



Senate Finance/Assembly Ways and Means
Joint Subcommittee on General Government

Enterprise IT Services

February 26, 2013

Today's Discussion

“Just the Facts, Ma’am”

Other States' Actions

Designing Nevada's Response

Decision Units by PPBB Activity

Medium Term Goals / Next Steps



- State Chief Information Officer and Division Administrator, Enterprise IT Services
- UNLV Alumni – BSBA in Management Information Services
- Certified Project Manager Professional (PMP)
- Responsible for *“the coordinated, orderly and economical processing of information in State Government, to ensure economical use of information systems and to prevent the unnecessary proliferation of equipment and personnel among the various state agencies”* NRS 242.071

Did you know?

EITS provides 40+ IT services to more than 400 agency customers with only 123 employees

SilverNet (EITS managed network) is the State communication backbone

- Connects all 17 counties, transports more than 21 TB of data daily
- In addition to fiber links: 1,500,000 microwave circuit miles at 114 microwave sites

Data centers

- EITS manages the recently-expanded State Data Center (Tier 3, with redundant power, conditioned environment, and designed-in physical security)
- Houses mainframe, 400+ Windows servers, 55 UNIX servers, over 120 TB of storage
- Other agencies maintain their own “data centers” often in basements and closets

State mainframe

- Processes over 200,000,000 transactions and prints 500,000 pages monthly
- Typically supports 6000 total (3000 simultaneous) users at DMV, DHHS, DETR

EITS programmers spend 21,000 hours annually to support aging enterprise systems ADVANTAGE (State financial system) and NEATS (time tracking, employee training)

How did get to where we are?

- Information Services statute (NRS 242) established centralized data processing in 1965
- Rise of PC desktop (post 1985) moved computers to agencies
- “Old” DoIT was seen by agencies as not sufficiently responsive to their needs
- State Data Center expansion (2006) was too late to capture servers being purchased by agencies
- Agencies requested their own IT funding, Legislature funded internal agency IT departments
- **Objective: Align statutory provisions beginning FY 16/17**

From Strategic Plan (draft) under consideration by ITAB

- Largely decentralized – each agency on its own path – hardware/software/personnel duplication
- Total State IT spend not known due to budget complexities – best guess – about \$180M, 1/6 of that is EITS enterprise spend
- Major systems are beyond end of life
- Networks proliferated without regard to security, redundancy, or enterprise architecture planning
- Many separate paths + old systems = many security vulnerabilities + inability to defend

Doing a bit more with less...

- Reconvened IT Advisory Board after almost a decade – statutory strategic advisor (public and private sectors, emphasizing IT expertise)
- Decision paper on consolidation with subsequent ITSPC discussion leading to hybrid model – consolidate core services, agency programmers remain
- Initial planning of DPS IT merger – including detailed equipment inventory
- Initial steps in security network/PC monitoring
 - Use of grant funds and awareness programs
 - Initial deployment of endpoint monitoring – lessons learned (need network architecture)
- Vendor presentations to interagency representatives on cloud email and document management options that track federal GSA developments
- Continual move to network path diversity – “395 Contract” swap
- Major refresh of State web sites using new technology
- NEATS “user friendly” modifications – new online directory
- Increased use of data facility – move to virtualization

Other Agencies have said...

From Strategic Plan (draft) under consideration by ITAB

- IT is the lifeblood of State government
- IT impacts every interaction with constituents
- If IT fails, major constituent services fail
- Diminished personnel resources have led to a greater need for IT to increase productivity
- Reduced State revenue has prevented major hardware and software replacements/upgrades even as components exceed end of life

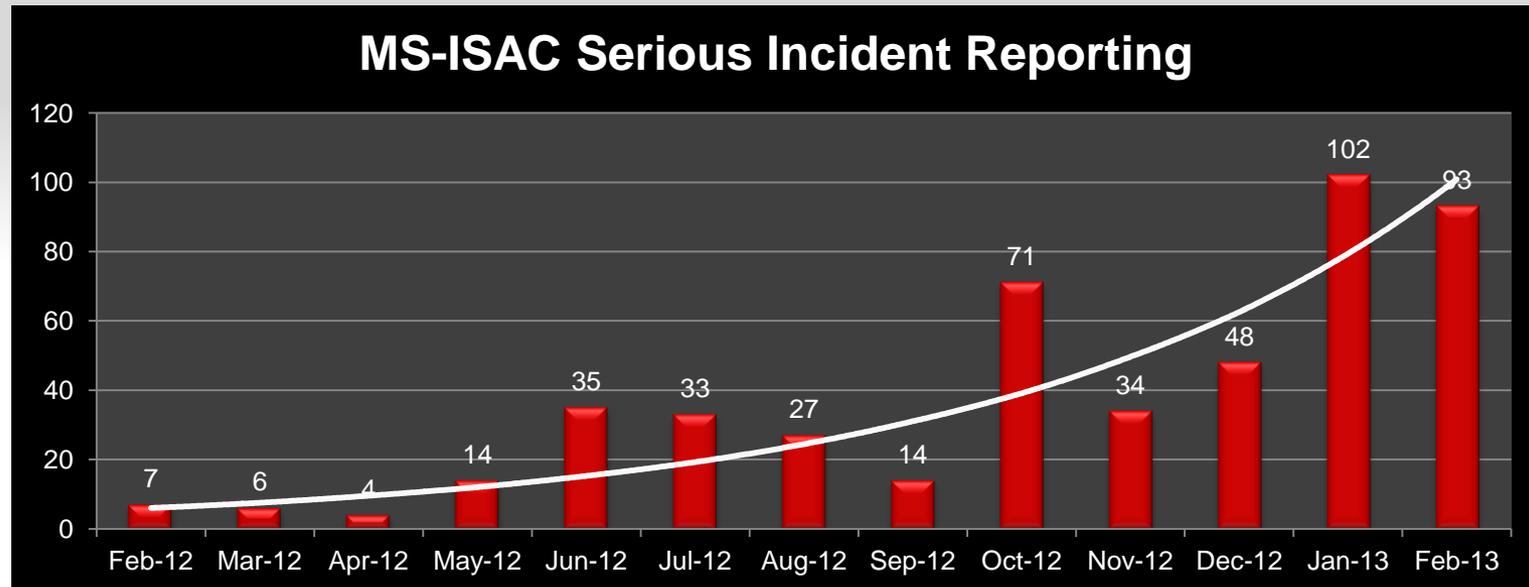
Why “End of Life” equipment makes IT people go crazy.

- “End of Life” is not having your car go out of warranty
- “End of Life” is having your car break and not being able to fix it because parts are not available – anywhere
- Recent enterprise telephone outage solved by buying not-quite-right replacement parts on Ebay
- Not only can “End of Life” equipment not be repaired, computers can’t be patched to protect against evolving security threats
- Start of budget process: EITS unit chiefs asked to identify *Projects/enhancements designed to mitigate failure of a major enterprise system, where that failure is highly probable in the next budget cycle based on past outages or performance degradations*

NSA: “Re-architect networks!”

“Honeycomb” to isolate inevitable network penetrations

- Perimeter firewalls prevent between 235,000 and 1,000,000 suspect inbound Internet connections every hour
- Internal firewalls blocked over 11 million attacks from “trusted partners” last month (SilverNet connections to counties, DETR, NDOT, etc.)
- We monitor, as best we can, 2,794 network interfaces on 435 devices
- “Trust but verify”: Architect both core and intra-agency networks to survive internal threats while assisting “trusted partners” to become more trustworthy



What does 2M attempts look like?

Here is what is hitting our SilverNet now...

Stream current log file

*As it stands now, the Department of Homeland Security defends the non-DOD part of the federal government. **The rest of us are on our own.** There is no federal agency that has the mission to defend the banking system, the transportation networks, or the power grid from cyber attacks.*

– Richard A. Clarke and Robert Knake
Cyber War, 2010 (p. 143)

Key Issues ID'd by State CIOs

We are not alone: NASCIO 2012 Top 10

- 1. Consolidation / Optimization:** consolidating infrastructure and services, centralizing
- 2. Budget and Cost Control:** managing budget reduction, strategies for savings
- 3. Governance:** improving IT governance, authority, data governance, partnering, collaboration
- 4. Health Care:** Affordable Care Act, HIX, Medicaid systems
- 5. Cloud Computing:** governance, infrastructure, security, privacy, data ownership, legal issues
- 6. Security:** risk assessment, security frameworks, data protection, training and awareness
- 7. Broadband and Connectivity:** public safety wireless network/interoperability, BTOP
- 8. Shared Services:** business models, sharing resources, infrastructure, service portfolio management
- 9. Portal:** state portal, e-government, single view of the customer/citizen, emphasis on citizen interactive self-service, mobile apps, accessibility
- 10. Mobile Services/Mobility:** devices, applications, security, policy, support, communications

Canada

- "Canada's government announced Thursday, Aug. 4, it will **shut down more than 90 percent of its 300 data centers**, leaving the nation with fewer than 20 when the plan is complete."

Colorado

- In 2008, the Colorado General Assembly passed SB08-155, a bill to centralize IT management in OIT. **SB08-155 laid the foundation for OIT's transformation by authorizing a structural reorganization and consolidation effort over a four-year period.** The legislation's main thrust will be felt this July when Colorado's 996 IT personnel, from fifteen executive agencies, begin receiving their paychecks from OIT. **This relatively benign shift signifies one of the most complex consolidation and reorganization efforts being tackled in the public sector today.**

Kentucky

- Gartner's IT Consolidation Assessment (Aug '06) produced savings estimates of
 - **\$18.7 million in annual direct savings**
 - **\$13.2 million in annual indirect savings** (defined as annual recurring non-IT operating expenses resulting from an improvement in support)

Massachusetts

- In its 2003 report, the IT Commission issued a strong recommendation for IT consolidation, stating that “...the Commonwealth will realize substantial productivity improvements and financial benefits from consolidation, leveraging and the economies of scale that result from implementing an enterprise approach to IT.”

Michigan

- One question that always comes up, said Takai, is "How much did you save?" Where is the real bottom-line benefit? "Our initial thrust was to go out and look at areas of inefficiency," she said. "We need to drive the cost down. We have taken about a quarter of our IT spend out, about \$100 million.”

Minnesota

- A study commissioned by the Legislature in 2009 found that consolidating IT functions could save taxpayers tens of millions of dollars annually in operational, procurement and staffing costs. It determined that the state’s 38-40 data centers could be consolidated to just two or three; IT Help Desks could be combined for cost savings and improved service; and the state’s 1,812 full-time equivalent IT staff could be whittled down to 1,586.

1. Consolidation
2. Security
3. Governance
4. Application Modernization/Life Cycle Management
5. Citizen Enablement/Mobility

NRS 242 is already “consolidation friendly”

- Reduce cyber threat profile – fewer vulnerable entry points – enterprise-wide patching and monitoring
- Save money on standardized hardware and software **after** the necessary refresh
- Deploy employees to highest and best use (subject to BA constraints)
- Disaster Recovery depends less on individual agencies
- Agencies focus on their core competencies
- EITS focuses on its core competency: “to perform information services for state agencies” NRS 242.071
- **Shouldn't every IT dollar go to its highest and best use?**

Questions?

Before we move to an explanation of internal service funds and then on to decision units...

1. *The Fund for Information Services is hereby created as an internal service fund...**
2. *All operating, maintenance, rental, repair and replacement costs of equipment and all salaries of personnel assigned to the Division must be paid from the Fund*
3. *Each agency using the services of the Division shall pay a fee for that use to the Fund, which must be set by the Administrator in an amount sufficient to reimburse ... the entire cost of providing those services, including overhead. Each using agency shall budget for those services...*

4. Proprietary funds must be used to account for the state's ongoing organizations and activities that are similar to those found in nongovernmental entities by focusing upon a determination of net income, financial position and changes in financial position. Proprietary funds include:

(a) Internal service funds, which must be used to account for and finance the self-supporting activities of a service characteristically utilized by departments of State Government or other governments on a cost-reimbursement basis

- EITS receives no General Funds directly
- Legislative passage of EITS budget establishes allotments used to establish cost pools identified for specific services for which EITS charges customer agencies
- Since our largest customer agencies receive significant federal funding most EITS services are federally supported (but cannot be used to cross subsidize General Fund activities)

- Telecom Consolidation
- Disaster Recovery
- Enterprise Mobility
- Advantage Study
- DPS Merger
- Outsourcing Email
- Security Monitoring & Management

The Office of the Chief Information Officer (CIO) establishes enterprise vision and strategies for both common and specialized IT services for state agencies. The Administrator of the division is also the State Chief Information Officer appointed by the Governor.

Communications services provide planning, procurement, operation, and maintenance necessary to support the telecommunications infrastructure that delivers information transport services (email, voice – wireline and radio, Internet access, and information data exchanges) in support of all mission critical applications operated by state agencies.

Key Performance Indicators

1. Percentage of Capacity Stressed SilverNet Circuits
(BA 1386)
2. Percentage of Utilized Backbone Capacity Microwave Circuits (BA 1388)
3. Percentage of Telecom System Beyond End of Life
(BA1387)

Caseload Measures

1. Number of independently operated telephone systems used by State agencies
2. Percentage of State workers served by a centralized telephone system

Budget Account - 1387

Enhancement Requests

B A	D U	Synopsis	FY 14	FY 15
1387	E225	In-state travel to supervise major hardware and software implementations and provide staff oversight and evaluations.	\$2,478	\$3,725
1387	E226	Staff training for new equipment and software -- largely associated with new telecommunications system.	\$9,385	\$9,535
1387	E584	Implementing Legislative telephone study, replace EITS enterprise phone system (currently 8.5K state employees), which is past end of life, out of support, and two entire generations behind current releases, with an updated system that consolidates existing (and more modern) hardware and software in the separately procured DETR and NDOT phone systems. Consolidated and new hardware and software will enable new enhanced services while reducing overall costs. Plan will consolidate all currently budgeted resources and most independent agency phone systems when finalized. Implementation through single, enterprise installment service purchase agreement so that CapEx transfers eventually to OpEx across all major and most minor agencies.	\$810,859	\$1,081,145
1387	E710	Replace desktop computer and software on standard schedule.	\$1,140	\$0
1387	E720	Purchase increasingly scarce telecommunication hardware for existing telephone system during transition period to consolidated state system.	\$29,999	\$34,998

Budget Account - 1386

Enhancement Requests

B A	D U	Synopsis	FY 14	FY 15
1386	E225	Acquire additional SilverNet bandwidth to Ely area in order to reduce multiple agency customer complaints of desktop end-user latency when using current remote data processing applications and accommodate agency-identified service growth.	\$12,000	\$0
1386	E226	Acquire additional SilverNet bandwidth to Fallon area in order to reduce multiple agency customer complaints of desktop end-user latency when using current remote data processing applications and accommodate agency-identified service growth.	\$13,344	\$13,344
1386	E227	Acquire major additional SilverNet capacity for North/South customer agency (multiple) requirements. (Cost is average of vendors' responses to Purchasing RFI).	\$155,752	\$153,936
1386	E228	Acquire additional SilverNet band with in Southern Nevada (1) to eliminate current delays/failures caused by demand exceeding capacity and (2) to allow for increased traffic in the event of a major system outage in the north.	\$28,125	\$27,360
1386	E589	Based on LCB audit, purchases consulting, software, and hardware most likely to be required across the set of likely, non-total catastrophic scenarios affecting EITS current equipment and services -- largely matching LV recovery capabilities to the daily mission utilization in Carson City.	\$284,204	\$22,800
1386	E710	Replace staff computer hardware beyond end of life.	\$3,420	\$3,420
1386	E711	Replace a 6513 Core Switch, necessary to recover SilverNet functionality and maintain 24/7 availability, at end of life (installment purchase).	\$32,621	\$64,252
1386	E712	Replace routers that are necessary to provide critical connectivity to customer agencies. All are at end of life, incapable of receiving security upgrades.	\$0	\$99,750
1386	E713	Replace 4500 campus switches that connect customer agencies (i.e. DPS, Welfare, DMV, counties and cities) to SilverNet. All are at end of life, incapable of receiving security upgrades and increasingly prone to catastrophic failure (from which replacement is the only recovery option).	\$143,645	\$221,908

Budget Account – 1386 Cont.

Enhancement Requests

B A	D U	Synopsis	FY 14	FY 15
1386	E714	Replace switches that support the State switch distribution centers at end of usable life, incapable of receiving security upgrades, increasingly prone to catastrophic failure (from which replacement is the only recovery option).	\$32,232	\$32,232
1386	E715	Replace routers that support the State rural distribution locations critical to NHP, Public Safety, DMV, DoC at end of usable life, incapable of receiving security upgrades, increasingly prone to catastrophic failure (from which replacement is the only recovery option).	\$53,155	\$96,851
1386	E716	Based on LCB audit, replace servers beyond end of life in a manner that allows for physical server separation of those servers critical for troubleshooting, billing, change control and network security from the rest of the production server infrastructure.	\$15,352	\$30,704
1386	E717	Based on LCB audit, and in order to remain compliant with annual IRS, Social Security, and other federal security requirements, replace core Cisco System security devices that are beyond end of life and serve as border firewall and intranet firewall devices in Las Vegas and Carson City (installment purchase).	\$0	\$537,212

Budget Account - 1388

Enhancement Requests

B A	D U	Synopsis	FY 14	FY 15
1388	E225	Contract installation and maintenance services to support state microwave system that supports public safety communications. Contract services to support remote sites, microwave, generator and solar power, antennas and wiring, are cost efficient when compared to alternative costs necessary to attract and maintain state employees.	\$50,000	\$50,000
1388	E710	Replace hardware and software used for programming circuits, troubleshooting equipment failures, documenting inventory, and remote control of communications site infrastructure on standard schedule.	\$3,186	\$7,293
1388	E711	Replace two (of seventeen) microwave radios that are at end of life with production discontinued in 2008. This is a near-final part of a multi-decade replacement plan (installment purchase).	\$43,762	\$87,525
1388	E712	Replace 48-volt rectifiers, the primary power source, end of life, at 14 microwave sites as part of a multi-decade replacement plan.	\$141,142	\$141,142
1388	E713	Replace 4 heavy duty trucks (excessive mileage) that service microwave sites so rugged and remote that no commercial service is available.	\$90,532	\$90,532
1388	E714	Unscheduled replacement of failing 24 volt battery plant at Hickson Solar Microwave site and 48 volt battery plant at Spruce Mountain to ensure continued service to Public Safety operations in the service region.	\$125,000	\$180,000
1388	E715	Replace 12, 24, and 48 volt rectifiers, the primary power source, end of life, at numerous communications sites, as phase 3 of a multiyear replacement project .	\$143,712	\$0
1388	E720	Expands the Carson Digital Cross-Connect System (DACs) to increase the availability of ports supporting T1 circuits.	\$12,000	\$0
1388	E721	Replaces degraded fans and reference oscillator crystals in the Megastar microwave radios between Reno and Las Vegas.	\$11,990	\$0

Operations services are dedicated to end user support. They include (1) on-call response for end user inquiries (Help Desk and desktop computer support), (2) monitoring of desktop computers to detect viruses and other malware, and (3) first tier production support (desktop computer patching and data management).

1. Percentage of Problems Solved on Initial Inquiry
2. Percentage of Problems Solved within 72 hours
3. Percentage of “Satisfactory” Help Desk Surveys

Caseload Measures

1. Number of Help Desk calls for service

Budget Account - 1365

Enhancement Requests

B A	D U	Synopsis	FY 14	FY 15
1365	E225	Funds 3 positions necessary to provide timely support to increased customer agency programming requests -- largely modifications of Nevada Executive Budget System (NEBS) and synchronization with legislative budget system (BASN) in support of PPBB; HR management (NEATS, NVAPPS, and HRDW); and State contracting.	\$284,011	\$333,441
1365	E228	Supports software (including PPBB reports) and training on new applications for Help Desk personnel.	\$8,416	\$4,000
1365	E231	Funds MSA contractor to develop mobile applications so NV citizens can obtain information from State agencies on smartphones and tablet computers.	\$75,000	\$75,000
1365	E235	Funds study to replace 20-year old payroll and financial enterprise software (ADVANTAGE) used by DOA, Controller's Office, and NDOT. COBOL code can no longer be efficiently modified to meet changing requirements.	\$350,000	\$0
1365	E589	Pursuant to Legislative audit, provides for staffing, software, and hardware resources most likely to be needed across the set of likely, non-total catastrophic scenarios.	\$2,154	\$820
1365	E710	Replaces decade-old hardware and software used by programmers who modify and maintain major State enterprise applications.	\$94,061	\$14,004
1365	E900	Transfers a personnel position from BA 1365 to BA 1340, matching work requirements with employee skills.	-\$66,524	-\$69,313
1365	E901	Transfers a personnel position from BA 1365 to BA 1389, matching work requirements with employee skills.	-\$105,587	-\$107,270
1365	E903	Transfers software and maintenance costs from BA 1385 to BA 1365 to more accurately comport with statutory cost allocation requirements and current accounting management -- cannot effectively construct cost pools across separate BAs.	\$38,861	\$38,861
1365	E904	Transfers a personnel position from BA 1365 to BA 1373, matching work requirements with employee skills.	-\$71,677	-\$76,365
1365	E905	Transfers 4 personnel positions from BA 1373 to BA 1365, matching work requirements with employee skills.	\$457,228	\$429,329

Budget Account - 1373

Enhancement Requests

B A	D U	Synopsis	FY 14	FY 15
1373	E227	Requests a deputy administrator position as EITS staff increases from 130 to 178 with DPS IT merger. (Note DoIT/DOA merger eliminated both DoIT Deputy and Chief of Administration positions and staffs).	\$136,758	\$135,038
1373	E580	Purchase one concurrent user license (Symantec Asset Management Suite) as part of program enabling Desktop Support section to manage end-user desktop software in DOA.	\$38,776	\$7,250
1373	E585	Requests MSA contract for project manager to oversee the consolidation of DPS IT (48 FTEs) into EITS. (Note neither DOA, EITS, nor DPS has in-house expertise nor dedicated staffing).	\$75,000	\$50,000
1373	E711	Replaces computers for Desktop Support team that provides services to end users in DOA in Carson City and Reno.	\$6,567	\$0
1373	E720	Purchases desktop software for Desktop Support team so members will have same applications as the DOA users the team supports.	\$996	\$0
1373	E904	Transfers a personnel position from BA 1365 to BA 1373, matching work requirements with employee skills.	\$71,677	\$76,365
1373	E905	Transfers 4 personnel positions from BA 1373 to BA 1365, matching work requirements with employee skills.	-\$457,228	-\$429,329

Computing services are provided to departments that require simultaneous sessions by thousands of state workers interacting with multiple data bases. Information is provided from the end user, and processed results are conveyed over telecommunication transport facilities provided by the Communications Unit.

1. Average Mainframe Peak Utilization Time
2. Percentage of Enterprise IT Services Servers Within Replacement Date
3. Percentage of Enterprise IT Services Servers Not Virtualized
4. Available but Unallocated Enterprise Storage (in terabytes)

Budget Account - 1385

Enhancement Requests

B A	D U	Synopsis	FY 14	FY 15
1385	E226	Requests DB2 programmer and data base administrator to support legacy mainframe applications. (Note there is no DB2 administrator in the requisite BA, and no application programmers in EITS).	\$58,203	\$57,863
1385	E228	Requests training for personnel running the Enterprise mainframe and servers.	\$36,916	\$36,916
1385	E229	Purchase VMware vShield software to optimize security of the virtual servers hosting State Enterprise applications -- enables security monitoring without an increase in IT personnel.	\$41,752	\$9,169
1385	E231	Purchase software to manage mobile devices securely -- includes prevention of unauthorized use and wiping data from lost or stolen devices.	\$20,000	\$20,000
1385	E232	Replaces failing State email system with a cloud solution (replacing CapEx with OpEx) while simultaneously adding services related to storage, eDiscovery capability, archiving, document sharing and real-time production for 12K State employees.	\$556,050	\$512,100
1385	E582	Purchase encryption and anti-virus software, enabling EITS to manage an encryption server for agency customers, bundling anti-virus in a State-consolidated purchase.	\$47,450	\$12,552
1385	E583	Consolidates Las Vegas disaster recovery equipment in one location (Switch SuperNap). Consequence: more efficient expansion, replacement and upgrades.	\$42,282	\$44,564
1385	E584	Purchase and maintain a load balancing device with proxy functionality for the LV portion of the state network, adding disaster recovery capabilities for servers in the Carson City State facility that currently supporting web, email, data and financial enterprise services.	\$30,285	\$28,873
1385	E585	Funds Computer Facility internal infrastructure (racks, wiring, flooring, power connections) necessary to accommodate non-EITS equipment moved by agencies into the only Tier 3 data center operated by the State.	\$119,350	\$0
1385	E587	Purchase VMware Lab Manager software to advance the State virtualization program that maximizes the capabilities of existing physical servers.	\$24,413	\$0
1385	E589	Based on LCB audit, purchases (installment payment schedule) consulting, software, and hardware most likely to be required across the set of likely, non-total catastrophic scenarios affecting EITS current equipment and services -- largely matching LV recovery capabilities to the daily mission utilization in Carson City.	\$190,266	\$278,185

Budget Account – 1385 Cont.

Enhancement Requests

B A	D U	Synopsis	FY 14	FY 15
1385	E710	Purchase replacement data base servers (beyond end of life -- no longer supported by manufacturer) dedicated to State enterprise servers and replacement PCs that are beyond normal replacement cycle.	\$185,386	\$25,068
1385	E711	Replace mainframe disk storage hardware and software -- not only a technology refresh, necessary to avoid \$250K annual maintenance charges on old equipment.	-\$133,112	-\$133,112
1385	E712	Upgrades AIX Infrastructure so that EITS no longer turns away agency customer requests for service, decreases downtime for existing customers, increases capacity in order to increase availability of critical applications (NEATS, NEBS, NVAPPS).	\$119,517	\$119,517
1385	E713	Replaces batteries for the Uninterruptible Power Supplies in the State Computer Facility. Without them, systems will fail during a power outage before generator back-up power comes on-line.	\$0	\$110,655
1385	E714	Replaces the current enterprise storage system in the State Computer Facility, which is over capacity and has exceeded its life expectancy (installment purchase agreement). Capacity is based on future customer agency requirements.	\$122,786	\$225,164
1385	E715	Purchases server capacity to meet backlog agency requests for virtual servers and to replace existing physical servers past end of life.	\$368,565	\$368,565
1385	E717	Replaces compromised security system at the State Computer Facility.	\$57,396	\$0
1385	E720	Purchase mobile devices for pre-deployment testing to enable customer agencies to intelligently provision such devices for their employees.	\$2,894	\$2,894
1385	E721	Purchase printer hardware and maintenance services.	\$20,242	\$20,242
1385	E903	Transfers software and annual maintenance costs associated with the Web Group and Help Desk functions from BA 1385 to 1365 because that is where the people are.	-\$38,861	-\$38,861

Development services involve application development, WEB development, data base development and support for enterprise applications such as payroll (Advantage), employee management (NEATS), budget (NEBS) as well as web site, data base, and agency specific applications.

1. Ratio of New Programmer Project to Maintenance Times
2. Percentage of Operationally Current Data Bases
3. Percent of Programming Requests Completed on Time
4. Percent of State Agencies using OT/Leave-Preapproval Functions within NEATS

Budget Account – 1365 (Duplicate)

Enhancement Requests

B A	D U	Synopsis	FY 14	FY 15
1365	E225	Funds 3 positions necessary to provide timely support to increased customer agency programming requests -- largely modifications of Nevada Executive Budget System (NEBS) and synchronization with legislative budget system (BASN) in support of PPBB; HR management (NEATS, NVAPPS, and HRDW); and State contracting.	\$284,011	\$333,441
1365	E228	Supports software (including PPBB reports) and training on new applications for Help Desk personnel.	\$8,416	\$4,000
1365	E231	Funds MSA contractor to develop mobile applications so NV citizens can obtain information from State agencies on smartphones and tablet computers.	\$75,000	\$75,000
1365	E235	Funds study to replace 20-year old payroll and financial enterprise software (ADVANTAGE) used by DOA, Controller's Office, and NDOT. COBOL code can no longer be efficiently modified to meet changing requirements.	\$350,000	\$0
1365	E589	Pursuant to Legislative audit, provides for staffing, software, and hardware resources most likely to be needed across the set of likely, non-total catastrophic scenarios.	\$2,154	\$820
1365	E710	Replaces decade-old hardware and software used by programmers who modify and maintain major State enterprise applications.	\$94,061	\$14,004
1365	E900	Transfers a personnel position from BA 1365 to BA 1340, matching work requirements with employee skills.	-\$66,524	-\$69,313
1365	E901	Transfers a personnel position from BA 1365 to BA 1389, matching work requirements with employee skills.	-\$105,587	-\$107,270
1365	E903	Transfers software and maintenance costs from BA 1385 to BA 1365 to more accurately comport with statutory cost allocation requirements and current accounting management -- cannot effectively construct cost pools across separate BAs.	\$38,861	\$38,861
1365	E904	Transfers a personnel position from BA 1365 to BA 1373, matching work requirements with employee skills.	-\$71,677	-\$76,365
1365	E905	Transfers 4 personnel positions from BA 1373 to BA 1365, matching work requirements with employee skills.	\$457,228	\$429,329

Information security services provides security guidance to agencies in designing secure and resilient enterprise networks and systems; continuously monitoring existing networks, devices and critical IT infrastructure; performing security assessments; and coordinating the remediation of cyber attacks.

Key Performance Indicators

1. Percentage of Endpoints Continuously Monitored
2. Percentage of Endpoints Automatically Updated
3. Number of Security Incidents Caused by Non-Compliance

Caseload Measures

1. Daily Number of Attempted Penetrations
2. Number of Monitored Endpoints vs Total Endpoints
3. Average Monthly Security Incidents Detected
4. Average Daily Total of Isolated Spam Emails
5. Annual Number of Computer Security Incident Responses

Budget Account - 1389

Enhancement Requests

B A	D U	Synopsis	FY 14	FY 15
1389	E225	Maintains Splunk monitoring software purchased in FY 13.	\$10,889	\$10,889
1389	E226	Upgrades the card access system that controls state employee access to buildings to meet increased agency demand for physical security.	\$60,000	\$0
1389	E227	Funds the expansion of continuous network monitoring to include key devices internal to perimeter firewalls.	\$50,000	\$50,000
1389	E228	Maintains the Centralized Logging System that correlates security events from key servers and network devices, part of the Splunk system.	\$2,500	\$2,500
1389	E583	Funds the continuous monitoring Security Center software that automates the scanning of servers, workstations and network devices to detect current vulnerabilities, substituting automation for additional personnel.	\$179,471	\$45,596
1389	E589	Based on LCB audit, funds first stage of disaster recovery for staffing, software and hardware resources (EITS) that are most likely to be required across the set of likely, non-total catastrophic scenarios.	\$240,000	\$0
1389	E710	Replace computer hardware and software associated with EITS recommended replacement schedule.	\$6,153	\$0
1389	E901	Based on LCB audit, transfers a personnel position from BA 1365 to BA 1389, matching work requirements with employee skills.	\$105,587	\$107,270

Activity: Service Planning

Program Overview: Budget account to be determined

Service planning transforms Enterprise Information Technology Services (EITS) - consolidated agency business projections and utilization estimates into the future IT service requirements necessary to support future agency growth and projected business improvements. It is the first step in responding to agency business needs.

1. Percentage of Agencies with Documented IT Strategies
2. Percentage of Agencies with Consolidation Agreements with EITS
3. Percentage “Satisfactory” Post Consolidation Surveys

Program management transforms IT service requirements that have been defined by Service Planning into operational plans and projects that are implemented by the Development, Communications, Operations and Computing units under the continuing oversight of the Program Management unit.

1. Total Annual Managed Project Hours
2. Number of Projects Waitlisted More than Six Months
3. Percentage Satisfactory Post-consolidation Surveys

Architecture and Governance services ensure the design and implementation of IT systems are consistent across state agencies. These services involve both long-term policy planning that emphasizes efficiency and security at all network levels and a change management process that is cognizant of over-all network and system operations.

1. Number of Collaborative, Multi-agency Designs
2. Number of Standards and Policies Reviewed
3. Number of Unplanned Service Disruptions

Scope of current activities

Internal: Provides computer services to 1500 DPS users (some 24x7)

- Services also provided by EITS: LAN, WAN, server & database administration, programming, help desk & desktop support
- Services not within EITS present offerings: program management, technical planning, and GIS support

External: Manages the Nevada Criminal Justice Information System (NCJIS) and the Law Enforcement Network (24x7x365) in support of more than 17,000 local, state and federal users (mainly external to DPS) in all county and municipal law enforcement organizations, all District Attorney offices, all Nevada courts of first impression, all parole and probation offices, and both public and private sector customers that initiate and rely on criminal background checks and fingerprint records

Integration Considerations

- NCJIS is the state interface to the FBI-managed National Criminal Justice Information System. Access to, and management of, NCJIS must comply with FBI requirements, importantly, network design and operation as well as information and privacy security requirements
- An independent study approved by IFC concluded that NCJIS could fail in FY14/15+ and recommended a 6-year phased-in replacement, estimated to cost \$18.8M
- DPS BA 4709 (Criminal History Repository) includes a “one-shot” \$2.3M infusion to begin that replacement
- During the 2008 and 2010 Special Sessions, the Legislature transferred funding in the BA 4709 reserves to the General Fund, a portion of which was planned for NCJIS replacement

- Affords the opportunity to simplify IT environments and networks, increase security, and reduce expenditures (after replacement of end of life equipment/software)
- Begins the transition of interagency charging to the cost pool model used by the Fund for Information Services
- DPS BA 4733 includes significant hardware and software replacement and is in addition to funding requested for initial phase of NCJIS modernization

DPS IT Services provides Criminal Justice Technology Services (LAN, WAN, server & database administration, programming, help desk & desktop support, program management, and technical planning) to support DPS and other law enforcement agencies statewide.

1. Percentage of technology projects completed on time
2. Percent of time the Law Enforcement Network (Jlink) is available

Budget Account - 1405

Enhancement Requests

B A	D U	Synopsis	FY 14	FY 15
1405	E800	Funds the Director's cost allocation for services provided by DOA, Budget and Planning, BA 1340.	\$31,717	\$31,909
1405	E930	Transfers DPS IT functions from BA 4733.	\$1,375,037	\$1,409,352
1405	E931	Transfers DPS IT functions (including positions and associated program expenses) from BA 4733.	\$1,225,666	\$1,329,454
1405	E932	Transfers DPS IT functions (including positions and associated program expenses) from BA 4733.	\$1,158,176	\$1,129,788
1405	E933	Transfers DPS IT functions (including positions and associated program expenses) from BA 4733.	\$1,136,954	\$1,158,231
1405	E934	Transfers DPS IT functions (including positions and associated program expenses) from BA 4733.	\$906,792	\$883,883

First steps enabled by current budget request

We begin to:

- Simplify and standardize the IT environment
- Modernize legacy applications
- Focus State IT resources on high-value activities – move staff to “highest and best use” – best investment for NV
- Adopt cloud services for commoditized activities
- Expand common services platforms (such as email, office phones, web design and hosting)
- Strengthen information security through standardization and automation technologies – endpoint (desktops, laptops, mobile) and server malware monitoring and management
- Deliver “just in time” infrastructure expansion – servers, microwave/fiber communications and mainframe

“Build in, not add on” –Security, Architecture, Planning Activities

- Continuously monitor critical systems, devices, and infrastructure 24x7 for attacks, malware, viruses, and vulnerabilities
- Build out “honeycomb” as recommended by NSA
 - Enable endpoint monitoring, security, and management
- Transfer critical data to the ‘Core’ behind newly-built monitored security layers
- Expand security training and awareness so it is meaningful to users as they conduct day-to-day agency business
- Establish a regional cyber planning and incident response team with western states that have expressed an interest in collaborating
- Implement agency operational priorities on common, secure platforms

Planning, Design, Implementation require PPBB activities not yet staffed

- **Best of all IT operations becomes the model** building a unified 24x7 IT organization that integrates the ‘best of breed’ from all consolidated agencies
- **Agency business leaders continue to determine** their operational priorities through agency committees and Service Planning activity
- **EITS network planning and system design teams implement** operational priorities using industry best practices
- **Improve IT system agility and flexibility** by standardization and implementing modern IT frameworks
- **Enterprise agreements begin to reduce costs**
 - Manage software licensing across all agencies
 - Standardize equipment (servers, laptops, tablets, and phones)
 - Scrutinize purchase vs. leasing decisions (servers and phone systems)

- “Lessons learned” for next IT consolidation
- Revision of NRS 242 for 2015 Session
 - Conform with best industry practices and consolidation glide path
- Potential rewrite of regulation NAC 242 for interim application
 - Last substantive change: 1992 by “Dept. of Data Processing”
- IT Personnel Study
 - Administrator shall adopt “specifications and standards for the employment of all personnel of the Division” NRS 242.111
 - Address aging workforce and retention/recruitment problems

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