Best Practices for Deploying Microsoft® Exchange in the Data Center

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Best Practices for Deploying Exchange in the Data Center

Join us for a live webcast and learn best practices for deploying Microsoft® Exchange on Microsoft Private Cloud to meet the unique needs of your organization while providing the flexibility to scale out as your organizational needs grow. The private cloud model provides much of the efficiency and agility of cloud computing along with the increased control and customization achieved through dedicated private resources.

Specifically, you will learn how to:

- Leverage next-generation Hitachi Virtual Storage Platform to achieve superior performance and scalability.
- Simplify Exchange deployments on Microsoft Private Cloud.
- Use Microsoft Private Cloud infrastructure to lower cost of ownership.
Hitachi Solutions for Microsoft Exchange

- Hitachi Unified Compute Platform (UCP) overview
  - Dynamic and efficient solution to meet the changing workloads for enterprise deployments of Microsoft Exchange Server.
  - Provides both physical and virtual configurations to host Exchange environments
  - Provides flexible storage by allowing the use of 60% to 90% of the storage
  - Provides a flexible compute environment by dynamically adjusting resources and lowering licensing requirements
  - Reduces operating costs by providing a dynamically adjusting infrastructure to manage performance
Reduced Exchange Management Cost Requires Infrastructure Transformation

Operations and Admin Cost Make Up ~80% of budgets

Customer Spending (US$B)

Source: IDC

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What Happens When a JBOD Drive Fails?

1) Drive begins to fail
2) Errors are generated
3) User experience preserved
4) IT investigates
5) Problem determined
6) Uninvolved teams disengage
7) Change control and team coordination active
8) Hardware replaced
9) Hardware installed in Microsoft Windows
10) Database created
11) Reseed completed
12) Resolution completed, normal operations resume
1) Drive begins to fail
2) 90% predicted, always protected
3) IT and Hitachi Data Systems are notified by array
4) No collateral impact
5) Drive is repaired by Hitachi Data Systems
6) IT notified
7) Resolution completed, normal operations resume
OFFERING CUSTOMER CHOICE

- On physical server
  - Deploy highly dense scalable solution for 5,000+ users per blade.

- Virtual (VMware or Microsoft Hyper-V®)
  - Leverage virtualization with Exchange environment and other Microsoft applications
Benefits of Physical Exchange Servers

HITACHI UNIFIED COMPUTE PLATFORM

- Reduces Microsoft licensing requirements
- Leverage latest Intel CPU performance to improve Exchange indexing and database operations
- Dedicated workload is not affected by other applications
- Ability to scale more storage LUNs than a VM
- Leverage enterprise storage array for Exchange databases
Benefits of Virtual Exchange Servers

HITACHI UNIFIED COMPUTE PLATFORM

- Reduces Microsoft licensing requirements
- Leverage latest Intel CPU performance to improve Exchange indexing and database operations
- Share workload with other application and maximize the return on investment
- Leverages virtualization enhancements to improve network availability on Exchange servers
UCP for Microsoft Exchange

HITACHI UNIFIED COMPUTE PLATFORM

- Provides pre-design solution for the customers.
- Help lower operational cost (opex) by simplifying Exchange infrastructure
- Helps meet growing demands of your Exchange environments
- Reduces architecture changes when environment grows
- Application optimized for performance, scale and availability
UCP Storage Solutions for Exchange

Servers with Embedded JBOD
- Commodity hardware
- Requires many instances
- Difficult to maintain

Hitachi UCP solutions
- Reduce cost
- Ensure system availability
- Offer widest choice

Embedded Disks
JBOD (RAID-less)

Dedicated Storage
40–60% Utilization
Larger Mailboxes
Lower-Cost Disks
Scale-Up

Storage Area Network
60–90% Utilization

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UCP Addresses Storage Workload Changes for Exchange

Day 1: Solution is operating without a problem
Day 365: Solution requirements changed

- Failure
- Waste
- Sprawl

New Exchange Server Deployment to Handle Additional User Workload

High IOPS or Storage Use
Low IOPS or Storage Use
Waste IOPS or Storage Use
UCP Addresses Compute Workload Changes for Exchange

EXCHANGE WORKLOAD CHANGES BY 10–50%

- CPU workload changes
  - UCP can add CPU to Exchange

- RAM workload changes
  - UCP can add RAM to Exchange

- Network workload changes
  - UCP can add network bandwidth to Exchange
UCP for Microsoft Applications

GROW AS YOU NEED RESOURCES

- System Center
- Hyper-V
- Microsoft SharePoint®
- Exchange
- VMware
- HCP
- Exchange
- SQL
Where Do I Go for Help?

- Contact your local Hitachi Data Systems representative
  - [http://www.hds.com/contact-sales/?WT.ac=us_inside_rm_cons](http://www.hds.com/contact-sales/?WT.ac=us_inside_rm_cons)

- Resources on HDS.com

- Hitachi ESRP listings
  - Hitachi Unified Storage VM Dynamically Provisioned 120,000 Mailbox Exchange 2013 Mailbox Resiliency Storage Solution
  - Hitachi Unified Storage VM Dynamically Provisioned 24,000 Mailbox Exchange 2013 Mailbox Resiliency Storage Solution
  - Hitachi Unified Storage VM Dynamically Provisioned 43,200 Mailbox Exchange 2013 Mailbox Resiliency Storage Solution
Questions and Discussion
Upcoming WebTechs

- **WebTechs**
  - *A Perfect Fit: Converged Solution for the Software-Defined Data Center*, February 26, 9 a.m. PT, noon ET
  - *On-ramps and Objects: Superior File Services for Distributed IT*, March 12, 9 a.m. PT, noon ET

- **Check** [www.hds.com/webtech](http://www.hds.com/webtech) for
  - Links to the recording, the presentation, and Q&A (available next week)
  - Schedule and registration for upcoming WebTech sessions
  - Questions will be posted in the HDS community at [http://community.hds.com/groups/webtech](http://community.hds.com/groups/webtech)