

HP/Microsoft Exchange Server 2007 example configurations

Now it's easy to select the optimal server for customers' Microsoft® Exchange Server 2007 deployment. All the performance testing and fine-tuning have been done to simplify deployment, management and maintenance over the entire lifecycle. The example configurations presented here are based on best practices, extrapolation based on current test knowledge, and performance assumptions through discussions with Microsoft and HP resources. For more example configurations, refer to the HP/Microsoft Exchange Solution Network Sales and Technical Training Kit companion CD or visit www.hp.com/solutions/microsoft/exchange.

Assumptions

- These are examples. There are many additional server/storage options, which would also meet the requirements
- User profiles:
 - .5 IOPs/u; "medium" user profile (CPU burn rates)
 - 1.7x multiplier for deleted items, maintenance and recovery space
 - ~90% fill factor on database disks
 - Assumes 80% concurrency
- Storage choices:
 - Unless otherwise noted, RAID10 is used for databases, and logs and databases on separate spindles (above 100 users).
- No consideration in these examples for backup solutions, spares (unless otherwise noted), recovery storage groups, VSS plexes, etc.



ProLiant DL320

250 User, LCR, DL320s, SA P400

Item	Detail
Users	250
Availability	Local Continuous Replication (LCR)
Server	Mailbox/Hub/CAS: DL320s with 4GB
Storage	Smart Array P400/256MB controller with BBWC and internal storage
Mailbox size	750MB
Performance	.5 IOPs/user - medium
Storage groups/DB size	2 SGs / 105GB databases
Assumptions	Assumes separate RAID10 for production and LCR databases, source logs on RAID 1, and target logs on system disks. Also assumes single controller LCR configuration

Quantity	Part Number	Description
1	415900-001	HP DL320s 3060 A1 US Svr
1	HA104A3	HP 3y 4h 24x7 HW Support
1	HA104A3 87D	HP DL320sG1 Storage Supp
1	HA113A1	HP Installation Service
1	HA113A1 5LP	HP Install DL320sG1 SVC
3	432804-B21	HP 1GB UB PC2-5300 1x1GB Kit
12	431944-B21	HP 300GB 15K SAS 3.5 SP HDD

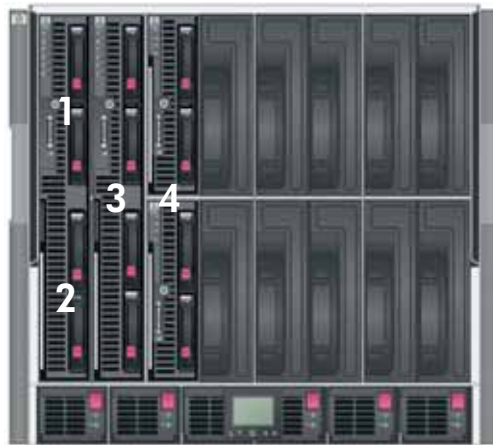


500 User, CCR, DL365, SA E200i

Item	Detail
Users	500
Availability	Cluster Continuous Replication - CCR
Servers	Mailbox: 2 x DL365 with 6GB(#'s 1 & 2) Hub/CAS: 1x DL365 with 4GB (#3)
Storage	Mailbox: MSA1510i (iSCSI interconnect) with 14 U320 SCSI disks (#4) Hub role: Smart Array E200i with BBWC and two internal disks dedicated to hub functions
Mailbox size	750MB
Performance	.5 IOPs/user - medium
Storage groups/DB size	4 SGs / 105GB databases
Assumptions	Single MSA1510i with dual controllers and separate disks is acceptable for CCR; logs local to mailbox servers (RAID1 set). One spare for each RAID10 set (CCR source and target)

500 User, CCR, DL365, SA E200i (continued)

Quantity	Part Number	Description
3	411358-001	HP DL365G1 2210 US Svr
3	HA104A3	HP 3y 4h 24x7 HW Support
3	HA104A3 7G2	Proliant Server DL36x HW Supp
3	408853-B21	HP 4GB Reg PC2-5300 2x2GB Kit
2	408851-B21	HP 2GB Reg PC2-5300 2x1GB Kit
1	346914-B21	128MB battery backed write cache enabler option kit
8	375861-B21	HP 72GB 10K SAS 2.5 Hot Plug Drive
4	431958-B21	146GB 10K SAS 2.5 HP HDD
3	264007-B21	HP Slim 8X/24X DVD-ROM Drive
3	399542-B21	HP Pwr Sply Assy DL36X Hot Plug PFC Kit
1	AD537A	HP MSA1510i Controller Shelf
2	302969-606	HP MSA30 S-B Rack FIO Enclosure
1	302969-606 0D1	Factory integrated
14	350964-B22	HP 300GB 10k Ultra320 UNI Drive
14	350964-B22 0D1	Factory integrated
1	HA110A1	HP 1y Support Plus 24 SVC
1	HA110A1 7GT	MSA20/30/50 Support
1	HA110A1 8PN	HP MSA1500 Support
1	AD539A	HP MSA1510i Controller Module
2	254786-B21	HP 256MB Battery-Backed Cache Module
1	AD538A	HP MSA1510i Ethernet iSCSI Module



1&2 BL460c

3&4 BL480c



5- MSA1510i

1000 User, CCR, BL460c/BL480c, MSA1510i

Item	Detail
Users	1,000
Availability	Cluster Continuous Replication - CCR
Servers	Mailbox: 2 x BL460c with 8GB (#'s 1 & 2) Hub/CAS: 2 x BL480c with 8GB (#'s 3 & 4)
Storage	MSA1510i (iSCSI interconnect) with 28 disks (#5)
Mailbox size	750MB
Performance	.5 IOPs/user - medium
Storage groups/DB size	8 SGs / 105GB databases
Assumptions	Single MSA1510i with dual controllers, dual path, separate shelves and disks (with spares) for target and source is acceptable for CCR

Quantity	Part Number	Description
1	403320-B21	HP BLc7000 1 PH 2 PS 4 Fan Trl ICDC Kit
2	HA104A3	HP 3y 4h 24x7 HW Support
1	HA104A3 7FX	c7000 Enclosure HW Supp
1	HA114A1	HP Installation and Startup Service
1	HA114A1 5FY	HP Startup BladeSys c-Class Infrastr SVC
2	416667-B21	HP ProLiant BL480c G1 5140 2G 1P Svr
2	404664-B21	HP ProLiant BL460c G1 5063 2G 1P Svr
8	397413-B21	HP 4GB FBD PC2-5300 2x2GB Kit
12	431958-B21	146GB 10K SAS 2.5 HP HDD
2	405148-B21	HP SA P-Series 512MB SA BBWC Kit
2	406770-B21	HP NC373m PCI Express Dual Port Multifunction Gigabit Server Adapter for c-Class BladeSystem
4	410917-B21	HP BLc Bnt 1GbE2 Switch Opt Kit
4	HA104A3 7FY	c-Class Server Blade HW Supp
4	HA114A1 5CY	c-Class Server Blade HW Install SVC

Quantity	Part Number	Description
1	AD537A	HP MSA1510i Controller Shelf
2	302969-606	HP MSA30 S-B Rack FIO Enclosure
2	302969-606 OD1	Factory integrated
28	350964-B22	HP 300GB 10k Ultra320 UNI Drive
28	350964-B22 OD1	Factory integrated
1	HA110A1	HP 1y Support Plus 24 SVC
2	HA110A1 7GT	MSA20/30/50 Support
1	HA110A1 8PN	HP MSA1500 Support
1	AD539A	HP MSA1510i Controller Module
2	254786-B21	HP 256MB Battery-Backed Cache Module
1	AD538A	HP MSA1510i Ethernet iSCSI Module
1	AA988A	MSA 1500 Dual Channel SCSI I/O Module

HP Microsoft Exchange Server 2003 example configuration

Assumptions

- Example configuration based on best practices, extrapolation based on current test knowledge, and performance assumptions through discussions with Microsoft and HP resources.
- This is an example. There are many additional server/storage options, which would also meet the requirements.
- User profiles
 - .7 IOPS/u; "medium" user profile (CPU burn rates)
 - 1.6 x multiplier for deleted items, maintenance and recovery space
 - ~90% fill factor on database disks
 - Assumes 100% concurrency
 - Minimum 165MB mailboxes
- Storage choices
 - Unless otherwise noted, RAID10 is used for databases, and logs and databases on separate spindles (above 100 users).
- No consideration in this example for backup solutions, spares (unless otherwise noted), recovery storage groups, VSS plexes



ProLiant DL585 G2



MSA1510i



MSA30

1000User, HP ProLiant DL585G2, HP StorageWorks MSA1510i

Item	Detail
Users	1000
Server	Mailbox/Front End: DL585 G2 with 4GB
Storage	MSA1510i with MSA30
Availability	Microsoft Clustering: No
Mailbox size	165 MB
Performance	.7 IOPs/user -medium
Storage groups/DB size	2 SGs, 6 MDBstotal/45GB databases
Assumptions	System, logs and databases on same disks (RAID10)

Quantity	Part Number	Description
1	413929-001	HP DL585 G2 8220 2.8 2P PC5300 US Svr
2	375861-B21	HP 72GB 10K SAS Hot Plug Hard Drive
1	HA114A1 5A1	500 Series Hardware Installation
1	HA104A3	HP 3y 4h 24x7 HW Support (included)
1	AD168A	HP FC2243 4GB PCI-X 2.0 DCHBA
1	HA114A1	HP Installation and Startup Services (included)
1	AD537A	MSA1510i controller shelf
2	254786-B21	HP 256MB Battery-Backed Cache
1	AD539A	HP MSA1510i Controller Module
1	302969-B21	HP StorageWorks MSA30 SB Storage
10	286778-B22	HP 72GB 15k U320 Pluggable Hard Drive

