Aktuelles zu z/VM, z/VSE und Linux on System z

Dr. Klaus Goebel
z/VSE Systems Manager
IBM Labor Böblingen

IBM Systems

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Agenda

§ **z/VSE V4.1**

- **Press**
- **Highlights**
- **MWLC**
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§ **Linux on System z**

- **Press**
- **Code Drops**
- **SLES 10**
- **RHEL 5**

§ **z/VM V5.3**

- **Press**
- **Highlights**

§ **Summary**

- **Exploiting the best of all Worlds on System z**

Press and Analyst Statements

IBM VSE mainframe operating system gets upgrade

By Mark Fontecchio, News Writer
21 Mar 2007 | SearchDataCenter.com

RSS FEEDS: IT infrastructure news

RSS ▸   [+] Add to Google

IBM has upgraded the VSE mainframe operating system to include storage, security and networking improvements, as well as introduced pricing schemes that can lower mainframe software licensing costs.

Pete Clark on z/VSE
z/VSE 4.1
WWW.EJOURNAL.COM
z/JOURNAL
PETE CLARK

On Jan. 9, 2007, IBM announced that March 16, 2007 is the official availability date for the latest and greatest ... were in 24-bit System GETVIS, so moving them is a big deal for many users. POWER support for automatic spool deletions, ... spool entry duplication

Mehr Mainframe

Die neue z/VSE Version 4: Flexibilität und Leistung rauf, Risiko und Kosten runter

Alles wird besser: Ab sofort ist die z/VSE Version 4, Release 1, verfügbar. Mit ihr knüpft IBM an die lange Tradition von VSE an, stellt aber auch heutzutage notwendige Innovationen bereit und baut diese IT-Umgebung ganz erheblich aus. Neu ist zum Beispiel die 64-Bit-Adressierung für die Nutzung des realen Speichers. Dadurch werden die vielen virtuellen Systeme, die heute auf einem Mainframe gleichzeitig laufen und automatisch verwaltet werden, den vorhandenen Realspeicher effizient nutzen können.

SICHERHEIT, SOA, LEISTUNG

Auch die Sicherheits-Features wurden erheblich verbessert. Daten können jetzt verschlüsselt übers Netz transportiert werden oder sicher von ihrer IT-Umgebung an eine andere umziehen. Weitere Schwerpunkte der neuen Betriebssystenversion liegen auf Interoperabilität (siehe „Tierisch gut") und SOA. Bisher auf dem VSE-System laufende Kernprozesse lassen sich jetzt in serviceorientierte Infrastrukturen einbinden.

Die Leistungsfähigkeit im Ein-/Ausgabebereich ist ebenfalls deutlich höher. Der Einsatz der neuen FICON-Generation mit automatisch eingestellter Geschwindigkeit von 1, 2 und 4 Gb/s ist auf System z9 nun möglich. Ergänzt wird dies durch neue Point-zu-Point-Verbindungen zu SCSI-Festplatten mit FCP, wodurch eine sehr preiswerte externe Datenperipherie anschließbar ist.

NEUES GEBÜHRENMODELL

Trotz des erheblichen Ausbaus der Funktionen wurde das Preis-Leistungs-Verhältnis durch Einführung eines neuen Softwaregebühren-modells deutlich verbessert. Beim Einsatz von z/VSE Version 4 auf dem neuen System z9 richten sich die Softwaregebühren nicht mehr nach der statischen Größe des Systems oder der Anzahl der installierten Prozessoren, sondern nach der tatsächlich periodisch ermittelten Auslastung der vorhandenen Prozessoren. Die Gebühren werden nach der durchschnittlichen maximalen Nutzung innerhalb eines 4-Stunden-Zeitraums innerhalb eines Monats abgerechnet.

Das ist in diesem Marksegment einmalig und kann zu einer erheblichen Reduzierung der Softwaregebühren führen. Denn nicht nur das Betriebssystem wird so berechnet, auch die wichtigste darunter laufende Middleware. Die logischen virtuellen Systeme werden dabei nach Subcapacity abgerechnet und nicht pauschal für das ganze System (siehe Textkasten auf Seite 5).

AUCH IN ZUKUNFT WIRTSCHAFTLICH

Der Kunde profitiert von diesen Neuerungen durch die hohen Synergieeffekte zwischen der aktuellen Hardware System z9 BC (Foto) und der auf sie abgestimmten Betriebssystemsoftware. Solche Installationen sind für künftige Anforderungen hinsichtlich Verfügbarkeit, Sicherheit und Performance ausgezeichnet positioniert.

VSE users receive an offer they can't refuse

Most of the activity in the IBM mainframe world not surprisingly focuses on the z/OS environment, but there is still a sizeable population of users running systems based on VSE, often in conjunction with the VM hypervisor.

Many of these sites are slow growers with limited in-house technical skills and a reluctance to upgrade their hardware or software even in exchange for significant cost savings. As a result their relationship with IBM (and with other ISVs supporting their applications) is a difficult one.

In its recent announcement of z/VSE 4.1, IBM has shown some of the 'carrot and stick' tactics that often characterize its product developments in this part of the market.
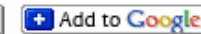
The latest version of the operating system offers many attractions for small mainframe users, including some important enhancements to SOA/web service support and tape encryption. Moreover the software is accompanied by a new pricing scheme (Midrange Workload License Charge), which can bring sub-capacity benefits and very significant savings to VSE users. But to get the savings they need to upgrade to a z9 BC or EC.

Even for VSE users, it is becoming increasingly difficult to make a cost case for avoiding an upgrade to the latest hardware, and the months ahead are likely to witness a steady stream of VSE-base upgrades to the z9 BC.

© Arcati Limited, 2007

Source: The Arcati Mainframe Yearbook 2007, UK   33

Source: Magazin "Insider", March 2007

z/VSE V4.1 Overview

§ Preview 4/27/2006, Announce 1/9/2007, **General Availability 3/16/2007**

§ **z/Architecture mode _only_**

► 64-bit *real* addressing (31-bit *virtual* addressing)
  ● up to 8 GB real processor storage
► IBM System z9 EC and z9 BC servers
► IBM eServer zSeries 990, 890, 900, 800 servers

§ **Capacity Measurement Tool (CMT)**

► fulfills SoD from July 2005

§ **New MWLC pricing metrics (System z9 only)**

► Attractive full-capacity MWLC price points
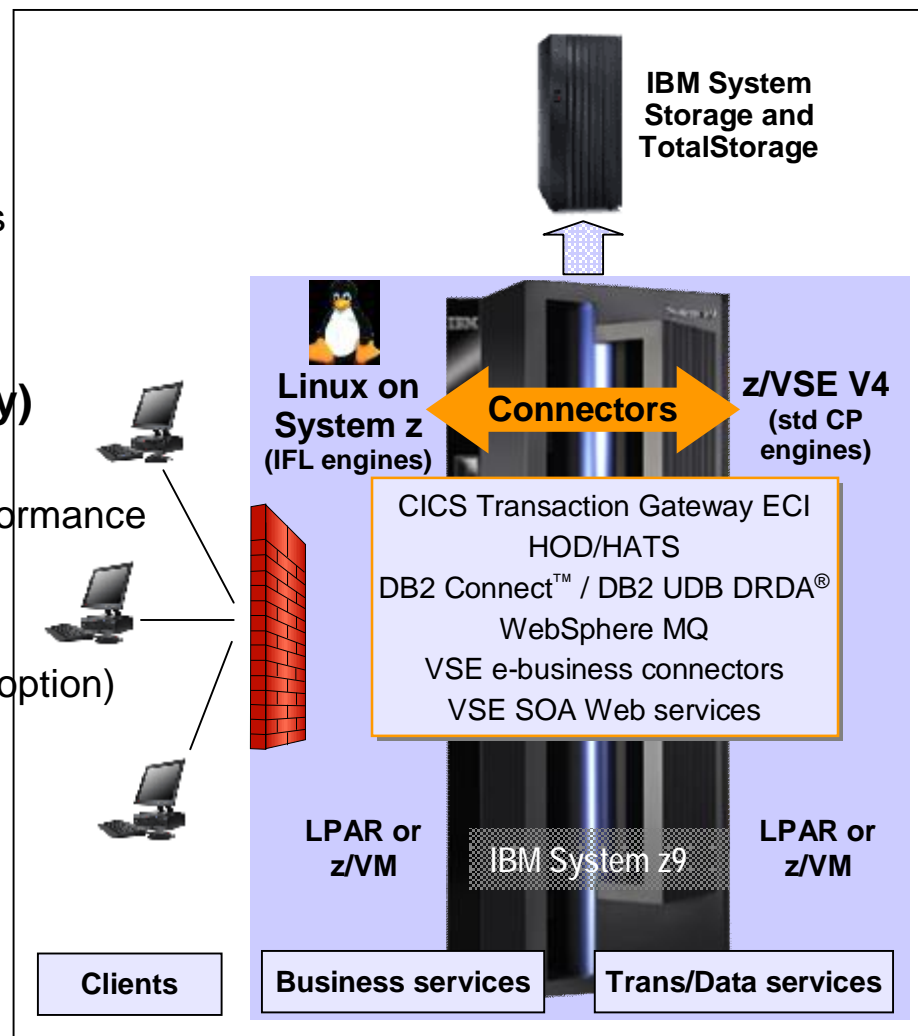► Sub-capacity MWLC option for added price/performance

§ **Encryption enhancements**

► CPACF enhancements (AES-128)
► Configurable Crypto Express2 (add accelerator option)
► TS1120 encrypting tape
► SecureFTP

§ **SOA and interoperability improvements**

§ **FSU from z/VSE V3.1 and VSE/ESA V2.7**

§ **Implemented 22 customer requirements**

► from WAVV and GSE

IBM System Storage and TotalStorage

Linux on System z (IFL engines)

Connectors

z/VSE V4 (std CP engines)

CICS Transaction Gateway ECI
HOD/HATS
DB2 Connect™ / DB2 UDB DRDA®
WebSphere MQ
VSE e-business connectors
VSE SOA Web services

LPAR or z/VM

IBM System z9

LPAR or z/VM

Clients

Business services

Trans/Data services

z/VSE 4.1 – Auslieferung / Bestellung

Download vom Internet (via ShopzSeries):

Hier gibt es zur Zeit noch Probleme beim Bestellen

è   Schicken Sie eine formlose Bestell-Email mit den gewünschten
Produkten, dem Tape-Format und optionalen Produkten
sowie – falls gewünscht - mit Anfrage auf Single Version Charge (SVC),
damit Sie das alte VSE noch 12 Monate kostenfrei weiterführen können

direkt an

**Stefan Riedl, E-Mail: stefan.riedl@de.ibm.com**
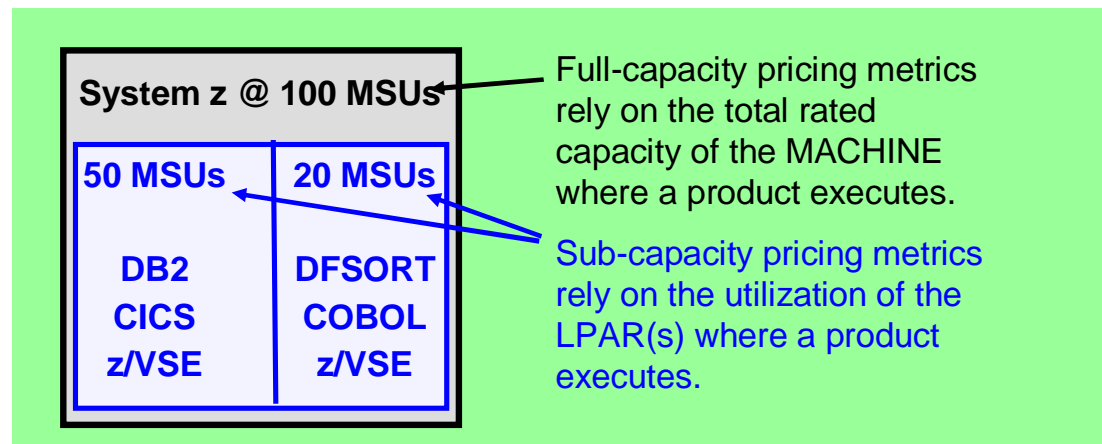System z Software Telesales

oder

wenden Sie sich an Ihren IBM Vertriebsbeauftragten bzw. Businesspartner

Improved TCO through new Pricing Metric and Sub-Capacity Pricing with z/VSE V4

§ **z/VSE price/performance through new pricing metric**

► **Midrange Workload License Charge (MWLC)**

► **MWLC requires current HW (z9 EC / z9 BC*) and z/VSE V4**
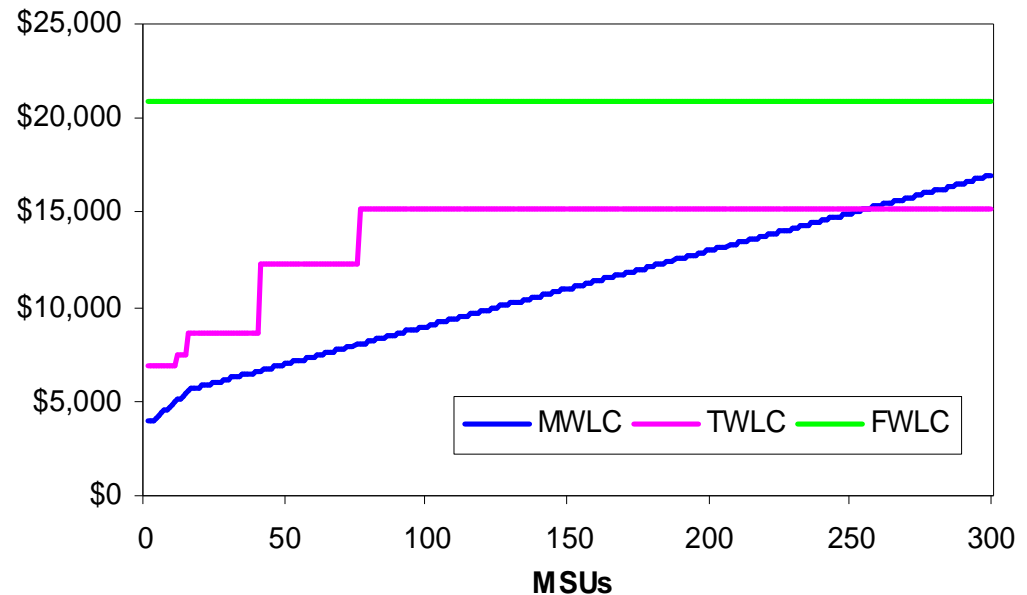
§ **Additional price/performance through sub-capacity option**

► **Some hardware footprint consolidations more attractive now**

► **Presence of z/VSE V3 or VSE/ESA™ forces full-capacity pricing**

* z9 BC A01 is priced zELC, not MWLC.

System z @ 100 MSUs

50 MSUs	20 MSUs
DB2 CICS z/VSE	DFSORT COBOL z/VSE

Full-capacity pricing metrics rely on the total rated capacity of the MACHINE where a product executes.

Sub-capacity pricing metrics rely on the utilization of the LPAR(s) where a product executes.

Transition to z/VSE V4 Sub-Capacity Pricing

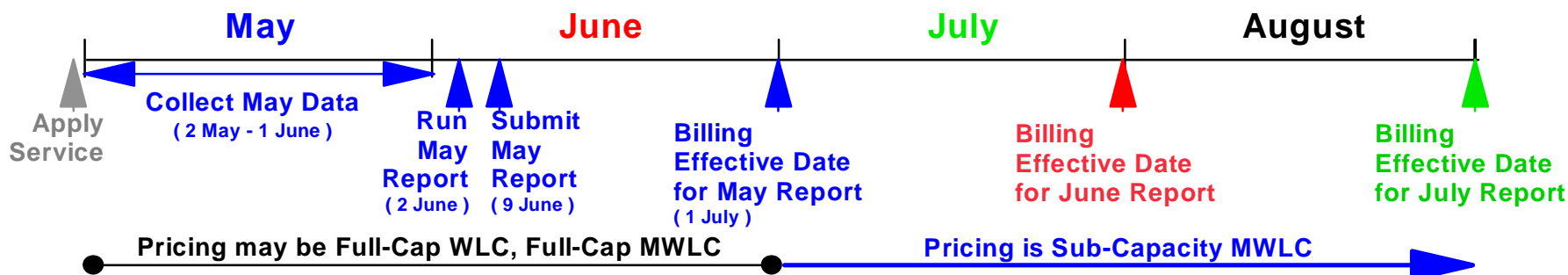§ **Basic Requirements**

  ► **IBM System z9 BC or z9 EC**

  ► **z/VSE V4 (no older VSE version allowed on the processor, ie. no VSE/ESA V2, no z/VSE V3)**

  ► **If running under VM: z/VM 5.2 (or later) is required**

§ **Reporting Requirements**

  ► **Must report on <u>all</u> LPARs and z/VM guests (production, test, development, etc.)**

  ► **95% data collection**

  ► **Default (i.e. worst case) is full-capacity prices**

  ► **2-month full-capacity transition period**

§ **Timing Requirements**

  ► **Sub-Capacity Pricing begins with the submission of 1st full month report**

  ► **Data <u>collection</u> period: 2nd of the previous month - 1st of the current month**

  ► **Data <u>submission</u> period: 2nd - 9th following data collection**

May	June	July	August

Collect May Data
(2 May - 1 June)

Apply Service

Run May Report
(2 June)

Submit May Report
(9 June)

Billing Effective Date for May Report
(1 July)

Billing Effective Date for June Report

Billing Effective Date for July Report

Pricing may be Full-Cap WLC, Full-Cap MWLC

**Pricing is Sub-Capacity MWLC**

Capacity Measurement Tool (CMT)

§ **Announced and available with z/VSE V4.1 since March 16, 2007**

§ **Can be activated on z9 BC and z9 EC models only**

§ **Requires z/Architecture mode è z/VSE V4.1 only**

§ **Collects data for LPARs and/or guest machines running under z/VM 5.2 (or later)**

§ **Implemented as a new z/VSE V4.1 system task**
   ► **periodically measures CPU usage and calculates MSUs**
   ► **measurement interval is every 30 minutes**
   ► **calculates the rolling 4-hour average**
   ► **creates dataset with SCRT89 records**

§ **Output from CMT is input for SCRT**
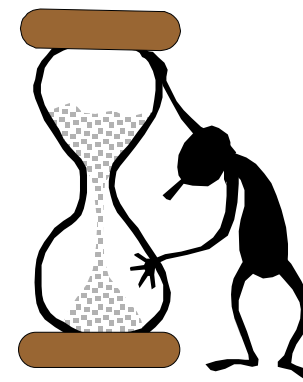
Sub-Capacity Reporting Tool (SCRT)
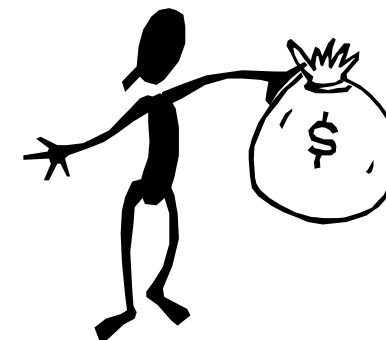
§ **Not announced and not available on z/VSE V4.1**

§ **Requires z/OS system to execute, and requires a new version of SCRT**

§ **New version of SCRT on z/OS is planned to become available in 4/2007**

§ **Analyzes SCRT89 records as produced by CMT on z/VSE V4**

§ **Also analyzes SMF70 and SMF89 records as produced by z/OS**

§ **If there is both, z/OS and z/VSE V4, you must generate your own SCRT report**

§ **If there is only z/VSE V4, you will need to send SCRT89 records to IBM and IBM will run SCRT for you**

§ **Output from SCRT is a report, similar to a spreadsheet report**

SCRT Example Report: Part 1 of 2

=============== SUB-CAPACITY REPORT ==============

Run Date/Time	02 Feb 2007 - 12:38
Name of Person Submitting Report:	xyz
E-Mail Address of Report Submitter:	xyz
Phone Number of Report Submitter:	xxx
Customer Name	xyz
Customer Number	xxx
Machine Serial Number	xxx
Machine Type and Model	2096-G01
Machine Rated Capacity (MSUs)	15
Purchase Order Number	xyz
Is this machine a member of a pricing aggregation?	no
Customer Comments (255 chars max)	xyz

TOOL INFORMATION

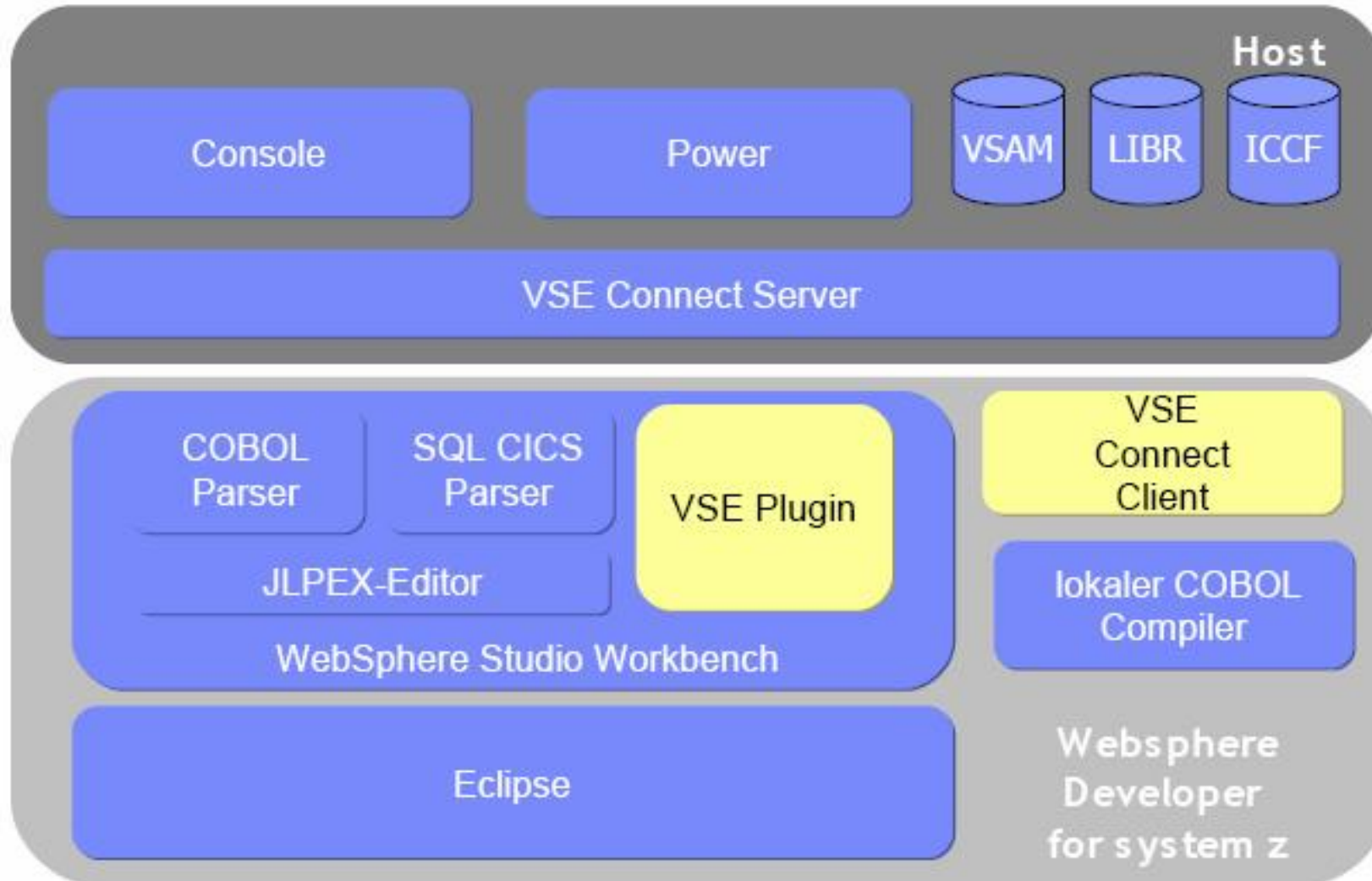|	
Tool Release	12:02
Reporting Period	2 Jan, 2007 - 1 Feb, 2007

SCRT Example Report: Part 2 of 2

	z/VSE
% Data Collected	**96% for 31 days**
Justification for low data collection (255 chars max)	explain

PRODUCT SUMMARY INFORMATION

VWLC Product Name	VWLC Product ID	Tool MSUs
VSE Central Functions V8	5686-CF8	13
ACF/VTAM V4 VSE/ESA	5686-065	13
CICS TS for VSE/ESA	5648-054	13
DITTO/ESA for VSE	5648-099	13
High Level Assembler VSE & VM	5696-234	13
IBM COBOL VSE/ESA	5686-068	13
TCP/IP for VSE	5686-A04	13

VSE Plugin für WDz (Übersicht)

Host

Console

Power

VSAM LIBR ICCF

VSE Connect Server

COBOL Parser

SQL CICS Parser

VSE Plugin

VSE Connect Client

JLPEX-Editor

WebSphere Studio Workbench

lokaler COBOL Compiler

Eclipse

Websphere Developer for system z

IBM Systems

New Redbook:

SG24-7436-00

available since March 23, 2007

Draft Document for Review March 7, 2007 4:33 pm

SG24-7436-00

Introduction to the New Mainframe:
z/VSE Basics

Basic mainframe concepts and architecture

z/VSE fundamentals for students and beginners

Mainframe hardware and peripheral devices

Wolfgang Bosch
Hans Joachim Ebert
Helmut Hellner
Jerry Johnston
Wilhelm Mild
Ingolf Salm
Joerg Schmidbauer
Martin Walbruehl

Redbooks

ibm.com/redbooks

IBM Systems

Agenda

§ **z/VSE V4.1**

- Press
- Highlights
- MWLC
- WD4z

→ § **Linux on System z**

- Press
- Code Drops
- SLES 10
- RHEL 5

§ **z/VM V5.3**

- Press
- Highlights

§ **Summary**

- Exploiting the best of all Worlds on System z

IBM Systems

Nationwide leverages Linux and will save $15M over 3 years

Challenges
ü Rapid growth
ü Many Underutilized Servers
ü Facilitate fast provisioning
ü Reduce TCO

We are Nationwide

Key Benefits*
ü Significantly better TCO **($15 million savings over 3 years)**
  ü 50% reduction in Web hosting monthly costs
  ü **80% reduction** in data center floor space needs; power conservation
  ü **50% reduction** in hardware & OS support efforts
  ü **70% average** CPU utilization
ü Significantly faster provisioning speed (months à days)
ü Capacity on demand; increase/reduce compute power
ü Simple and robust high availability & disaster recovery
ü Leverage 40+ years of resource sharing experience

Nationwide®
On Your Side

Solution
ü IBM System z™ 9 EC IFLs with 144GB memory
ü Novell SUSE Enterprise Linux 9
ü IBM WebSphere, IBM WebSphere Portal, IBM DB2 UDB, IBM WebSphere MQ
ü GTS Capacity Planning & Capacity Management Services

http://www.linuxworld.com/events/keynotes/lwsf06-guru.html

Linux & Open Source

Code Drops for Linux on System z

4Q06 Code drop content

Kernel

Linux kernel module to access PR/SM LPAR performance data based on diag204 <BTM>

Virtual Server

Enhanced Linux System Layout [HYV]

Linux & z/VM monitor stream stage 2 – application support

APPLDATA enhancements <z/VM 5.3>

Enhance APPLDATA record layout for steal time <z/VM 5.3>

Collaborative memory management stage 2 [HYW]

Directed DIAG support [I4I]

Common I/O

Channel Path measurement Data <BTM>

Storage - ESCON/FICON

Deprecate DASD FBA driver

Linux PAV support for LPAR <BTM>

HyperSwap support in DASD driver and Common I/O layer

3592 Control Unit Recognition

Security

Crypto Device Driver Curreny and Merger (delivers SEC0512, SEC0601 functionality)

Evaluation items

Performance improvements for QDIO networking

1Q07 Code drop content

Kernel

In-kernel Pseudo Random Number Generation [H1N]

Virtual Server

Kernel NSS support

ETR support

Linux Guest Filesize in Monitor APPLDATA {MR0628066528}

Linux support for z/VM hypfs DIAG 2FC (eWLM)

Networking

AF_IUCV Protocol Support

snIPL SCSI Load

Dynamic switch for geth_perf and qdio_perf

Common I/O

Improved handling of dynamic subchannel mapping

Storage - ESCON/FICON

3592 tape emcryption support

Add DASD runtime switch for logging {MR0414064519, MR0223067137}

Storage FCP

Program directed IPL support (no XML in system dumper)

FCP performance data collection – I/O statistics [IHO] *

RAS

Reboot with alternate parameters from FCP (system controlled)

IPL/dump on panic

* no upstream deliverable, SLES10/SLES9 only

Code drop Nov 17, 2006

Code drop Feb 28, 2007

SUSE® Linux Enterprise Server 10 Major Areas of Improvement

Virtualization

- Xen 3 for SMP, PAE and 64-bit CPUs
- Server Consolidation, Compatibility
- Scheduled Maintenance

Deployment and Management

- CIM Providers and Improved YaST
- Pattern Deployments

Security

- Application Security, EAL4+
- Network Detection, Monitoring
- Secure Encapsulation with Xen

Performance and Scalability

- 1024 CPUs, 10+TB Memory

New Hardware and Update Drivers

- x86, x86-64, ia64, ppc, ppc64 and s390x
- New storage, network & graphic drivers
- Hotplug Improvements

High-availability Storage Foundation

- Clustered File System OCFS2, EVMS2
- HA with Heartbeat v2 (up to 16 nodes)
- NFS v4
- iSCSI Target and Initiator
- DRBD to build HA Clusters

available since August 2006

SUSE Linux Enterprise Server enables businesses to deliver mission-critical IT services with enhanced security and reduced costs while improving data center reliability and performance.

New features for SLES on System z:

New Fibre Channel Protocol, SCSI over Fibre Channel

- Host Bus Adapter Virtualization on System z9 now allows sharing of FCP adapters in a fully SCSI compliant way
- comprises SAN access right management and disk sharing through virtual HBAs

SLES 10 Network adapters enhanced to enable the Communication Controller for Linux products on System z9 for 374x NCP virtualization

Support of the new cryptographic adapters of System z and the new crypto instructions of the System z processors

Miscellaneous virtual server enhancements:

- more hypervisor friendly
- options to analyze network traffic on virtual connections
- shared memory for executables and library code across multiple Linux guests running in the same z/VM system

SLES 10 on System z provides a cost efficient and reliable scale-up and scale-out application-hosting environment specifically meant to augment z/OS and z/VSE enterprise deployments. SLES 10 exploits the newest System z architecture level.

RED HAT ENTERPRISE LINUX 5.

- Red Hat Enterprise Linux 5 comprises **more than 1200 components**
- **Over two years of development** since Red Hat Enterprise Linux 4
- Technology created by:
  - Red Hat
  - Partners
  - Community
- Packaging designed by:
  - Red Hat
  - Customers
  - Partners

Virtualization

Server virtualization is provided in the base server product & is available for the client product

Storage and extended server virtualization is provided with the Virtualization Platform option

Red Hat Network support for virtualization

Virt-Manager, libvirt/virsh management tools

Packaging

Replacement of previous AS, ES and WS products with a single server and a single client

New Options provide additional server and client product capabilities

Kernel & Performance

Red Hat Enterprise Linux is based on the Linux 2.6.18 kernel

Support for multi-core processors

Broad range of new hardware support

Updated crash dump capability provided by Kexec/Kdump

Support for Intel network accelerator technology (IOAT)

Numerous enhancements for large SMP systems

Enhanced pipe buffering

IPv4/IPv6 fragmentation offload & buffer management

Dynamically switchable per-queue I/O schedulers

Kernel buffer splice capability for improved I/O buffer operations

Security

SELinux enhancements include Multi-Level Security and targeted policies for all services

SEtroubleshooter GUI simplifies SELinux management

Integrated directory & security capabilities

IPSEC enhancements improve security and performance

ExecShield enhancements, such as a call frame Canary word, strengthen hacker defenses

New Audit features provide powerful new search/reporting and realtime monitoring

GA
03/14/07

redhat

redhat.com/virtualization
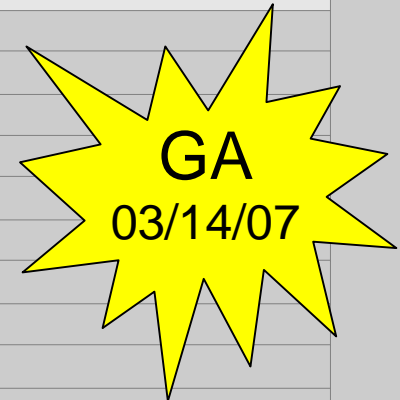
RED HAT ENTERPRISE LINUX 5.

ı Features exposed to extensive testing with Fedora Core 4/5/6 ensures high quality
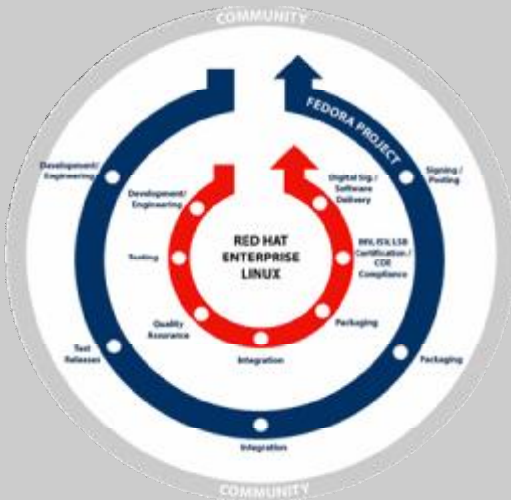
ı Application interfaces held stable for life of product

Networking & Interoperability
Network storage enhancements include Autofs, FS-Cache and iSCSI support
IPv6 support and conformance enhancements
Improved Microsoft file/print and Active Directory integration
Desktop
Desktop enhancements provide updated configuration tools, applications and laptop support
Foundational Stateless Linux features (X autoconfigure, NetworkManager, etc)
Improved ACPI and laptop support
Smart card login - with PKI/Kerberos authentication
Integrated multi-media support
Enhanced plug and play hardware support (cameras, printers, scanners, etc)
Network Manager provides automatic wired and wireless network configuration
Enhanced graphics using AIGLX/Compiz (with fading, transparency, etc)
Development Environment
Enhanced application development tools including SystemTap profiler and Frysk debugger
GCC 4.1 and glibc 2.4 toolchain
Storage
Support for root device multipath IO (MPIO) improves availability
Single system/guest version of Red Hat Global File System included in the base product
Block device data encryption support
Management
Numerous installer improvements make system configuration simpler
Yum/Pup-based updater for Red Hat Network
Conga cluster & storage management (with Virtualization Platform)

redhat

redhat.com/virtualization

IBM Director for Linux on System z - Overview

IBM Director base functions
- Discovery
- Group Management
- Inventory
- Basic Resource Monitor
- Event Action Plan (EAP)
- Process Management
- Remote Session
- File Transfer
- Network Configuration
- Software Distribution
- SNMP Browser

z/VM Center
- Utility Service Configuration Manager *1/2007*
- z/VM Virtual Server Deployment
- z/VM Server Complexes

Software Distribution Premium Edition *1/2007*
- SW package distribution

IBM Virtualization Engine™ and Infrastructure Services for Linux on IBM System z9™ and IBM eServer™ zSeries® Version 2.1 - PID: 5648-F08

IBM Director for Linux on System z, Version 5.2 - PID: 5648-DR1) *1/2007*

Base	IBM Director
Feature	IBM Director z/VM Center
Feature (1-2007) *1/2007*	IBM Director Software Distribution Premium Edition

Ordering:
www14.software.ibm.com/webapp/ShopzSeries/ShopzSeries.jsp

Product catalog
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- News
- Feedback
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Catalog view (Products in this view: 20)

Country	Switzerland	Go
Package type	z/VM - VM SDO version 5	Go
Group	VM - System Support (20 Products)	Go
Language	All languages	Go

VM: System Support

| ◆ [5697-J05]	Archive Manager for z/VM	1.01.00	English (US)
◆ [5697-J06]	Backup/Restore Manager z/VM	1.02.00	English (US)
◆ [5648-IDR1]	IBM Director with Console	2.01.00	English (US)
◆ [5648-IDR1]	IBM Director Extensions	2.01.00	English (US)

New Redbook:

SG24-7191-00

**available since
Feb 16, 2007**

Experiences with Oracle® 10g Solutions on Linux for IBM System z

Installing Oracle Database 10gR2 on
Linux for System z

Installing split configuration of
EBS on Linux for System z

Installing AS10g on Linux
for System z
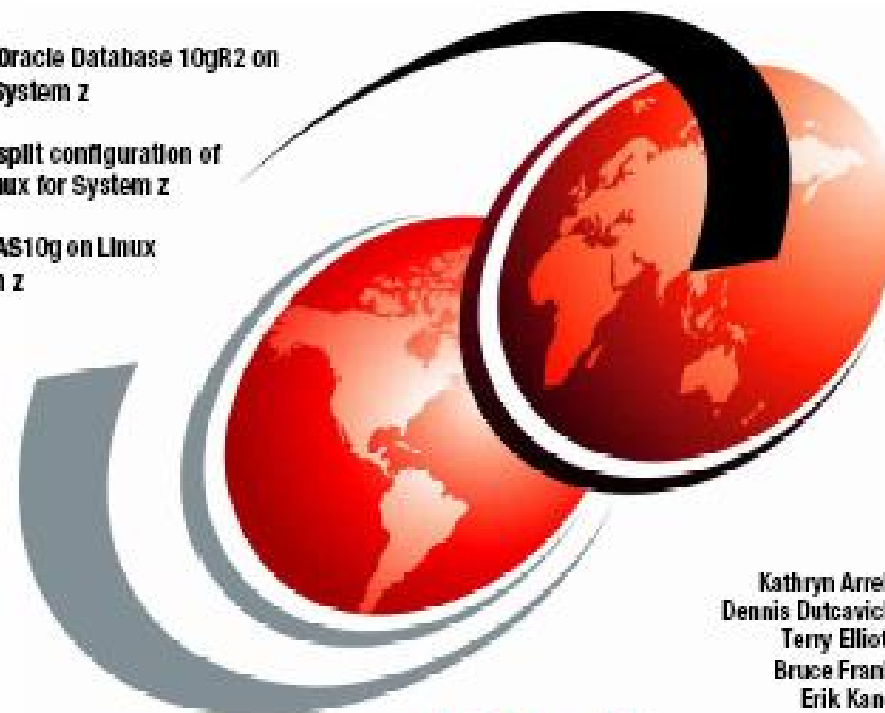
Kathryn Arrell
Dennis Dutcavich
Terry Elliott
Bruce Frank
Erik Kane

Redbooks

ibm.com/redbooks

Agenda

§ **z/VSE V4.1**

- Press
- Highlights
- MWLC
- WD4z

§ **Linux on System z**

- Press
- Code Drops
- SLES 10
- RHEL 5

§ **z/VM V5.3**

- Press
- Highlights

§ **Summary**

- Exploiting the best of all Worlds on System z

IBM Systems

Press and Analyst Statements

§ **"2007 is likely to be remembered in the IT industry as the year of virtualization ..."** Pund-IT, Inc., Feb 7, 2007

- ►z/VM
- ►VMware
- ►XenSource
- ►Virtual Server
- ►Virtual Iron
- ►POWER6
- ►etc.

IDC Analyze the Future

INSIGHT

IBM z/VM Announcement Ups the Ante in Virtualization

| Tim Grieser | John Humphreys |
| Jean S. Bozman | Al Gillen |

THE CLIPPER GROUP

Navigator ™

Navigating Information Technology Horizons ™

Published Since 1993   Report #TCG2007030L   February 28, 2007

Oh, The Things You Can Do ... with z/VM 5.3!

Analyst: Anne MacFarland

z/VM Version 5.3 Enhancements
## Announced Feb 6, 2007; planned Availability June 29, 2007

New!

§ **Enhanced scalability and constraint relief**
  ► Support for greater than 128 GB real storage
  ► Up to 32 real processors in a single z/VM image
  ► Enhanced memory management for Linux guests
  ► Enhanced memory utilization using VMRM between z/VM and Linux guests
  ► HyperPAV support for IBM System Storage™ DS8000™
  ► Enhanced FlashCopy® support

§ **Virtualization enhancements for Linux and other guests**
  ► Guest support for IBM System z specialty engines (processors)
  ► Enhanced VSWITCH and guest LAN usability
  ► Guest support for Modified Indirect Data Address Words (MIDAWs)
  ► Guest ASCII console support
  ► Enhanced SCSI support
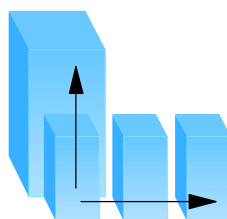
On demand *Scale Up* and *Scale Out*

§ **Networking virtualization enhancements**
  ► Enhanced virtual network management
  ► Enhanced failover support for IPv4 and IPv6 devices
  ► Virtual IP Address (VIPA) support for IPv6

§ **Security**
  ► Delivery of LDAP server and client
  ► Enhanced system security with longer passwords
  ► Conformance with industry standards and SSL server enhancements
  ► Tape data protection with support for encryption

§ **Systems management enhancements**
  ► Enhanced management functions for Linux and other virtual images
  ► Enhanced Performance Toolkit for VM
  ► Enhanced guest configuration

§ **Installation, service, and packaging changes**
  ► Service and installation enhancements
  ► RSCS repackaged as an optional feature
  ► New RACF® Security Server for z/VM
  ► z/Architecture CMS shipped as a sample program
  ► Withdrawal of the ROUTED and BOOTP servers

§ **Additional Information:** Link
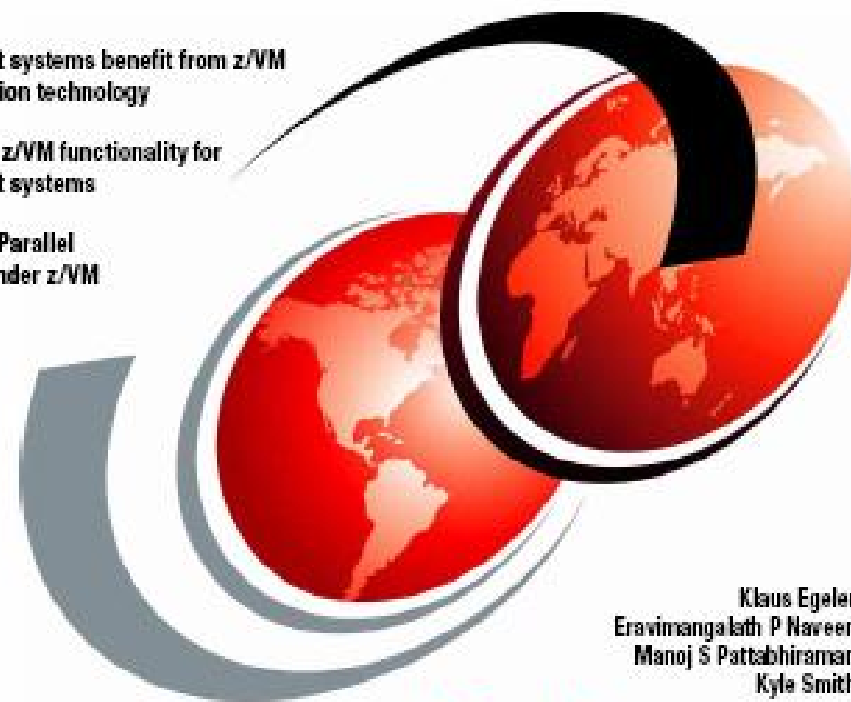
New Redbook:

SG24-7355-00

available since Feb 21, 2007

Using z/VM for Test and Development Environments: A Roundup

How guest systems benefit from z/VM virtualization technology

Exploiting z/VM functionality for your guest systems

Testing a Parallel Sysplex under z/VM

Klaus Egeler
Eravimangalath P Naveen
Manoj S Pattabhiraman
Kyle Smith

Redbooks

ibm.com/redbooks
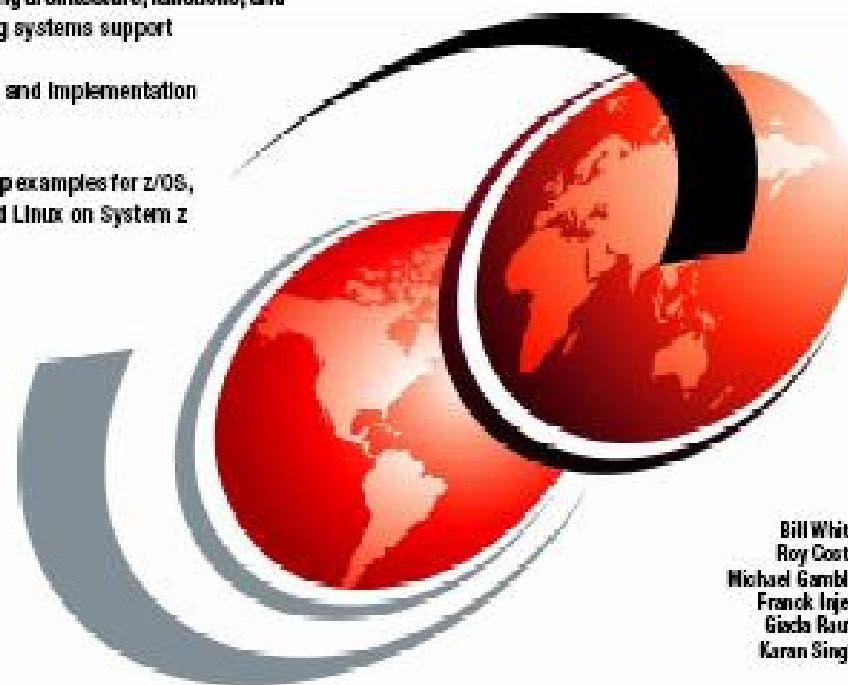
New Redbook:

SG24-6816-01

available since
March 13, 2007

HiperSockets
Implementation Guide

Discussing architecture, functions, and
operating systems support

Planning and implementation

Setting up examples for z/OS,
z/VM and Linux on System z

Bill White
Roy Costa
Michael Gamble
Franck Injey
Giada Rauti
Karan Singh

Redbooks

ibm.com/redbooks

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IBM Systems

Exploiting the best of all Worlds on System z

Infrastructure Simplification

Linux on System z

Firewall, DNS, Print serving, etc.

IBM Middleware

Linux on System z

WAS, Java, CTG, HOD/HATS, WS MQ, etc.

Info on Demand

Linux on System z

DB2 UDB V8.2 (64-bit)

DB2 UDB

Connection via HiperSockets

z/VSE V4.1 Production Environment
+ TCP/IP
+ VTAM
+ CICS TS
+ VSAM
+ COBOL
+ DB2/PRPQ

z/VSE V4.1 Test/Dev Environment

z/VM V5.2+	z/VM or LPAR	z/VM or LPAR
IFL Engine(s)	CP Engine(s)	

IBM System z9 EC or z9 BC
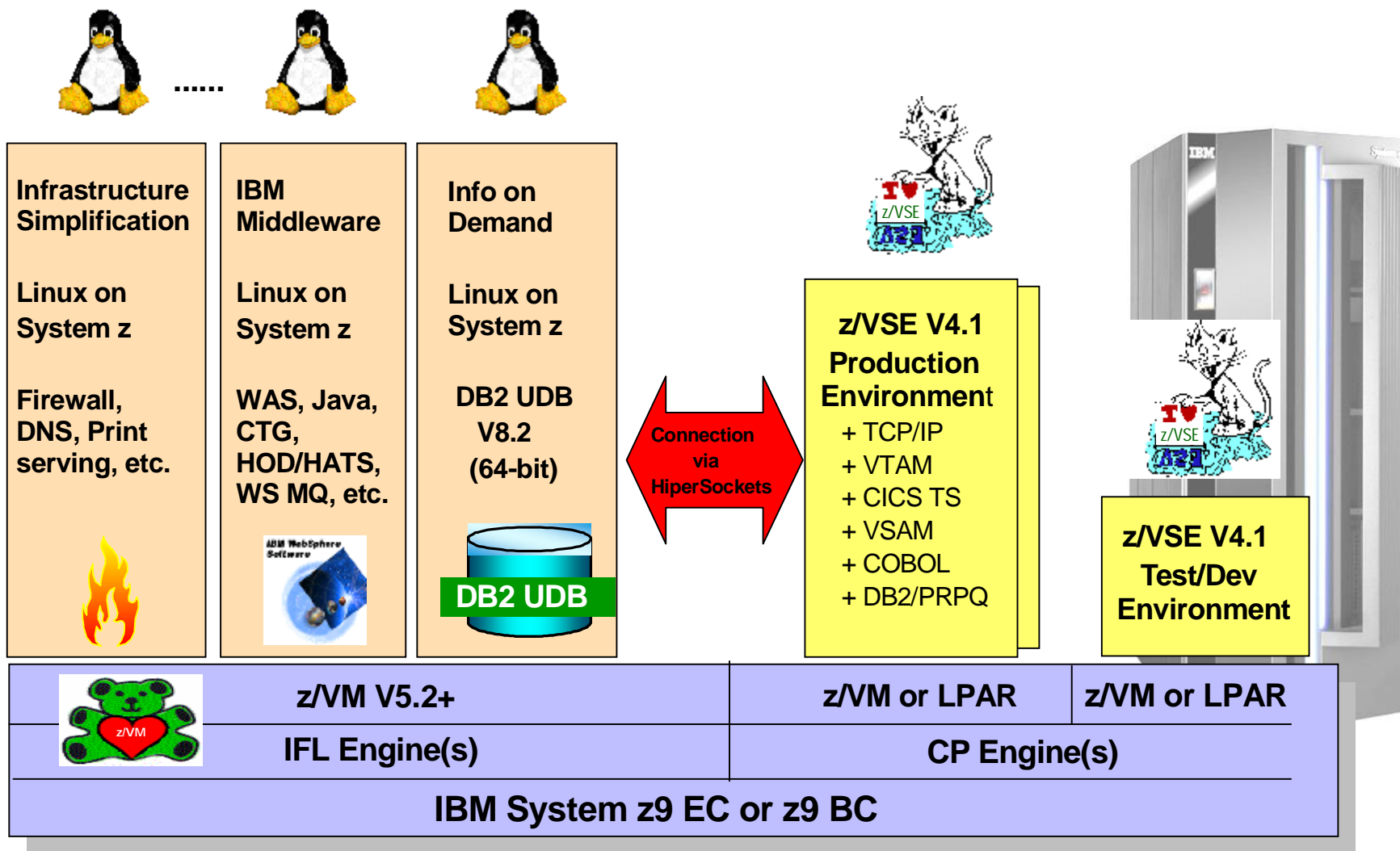
New with z/VSE V4: Integration with TSM

NEW

Linux on System z

Tivoli Storage Manager

Tivoli

Backup

Connection via HiperSockets

z/VSE V4 Production Environment

+ CICS
+ TCP/IP
+ VSAM
+ COBOL
+ Virtual Tape

z/VSE V4 Test Environment

+ CICS
+ VSAM
+ COBOL

LPAR or z/VM	z/VSE Production System LPAR or z/VM	z/VSE Test System LPAR or z/VM
IFL Engine	Standard Engine	

IBM System z
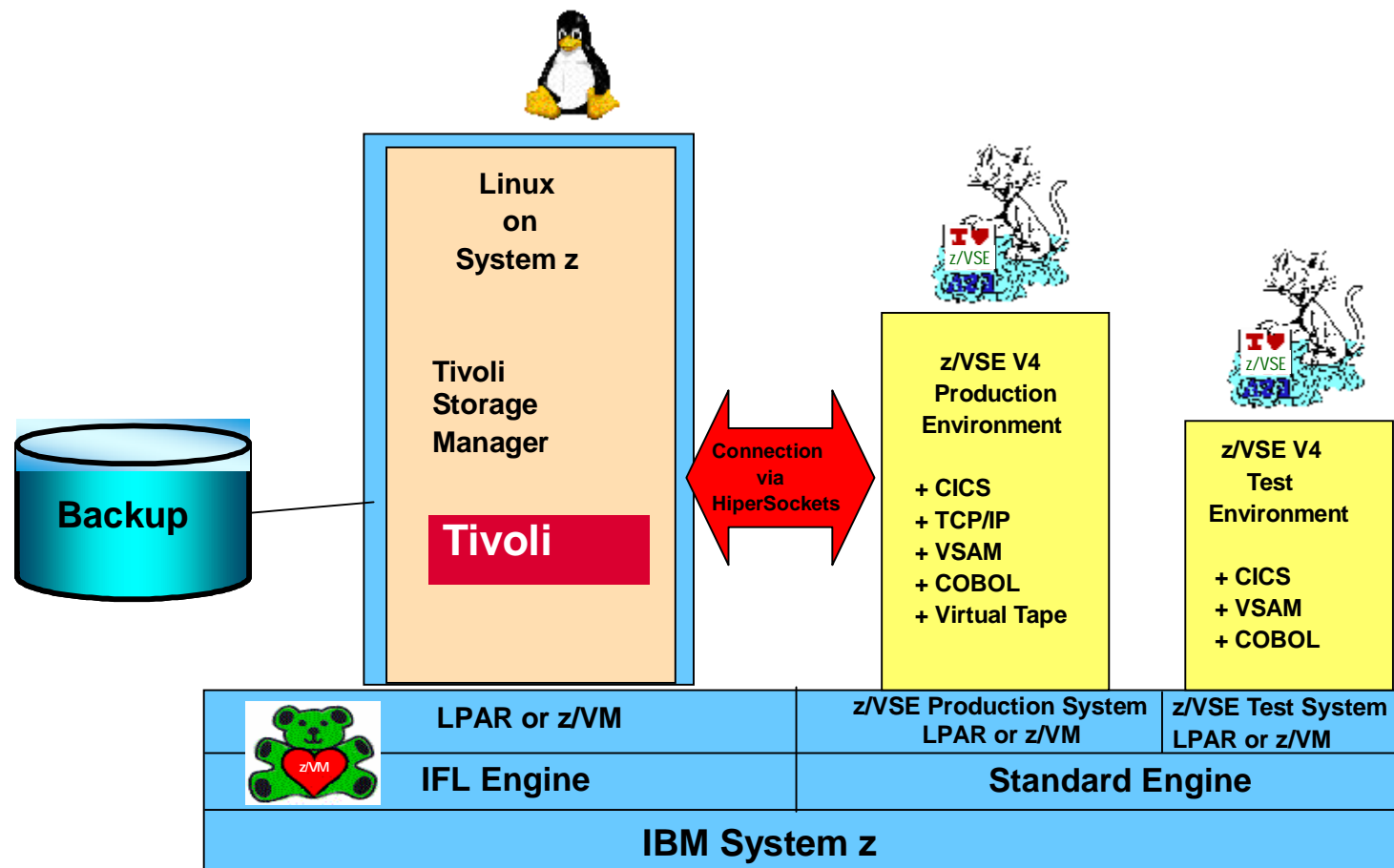
EWLM: Workload Management across Platforms

§ **Enterprise Workload Manager (EWLM)**

► **Enables workload / application control crossing distributed, heterogeneous platforms**

► **Brings z/OS sophisticated workload management to the distributed world**

► **Allows to monitor your applications end-to-end against specified goals like response times**

5 seconds

4 seconds

3 seconds

| EWLM Domain Manager | WebSphere Application Server | DB2 UDB V8.2 (64-bit) | | CICS VSAM VSAM Redir. | CICS VSAM COBOL |

Transparent Data Access

VSAM   DB2 VSE/VM

EWLM Agent

EWLM Agent

Linux on System z
z/VM or LPAR

z/VSE Production LPAR or z/VM

z/VSE Test LPAR or z/VM

IFL Engine

Standard Engine
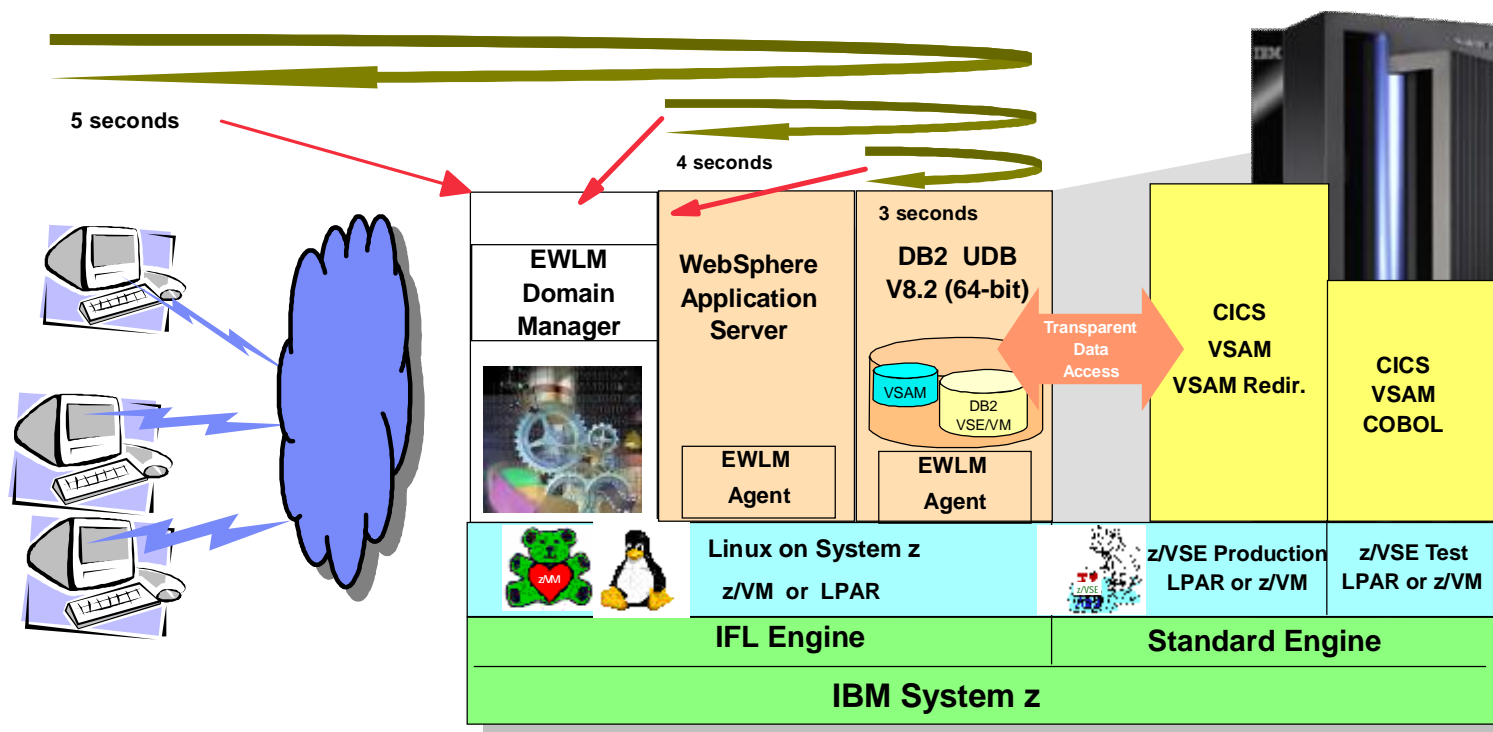
IBM System z

IBM System z Technical Conference in April 2007

- **featuring**
  - **z/OS**
  - **z/VM**
  - **z/VSE**
  - **Linux on System z**
  - **Storage for System z**

- **April 16-20, Munich, Germany**

F **ibm.com/training/conf/europe/systemz**

IBM Global Services > Conferences and events >

IBM System z Technical Conference
featuring z/OS, z/VM, z/VSE, Linux on System z and Storage for System z

IBM Global Services
Training
Conferences & events

Related links
· Certification

IBM System z Technical Conference
Featuring z/OS, z/VM, z/VSE, Linux on System z, and Storage for System z
16-20 April, Munich - Germany

· **Overview**
· Tracks
· Enrollment info
· Registration form

Date:	April 16 – 20, 2007
Location:	Munich, Germany
Duration:	4,5 days
Fee:	EUR 2250 excl. German VAT
Course Code:	SYSZ07DE

↓ Overview
↓ What's new?
↓ Who should attend?

Live Virtual Class for z/VSE Customers

- **Sequence of interactive live sessions over the internet**
    - **Need a web browser and a media player**
    - **Will include a live and interactive Q&A with expert panel**
- **Target audience:**
    - **z/VSE customers**
    - **IBM Business Partners**
    - **IBM Sales Reps**
- **Dates:**
    - **"General Overview of z/VSE V4 Announcement" (Jan 31, 5:00 pm CET)**
    - **"MWLC and Sub-Capacity Pricing for z/VSE V4" (Feb 22, 5:00 pm CET)**
    - **"z/VSE Solutions and SOA" (March 15, 5:00 pm CET)**
- **Replays are available on the z/VSE home page**
- **Watch the z/VSE website for announcement and further information**

    F **ibm.com/servers/eserver/zseries/zvse**

The Virtual World of Second Life ...