

# MPE/iX 7.5 and HP e3000 PA-8700 performance update



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# Overview



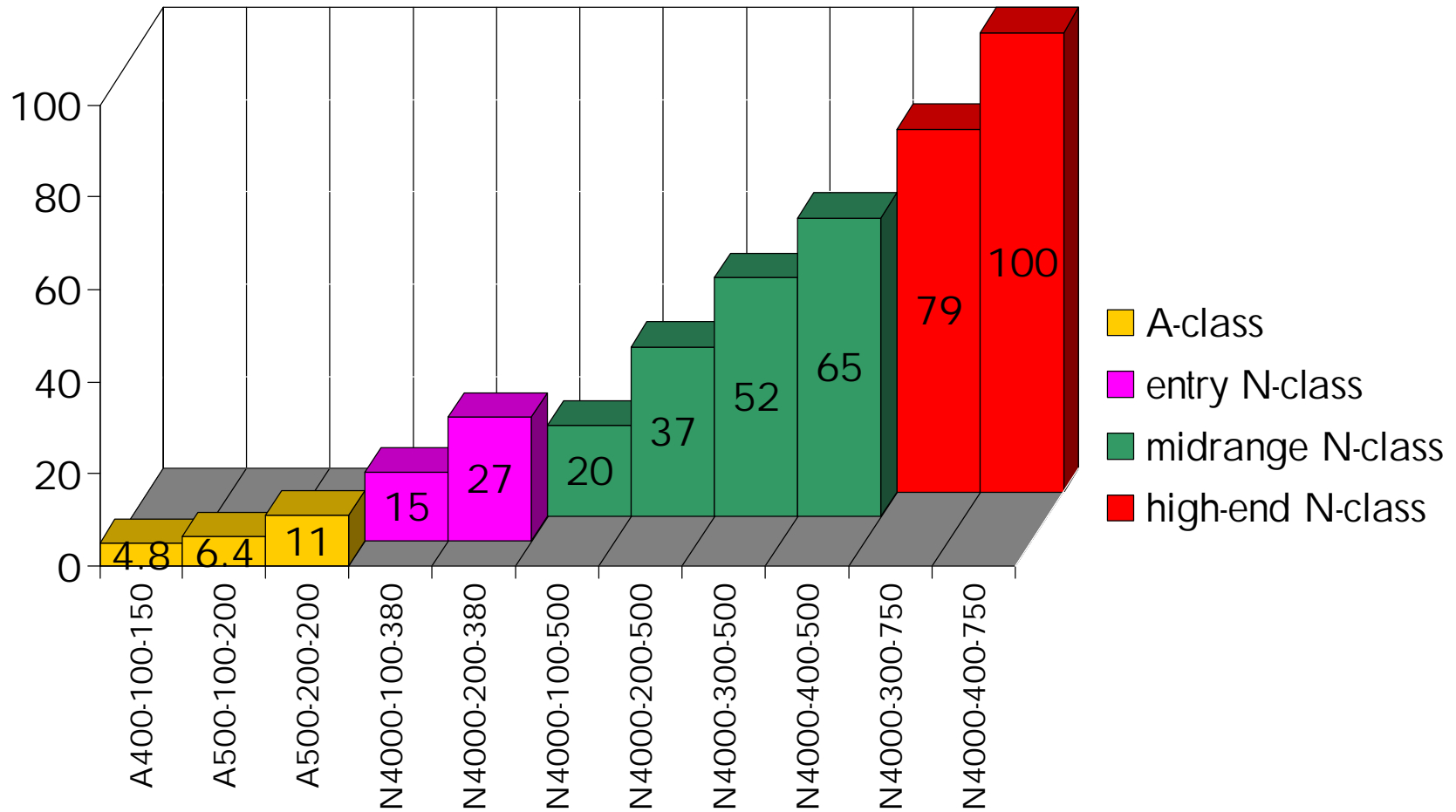
- New HP e3000 PA-8700 systems
- Recommended upgrade paths
- Memory “rules of thumb”
- New features of MPE/iX 7.5
- MPE/iX 6.5 and 7.0 performance patches

# New HP e3000 PA-8700 systems



- New high-end N-class systems with 750 MHz processors, providing higher levels of both OLTP and batch performance.
- New mid-range N-class systems with effective clock speeds of 380 and 500 MHz.
- New option for a second 380MHz processor.
- New entry-level A-class systems at DOUBLE the performance of the existing A-class - now based on 650 MHz processors.

# New HP e3000 A-class and N-class performance range



# New highest-performing HP e3000 OLTP system



- The new N4000-400-750 delivers **100** MPE/iX Relative Performance Units.
- Over **35% gain** in OLTP system throughput compared to the previous high-end system, the N4000-400-550 (**72** units).
- **Almost double** the OLTP throughput of the Series 997/1200 (**52.3** units).
- Can be configured with 3 or 4 processors.



# New mid-range N-class systems



- N4000-100-380 delivers **15** MPE/iX relative performance units.
- New option to add a second processor takes this up to **27** units.
- N4000-100-500 delivers **20** MPE/iX relative performance units.
- Up to three additional processors can take this up to **37**, **52**, or **65** units.

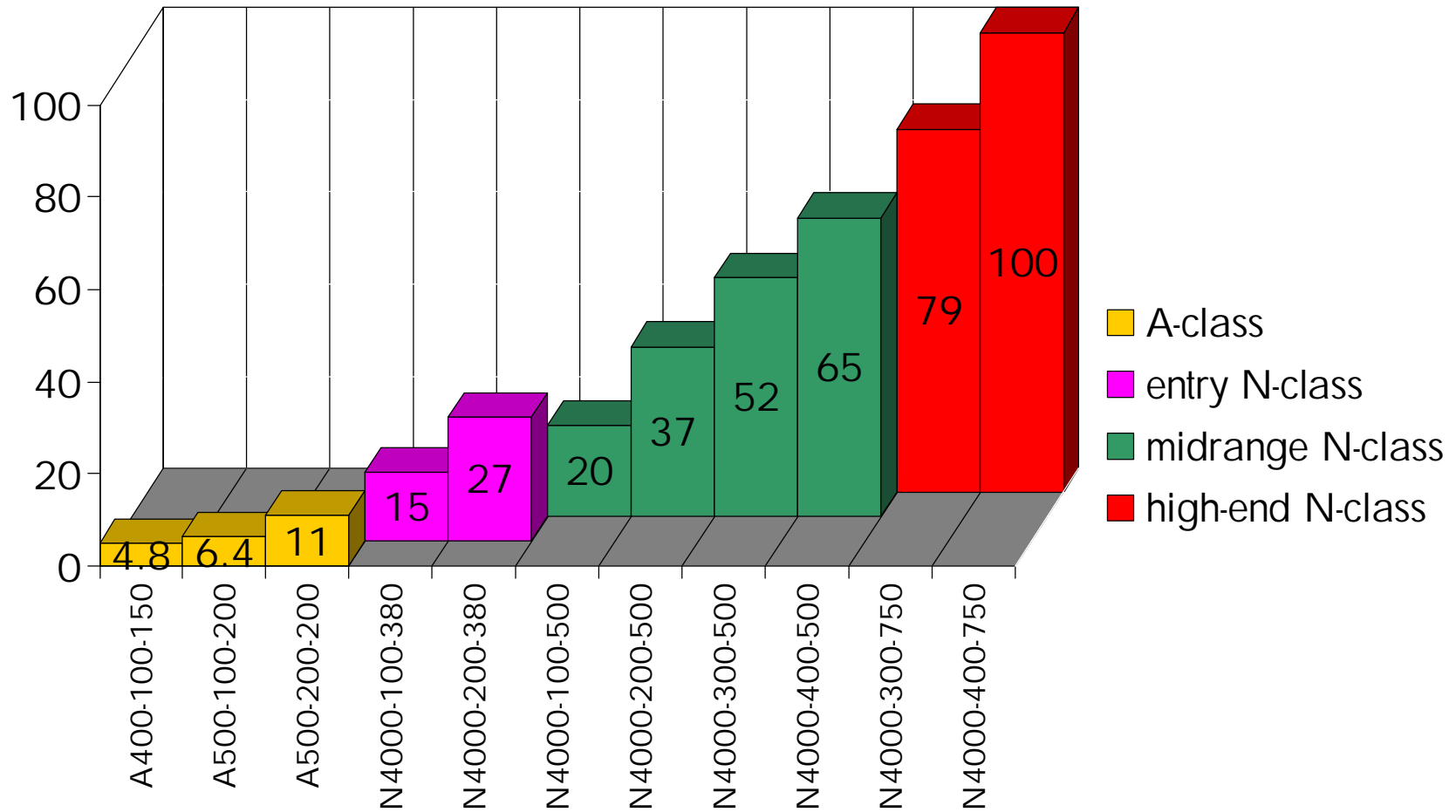
# New entry-level A-class systems



- A400-100-150 delivers 4.8 MPE/iX relative performance units – that's **MORE THAN DOUBLE** the performance of the previous A400 (at 2.2 units).
- A500-100-200 delivers 6.4 units – **DOUBLE** the previous A500 (3.2).
- An optional second processor in the A500 can take it up to 11 performance units – **DOUBLE** the previous A500 2-way (5.4).



# New HP e3000 A-class and N-class performance range



# Recommended upgrades to the N4000-400-750



- New system:  
N4000-400-750 100
- Upgrade from:  
N4000-400-550 72  
N4000-400-440 57  
Series 997/1200 52.3

# Recommended upgrades to the N4000-300-750



- New system:  
    N4000-300-750                      79
  
- Upgrade from:  
    N4000-300-550                      58  
    N4000-300-440                      46  
    Series 997/1000                      48

# Recommended upgrades to the N4000-400-500



- New system:  
N4000-400-500 65
- Upgrade from:  
N4000-300-440 46  
Series 989/650 43.8  
Series 997/800 39

# Recommended upgrades to the N4000-300-500



- New system:  
N4000-300-500 52
  
- Upgrade from:  
N4000-200-440 33  
Series 989/450 35.2  
Series 989/600 33.2  
Series 997/600 32.2



# Recommended upgrades to the N4000-100-500



- New system:  
N4000-100-500 20
- Upgrade from:  
N4000-100-330 13  
Series 989/150 11.1  
Series 997/200 13.2  
Series 969/220 12.4

# Recommended upgrades to the N4000-200-380



- New system:  
    N4000-200-380                      27
  
- Upgrade from:
  - Series 989/200                      17.2
  - Series 979/200                      14.6
  - Series 969/400                      16.4
  - Series 959/400                      14.3



# Recommended upgrades to the N4000-100-380



- New system:  
N4000-100-380 15
- Upgrade from:  
N4000-100-220 9  
Series 989/100 9.1  
All older 9x9/100 4.6 – 7.9  
All 929, 939 3.3 – 5.4

# Recommended upgrades to the A500-200-200



- New system:  
A500-200-200 11
- Upgrade from:  
A500-200-140 5.4  
Series 988 5.1  
Series 987/150 5.9  
Series 987/200 7.8

# Recommended upgrades to the A500-100-200



- New system:  
A500-100-200 6.4
- Upgrade from:  
A500-100-140 3.2  
Series 977, 978 3.4  
Series 987/100 4.2

# Recommended upgrades to the A400-100-150



- New system:  
A400-100-150 4.8
- Upgrade from:  
A400-100-110 2.2  
Series 967, 968 2.6 – 2.8  
Smaller 9x7, 9x8 1.3 – 2.1

# Memory “rules of thumb” – PA-8700 system minimums



- **1.5 – 2 GB** per processor  
for N4000 750 MHz systems
- **1 GB** per processor  
for N4000 380 or 500 MHz systems
- **512 MB** per processor  
for the new A500 system
- **256 MB**  
for the new A400 system

# Memory “rules of thumb” – when to add more



- For memory-intensive applications (such as those using 4GLs)
- For heavy batch processing
- For a high number of online user sessions
- When adding processors to a system

# New features of MPE/iX 7.5 — FibreChannel



- Native FibreChannel PCI I/O cards are now supported in N-class and A-class systems, allowing FibreChannel disks to be directly connected to these systems.
- Provides greater I/O bandwidth than Ultra SCSI or Fast/Wide SCSI, which can help greatly on systems with heavy disk I/O.

# New features of MPE/iX 7.5 — FibreChannel



- FibreChannel benchmarks show big performance gains for disk-intensive processing.
- Six new system processes were added to MPE/iX 7.5 for FibreChannel, so the Transaction Manager (XM) Checkpoint Processor now starts with System Process 17, instead of Process 11.



# New features of MPE/iX 7.5 – TurboIMAGE large file datasets



- Can now use a single large file (128GB) instead of a jumbo dataset with chunks
- Supports Dynamic Dataset Expansion
- Avoids POSIX-style names for DB files
- Jumbos may perform better during XM checkpoints in big OLTP environments

# New features of MPE/iX 7.5 – TurboIMAGE Scalability II



- Enhanced High Water Mark (EHWM) may provide improved concurrency for DBPUT and DBDELETE on busy OLTP systems.
- Can provide even greater scalability than the existing DSEM and Prefetch options.
- Disabled by default; enabled with DBUTIL.
- Best performance improvement is seen on systems with six or more processors.

# New features of MPE/iX 7.5 — PLFD Expansion



- A process can open more files and/or sockets, up from 1024 to 4096.
- A new hashing algorithm provides better performance when a process has more than 512 files and/or sockets open.

## Other new features of MPE/iX 7.5



- The number of users that can connect to a single user logging process has been increased from 1140 to 2851.
- LDEV 1 can now be greater than 4GB in size. MPE/iX system files must still reside in the first 4GB on this disk.

# Review of some recent high-end features



- An N4000 system can now have up to 12000 processes, by enabling the “BIGPIN” feature in SYSGEN (introduced in 7.0 Express 1).
- Systems needing additional processes can replace the :RUN command with the :NEWCI command, to eliminate one process per user (introduced in 6.5).

# MPE/iX 6.5 and 7.0 performance patches



- Two patches were released in 2001, which may improve performance on some larger systems running MPE/iX 6.5 or 7.0:
  - MPELXH8 (Memory Manager)
  - MPELXH3 (TurboSTORE)
- Both patches are included in MPE/iX 7.5.

# MPE/iX 6.5 and 7.0 performance patches



- The latest 6.5 and 7.0 Power Patch releases also contain these patches.
- 6.5 Power Patch 3 includes:
  - MLELXQ5, which superseded MPELXH8, and
  - MPELXY4, which superseded MPELXH3.
- 7.0 Power Patch 2 includes:
  - MPEMXB2, which superseded MPELXH8, and
  - MPEMX64, which superseded MPELXH3.



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