# Automated provisioning and management of blades in a SAN environment


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# Expectations and objectives (1 of 2)

- Wouldn't it be nice to turn a new blade server on and have it automatically set up with the correct role/profile?
- Objective 1 – Deploy a web server including applications, patches, and ROM updates with **zero** user intervention

# Expectations and objectives (2 of 2)

- Wouldn't it be nice to have a pool of spare servers that would "take over" if a production server fails?
- Objective 2 – Configure a spare blade server to automatically "take over" if the primary web server fails.

# Hands-on activity 1 outline

1. Create “Server Profile” (RDP job)
   a) Flash ROM
      - Server system ROM
      - HBA ROM
   b) Configure storage subsystem
      - Create array and LUN on MSA1000
      - Configure Selective Storage Presentation (SSP)
   c) Configure hardware options
      - Configure HBA
      - Configure RBSU
   d) Deploy Windows Server 2003 to SAN drive
   e) Install software updates
      - HP PSPs
      - Microsoft hotfixes
   f) Install “utility” applications
      - Norton Antivirus
      - Winzip
      - MS Admin Tools
   g) Install Internet Information Server (IIS)
2. Pre-assign “Profile” job to blade slot
3. Insert blade server into pre-assigned slot
4. Watch the magic happen

# Hands-on activity 2 outline

1. Configure spare blade server
   a) Write/edit script to reconfigure MSA1000
      - Gather HBA information from blade 2 (manually or automatically) and write it to text file
      - Read and write the WWID for the MSA1000 and the LUN
      - Power off blade 2
   b) Configure HP SIM for a failure trap
   c) Create RDP script to power on blade 2 through iLO
2. Fail blade 1
3. Watch the magic happen (or Brad/Jason do the tap dance)

# Prerequisites

- ProLiant systems technologies
- SAN fundamentals
- Microsoft Windows Server 2003 administration and troubleshooting
- Basic RDP knowledge
- Basic HP SIM 4.1 knowledge
- Attendance of HP World 2004 session *4043 – HP ProLiant blade planning and deployment* **or** equivalent blade server deployment knowledge **or** team up with someone knowledgeable

# Classroom setup and configuration overview

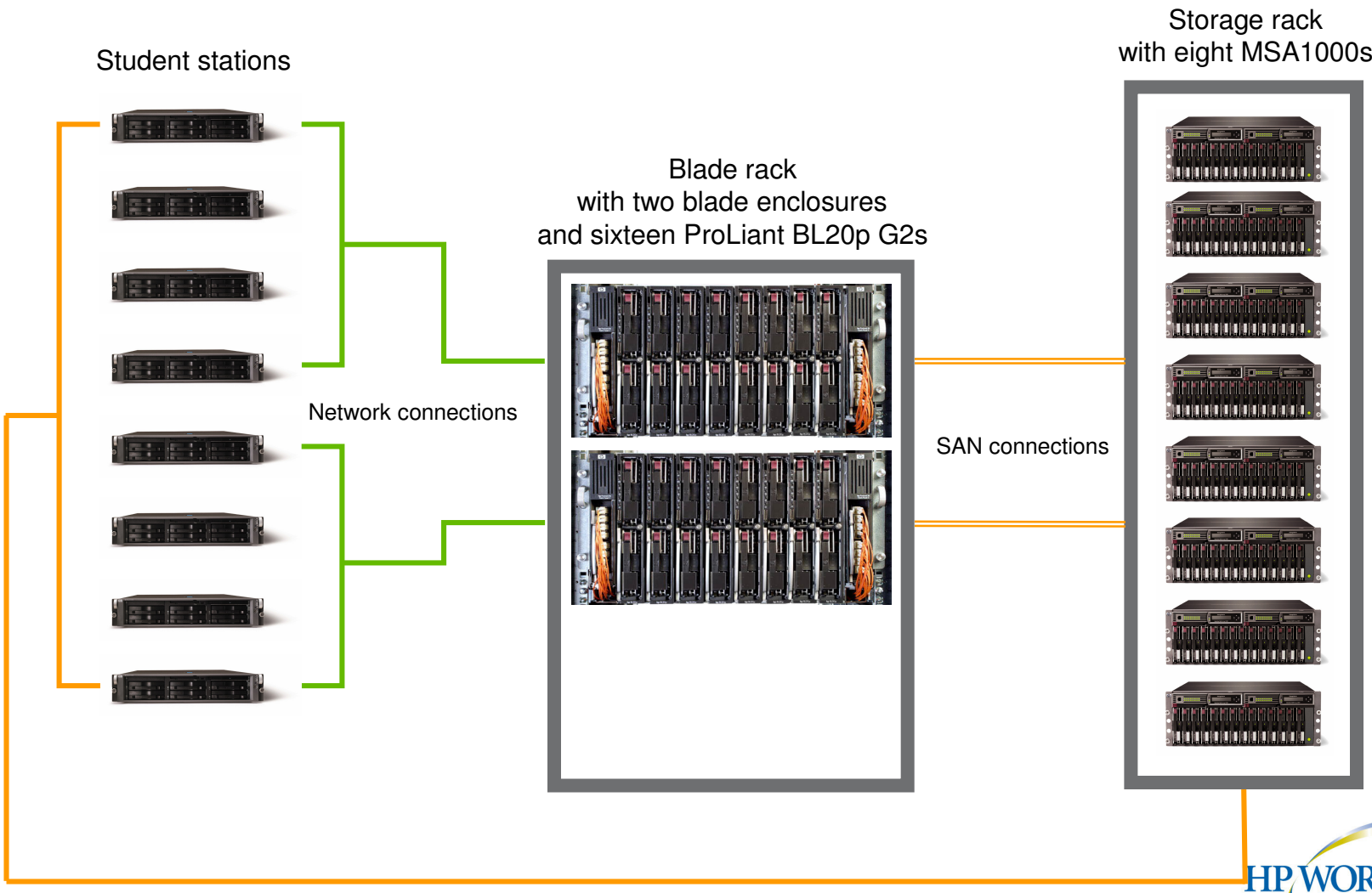
# Classroom setup and configuration (1 of 2)

- Blades
  - Two p-Class blade enclosures
  - Eight ProLiant BL20p G2 blades in each enclosure
  - Each blade server with:
    - Two disk drives
    - Fibre Channel mezzanine
  - One BL p-Class power enclosure with four power supplies
- Storage rack
  - Eight MSA1000s
  - Each MSA1000 with a SAN switch and two disk drives

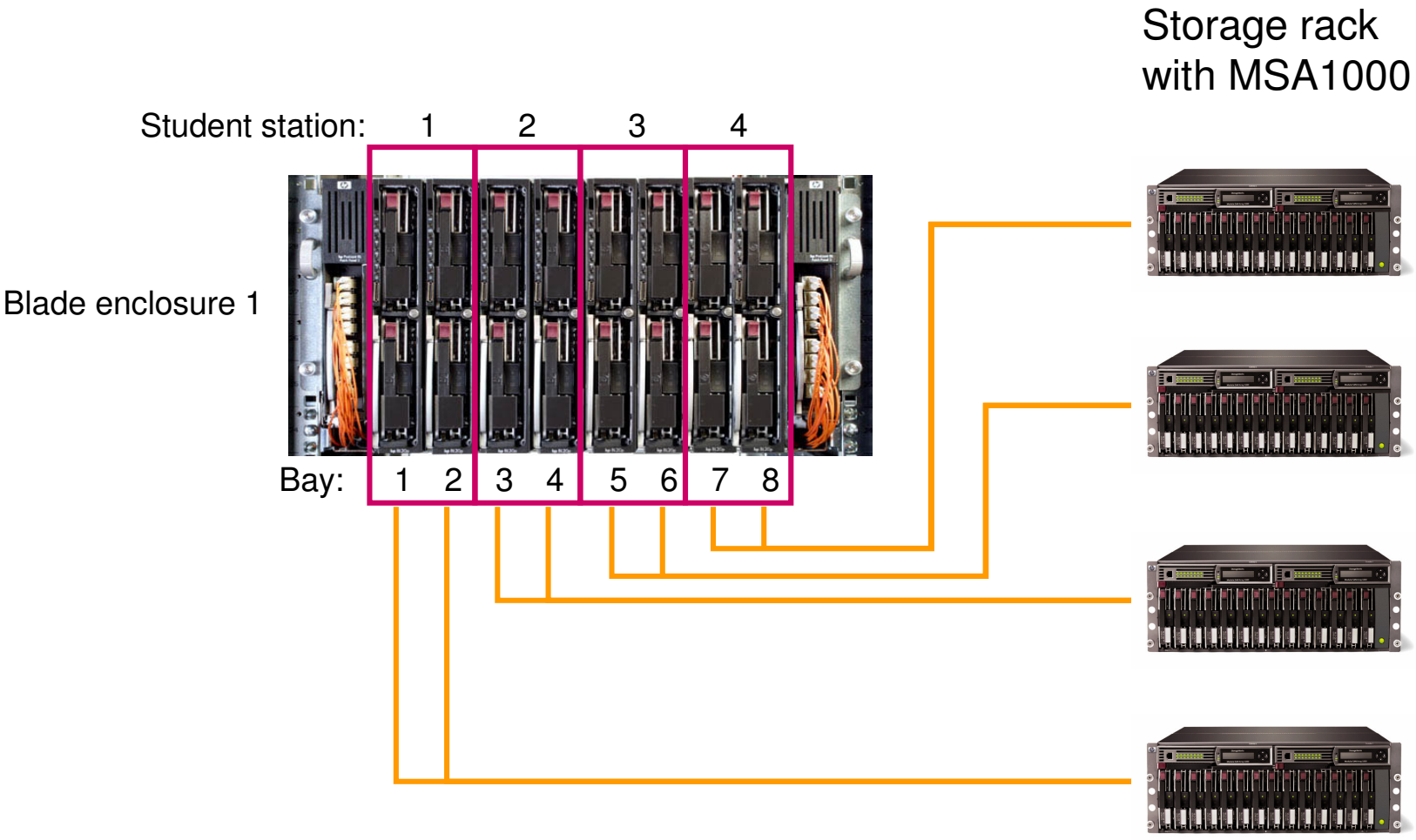
# Classroom setup and configuration (2 of 2)

- Interconnect
  - Two C-GbE2 switch interconnects in each blade enclosure
  - GbE2 Storage Connectivity Kit
- Student stations
  - Eight ProLiant servers
  - Each with:
    - 512MB of memory
    - Emulex HBA
    - Array controller
    - Two disk drives

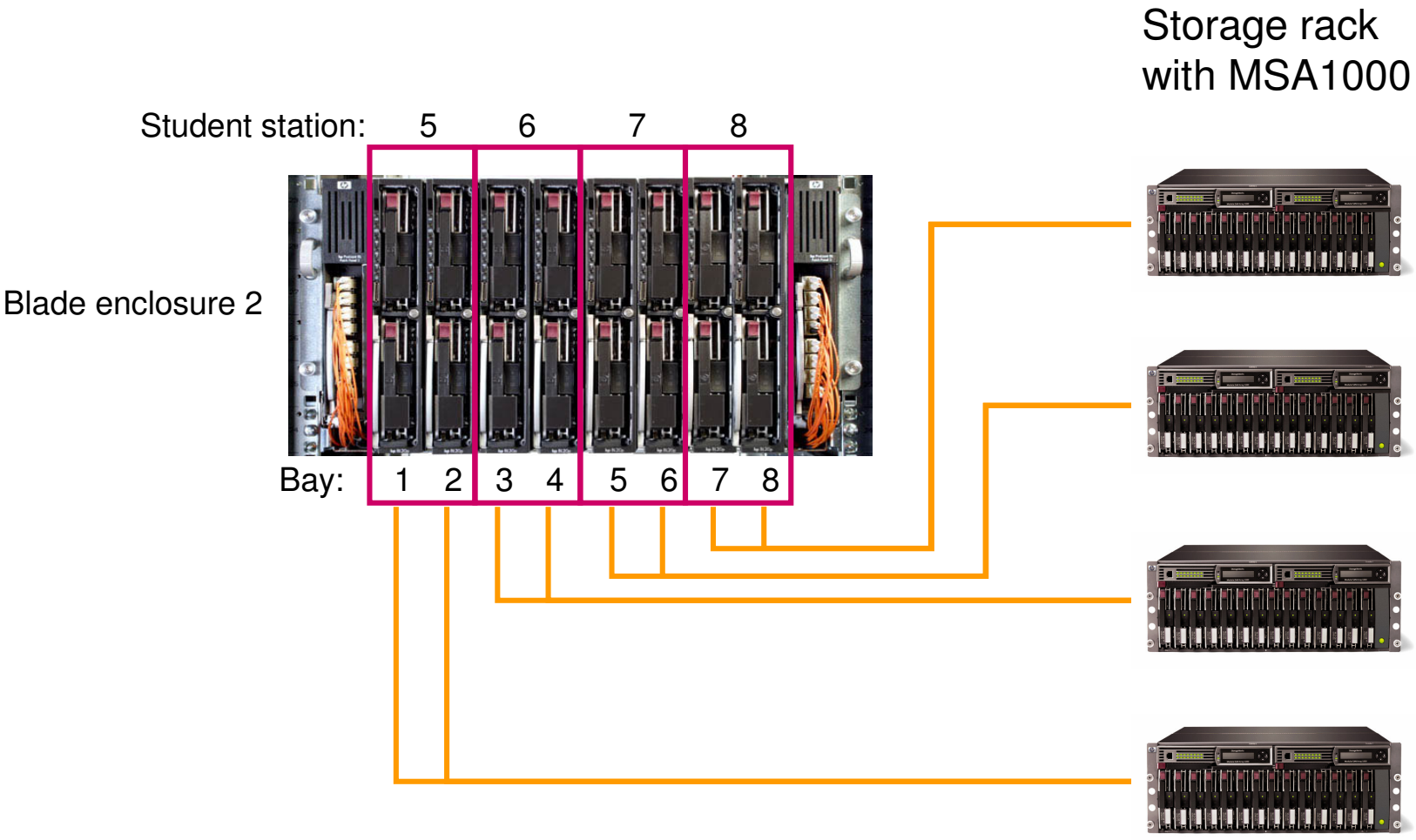
# Hardware layout diagram



# Hardware layout diagram
# Blade server assignments – enclosure 1



# Hardware layout diagram
# Blade server assignments – enclosure 2



# Classroom setup and configuration

- Initial configuration of student stations
  - Windows Server 2003 with Active Directory, DNS, and DHCP
  - RDP 1.60 Deployment Server
  - HP SIM 4.1
- User names and passwords
- Software repository location
- Student stations and assignments

# Lab 1 – Profile-based blade server deployment

# Lab 2 – Blade server failover

# HP WORLD 2004

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