

# Linux zSeries in Production at Boscov's



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Manager, Technical Support

# The largest family owned department store chain in the United States



Berkshire Mall, PA

- ? 41 Stores in 5 states – PA, NJ, NY, DE, MD
- ? over \$1 billion in sales
- ? over 10,000 employees
- ? [www.boscovs.com](http://www.boscovs.com)
- ? In 1911, Solomon Boscov left Russia and arrived in Reading, PA. He purchased \$8.00 worth of merchandise, and set out for the countryside. He earned enough money in his first year to buy a horse and wagon.

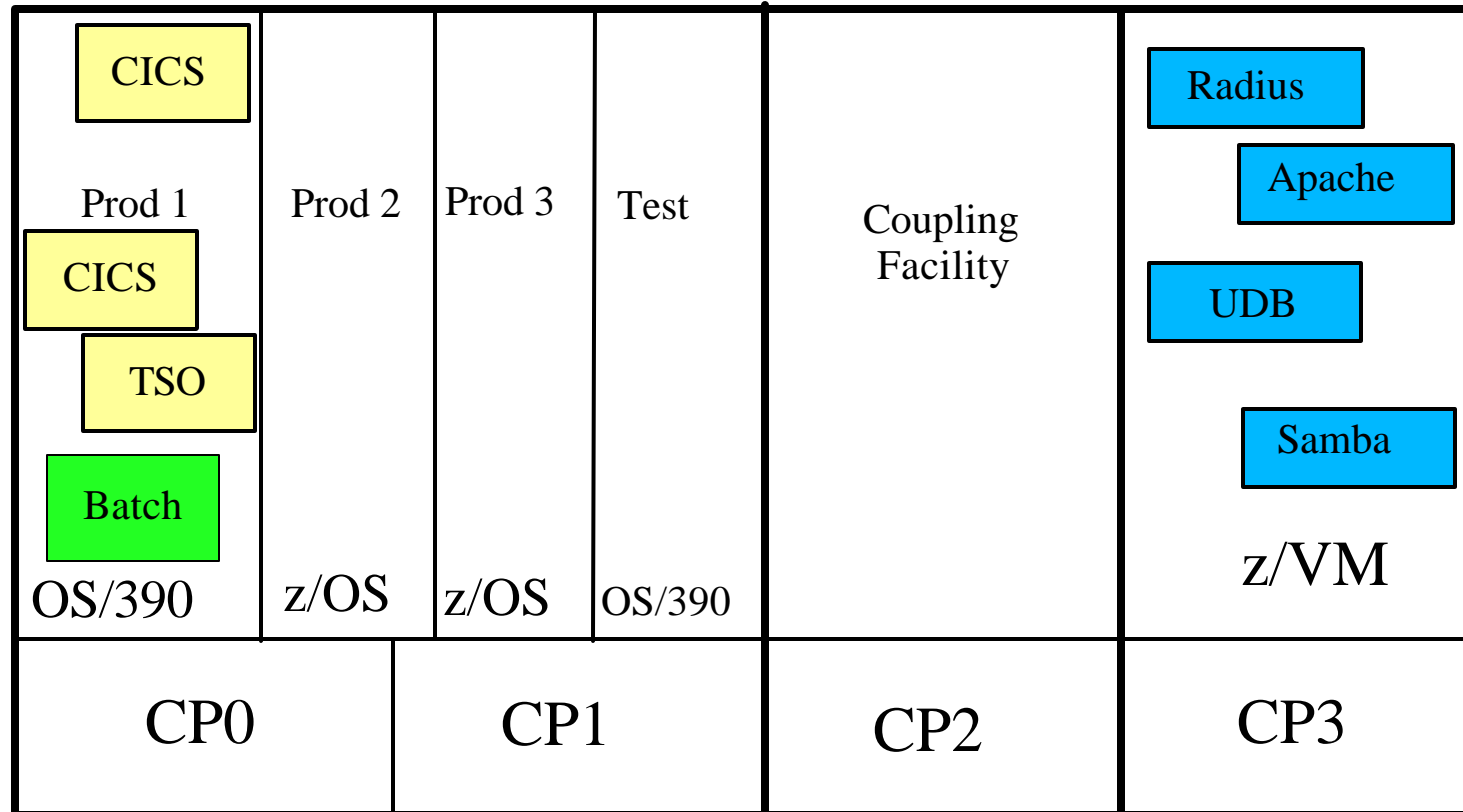
# z900

# 2064-102



- ? 2 CPUs for z/OS
- ? 5 IFLs for z/VM
- ? 1 CPU for coupling facility
- ? 1 more can be activated
- ? 16 GB Memory
- ? 4 GB Ethernet OSA
- ? 64 bit Architecture
- ? 250 MIPS Processor

# Boscov's 2064-102



# Why did we focus on Linux?

- ? Thousands of Linux contributors around the world with a tremendous pride of authorship
- ? Reputation for rock-solid reliability
- ? Substantial investment by IBM
- ? Server software monopoly portends price increase for Windows based operating systems and support
- ? Linux would run on a platform that was going to be on our floor
- ? Linux could be the future of our cash registers, store processors, and possibly even desktops and PDAs

# Financial Considerations

## ? Each Server:

- Costs an average of \$20,000 to purchase
- Consumes \$192 in electricity each year (320 watts)
- Averages \$600 on your Business Recovery plan
- Averages \$800 for annual vendor maintenance
- Is part of an expanding network of devices
- Produces heat, which must be removed by A/C
- Must be backed up somehow

# Your Expanding Server Farm

- ? If you add 5 servers a year:
  - \$107,960 for hardware, electricity, DR, and Maintenance
- ? An Integrated Facility for Linux (IFL):
  - \$125,000 to activate
  - \$50,000 for z/VM with optional components
- ? ROI is 2 years for the IFL, with no increase in electricity, floor space, air conditioning or equipment maintenance.

# Forming the Team

- ? z/VM Systems Programmer, preferably 2
- ? Unix trained server administrators, preferably 4
- ? Combine the team under 1 supervisor
- ? IBM Education for z/VM and Linux, like ZV060
- ? Education for Linux administration, many available
- ? Assessing the server farm
- ? Pick the “proof of concept conversion”
- ? Select and order the software
- ? Initial installation to be done as a team – let everyone watch



# Preparing the Environment

- ? Create an LPAR and load z/VM
- ? Download Linux or buy prepackaged version
- ? Create ADSM (TSM) backup routines
- ? Create minidisk to tape jobstreams (OFFLINDR)
- ? Install AntiVirus software
- ? Create 2 IP stacks; both sides of the firewall
- ? Establish some kind of support services

# Netware to Linux Conversion

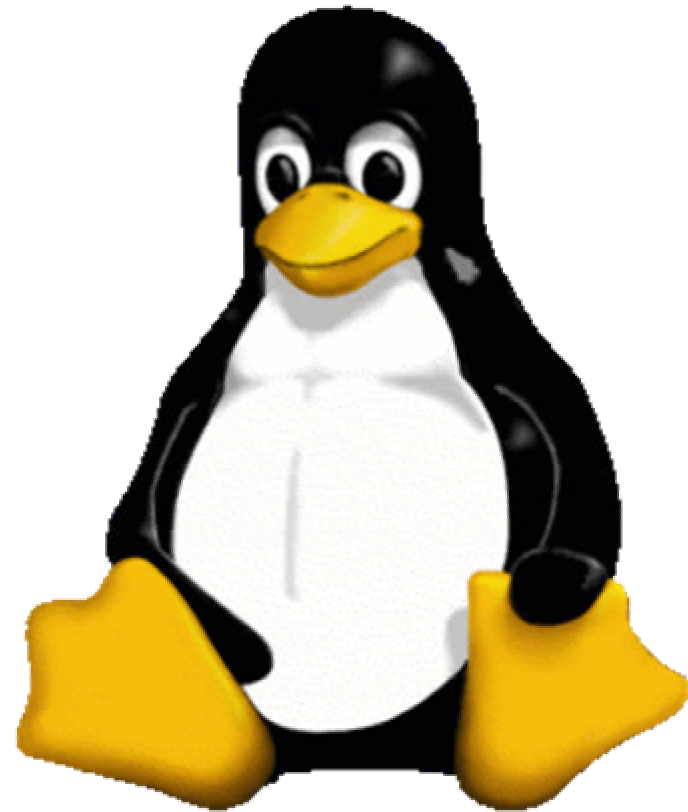
- ? Netware command, change context to root
  - `cx /R`
- ? Create file of group membership
  - `nlist user show "group membership" /C /S > D:\cv\user.txt`
- ? Create file of all users
  - `dir J:\USERS > D:\cv\nwdir.txt`
- ? Create file of directories
  - `dir J:\ /AD /X /S > D:\cv\nwdir2.txt`
- ? Create file of all rights
  - `rights J:\ /C /F /S > D:\cv\irights.txt`

# Stoppers and Gotchas

- ? Reluctance of vendors to port their software to Linux
- ? Other projects in IT that require your involvement
- ? Virus attacks, like Nimda, that bust through the firewall
- ? Negativity of the staff, unwilling to try something new
- ? Servers that do more than file or print serving
- ? How the economy affects your business sector
- ? User departments that can order their own servers
- ? Defections and poaching, once the team is trained
- ? Supporting everyone else's problems!

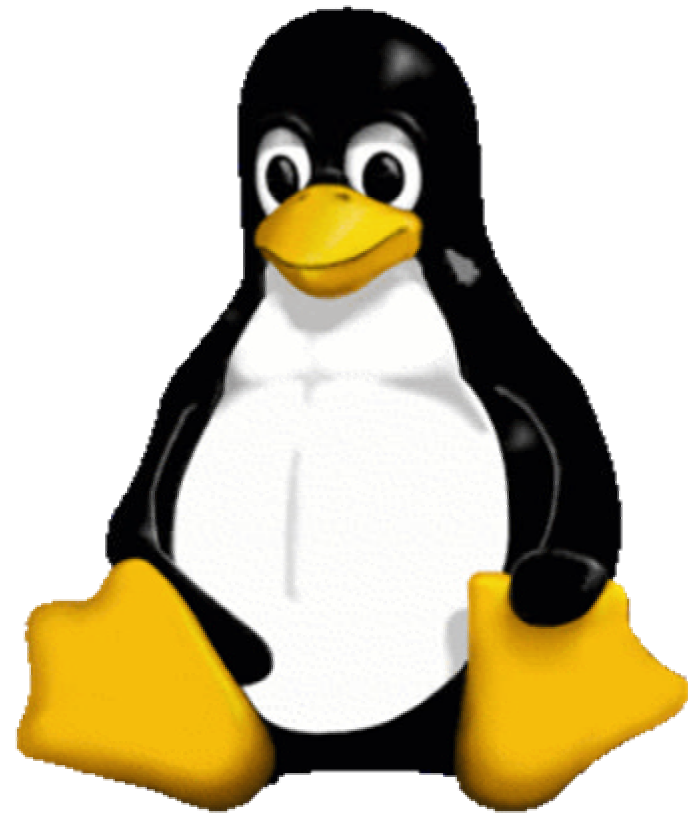
# Other Linux Instances

- ? UDB for invoice match
- ? Radius for Cisco routers
- ? WINS, DNS
- ? Apache for vendor site
- ? Websphere Application Server for developers
- ? DB2 Gateway
- ? Specialized file servers
- ? Test instances of each



# New Production Linux Instances

- ? JAVA Bridal Registry
- ? Radius for Cisco routers
- ? LDAP with Linux and DB2 to RACF
- ? Internal Firewall
- ? Acucorp's Acucobol for application migration



# Favorites

- ? The HOME page!
  - [www.linuxvm.org](http://www.linuxvm.org)
- ? Linux Documentation
  - [www.tldp.org](http://www.tldp.org)
- ? SaMBa
  - [www.samba.org](http://www.samba.org)
- ? Open Source HQ
  - [sourceforge.net](http://sourceforge.net)
- ? IBM Developer Works
- ? SuSE Linux SLES 7.2
  - [www.suse.com](http://www.suse.com)
- ? RAV AntiVirus
  - [www.raeinternet.com](http://www.raeinternet.com)
- ? IBM Support Line
- ? IBM Redbooks
  - [www.redbooks.ibm.com](http://www.redbooks.ibm.com)
- ? Subscribe to the Marist listserv!

## Credits

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This presentation was produced on a Netfinity  
desktop with SuSE Linux 8.0, StarOffice 6.0, and I  
didn't do any windows!