



IBM System p

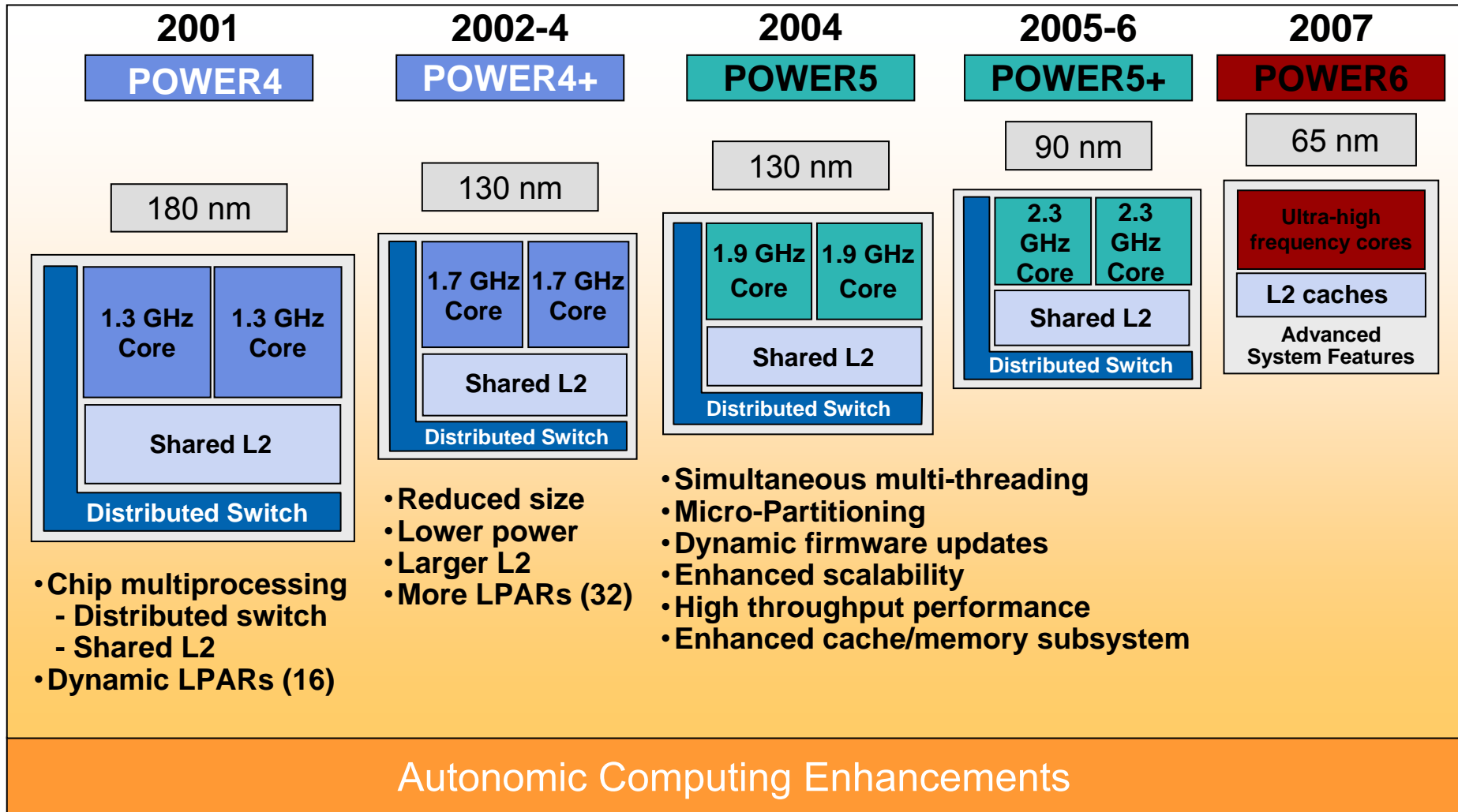
POWER5 Virtualization Technology

Federico Vagnini

© 2006 IBM Corporation

IBM Systems

IBM POWER technology roadmap for pSeries



Virtualization is the key

“Virtualization is the process of presenting computing resources in ways that users and applications can easily get value out of them, rather than presenting them in a way dictated by their implementation, geographic location, or physical packaging. In other words, it **provides a logical rather than physical view of data, computing power, storage capacity, and other resources.**”

Jonathan Eunice, Illuminata Inc.



IBM Partitions: a technology developer's solution

- Define the solution to provide
- Develop needed technology
- Design the system to provide solution

2001: POWER4

Hide internal structure
Small allocation units

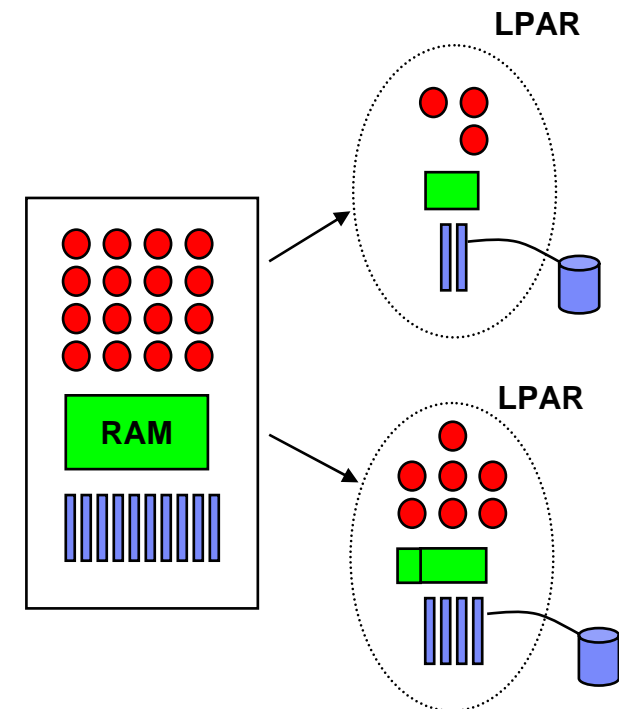
- 1 CPU
- 256 MB
- 1 slot PCI-X

Dynamic reconfiguration

2004: POWER5

Virtualization

- MicroPartitioning
- Virtual Ethernet
- Virtual SCSI



Micro-Partitioning

Entitled capacity

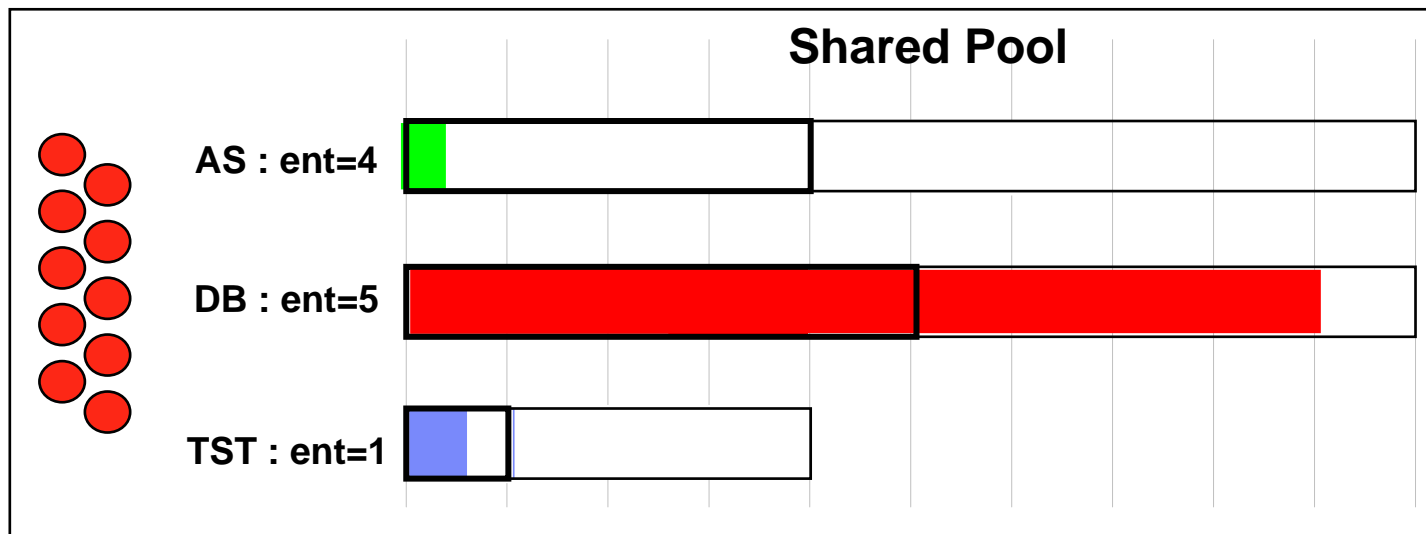
- In units of 1/100 of a CPU
- Minimum 1/10 of a CPU

Capped Partition

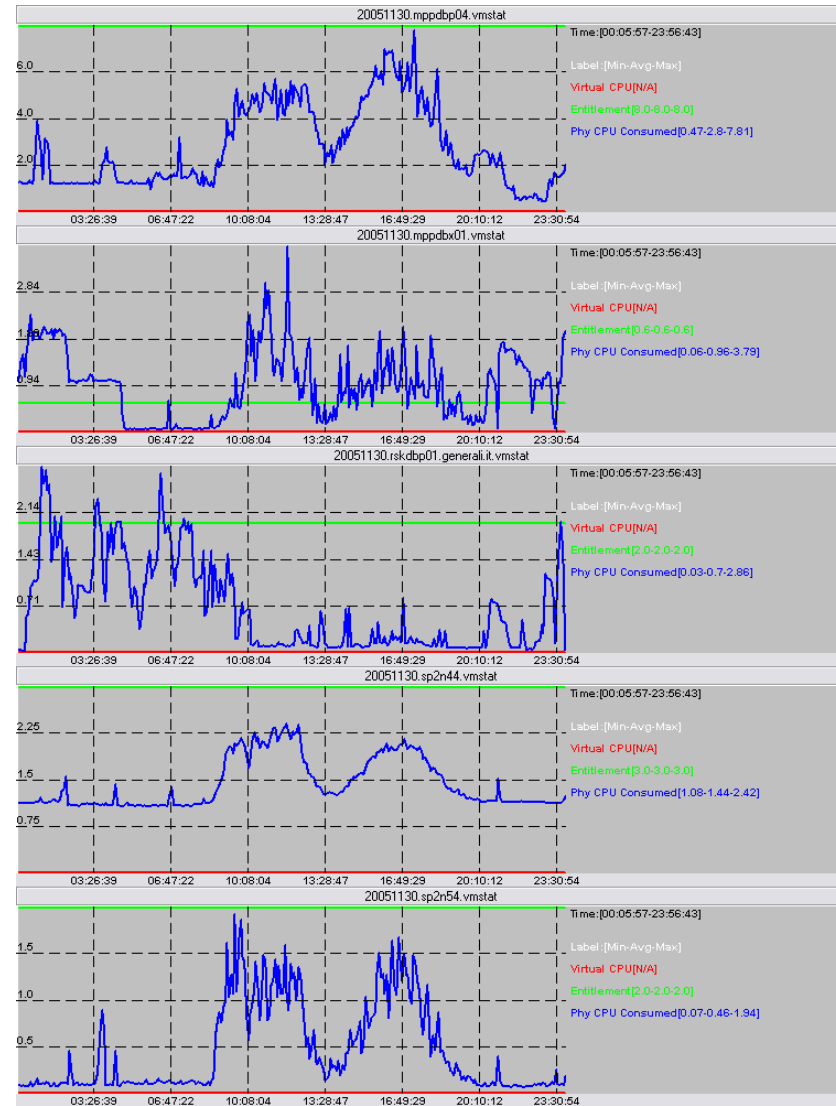
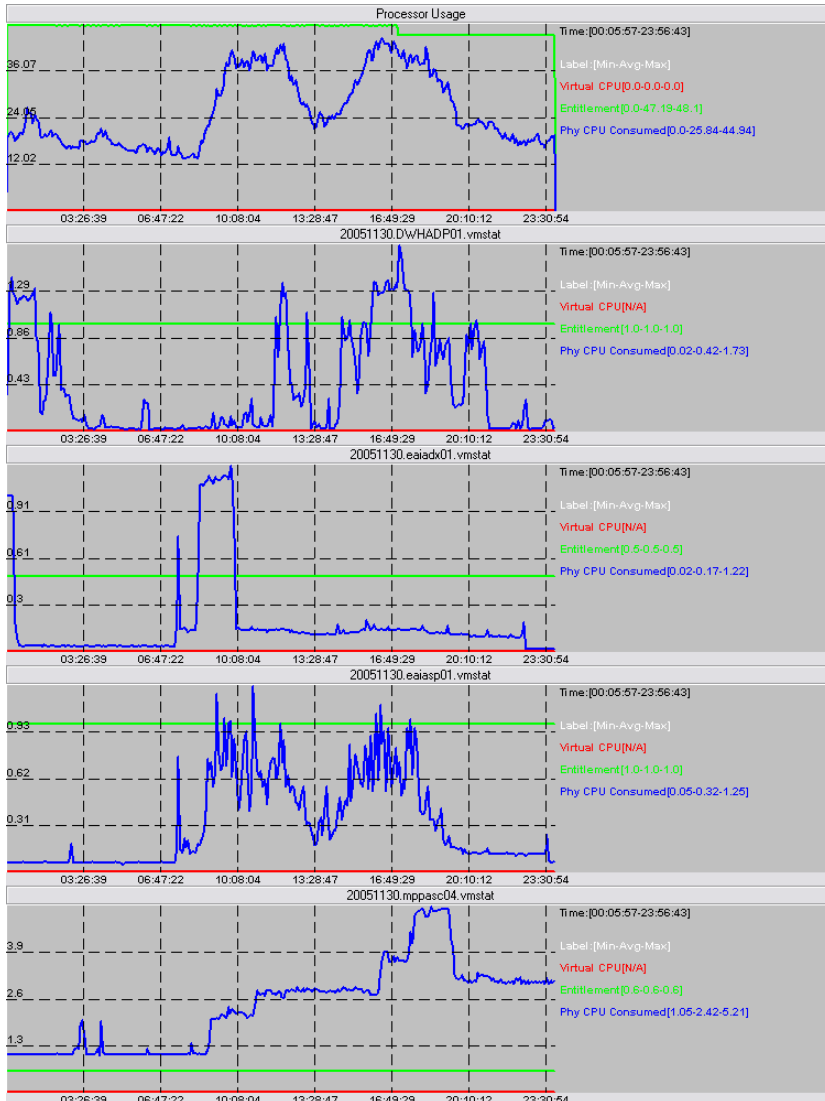
Uncapped Partition

- Variable weight
- % share (priority) of surplus capacity

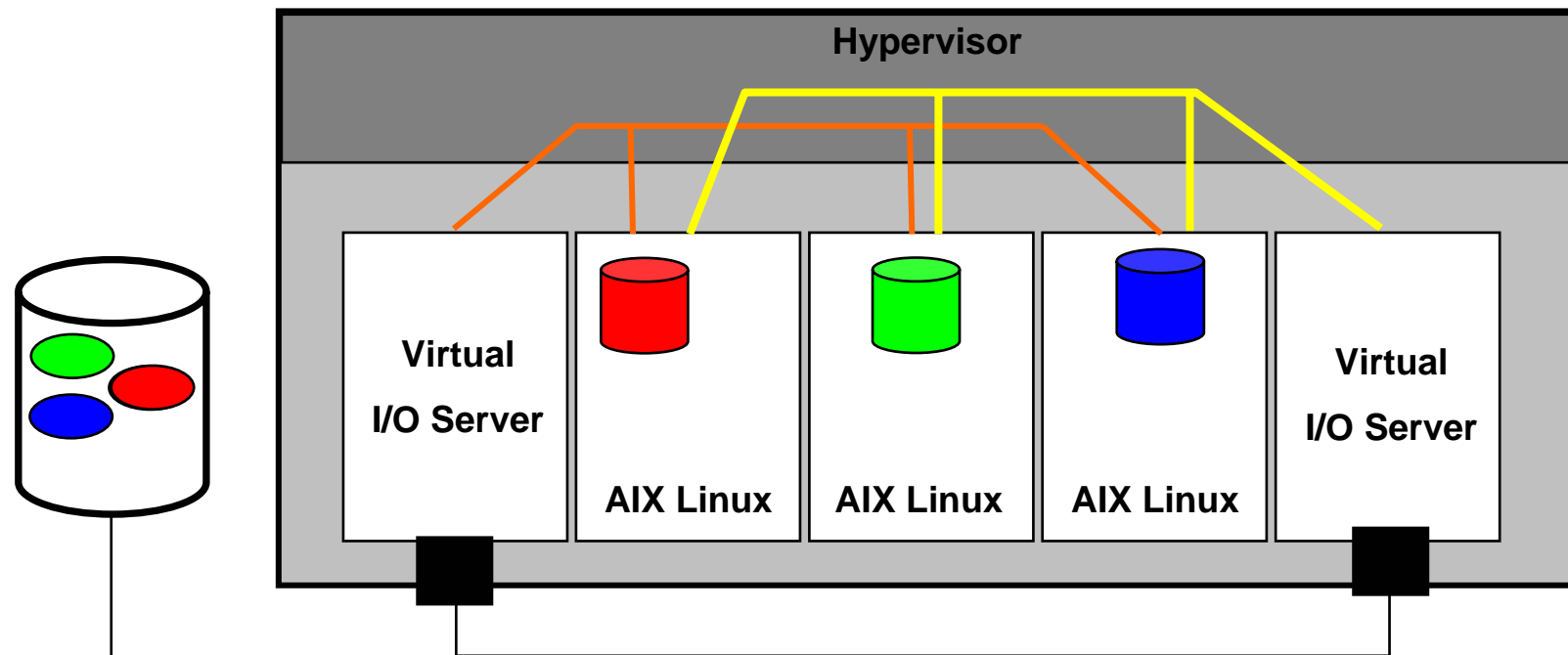
POWER5



Real production environment

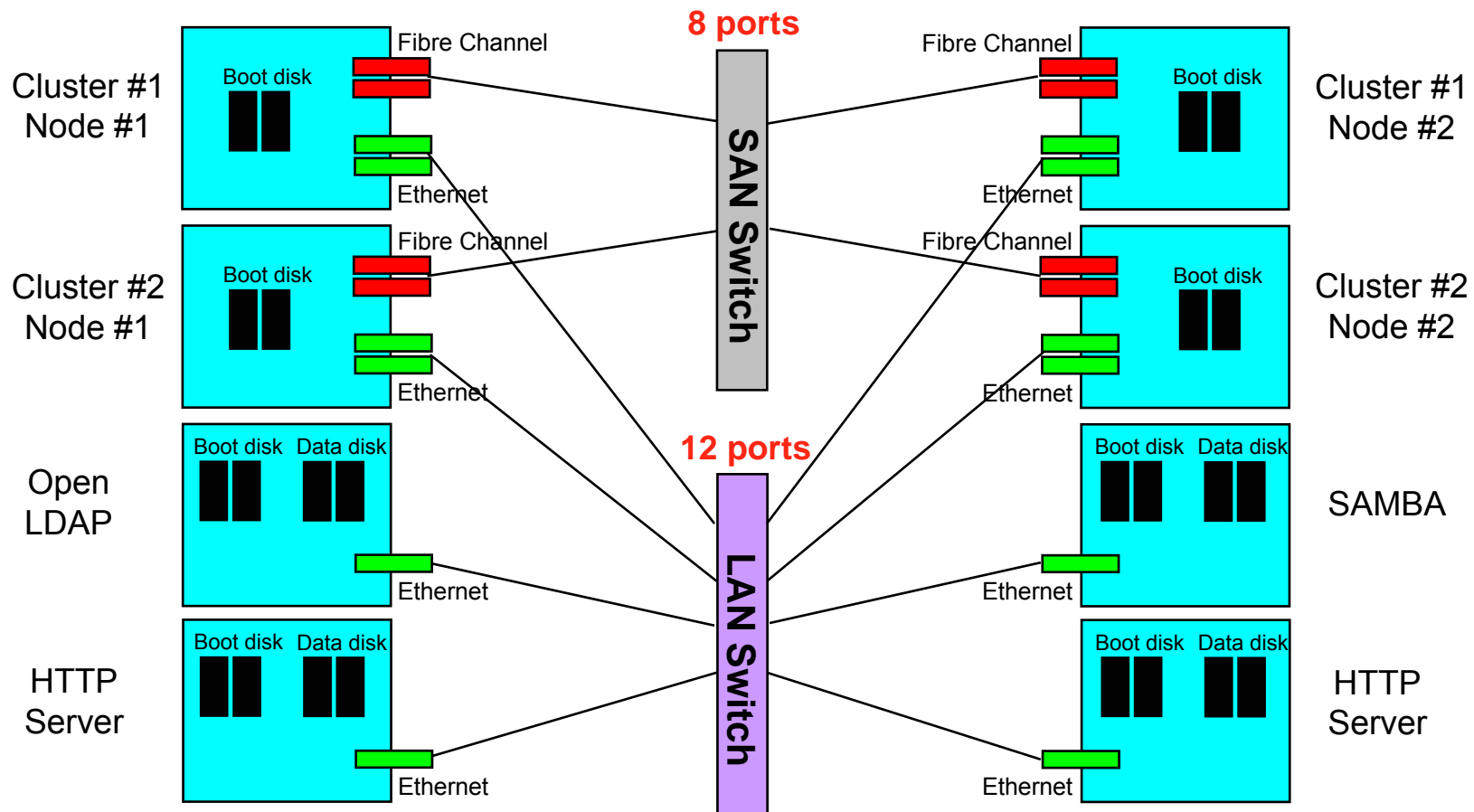


Virtual SCSI

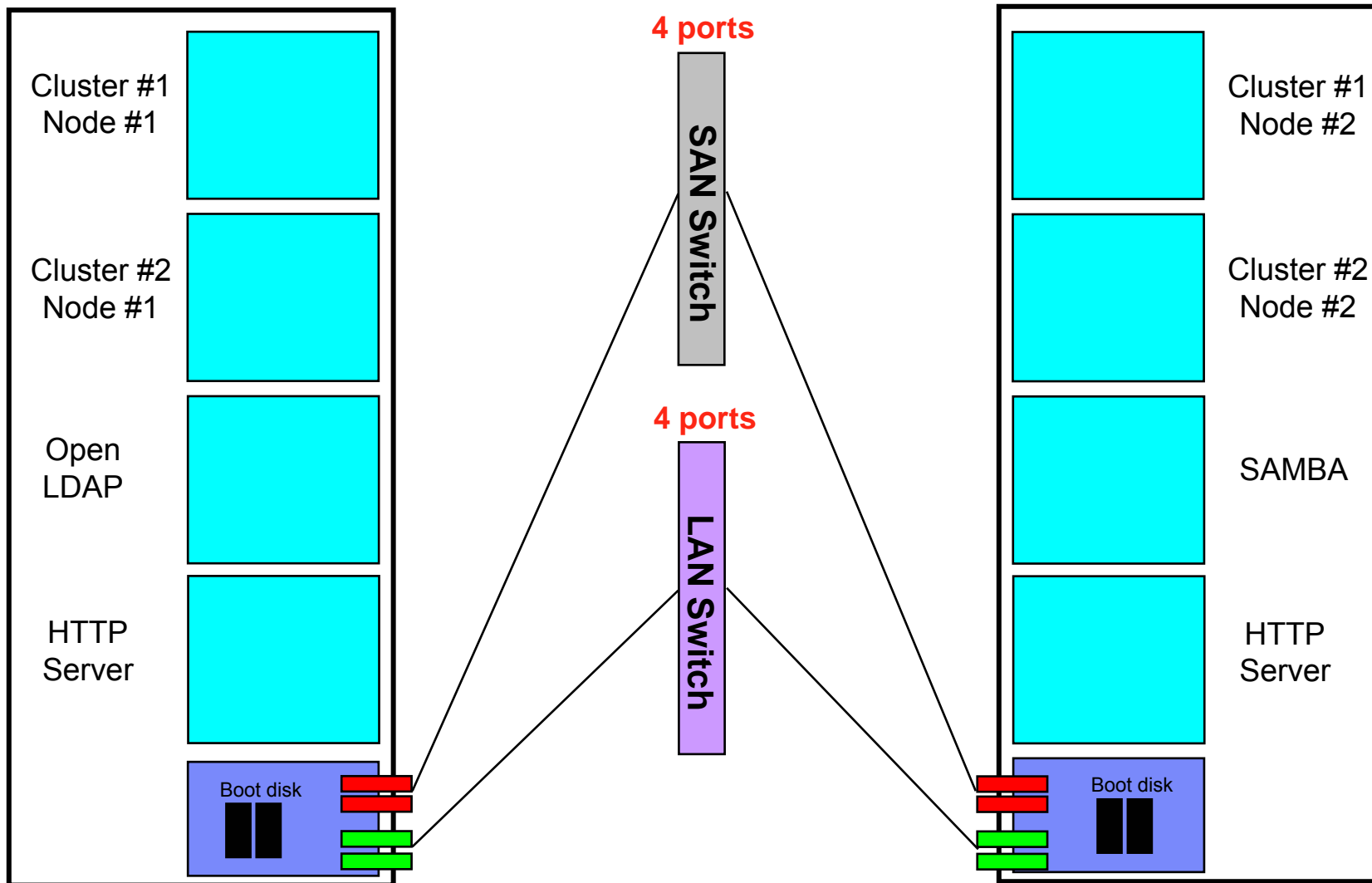


- One physical drive can appear to be multiple logical drives
 - LUNs appear as individual logical drives
- Minimizes the number of adapters
- Can have mixed configuration (virtual and real adapters)
- SCSI and Fibre supported
- Supports AIX 5L V5.3 and Linux partitions

Before virtualization



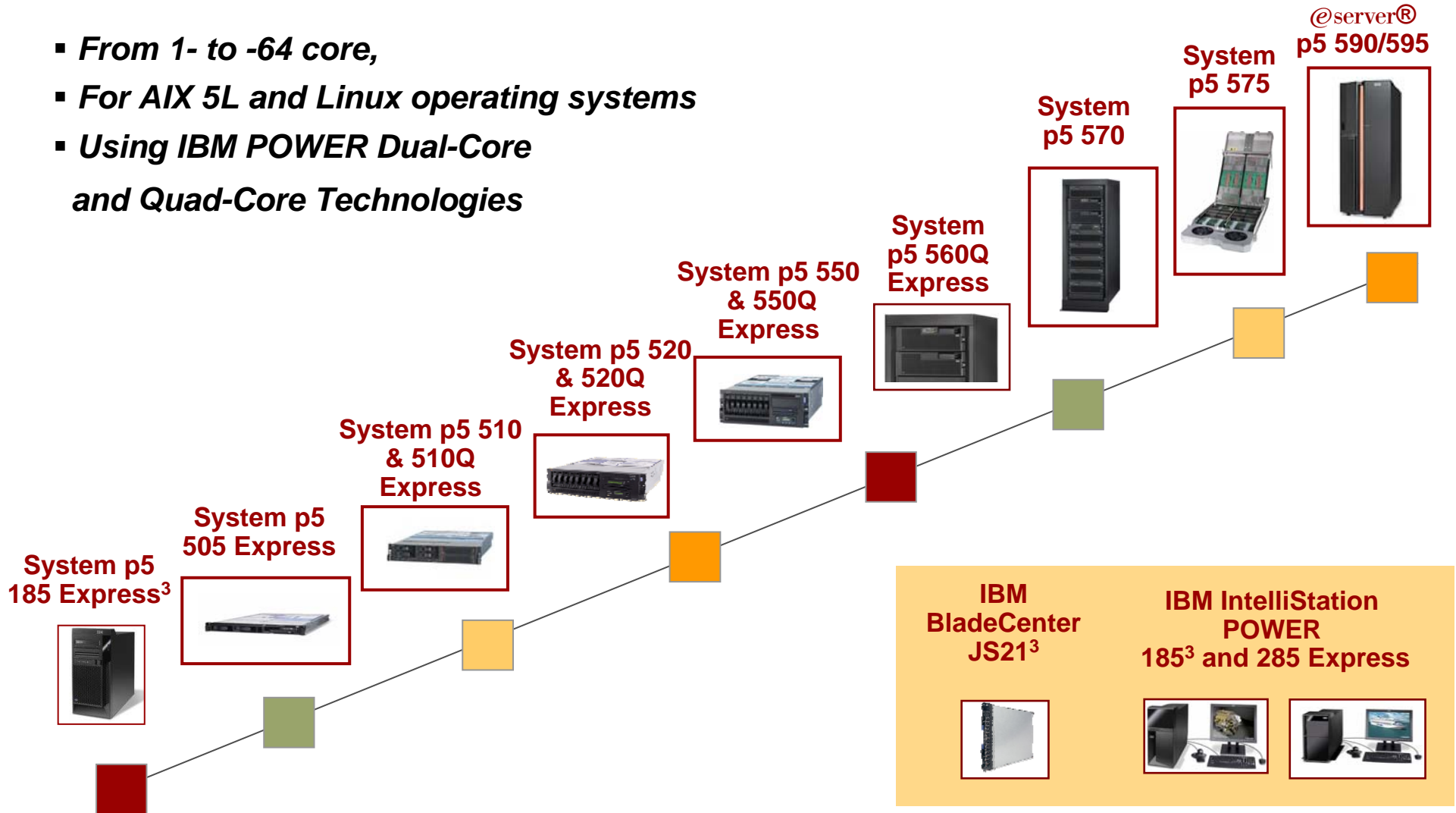
With virtualization



Scale up. Scale out. Scale within.

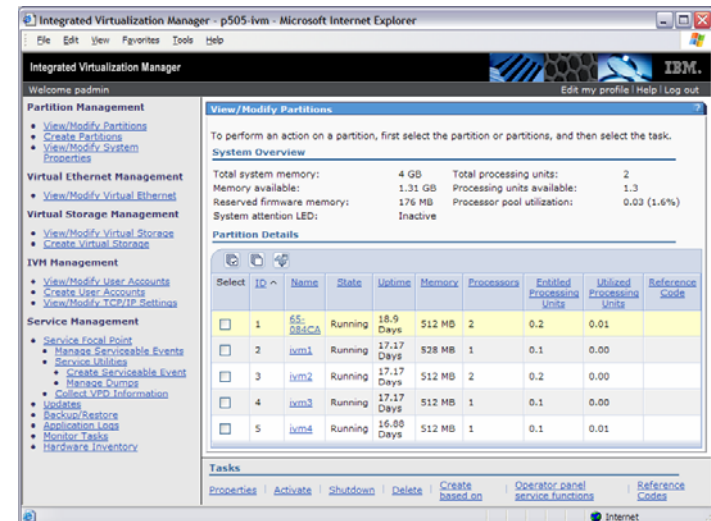
With more than 70 leadership performance benchmarks!

- From 1- to -64 core,
- For AIX 5L and Linux operating systems
- Using IBM POWER Dual-Core and Quad-Core Technologies



Simplified Management: **I**ntegrated **V**irtualization **M**anager

- **Very simple and quick LPAR management**
 - ▶ **Few clicks to create/modify an LPAR**
 - ▶ **Limited skills required**
 - ▶ **Remote access to LPAR management**
- **Available for all Express systems**
- **Wizard-driven, browser-based interface**
- **Included in System p “Advanced POWER Virtualization”**



It is so easy that we can try now!