IBM

eserver

iSeries. mySeries.

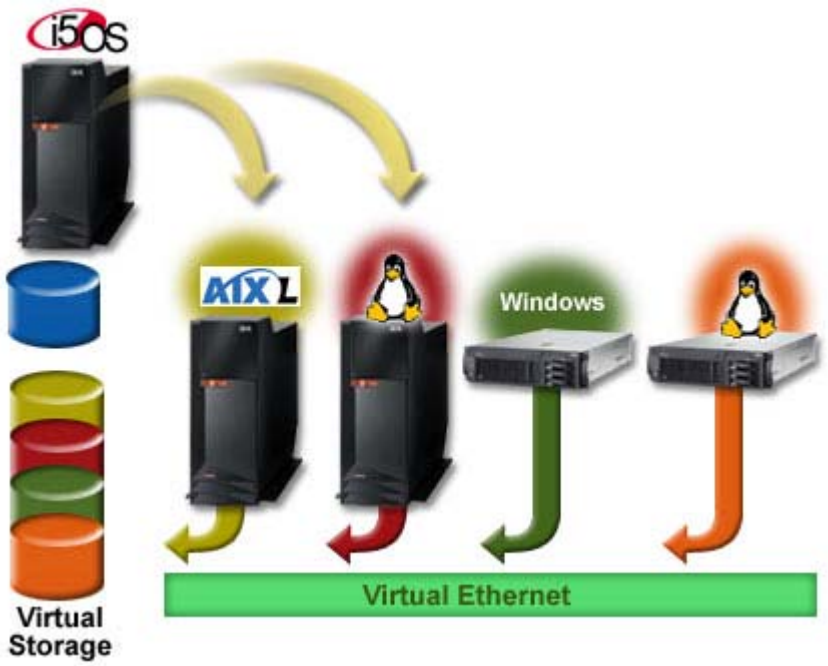
Simplify Your Infrastructure

AIX 5L

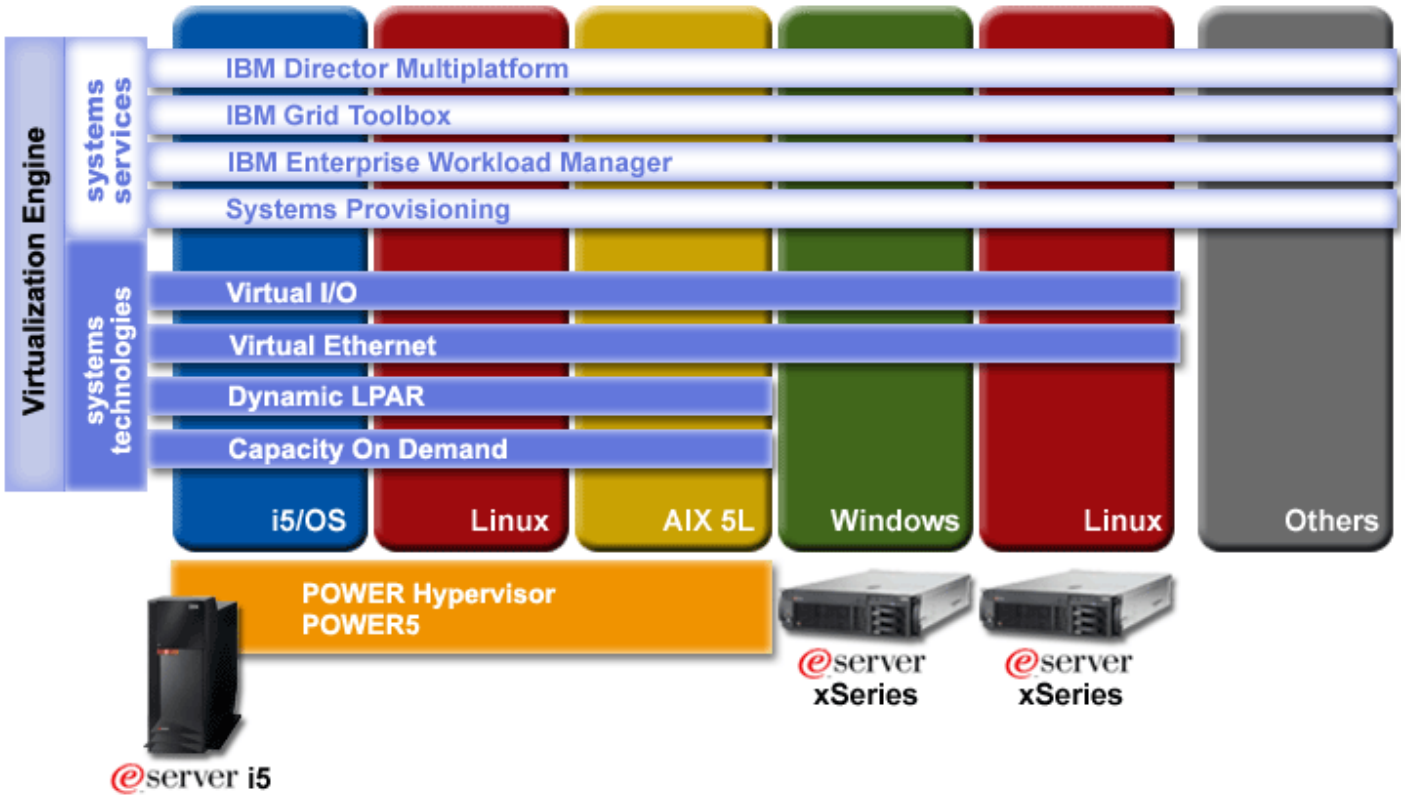
Craig Johnson
iSeries Marketing for AIX 5L and Linux

Simplify your Infrastructure

- **Reduce complexity and costs**
  - Pool your resources by managing multiple environments on a single server
- **Handle constant changes**
  - Automatically respond to changes in processor demand with logical partitioning
- **Save time and money**
  - Simplify management of IT resources with storage virtualization
- **Increase business flexibility**
  - Expand on the Fly with flexible growth options



IBM Virtualization Engine on IBM eServer i5



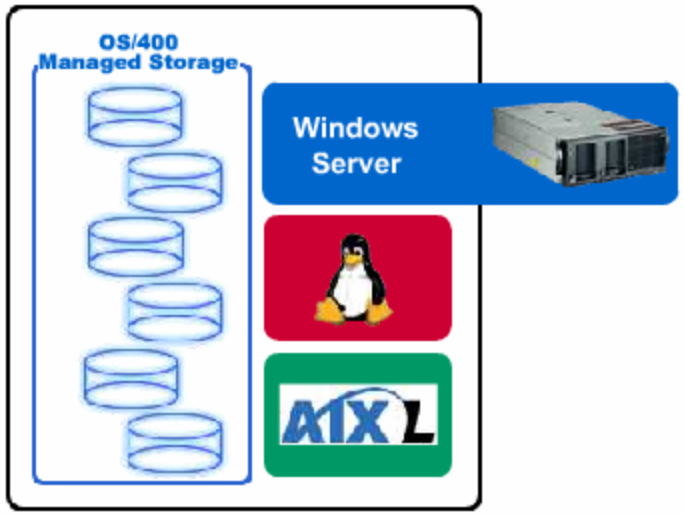
Logical Partitioning on eServer i5

- **Run multiple operating systems on one server**
  - 20,000 Partitions in Use Today
- **Delivers 3rd Generation of Logical Partitioning**
  - Automatic Processor Movement
  - Up to 254 Partitions
- **Benefits**
  - Reduce costs and complexity by pooling resources
  - Automatically respond to changes in application resource requirements

Storage Virtualization on eServer i5

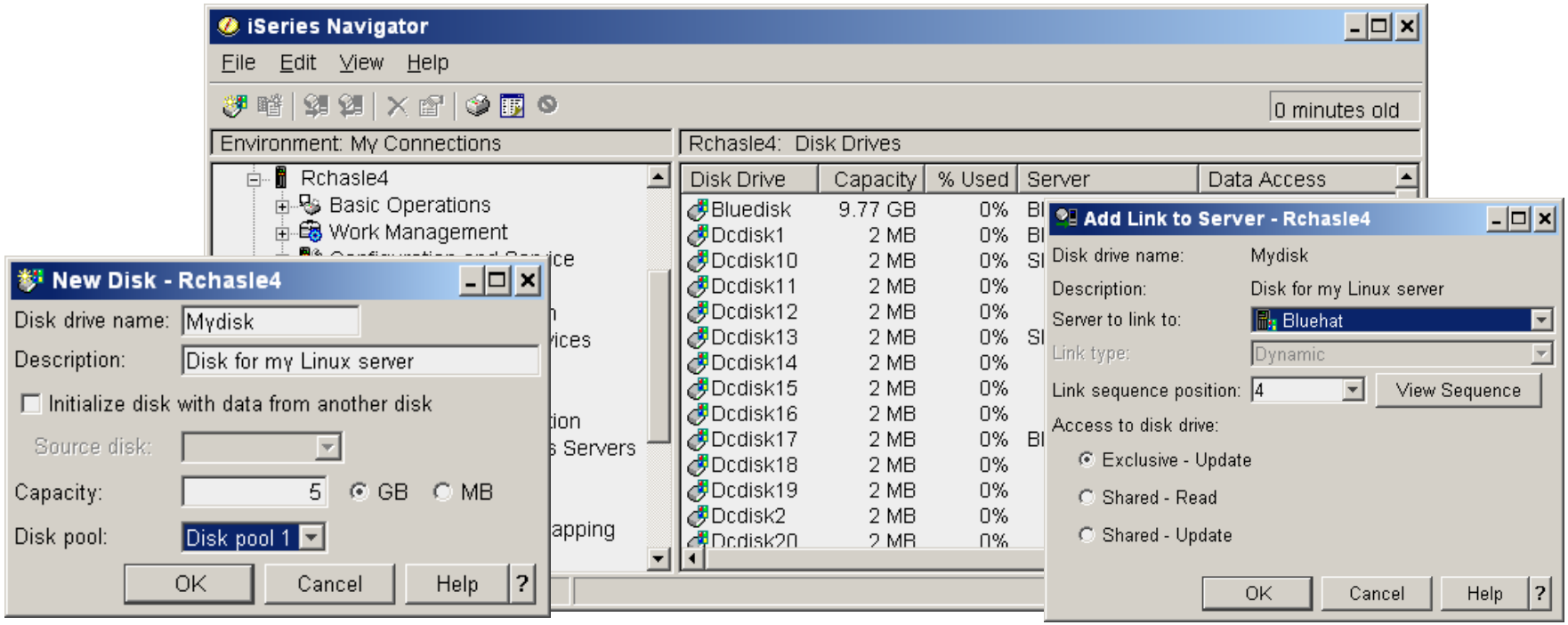
- **Leverage i5/OS storage resources**
  - Storage spaces are created and connected to AIX 5L and Linux partitions and Integrated xSeries Servers
  - Up to 64 TBs per operating environment

- **Benefits**
  - Consolidate storage resources and management
  - Automatically protect data
  - Increase application performance
  - Consolidate backups
  - Improve availability



iSeries Navigator

- Centralized Server and Virtual Storage Management
- New Support for Linux on POWER and AIX 5L partitions
  - Start up, Shut down partitions
  - Create and manage virtual storage spaces
  - Requires iSeries Navigator V5R3, Supports OS/400 V5R2 and i5/OS V5R3



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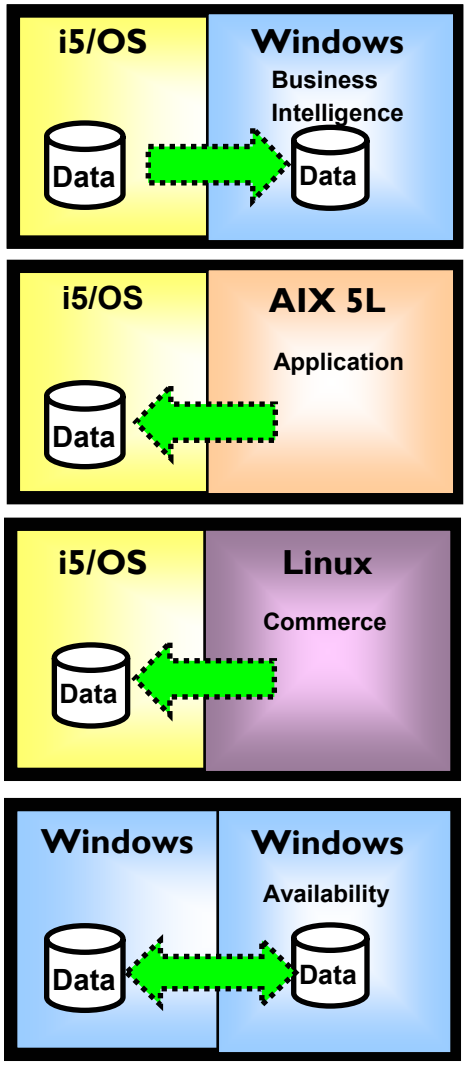
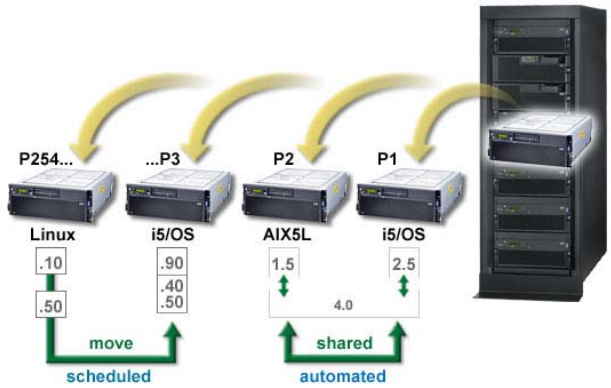
Application Integration on eServer i5

- **Virtual Ethernet connects operating environments**
  - i5/OS
  - AIX 5L
  - Linux
  - Windows
- **Benefits**
  - Fast communication between applications
  - Secure transfer of information
  - Reliable connections
  - Built in - LAN adapters and switches are not required



Virtualization Enhancements for POWER5

	iSeries	eServer i5
Maximum # of partitions	32	254
Partitions per Processor	Up to 10	Up to 10
Processor Movement	Static Dynamic	Static Dynamic Automatic
Maximum # of Virtual Ethernets	16	4094
Maximum Virtual Disk per partition	2 TB	64 TB
Partition Management	Primary	HMC
Operating Systems	i5/OS OS/400 Linux	i5/OS Linux AIX 5L



IBM Virtualization Engine
Systems Technologies

AIX 5L on eServer i5

- **Simplify your Infrastructure**
  - Consolidate UNIX servers
  - Extend with complementary AIX 5L applications
- **Optimize your Investments**
  - Share processor and memory resource
  - Move resources to where they are needed
  - Exploit i5/OS storage subsystem
  - Leverage Skills and Best Practices
- **AIX 5L 5.3**
  - Micro-partitioning, up to 10 per processor
  - Virtual storage and Ethernet
- **AIX 5L v5.2**
  - 1 processor(s) per partition
  - Supports variety of direct I/O devices

AIX 5L Performance on eServer i5

- AIX 5L performance on eServer i5 is equivalent to eServer p5 with the same configuration

Model	# of CPUs	GHz	AIX 5L 5.3 rPerf
p5-520	2	1.65	9.86
p5-570	2	1.65	9.86
p5-570	4	1.65	19.66
p5-570	8	1.65	37.22
p5-570	12	1.65	53.43
p5-570	16	1.65	68.40

Sizing eServer i5 Servers for AIX 5L Workloads

http://www-1.ibm.com/servers/eserver/iseries/aix/pdf/sizing_for_aix5l_apps.pdf

IBM pSeries and IBM RS/6000 Performance Report provides rPerf values for other servers

http://www-1.ibm.com/servers/eserver/pseries/hardware/system_perf.html

Notes:

1) The rPerf (Relative Performance) is an estimate of commercial processing performance. It is derived from an IBM analytical model which uses characteristics from IBM internal workloads, TPC and SPEC benchmarks. The rPerf model is not intended to represent any specific public benchmark results and should not be reasonably used in that way. The model simulates some of the system operations such as CPU, cache and maximum memory available. However, the model does not simulate disk or network I/O operations.

2) The rPerf results of IBM eServer p5 systems are based on AIX 5L V5.3 which supports simultaneous multi-threading. Simultaneous multi-threading results in a 30% boost in rPerf. For purposes of estimating rPerf for AIX 5L V5.2 on eServer p5 systems divide the published rPerf number by 1.3 and round down to the nearest 1/100th

AIX 5L Benchmark Results on eServer i5

- Demonstrates equivalent performance to eServer p5 Servers

Benchmarks	520 Results	550 Results	Notes
SPECfp2000	2138 (1 CPU)	2221 (1 CPU)	#4 Result Overall
SPECfp_rate2000	43.0 (2 CPUs)	84.8 (4 CPUs)	#2 Result for 4 processor servers
SPECint2000	1248 (1 CPU)	1248 (1 CPU)	
SPECint_rate2000	32.9 (2 CPUs)	65.5 (4 CPUs)	#4 Result for 4 processor servers

Source: http://www.spec.org/cpu2000/results/res2004q3/ on 9/10/04
http://www.ideasinternational.com/benchmark/spec/specfp2000.html on 9/10/04

AIX 5L on eServer i5

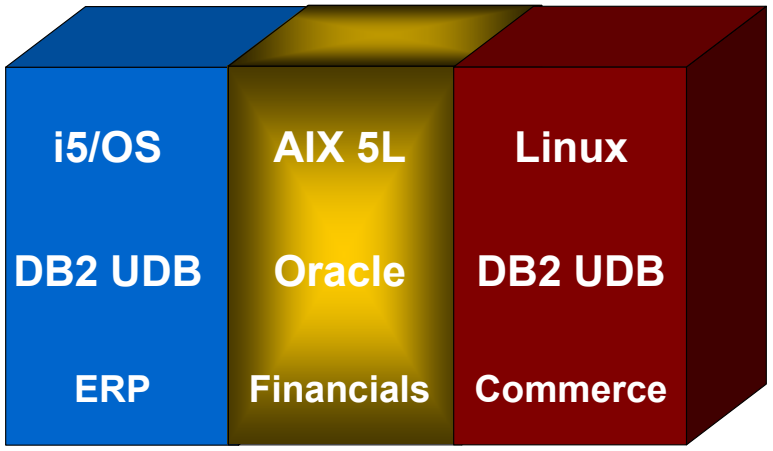
AIX 5L Prices
Per Active Processor Running AIX 5L

	License	SWMA (Annual)* 5771-SWM	
	OTC**	Standard	24x7 Upgrade
520	$430	$650	$166
550	$430	$650	$166
570	$1,225	$725	$183

*Provides access to remote technical software support and software upgrade entitlement
- 3 year prices for SMWA also available via 5773-SM3
US prices and terms
**Plus a $50 Media charge

Oracle and eServer i5

- **Oracle offers a suite of solutions for AIX 5L**
  - Database and Applications
- **These products are supported in AIX 5L partitions on eServer i5**
- **eServer i5 servers offer you the flexibility to run the applications your business requires**

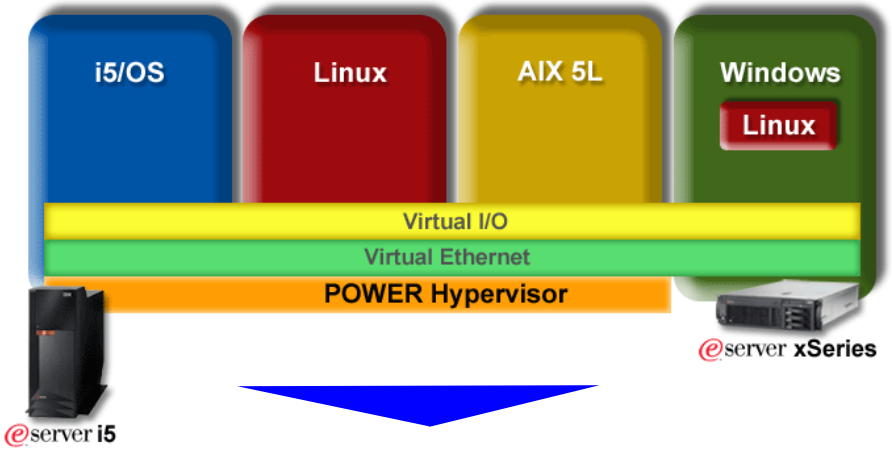


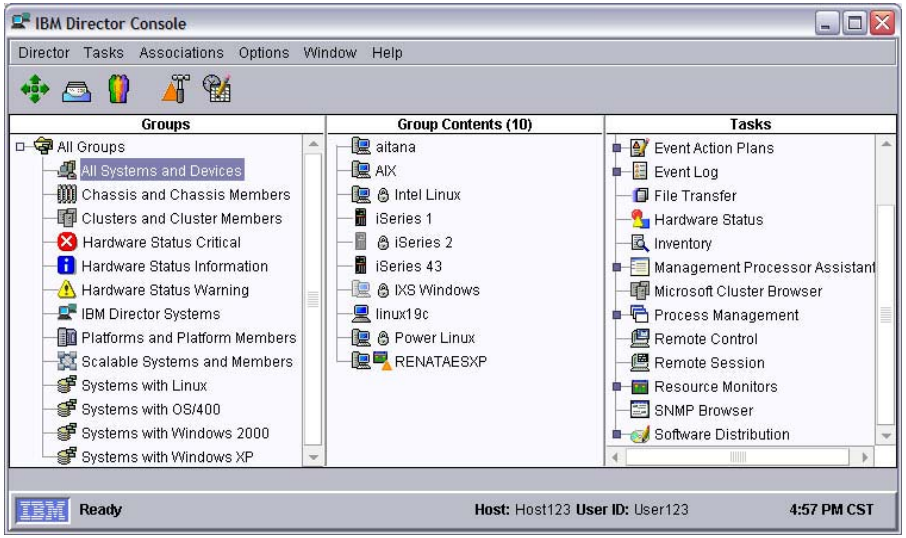
IBM eServer i5 570 Partitions

http://otn.oracle.com/support/metalink/index.html

IBM Director Multiplatform

- Provides Centralized Management Across Heterogeneous Servers
  - Collect inventory
  - Establish Monitors
  - Set Alerts
  - Take automatic actions
- Expanded to support additional operating systems
  - Server: i5/OS V5R3, Windows, Intel Linux
  - Agents: Servers + POWER Linux, AIX 5L, ….
- Integrated with PM iSeries for collecting and reporting multi-OS CPU utilization and capacity planning
- Complements iSeries Navigator
- IBM Virtualization Engine Systems Service
- Provided with i5/OS





iSeries. mySeries.

Fang Brothers Knitting

- **Background**
  - Global textile and apparel manufacturer with headquarters in Hong Kong
  - Manufacturer for Gap, Ann Taylor, Tommy Hilfiger, and more
- **Objectives**
  - Provide more capacity to support company expansion
  - Improve customer relationship management
- **Solution**
  - Two eServer i5 520s
    1. i5/OS with RPG-based Garment application to support Hong Kong users and migration from Exchange to Domino mail.
    2. One i5/OS partition with Garment application for China and AIX 5L partition to run CRM application from e-Jing -- built with WebSphere and Oracle

Fang Brothers selected the eServer i5 for is scalability, stability, and its ability to consolidate applications on one server. eServer i5 delivered the lowest TCO.

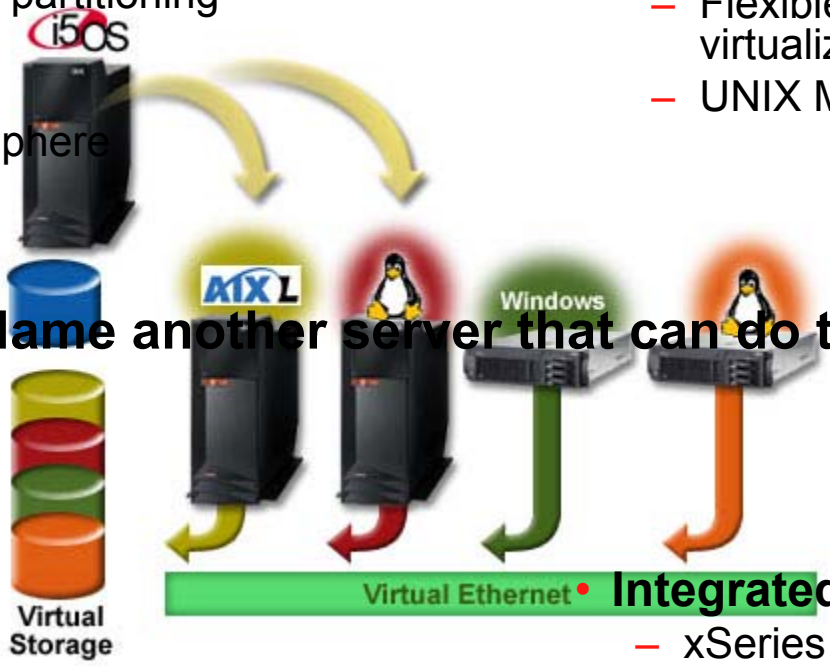
Greif, Inc.

- **Background**
  - World leader in industrial packaging products & services for various industries.
  - 175 operating locations in more than 40 countries.
- **Objectives**
  - Consolidate regional applications
  - Single ERP global instance
- **Solution**
  - IBM eServer i5 570 8-way with seven Logical Partitions (LPARs)
    - 2 i5/OS Processors ,6 AIX Processors
      - Migrated Baan+Oracle solution from HP/EMC to eServer i5 AIX partition
      - Consolidated regional applications into centralized i5/OS architecture (BPCS)
      - Migrated Domino environment from Windows to i5/OS
      - Common tape back-up - one 3584 Tape Library that backs up all partitions

Greif is excited about the upgrade and consolidation to the iSeries POWER5 platform as a first step in simplifying our infrastructure, providing users with higher reliability and paving the way for further Data Center consolidations as we move toward single instance global ERP.

Infrastructure Simplification Offerings

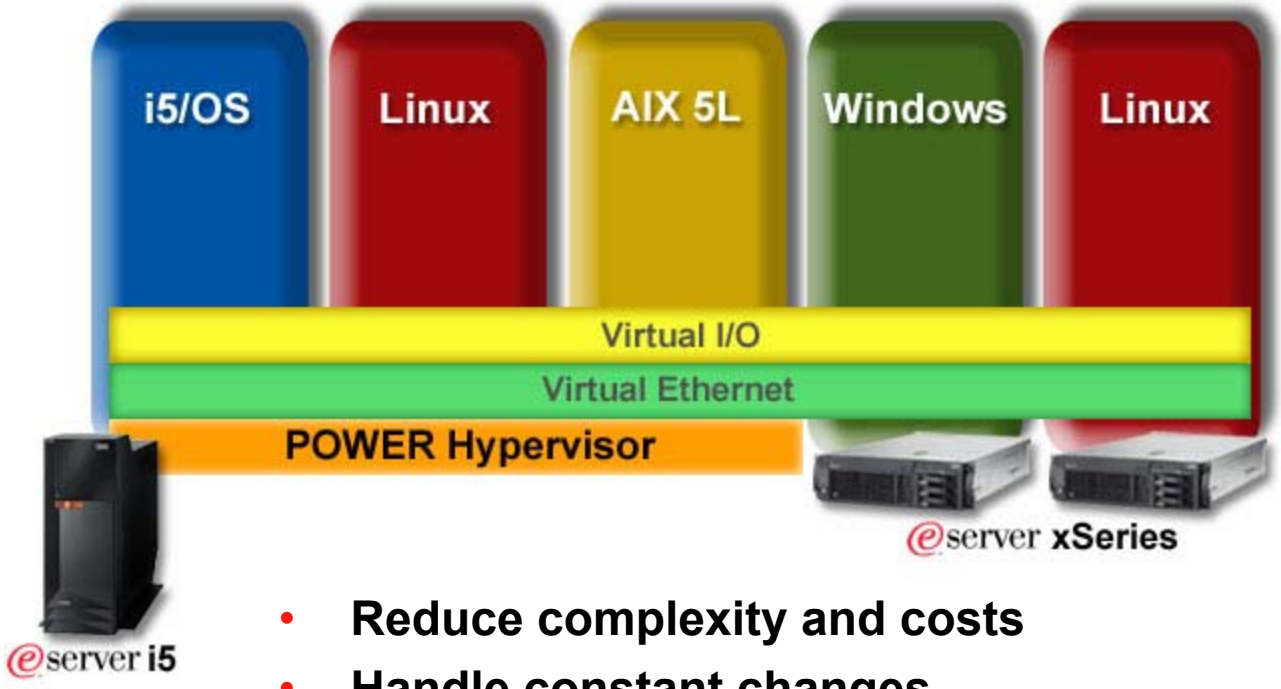
- **i5/OS**
  - Flexible, automatic partitioning and virtualization
  - Integration
  - Domino and WebSphere scalability
- **AIX 5L**
  - Flexible, automatic partitioning and virtualization
  - UNIX Migrations to AIX 5L portfolio



Name another server that can do this?

- **Linux on POWER**
  - Flexible, automatic partitioning and virtualization
  - Premier Linux Offering
- **Integrated xSeries Solutions**
  - xSeries delivers leading Intel server performance
  - Virtual Storage and Virtual Ethernet
  - When solution requires Intel servers

Simplify Your Infrastructure



- Reduce complexity and costs
- Handle constant changes
- Save time and money
- Increase business flexibility

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