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IBM Systems and Technology Group University 2005

zSeries Software Pricing

Course #:

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Worldwide zSeries Sales



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Agenda

- **Software Pricing Overview**
- **What is Sub-Capacity?**
- **Who is Eligible for Sub-Capacity?**
- **Should you Move to Sub-Capacity?**
- **Sub-Capacity IBM eServer™ zSeries® IPLA**
- **zSeries Application Assist Processor (zAAP) for IBM eServer zSeries 890 (z890) and zSeries 990 (z990)**
- **z/OS.e and NALC**
- **z/VM® and Linux®**
- **On/Off Capacity on Demand**

zSeries Software Pricing Framework

Category One: Monthly License Charge

Core Products:

z/OS®, OS/390®

DB2®

IMS™

CICS®

MQSeries®

Best-of-Breed Offerings

Lower Cost of Incremental Growth

Flexibility & Customer Choices

Metric = depends on hardware, operating system and customer preference

Category Two: zSeries IPLA (OTC)

Competitive Products:

- DB2 Tools
- IMS Tools
- CICS Tools
- Application Development Tools
- Tivoli® Products
- WebSphere® Products

zSeries Linux Middleware

Breadth and Depth of Portfolio

Lower Cost of Incremental Growth

Offer Competitive Alternatives

Metric = Value Unit Pricing (Competitive) or Engine-Based Pricing (Linux for zSeries)

Monthly License Charges Overview

	Aggregation Capable?	Sub-Cap Capable	z990 z900	z890*	z800*	9672 PCM
WLC allows NALC	Yes	Yes	X	X (plex only)	X (plex only)	
EWLC		Yes		X** (w/ TWLC)	X (w/ zELC)	
PSLC allows NALC allows ULC	Yes		X	X (plex only)	X (plex only)	X
zELC					X	

WLC = Workload License Charges

PSLC = Parallel Sysplex® License Charges

zELC = zSeries Entry License Charge™

ULC = Usage License Charges = available only for MQSeries, DB2, CICS, IMS; used when product has low utilization

NALC = New Application License Charges = available only for z/OS, OS/390, Domino™ V5; associated w/ e-business

* z/OS.e should be used in place of NALC on z800 and z890 servers

EWLC = Entry Workload License Charges

TWLC = EWLC Tiered

** z890-110 is priced zELC, not EWLC

What is Sub-Capacity?



What is Sub-Capacity?

sub- (prefix)

Below; under; beneath: *subsoil*.

Subordinate; secondary: *subplot*.

Subdivision: *subregion*.

Less than completely or normally; nearly; almost: *subhuman*.

zSeries @ 100 MSUs

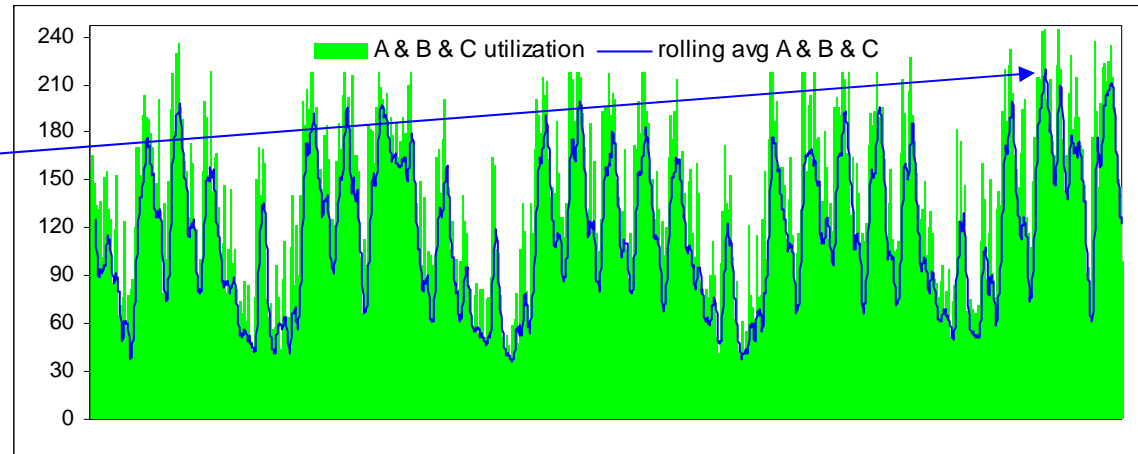
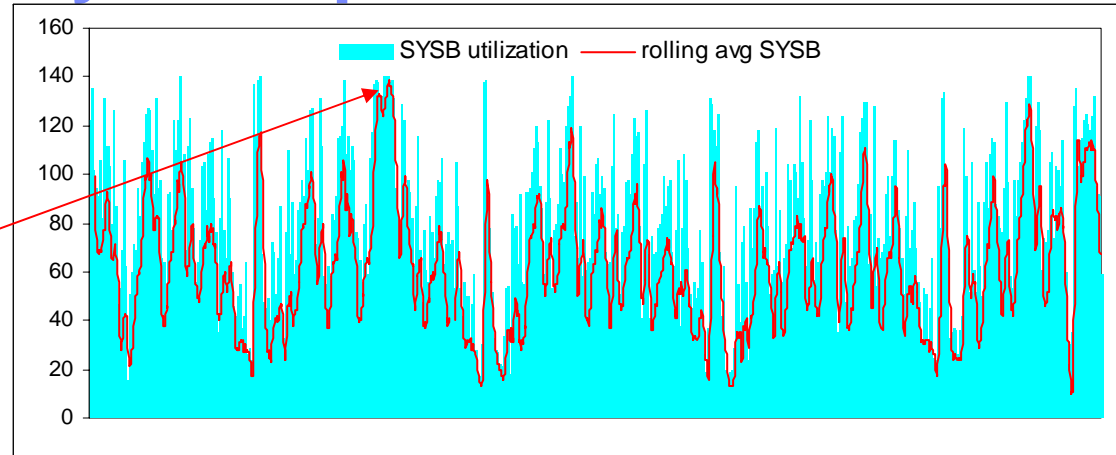
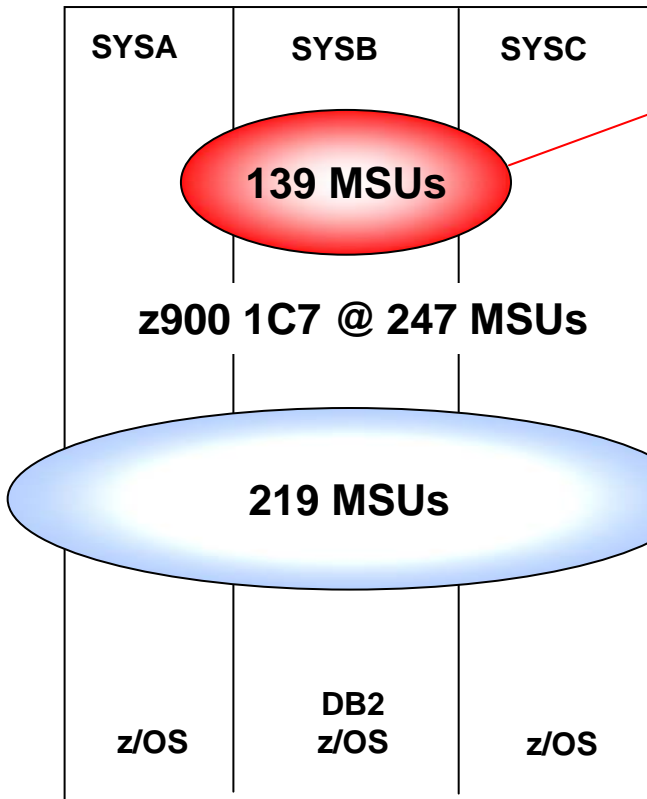
30 MSUs	50 MSUs
DB2	
CICS	IMS
z/OS	z/OS

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.

ibm.com/zseries/library/swpriceinfo/hardware.html

Generic Sub-Capacity Example



DB2 = 139 MSUs
z/OS = 219 MSUs

Who is Eligible for Sub-Capacity?



Workload License Charges for zSeries*

for Sub-Capacity Eligible Products

Variable Workload License Charges (VWLC)

for non-Sub-Capacity Eligible Products

Flat Workload License Charges (FWLC)

Variable WLC Price Structure

Level	Range
Base	0 - 3 MSUs
Level 0	4 - 45 MSUs
Level 1	46 - 175 MSUs
Level 2	176 - 315 MSUs
Level 3	316 - 575 MSUs
Level 4	576 - 875 MSUs
Level 5	876 - 1315 MSUs
Level 6	1316 - 1975 MSUs
Level 7	1976+ MSUs

cumulative monthly pricing

Flat WLC Structure

per server	single charge
------------	---------------

flat monthly pricing



**zSeries
z/OS 64-bit**

*WLC is available on z900, z990, z800 (plex) and z890 (plex)

Entry Workload License Charges for z890

for Sub-Capacity Eligible Products
Entry Workload License Charges (EWLC)

for non Sub-Capacity Eligible Products
EWLC Tiered Price Structure

EWLC Price Structure

base	3 MSUs
Level 1	4 - 17 MSUs
Level 2	18 - 30 MSUs
Level 3	31 - 45 MSUs
Level 4	46 - 87 MSUs
Level 5	88 - 175 MSUs
Level 6	176 - 260 MSUs
Level 7	261+ MSUs

cumulative monthly pricing

EWLC Tiered Price Structure exclusive to z890

Tier A	1-11 MSUs
Tier B	12-15 MSUs
Tier C	16-40 MSUs
Tier D	41 - 75 MSUs
Tier E	76 - 1500 MSUs
Tier F	1501+ MSUs

flat monthly pricing

select the tier based on the MSU rating of your box



z890

z890-110 is the exception to this rule, it is priced using zELC

Entry Workload License Charges for z800

for Sub-Capacity Eligible Products
 Entry Workload License Charges (EWLC)

for non Sub-Capacity Eligible Products
 zSeries Entry License Charges (zELC)

EWLC

base	3 MSUs
Level 1	4 - 17 MSUs
Level 2	18 - 30 MSUs
Level 3	31 - 45 MSUs
Level 4	46 - 87 MSUs
Level 5	88 - 175 MSUs
Level 6	176 - 260 MSUs
Level 7	261+ MSUs

cumulative monthly pricing

zELC

zELC 0E1
zELC 0A1
zELC 0B1
zELC 0C1
zELC 0A2
zELC 001
zELC 0X2
zELC 002
zELC 003
zELC 004

flat monthly pricing
 select the level based on the
 model of your z800 box



Should you Move to Sub-Capacity?



Sub-Capacity Benefits

- **Grow Hardware Capacity Independently of Software Capacity**
 - ▶ Pay for software only based on the LPAR(s) where the software executes
 - ▶ Grow software with 1 MSU level of granularity
 - ▶ Spike into "spare" capacity without software charges
 - ▶ Manage utilization without having to turn engines on and off
- **Flexibility to Pay for What you Need each Month**
 - ▶ In the case of ELA, your monthly payments are fixed and your actual sub-capacity monthly software inventory value is compared against your MLC cap
- **Pay on Average Utilization, not Maximum Utilization**
 - ▶ Highest observed rolling 4-hour average utilization across a month
 - ▶ Sub-Capacity Reporting Tool manages measurement/reporting

Adopting Sub-Capacity is a Financial Decision

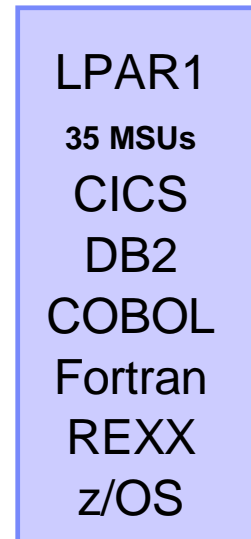


- **Begin by comparing today's MLC costs to MLC costs under Full-Cap WLC/EWLC**
- **Continue by analyzing the Sub-Capacity savings**
- **Consider other aspects of Sub-Capacity MLC such as access to Sub-Capacity IPLA and making the most of a zAAP engine**

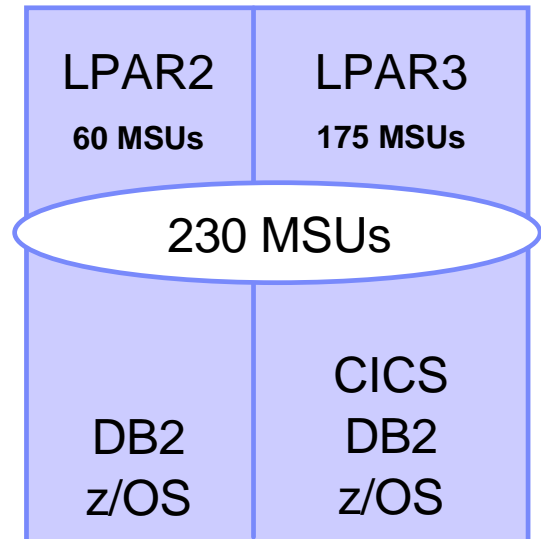
WLC Example

Product	WLC Sub-Cap	WLC Full Cap	PSLC
COBOL 5648A25	\$2,243 35 MSUs	\$2,639 44 MSUs	\$2,509 44 MSUs
Fortran 5668805	\$648 Flat WLC	\$648 Flat WLC	\$517 44 MSUs
REXX 5695013	\$1,842 Flat WLC	\$1,842 Flat WLC	\$1,450 44 MSUs
CICS TS 5655147	\$28,716 210 MSUs	\$36,546 320 MSUs	\$33,066 320 MSUs
DB2 V7 5675DB2	\$31,876 265 MSUs	\$35,801 320 MSUs	\$33,626 320 MSUs
z/OS 5694A01	\$75,459 265 MSUs	\$86,409 320 MSUs	\$97,950 320 MSUs
TOTAL	\$140,784	\$163,885	\$169,118

z800 Model 0A2
@ 44 MSUs



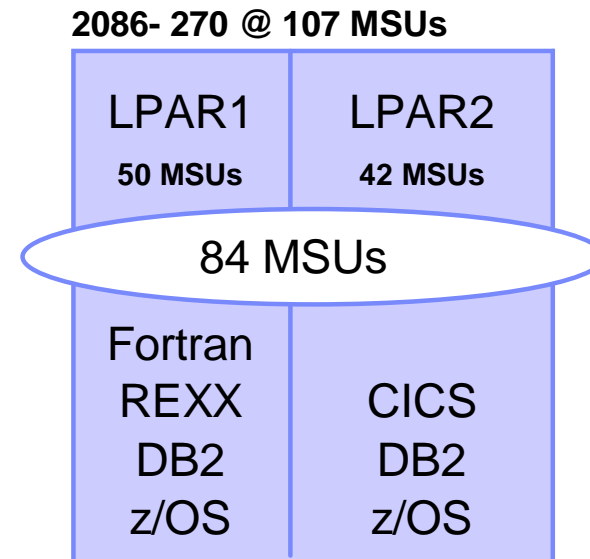
z900 Model 1C8
@ 276 MSUs



z890 EWLC Example

PSLC is NOT available on a standalone z890. It is shown here for comparison purposes ONLY.

Product	EWLC Sub-Cap	EWLC Full Cap	PSLC (not avail)
VS Fortran 5668806	\$2,523 Tier E	\$2,523 Tier E	\$2,848 107 MSUs
DB2 V7 5675DB2	\$15,707 84 MSUs	\$17,938 107 MSUs	\$18,152 107 MSUs
z/OS V1 5694A01	\$30,060 84 MSUs	\$36,735 107 MSUs	\$53,145 107 MSUs
Rexx Compiler 5695013	\$1,806 Tier E	\$1,806 Tier E	\$2,031 107 MSUs
CICS V2 5697E93	\$13,573 42 MSUs	\$21,587 107 MSUs	\$20,454 107 MSUs
TOTAL	\$63,669/ month	\$80,589/ month	\$96,630/ month



I Want to Move... Am I Ready?



Sub-Capacity: “Am I Ready?”

▪ Contractual Readiness

- *WLC : Attachment for zSeries Workload License Charges*
- *EWLC: Attachment for z800 and z890 Software License Charges*
- *IPLA: IPLA Amendment for zSeries Platform Programs Sub-Capacity Pricing*

▪ Technical Readiness

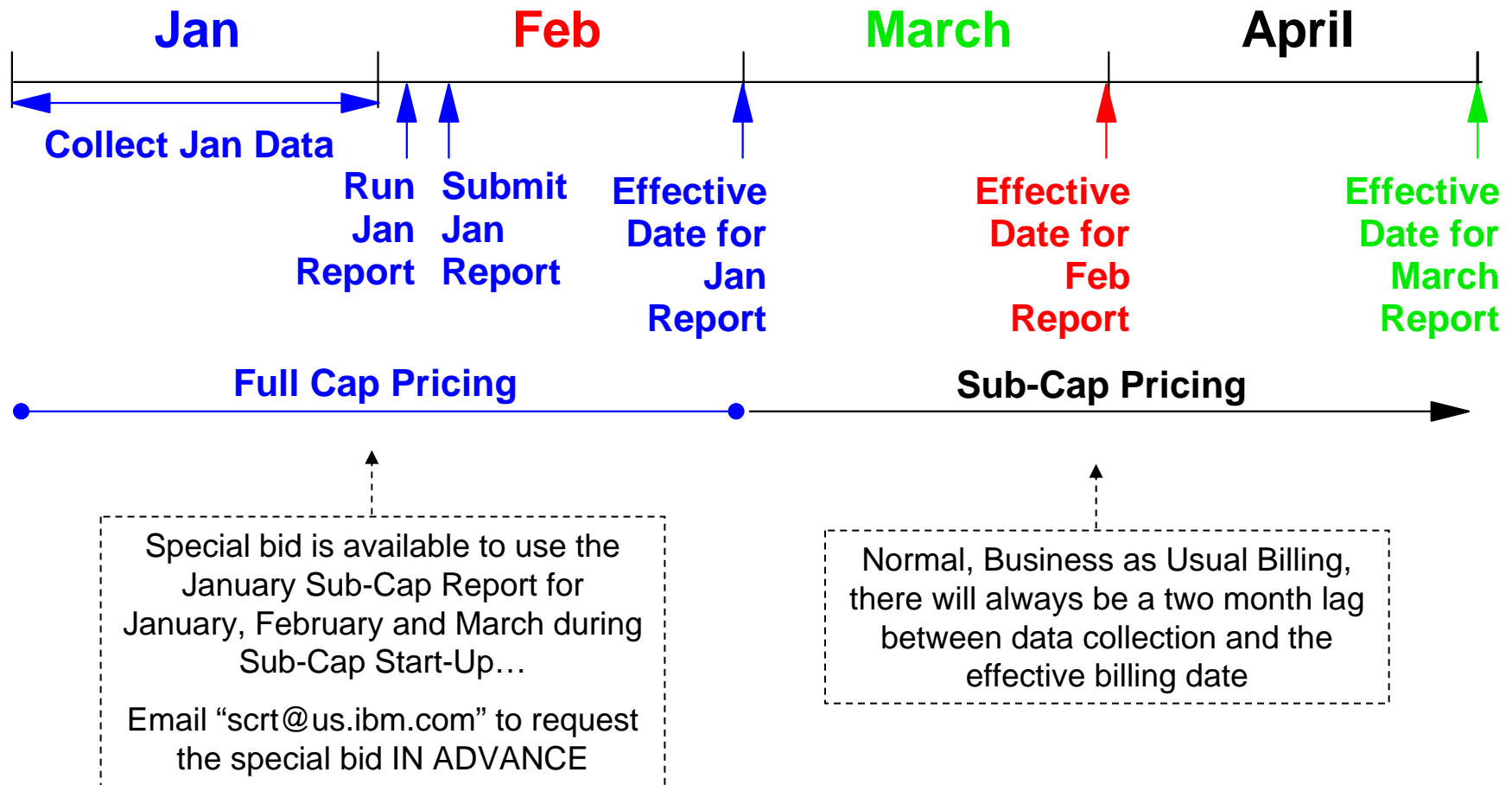
- ▶ All z/OS running in 64-bit mode *PLUS* OS/390 NOT running, NOT licensed
- ▶ Customer collects/retains ALL SMF70 and SMF89 records
- ▶ Customer downloads and tests the Sub-Capacity Reporting Tool (SCRT)
 - *ibm.com/zseries/swprice/scrt*

▪ MONTHLY Process Obligations

- ▶ Customer collects data from 2nd of month X → the 1st of month Y
- ▶ Customer runs SCRT
- ▶ Customer e-mails Sub-Capacity Report(s) to IBM by the 9th of month Y
 - *IBM e-mail addresses FOR EACH COUNTRY posted on the website, above*

Aug Sub-Cap Report (Aug 2 – Sept 1) must be sent to IBM by Sept 9th - - effective on Oct 1st

Sub-Capacity Timeline



Customers **MUST** Review Sub-Cap Reports

I'm so glad that my team looked over our Sub-Capacity Reports this month. We checked for problems, noticed trends, considered possible optimization activities!



zSeries IPLA Sub-Capacity



zSeries IPLA Overview

- **Customer Benefits**
 - ▶ Lower Cost of Incremental Growth
 - ▶ Enterprise Aggregation
- **IPLA Programs have a One-Time-Charge for License Acquisition**
- **Optional, Recurring Charge for Subscription & Support (S&S)**
 - ▶ S&S provides version-to-version upgrades, at no charge
 - ▶ S&S provides break/fix support
 - ▶ S&S is optional but strongly encouraged
 - ▶ S&S is an annual charge called “Annual License Charge”
 - ▶ If purchased, S&S capacity MUST equal license capacity
 - ▶ S&S automatically renews each year
 - ▶ Existing S&S cannot be cancelled except at renewal date
- **For each zSeries IPLA Product**
 - ▶ There is a unique product ID per version
 - ▶ There is a common S&S product ID across all versions

Product ID	Product
5697-F19	Fault Analyzer V1
5655-G74	Fault Analyzer V2
5655-J47	Fault Analyzer V3
5655-L25	Fault Analyzer V4
5697-G59	Fault Analyzer S&S

Value Unit Overview

- **Value Unit Pricing Converts various measurements to Value Units**

- ▶ For each Value Unit Priced program, there is a 'Value Unit Exhibit' (VUEXXX)
- ▶ The 'Value Unit Exhibit' establishes the appropriate Value Unit conversion
- ▶ Most common conversion is MSUs to Value Units
- ▶ It is also possible to convert engines, messages and other measurements to Value Units

Value Unit Exhibit 007 (VUE007):

MSUs 1 - 3, need 1 VU per MSU
 MSUs 4 - 45, need .45 VUs per MSU
 MSUs 46 - 175, need .36 VUs per MSU
 MSUs 176 - 315, need .27 VUs per MSU
 MSUs 316+, need .20 VUs per MSU

**** cumulative ****

Value Unit Exhibit 001 (VUE001):

MSUs 1 - 3, need 5.25 VUs per MSU
 MSUs 4 - 45, need .83 VUs per MSU
 MSUs 46 - 175, need .35 VUs per MSU
 MSUs 176 - 315, need .26 VUs per MSU
 MSUs 316+, need .20 VUs per MSU

**** cumulative ****

Product ID	Product	Price per VU
5697-F19	Fault Analyzer V1	\$2,325/VU
5655-G74	Fault Analyzer V2	\$2,325/VU
5655-J47	Fault Analyzer V3	\$2,325/VU
5655-L25	Fault Analyzer V4	\$2,325/VU
5697-G59	Fault Analyzer S&S	\$349/VU

Value Unit Exhibit 007 (VUE007)

Fault Analyzer Examples:

Fault Analyzer 100 MSUs => 42 VUs => \$98K (\$980/MSU)

Fault Analyzer 2000 MSUs => 444 VUs => \$1.03M (\$515/MSU)

Required: 'IPLA Amendment for zSeries Platform Programs Sub-Capacity Pricing'

- IBM has right to audit, initiate billing
- Customer 'tracking' required

Sub-Capacity Ts & Cs

For Machines with Sub-Cap WLC or Sub-Cap EWLC

Execution-based Terms For Value Unit Programs



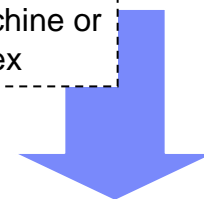
Required license capacity equals the capacity of the **LPAR(s)** where the IPLA program executes

z/OS-based Terms For Value Unit Programs



Required license capacity equals the z/OS capacity of the **machine(s)** where the IPLA program executes

Reference-based Terms For Value Unit Programs



Required license capacity equals the capacity of the parent program **across the environment**

environment =
a single/stand-alone machine or a qualified Parallel Sysplex

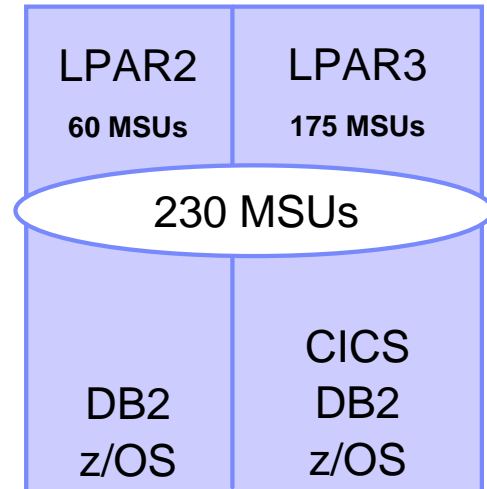
Value Unit Example

Program	Sub-Cap VUs	Full Cap VUs
DB2 Utilities Suite <i>Reference-based category (DB2, sysplex)</i>	265 MSUs 120 VUs \$86K	320 MSUs 134 VUs \$97K
CICS Performance Analyzer <i>Reference-Based category (CICS, sysplex)</i>	210 MSUs 79 VUs \$71K	320 MSUs 108 VUs \$92K
z/OS Session Manager <i>z/OS-Based category (z900)</i>	230 MSUs 84 VUs \$210K	276 MSUs 96 VUs \$240K
Fault Analyzer <i>Execution-Based category (LPAR 2)</i>	60 MSUs 28 VUs \$65K	276 MSUs 96 VUs \$223K
WebSphere App Server <i>Execution-Based category (LPARs 1, 2)</i>	95 MSUs 40 VUs \$92K	320 MSUs 108 VUs \$248K

z800 Model 0A2
@ 44 MSUs



z900 Model 1C8
@ 276 MSUs



zAAP for z890 and z990



zSeries Application Assist Processor (zAAP)

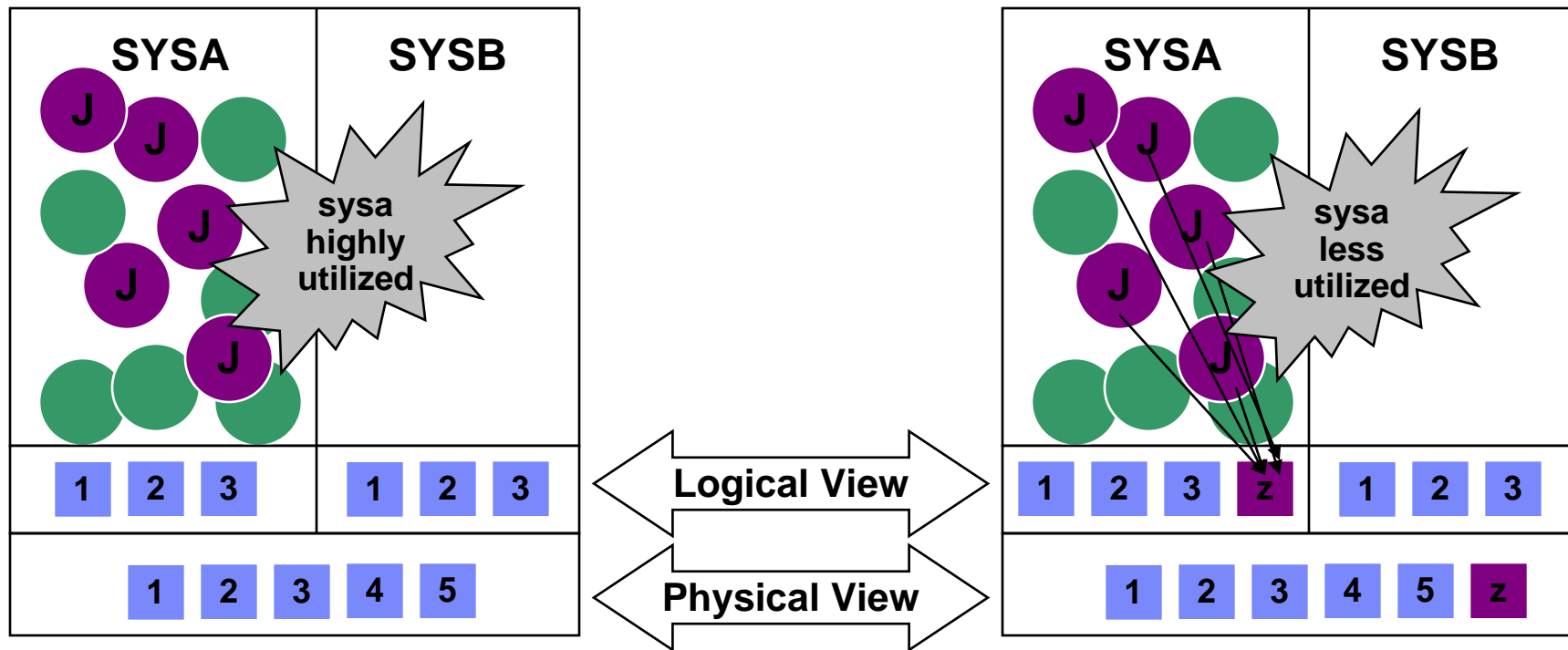
- **zAAP – New processor type dedicated exclusively for Java™ workloads under z/OS – e.g. WebSphere**
- **Enabled by zSeries innovative PR/SM™ virtualizator**
 - ▶ CPs and zAAPs in the same z/OS LPAR
 - ▶ Java work ONLY directed to zAAPs by z/OS 1.6+
- **Can lower cost of computing for Java technology-based application servers**
 - ▶ Attractively priced at \$125K USD per zAAP.
 - ▶ **z990 and z890**
 - ▶ No IBM software charges on zAAPs
- **Required Elements**
 - ▶ z/OS 1.6
 - ▶ zAAP hardware feature
 - ▶ Java SDK 1.4.1



zAAP Example One, Full-Capacity WLC

BEFORE:
 2084-305 @ 302 MSUs
 five CPs

AFTER:
 2084-305 @ 302 MSUs
 five CPs + one zAAP



Adds zAAP instead of upgrading to 306 or 307
Java workload runs on zAAP engine
Full Capacity WLC charges remain at 302 MSUs

zAAP Example Two, Sub-Capacity WLC

BEFORE:

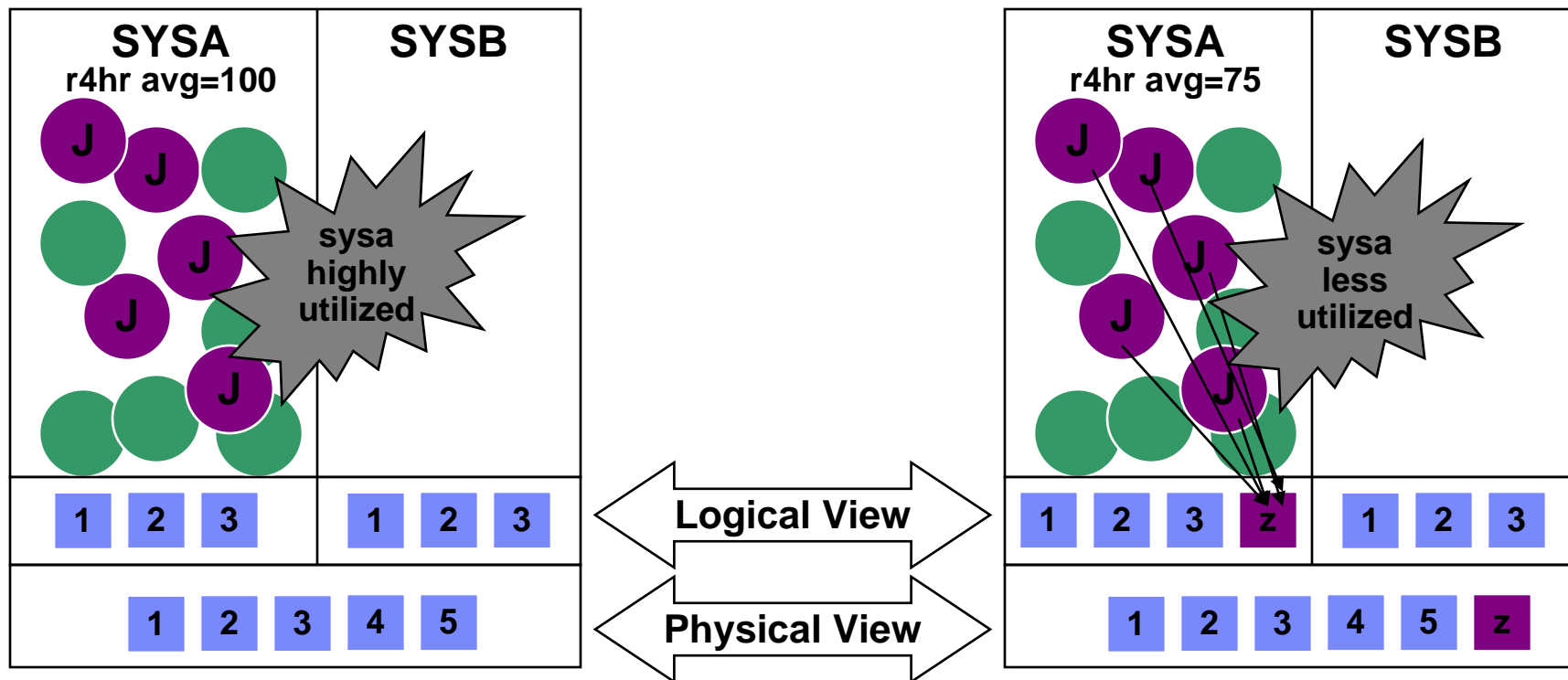
2084-305 @ 302 MSUs

five CPs

AFTER:

2084-305 @ 302 MSUs

five CPs + one zAAP



adds zAAP instead of upgrading to 306 or 307

Java workload runs on zAAP engine

Sub-Capacity charges for Products in SYSA reduced from 100 to 75 MSUs

NALC & z/OS.e



Value of z/OS.e and NALC

- **z/OS.e and NALC are key offerings that deliver reduced operating system pricing for new workloads**
 - ▶ Both offerings deliver the same \$36/MSU* for z/OS Base
- **Target Market**
 - ▶ **NALC:** PSLC and WLC customers
 - ▶ **z/OS.e:** z890 and z800 customers
- **NALC available for z/OS on machines that exclusively run NALC eligible workloads (e.g., WebSphere, SAP, PeopleSoft)**
- **z/OS.e designed to support new workloads (e.g., Java, WebSphere, DB2, C++) and disallows execution of traditional workloads (e.g., CICS, IMS, COBOL, FORTRAN)**

*all prices are in USD and are estimates, subject to change

e-business Price/Performance: NALC & z/OS.e

	NALC	z/OS.e
Public Announcement?	Yes, announcement letters US 298-371 EMEA ZA98-0316	Yes, announcement letter US 202-032 EMEA ZP02-0141
Contract Required?	Yes, <i>Attachment for zSeries New Application License Charges (Z125-5884)</i>	Yes, <i>Attachment for IBM eServer zSeries 800 and 890 Software License Charges (Z125-6587)</i>
Approach	Customer contractually obligated to run only approved NALC workload in a NALC environment	z/OS.e prevents CICS, IMS, Fortran, and non-pre-compiled-COBOL workloads from executing
Pricing	\$191/MSU for OS/390 \$36/MSU for z/OS \$31/MSU for Domino™ V5	\$792/engine for z/OS.e (zELC) \$36/MSU for z/OS.e (EWLC)
Granularity	Entire mainframe must be 'new' workload, otherwise special bid is required	Sub-Cap EWLC: LPAR-level Full-Cap EWLC: machine-level zELC: engine-level
Applicability	Machines with PSLC or WLC (cannot be Multiprise® 3000, z800, z890)	z800 or z890 only

NALC Offerings

	1	2	3
Offerings:	Standard NALC Annc: 298-371	Engine-Based NALC Special Bid	Sub-Cap NALC Special Bid
Key Characteristics:	NALC qualifying application on a machine with PSLC, WLC Full Cap or WLC Sub-Cap	NALC qualifying applicaiton in an LPAR on a machine with PSLC or Full Cap WLC	NALC qualifying application in an LPAR on a machine with Sub-Cap WLC
Price Metric & Operating System	NALC z/OS - \$36/MSU or NALC OS/390 - \$191/MSU	eNALC OS/390 - \$36/MSU or NALC z/OS - \$36/MSU	NALC z/OS- \$36/MSU (64-bit required)
Terms:	entire mainframe must only run the NALC qualifying workload	LPAR(s) with "n" dedicated engines are designated as NALC LPARs. NALC LPAR must only run the NALC qualifying workload	LPAR(s) of MSU capacity of "n" are designated as NALC LPARs. NALC LPAR must only run the NALC qualifying workload
Implementation:	<ul style="list-style-type: none"> no special bid required use contract Z125-5884 	<ul style="list-style-type: none"> special bid required use contract Z125-5884 use special bid letter SB_T&C_Engine 	<ul style="list-style-type: none"> special bid required use contract Z125-5884 use special bid letter SB_T&C_SUBCAP

note: eNALC = enhanced NALC

z800/z890 with z/OS.e



z/OS.e on z800 with zELC... engine-based pricing for z/OS.e
 z/OS.e on z800/z890 with EWLC.... MSU-based pricing for z/OS.e

If z/OS.e is the only operating system on the z800 and z890, no special rules apply.

	zELC	EWLC + zELC (z800)	EWLC + EWLC Tiered (z890)
pre-reqs to 'divide-a-box'	two or more physical engines + two operating systems, where one is z/OS.e	Sub-Cap ONLY + two operating systems, where one is z/OS.e	Sub-Cap ONLY + two operating systems, where one is z/OS.e
licensing: how to divide	divide on engine boundary, use logical model rules	divide based on customer provided MSUs, round up to nearest zELC model	divide based on customer provided MSUs, locate appropriate EWLC Tier
technical: how to divide	divide machine on engine boundary	Sub-Capacity Reports	Sub-Capacity Reports

z/OS.e on z890 Example

2086-270 @ 107 MSUs

LPAR A 50 MSUs	LPAR B 57 MSUs
 trad	 new
REXX	
SDFII	
DITTO	
COBOL	
CICS	
DB2	DB2
MQ	MQ
SA/390	SA/390
z/OS	z/OS.e

MSUs provided by Customer must sum to capacity of the z890
 50 + 57 = 107 MSUs
 (used for EWLC Tiered Products only)

Sub-Cap Eligible products priced Sub-Cap EWLC, based on SCRT reported MSUs

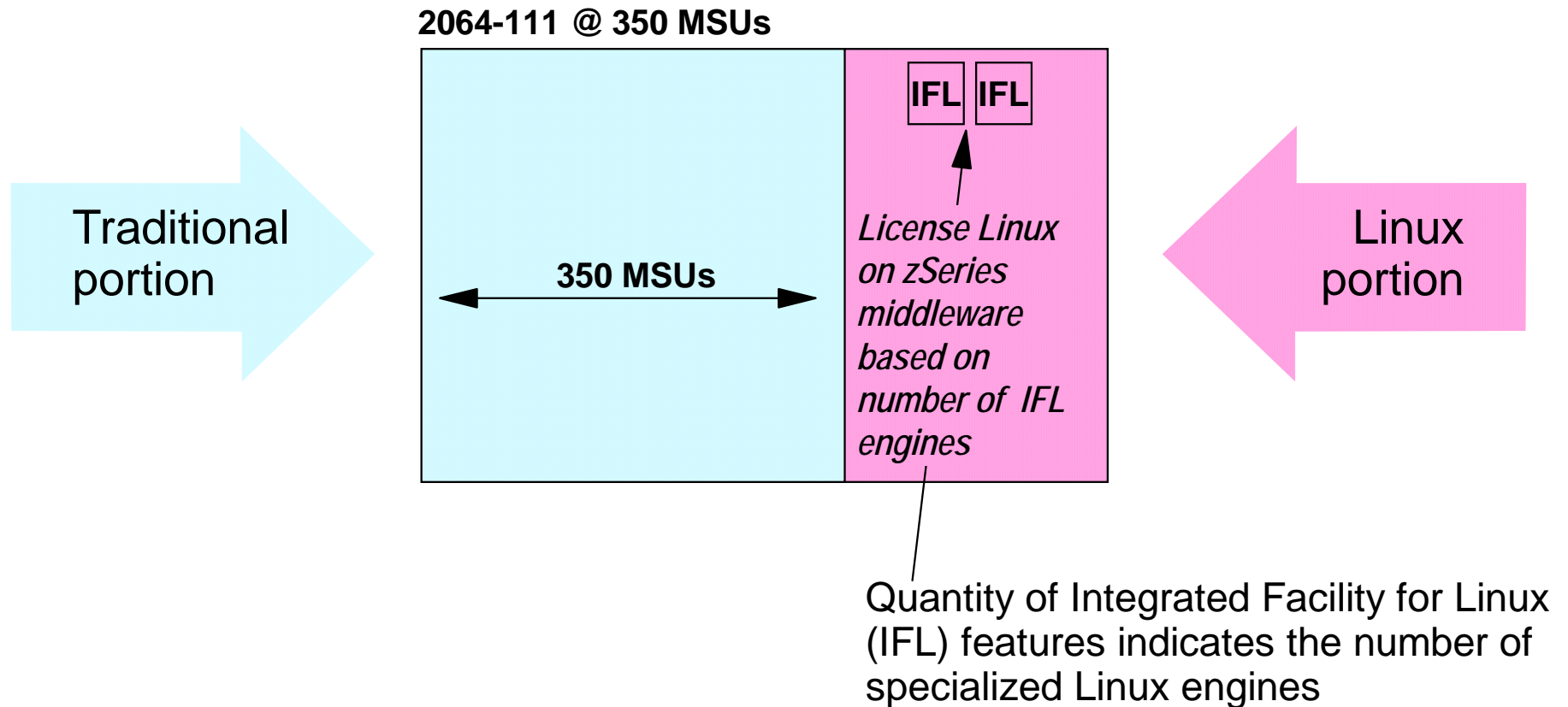
Non Sub-Cap Eligible products will be priced on EWLC Tiers, based on customer provided MSUs

Product	Pricing Metric	Based on
z/OS	EWLC	SCRT
z/OS.e	EWLC	SCRT
SA/390	EWLC	SCRT
MQSeries	EWLC	SCRT
DB2	EWLC	SCRT
CICS	EWLC	SCRT
COBOL	EWLC	SCRT
Ditto	EWLC Tiered	50 MSUs => Tier D
SDF II	EWLC Tiered	50 MSUs => Tier D
REXX	EWLC Tiered	50 MSUs => Tier D

z/VM and Linux



Linux for zSeries Licensing Concepts



z/VM V5 Pricing

- **Introducing z/VM V5.1, with Improved Engine-based pricing**
 - ▶ Provides a lower entry point of \$22.5K
 - ▶ Lower Cost of incremental growth versus z/VM V4
 - ▶ Enterprise-Wide Aggregation

- **Value Unit Pricing, Convert engines to Value Units (VUE021)**
 - ▶ z/VM V5 License is \$2,250 per Value Unit
 - ▶ z/VM V5 S&S is \$563 per Value Unit

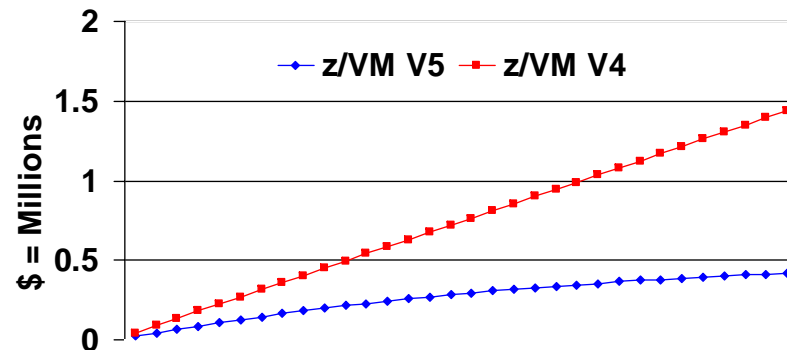
EXAMPLES:

1 engine = 10 VUs
2 engines = 20 VUs
3 engines = 30 VUs
4 engines = 39 VUs
5 engines = 48 VUs
6 engines = 57 VUs
7 engines = 65 VUs
8 engines = 73 VUs
9 engines = 81 VUs
10 engines = 88 VUs
11 engines = 95 VUs
12 engines = 102 VUs
13 engines = 108 VUs
14 engines = 114 VUs
15 engines = 120 VUs

Value Unit Exhibit 021 (VUE021):

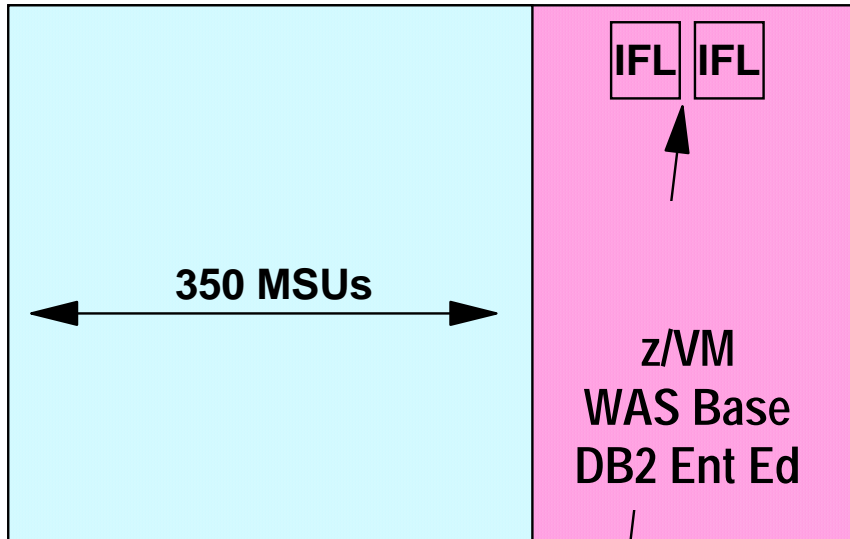
engines 1 - 3, need 10 VU per engine
 engines 4 - 6, need 9 VUs per engine
 engines 7 - 9, need 8 VUs per engine
 engines 10- 12, need 7 VUs per engine
 engines 13 – 16, need 6 VUs per engine
 engines 17 – 20, need 5 VUs per engine
 engines 21 – 25, need 4 VUs per engine
 engines 26 – +, need 3 VUs per engine
 ***** cumulative *****

z/VM V4 compared with z/VM V5



Linux for zSeries: Example

2064-111 @ 350 MSUs



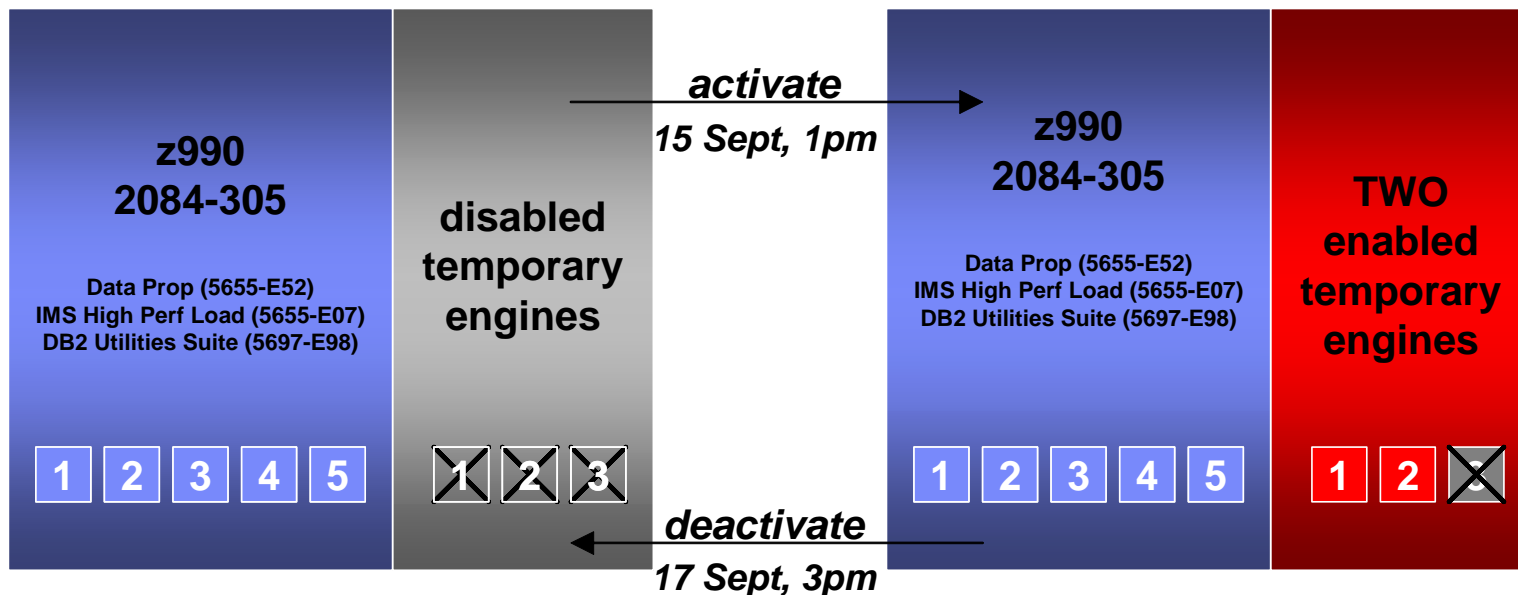
Product	License	License Price
z/VM V5	20 Value Units	\$45,000 lic \$11,260 S&S
DB2 Ent Ed D51NALL	2 engines	\$66,250 Passport Advantage SRP (LIC+12)
WAS Base D51HNLL	2 engines	\$20,000 Passport Advantage SRP (LIC+12)

Quantity of Integrated Facility for Linux (IFL) features indicates the number of specialized Linux engines

On/Off Capacity on Demand



z990 / z890 On/Off Capacity on Demand



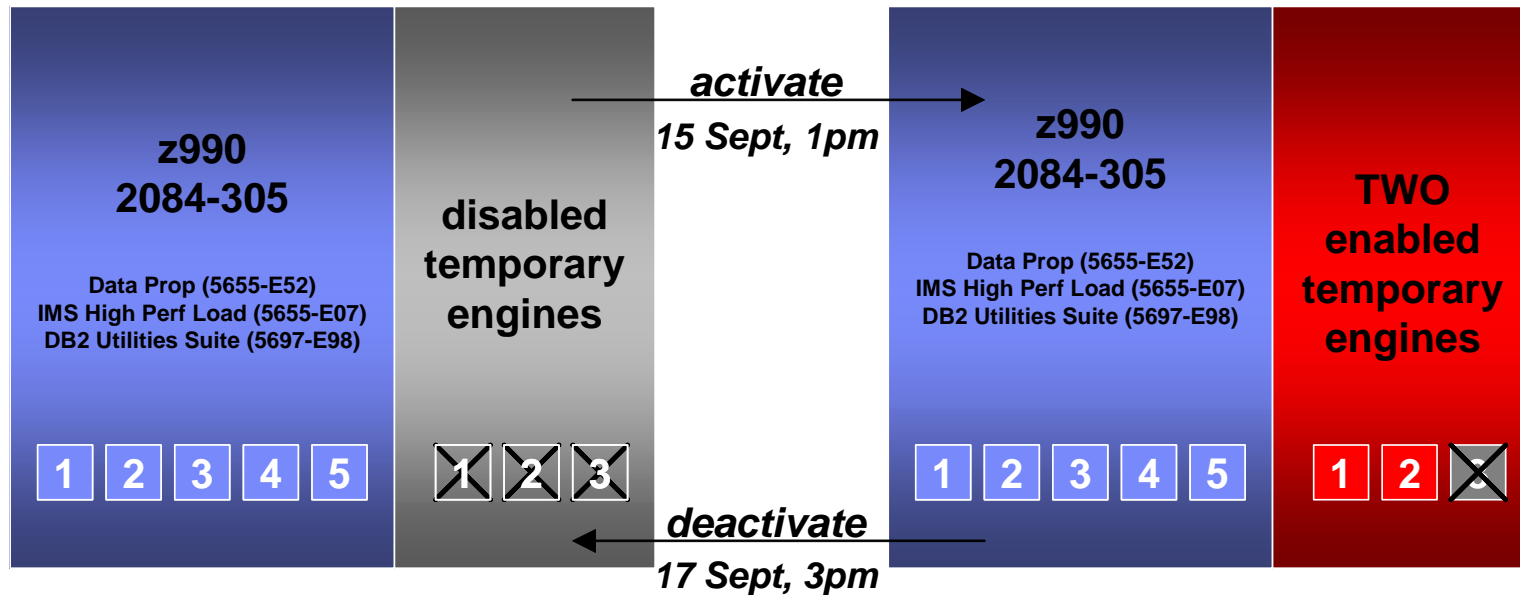
3 days

- 15 Sept 1pm - 16 Sept 1pm (one day)
- 16 Sept 1pm - 17 Sept 1pm (one day)
- 17 Sept 1pm - 17 Sept 3pm (one day)

IPLA Software View: 2084-305 (302 MSUs) to 2084-307 (402 MSUs) = 100 MSUs
Hardware View: 2 Engines

IPLA Software = 3 Days * 100 MSUs = 300 MSU-days
Hardware = 3 Days * 2 Engines = 6 Processor-days

MLC Software: z990 / z890 On/Off CoD



Sub-capacity MLC
 (based on Sept Sub-Cap Report)
 Highest observed rolling 4-hour average max 402 MSUs

Full Capacity MLC
 Special On/Off CoD Bill
 (sent to customer after On/Off CoD event)
 MLC SW @ 402 MSUs
 Minus
 MLC SW @ 302 MSUs

Please Visit the zSeries Software Pricing Web site



ibm.com/zseries/swprice

BACKUP



Eligibility

	WLC Full Capacity	EWLC Full Capacity z800	EWLC Full Capacity z890	WLC Sub-Capacity	EWLC Sub-Capacity
Hardware	z800*, z890*, z900, z990	z800	z890	z800*, z890*, z900, z990	z800, z890
z/OS license	required	required		required	required
z/OS execution	64-bit required	64-bit required	64 or 31-bit**	64-bit required	64-bit required
OS/390 license and execution	permitted	permitted	permitted	license and use must be discontinued	license and use must be discontinued

* z800 and z890 only qualify for WLC when they are participating in a qualified Parallel Sysplex

** z/OS in 31-bit mode on a z890 must follow Ts & Cs of 'Bimodal Accommodation'

NALC Qualifying Applications

- Lotus® Domino
 - Net.Commerce™
 - Payment Server
 - Payment Gateway
 - WebSphere Payment Manager
 - Intelligent Miner™ for OS/390
 - SAP
 - PeopleSoft
 - Baan ERP
 - Oracle Applications for OS/390
 - DB2 OLAP Server for OS/390
 - WebSphere Application Server for OS/390 or z/OS
 - Siebel
 - WebSphere Commerce
 - Lawson ERP Applications
 - Walker e-Business Applications
 - Intelligent Miner for Data for OS/390
- Contract:**
Attachment for zSeries New Application License Charges (US Z125-5884)

Downloadable Tools for Sub-Capacity

- **Sub-Capacity Planning Tool**
 - ▶ For PLANNING for Sub-Capacity
 - ▶ ibm.com/zseries/swprice/scpt
 - ▶ Processes SMF70 records
 - ▶ Analyzes data from any mainframe environment
 - ▶ Produces a planning report used for estimating

- **Sub-Capacity Reporting Tool**
 - ▶ For IMPLEMENTING Sub-Capacity
 - ▶ ibm.com/zseries/swprice/scrt
 - ▶ Processes SMF70 and SMF89 records
 - ▶ Analyzes data from a zSeries server running z/OS in 64-bit
 - ▶ Produces a Sub-Capacity Report used for billing

Sub-Capacity Planning Tool, Original

===== SUB-CAPACITY PLANNING TOOL =====

Release Date	7/28/2004
Customer Name	
System Name	SYS2
Serial Number	p53DA
Machine Description	2084-307
CP Processors	7
Capacity (MSUs)	402

If you had a product only running in CN27, it would require 59 MSUs.

If you had a product only running in SYS2, it would require 370 MSUs.

If you had a product only running in SYS3, it would require 161 MSUs.

If you had a product only running in SYS5, it would require 11 MSUs.

If you had a product only running in CN27 & SYS2, it would require 380 MSUs.

If you had a product only running in CN27 & SYS3, it would require 167 MSUs.

If you had a product only running in CN27 & SYS5, it would require 64 MSUs.

If you had a product only running in SYS2 & SYS3, it would require 387 MSUs.

If you had a product only running in SYS2 & SYS5, it would require 374 MSUs.

If you had a product only running in SYS3 & SYS5, it would require 165 MSUs.

If you had a product only running in CN27, SYS2 & SYS3, it would require 394 MSUs.

If you had a product only running in CN27, SYS2 & SYS5, it would require 384 MSUs.

If you had a product only running in CN27, SYS3 & SYS5, it would require 171 MSUs.

If you had a product only running in SYS2, SYS3 & SYS5, it would require 392 MSUs.

If you had a product running in ALL LPARs, it would require 399 MSUs.

Sub-Capacity Planning Tool, Enhanced Option

===== SUB-CAPACITY PLANNING TOOL =====

Release Date 7/28/2004
Customer Name
System Name 0R03
Serial Number p0AAB
Machine Description 2064-103
CP Processors 3
Capacity (MSUs) 112

=====

If you are using this tool to project for migration to a z990 or z890 server,
please reduce the MSU values in this report by 10%.

=====

PROD1 would require 103 MSUs. (LPARC,LPARR,LPART,LPAR7)
PROD2 would require 66 MSUs. (LPARR,LPART)
PROD3 would require 36 MSUs. (LPAR7,LPART)
If you had a product running in ALL LPARs, it would require 103 MSUs.

Sub-Capacity Reporting Tool, V8

===== SUB-CAPACITY REPORT =====				
Customer Name	ABC Corp			
Customer Number	1111111			
Machine Serial Number	51-12345			
Machine Type and Model	2084-306	Machine Model change observed		
Machine Rated Capacity (MSUs)		352		
Purchase Order Number	unknown			
=====				
TOOL INFORMATION				
Tool Release		8.1		
Reporting Period	2 Jun, 2004 - 1 Jul, 2004			
% Data Collected	99% for 30 days			
Any MVS™ or OS/390 executing on t	NO	<- If yes, ineligible for sub-CEC		
=====				
PRODUCT SUMMARY INFORMATION				
VWLC Product Name	VWLC Product ID	Tool MSUs	Customer MSUs	Customer Comments
z/OS V1	5694-A01	253	XXXXX	
DB2 Universal Database™ for OS/390	5675-DB2	253	XXXXX	
CICS TS for OS/390	5655-147	132	XXXXX	
MQSeries for OS/390 V5	5655-F10	132	XXXXX	
IMS V8	5655-C56	142	XXXXX	
Tivoli NetView® for z/OS	5697-ENV	253	XXXXX	
System Automation OS/390 V2	5645-006	253	XXXXX	