Testing and Validation: Leveraging VMWare for Success

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VMWORLD 2006

Bowdoin College Testing, 2004

- Testing was nearly nonexistent
- Tired, Old servers kept in the basement
- No standard installation base
- No management or oversight

Why Build a Testing Infrastructure?

- Testing and Validation is not a requirement for success
- Duplicated Effort
- High Cost
  - Additional Hardware
  - Additional Software
  - Redundant Infrastructure
  - Staff Time and Resources

Methodologies

- Sandboxes
  - Areas for Developers to try new things
- Redo
  - Leverage VM change logs
- Tiered approach
  - Create a Test-Stage-Production work flow
- Clones
  - Work on production systems offline

Sandboxes

- Playgrounds, POC
- Loose or no central control
- VMware Workstation for developers
  - Desktops for client access
  - Servers for application testing
  - Standard services (SQL, IIS, Apache, MYSQL, etc.)
  - Rollback changes
  - Clone new systems
- ESX VMs for shared sandboxes
  - Shared services for workgroups
  - Collaborative work flow

Redo

- Leverage the multiple disk states of VMs on ESX server
- Change disk state prior to major upgrades
- Safety net
- Rollback or append as needed
- Changes can be done via command line
- Developers can maintain the systems themselves

Tiered Approach

- Test, Stage, Production
  - Testing- Developers have full access to system to script install
  - Stage- Developers and Systems work together from script
  - Production- Systems installs from script
- Catch problems early
- Eliminate “One-Offs”
- Separates developers from production environment

Clones

- Take copy of production server offline
  - Troubleshooting
  - Bug fixes
  - Stress testing
  - “What-ifs”
- Offline Evaluation
  - No impact to production
  - Production-type results

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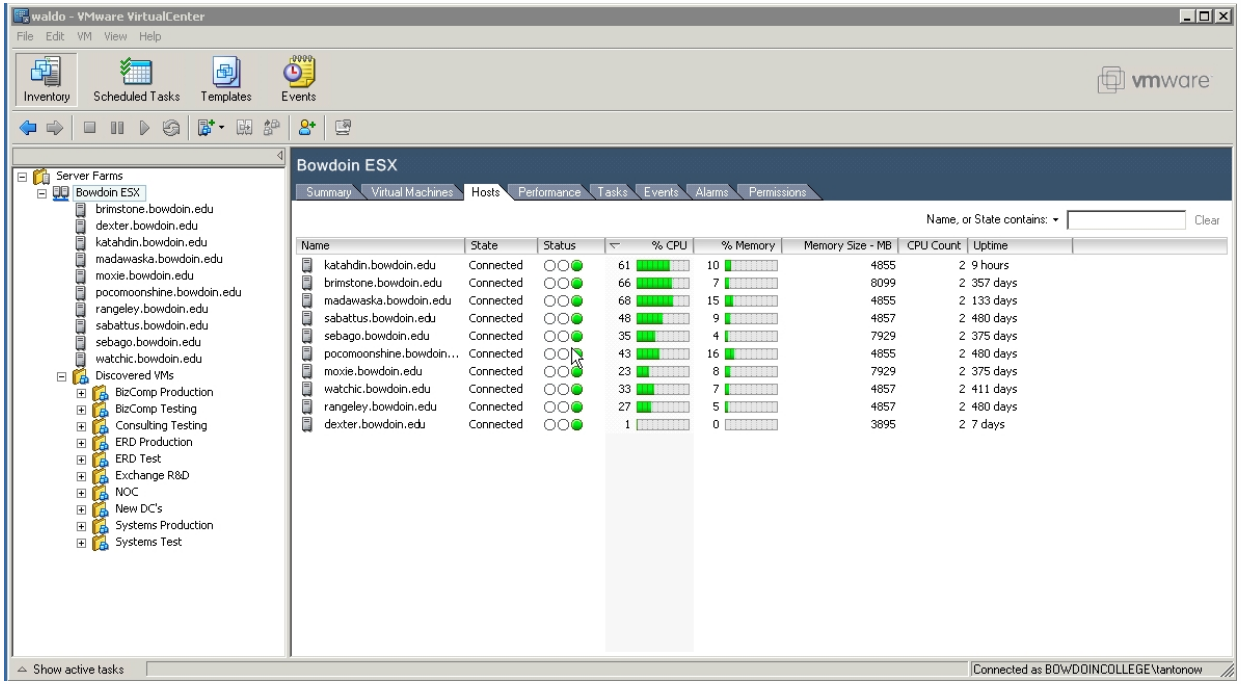

- Bowdoin's Testing environment is fully virtualized
- 2/3 of all production servers have a test server
- 1/3 have test and staging servers
- IT Developers fully onboard with the new system

Questions

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