

# Oracle on Linux for System Z at Aetna



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Aetna

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**SHARE** in Boston

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# Agenda



- **Aetna Background**
- **POC Background**
- **2008 POC**
  - Details
  - Conclusions
- **Today**
  - Where are we?
  - What's Next?

# Aetna



Taken from Aetna.com

- Aetna is one of the nation's leaders in health care, dental, pharmacy, group life, and disability insurance, and employee benefits.
- Membership:
  - 17+ million medical members
  - 14 million dental members
  - 10+ million pharmacy members

# Aetna



**Mainframe n.** An obsolete device still used by thousands of obsolete companies serving billions of obsolete customers and making huge obsolete profits for their obsolete shareholders. And this year's run twice as fast as last year's.

"The Devil's IT Dictionary (after Ambrose Bierce)"

## The Year: 1966



Aetna is one of the first Commercial customers of the new IBM 360 Computer

## The 1970's

MVT ---- MVS ---- VM ( CP/CMS )

## The 1980's

PROFS !!

## The 1990's

Sysplex ---- DB2 Data-Sharing

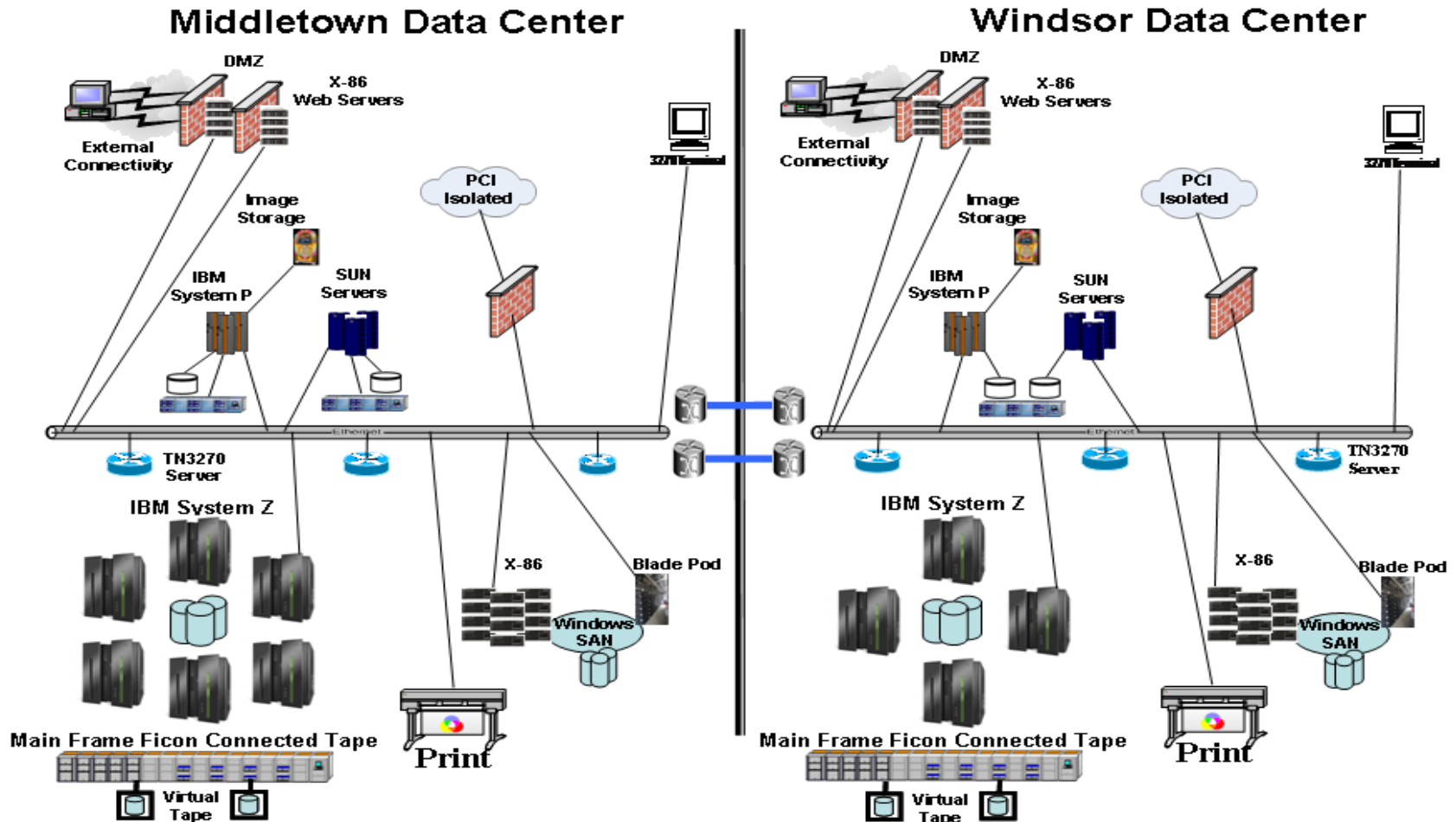
E-Mail

1998 Aetna Retires the Teddy Bear



# Aetna – Information Services

- Aetna has 2 Data Centers in CT
- They provide DBAR for each other

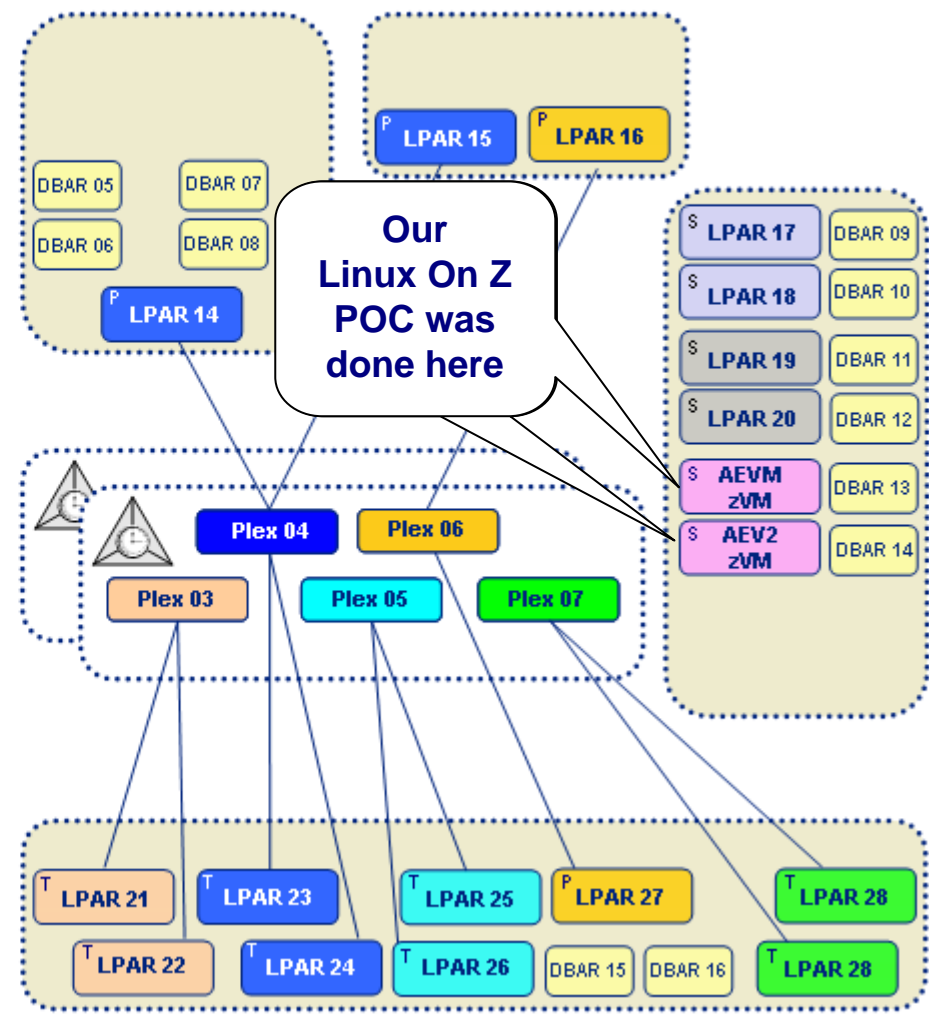
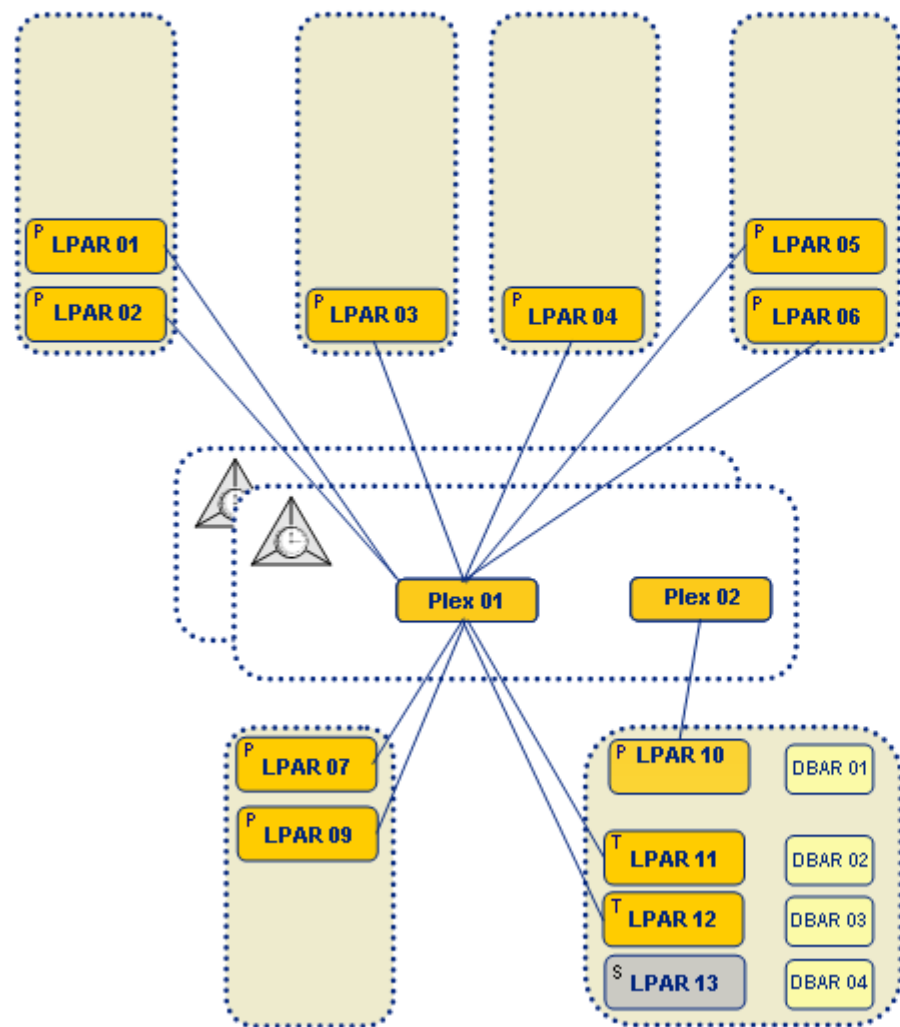


# Aetna – Mainframe Layout



Middletown

Windsor



# POC Background



- Aetna started server consolidation early 2000's
  - Solaris and AIX
  - Windows(2004)
  
- We did a Linux on Z POC in 2005
  - z/VM 5.2 => 5.3
  - Suse 9 => 10
  - Could not cost justify at that time \*\*
  - Started Movement to Linux on P and or X-86



# POC

- POC starts in late 2007
  - RedHat --- z/VM (The Teddy Bear comes out of retirement)
  - A cast of thousands...
- Drivers:
  - **Green**
  - Aetna MCC is closing in on KVA Limits
  - Available CPU's on existing CEC's
- POC ended in June, 2008
  - All major components tested
  - Volume tested databases

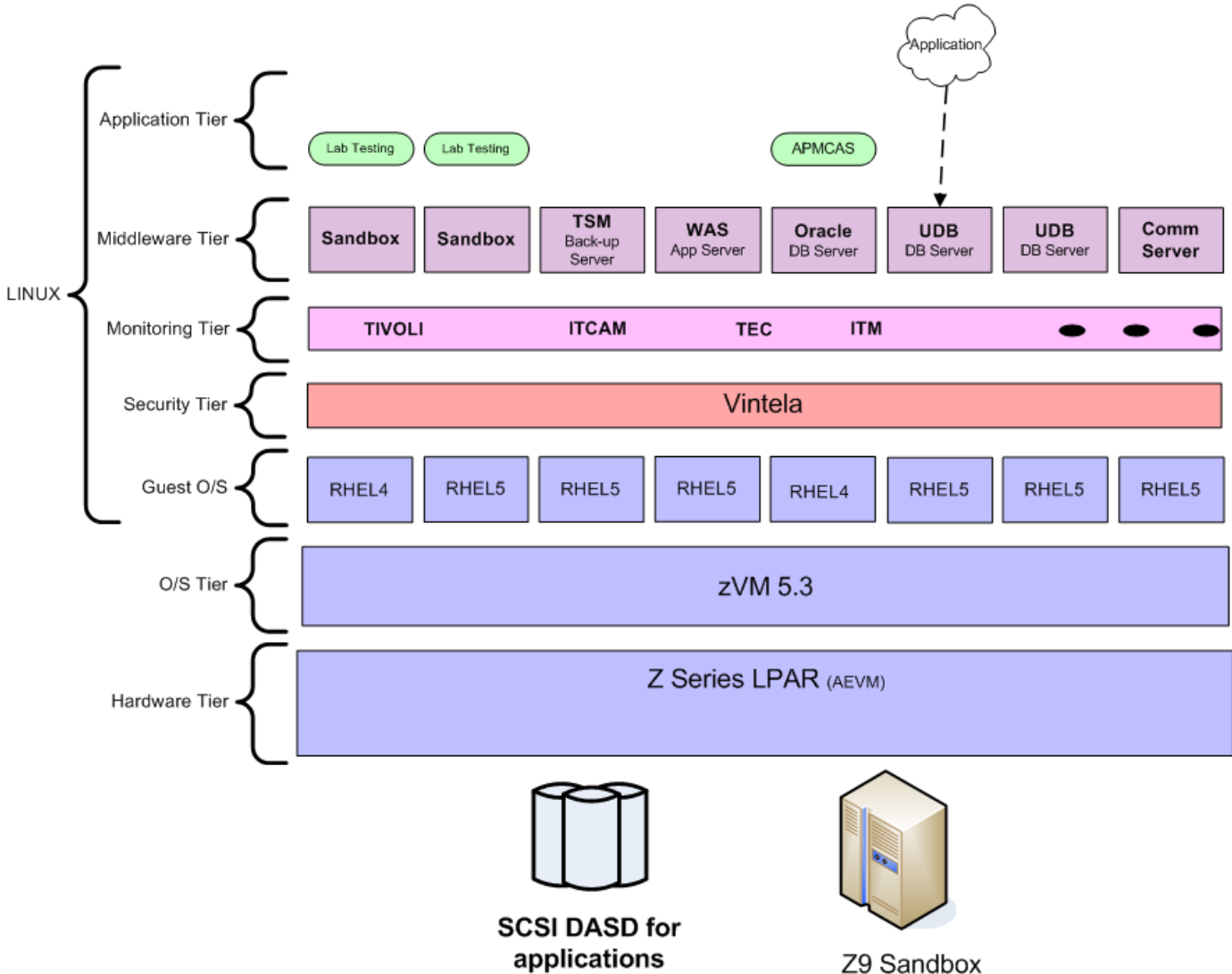


# POC



- Goals:
  - Handle Aetna Business Apps
  - Move to new hardware
  - Move between LPARS
  - Develop Operational Process
  
- Results:
  - ✓ Handle Aetna Business Apps
  - ✓ Move to new hardware
  - ✓ Move between LPARS
  - ✓ Develop Operational Process

# POC – our POC Stack



# POC – What We Tested



- **We tested 3 Databases**

1. 2 Oracle Databases
  - Oracle 10.2.03 running on RHEL 4.6
2. UDB Database
  - UDB V8 on RHEL 5.1

- **WAS / MQ**

1. Base product testing
2. WAS 6.02.21 on RHEL 5.1
3. WAS 6.1.013 on RHEL 5.1
4. MQ 6.0.2.4 on RHEL 5.1

# POC - Infrastructure



- Linux Guest Moves
  1. From 1 LPAR to a second
  2. Collapse back to one VM
  
- LPAR Moves
  1. z9 to z10 ... Seamless
  2. Then back again
  
- Tivoli Storage Manager (TSM)
  
- HiperSockets

# POC - Operations



- Memory - CPU
  1. Virtual vs Dedicated
  2. Dynamic allocation
    - 5.4 has helped, need Linux on Z adoption
  
- Monitoring / Capacity
  1. Mainframe & Midrange
  
- Support
  1. Linux is Linux
  2. VM / Linux / Storage support all work together

# POC - Conclusions



- It Works !!
- z10
  - Has increased the available resources for Linux on Z
- TCO
  - A relative thing (TCO vs TCA).
  - One of our major drivers today is “power”
- Migration
  - ‘Low Hanging Fruit’ – gone!! (consolidation, Linux on P, VMware)
  - Establish some internal applications to operationalize Linux on Z

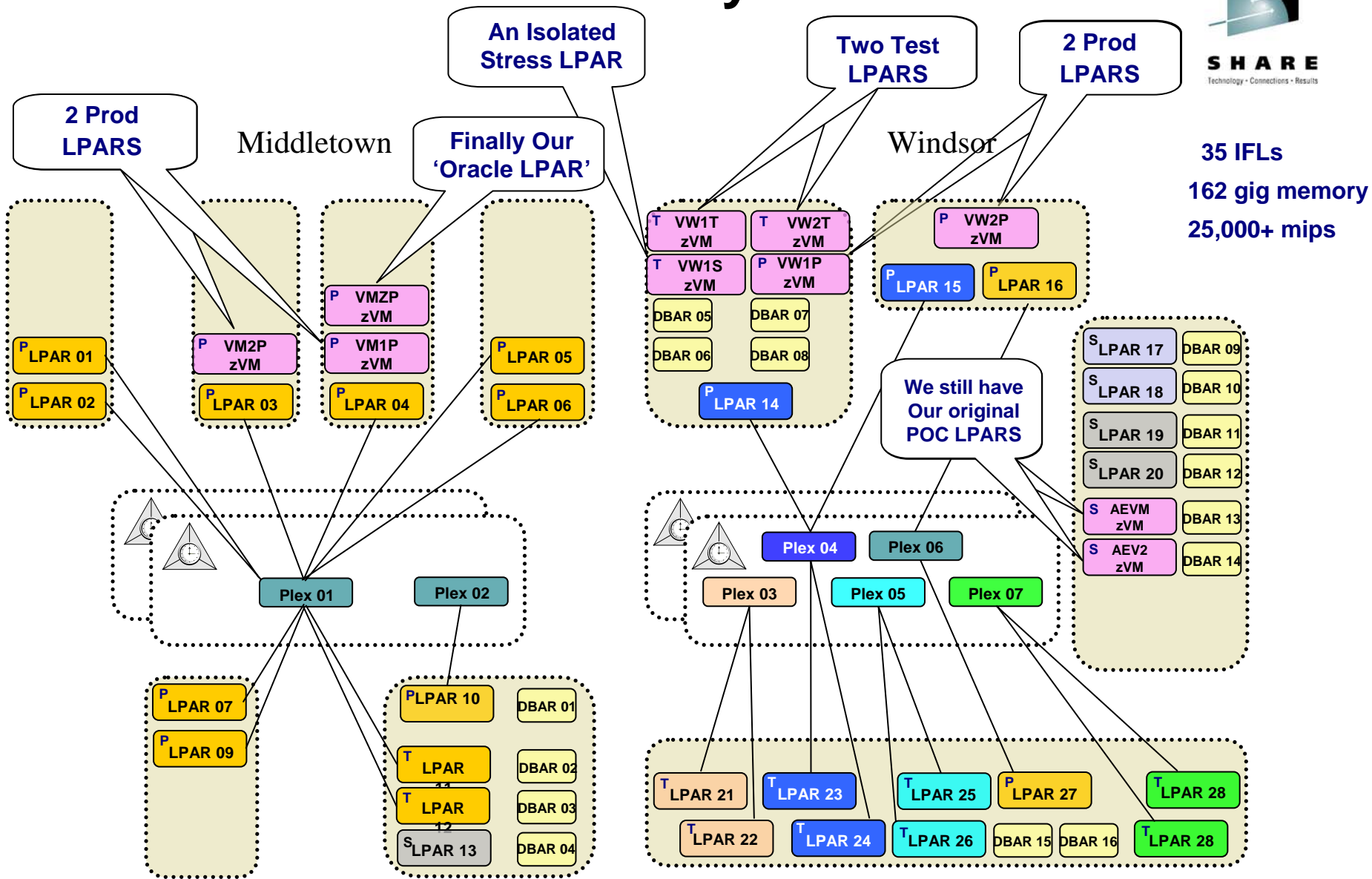
# POC – Looking Back



- **Pressure**
  - Need Green relief quickly
    - Focus became Delivery not Preparation
  
- **The First Application**
  - To prove environment took non critical app
  
- **Alligators** (vs draining the swamp)
  - Planview
  - Tivoli Product Suite
  - Communications Server



# Today



# Where Are we Today

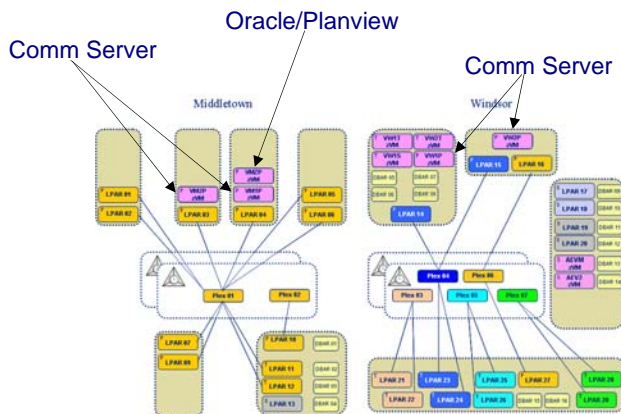
## We have 2 applications, and a suite

### ■ Planview:

- ✓ Project Management Tool
- ✓ Application Runs on Windows Servers
- ✓ Database is Oracle on LoZ

### ■ Communications Server:

- ✓ Replacing Cisco CIPS for TN3270 Traffic
- ✓ 80,000 sessions per day
- ✓ Mission Critical
- ✓ Run on 4 CECs 2 in each Datacenter
- ✓ We have pushed the limits a little
  - ❖ Found a Knee at 4,500 session/guest
  - ❖ Need 20 Linux Guests

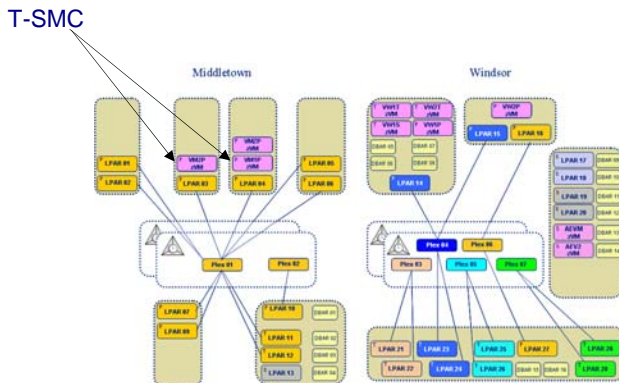


# Where Are we Today

We have 2 applications, and a suite

- **Tivoli Service Management Center :**

- ✓ Tivoli Application Discovery & Dependency (TADDM)
- ✓ Tivoli Business Service Manager (TBSM)
- ✓ Tivoli Common Reporting (TCR)
- ✓ Netcool Omnibus, TEP, TEMS, ITM, etc
- ✓ 27 guests built to date (potential over 80)
- ✓ Some Challenges



# Details

- **Physical :**

- ❖ Running 10 LPARS
- ❖ 5 Z10 EC CECS
- ❖ 35 IFLs
- ❖ 162 gig memory
- ❖ About 78 guests

- **Software :**

- ❑ z/VM 5.4 - 0901
- ❑ Red Hat Enterprise Linux (RHEL) 5.1, 5.2, 5.4
- ❑ Oracle 10.2.0.4
- ❑ UDB V9.5 Fixpack 5
- ❑ WAS 6.1.0.29
- ❑ MQ 6.0.2.4

# Next

- **Platform Selection :**

- ✓ IBM Calls it 'Fit for Purpose'
- ✓ Selectica (POC => used too much Memory)
- ✓ Maturity
- ✓ 1 Business App POC

- **Maturity :**

- ✓ IPL's and PORs
- ✓ HA
- ✓ Operational Readiness
- ✓ Organizational Challenges

# Thank You !!

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