

Emerging and Innovative Core IT Technology and Strategies, Cloud Computing and Service- Oriented Architecture

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MARTA Statistics

- 38 Rail stations over 42 miles of track
- 318 railcars, 500 fixed route buses and 175 mobility vans
- Nearly 500,000 trips per day out of 5.5M people in the area
- Over 90 fixed bus routes
- 4000 Employees

MARTA Technology Assets

- 365 Virtual Machines (VMs)
- 150 Blade Servers (few rack servers)
- IBM Mainframe (decommission Q4)
- 2500 Desktops and 700 Laptops
- 8 Firewalls – 8 F5 Load Balancers
- 300TB SAN Environment (Virtual)
- 800 Switches - 200 Routers – 400 APs

Emerging Technology

What Gartner Says:

User Advice: CIOs should start evaluating and plan to use new-generation object-based storage to store unstructured data in 2010 within their private cloud. Users should demand that object-based storage vendors use industry standard protocols to minimize device and vendor lock-in and to facilitate easier migration for long-term archiving.

Business Impact: Cloud-oriented object-based storage will have a limited near-term impact on major service providers in the public cloud, who may continue building their infrastructure leveraging their own in-house talent and open-source software. However, Gartner believes that object-based storage will have a significant impact on private clouds and smaller service providers in the public cloud, who do not have internal resources to build their own storage infrastructure.

From the Gartner Hype Cycle, July 13, 2010

Innovative Strategies

What Vendors such as HP are offering:

“We’ve launched Infrastructure-as-a-Service for our customers and we are going to be launching public cloud in the future,” Leo Apotheker said.

The CEO described HP’s overall strategy as aiming to develop a single architecture – with the company’s Converged Infrastructure at the core – that extends “from the data center through the cloud and to the devices.

“We intend to be the platform for cloud and connectivity,” he said. “At the center is the HP cloud that provisions IT across a continuum of customers and market segments.”

The four-part strategy includes optimization of traditional environments, building and managing cloud-based architectures, enable seamless transformation to hybrid cloud models and define and delivering “the connected world from the consumer to the enterprise”.

In addition to IaaS, HP intends to play in the Platform-as-a-Service and Software-as-a-Service spaces. “HP has the ambition of being in all of the layers of the ... cloud,” Apotheker said. This includes private, public and hybrid cloud architectures.

Courtesy of Datacenter Dynamics, Published 14th March, 2011 by Yevgeniy Sverdlik

Crystal Ball

The Future versus the Now

Every day brings a new challenge and we are forced to apply exceedingly innovative solutions using what is available to us. As budgets are stretched and resources dwindle, innovation is the emerging technology in our shop. Learning to repurpose switches and reconfigure servers in more efficient ways is far more common than a capital improvement project.

As new ways of doing business become the norm in the transit industry we in technology are asked to provide a secure transport for the financial data of our patrons, we are asked to share the current location of our buses and trains and we are required to stay ever vigilant in defense of our web presence and services. As convenience goes up, security goes down, finding the balance between the services you offer and keeping you and your patron's information secure is a daunting task to be sure.

Defend Against the “Norm”

Due to the nature of growth in our environment we have been segregated and isolated into silos based on the project that brought the new service to the Authority. Steps that we have taken to bring the Enterprise together are small but will lead to total unification in the future. Placing a SAN Management Engine in front of our different storage solutions was a big step toward realizing this goal.

Vendors in the transit industry have been very slow to adopt current practices in the patching of Operating Systems, the evolution of workstations and servers, the use of virtualization and the concept of shared storage. As customers we have to demand that the vendors provide a solution that is sustainable and we can manage with the resources that are available to us today. If we do not have a DBA with experience in the vendor’s database engine, then they had best change the engine or on to the next vendor we go. Decouple your software from the hardware as hardware becomes obsolete at breakneck speeds.

Final Words

The strategy is clear –

“Protect yourself and your client today, build with tomorrow in mind and always live within your means”.

Questions?

Thank You!

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