EMEA ATS PSSC

IBM zSeries Hardware Designed for On Demand Computing Candle Meeting Montpellier, October 22nd, 2004

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Press Conference

7th April 1964, Poughkeepsie NY

- A new generation of electronic computing equipment was introduced today by International Business Machines Corporation. IBM Board Chairman Thomas J. Watson Jr. called the event the most important product announcement in the company's history.
- The new equipment is known as the IBM System/360.
- "System/360 represents a sharp departure from concepts of the past in designing and building computers. It is the product of an international effort in IBM's laboratories and plants and is the first time IBM has redesigned the basic internal architecture of its computers in a decade. The result will be more computer productivity at lower cost than ever before. This is the beginning of a new generation - - not only of computers - - but of their application in business, science and government."

Notable quotable…

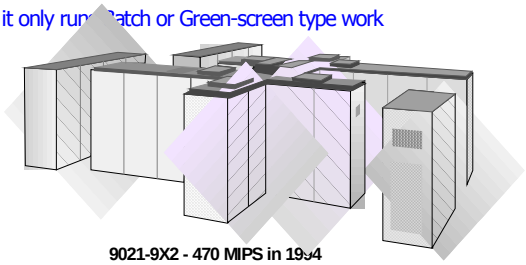
- **"I predict that the last mainframe will be unplugged on March 15, 1996"**

  Stewart Alsop, former InfoWorld columnist (now at Fortune Magazine), March, 1991

- Annual growth in MIPS of over 30% since 1992
- More than $20B in mainframe revenue since 1996 (when the last one was to have been unplugged…)
- But there have been many changes in the mainframe since 1991!
- Prior to the mid-90's, mainframes were the IBM "cash cow". Revenues are still healthy and margins high, but things have changed…

1990 – The Mainframe is dead – or so they said

- S/390 is dead or terminally ill
  - the aging user base is deserting the MVS ship and moving to UNIX or NT
- S/390 is expensive to buy and expensive to run
  - UNIX or Wintel is many times cheaper
- S/390 requires a huge Datacenter/Glasshouse
  - big machines, water cooling and huge electricity bills
- S/390 cannot run new eBusiness or ERP workloads
  - it only runs batch or Green-screen type work



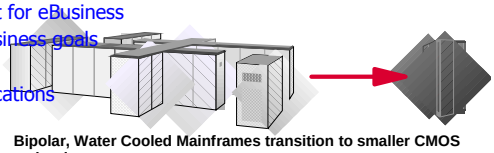
9021-9X2 - 470 MIPS in 1994

Water Cooling equipment as used 1970s to 1990s

.... but that was before IBM "Downsized the Mainframe"

The technology change

- CMOS significantly reduces cost, size & running costs
  - SMP goes to 10-way, 12-way and 16-way systems
  - Parallel Sysplex clustering introduced in 1994 to enable shared data
- 1996 - fully integrated UNIX environment on MVS/ESA
  - XPG4 and UNIX/95 branding - enables new workloads
- Over time support is added for eBusiness workloads
  - IEEE Floating point and Integrated Crypto engines - good performance
  - OSA and Gb Ethernet support - full conectivity to Internet
- 1999 adds FICON channels - Fibre Channel stage-II
  - higher speed, longer distance - more D/R options, connection to 'Open Systems I/O'
- 2000 - z900 and z/OS - new platform support for eBusiness
  - Sharing systems resources in line with business goals
- 2000 introduces Linux on zSeries
  - New options for fast start eBusiness applications
  - Integration with z/OS via HiperSockets



Bipolar, Water Cooled Mainframes transition to smaller CMOS technology

The Mainframe Charter

IBM intends to continue to:

Innovation

- **Provide leadership in innovation to enhance the use of IBM eServer zSeries to support increasingly integrated and flexible business processes for the on demand business.**
- **Maintain zSeries' position as a benchmark for flexible, efficient, and responsive platforms for highly complex, integrated environments running a wide range of mission-critical workloads.**
- **Improve the autonomic and self-managing capabilities of the zSeries while working to simplify user processes and system administration tasks.**

Value

- **Enhance the value proposition and lower the cost of computing of zSeries solutions in a way that is compelling, clear, and consistent.**
- **Extend the on demand characteristics of zSeries servers, highlighting its strengths as an environment for usage-based computing.**
- **Increase the ability to account for allocation and use of zSeries resources in an on-demand environment.**

Community

- **Support programs designed to foster vitality in the zSeries community, helping to promote a strong application portfolio and world-class support services.**
- **Provide the skills and expertise to assist customers in designing, developing, and deploying on demand solutions built on a foundation whose cornerstone is zSeries.**
- **Leverage key open standards and common structures to enhance the use of zSeries in large, heterogeneous environments.**

These principles help guide IBM's investment priorities in zSeries systems and demonstrate IBM's commitment to provide ongoing value to its zSeries customers.

Mainframe Charter: Delivering new on demand capabilities

It is our intention to:

Innovation

Provide leadership in innovation to enhance the use of IBM eServer zSeries to support increasingly integrated and flexible business processes for the on demand business. **

On demand capability Roadmaps:

Business Integration
- z/OS 1.6 and zAAP exploitation
- Communication Controller on Linux (2005*)

Business resiliency & security
- GDPS Multi Platform Resiliency for zSeries supporting Linux for zSeries running as z/VM guest (2004*)
- GDPS Hyperswap Manager (2005*)

Intelligent Business Director:
- eWLM for zOS (2004*)
- eWLM for Linux (2005*)
- Common Information Model (2005*)
- IBM Director Multiplatform (2005*)
- TBSM and TEC for managing business service levels

Value

Enhance the value proposition and lower the cost of computing of zSeries solutions in a way that is compelling, clear, and consistent.**

Flexible & Responsive Pricing Models:
- Subcapacity pricing for key platform Software - Recently adopted by BMC and CA
- Broad portfolio of Capacity on Demand offerings

zSeries ServerProven Rebate Offering***

Offerings for Integration and Simplification
- zAAPs and IFLs
- Application transformation and integration services
- Scorpion Studies

Offerings for Resiliency and Security
- GDPS®/PPRC Implementation Services (now supports GDPS Multi Platform Resiliency for zSeries)
- GDPS® HyperSwap Manager – 75% savings on select function SA and Tivoli Netview suite
- Base zSeries and z/OS Security workshops

Offerings for System Mgmt and Optimization
- End to End Systems Management Services
- IT Optimization Solution Offering
- 12-Step Strategic Virtualization Assessment

Community

Support programs designed to foster vitality in the zSeries community, helping to promote a strong application portfolio and world-class support services.**

Broadening ecosystem to enable customer with support and skills
- Greater support to enable participation
- Over 50 new ISVs with 150 new applications in 2003
- Already 39 new ISVs and 131 new applications through 1H04 and growing

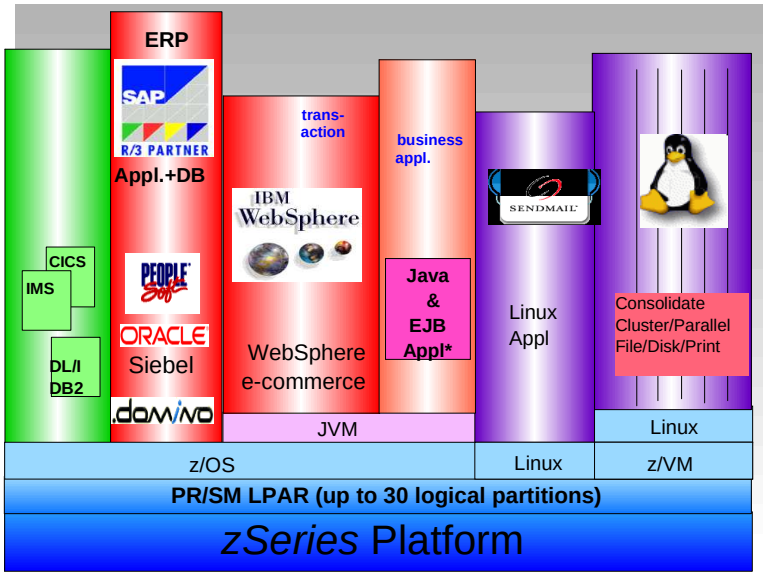
FSS Reference Architectures
- **Live banking demo in MOP**

Exponential increase in Scholars Program
- 70 Universities enrolled
- Targeting 20,000 new zSeries trained people in market by 2010.

** Excerpted from the Mainframe Charter – August 2003

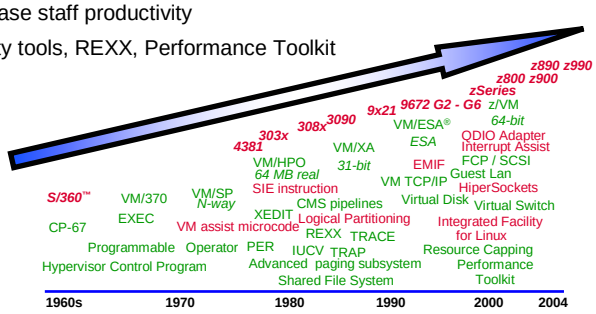
*** US and Canada Only

One single, large resource space – virtualised, architected



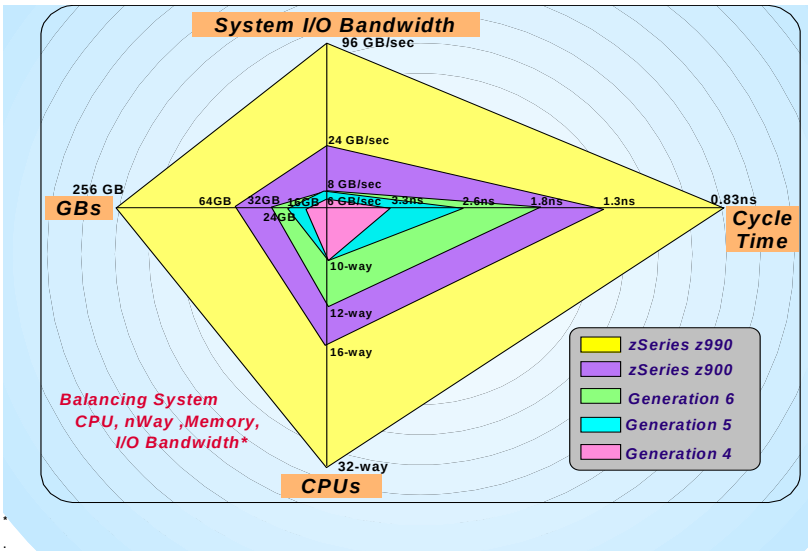
IBM Mainframe Virtualization Technology Evolution
Over 35 Years of Continuous Virtualization Innovation

- Refined to support modern business requirements
- Exploit hardware technology for economical growth
- Integrated Facility for Linux, HiperSockets™, Logical Partitioning
- Help increase staff productivity
- Productivity tools, REXX, Performance Toolkit



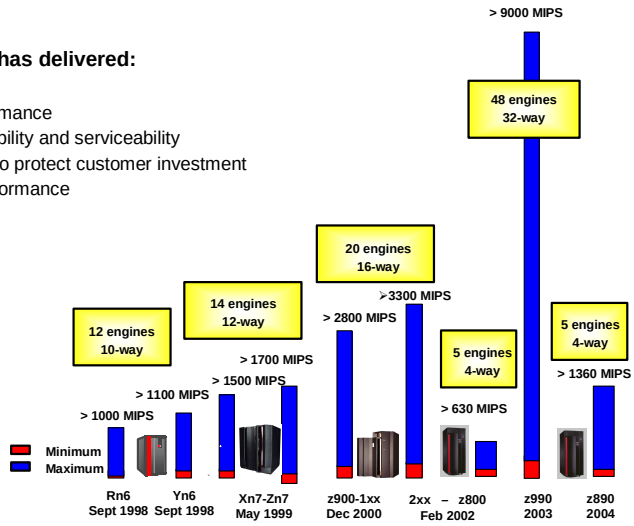
zSeries – comprehensive and sophisticated suite of virtual function

A balanced system design



Technology and investment protection

- **Each new range has delivered:**
  - New function
  - Improved performance
  - Improved availability and serviceability
  - Field upgrades to protect customer investment
  - Better price/performance



The z990

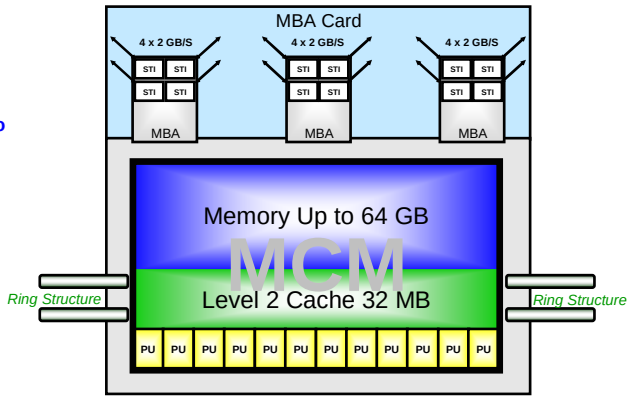
- ✓4 Models (A08, B16, C24, D32), 1 - 32 way
  - ✓Up to 32 IFLs
- ✓Improved performance over the z900
- ✓Up to 256 GB of central processor storage
- ✓Up to 4 Logical Channel SubSystems (LCSSs)
  - ✓Up to 1024 channel paths
  - ✓Up to 15 LPARs per LCSS
- ✓Up to 30 LPARs
  - ✓LPAR Mode only - No basic mode
- ✓Up to 120 FICON Express™ cards
- ✓Up to 512 ESCON® channels/no parallel channels
- ✓Support for cascaded FICON directors
- ✓IPL from FCP-attached SCSI disks
- ✓Up to 16 HiperSockets for high-speed interconnections
- ✓Up to 48 OSA-Express ports
- ✓Virtual LAN (IEEE 802.1q) supported
- ✓OSA-Integrated Console Controller (OSA-ICC)
- ✓Secure cryptographic functions (PCIXCC)

z990 – Model A08 Overview

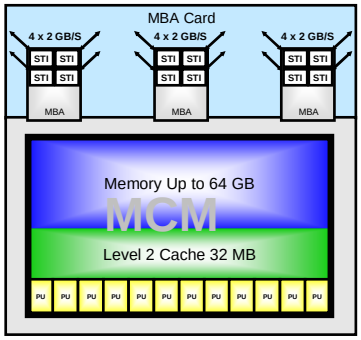
- 12 Processor Units
  - **8 characterizable**
  - 2 SAPs
  - 2 Spare
- Up to 64 GB Memory
- L2 Cache 32 MB
- **Memory subsystem dual ring to other books (if any)**
- 3 MBAs with 12 STIs

An STI can support an:

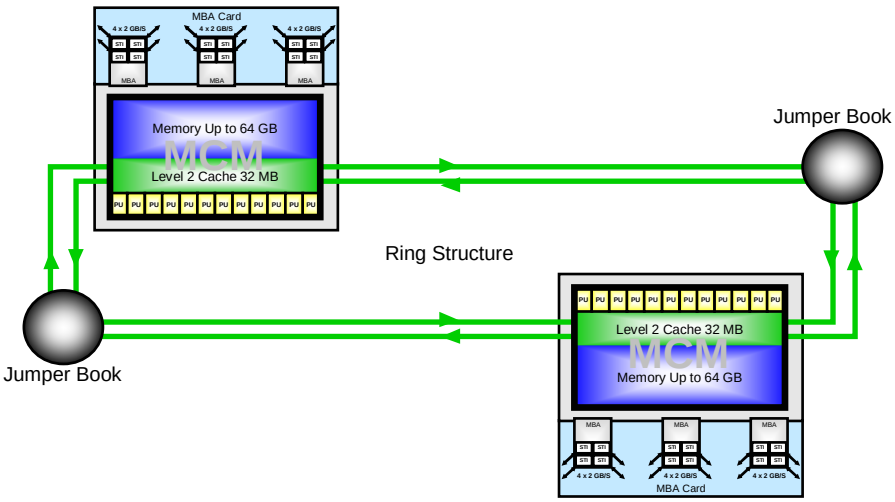
- I/O Cages Domain
  - 4 I/O slots
    - I/O & Networking Cards
    - Crypto Cards
- ICB Extender Card
  - ICB -2 Extender
  - ICB -3 Extender
- ICB-4 Connection



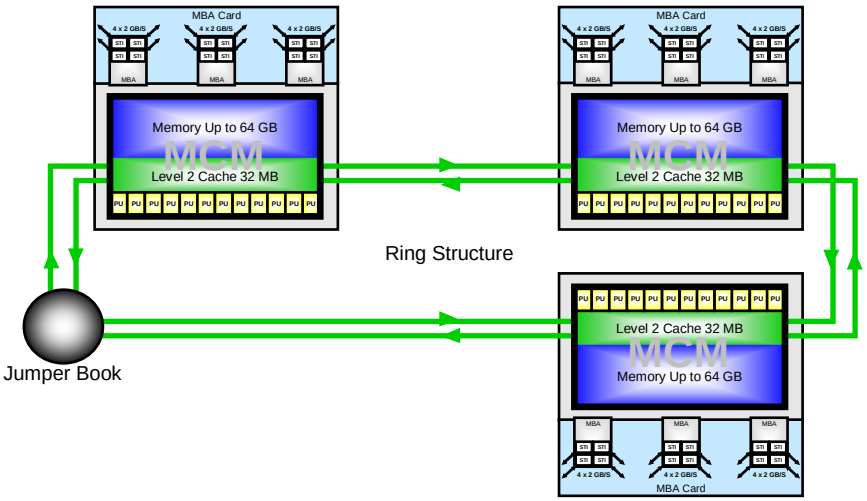
z990 – Model A08



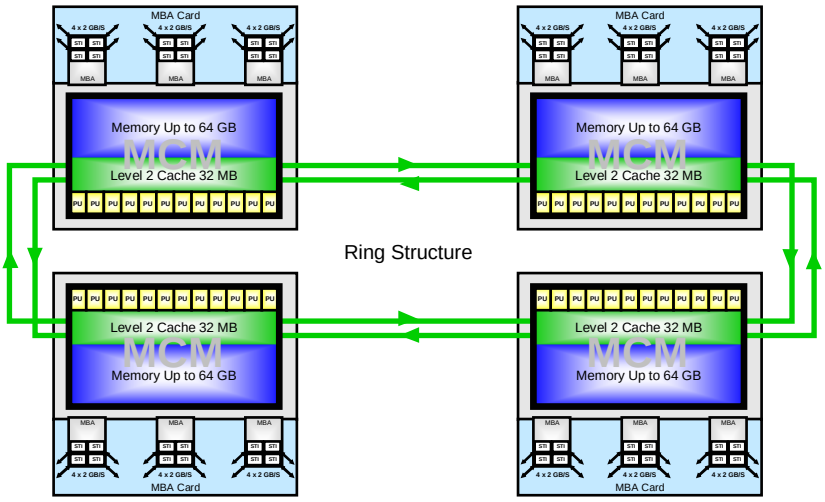
z990 – Model B16



z990 – Model C24



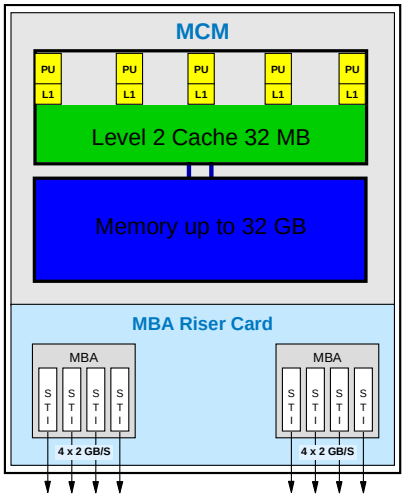
z990 – Model D32



IBM eServer zSeries 890

- ✓1 Model - 28 capacity settings, 1 - 4 way
  - ✓Model 110 has select features
  - ✓Up to 4 Integrated Facilities for Linux (IFLs)
- ✓Improved performance over the z800
- ✓Up to 32 GB of central processor storage
- ✓Up to 2 Logical Channel SubSystems (LCSSs)
  - ✓Up to 512 channel paths
  - ✓Up to 15 LPARs per LCSS
- ✓Up to 30 LPARs
  - ✓LPAR Mode only - No basic mode
- ✓Up to 20 FICON Express cards (40 channels)
- ✓Up to 420 ESCON channels/no parallel channels
- ✓Support for cascaded FICON directors
- ✓IPL from FCP-attached SCSI disks
- ✓Up to 16 HiperSockets for high-speed interconnections
- ✓Up to 40 OSA-Express ports
- ✓Virtual LAN (IEEE 802.1q) supported
- ✓OSA-Integrated Console Controller (OSA-ICC)
- ✓Secure cryptographic functions (PCIXCC)

z890 – Model A04

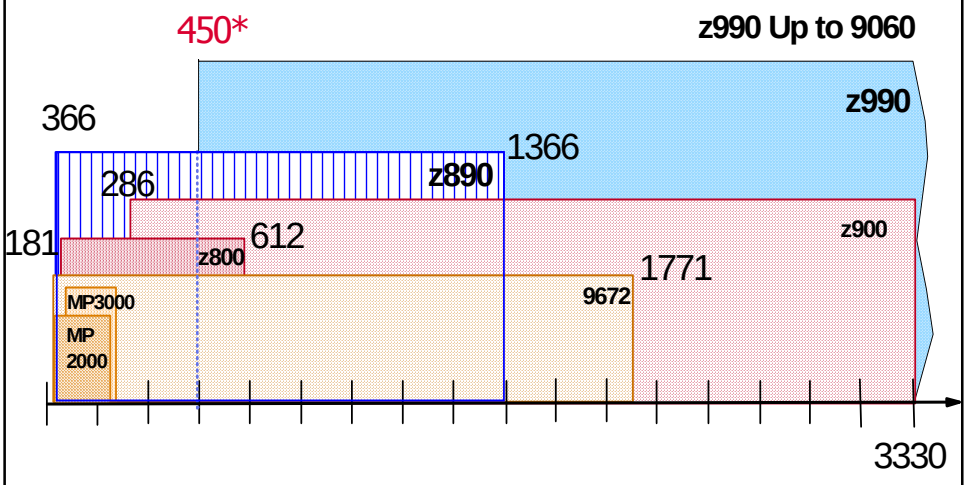


z890 – Capacity settings and MSUs

1-WAY	MSUs	2-WAY	MSUs	3-WAY	MSUs	4-WAY	MSUs
110	4	210	8	310	11	410	15
120	7	220	13	320	20	420	26
130	13	230	26	330	38	430	49
140	17	240	32	340	47	440	62
150	26	250	50	350	74	450	97
160	32	260	62	360	91	460	119
170 - Full 1-way	56	270 - Full 2-way	107	370 - Full 3-way	158	470 - Full 4-way	208

- Any horizontal upgrade is concurrent (i.e. 140 to 240)
- Others (vertical or diagonal) require an IPL (except z/VM)
- 070 = IFL model with FC 6516 or ICF model with FC 6518 and no CPs

Capacity comparison



* Based on standard LSPR mixed workload and z990 sw model 301 set to 450

Innovation: Key October product announcements that help enable your on demand operating environment

- **z890 and z990:**
  - Security – Crypto Express2, Trusted Key Entry (TKE), EAL5 for z990
  - Simplification – OSA-Express*, OSA-Express2*, FCP LUN Access Control*
  - Flexibility – non-disruptive upgrades on z890
- **Operating Systems:**
  - Integration – z/OS v1.6 support of zAAP, Comm. Controller for zLinux
  - Security – enhancements to RACF, LDAP and SSL
  - Flexibility – z/OS support for 24way Single image
  - Optimization – WLM enhancements for DB2 stored procedures, EWLM
  - Open Tooling – z/Transaction Processing Facility Enterprise Edition 1.1.0
- **Middleware:**
  - Integration – WebSphere on zAAP, Latest Java links in key middleware
  - Automation – Omegamon incorporates leading Tivoli monitor features
  - Platform readiness - IMS v9 and CICS TS V3 SOA compliant for Integration
  - Integrated Tool Set – zSeries Rational tooling, IMS Online Reorg, DB2 II

* Includes delivered and planned zVM exploitation

Innovation – New zSeries Server Enhancements

Networking and Security Enhancements that help enable your on demand operating environment

- **Increased flexibility and resiliency through new network and I/O attachment options**
  - **OSA-Express2[1]**
    - GbE and 10GbE
    - Concurrent LIC updates
    - TCP/IP Enhancements
      - Increase in IP stacks
      - Large send for TCP/IP traffic
      - Layer 2 support
  - **OSA-Express**
    - Improved stack utilization[2]
    - Layer 2 support[2]
  - **SAN**
    - Preview of FCP LUN access control[3]
    - FICON™ purge path extended[2]
- **Raising the bar for a security-rich environment**
  - **Crypto Express2[1]**
  - **TKE 4.2 workstation smart card reader[2]**
  - **EAL5 certification on the z990**
- **Increased flexibility through non-disruptive capacity setting upgrades on the z890**

[1] Planned availability is January 28, 2005
[2] Planned availability is October 29, 2004
[3] Planned availability is to be determined

All statements regarding IBM's future direction and intent are subject to change or withdrawal without notice, and represent goals and objectives only.

Innovation: z/OS designed for the on demand operating environment

z/OS 1.6
Availability: September 24, 2004

Integrating new applications
- Improved JAVA integration with support for zAAP
- Increased scale and performance with 64-bit C/C++ and 64-bit JAVA (shipped as separate product)
- Improved performance with new C/C++ compiler options to exploit z890s and z990s

Increased scale of z/OS workloads
- 24-way single image in z990 logical partition
- 32-way single image *(planned for 2005)*

Simplified management of security features
- Improved interoperability between RACF and LDAP
- SSL-enhanced digital certificate management

Increased optimization of resources
- WLM enhanced for DB2 stored procedures
- DFSMS placement of critical datasets on Parallel Access Volumes

z/OS 1.6 is the first release to require z/Architecture™, and will only run on zSeries servers: (z890, z990, z800, z900)

z/OS 1.7 Preview
Planned availability: September 2005

Improved business resiliency
- XRC+ extensions for GDPS

Application Development
- Java access to VSAM data with JDBC Connector (planned for 2005)

Cross system management
- z/OS support of IBM Virtualization Engine™
  - Enterprise Workload Manager *(planned for Dec 2004)*
  - Common Information Model *(planned for 2005)*

Enhanced networking and security
- Network security configuration, monitoring, scalability and performance enhancements
- TCP/IP sysplex availability enhancements
  - z/OS Load Balancing Advisor, DVIPA reacquisition

Usability
- New z/OS Health Checker component

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Innovation: Virtualization and Linux in the on demand operating environment

New

z/VM V5.1 Availability: September 24, 2004

- **Advanced Virtualization capabilities provide more cost-effective and robust virtual Linux servers**
  - Deployment of a Linux server farm on z/VM using only FCP-attached SCSI disks.
  - Improved cryptographic performance with PCIXCC support for Linux and z/OS guests
- **Exploitation of z/VM Technology provides**
  - Support for the OSA-Express – Integrated Console Controller
  - Support of four Logical Channel SubSystems (LCSSs)
  - Higher availability for network traffic using the z/VM Virtual Switch
- **Strengths of 64-bit computing**
  - Requires z/Architecture servers: z990, z890, z900, z800
  - Customers can still run a mix of 31- and 64-bit virtual servers

z/VM 5.1 Enhancements Announced October 2004

- **Planned Availability Dec 3, 2004**
  - z/VM Virtual Switch exploitation of Layer 2 mode on OSA-Express
  - Performance Toolkit for VM enhancements to support monitor records created by the SUSE LINUX 2.6 kernel
- **Planned Availability Jan 28, 2005**
  - Improved security for Linux and z/OS guests with Crypto Express2 support
  - OSA-Express2 support (includes 10 GbE support)
  - More device connections for TCP/IP for z/VM
- **FCP LUN access control for added control of SCSI devices is planned to be supported at the availability of this function on the z990 and z890**

Planned Availability in 2005*…

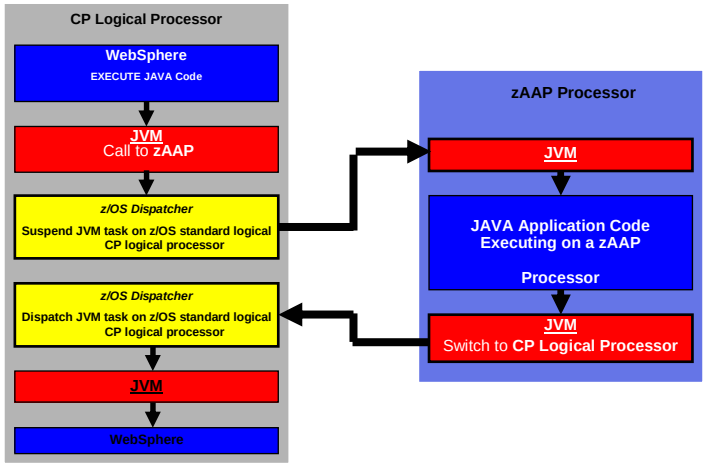
- **Communications Controller for Linux on zSeries**
  - Planned select NCP (Network Control Program) functions software running within Linux on zSeries
  - Allows customers to continue using traditional SNA without a dependency on IBM 3745 and 3746 Communications Controller hardware.

* All statements regarding IBM future direction and intent are subject to change or withdrawal without notice, and represents goals and objectives only.

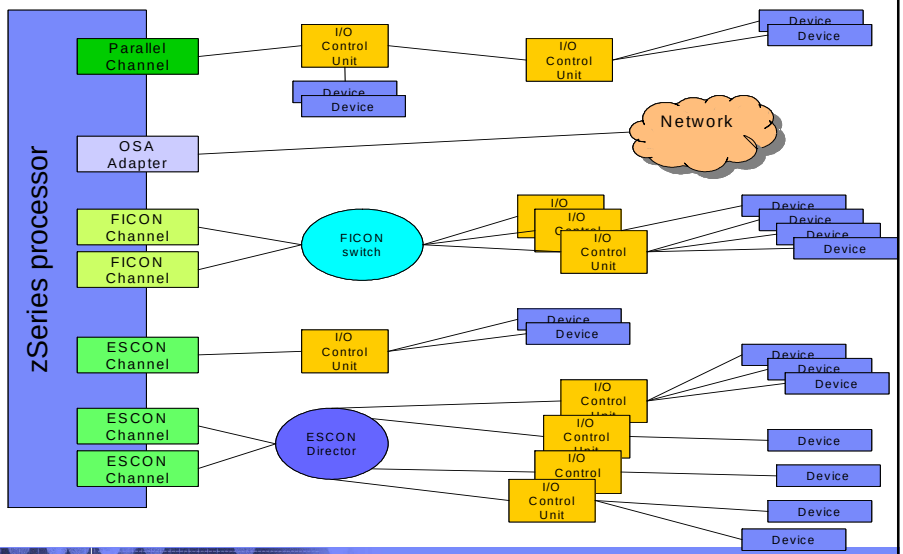
PU characterisation

- **The type of Processing Units (PUs) that can be ordered (enabled / assigned) include:**
  - Central Processors (CPs)
    - Provides processing capacity exclusively for z/Architecture and ESA/390 instruction sets
    - Runs z/OS, z/VM, VSE/ESA and TPF
  - Integrated Facility for Linux (IFL)
    - Provides additional processing capacity exclusively for Linux workloads
    - Runs Linux or Linux under z/VM Version 4 or Version 5
  - Internal Coupling Facility (ICF)
    - Provides additional processing capacity exclusively for the execution of the Coupling Facility Control Code (CFCC) in a CF LPAR
  - System Assisted Processors (SAPs)
    - SAPs manages the start and ending of I/O operations for all logical partitions and all attached I/O
  - IBM eServer zSeries Application Assist Processor (zAAP)
    - Under z/OS, the Java Virtual Machine (JVM) assists with Java processing to an zAAP
    - Requires z/OS 1.6 - available 09/2004

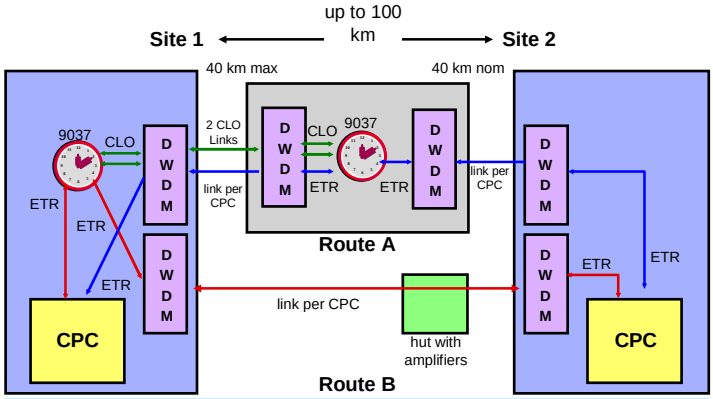
zAAP execution flow



I/O Connectivity



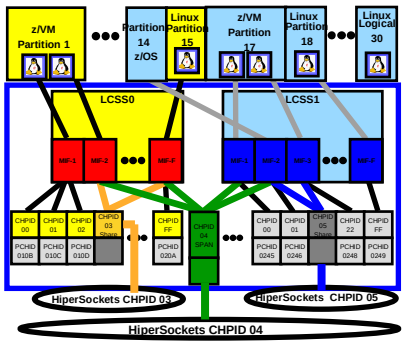
Cross site – extended distance – RPQ8P2263 offering for certain workloads/configurations – D/R



Note: Midspan 9037 can also be located within 40 km of site 2 or on Route B; All ETR and CLO links are provisioned as 1 channel per wavelength.

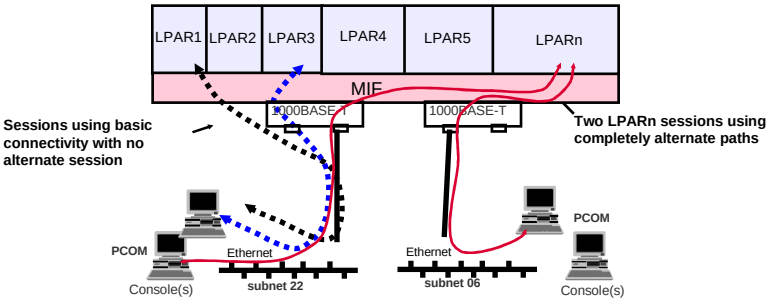
Hipersockets

- **The following functional enhancements are available on the z890/z990:**
  - Four times the connectivity possible
    - *From 4 to 16 HiperSockets*
    - *Connect four times more TCP/IP stacks*
      - *Increased number of communication queues* (from1,024 to 4,096)
    - Multiple LANs enable separation/isolation of user communities
  - Support for LCSS
    - Single Logical Partition can connect up to 16 HiperSockets
  - Support for spanned CHPIDs across LCSS
    - One HiperSockets can be shared by up to 30 Logical Partitions
  - Support for 64-bit HSA address space
  - Virtual LAN (IEEE 802.1q) supported with z/OS.e V1.5 and z/OS V1.5
  - Broadcast for IPv4



Very High Speed Interconnection between programs running z/OS, z/VM or Linux

OSA-ICC – integrated console connection

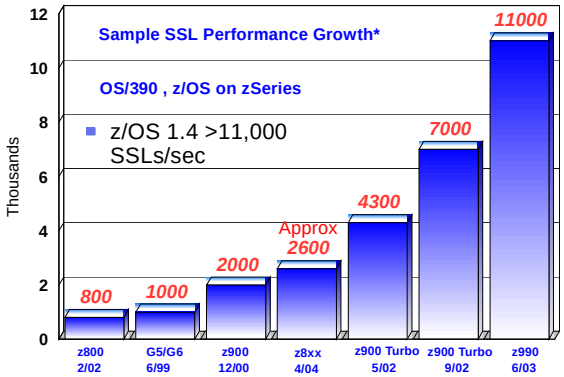


- Up to two hundred forty (240) sessions to multiple Logical Partitions on the CEC
- Session-level redundancy using different paths on ports, LANs, and consoles
  - Different console sessions from different LAN to same Logical Partitions for dual connectivity
  - Manual, disruptive console session switch possible for failed session
  - Individual session cannot be shared between Logical Partitions
  - LAN ports must attach to different subnets
- Loss of one port does not nondisruptively switch sessions to second port on same or different OSA-Express

zSeries cryptographic technology

- Focus on Secure Sockets Layer (SSL) encryption
- Continues to help provide competitive security rich symmetric performance
- Helps provide seamless integration of Crypto features via ICSF
- Focus on required certifications and open standards

- Linux 13,000 SSLs/sec* for z990



z890 - April, 2004
CPACF/PCIXCC/PCICA

z990 - Sept., 2003
PCIXCC

z990 - June, 2003
CPACF/PCICA

z900/z800 - Dec, 2000/ May, 2002
2 Chips on CEC Board - CMOS7s+
PCICC/PCICA

G6 -June, 1999
2 Chips on Processor
MCM - CMOS5x

G5 -Sept., 1998
2 Chips on Processor
MCM - CMOS5x

G4 -Sept., 1997
SCMs on Planar Board - CMOS5x

G3 - June, 1997
SCMs on Planar Board - CMOS5x

*The SSL rate was achieved with a z990 with 16 processors and 6 PCICA features (12 accelerator cards). The measurements are examples of the maximum transactions/seconds achieved in a lab environment with no other processing occurring and do not represent actual field measurements. Details available upon request.

Customer controlled capacity upgrades

- ***On/Off Capacity on Demand - Temporary upgrade***
  - Nondisruptive* temporary addition of CPs, IFLs, ICFs and zAAPs
  - Upgrades requiring parts (e.g. for a z990 Model A08 to B16 upgrade) not supported
  - "Right to use" feature - Orderable as MES or with new build to initiate contract and administrative setup
  - Customer orders and installs upgrade via Resource Link and IBM RSF
  - Nondisruptive removal when capacity is no longer wanted
- ***CIU – Customer Initiated Upgrade - Express - Permanent upgrade***
  - Customer capability to order and install permanent upgrade
  - Not included
    - Upgrades requiring parts (e.g. for a z990 Model A08 to B16 upgrade)
    - Channel upgrades by LIC enable of existing ports
  - CIU feature - MES ordered to initiate contract and administrative setup
  - Customer orders and installs upgrade via Resource Link and IBM RSF
- ***CBU – Capacity Backup - Temporary emergency capacity upgrade*****
  - Nondisruptive temporary addition of CPs ONLY in an emergency situation
  - CBU contract required to order CBU features and CBU LIC CC
  - Customer activates upgrade for test or temporary emergency
  - Nondisruptive downgrade after test or recovery completed

*** For z890 CPs only for horizontal upgrade. OS may require IPL for vertical or diagonal upgrades.**
**** For z890 - To FULL size engines only**

Linux for zSeries

A stable, open operating system environment for enterprise applications

Fastest growing server operating system
- Stable
- Security features
- Economical
- Evolves rapidly

Wide range of infrastructure tools / enablers from ISVs and Open Source
- System management solutions
- Infrastructure and middleware solutions
- Enterprise Applications

Linux is designed to be hardware independent, ***but*** when you run it on zSeries servers, it retains all the advantages of the openness of Linux, while leveraging the flexibility and manageability of the most sophisticated hypervisor function available, and can inherit the strength, robustness, and security of modern mainframes

Enterprise Applications
Application infrastructure
Open, stable operating system

A sophisticated and complete suite of hypervisor function

zSeries provides a high degree of balanced resource to the hypervisor for use by Linux and other OS's

zSeries statements of direction

- IBM intends to support greater than 24 CPs or combined CPs and zAAPs, in a single image on appropriate releases of z/OS and z/VM in combination with designated zSeries servers in the future.
- IBM intends to extend its network virtualization capabilities with updates to OSA-Express, Virtual Switch, and guest LANs. When delivered, they may be defined to operate in Layer 2 mode (referring to Layer 2 of the Open Systems Interface (OSI) reference model). Layer 2 support applies to an OSA-Express feature when configured in QDIO mode (CHPID type OSD). Layer 2 support is expected to be applicable, initially, to the z/VM and Linux on zSeries environments.
- IBM intends z890 and z990 to be the last family of zSeries servers to support attachment of ISC-3 links to ISC-2 links on G5/G6 servers.
- IBM intends the z990 to be the last high-end zSeries server to offer Token-Ring adapter features on the HMC, SE, and TKE workstation features. IBM intends to withdraw Token-Ring adapter features from the IBM 2074 Console Controller. This SOD does NOT include Token-Ring OSA-Express.
- IBM intends that starting with the next high-end zSeries server, all HMCs on all currently marketed zSeries servers will become closed platforms. They will support only the HMC application and not the installation of other applications, such as the IBM ESCON Director and the IBM Sysplex Timer console applications. When available, the next generation HMC may communicate only with G5 Servers, and above. Closed HMC can't act as ESCON Director or Sysplex Timer Console.

All statements regarding IBM future direction and intent are subject to change or withdrawal without notice, and represents goals and objectives only.

zSeries general directions

- Major Autonomic Computing enhancements:
  - Eliminating planned and unplaned outages
  - Simplifying operations
- Participate in Grid
  - implement the Open Grid Services Architecture
- Enhanced virtualization
  - for Linux virtual servers
  - via z/VM and PR/SM LPAR enhancements
- Exploit 64-bit architecture
  - to improve performance and reduce systems level constraints
- Open design for industry standards in I/O
  - Fibre Channel Protocol (alongside FICON)
  - Emerging I/O standards
- Continued performance and cost/performance improvements
  - via new processor generations

zSeries Server Technology Roadmap

Planned Functional Directions

Today

- Improved granularity with z890
- Improved integrated performance with zAAP
- Improved Single System Image with 24-way z/OS 1.6
- Increased I/O bandwidth for FICON, via improved performance and number of ports

Tomorrow

- Performance improvements through increased engine speed and number of processors
- Single System Image extension beyond 24-way
- Increased availability with greater concurrent capabilities
- Increased virtualization with more LPARs
- Business continuance enhancements with GDPS
- Device addressability constraint relief

Future Vision

- Increased number of processors in a single machine
- FICON bandwidth performance improvements
- Sysplex timer distance improvements
- Linux virtualization improvements
- Continued focus on low end granularity for both legacy and new workloads, while deploying new technology
- Further increases in processor performance and number of processors in a single machine
- High-performance coupling for heterogenous environments
- Trusted computing
- SCSI access for z/OS

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Integrated, autonomous, open, virtualised

Integrated

Autonomic

Open Middleware

WebSphere software | DB2 Data Management Software | Lotus software | Tivoli software | Rational software

Open

Decoupled infrastructure

Linux	z/OS	OS/400	AIX	Windows
Non-IBM servers	IBM @server		IBM TotalStorage	

Virtualized

One single, large resource space – virtualised, architected