Is Cloud-Based WMS an Option for Complex Distribution Centers?

Sponsored by:

HighJump™ SOFTWARE

Presented by:

Chuck Fuerst

Director, Product Strategy

PROMAT 2013
AN MHIA INTERNATIONAL EXPO
McCORMICK PLACE CHICAGO JAN 21-24
www.ProMatShow.com

Why Consider an Alternative to Installed Software?

"I'm not sure we have the expertise to administer this system."

"Our IT staff have so much on their plates."

"Sometimes we just don't upgrade because of the effort and expense – I feel like we're always behind."

"It's a pain – and expensive – having to keep our hardware current."

"I feel like we need an extra person just to manage hardware vendors, support contracts and insurance – what a headache!"

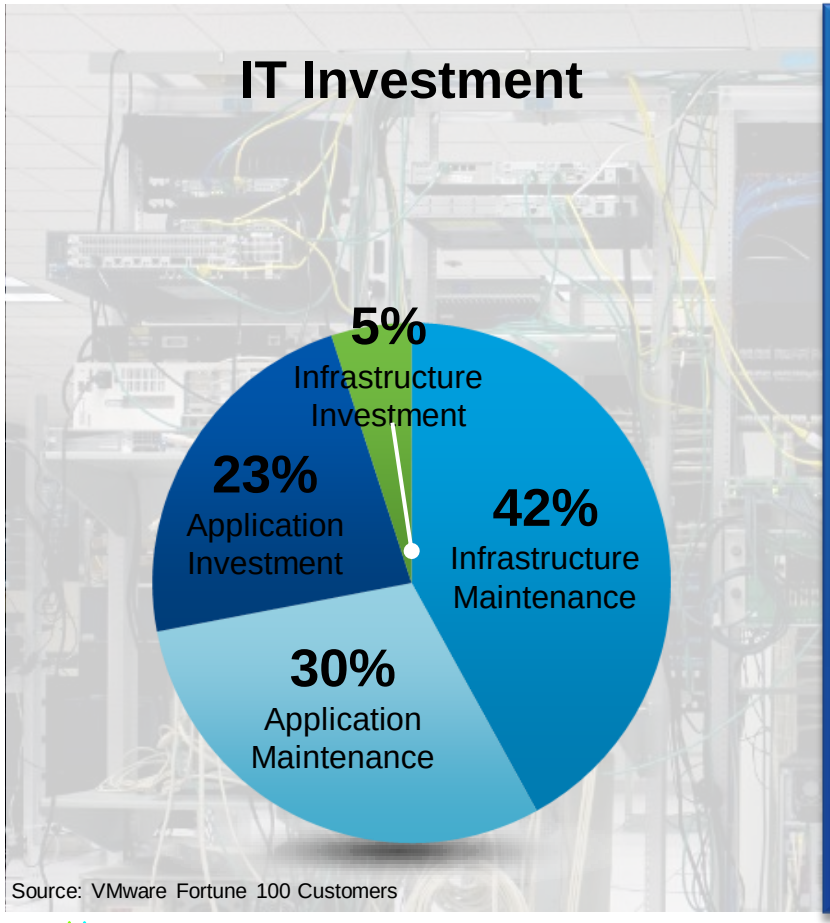
On-Premise is Not Always a Good Fit

- Lack of in-house expertise of systems
- Escalating costs of electric/space /insurance/etc.
- Low bandwidth of IT personnel (or none at all!)
- Difficulty keeping up-to-date with hardware
- Falling behind on software upgrades
- Slow system performance

On-Going Costs for On-Premise Software

- Hardware updates
- Additional software (back-up, monitoring, VM)
- Dedicated IT personnel
- Bandwidth
- Electric (power, cooling)
- Space/insurance/security
- Cost of system outages

IT May Not Enable Business Agility



Overwhelming complexity

+

Brittle infrastructure

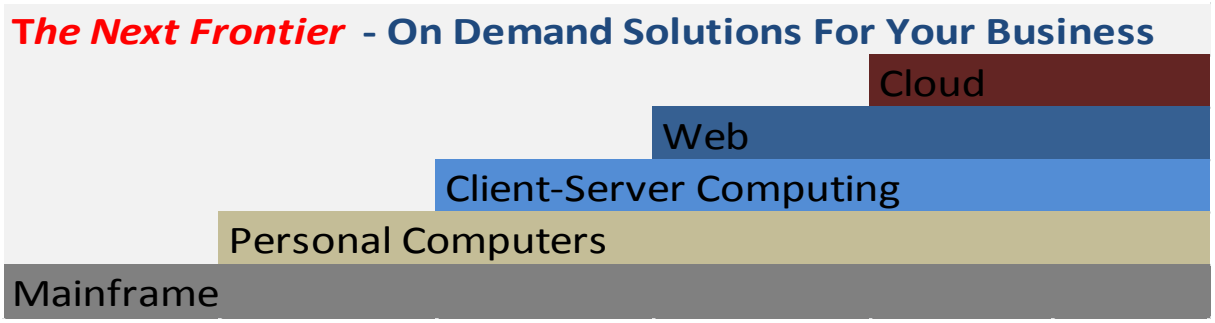
=

< 30% of IT budgets goes to innovation and competitive advantage

Operational demands limit business agility

What is Cloud Computing?

- Internet-based development and services
  - Servers, storage, or enterprise applications like email, security, backup/DR, voice, and WMS.
- Remotely hosted services or data
- Hosting environment is immediate, flexible scalable, secure and available.
- Ubiquitous
- Commoditized: You pay for what you want!



Cloud Architecture

Networks & Security

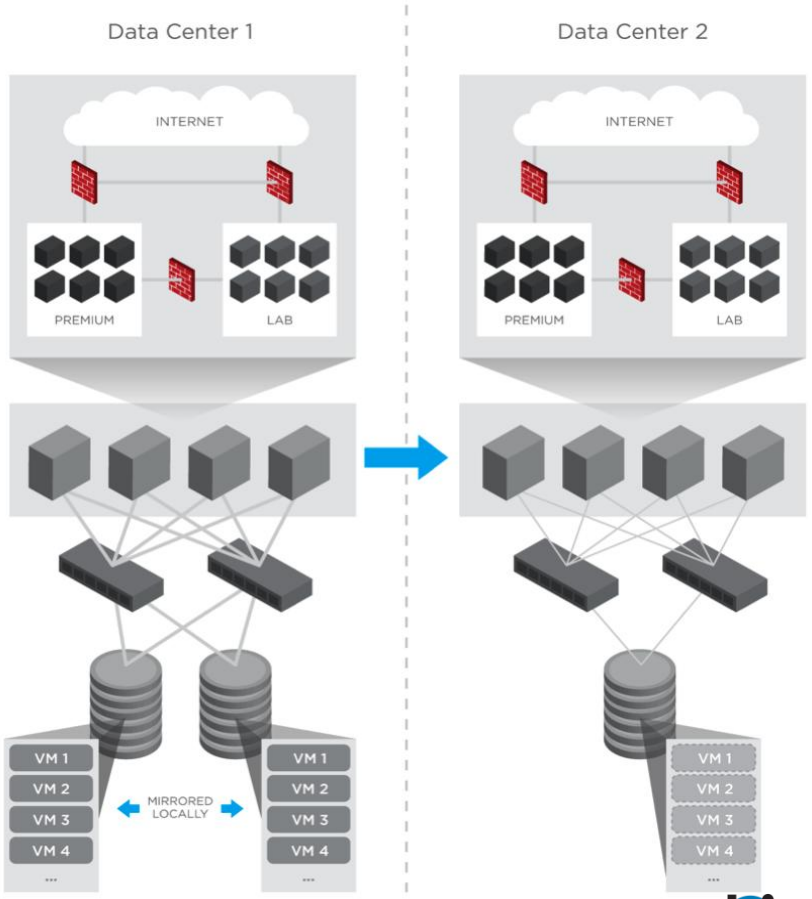
- Secure multi-tenancy architecture
- Secure private network with flexibility to connect via direct connection, VPN, or clier VPN
- Robust security measures including DDOS protection and IDP/IDS

Switching & Servers

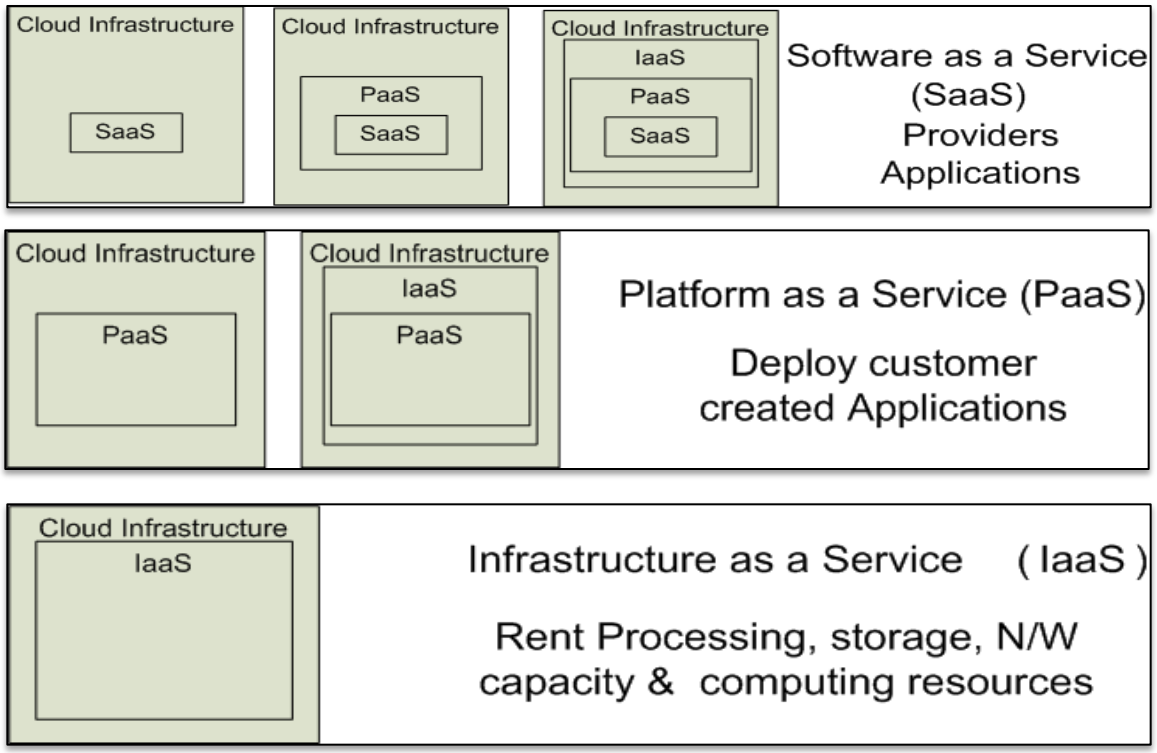
- Fully redundant enterprise-class equipment
- Dynamically allocate resources
- Higher performance than most virtual machines.

Dynamic IO (Storage)

- Intelligent provisioning and migration
- Three copies of data kept at all times
- Pay for capacity separately from performan



Cloud Service Models



Adopted from: Effectively and Securely Using the Cloud Computing Paradigm by Peter Mell, Tim Grance

Common Myths

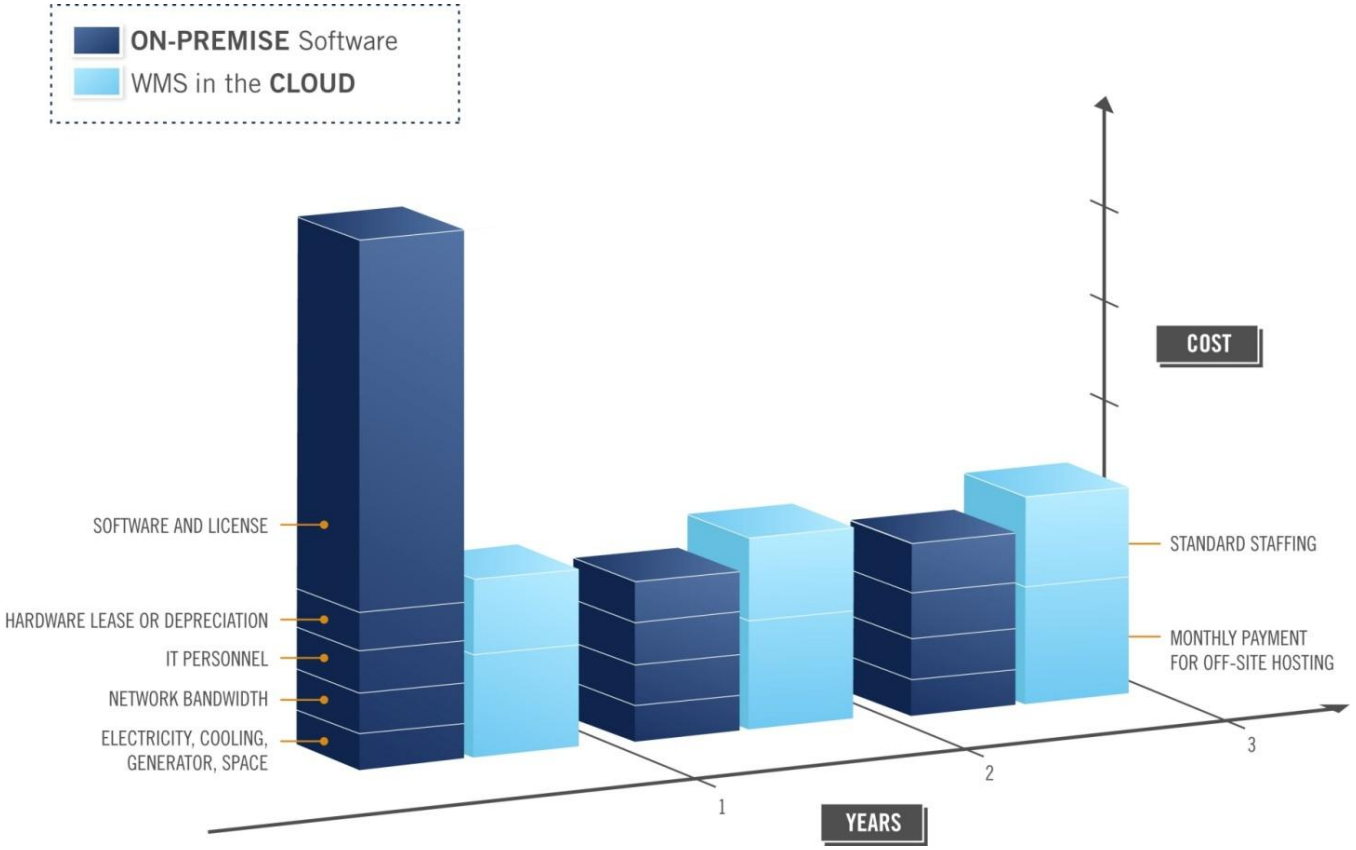
- Only a small business can gain any cost savings benefit out of cloud computing
- Data security issues make cloud applications riskier than in-house applications
- Critical applications do not belong in the cloud
- The main reason for companies to move to cloud computing is to save money
- Cloud applications are less reliable than running systems in-house because you can't fix them in the event of a crash

What Is WMS in the Cloud?

On-Premise WMS vs Cloud: Considerations

- *Economic*: Cloud-based deployments are subscription-based, minimizing up-front capital expenditures for perpetual software licenses and servers
- *Focus on core competencies*: Technology infrastructure may be managed more effectively by those who created it rather than your own IT organization
- *Cost of upgrades*: In the cloud, software upgrades and updates are managed as part of the service by the technology provider.

On-Premise WMS vs Cloud: Cost Comparison



Further Comparison

Component	On premise	Cloud
Pricing model	Perpetual software license	Monthly subscription
Hardware	Customer purchases	Included
OS licenses	Customer purchases	Included
Software licenses	Customer purchases	Included
Maintenance fees	18-22% of software cost	Included
IT operations (backups, patches, security, monitoring)	Customer performs	Included
Operating costs (electric, space, bandwidth, hardware upgrades)	Customer purchases	Included

Cloud-based WMS: Increased Service Levels

- High availability
  - 100 percent uptime outside of scheduled maintenance
- Back-up
  - Daily server back-ups
  - Full daily database back-up
- Disaster Recovery
  - In the event of disaster at primary, secondary datacenter will be brought up within hours
  - The last daily server image can be used to restore

Cloud-based WMS: Scalability, Elasticity

- Vertical
  - Add compute requirements as needed
- Autoscale
  - Dynamic addition of compute requirements
- Horizontal scaling with load balancing

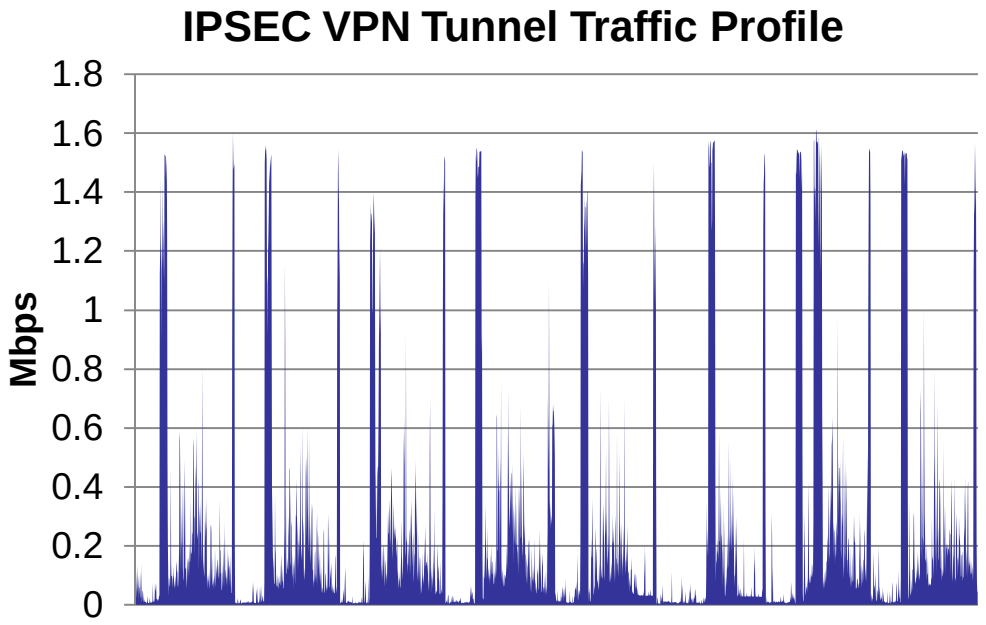
Cloud-based WMS: Secure

Threat	Countermeasure
Unauthorized physical access to cloud-based computing assets	Infrastructure access controls
Unauthorized system access	Information security controls (e.g. password encryption) Access controls (e.g. authentication, authorization) Identity management
Unauthorized access to data Theft of data	Data location management Database access controls
Virus and malware	Data security software
Hardware failure or disaster	Data reliability processes (e.g. automated backup and replication)

Network Connectivity Example

Actual cloud WMS customer with:

- Pick to light
- Automated cart picking
- Conveyor sortation
- Software interface



What About Automated Material Handling Equipment Integration?

- Integration with cloud-based WMS is possible with thorough testing

Customer Responsibilities

- Cloud connectivity
  - MPLS direct connect (preferred)
  - Hardware/software VPN
  - Redundant connectivity (if required)
- Wifi/RF network in DC
- Devices
  - Mobile computers/scanners
  - PCs

Business & IT Leaders: Cloud Enables Agility

- 80%+ associate business agility with revenue growth, cost reduction, and risk management
- 63% agree cloud can significantly impact business's agility, responsiveness
- Companies with enterprise-wide cloud deployments are ***3x more likely*** to achieve business agility that is "much better than competition"

SOURCE: Global Business Agility Survey, February 2011

Customer Success

- Full-service cold storage 3PL distribution company handles 13 million cases (260,000,000 lbs) of perishable food products annually.
- **Problem:** Wanted to minimize risk of downtown, reduce on-site IT team
- **Solution:** Cloud-based WMS
- **Early results:** Reduced staff head count by 22%, increased productivity by 40%

Questions to ask your cloud provider

- How thorough is the service-level agreement?
  - Should specifically address uptime guarantees, incident response times and remedies
- What levels of RTO and RPO do you offer?
  - The lower the RTO and RPO are, the more mission-critical the system is
- Where will my data reside and what backup and recovery procedures are included?
- Will I have the option to migrate to an on-premise solution if I want?

What is your cloud plan?

For More Information:

Speaker: chuck.fuerst@highjump.com

Home Page: www.highjump.com

Visit ProMat 2013 Booth #3576