Redeploying IT resources from Consolidation – If the campus proceeds with the IT services consolidation project proposed by EBC, it should be possible to deploy some of the personnel to the infrastructure projects.
6. Reduce service levels – While it may not be desirable, the campus might choose to reduce or eliminate existing services to free up resources to work on infrastructure projects. For example, we might choose to close one or more instructional computing labs to redeploy staff and other resources. Or, we could drastically reduce the amount of printing done centrally.

7. Divisional assessments – The campus could choose to apply assessments or “taxes” to divisions to cover some of the infrastructure costs.

8. New enrollment growth funds – To the extent possible after meeting critical academic requirements, enrollment funds could be used to fund infrastructure projects.

Suggested themes and principles

We are aware that an announcement will be made in the near future that will advise the campus about the outcome from the EBC review. Because technology is such an integral part of solutions that will be chosen, we offer for your consideration a set of themes and principles that you could include as part of that campus announcement:

1. When applied and enforced, standards can be effective at reducing cost and improving operational efficiency. And, we acknowledge that standards can reduce local choices, which sometimes has the effect of a reduced or at least a perceived reduced service level for the user.

2. The campus should expect some re-balancing of services, and in some cases a possible elimination of services as part of redirecting resources to achieve campus priorities.

3. We request that you use this occasion to announce the proposed name for this division; namely, “Information Technology Services” or “ITS”.

4. We suggest you might note the connection to UC’s New Business Architecture and that EBC’s proposed solutions in fact deal with NBA’s concerns about the interconnections across people, processes, technology and policy.

5. We suggest you might reference the efforts now underway in the Chancellor/EVC’s IT support unit to model the principles being announced; namely, that the COAST unit is working to establish standards as a way to improve efficiency and to reduce costs, and will be establishing a customer-centric service model. In effect, you might point out that your office is leading by example, and is committed to continue to do so.
## IT INVESTMENT SUMMARY

**TOTAL ONE-TIME & PERMANENT COSTS FOR FISCAL YEARS 2003-2005** (Permanent costs indicate commitments as of the end of FY 2004-2005)

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Information Technology Services
Strategic Directions
2003 - 05

Approach and Proposal

“Charting Our Course”
Agenda

• Review ITS Strategic Directions
• Review investment requirements
• Feedback and Discussion
Overview

This presentation outlines ITS strategic directions for 2003 - 05 and includes:

• ITS Vision in support of UCSC goals
• Strategic Initiatives
• Critical Success Factors
• Investment Summary
UCSC Goals for ITS

• Reduced Costs
• Reduced Risks
• Capture Strategic Opportunities
Our Vision of the “New World”

- Faster, better, lower cost access to information & services
- Cost effective portfolio of IT services
- Standards that enable efficiencies & collaboration
- Highly responsive to customer needs
- “Just in time, just for me” portal applications
- Protected and secure IT assets
- Campus wide confidence in ITS
- IT integral component in campus planning processes
The IT Transformation Process

How we get there:

Comprehensive commitment to, and investment in:

**Infrastructure**
- Portal
- Security
- Network & Wireless
- Data Center
- Instructional Technology

**Organization**
- ITS Organization Transformation
- IT Service Consolidation
ITS Strategic Projects

• **Portal**
  – Directory
  – Web Services
  – UCSC Portal
  – Email

• **Security**
  – Internal Audit Response
  – Disaster Recovery
  – Security Risk Management
  – Access Policy Design

• **Network**
  – Wireless
  – Rate Model
  – CCU Priorities
  – New Building Requirements
  – Telecom Plan

• **Data Center**
  – UPS/Generator
  – Server Racks

• **Instructional Technology**
  – Labs
  – Classrooms
  – Course Redesign

• **ITS Organization**
  – Project Management Office
  – Space Planning
  – Communications
  – Incident Management

• **IT Service Consolidation**
  – Servers
  – Work Station Support
  – Application Development
  – Databases
  – Web Development
Portal

• Components
  – Directory
  – Web Services
  – UCSC Portal
  – Email

• Objectives
  – Eliminate redundancy of web site management
  – Self supporting tool set that focuses on content rather than delivery
  – Service aggregation for virtual communities
  – Membership in multiple virtual communities
  – Leverage existing AIS infrastructure investment in PeopleSoft
  – Provide single point of contact to key services & information

• Key Benefits
  – Promotes standard processes, ease of use
  – Deploy applications to broad audiences quickly
  – Promotes relationships between various constituencies
  – Reduces cost by promoting 70/20/10 self service model
  – Reduced costs by consolidating distributed web servers

Investment
  Onetime $2,202,000
  Ongoing $1,447,000
Security

• **Components**
  – Internal Audit Response
  – Disaster Recovery
  – Security Risk Management

• **Objectives**
  – Implement security standards
  – Reduce overall risk exposure
    • Respond to increased attack threat levels
    • Meet increased regulatory compliance requirements

• **Benefits**
  – Security (prevent theft or destruction of data & services)
  – Confidence in recovery after loss
  – Regulatory compliance
  – Cost avoidance
  – Cost reduction

**Investment**

Onetime $735,000

Ongoing: $556,000
Network & Wireless

- **Components**
  - Wireless access
  - Rate Model
  - CCU Priorities
  - New Building Requirements
  - Telecom/Network Plan

- **Objectives**
  - Deploy 200 wireless access points in 2004
  - Provide reliable, secure, network access
  - Create more “instructional space” (enable existing space)

- **Benefits**
  - Reduced costs over physical wiring
  - Better use of campus facilities
  - Improved flexibility of instructional delivery
  - Reduced cost of lab operations
  - High-speed network access for research

**Investment**
- One-time: $3,910,000
- On-going: $294,000
Data Center

- **Components**
  - UPS
  - Generator
  - Server racks

- **Objectives**
  - Create the robust, reliable infrastructure required to support ITS service offerings including server, application, and database hosting.
  - Meet Fire Safety codes

- **Benefits**
  - Reduced costs and number of distributed servers
  - Higher security, reliability

**Investment**
- One-time: $1,200,000
- On-going: $100,000
Instructional Technology

• **Components**
  – Labs
  – Course Redesign
  – Classroom Upgrades & Space Planning

• **Objectives**
  – Identify course areas that could benefit from course redesign
  – Specify evaluation criteria for learning performance
  – Create cost / benefit model for course redesign
  – Create distance learning applications

• **Benefits**
  – Supports innovative teaching, learning
  – Improved learning outcomes
  – Sustainable lab infrastructure
  – Improved instructional space
  – Reduced costs
  – Increased capacity

**Investment**
- One-time: $500,000
- On-going: $647,000
ITS Organization

• **Components**
  – Project Management Office
  – Space Planning
  – Communications / Support
  – Incident Management

• **Objectives**
  – Increase completion of projects on time & on budget
  – Project management expertise, training, and tools
  – Appropriate work space for all staff
  – Deliver effective, timely communications

• **Benefits**
  – Reduced costs due to overruns & project failures
  – Improved estimation, budgeting accuracy
  – Increased efficiency of co-locating staff
  – Creative synergy & team building
  – Improved collaboration
  – Faster assimilation of change

**Investment**

One-time: $812,000
On-going: $618,000
IT Service Consolidation

• Components
  – Servers
  – Work Station Support
  – Application Development
  – Databases
  – Web Development
  – Special Purpose Student Labs

• Objectives / Benefits
  – Improve the delivery of IT services to campus
  – Increases efficiencies
  – Reduces overall costs
  – Frees resources for use on other projects
  – Provides ability to set and enforce standards

• Critical Success Factors
  – Strong support from campus leadership
  – Implement thoughtful Change Management Processes

Investment
  One-time: TBD
  On-going: TBD
Critical Success Factors

• Vesting of authority in ITS to:
  – Develop a new Service Delivery Model
  – Establish standards & enforcement mechanisms
  – Consolidate certain distributed IT services, functions
  – Control redundant “shadow” systems as appropriate.

• Commitment to campus wide collaboration by ITS leadership

• Use of Service Level Agreements (SLAs) to ensure that IT services meet a preset standard of performance

• Governance by ITC to ensure that ITS actions are consistent with the needs of the University

• Adequate funding model and approval of ITS budget

• Customer centric attitude
### Investment Summary*

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<th>Category</th>
<th>One-Time</th>
<th>On Going</th>
<th>FTE</th>
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<td>Instructional Tech</td>
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<tr>
<td>IT Organization</td>
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<td>618,000</td>
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<td><strong>Total</strong></td>
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</table>

* Net new investment
Key Messages

• It’s all about infrastructure

• All projects are necessary

• Divisional Service consolidation transforms ITS service delivery

• ITS’ entire focus is on:
  – Reducing Costs
  – Reducing Risks
  – Capturing Strategic Opportunities
Questions?