Mehr Flexibilität durch neue Software Lizenzierungsmodelle für z/VSE V4

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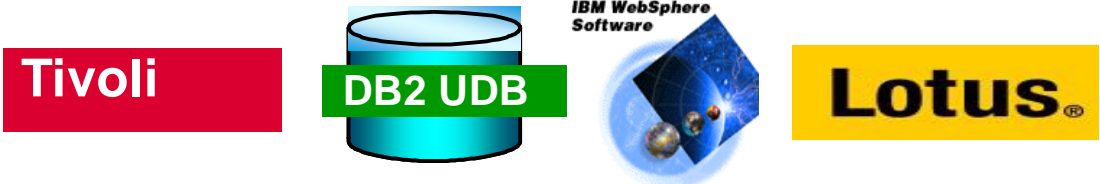
Agenda

§ **Top Concerns of VSE* Customers**

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

§ **Sub-Capacity Pricing Option**

§ **Some Examples**

§ **Summary**

(*) The term "VSE" stands for both, VSE/ESA and z/VSE.

Top Five Concerns of VSE* Customers

1. Cost

2. Cost

3. Cost

4. Applications

5. Applications

(*) The term "VSE" stands for both, VSE/ESA and z/VSE.

How to address the Application Issue ?

Access to new applications is provided through VSE's PIE strategy:

§ **Protect**
- existing VSE investments

§ **Integrate**
- using IBM middleware and VSE connectors

§ **Extend**
- with Linux technology and solutions

IBM TotalStorage

IBM System z
Enterprise Server

System i
System p
System x
System z
BladeCenter

Connectors

Web

CICS Transaction Gateway ECI
DB2 Connect
WebSphere MQ Series
VSE e-business connectors
VSE Web Services

IBM System

Clients	Business Services	Tran/Data Services
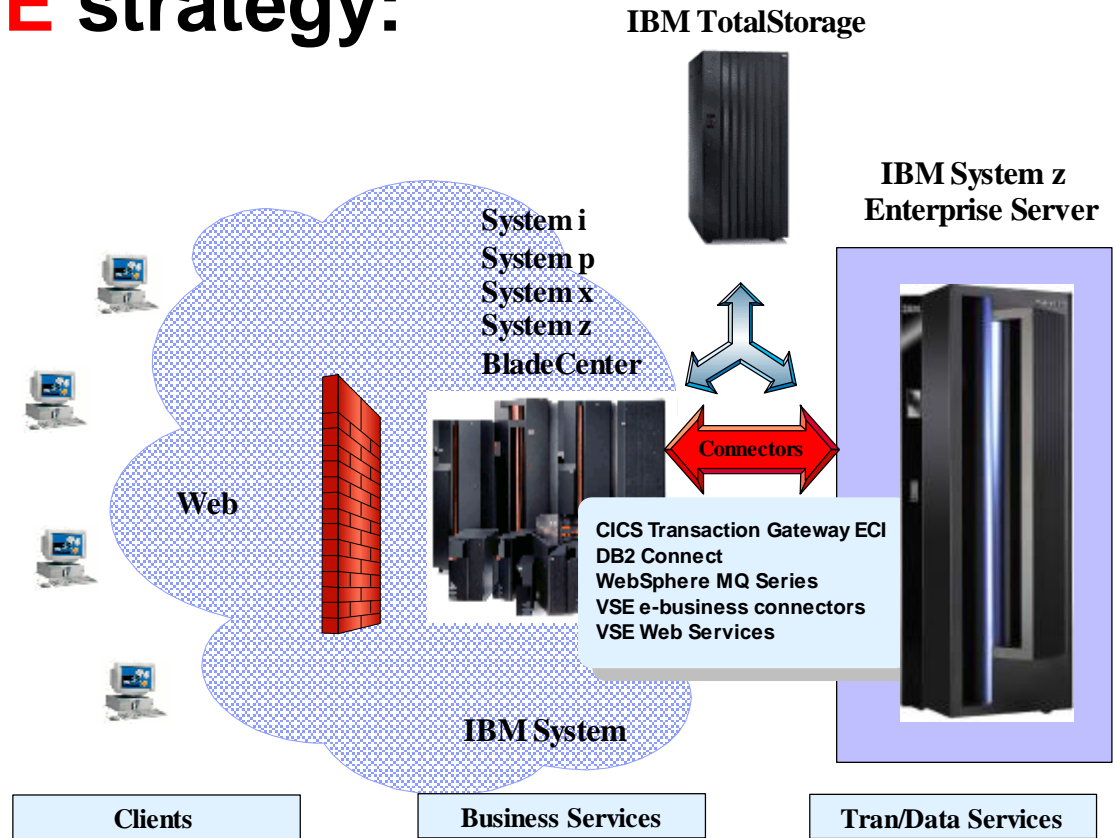
Access to new Applications with Linux on System z

Linux on System z	Linux on System z	Linux on System z		z/VSE V4 Production Environment	z/VSE V4 Test Environment
Firewall e.g. StoneGate or zGuard	WAS, HATS, HoD, MQSeries, etc.	DB2 UDB V8.2 (64-bit)	Connection via HiperSockets	+ CICS + VTAM + TCP/IP + VSAM + COBOL + DB2	+ CICS + VTAM + VSAM + COBOL

DB2 UDB

z/VM V5	z/VSE Production System LPAR	z/VSE Test System LPAR
IFL Engine	Standard Engine	

IBM System z

How to address the **Cost** Issue ?

Cost is addressed with this announcement:

§ **M**idrange **W**orkload **L**icense **C**harge (MWLC)
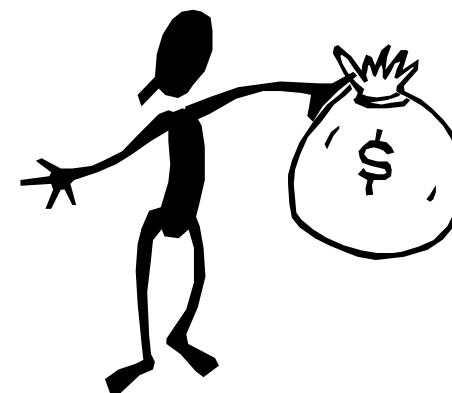
§ **Sub-Capacity Pricing Option**

Agenda

§ **Top Concerns of VSE* Customers**

→ § **Midrange Workload License Charge (MWLC)**

§ **Sub-Capacity Pricing Option**

§ **Some Examples**

§ **Summary**

(*) The term "VSE" stands for both, VSE/ESA and z/VSE.

History: z/VSE V4 Statement of Direction

Statement of Direction announced as part of IBM System z9 announcement, July 2005:
"IBM intends to provide a software sub-capacity measurement tool for z/VSE."

§ **Fulfilled** with z/VSE V4 Preview Announcement, April 2006:
  – **LPAR based sub-capacity monitoring tool**

§ New **Statement of Direction**, announced with z/VSE V4 Preview Announcement:

> **SOD:** It is IBM's intent to provide new software pricing for z/VSE V4 when running on select processors, subject to applicable terms and conditions. IBM expects this new software pricing metric to provide more granularity and a sub-capacity pricing option.

All statements regarding IBM's plans, directions, and intent are subject to change or withdrawal without notice.

§ **Fulfilled** with z/VSE V4 Product Announcement, Jan 2007:
  – **MWLC incl. sub-capacity pricing option**

Midrange Workload License Charge (MWLC)

§ **New software pricing, exclusively for z/VSE customers**

§ **Requires current hardware (IBM System z9 EC or z9 BC) <u>and</u> z/VSE V4**
  – Exception: z9 BC Capacity Setting A01 remains zELC

§ **Full-capacity and sub-capacity MWLC options**
  – Full-capacity mode offers improved price/performance compared to GOLC (on MP3000), zELC (on z800), and TWLC (on z890) alternatives
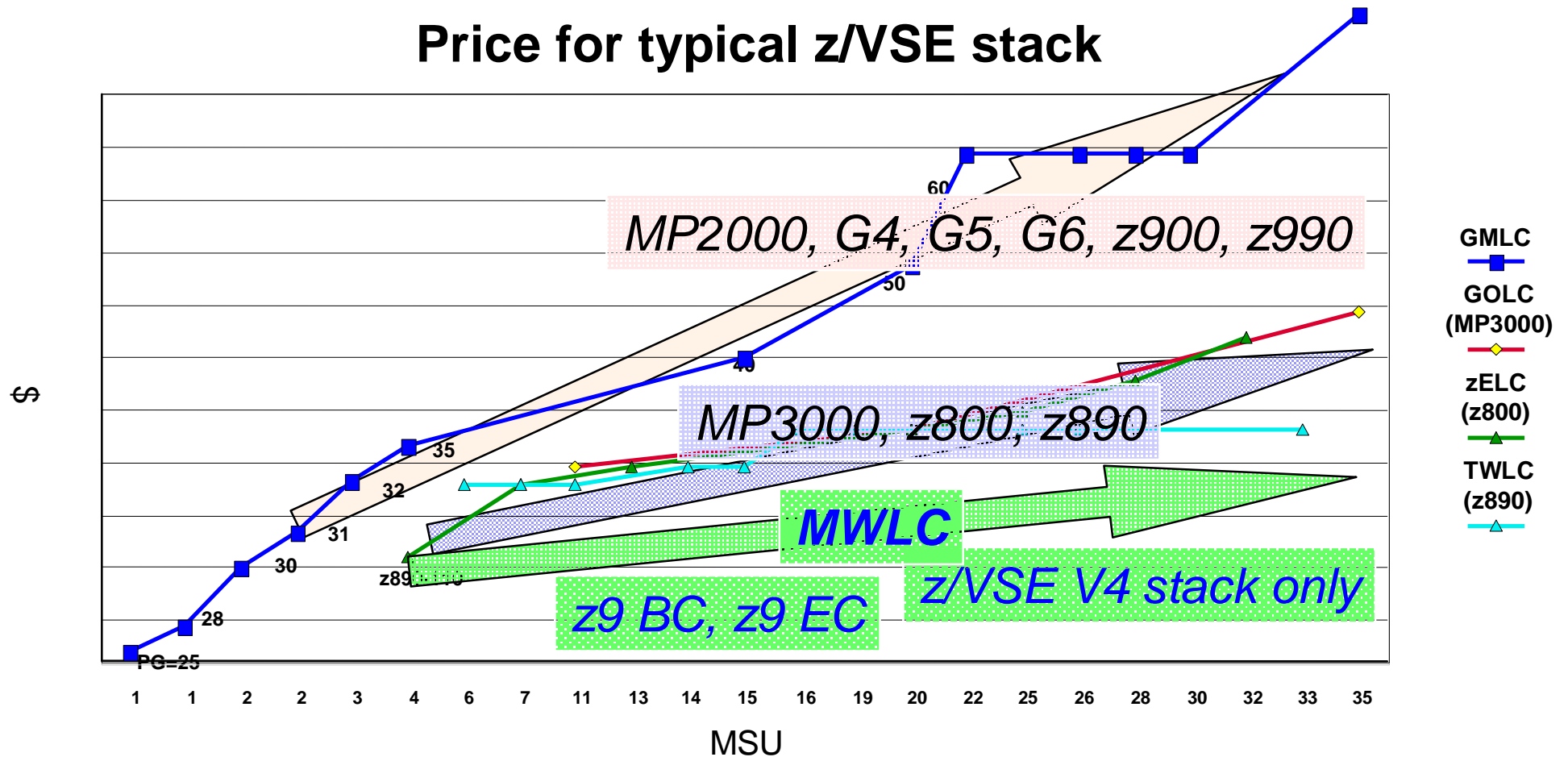 – Additional price/performance possible through sub-capacity mode

§ **Announced:**   **January 9, 2007**
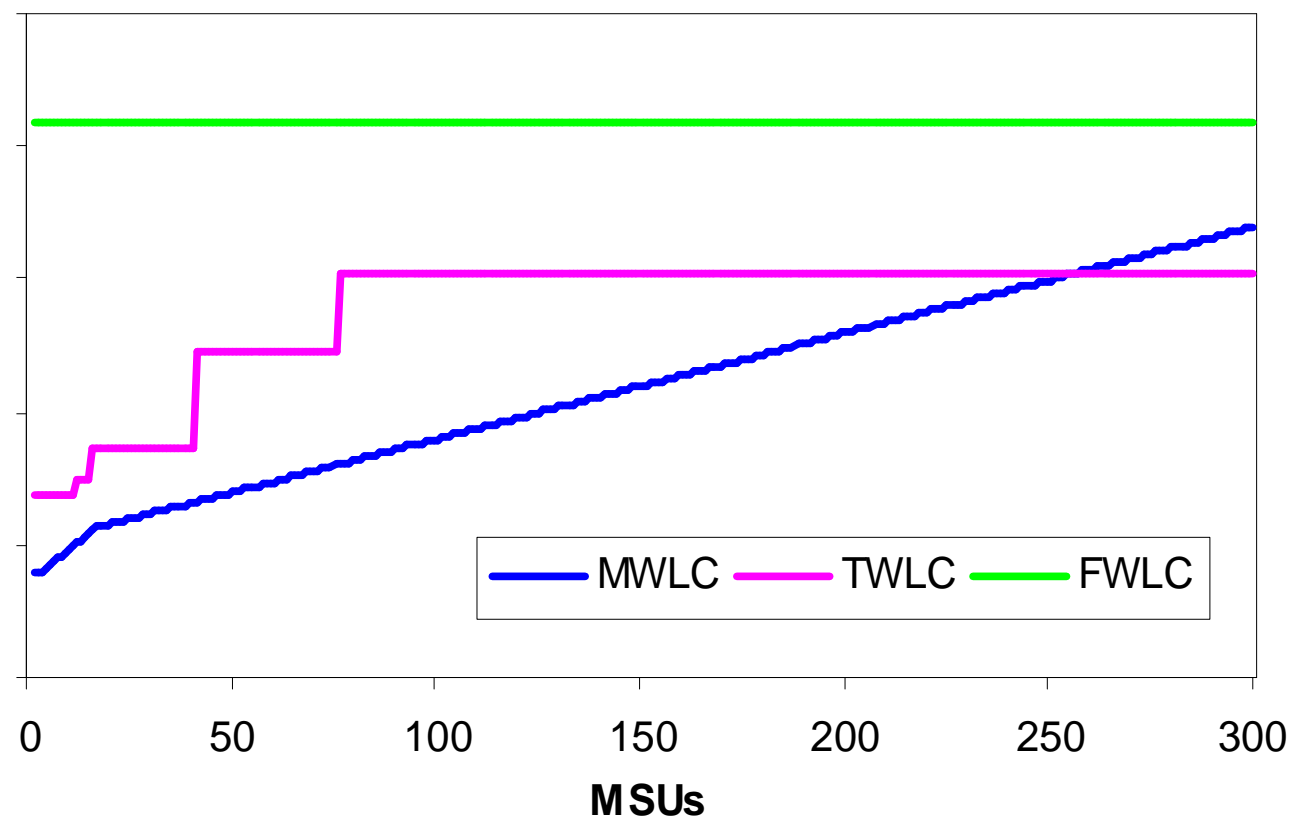§ **Planned availability:**   **March 16, 2007**
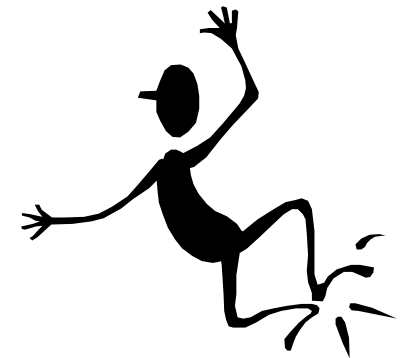
What does MWLC do to Price/Performance ?

Price for typical z/VSE stack

Typical z/VSE stack consists of z/VSE Operating System, LE, CICS TS, VTAM, TCP/IP, DB2

MWLC Sample Stack Slope vs. TWLC and FWLC

§ **Customers may choose between MWLC/TWLC or MWLC/FWLC as appropriate to their machine.**

§ **Additional price/performance may be possible with sub-capacity mode.**

*Sample software stack includes: VSE CF V8, HLASM, VTAM, DITTO, COBOL
*Prices subject to change without notice

VSE-related Products eligible for MWLC

1. **z/VSE V4**

2. **CICS TS for VSE/ESA**

3. **ACF/VTAM® V4 VSE/ESA**

4. **TCP/IP for VSE/ESA**

5. **DB2 Server for VSE & VM**

6. **DL/I DOS/VS**

7. **IBM Cobol VSE/ESA**

8. **IBM PL/1 for VSE/ESA**

9. **C/VSE**

10. **High Level Ass. VSE & VM/ESA®**

11. **WebSphere MQSERIES® VSE/ESA**

12. **DITTO/ESA® for VSE**

13. **IBM DFSORT /VSE® V3**

Product ID	Product Name
5686CF8	z/VSE V4.1
5648054	CICS TS for VSE/ESA
5648099	DITTO/ESA® FOR VSE
5686A04	TCP/IP NFS
5686A04	TCP/IP Application Pak
5686A04	TCP/IP GPS
5686065	ACF/VTAM® V4 VSE Clnt/Serv
5686065	ACF/VTAM V4 VSE Inter Ent
5686065	ACF/VTAM V4 VSE MultiDomain
5686068	IBM COBOL VSE/ESA Full Func
5686068	IBM COBOL VSE/ESA Alt Func
5696234	High Lvl Assem. VSE Only
5697F42	DB2 Server for VSE&VM
5697F42	DB2 QMF for VM/VSE
5697F42	DB2 QMF for Windows feat of DB2
5697F42	DB2 QMF for Windows feat of QMF
5697F42	DB2 Control Center for VM/VSE
5746SM3	IBM DFSORT/VSE® V3
5686A06	MQSERIES® VSE/ESA
5746XX1	DL/I Data Language
5686A01	C/VSE Alt. Function
5686A01	C/VSE Full Function
5686069	IBM PL/I VSE/ESA Full Func
5686069	IBM PL/I VSE/ESA Alt Func

Agenda

§ **Top Concerns of VSE* Customers**

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

§ **Sub-Capacity Pricing Option**

§ **Some Examples**

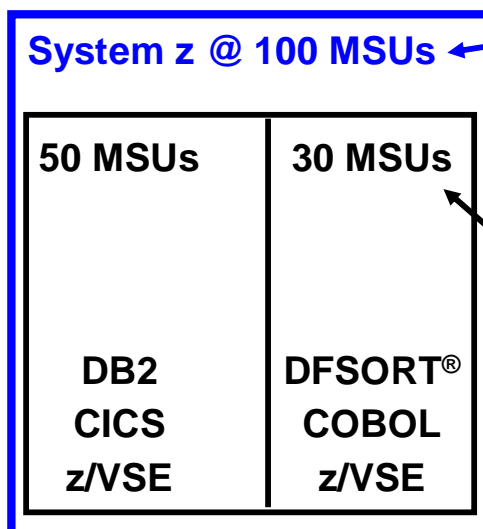§ **Summary**

(*) The term "VSE" stands for both, VSE/ESA and z/VSE.

What is Sub-Capacity?

sub- (prefix)

Below; under; beneath: *subsoil.*

Subdivision: *subregion.*

Less than completely **or normally; nearly.**

System z @ 100 MSUs

50 MSUs	30 MSUs
DB2 CICS z/VSE	DFSORT® COBOL z/VSE

Full-Capacity Pricing Metrics rely on the total rated capacity (measured in MSUs) of the MACHINE where a product executes.

Example: zELC, TWLC

Sub-Capacity Pricing Metrics rely on the utilization (based on peak 4-hour rolling average each month) of the LPAR(s) or guest Virtual Machines where a product executes.

Example: EWLC, MWLC

Sub-Capacity Concept: Rolling 4-Hour Average

Capture the 4-hour rolling average of utilization for each interval in the month

4-Hour Rolling Average
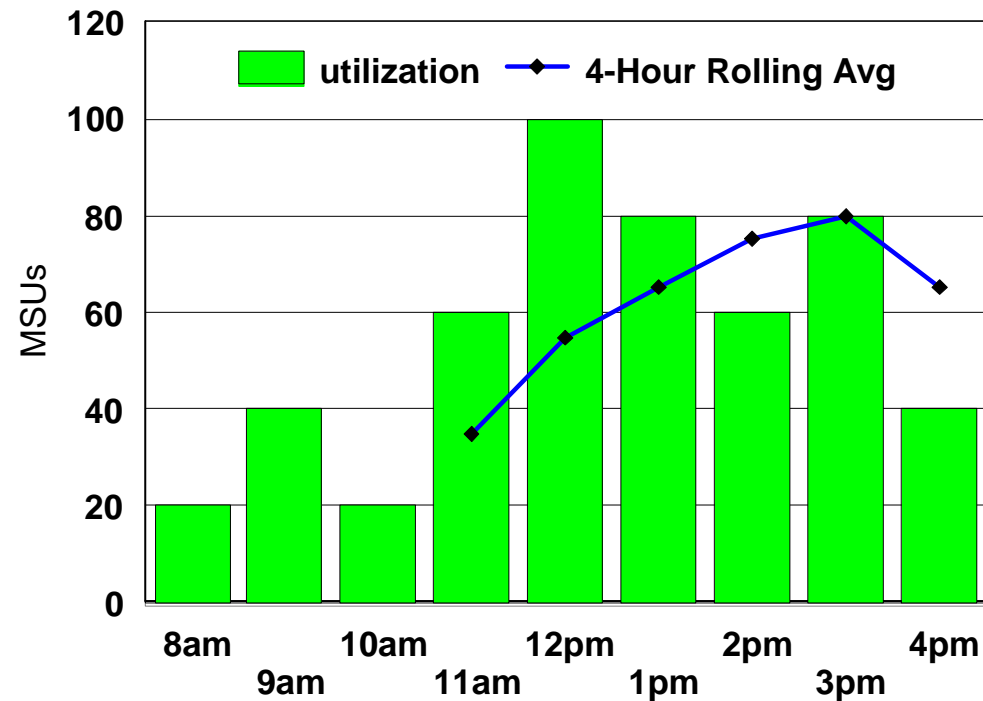
11 am (8,9,10,11):   35 MSUs

12 pm (9,10,11,12): 55 MSUs

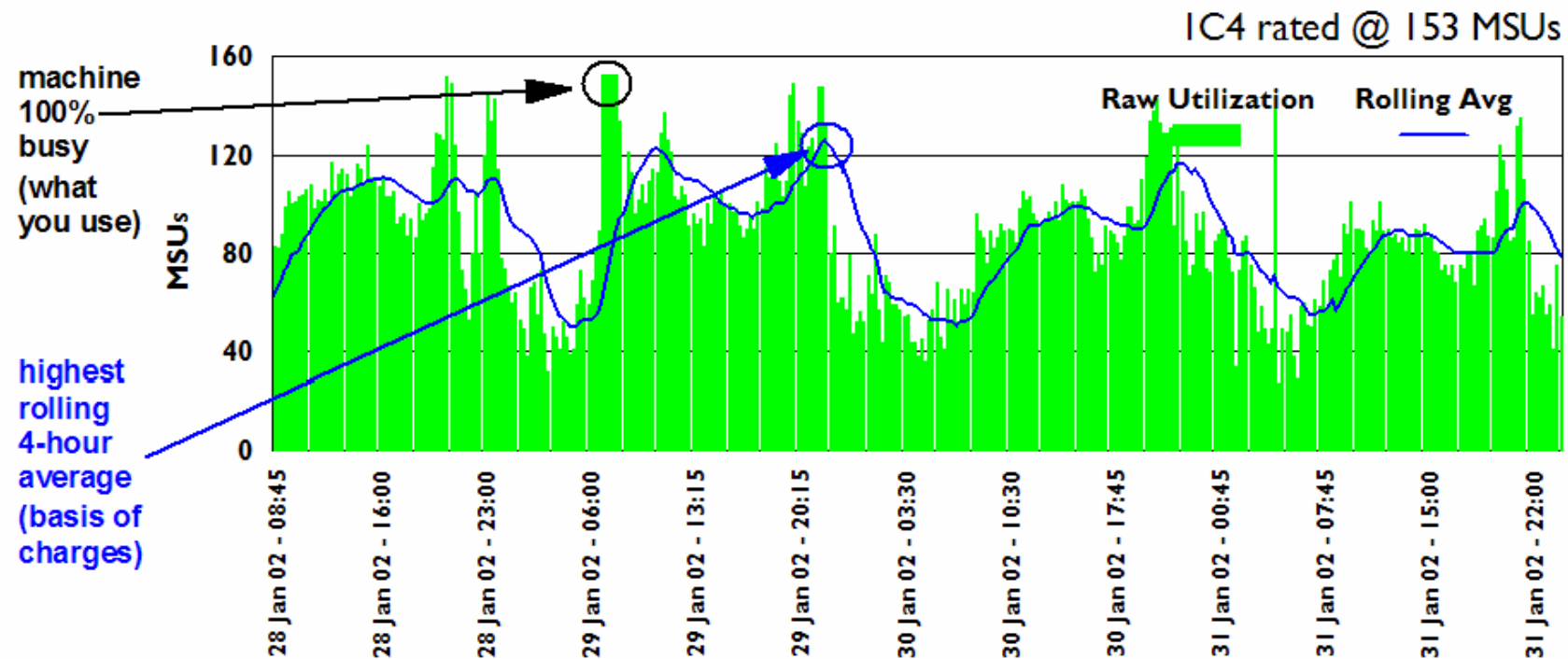1 pm (10,11,12,1): 65 MSUs

2 pm (11,12,1,2):   75 MSUs

3 pm (12, 1, 2, 3): 80 MSUs

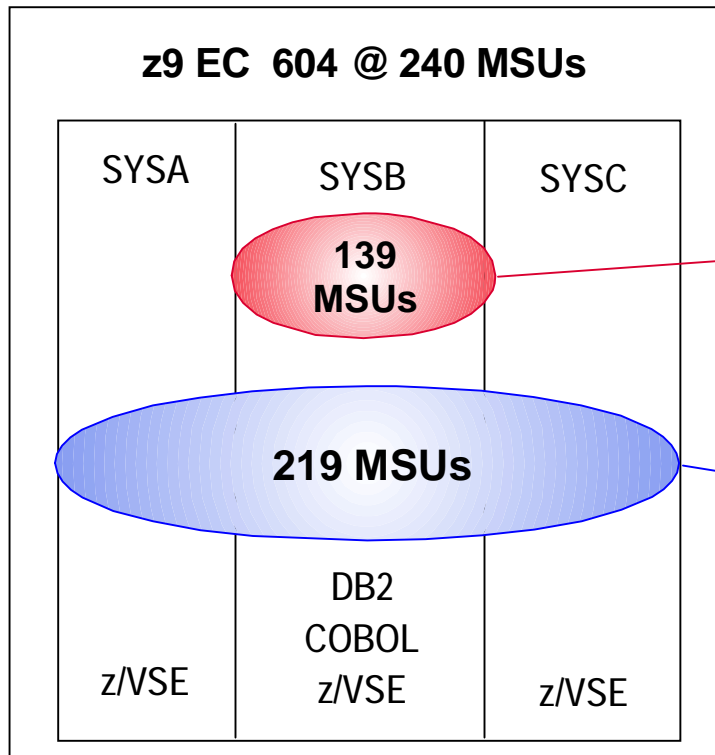4 pm   (1, 2, 3, 4):   65 MSUs

Example: Peak Rolling 4-Hour Average

Rolling 4-Hour Average utilization smoothes out peaks in raw utilization.
Allows for varied peaks & bases Software charges on more moderate measure.

Generic Sub-Capacity Example

z9 EC 604 @ 240 MSUs

SYSA	SYSB	SYSC
	139 MSUs	
	219 MSUs	
z/VSE	DB2 COBOL z/VSE	z/VSE

Product	Sub-Cap MSUs
DB2	139 MSUs
COBOL	139 MSUs
z/VSE	219 MSUs

SYSB utilization — rolling avg SYSB

MSUs

200
150
100
50
0

one month

A & B & C utilization — rolling avg A & B & C

MSUs

200
150
100
50
0

one month
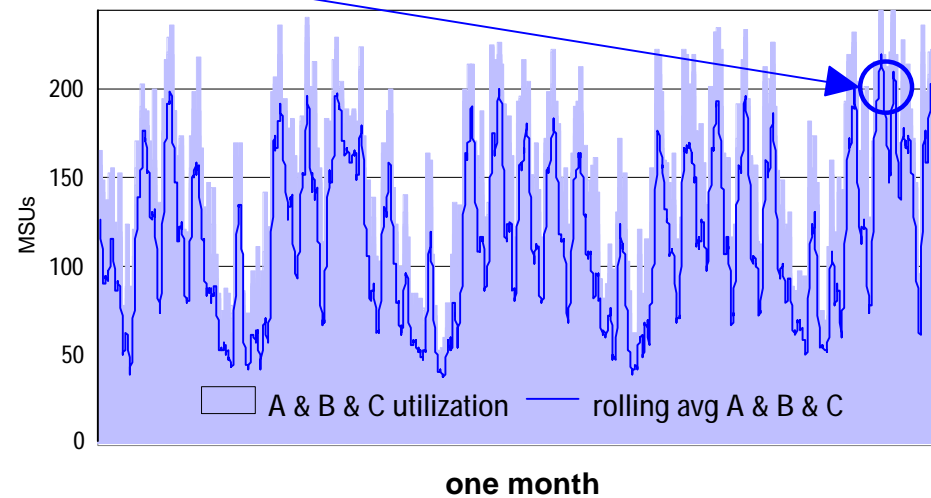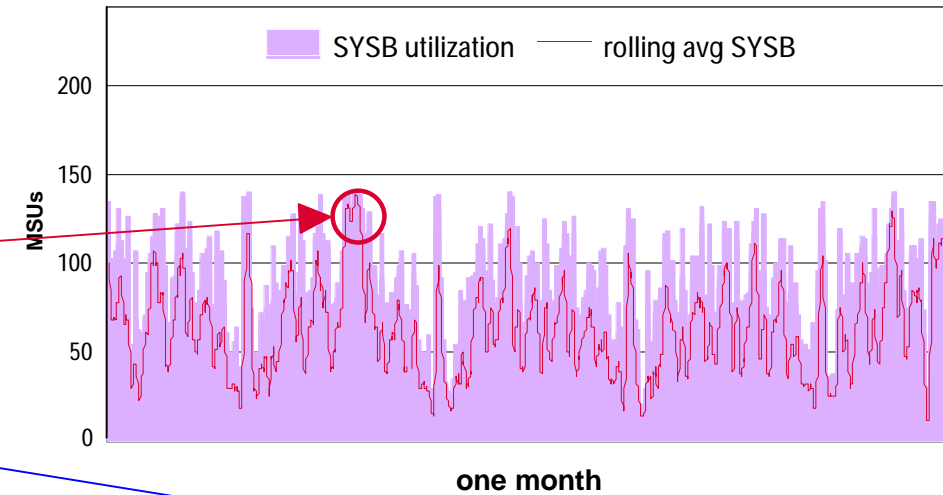
Transition to Sub-Capacity Pricing

§ **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**

– **If running z/OS on the same processor: no OS/390 LPARs allowed**

§ **Timing Requirements**

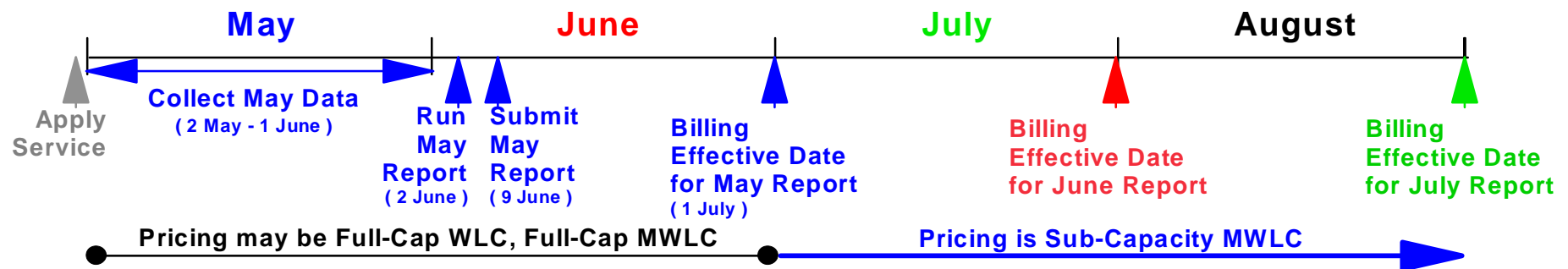– **Sub-Capacity Pricing begins with the submission of 1st full month report**

– **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

Apply Service

Collect May Data
(2 May - 1 June)

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**

§ **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**

Capacity Measurement Tool (CMT)

§ **Sometimes called "Sub-capacity Monitoring Tool"**

§ **Announced and planned to be available with z/VSE V4.1 in 3/2007**

§ **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**
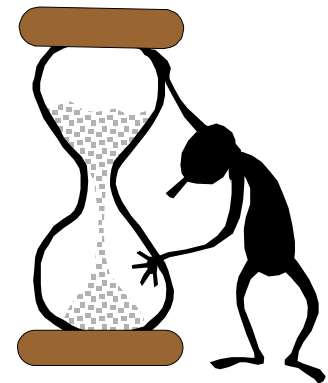
Sub-Capacity Reporting Tool (SCRT)

§ **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**

Benefits of Sub-Capacity Pricing

§ **Disconnect HW growth from SW charges for sub-capacity eligible products**
- Allows you to grow hardware capacity independently of software capacity

    e.g. upgrade server and only pay for software based on the utilized portion of the server
- Grow into excess hardware capacity gradually as needed with a 1 MSU level of granularity
- Spike into "spare" capacity without incurring software charges
- Manage utilization without having to turn engines on and off

§ **Grow an LPAR without affecting software in other LPARs**
- Isolate products in certain LPARs to reduce software costs (optional)
- Reduce LPAR utilization to reduce software costs (optional)
- Add capacity to grow your production LPARs without impacting your test and/or development LPARs

§ **Align software charges with utilization**
- Pay based on highest rolling 4-hour average utilization each month, not peak utilization
- Sub-Capacity Monitoring Tool manages measurement and reporting
- Software charges increased/decreased based on variations in utilization

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§ **Top Concerns of VSE* Customers**

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

§ **Sub-Capacity Pricing Option**
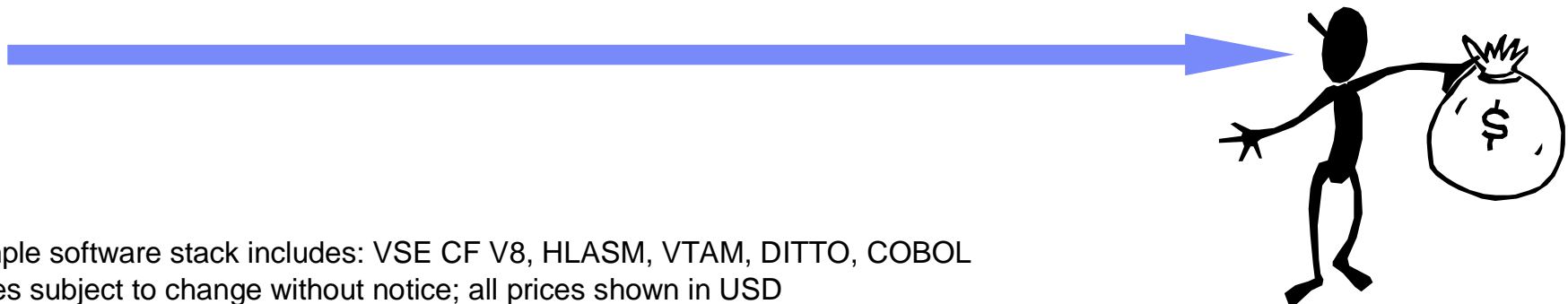
→ § **Some Examples**

§ **Summary**

(*) The term "VSE" stands for both, VSE/ESA and z/VSE.

z/VSE – Price/Performance over Time

§ **Midrange sample customer software stack**

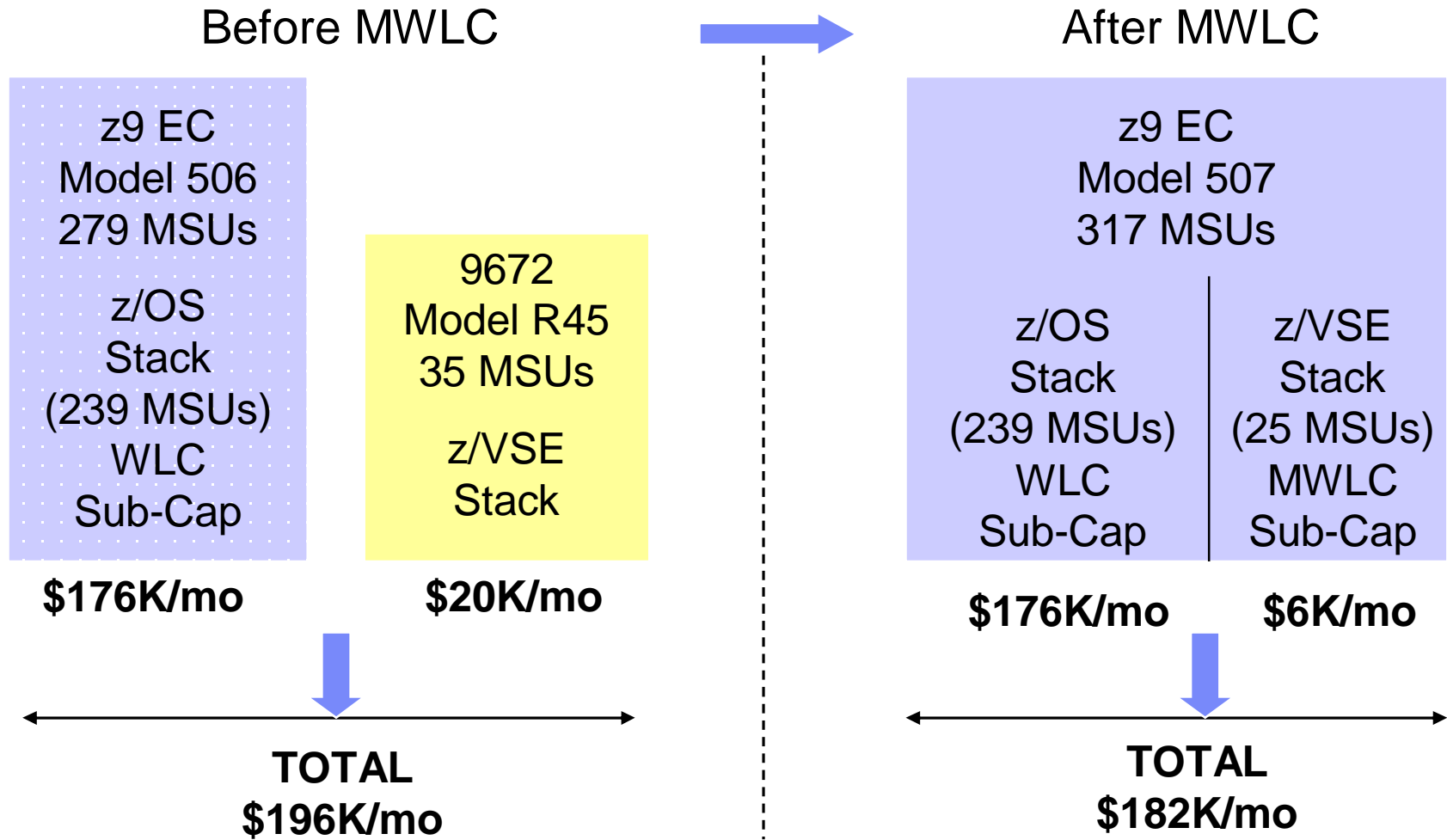| 32 MSUs z/VSE Stack 9672 GMLC	32 MSUs z/VSE Stack z800 zELC	32 MSUs z/VSE Stack z890 TWLC	32 MSUs z/VSE V4 Stack z9 BC MWLC	32 MSU z/VSE V4 Stack z9 BC MWLC with 30% White Space
$240K/yr	$120K/yr	$96K/yr	$76K/yr	$71K/yr

*Sample software stack includes: VSE CF V8, HLASM, VTAM, DITTO, COBOL
*Prices subject to change without notice; all prices shown in USD

z/VSE V4: MWLC High-End Price/Performance server consolidation example

Before MWLC → **After MWLC**

Before MWLC

**z9 EC
Model 506
279 MSUs**

**z/OS
Stack
(239 MSUs)
WLC
Sub-Cap**

$176K/mo

**9672
Model R45
35 MSUs**

**z/VSE
Stack**

$20K/mo

**TOTAL
$196K/mo**

After MWLC

**z9 EC
Model 507
317 MSUs**

z/OS Stack (239 MSUs) WLC Sub-Cap	z/VSE Stack (25 MSUs) MWLC Sub-Cap
$176K/mo	**$6K/mo**

**TOTAL
$182K/mo**

*Sample software stack includes: VSE CF V8, HLASM, VTAM, DITTO, COBOL
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§ **Some Examples**

➔ § **Summary**

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Summary of z/VSE Software Price Metrics

IBM Servers	z/VSE V4	z/VSE V3 (Note 1)	VSE/ESA V2
IBM System z9 Enterprise Class – z9 EC (formerly z9-109)	**MWLC** (incl sub-cap opt.)	GMLC, ELC, flat WLC	GMLC, ELC, flat WLC
IBM System z9 Business Class – z9 BC	**MWLC** (incl sub-cap opt.)	TWLC (A01 is zELC)	TWLC (A01 is zELC)
IBM eServer zSeries 990 and 900	GMLC, ELC, flat WLC	GMLC, ELC, flat WLC	GMLC, ELC, flat WLC
IBM eServer zSeries 890	TWLC (110 is zELC)	TWLC (110 is zELC)	TWLC (110 is zELC)
IBM eServer zSeries 800	zELC	zELC	zELC
S/390® Parallel Enterprise Server™ G5/G6	**not applicable**	GMLC, ELC, flat WLC	GMLC, ELC, flat WLC
S/390® Multiprise® 3000	**not applicable**	GOLC	GOLC

Note 1: z/VSE V3 can operate in 31-bit mode only. It does not implement z/Architecture and specifically does not implement 64-bit mode capabilities. z/VSE V3 is designed to support selected features of IBM System z hardware.

z/VSE Roadmap

PIE

Capacity
Quality
z/OS Affinity
Interoperability
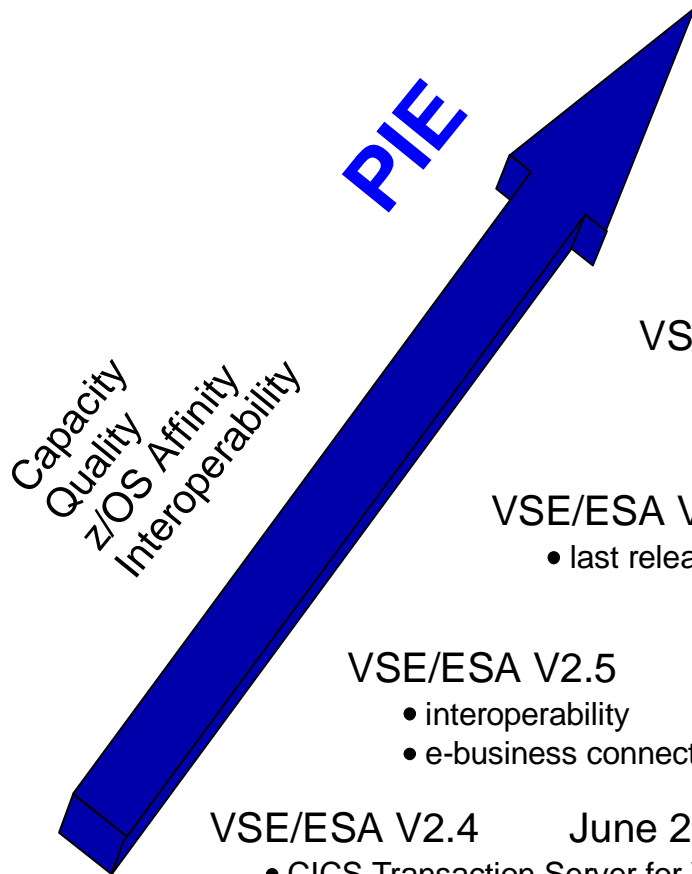
z/VSE V4.1 March 16, 2007
- z/Architecture only
- 64-bit real addressing
- MWLC full & sub-cap pricing

z/VSE V3.1   March 4, 2005*
- zSeries features, FCP/SCSI
- 31-bit mode only

VSE/ESA V2.7   March 14, 2003
- enhanced interoperability
- ALS2 servers only

VSE/ESA V2.6   Dec 14, 2001
- last release to support pre-G5 servers

VSE/ESA V2.5   Sept 29, 2000
- interoperability
- e-business connectors

VSE/ESA V2.4   June 25, 1999
- CICS Transaction Server for VSE/ESA
- e-business

- Note: z/VSE V3 can operate in 31-bit mode only. It does not implement z/Architecture and specifically does not implement 64-bit mode capabilities. z/VSE V3 is designed to support selected features of IBM System z hardware

The Bottom Line

§ **z9 BC/EC - in combination with z/VSE V4 – can help you achieve significant reduction in monthly software charges**

§ **The resulting savings can – and should – be used to invest in new solutions, e.g.**

 – **SOA**

 – **Linux on System z**

 – **new middleware**

 – **new standard software**

 – **new application development**

§ **Get focused more on 'value' rather than 'cost' !**