

System Operations Success Stories

Inventory Service Catalog

- Revised, implemented and continually update an inventory list that includes hostname, IP address, services, backup status, restore tests, data classification and system administrator assignments
- The Inventory Service Catalog garnered an unexpected Level 3 (Highest level of readiness) rating from the USG Presidential Audit Team during our data classification audit (Aug/Sep'15)

Server Virtualization

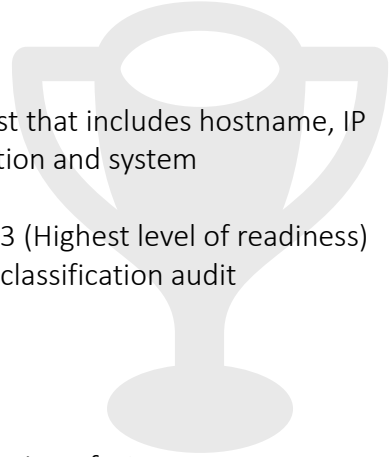
- Redeployed the VMware server environment on the latest version of vCenter
- Standardized the build process to improve build time and ensure stability
- Utilized role-based permissions to better secure the VMware environment
- Reduced the energy consumption in the Data Center by assisting with virtualizing ~240 physical servers

Data Backups Redesign

- Began a process of maintaining the latest release version of Symantec NetBackup
- Focused on improving backup performance of storage backups between 8 and 16TB
- Deployed a new strategy to ensure backup success using a setting called *“accelerator”*
- Started a backup restore testing process to ensure recoverability
- Relocated one backup server offsite for backup replication to counter data center disasters
- Employed the use of Backup Encryption for critical backups duplicated to the North Campus media server
- Standardized an Oracle RMAN backup procedure that guarantees a seven-day recovery window.

Disaster Recovery Plan

- Researched, developed and implemented a Systems Operations Disaster Recovery Plan that meets the Board of Regents ITS requirements



System Operations Success Stories

Data Classification

- Researched, developed and implemented a Systems Operations Data Classification Policy that meets the Board of Regents ITS requirements
- Classified ~580 servers in the Inventory Service Catalog by their appropriate data classification according to the Data Classification Policy documentation
- Collaborated with an Oracle consultant to deploy a 3-tiered Oracle Business Intelligence platform to store and generate reports for any data classified as Financial in nature
- Collaborated with an Oracle consultant to design, test, and deploy an instance of Oracle Data Integrator for the data warehouse platform to facilitate report generation of student data

Strategic Plan Project Mapping

- Utilized the EIS Strategic Plan for FY16 to identify all goals that pertain to the SysOps team
- Each goal was mapped to existing or upcoming projects and tasks
- A date of the projected start and end date, with status, were assigned to each project or task
- A system administrator was assigned to each project or task
- The SysOps Strategic Plan allows for tracking work that satisfies the VSU/EIS Strategic Plan

Blade Server & Storage Standardization

- Standardized the deployment strategy for the Cisco Unified Computing System ([UCS](#)) blade management system to improve performance and consistency
- Redesigned the [HP 3PAR SAN Storage](#) to UCS Blade system zone mapping to be more enterprise ready and to follow best practices as recommended by Cisco and HP Engineers
- Standardized the SAN Storage delivery process to ensure efficient delivery and usage of server storage
- Upgraded the UCS to ensure future stability and growth potential in an effort to continually meet VSU's computing needs

System Operations Success Stories

Standard Operation Procedures Development

- Redesigned the Standard Operating Procedures template to be more conducive to a quick response set of recovery tasks; standardized format for visual appeal and continuity
- Developed new Standard Operating Procedures for all systems identified as critical

System Password Centralization and Encryption

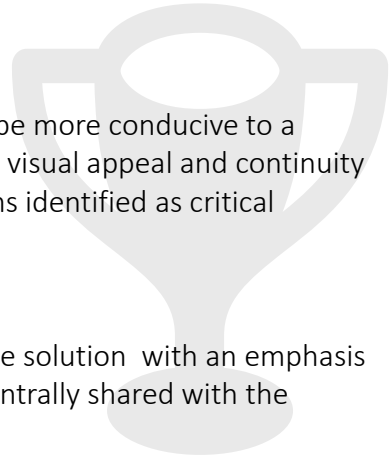
- Researched, tested and implemented a new password storage solution with an emphasis on multi-factor authentication and encryption that can be centrally shared with the SysOps team
- Centralized password management allows for a quicker response time for secondary support admins in the absence of the primary admin

Hybrid Cloud Integration

- Utilized USG ITS Cloud Services [Virtual Data Center](#) to collaboratively design and deploy a cloud instance of the primary web site www.valdosta.edu that will maintain a web presence during campus network outages
- Worked with Oracle Corporation to develop a 12c cloud instance of our applications and data warehouse databases for offsite availability should the main campus link become unavailable

System Security

- After the enterprise Spam Filter solution was discontinued, SysOps deployed an Open source firewall called [Untangle](#) in front of the main campus mail server to quarantine incoming/outgoing spam messages.
- Developed a procedure to patch ~100 Linux servers for the GHOST GCC vulnerability with a turnaround time of less than twelve hours for all servers
- Implemented a [NOC](#) real time monitoring and control center in the Oak Street Data Center comprised of services and hardware monitoring displays



System Operations Success Stories

Academia

- Designed and built a [Spartan](#) '14 cluster for the Chemistry department to perform molecular modeling research
- Used VMware Workstation to allow Math/CS professors to have the ability to do their research on different operating systems while still being able to use their research server hardware
- Deployed an [ORSEE](#) database server for Economics Department that provides a web based online recruitment system, specifically designed for organizing economic experiments
- Deployed a [WebWorks](#) server for Math/CS designed to make homework in mathematics and sciences more effective and efficient
- Deployed a Joomla CMS web server as a departmental portal for Communication Arts.

Services Deployments, Redeployments & Upgrades

- Researched, tested and implemented a new virtualized Network Information Service ([NIS](#)) that provides centralized Linux authentication services to a fully redundant two server configuration on RedHat Enterprise Linux, also allowing the shutdown of an older physical server that lowers energy consumption
- Deployed two virtualized servers used to hold and share the new VSU Mobile Application
- Virtualized the email listserv service onto a new Red Enterprise Linux server with a dedicated Open Source SPAM Filter and firewall system
- Researched, tested and implemented a new open source System Logging ([SYSLOG](#)) service to replace an older legacy syslog server providing systems logging for all servers.
- At Information Security's request; SysOps built a RHEL virtual machine, deployed an open source file encryption file transfer service called [FILELOCKER](#), and documented the installation process for RHEL
- Researched, tested and implemented a web-based software development environment designed for Oracle Databases called Oracle Application Express 5 ([APEX 5](#)) that will replace legacy Oracle APEX 3 services in the future
- Researched, tested, implemented and documented an Oracle Database 12c that will replace legacy Oracle Database 11g instances in the future
- Installed, tested, and deployed a new APEX 5 application using WebLogic and a new Oracle 12c database to run the new Faculty Portal.