Overview

In 2011, as per requirements defined in Florida Statute 282.201, the Florida Department of Education moved its Knott Data Center from the Turlington Building in Tallahassee to the Northwest Regional Data Center.

The first round of Florida Department of Education data center equipment was successfully moved to Northwest Regional Data Center (NWRDC) over the weekend of April 16-17, 2011.
Overview

This enterprise solution approach to meeting the IT-related requirements for the Race to the Top program provided a single infrastructure environment based upon Intel-based computing processors and optimized for Microsoft’s Windows operating systems and Microsoft’s SQL database.
Overview

The enterprise solution provides significant benefits to the agency, including reduced costs of acquisition and cost of operation when compared to providing each Race To The Top initiative with a separate and unique IT environment managed individually.
Advantages of the Cloud

The enterprise solution at NWRDC enables the Florida Department of Education to:

- Quickly acquire processing, storage or services as systems’ needs dictate.
- Right-size computing solutions based on application requirements
- HA and full redundancy throughout the entire infrastructure
- Leverage automated tools for deployment, maintenance and monitoring of systems.
- Allow for a higher density of computer systems to system administrator ratios by leveraging automated tools.
On Premise Cloud Solution

- DoE’s On Premise Environment Specifications:
  - 24/7 365 days a year security monitoring
  - Over 17 Terabytes of RAM
  - Over 100 Terabytes of Enterprise Class Storage
  - Over 200 Sockets running on 11g/12g Intel platforms

- Software and Tools:
  - Dell VIS
  - Secureworks
  - VMware vSphere 5.0
  - CommVault Simpana Backup Solution
Converged Infrastructure

Challenge

Solution

Server

Converged Infrastructure

Network

Tasks

Policies and Visibility

Storage

Virtualization

Storage Capacity

Network Access

Compute Capacity
## Environment Status of Projects

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Near Future On Premise Expansion

- DOE Enterprise Cloud
  - Private cloud
- Hybrid
- Hosted
  - Public cloud

One user interface – public, private/hybrid
Hybrid Cloud Benefits over traditional methods

• Pay only for resources used, no costly unused excess capacity

• Reduce resources during off season
  ▪ Automatically expand resources during peak usage times
  ▪ Certified staff monitoring / responding 24/7/365
Environment Security Monitoring Services

- Backed by CTU Intelligences services that perform in-depth analysis of emerging threats and Zero-Day vulnerabilities.
- 24/7 Monitored and managed IDS/IPS protection on all tiers
- Monitored Web, databases, applications
- 24/7 Security Event Monitoring

- Monitored Devices:
  - Servers
  - Firewalls
  - Load Balancers
Cloud Security Options

- Data Encryption
- Agentless anti-malware and anti-virus
- Host based intrusion detection prevention
- File integrity, VM firewall, Two-Factor Authentication
vCloud Flexibility

- Resources available as pools (e.g. 100vCPUS, 400gb Mem)
- Three tiers of offerings (PAYGO, Reserved, Dedicated)
- Two storage types (SAS, SATA)
NWRDC – Who We Are

- Public Sector Not-for-Profit Computing Facility
- 100% Self-funded Auxiliary of Florida State University
Northwest Regional Data Center
NWRDC Mission

- Providing superior information technology services
- Delivering customized solutions to university, college, K-12, city, county and state government
- Shared cost model
NWRDC History

- Over 40-years of providing premier IT services
- Vision and focus on Education
- Primarily infrastructure and operating system support while application support is provided by customers
NWRDC Governance

- Governed by Policy Board comprised of our customers
- Policy Board Membership is determined based on the percentage of revenue paid to the center and reviewed annually
- Administratively hosted by Florida State University
- Standing subcommittees are:
  - Management committee
  - Technical committee
NWRDC Policy Board

Florida State University
Florida A&M
Dept. of Education
Dept. of Revenue
Florida International University
Florida Atlantic University (small customer rep)
University of West Florida
State University System Board of Governors
Palm Beach County Schools (K-12 rep)
NWRDC Modern State-of-the-Art Data Center

- Constructed as a data center to DOD standards
- Environmental monitoring
- Halon suppression system
- 96 feet above sea level
- N+1 hardened data center with redundant power and cooling
- Category 3 Hurricane proof facility
- 24/7/365 Onsite Security with Video Surveillance
Gartner Group’s 2008 study on state data center consolidation identified NWRDC as one of the top data centers in northwest Florida.

A number of studies, including the Gartner report, have recognized NWRDC as a leader in customer service.
NWRDC Services

- Mainframe
- Server hosting
- Storage (multiple tiers and configurations)
- High Availability Network
- Business Continuity / DR
Mainframe

- **Functional Capability**
  - IBM z10
  - Virtual Tape

- **Hosting**
  - Application Hosting
  - Collocation Services
  - Disaster Recovery/Business Continuity
  - Sunset or End-of-life Application Hosting
Tallahassee Fiber Loop

- 14.6 mile dark fiber ring surrounding metro Tallahassee area
- Owned and managed by NWRDC
- Up to 10 Gb access to resources at NWRDC
- Florida LambdaRail (FLR) via TFL provides high availability network connectivity to NWRDC
TFL Customers

- Florida State University
- College Center for Library Automation
- Florida Department of Education
- Florida Department of Financial Services
- Florida A&M
- Tallahassee Memorial Hospital
Server Hosting

- Hosting Services
  - Managed Virtual Servers
  - Managed Physical Servers
  - Cloud Storage services
  - Collocation Services
  - Disaster Recovery Services
  - Web Hosting
Server Hosting Customers

- Florida Atlantic University
- Dept. of Revenue
- Florida International University
- Florida State University
- Orange County Government
- Palm Beach County Government
- Florida State College at Jacksonville
- Chipola College
- Dept. of Education
- Office of Early Learning
On Demand Storage Service

- Capacity on Demand
  - Allows you to pay for capacity you are actually using
  - No need to buy expansion room ahead of time

- IOPS on demand
  - Allows you to pay for the throughput you need
  - Can “turn it up or down” based on your business cycle
Virtual Platform Services

- Subscribe per Virtual Machine
  - Perfect for someone that needs 1-2 VMs
- Compute Memory Bundle (CMB)
  - Subscribe to the amount of resources you need
  - You decide on # of VM’s
  - Allows you to dynamically share resources between VM’s or applications
NWRDC: Who We Are

That covers the last 40 years.

So....
NWRDC: What’s Next?

What do **you** need NWRDC to be for you Today?

  3 years from now?
  5 years from now?
  And on and on....
NWRDC: What’s Next?

- Private Cloud Services?
  - Storage as a Service?
  - Platform as a Service?
  - Backup as a Service

- Consortium pricing\Joint contract management?
NWRDC: What’s Next?

NWRDC is YOUR data center....

How can we serve you today?
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