# *The e-business mainframe....*

# *....extending the family*

## *IBM @server zSeries 800*

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| DB2* | Intelligent Miner | z/OS |
| ESCON* | MQSeries* | z/OS.e |
| FICON | OS/390* | z/VM |
| FICON Express | Parallel Sysplex* | zSeries |
| HiperSockets | S/390* | zSeries Entry License Charge |
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# *Agenda*

- **The marketplace that drives us**

- **Built on success**

- **Introducing IBM® @server zSeries™ 800**

- **Flexible offerings**

- **Designed for e-business workloads**

- **What our customers say**

- **Unleashing the power of the mainframe**

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# *What Customers have told us about their requirements*



- **Management challenges:**
    - ▶ Need to reduce infrastructure and drive out costs
    - ▶ Unpredictable workloads
    - ▶ Exponential growth, but limited budgets
    - ▶ Security and availability are key
    - ▶ Linux®/ Open Source
    - ▶ Provide more and more services via the Web
    - ▶ Competitive advantage

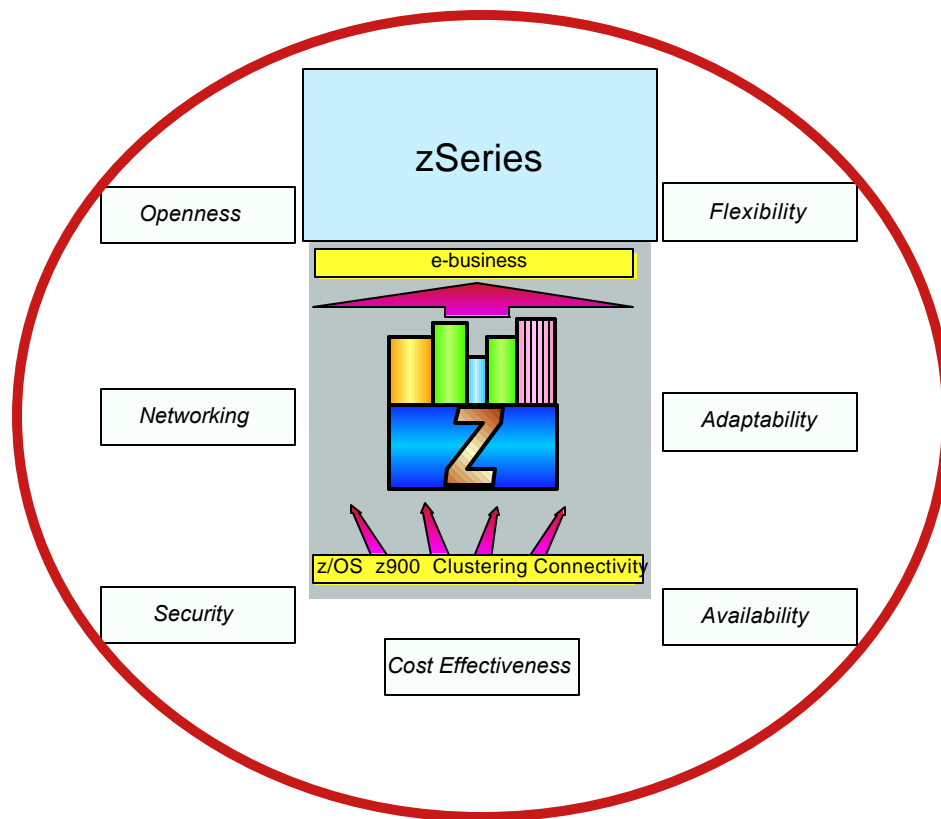# zSeries - the e-business mainframe

- IBM @server zSeries 900 announced October 2000

- The first server designed from the ground up for e-business

- Fastest growing server in 2001!

**The Story Continues...**

- As our competitors seek to imitate us, we are extending our reach

- zSeries technologies for more customers and more markets

# *Introducing IBM @server zSeries 800*

**All of the unique qualities of the z900**

**repackaged in a new smaller zSeries**

zSeries

| Openness | | Flexibility |

e-business

| Networking | | Adaptability |

z/OS  z900  Clustering Connectivity

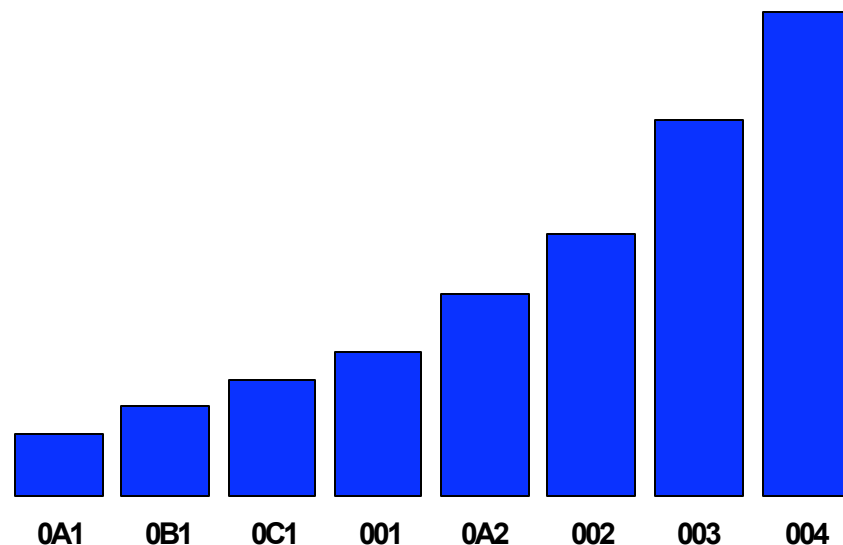| Security | | Availability |

Cost Effectiveness

- **The Mainframe Quality of service you need to improve your cost effectiveness and extend your reach**

- **The flexibility to respond to business priorities**

- **Consolidation on zSeries to drive out costs**

*The e-business mainframe designed for YOU*

# *z800 Highlights*

- **z/Architecture™: 64-bit**
- **Flexible Models**
  - ‣ 8 general purpose
  - ‣ CF Model
  - ‣ Linux model
- **Granular Upgrades**
  - ‣ Plus upgrade to z900
- **Parallel Sysplex®**
  - ‣ Integrated Coupling Bus - ICB-3
  - ‣ Inter System Channel - ISC-3
  - ‣ Internal Coupling Channel - IC-3
- **Advanced Connectivity**
- **Availability Built in**
  - ‣ Redundancy
  - ‣ Clustering
- **Secure by design**
- **zSeries Entry License Charge™ (zELC) Software pricing**

0A1  0B1  0C1  001  0A2  002  003  004

z800OVPG050

# *z800 Overview*

■ **Processor**
- ▸ 5PU MCM - 1-4 CPs, 1 SAP - Unused PUs may be configured as IFL, ICF, or spare
- ▸ Crypto engines optional
- ▸ CUoD

■ **I/O**
- ▸ 16 slot I/O cage supports up to 240 ESCON® channels
- ▸ OSA-Express, GbE, Fast Ethernet, TR, ATM, FICON™ Express, PCI Crypto
- ▸ Open FCP - SOD
- ▸ No parallel channels
- ▸ External cables can be ordered via IBM Global Services Fibre Transport Connectivity Service (FTCS)
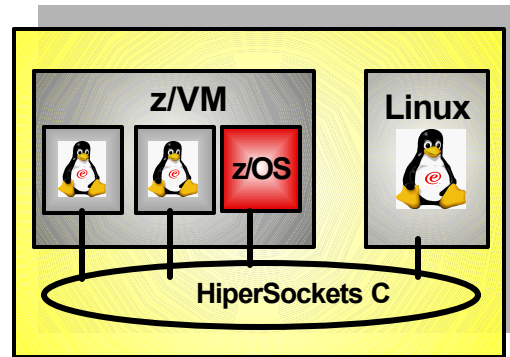
■ **HiperSockets™**

■ **Memory**
- ▸ Min 8 GB, Max 32 GB
- ▸ Increments of 8 GB
- ▸ No concurrent memory upgrades

# *Networking and Connectivity Options*
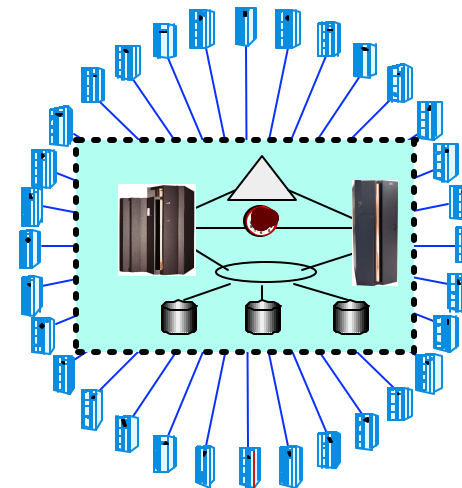
- **Within the server**
  - ▶ HiperSockets

**z/VM** · z/OS · **Linux**

HiperSockets C

- **To the I/O**
  - ▶ FICON Express™
  - ▶ ESCON
  - ▶ Open FCP (SOD)

- **To The World**
  - ▶ OSA-Express
    - – Gb Ethernet
    - – Fast Ethernet
    - – 155 ATM
    - – Token-Ring

- **Between Servers**
  - ▶ Parallel Sysplex connectivity
    - – Integrated Cluster Bus
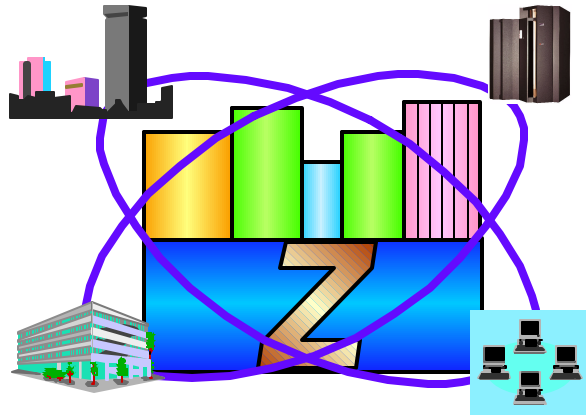    - – Inter System Channel
    - – Internal Coupling Links

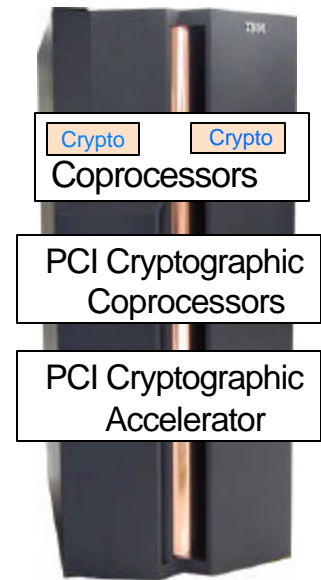z800OVPG070

# z800 Security Options

Crypto      Crypto
Coprocessors

PCI Cryptographic
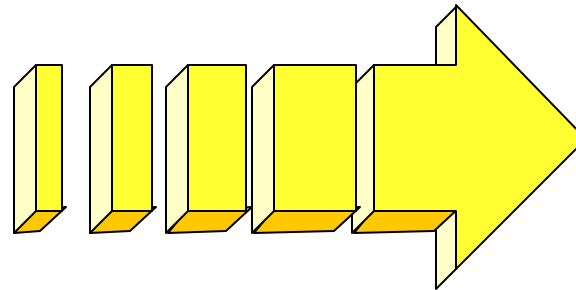Coprocessors

PCI Cryptographic
Accelerator

- **Enables End-to-End Security**

- **Digital Signature function**

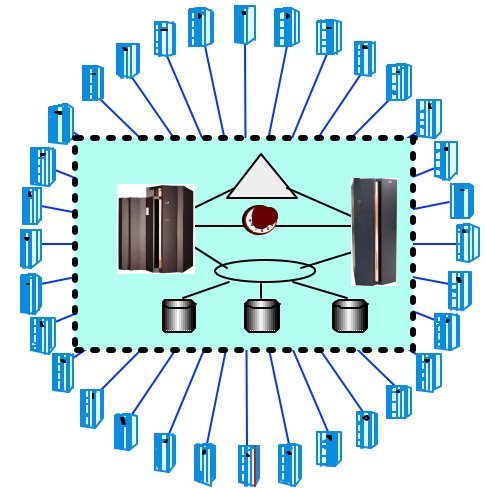- **Tamper-proof Coprocessors**

- **High Performance SSL transactions**

*Industrial strength security with excellent performance for e-business applications*

# zSeries Availability

**Single System**

**Parallel Sysplex**



1 to 32 Systems

- **Capacity Upgrade on Demand**

- **Capacity Backup**

- **Hot Pluggable I/O**

- **Built in Redundancy**

- **Higher Levels of Performance**

- **Capacity**

- **Scalability**

- **24 x 365 Availability**
  - ▶ Applications
  - ▶ Hardware

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# *z800 Model 0CF Coupling Facility*

- **z/Architecture**

- **Configurations**
  - ► 1 to 4 ICFs
  - ► Up to 6 ICB-3
  - ► Up to 24 ISC-3
  - ► 8, 16, 24 or 32 GB storage

- **Connects to:**
  - ► z800
  - ► z900
  - ► 9672s (model dependent, ISC-3 only)

- **Upgradable to z900 model 100**

**z800 Model 0CF**



Any coupling capable server needs qualification on 9672 - should be G3 or higher (no support to couple to G1 or G2). 0CF may be converted to z800 general purpose models, but there is no upgrade path to z900 model 100.

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# z/OS V1R3 - What's new?

- **APPLICATION FLEXIBILITY**
  - ▶ zSeries File System improvements
    - – Performance and management
  - ▶ UNIX System Services availability enhancement
    - – Refresh USS without z/OS outage

- **eLiza SELF OPTIMIZING**
  - ▶ WLM improved for distributed DB2® and WebSphere®

- **IMPROVED STORAGE & I/O MANAGEMENT (DFSMS)**
  - ▶ Improved performance
    - – HSM faster recall
    - – Simplified HFS copy
    - – DB2 elapsed batch jobs reduced
    - – VSAM performance (64-bit buffers)

- **Improved manageability and debug**

- **SECURITY**
  - ▶ Digital Certificate life-cycle management for competitive leadership in scale and TCO
  - ▶ Enhanced Crypto algorithms and standards
  - ▶ More granular access control for UNIX file systems

- **Statement of Direction**
  - ▶ Enterprise Identity Mapping
    - – Manage the relationship between identities in multiple system and application registries

- **Introducing new z/OS security products:**
  - ▶ Tivoli® Policy Director for MQSeries® for z/OS and OS/390
  - ▶ IBM Policy Director Authorization Services for z/OS and OS/390

# z/OS.e - What is it?

**z/OS.e & z800**

- **z/OS.e™ is a specially priced z/OS offering for enterprise and e-business applications on z800.**
  - ▸ Select function at an exceptional price
  - ▸ A total platform solution

- **z/OS.e operating environment is comparable to z/OS in all aspects of service, management, and reporting**
  - ▸ Same z800 hardware functionality as with z/OS
  - ▸ Same code base as z/OS with customized parameters
  - ▸ Leverage existing skills and investments

# z/OS.e - A new product offering

- **A specially priced z/OS offering - select function at reduced cost**
  - ▶ A fraction of the cost of z/OS

- **For enterprise and e-business applications**
  - ▶ For ERP, CRM, SCM, BI
  - ▶ Web-enabled data transaction processing
  - ▶ Select function supports applications written in object-oriented languages
  - ▶ Integrates with traditional data transaction processing workloads on z/OS

- **Only on z800**
  - ▶ z800 extends zSeries technology to a broader range of customers:
    - – Intelligent Resource Director, Workload Manager, HiperSockets, FICON Express, Parallel Sysplex, Capacity Backup, 64-bit.

- **A total platform solution - with z/OS.e and z800 together, significant savings are possible when deploying new mission critical e-business applications**

# z/OS.e - What it runs

- **Optimized price performance for many of today's hottest applications:**

  - ▶ IBM solutions: WebSphere Application Server, WebSphere Commerce, Lotus® Domino®, DB2 Intelligent Miner™

  - ▶ Applications written to C/C++, Java®, and Enterprise Java (J2EE)

  - ▶ Supports DB2, most IBM and ISV middleware, connects to CICS® and IMS™

- **z/OS.e on z800 can:**

  - ▶ Run as a z/VM™ guest

  - ▶ Occupy full z800 or individual engine(s) - LPAR mode only

  - ▶ Participate in Parallel Sysplex

- **Same code base, comparable operating environment as z/OS**

  - ▶ Availability, Reliability, Maintenance, Service, Scalability, Security....

- **Technically fences traditional data transaction processing workloads such as CICS, IMS, COBOL, and FORTRAN**

  - ▶ Also disables some z/OS Base Elements and z/OS Features

z800OVPG140

# Introducing zSeries Offering for Linux

**zSeries is introducing its first dedicated server offering for Linux**

- ► The first Linux for zSeries offering designed from the ground up for server consolidation

- ► Improved Total Cost of Ownership through consolidation of UNIX, Windows NT and Linux applications to Linux on zSeries

- ► Virtualization capability to run 20 to many hundreds of Linux images

- ► Delivers high performance, scalability, availability, security and connectivity through advanced zSeries architecture

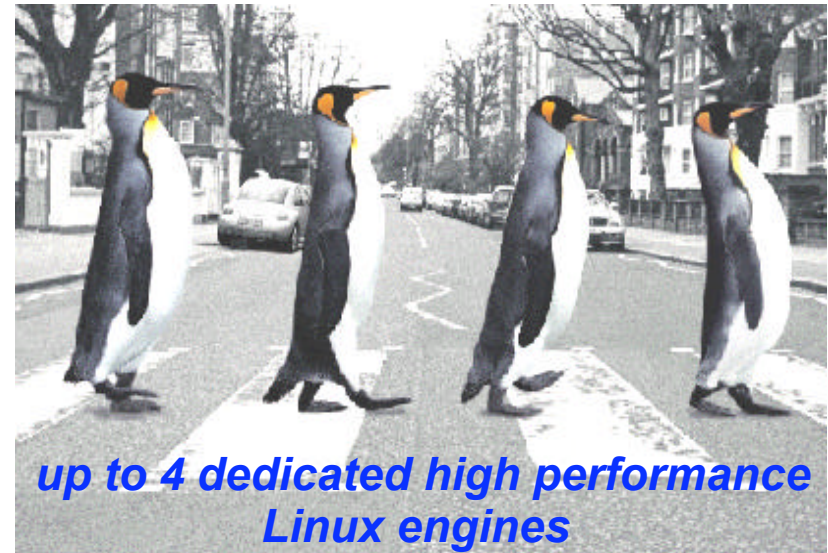- ► Investment protection by choosing the world of open standards

## *It's a mainframe... and it's Linux!*

# *A Linux server with all the mainframe strengths*

- **Flexible connectivity**
  - ► HiperSockets
  - ► Wide choice of I/O
  - ► Wide choice of external networking

- **High Quality of service**
  - ► Built in redundancy
  - ► Support for Hardware Cryptography
  - ► Capacity Upgrade on Demand
  - ► Sparing
  - ► Hot Pluggable I/O

- **All at one great package price**

*up to 4 dedicated high performance Linux engines*

# IBM @server *zSeries offering for Linux*

## *So, What do you get......*

- **zSeries Hardware**
  - ▶ z800 Server - Model 2066-0LF
  - ▶ 1 to 4 Integrated Facility for Linux engines
  - ▶ Memory pre-configured to match enabled processor
  - ▶ Includes FICON Express, OSA-Express, and ESCON connectivity

- **zSeries Virtualization Technology**
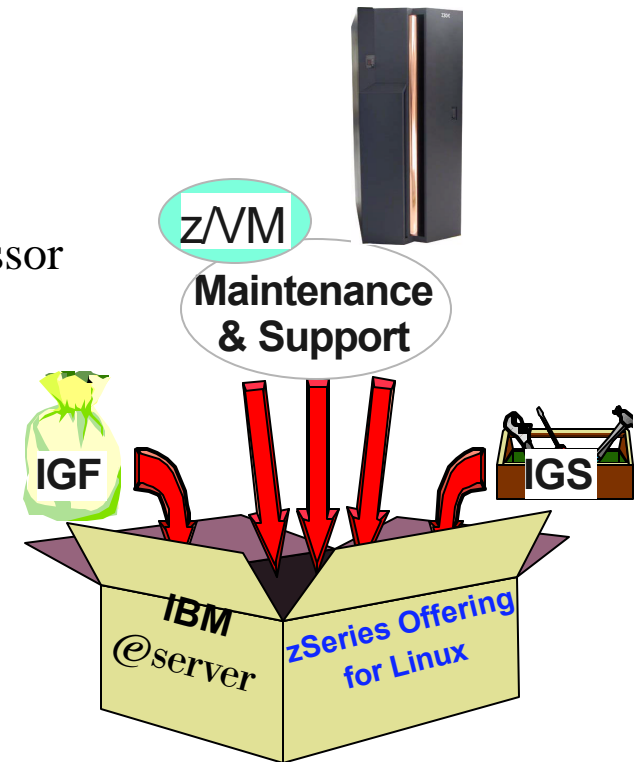  - ▶ z/VM

- **zSeries Maintenance and support**
  - ▶ 3 years hardware maintenance (1 year warranty)
  - ▶ 3 years z/VM Subscription and Support License

- **IBM Global Finance - optional**
  - ▶ Financing options available from IBM Global Finance

- **IBM Global Services - optional**
  - ▶ IBM Support Line Software Services for Linux
  - ▶ IGS Linux Rapid Deployment Service

z/VM

**Maintenance & Support**

IGF

IGS

IBM @server zSeries Offering for Linux

z800OVPG170

# *z/VM — making Virtual a Reality*

- **z/VM virtualization technology**
  - ► Horizontal scalability
  - ► Performance
  - ► Security
  - ► Ease of use
  - ► Self managing, self optimizing eLiza features
  - ► Support and exploit technical capabilities of new hardware



**LINUX for zSeries**

WARNING: SERVER CONSOLIDATION CAN SERIOUSLY INCREASE YOUR WEALTH

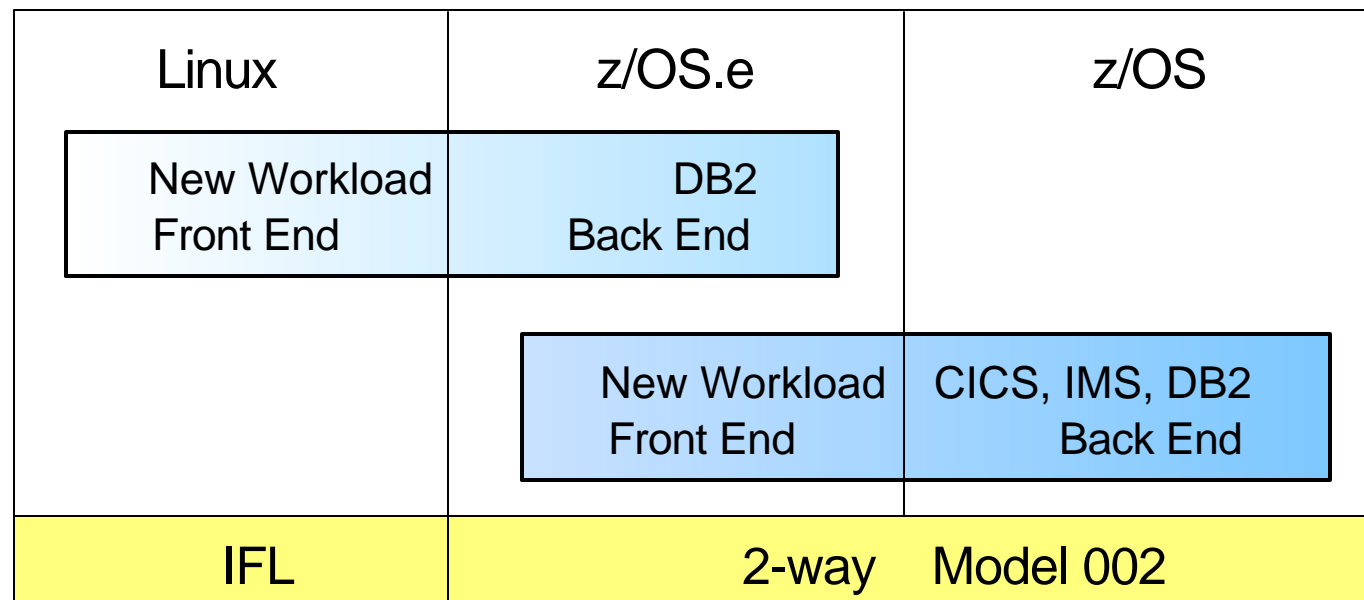# *Linux: the list of applications just keeps on growing...*

- **ERP, Production Planning, Logistics**
  - ► ABAS Software AG
  - ► SAP
- **Database**
  - ► Oracle 9i
  - ► Software AG XML Database
- **Application & e-business Integration**
  - ► Tibco
  - ► Iona
  - ► BEA
  - ► Aeonware (B2B/B2C)
- **Systems Management**
  - ► BMC Patrol
  - ► BMC Mail Server Knowledge Agent
  - ► BMC Web Server Knowledge Agent
  - ► Computer Associates
- **Windows migration, ASP**
  - ► Halcyon Software

- **Stock tracking**
  - ► RTS Realtime Systems
- **Core Banking Applications**
  - ► Sanchez
- **Mail and Calendaring server**
  - ► Sendmail
  - ► Bynari (Mail & Calendaring)
  - ► Steltor (Calendaring)
- **Print server**
  - ► Macro4
  - ► SAMBA (File & Print)
- **Development & Testing Tools**
  - ► Logics Software
  - ► Rational Software
  - ► Rogue Wave Software
  - ► Dignus
  - ► ACTS (testing)
- **Backup Software**
  - ► Legato
- **Firewall**
  - ► zGuard

*ISVs are constantly releasing new applications for Linux on zSeries. Get the most current information from the Developer Products for Linux for zSeries and S/390 Web page at:*
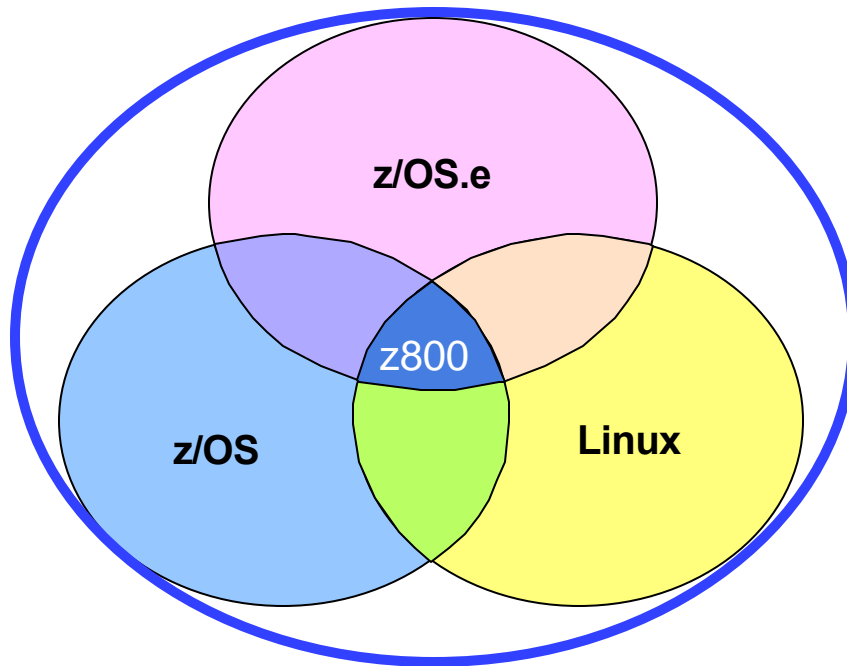**www-1.ibm.com/servers/eserver/zseries/solutions/s390da/linuxproduct.html**

# *Flexible execution of workloads*

- **More flexibility!  z/OS.e can operate as a robust yet economical back end database server to Linux or UNIX**

- **z/OS.e can operate as a robust yet economical front end to traditional data transaction processing**

| Linux | z/OS.e | z/OS |
|---|---|---|
| New Workload Front End | DB2 Back End | |
| | New Workload Front End | CICS, IMS, DB2 Back End |
| IFL | 2-way    Model 002 | |

*z/OS.e will not operate as a data transaction server for traditional workloads*

# *Unleashing the power of the mainframe*

z/OS.e

z800

z/OS

Linux

**z/OS**
Industry leading qualities of service
Systems management, security, error
recovery, Parallel Sysplex
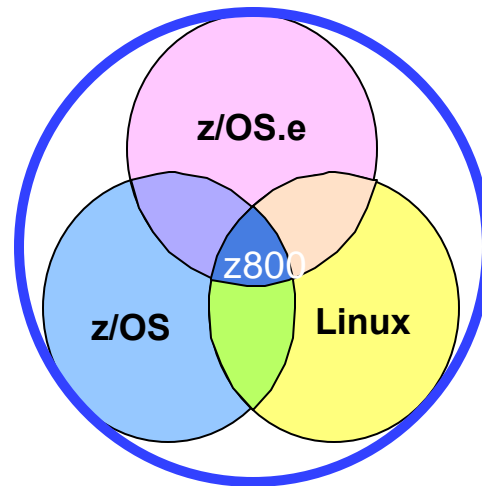Designed to exploit zSeries function

**z/OS.e**
z/OS qualities of service
z/OS operating environment -
select function for new workloads
on z800
Exceptionally priced

**Linux**
Large portfolio of applications
Higher reliability over alternative platform
Massive scalability

**The choice and mix is up to
you**

## *Unleashing the power of the mainframe*



- ■ **The Quality of service you need to improve your cost effectiveness and extend your reach**
- ■ **The flexibility to respond to business priorities**
- ■ **Consolidation on zSeries to drive out costs**

# *Backup Charts*

■ **For additional material please see the following:**

  ► z800 Technical presentation guide

  ► z/OS presentation guide

  ► z/OS.e presentation guide

  ► IBM @server offering for Linux presentation guide

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