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z/VM, z/VSE, Linux on System z News

incl. recent IBM hardware announcements

6th European GSE / IBM Technical University, Mainz, Germany, October 2012

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DS6000	IBM eServer	System z10	zSeries*
DS8000	IBM logo*	System z10 Business Class	z9
Enterprise Storage Server*	IMS	Tivoli	z10
ESCON*	MQSeries*	TotalStorage*	z10 BC
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Agenda

- § **IBM zEnterprise EC12 and PureSystems**
- § **Hardware Toleration and Exploitation**
- § **Operating System Service and Support**
- § **Development Roadmap**
- § **Cloud on System z**
- § **Press, Learning, Customer References**

IBM System z Generations

N-5

z900
•Announced 10/2000
•770 MHz
•Up to 16 assignable cores
•CP, IFL, ICF
•Up to 64 GB Memory

z800
•Announced 2/2002
•625 MHz
•Up to 4 assignable cores
•CP, IFL, ICF
•Up to 32 GB Memory

N-4

z990
•Announced 5/2003
•1.2 GHz
•Up to 32 assignable cores
•CP, IFL, ICF, zAAP
•Up to 256 GB Memory

z890
•Announced 4/2004
•1.0 GHz
•Up to 4 assignable cores
•CP, IFL, ICF, zAAP
•Up to 32 GB Memory

N-3

z9 Enterprise Class
•Announced 7/2005
•1.7 GHz
•Up to 54 assignable cores
•CP, IFL, ICF, zAAP, zIIP
•Up to 512 GB Memory

z9 Business Class
•Announced 4/2006
•1.4 GHz
•Up to 7 assignable cores
•CP, IFL, ICF, zAAP, zIIP
•Up to 64 GB Memory

N-2

z10 Enterprise Class
•Announced 2/2008
•4.4 GHz
•Up to 64 assignable cores
•CP, IFL, ICF, zAAP, zIIP
•Up to 1.5 TB Memory

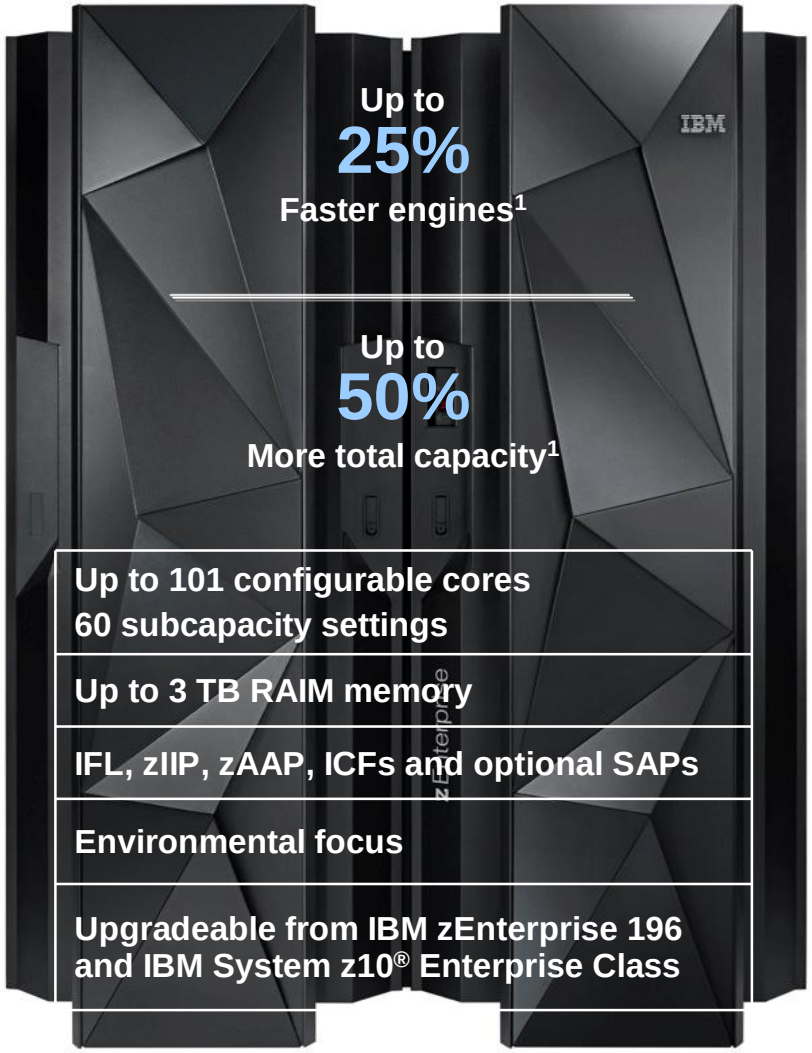
z10 Business Class
•Announced 10/2008
•3.5 GHz
•Up to 10 cfg cores (5 CP)
•CP, IFL, ICF, zAAP, zIIP
•Up to 248 GB Memory

N-1

zEnterprise 196
•Announced 7/2010
•5.2 GHz
•Up to 80 assignable cores
•CP, IFL, ICF, zAAP, zIIP
•Up to 3 TB Memory

zEnterprise 114
•Announced 7/2011
•3.8 GHz
•Up to 10 cfg cores (5 CP)
•CP, IFL, ICF, zAAP, zIIP
•Up to 256 GB Memory

zEnterprise EC12 is the Core of Next Generation System z



NEW!

zEC12

Machine Type: 2827

Models: H20, H43, H66, H89, HA1

Advanced Technology 5.5 GHz processor chip for performance boost for all workloads

- Over ***78,000 MIPS*** for large scale consolidation
- ***Larger cache*** for data serving

Processor chip optimized for software performance – exploited by *Java, PL/I, compilers, DB2* and more

Innovation to drive availability to superior levels

- ***IBM zAware*** offers snap-shot of the current state of your business
- ***FLASH Express and pageable large pages*** to drive availability and performance for critical workloads

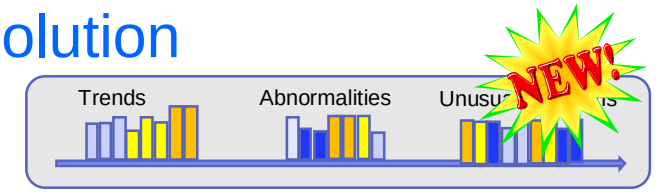
Trusted resilience is a zEnterprise standard

- High speed ***cryptography integrated as part of the chip***
- Enhanced functions with new ***Crypto Express4S***
- PR/SM designed for ***EAL5+ certification***

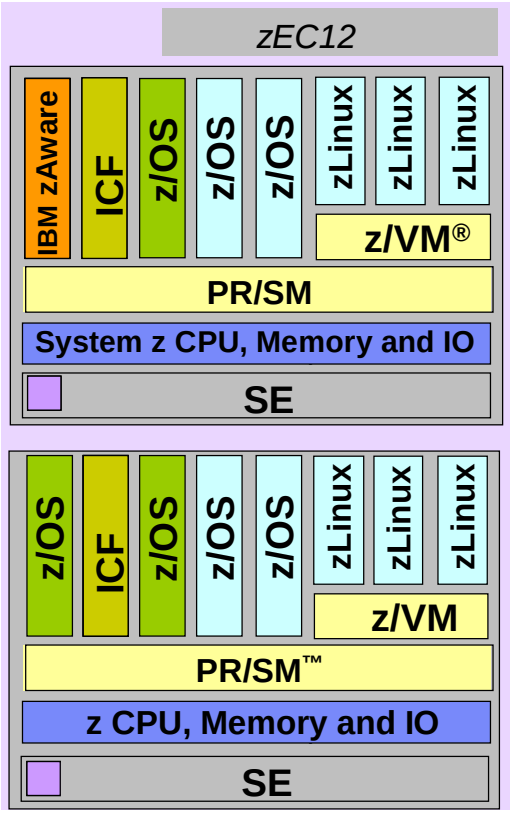
[1]Based on preliminary internal measurements and projections against a z196. Official performance data will be available upon announce and can be obtained online at LSPR (Large Systems Performance Reference) website at: https://www.ibm.com/servers/resourcelink/lib03060.nsf/pages/lsprindex. Actual performance results may vary by customer based on individual workload, configuration and software levels.

IBM zAware: An Expert integrated Analytics Solution

IBM System z Advanced Workload Analysis Reporter



- **IBM zAware is a self learning, integrated expert solution that analyzes messages in near real time to provide insight into the behavior of your system**
  - Analytic solution that adapts and learns your unique environment
  - Host on zEnterprise EC12 server; can monitor other IBM System z® servers
    - Runs on IFL or general purpose CP
    - 4 GB memory base
      - For up to 6 monitored z/OS systems
      - Additional .25 GB per connected system after 6
    - 500 GB storage (estimated)
    - Under 1% CPU overhead on monitored systems
    - Self managed data store
  - Shareable OSA ports required for communications
  - Dedicated IP address for partition
  - Requires z/OS V1.13 + PTFs
  - IE or Firefox browser



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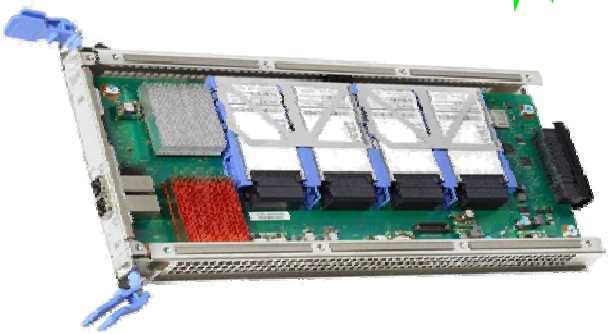
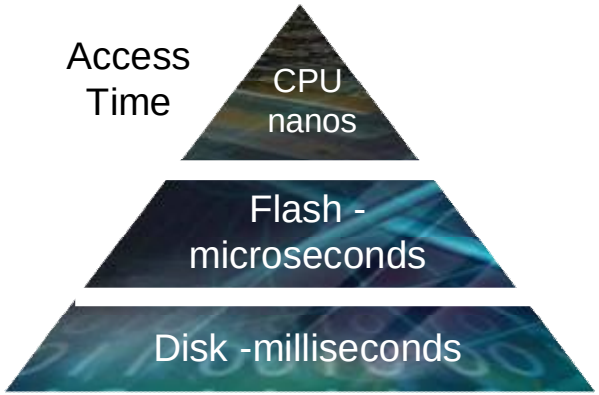
Flash Express – What is it?

FLASH Express

- **Physically comprised of internal storage on Flash SSDs**
- **Used to deliver a new tier of memory, storage class memory**
- **Uses standard PCIe I/O drawer**
- **Supported on z/OS® V1.13 plus web deliverable**
- **Flash Express cards delivered as a RAID 10 mirrored card pair**
- **Sized to accommodate *all LPAR paging***
  - Each card pair provides **1.6 TB** usable storage (3.2 TB total)
  - Maximum 4 card pairs (4 X1.6=6.4 TB)
- **Immediately usable**
  - No capacity planning needed
  - No intelligent data placement needed
  - Full virtualization of card across partitions
- **Robust design**
  - Designed for long life
  - Designed for concurrent replacement or upgrade
- **Security Characteristics**
  - Data encrypted on the flash express adapter with 128-bit AES encryption
  - Keys stored on smart cards plugged into the System z SE
  - Removal of smart cards renders data unusable



One Flash Express Card



Flash memory blurs the distinction between memory and storage characteristics

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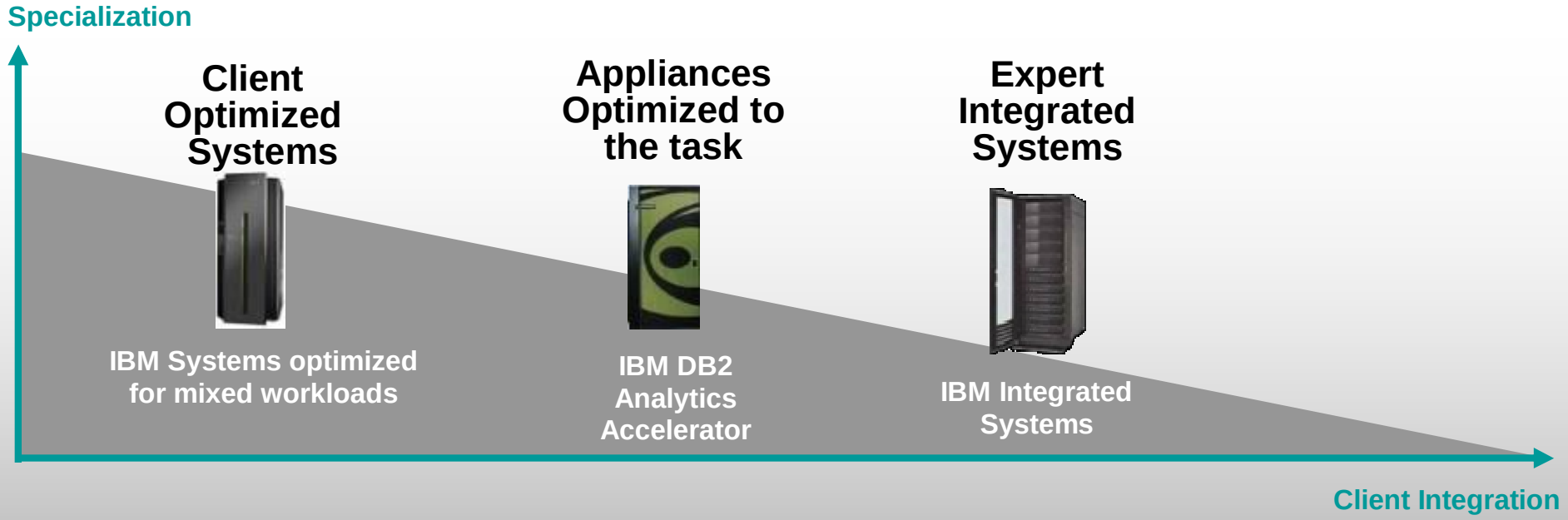
IBM Workload optimized Systems – The continuous Strategy



Optimization Type	Components optimized to work together by design	Appliances focused on a single purpose or service	Complete factory-optimized systems for multiple services
Characteristics	§ Highly Flexible § Client-tuned and customized to exact needs § Support broadest range of workloads and services	§ Single-purpose focused for most simplicity § Factory-tuned to a specific task § Quickest time to value	§ Focused on selected workloads tuned at the factory § Flexible workload choice § Extensible and scalable

IBM PureSystems - Expert Integrated Systems

Integrated expertise to deliver lower management costs and a simplified user experience

PureFlex

Expert integrated:

- Flexible infrastructure
  - Compute (x86 & POWER)
  - Storage
  - Networking
  - Advanced **Flex System** technology
- Unified infrastructure management
- Built-in expertise - Infrastructure patterns

Infrastructure

Delivering Infrastructure Services

PureApplication

Expert integrated:

- Platform for applications
  - Application server
  - Database services
  - Compute
  - Storage
  - Networking
- Built-in expertise – Infrastructure, platform, and application patterns
- Platform management

Application Platform

Delivering Platform Services

PureData

Expert integrated:

- Data platform
- Infrastructure
- Unified platform management
- Built-in expertise

New

Optimized for data services:

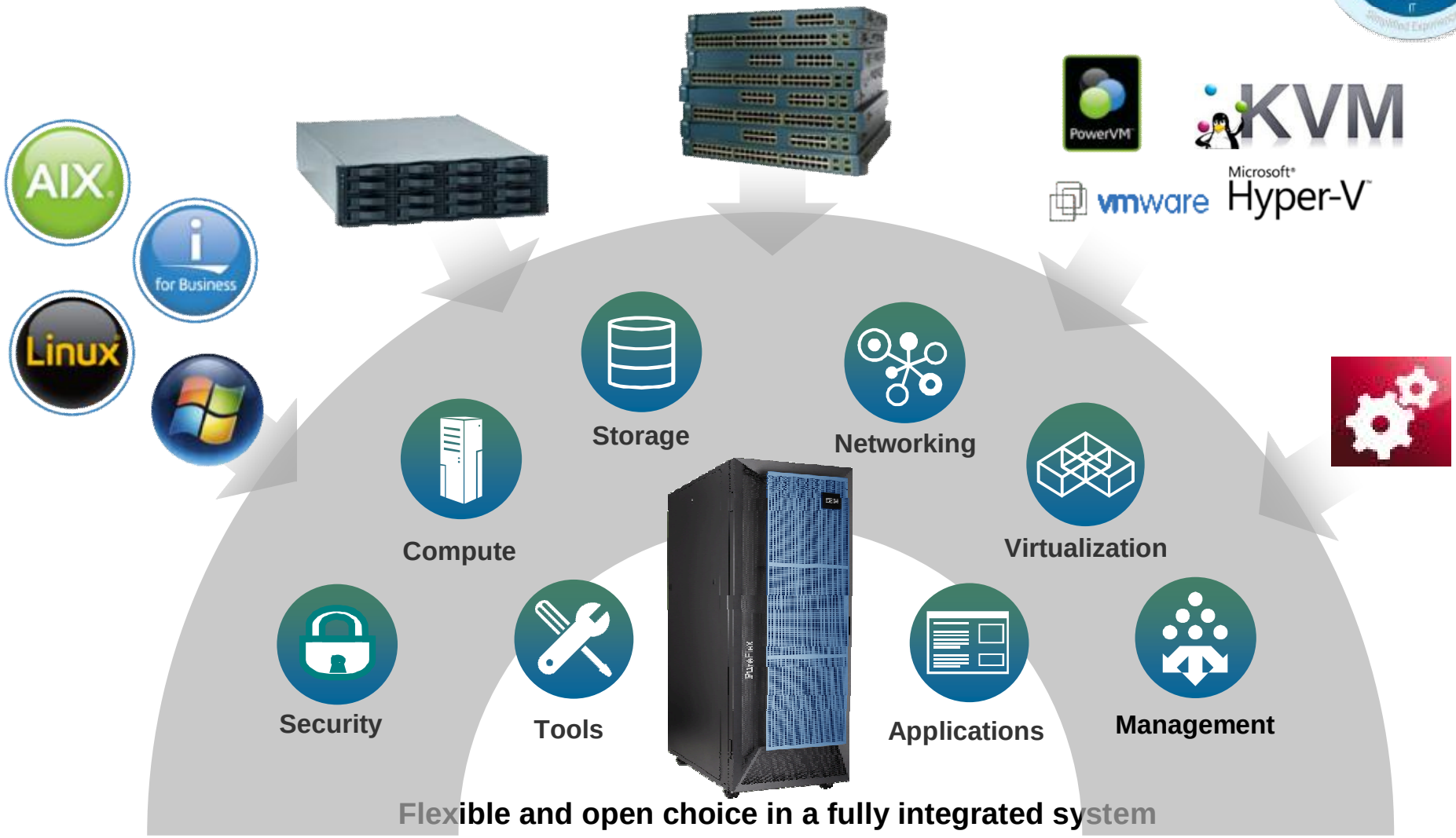
- Transactional
- Analytics

Data Platform

Delivering Data Services

Expert Integrated Systems - Integrated by Design

Tightly integrated compute, storage, networking, software, management, and security



zEnterprise
Client Optimized Systems

- Multi-Architecture System for z/OS, AIX, Linux and Windows
- Centrally managed through the Unified Resource Manager
- Best fit when data or applications exist on System z and clients desire z governance

PureSystems
Integrated Expert Systems

- Multi-Architecture system for AIX, i/OS, Linux and Windows
- Centrally managed resources though PureSystems managers – Flex System Manager (FSM)
- Best fit when data and applications run on a combination of POWER and System x architecture

Today: Clients can also attach IBM zEnterprise and IBM PureSystems (via Ethernet) to gain benefits of simplified management and lower IT infrastructure costs for all workloads.

IBM's Tivoli service management platform allows for integration for improving delivery of business services.

In future: Tighter integration of these two systems. Today's investment in either will gain value over time.

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System z Hardware Support Summary – z/VSE, z/VM, Linux on z

		z9 EC	z9 BC	z10 EC	z10 BC	z196	z114	zEC12
z/VSE	4.2 (8)	a	a	a	a	a	a	a
	4.3	a	a	a	a	a	a	a
	5.1	a	a	a	a	a	a	a
z/VM	5.4 (7)	a	a	a	a	a	a	a
	6.1	r	r	a	a	a	a	a
	6.2	r	r	a	a	a	a	a
RHEL	4 (*)	a	a	a	a	a (5)	a (5)	r
	5	a	a	a	a	a	a	a (2)
	6	a	a	a	a	a	a	a (1)
SLES	9 (*)	a	a	a	a	a (6)	a (6)	r
	10	a	a	a	a	a	a	a (4)
	11	a	a	a	a	a	a	a (3)

(1) Recommended level: RHEL 6.3
(2) Recommended level: RHEL 5.8
(3) Recommended level: SLES 11 SP2
(4) Recommended level: SLES 10 SP4 with latest maintenance updates
(5) RHEL 4.8 only. Some functions have changed or are not available with the z196, e.g. the Dual-port OSA cards support to name one of several. Please check with your service provider regarding the end of service.
(6) SLES 9 SP4 with latest maintenance updates only. Some functions have changed or are not available with the z196, e.g. the Dual-port OSA cards support to name one of several. Please check with your service provider regarding the end of service.
(7) z/VM V5.4 will continue to be supported until December 31, 2014, or until the z9® EC and z9 BC are withdrawn from support, whichever is later. IBM will provide notification to any change of the planned withdrawal date for z/VM V5.4
(8) z/VSE V4.2 (along with CICS/VSE V2.3) will end support on Oct 31, 2012.
X Indicates that the distribution is not supported by IBM on this server.
(*) The distribution is out of service, extended support is required.

Latest information found at: ibm.com/systems/z/os/linux/resources/testedplatforms.html

z/VSE Support for zEC12

§ z/VSE Release Support

- z/VSE supports the zEC12 with z/VSE V4.2, V4.3 and V5.1
  - No PTFs are required to run z/VSE on zEC12
  - For IOCP, EREP and HLASM PTFs, see PSP (subset 2827/ZVSE of 2827DEVICE)

§ Configurable Crypto Express4s – new with zEC12

- z/VSE toleration PTF required to use Crypto Express4s
  - Toleration PTF (DY47414) will be provided for z/VSE V5.1 only
- Crypto Express4s supported with existing z/VSE cryptographic functionality
  - Supported modes: (CCA) coprocessor and accelerator
  - PKCS #11 (EP11) coprocessor not supported

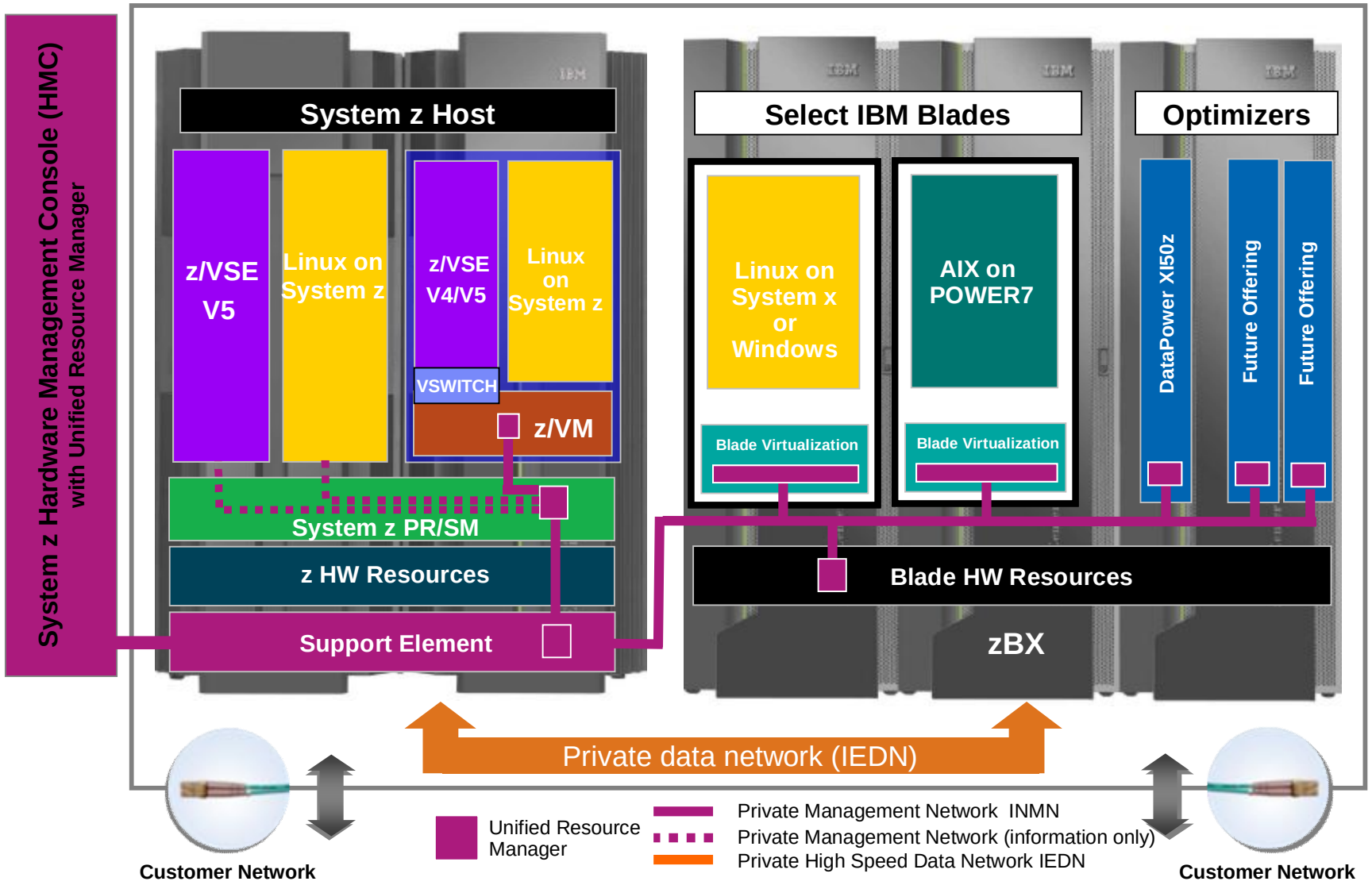
§ OSA-Express4s 1000BASE-T – new with zEC12

- No z/VSE PTF required
- 1000BASE-T supported with existing z/VSE functionality

§ SCRT – Subcapacity Pricing

- z/VSE 4.2 requires DY47111 (same as for z196, z114)

z/VSE Exploitation of IBM zEnterprise - IEDN to zBX



z/VM Support for zEC12

- **Updates for z/VM 6.2, 6.1, and 5.4**
  - VM65007 CP
  - VM65131 IOCP
  - VM65046 Performance Toolkit
  - VM65047 HCD
  - VM64747 HCM (z196 support: 6.1 and 5.4 only)
  - VM65130 EREP
  - OA38418 OSA/SF for OSA-Express4S
  - PM49761 High Level Assembler (new instructions)

- **PSP Bucket**
  - Upgrade **2827DEVICE**
  - Subset **2827/ZVM**
  - Subset **2827/ZOS** for ICSF service to support EP11 when running as a guest

Linux Support for zEC12

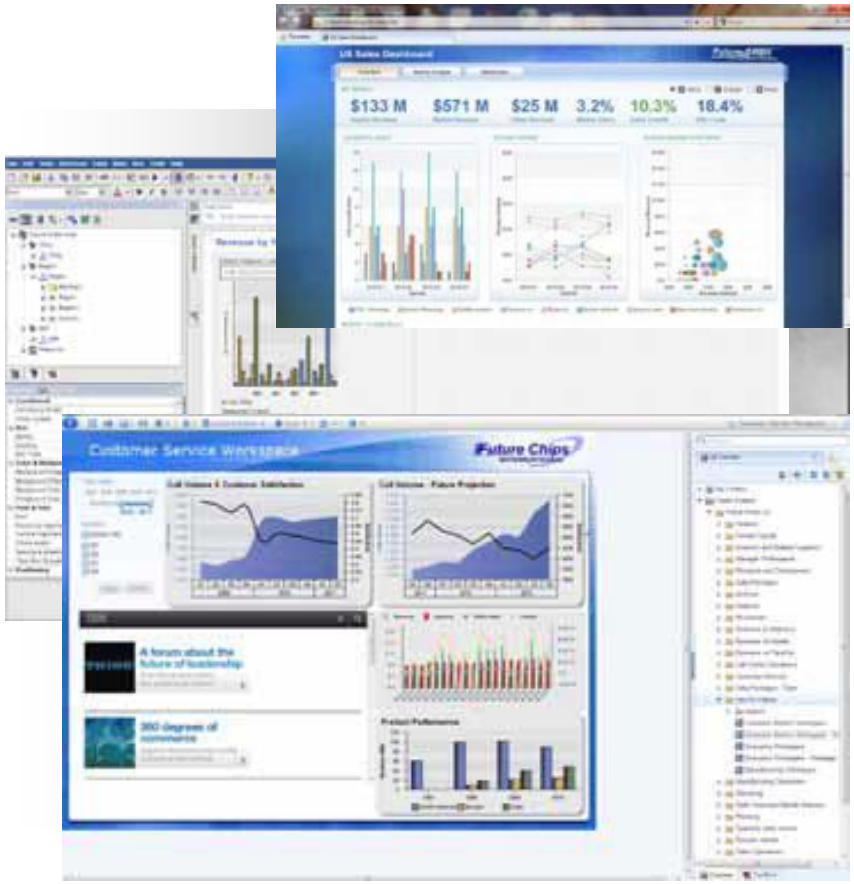
- ***Improved consolidation ratio*** **through new capacity performance**
  - 25% performance improvement per IFL and 101 client-configurable IFLs
  - Save costs on software licenses, operational efforts, networking, energy and space requirements
- ***Application and Linux optimization*** **enabled by full exploitation of z/Architecture® extensions**
  - Industry's fastest 5.5 GHz superscalar chip
  - Optimized processor to boost software performance
  - Larger cache for data serving
  - On chip hardware data compression can help improving performance and saving costs
  - High speed cryptography integrated as part of the chip
  - Better control of energy usage
- **Improved I/O performance using *High Performance FICON (zHPF)***
  - Advantages in throughput and cost
  - Offers you reliability, availability, and serviceability benefits
- ***Flash Express*** **support, e.g. for temporary files, large files, etc.**
  - Use for large amounts of temporary data, such as for paging pikes and dumps
- **Optimized system setup via *Linux Health Checker***
  - Identify potential problems before they impact the system's availability or cause outages
  - Creates detailed messages to inform on potential problems and to suggest actions to take
- ***FCP end-to-end data integrity checking*** **for applications and storage subsystems**
  - Automatically discovers which FCP and SCSI devices support end-to-end data consistency checking
- **Plus *over 3,000* applications on System z**
  - Growing number of applications, provided by a growing number of ISVs

Gain value from Business Information

IBM Cognos Business Intelligence 10.2 for Linux on System z and z/OS

§ Deeper understanding of trends, opportunities, weaknesses and threats

- **Query & Reporting**: Comprehensive query and reporting capabilities.
- **Analysis**: Drive better, smarter business decisions with wide-ranging analysis capabilities
- **Dashboarding**: Monitor, measure and manage corporate performance at a glance.
- **Real-time Monitoring**: View up-to-the second relevant information in context with BI information



NEW!

- Merge of external data into Cognos reports
- Full fidelity publish capability to publish and share content
- Visualization coach to assist in viewing relevant information
- Mashup services

Up to 32%

Performance improvement with Cognos and zEC12

Create more intelligent networks of business partners, customers and suppliers

IBM Sterling B2B Integrator V5.2.4 and IBM Sterling File Gateway V2.2.4 for Linux on z

IBM Sterling B2B Integrator V5.2.4

- Enables the secure integration of complex B2B processes with diverse partner communities. providing a single, flexible B2B gateway that enables companies to solve all of their B2B integration needs.

IBM Sterling File Gateway V2.2.4

- Consolidates disparate centers of file transfer activity, and facilitates the exchange of file-based information securely, in virtually any format, protocol, and file size.

Now on Linux on z!!

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z/VSE Support Status (as of Oct 2012)

VSE Version and Release	Marketed	Supported	End of Support
z/VSE V5.1	a	a	tbd
z/VSE V4.3	06/30/2012	a	tbd
z/VSE V4.2	r	a	10/31/2012
z/VSE V4.1 2)	r	r	04/30/2011
z/VSE V3.1 1)	r	r	07/31/2009
VSE/ESA V2.7	r	r	02/28/2007

On August 2, 2011, IBM announced withdrawal of service for CICS/VSE V2.3, DL/I DOS/VS V1.10, and DL/I VSE V1.11, to become effective October 31, 2012.

1) z/VSE V3 is 31-bit mode only. It does not implement z/Architecture, and specifically does not implement 64-bit mode capabilities. z/VSE is designed to exploit select features of IBM System z10, System z9, and zSeries hardware.

2) z/VSE V4 is designed to exploit 64-bit real memory addressing, but will not support 64-bit virtual memory addressing

z/VM Support Status (as of Oct 2012)

z/VM Level		GA	End of Service	End of Marketing	Minimum Processor Level	Security Level
Ver 6	Rel 2	12 / 2011	4 / 2015		z10	-
	Rel 1	10 / 2009	12 / 2014	12 / 2011	z10	EAL 4+ [1] OSPP-LS
Ver 5	Rel 4	9 / 2008	12 / 2014[2]	3 / 2012	z800, z900	-
	Rel 3	6 / 2007	9 / 2010	9 / 2010	z800, z900	EAL 4+ CAPP/LSPP

Marketed & Serviced

Serviced, but not Marketed

End of Service & Marketing

[1] Currently in evaluation

[2] Announced August 7, 2012: End of Service for z/VM 5.4 has been extended to December 31, 2014 or end of IBM service for System z9, whichever is later (was Sept 30, 2013)

Linux on System z Distributions - Status as of Oct. 2012

SUSE Linux Enterprise Server 9 (GA 08/2004)
Kernel 2.6.5, GCC 3.3.3, Service Pack 4 (GA 12/2007),
end of regular life cycle

SUSE Linux Enterprise Server 10 (GA 07/2006)
Kernel 2.6.16, GCC 4.1.0, Service Pack 4 (GA 05/2011)

SUSE Linux Enterprise Server 11 (GA 03/2009)
Kernel 3.0.13, GCC 4.3.4, Service Pack 2 (GA 02/2012)

Red Hat Enterprise Linux AS 4 (GA 02/2005)
Kernel 2.6.9, GCC 3.4.3, Update 9 (GA 02/2011),
end of regular lifecycle

Red Hat Enterprise Linux AS 5 (GA 03/2007)
Kernel 2.6.18, GCC 4.1.0, Update 8 (GA 02/2012)

Red Hat Enterprise Linux AS 6 (GA 11/2010)
Kernel 2.6.32, GCC 4.4.0, Update 3 (GA 06/2012)

Others
Debian, Slackware,
Support may be available by some third party

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z/VSE continues to demonstrate IBM's commitment

Hardware Support
More Capacity
Quality
z/OS Affinity
Interoperability
Protect Integrate Extend

z/VSE V4.3 - 4Q2010

- Øz196 toleration / exploitation
- Ø4-digit device addresses
- ØVirtual storage constraint relief
- ØLinux Fast Path with z/VM
- ØIPv6/VSE as optional product

+ SoD: 64-bit support

z/VSE V5.1 - 4Q2011

- Øz196 / z114 exploitation
- Ø64-bit virtual memory objects
- ØArchitecture Level Set to System z9 (and higher)
- Øz/VSE z/VM IP Assist (VIA)

+ SoD: CICS Explorer & LFP in LPAR

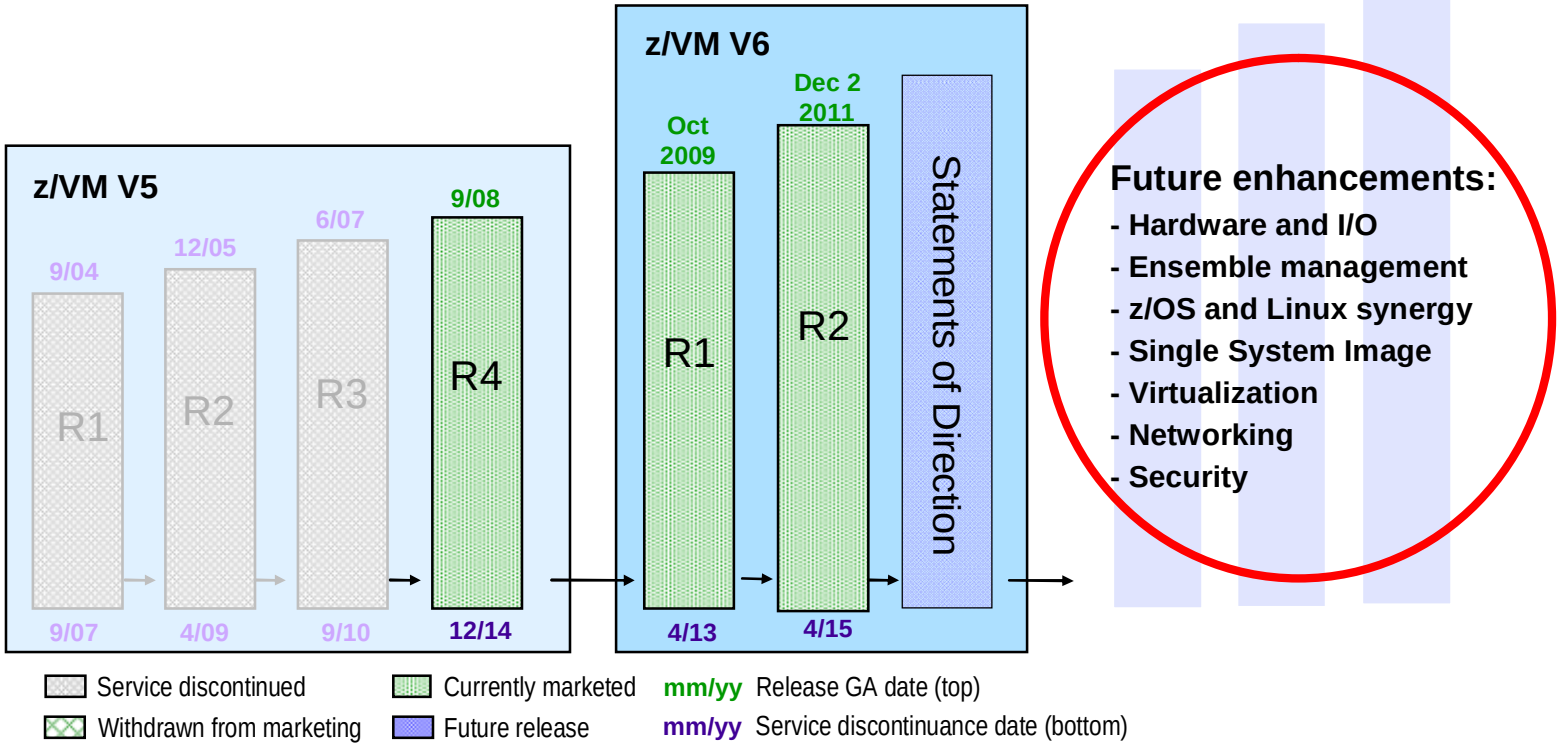
z/VSE V5.1.1 - 2Q2012

- ØzEC12 toleration / exploitation
- Ø64-bit I/O for applications
- ØCICS Explorer support
- ØLinux Fast Path in LPAR
- ØDatabase call level interface

z/VM Future Development Focus

z/VM: helping clients "do more with less"

Higher core-to-core consolidation ratios
Higher levels of resource sharing and utilization
Higher levels of staff efficiency



z/VM V6 Statements of Direction* - Announced Oct. 2011

- **New functions:**
  - ✓ HiperSockets VSWITCH Integr. w/ IEDN **à** available since April 13, 2012 (UM33691)

    zEnterprise IEDN (OSX) connections
  - HiperSockets Completion Queue

    Transfer HiperSockets messages asynchronously
  - ✓ High Performance FICON **à** available since April 13, 2012 (UM33646)

    Enable z/VM guests to use zHPF; z/OS and Linux on System z provide exploitation
  - Support for GDPS / PPRC 3.8

    Disk subsystem preemptive HyperSwap
- **Withdrawals:**
  - Stabilization of Performance Toolkit RMFPMS agent

    Performance Toolkit processing of the output from Linux rmfpms agent, part of the z/OS RMF PM offering, will no longer be updated

    Support for the Linux rmfpms agent was already withdrawn, but continues to be available as-is
  - Withdrawal of HMC non-ensemble z/VM System Management

    z/VM V6.2 is the last release of z/VM that will be supported by the non-ensemble z/VM System Management functions of the System z10, z196 and z114
  - Withdrawal of Cross System Extension (CSE)

    The VMSSI feature replaces the functions provided by CSE and brings additional value such as autonomic minidisk cache management and a single point of maintenance

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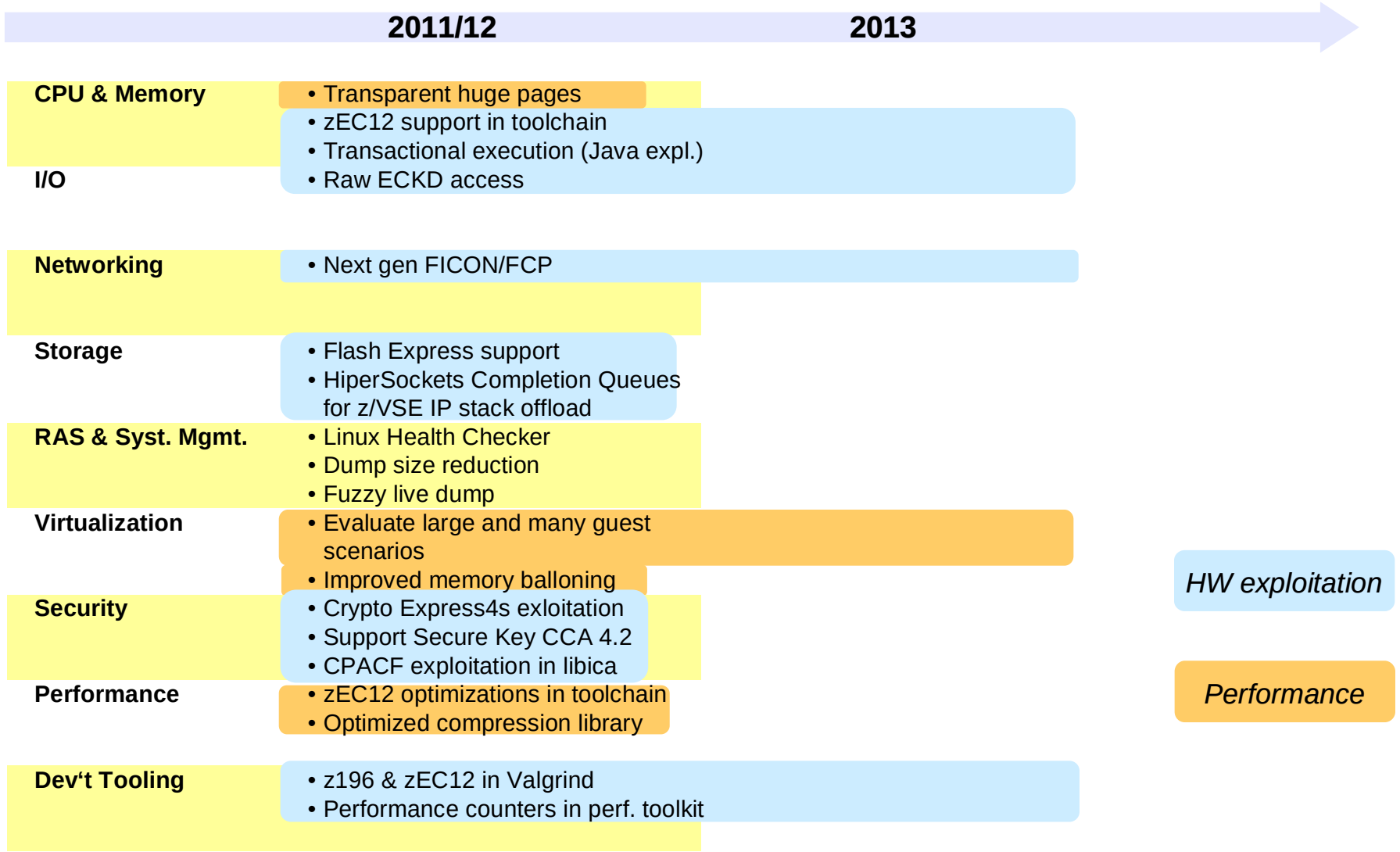
Linux on System z: Development Line Items 2011/12



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IBM System z Cloud Blueprint

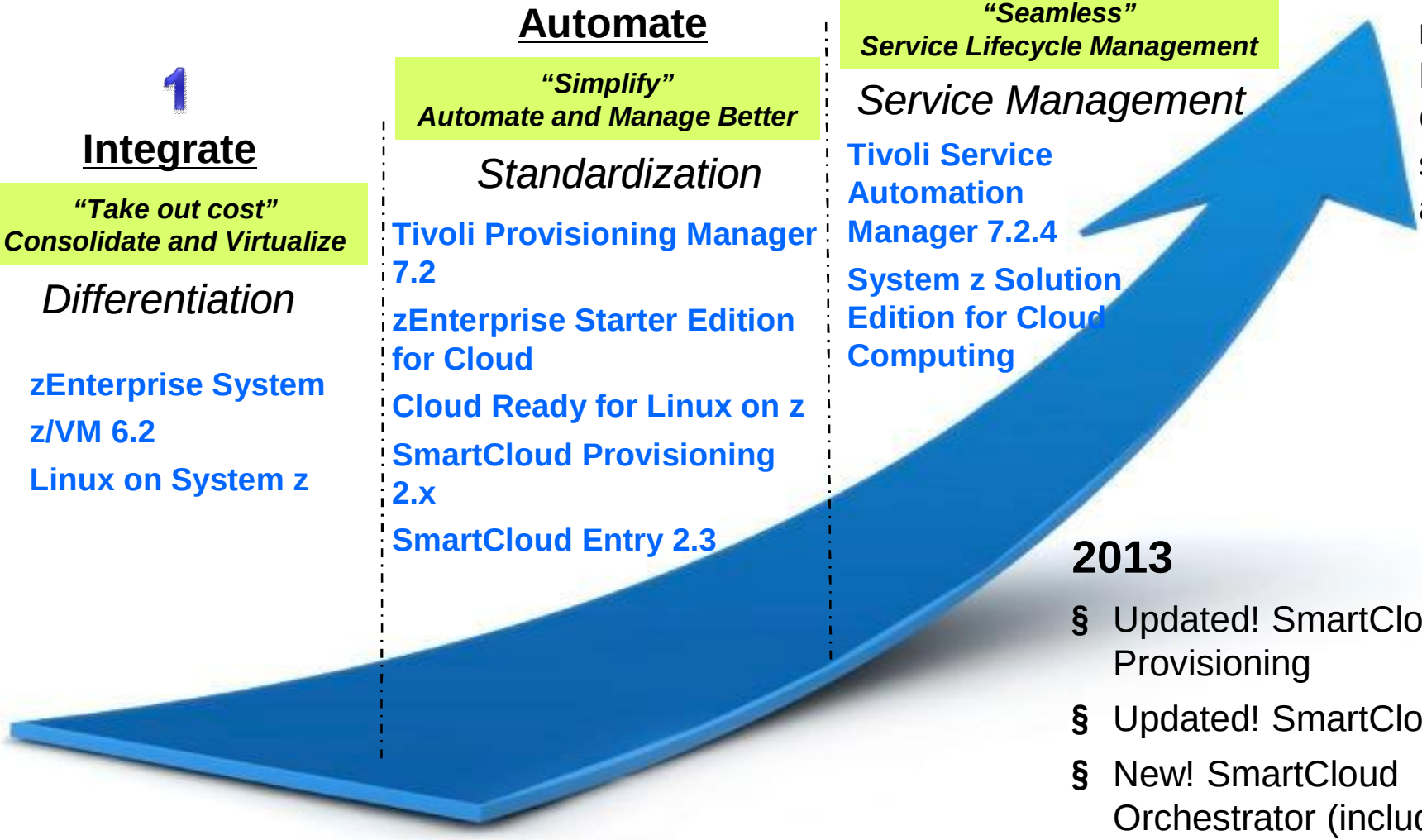
- Rapid deployment of Linux® virtual servers for less than one dollar a day
- Industry leading "gold standard" security for tenant isolation
- Elastic scaling achieved by dynamically adjustable capacity at sustained performance
- Multisystem virtualization simplifies management by clustering shared resources

- Automated provisioning and de-provisioning
- Pool standardized virtualized building blocks
- Plug-and-play capacity across hardware generations
- Capture and catalog virtual images in the data center
- Automated methods for faster delivery of services with higher levels of control

- Integrated virtualization management with IT service delivery processes
- Self-service provisioning
- Automated service lifecycle management including dynamic instantiation of cloud services
- Pay for use
- Optimize IT resources to reinvent business processes

Develop a Cloud Infrastructure with System z

Linux on System z Cloud Roadmap



1 Integrate

"Take out cost"
Consolidate and Virtualize

Differentiation

zEnterprise System
z/VM 6.2
Linux on System z

2 Automate

"Simplify"
Automate and Manage Better

Standardization

Tivoli Provisioning Manager 7.2
zEnterprise Starter Edition for Cloud
Cloud Ready for Linux on z
SmartCloud Provisioning 2.x
SmartCloud Entry 2.3

3 Orchestrate

"Seamless"
Service Lifecycle Management

Service Management

Tivoli Service Automation Manager 7.2.4
System z Solution Edition for Cloud Computing

2013

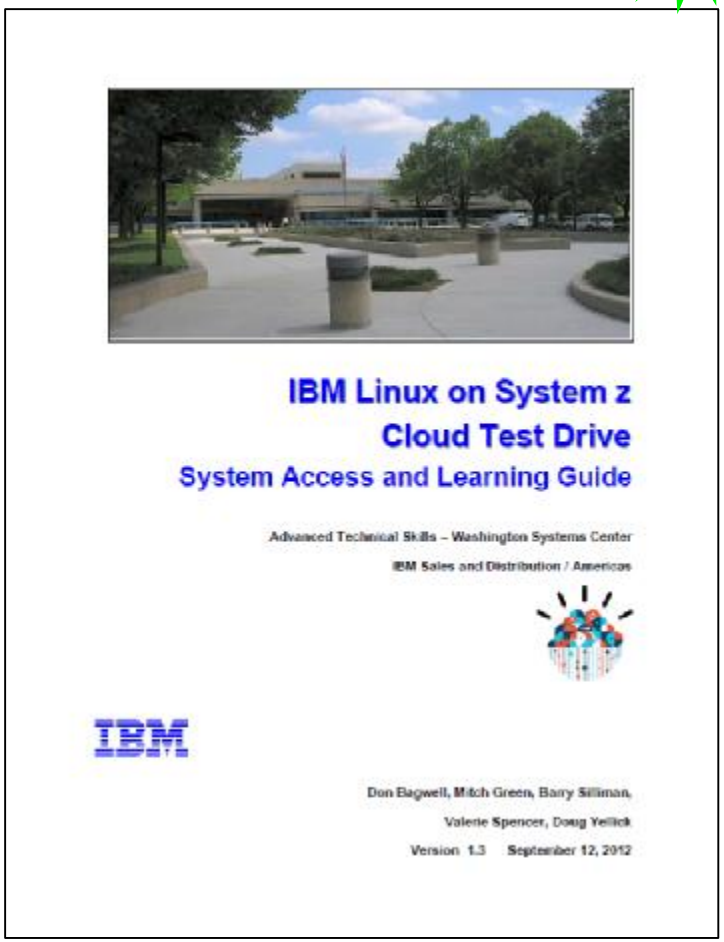
- Updated! SmartCloud Provisioning
- Updated! SmartCloud Entry
- New! SmartCloud Orchestrator (includes TPM and TSAM)

NEW!

Modernize System z by moving to Private Cloud in a stepwise approach

Cloud Test Drive with Linux on System z

- Up to 90 days, free of charge, access to up to 3 Linux on z servers under z/VM
- Hands-on experience with Cloud, Linux on z, z/VM, Tivoli Provisioning Manager (TPM), and a selection of 5 system images based on SUSE or Red Hat
  1. SLES 11 SP1 Base
  2. RHEL 5.8 Base
  3. SLES 11 SP1, DB2 9.7 Fixpack 5, WAS 8.5, IBM HTTP Server 8.5
  4. RHEL 5.8, DB2 9.7 Fixpack 5, WAS 8.5, IBM HTTP Server 8.5
  5. SLES 11 SP1, Oracle 11gR3, WAS 8.5, IBM HTTP Server 8.5
- Simple remote access over the internet to zEnterprise in the IBM Washington System Center in Gaithersburg, Maryland
- Customize your own Linux cloud with your own secure data
- Guided exercises for training



http://techsales5.austin.ibm.com/tsna/techxpress.nsf/request.html

Agenda

- § **IBM zEnterprise EC12 and PureSystems**
- § **Hardware Toleration and Exploitation**
- § **Operating System Service and Support**
- § **Development Roadmap**
- § **Cloud on System z**
- § **Press, Learning, Customer References**

Software for System z for Dummies

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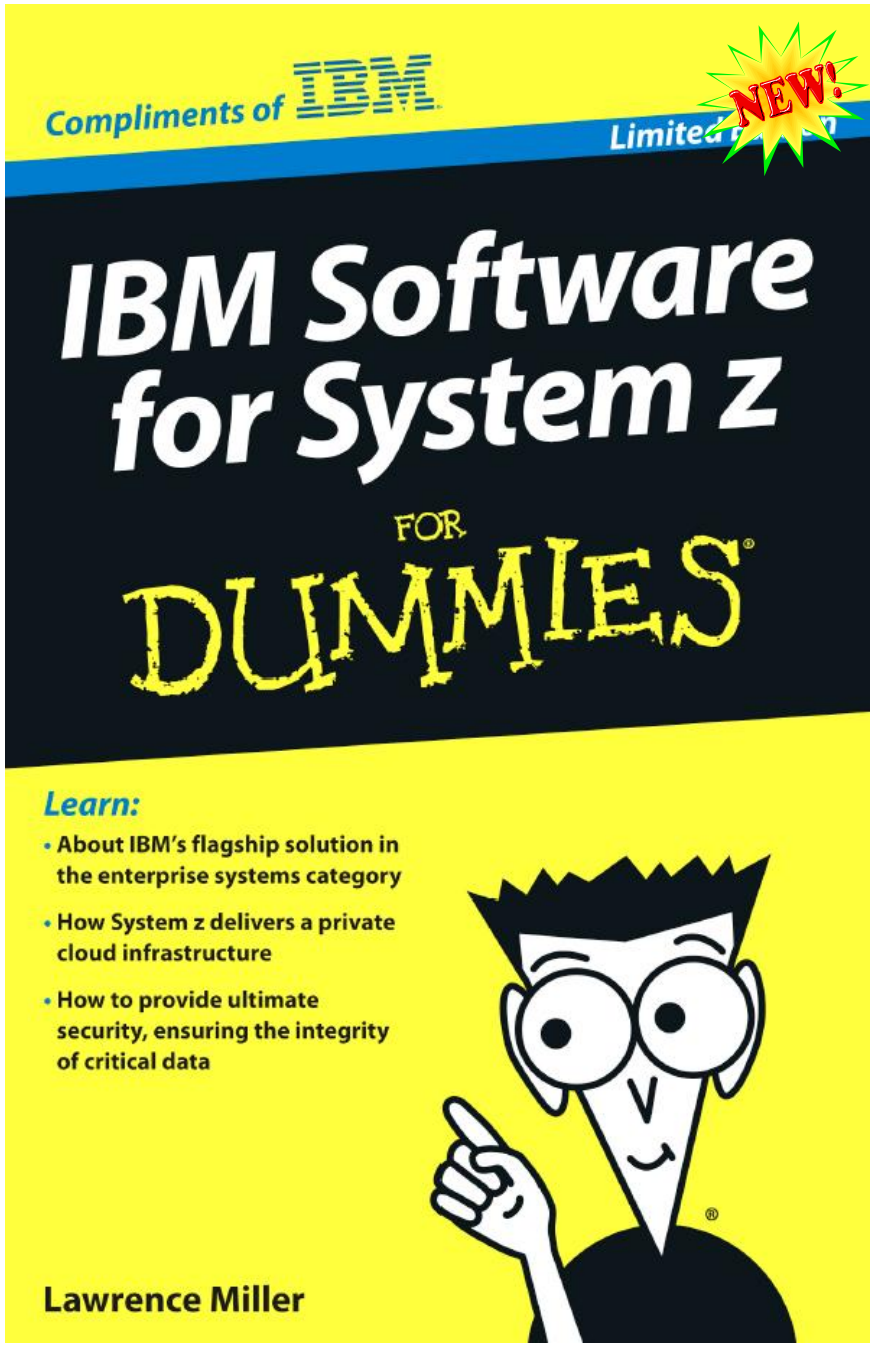


https://www14.software.ibm.com/webapp/iwm/web/signup.do?source=swg-102GW14W

Press on z/VM and Linux on System z

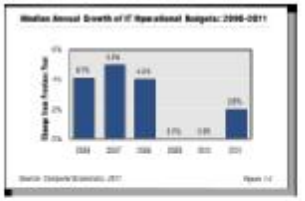
EDISON Group
89 Fifth Avenue, 7th Floor
New York, NY 10003
www.TheEdison.com
212.367.7400

White Paper

Using Linux on z/VM to Meet the Challenges of the 21st Century

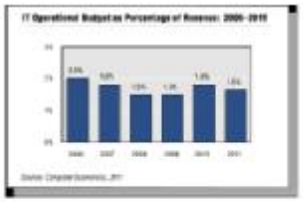
Problem Statement

The challenge that confronts IT professionals in today's environment is to maintain current service levels using existing equipment without increasing budget demands.



The chart indicates that IT budgets, on average, have been reduced significantly since 2008. In addition, many businesses are managing the integration of existing systems with those of merged and acquired partners, and trying to position themselves for future challenges.

However, there was a slight increase in median IT operational budgets to 1.8 percent last year; these budgets have fallen since 2006. This indicates that organizations are restraining IT spending.



These cost factors are driving many enterprise computing decisions towards IT consolidation and centralization. As a result, decision makers are taking a hard look at the total cost of ownership (TCO) and the total value of ownership for enterprise computing.

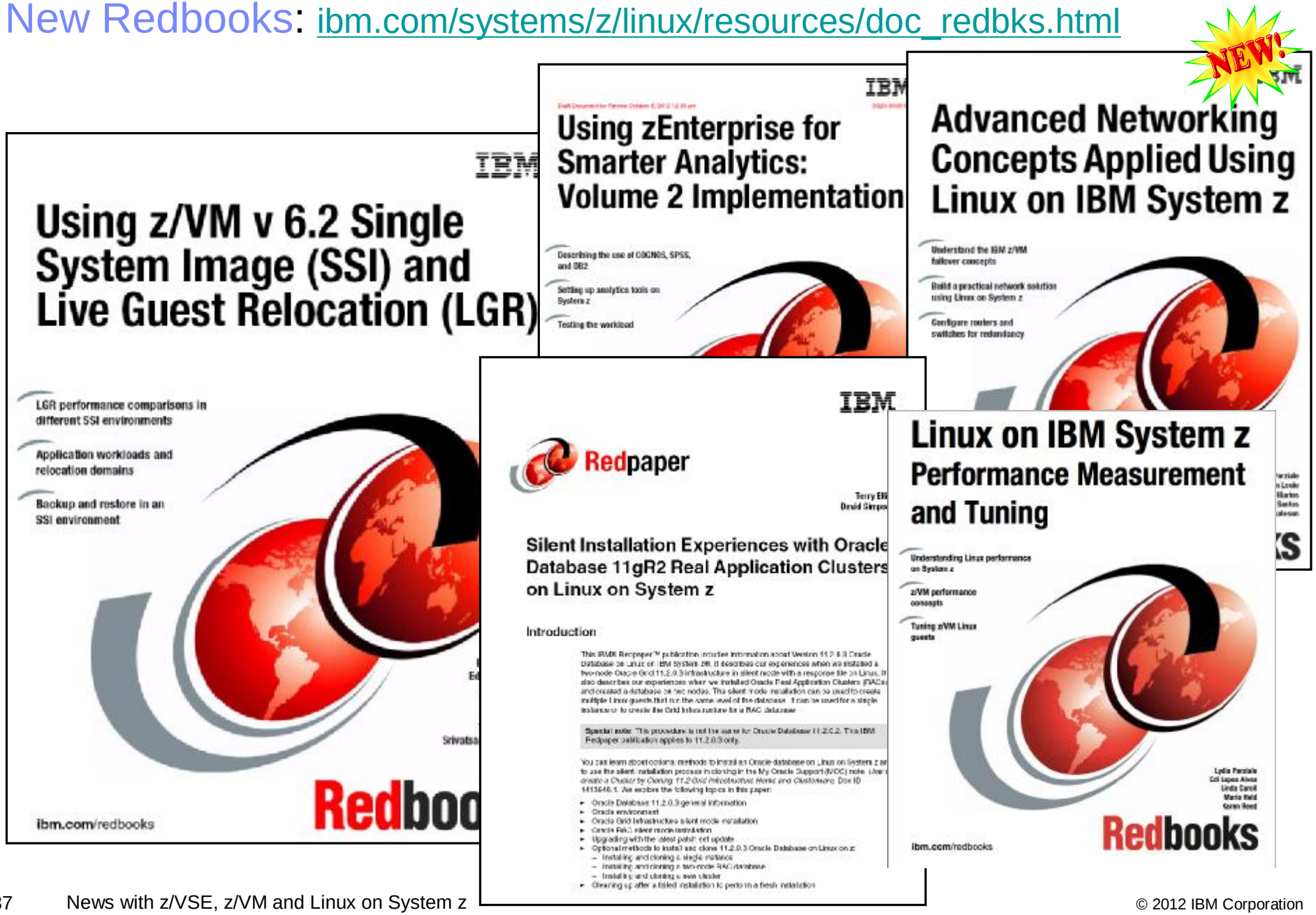
IT hardware costs, as measured by $/performance, have come down significantly with the adoption of new x86-based hardware technologies. The associated software and operational costs, on the other hand, continue to rise, and these costs dominate the TCO. An alternative solution is required – one that focuses on IT cost reduction and maintains current service levels.

Solution

Successfully meeting these 21st century challenges contributes significantly to profitability and positions the organization for future growth. Adding to operational efficiency are improved hardware performance; server and desktop virtualization; declining storage costs; cloud computing; outsourcing and offshoring; data center

Source:
http://www-01.ibm.com/common/ssi/cgi-bin/ssialias?infotype=SA&subtype=WH&htmlfid=ZSL03160USEN

New Redbooks: ibm.com/systems/z/linux/resources/doc_redbks.html



z/VSE Live Virtual Classes (Webcasts)

- **October 2012**
  - VSE/POWER – all the News since z/VSE 4.2
- **September 2012**
  - Securing Data Transfers using IPv6/VSE
- **July 2012**
  - The New z/VSE Database Connector (DBCLI)
- **May 2012**
  - IPv6 in z/VSE
- **March 2012**
  - Monitoring Principles and z/VSE Monitoring Options
- **February 2012**
  - z/VSE Connectors Update
- **December 2011**
  - 64-bit Virtual in z/VSE V5.1
- **November 2011**
  - z/VSE V5.1 Update
- **September 2011**
  - z/VSE Fast Path to Linux on System z

Replays available!
Dates and replays @
http://www.ibm.com/zvse/education/

z/VM and Linux on System z Live Virtual Classes (Webcasts)

- **October 2012**
  - Live Demo: Linux on z Debugging with Valgrind
- **September 2012**
  - Linux on z Performance Update SLES11 SP2
- **August 2012**
  - z/VM Live Guest Relocation – Planning and Use
- **July 2012**
  - z/VM 6.2 Single System Image and Live Guest Relocation Overview
- **June 2012**
  - Installation Methods for Linux on z without Repository Server
- **May 2012**
  - Introducing the Linux Health Checker
- **April 2012**
  - Linux on System z Current & Future Technology
- **March 2012**
  - Optimizing Resource Utilization for Linux under z/VM – Part 2
- **February 2012**
  - Memory Sizing for WebSphere Applications on System z Linux
- **January 2012**
  - Integrating x86 Workload into Linux on z Environments
- **December 2011**
  - z/VM Platform Update
- **November 2011**
  - Networking with Linux on System z
  - Linux in a Private Cloud for Social Business on System z
- **October 2011**
  - Optimizing Resource Utilization for Linux under z/VM – Part 1

Replays available!
Dates and replays @
http://www.vm.ibm.com/education/lvc/

City and County of Honolulu

Need:

Increase government transparency and provide more of the city's financial data information to its citizens, increase community involvement and improve the efficiency and responsiveness of its work order system.

Solution:

Consolidated onto System z to create a secure custom cloud environment for its citizens to improve information and service delivery.

Results:

Consolidating and running Linux on System z has simplified administration, reduced costs and improved efficiency.

One week to mere hours

Reduced time to deploy applications from one week to mere hours

68%

Lowered database licensing costs by 68 percent

USD $1.4 million

Helped increase tax revenue by USD $1.4 million in three months through support for new property tax appraisal system

Banco Pastor slashes costs and boosts efficiency with SAP and IBM

- Banco Pastor's previous solution required 21 physical servers.
- Banco Pastor, advised by IBM, realized that by creating Linux partitions, it was possible to host DB2® and SAP ERP HCM on just two dedicated System z10 servers.
- The z10® servers also host Lotus® Domino and Lotus Notes® services in additional logical partitions.
- Reducing the number of servers would deliver immediate savings in floorspace, energy and cooling, as well as *reducing complexity and simplifying administration*.

TECHNICAL LANDSCAPE

- **Servers**: 2x IBM System z10
- **OS**: z/OS, Red Hat Enterprise Linux
- **Software**: *z/OS®:* DB2; *Linux:* Lotus Domino®, Lotus Notes, SAP ERP Human Capital Management
- **Users**: 4,000 concurrent SAP users

"The IBM z10 servers enabled us **to reduce our hardware footprint and cut costs,** while offering **speed, availability, ease of use and scalability.**

Combined with the physical consolidation savings, running SAP ERP HCM on z10 has ***significantly reduced Banco Pastor's costs of operation*.**

This was a big win for us."

- Montserrat Torres Torres, Computer Systems Manager, Banco Pastor

Sparda Datenverarbeitung eG chooses IBM zEnterprise

"Oracle has been consolidated on this platform; we are using right now only Oracle on the z196 platform"

Bernd Bohne, Sparda-Datenverarbeitung e.G., Manager, Central Systems

"Over the years, the mainframe transformed from traditional workloads, quite simple, to a universal platform for new workloads as well.

And we see a lot of new applications that are coming to this platform.

Especially for Linux, it's perfect.

The z/Enterprise platform is perfect for consolidating Linux workloads because of the high I/O bandwidth, business continuity with capacity backup features.

- Watch and listen to

§ Bernd Bohne, Sparda-Datenverarbeitung e.G., Manager, Central Systems
§ Marie Wieck, IBM, General Manager, Application Integration Middleware
§ Steve Mills, IBM, Senior Vice President & Group Executive, Software & Systems

ibm.com/systems/z/resources/sparda_bank_video.html

Fratelli Carli S.p.A.

“The company provides rapid support for our needs through the use of IT and cutting-edge technology. What we expect from IBM and its partners is gold-standard technical support, total integration between the System z and distributed systems and easily-accessed in-depth vertical konwledge.“ Edoardo Flumiani, Information Technology Manager – Fratelli Carli S.p.A.

“Fratelli Carli had choosen IBM System z10® because it‘s extremely reliable, secure and gives us the opportunity to integrate modern Linux Systems with fast ‘legacy‘ applications.

I decided to install the DB2 in the Linux engine because this means the corporate data is available for both legacy systems and distributed systems.“

“What I‘d like most is to have the ability to coordinate all the other different Intel and Linux systems we have in the company from the mainframe system.“ Marco Gardini, IT Operations Manager - Fratelli Carli S.p.A.

Thank You