



Efficient hosting of MS Exchange 2010 and Sharepoint on a Cisco, NetApp, and VMWare Validated Architecture

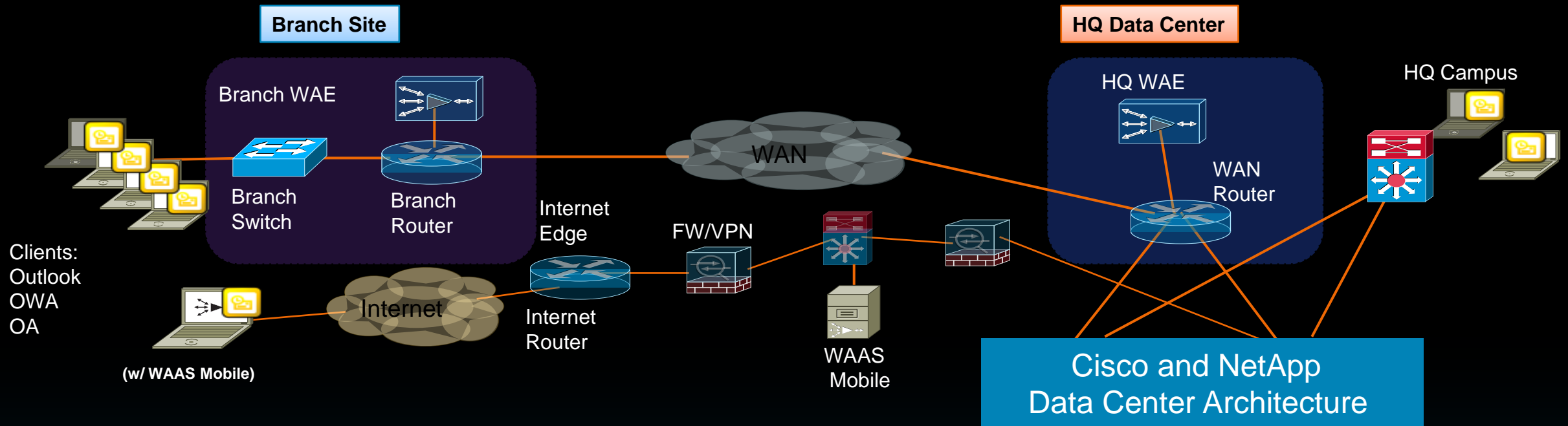
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Agenda

- End-to-end network architecture for Exchange and SharePoint
- Optimizing application delivery to the end user
- Virtualization of Exchange 2010 in the DC

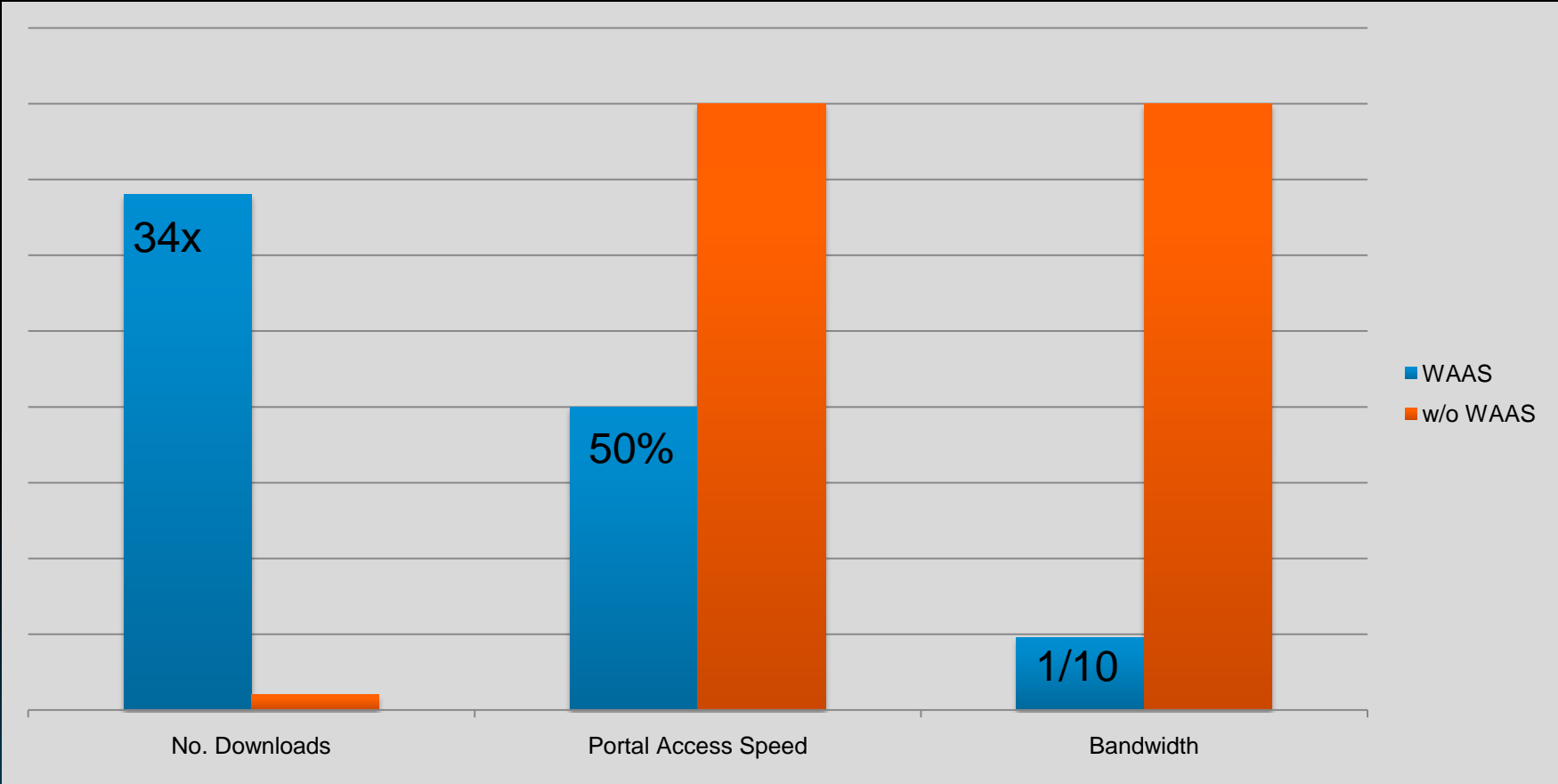
Cisco WAAS for Branch and Remote Users



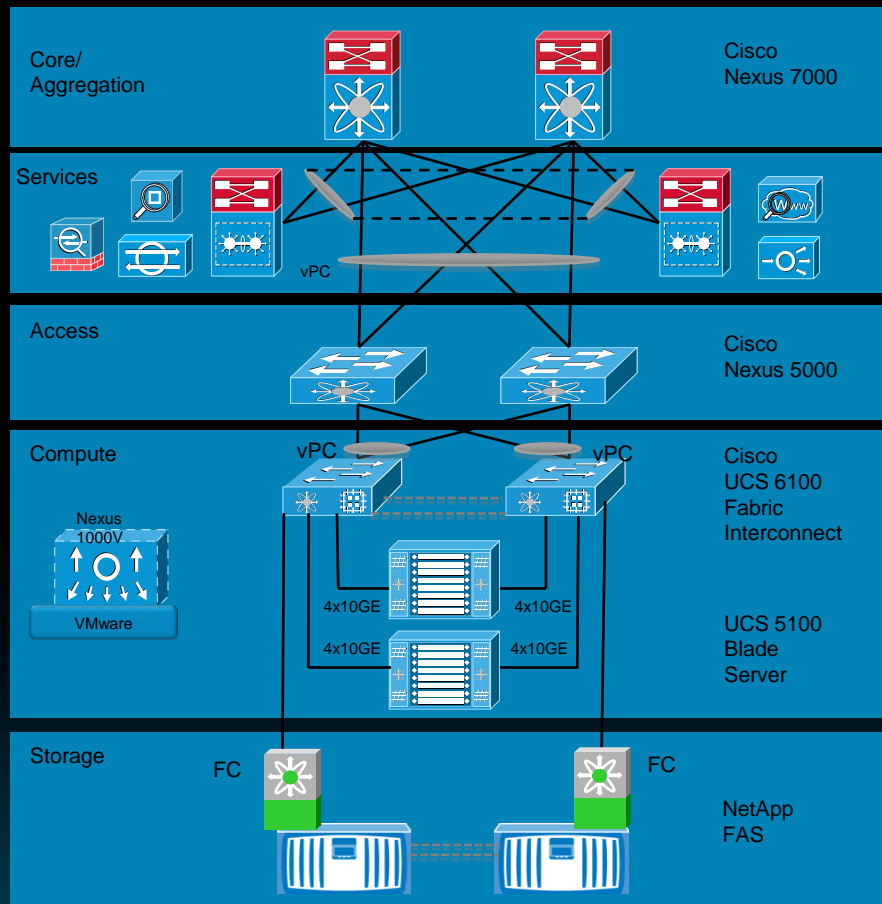
- WAN optimization of Exchange Outlook, Outlook Anywhere, OWA
- WAN optimization of SharePoint file uploads/downloads
- WAE appliance in the DC, WAE appliance/module in the branch
- WAAS Mobile software client for the mobile user

WAAS Performance Results

SharePoint Results With and Without WAAS

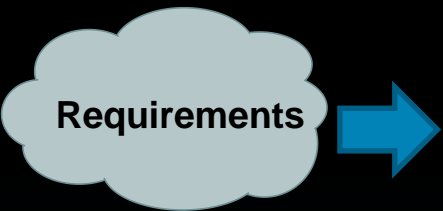


Cisco and NetApp Data Center Architecture



- High Availability
- Network and Device Virtualization
- ACE, GSS, WAAS, Firewall (Stargate*), IPS, NAM
- Nexus 1000V
- VSphere 4
- Cisco Unified Computing System
- NetApp FAS- Storage Virtualization, FlexVol, RAID-DP, Deduplication, Snapshot

Sizing UCS for 10,000 mailboxes in Exchange 2010 scenario



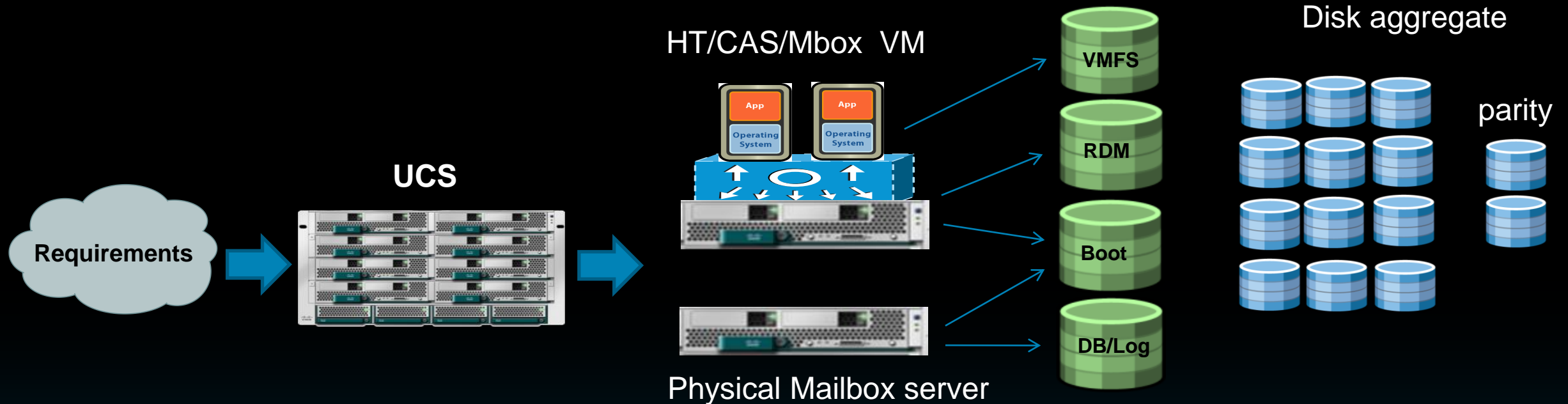
UCS



Processor Model	CINT2006 Rate Baseline	CFP2006 Rate Baseline	Megacycles per Core
x5470 (3.33 GHz)	139	76	3300*
B-Series X5570 (2.93 GHz)	239	194	6600
B-Series X5550 (2.66 GHz)	226	186	6300
B-Series E5540 (2.53 GHz)	201	162	5570
B-Series E5520 (2.26 GHz)	187	154	5200
B-Series L5520 (2.26 GHz)	186	154	5200

- Mailbox server: megacycles, DB cache, active/passive, DAG
- Server core ratios for other roles: Hub Transport, CAS, AD/DNS
- UCS C-series SPEC data for C460M1(X7560), C200M1 and C210M1(X5500 series)

Integrating UCS, ESX 4, Data OnTAP 7 for Exchange 2010



- Isolation of Exchange data, DAG, management, Vmotion, and ERSPAN traffic
- Storage provisioning based on NetApp best practices for Exchange 2010
- VMWare best practices for Exchange 2010 <http://www.vmware.com/solutions/business-critical-apps/exchange/resources.html>

Resources

- Cisco Validated Designs for the Data Center on DesignZone:
http://www.cisco.com/en/US/netsol/ns743/networking_solutions_program_home.html
- NetApp booth 601 demos
 - Imagine Virtually Anything (NetApp, VMWare, Cisco)
 - Storage Solutions for the Cloud
 - Storage for Business Applications (inc. Oracle 11 and Exchange 2010)
- NetApp sessions here at VMWorld:
EA8547: Disaster Recovery of Microsoft Exchange, SQL Server, and SharePoint Server (Thursday Sept. 2, 1:30-2:30pm)



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