

Reduce Your IBM Software Charges

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Goal and Plan for the Session

- Quick Sub-Cap Pricing Overview to set the stage
- Importance of Pricing Plexes
- Overviews:
 - Mobile Workload Pricing
 - Collocated Application Pricing
 - Country Multiplex Pricing
- What to Expect from IBM in 2015
- Wrap-up

- Please Ask Questions As We Go Through the Presentation

Workload License Charges

- WLC is IBM's Ongoing Attempt to:
 - Separate Increases in Software Charges from Increases in Hardware Capacity
 - Remove the SW Cost Obstacle that Holds Back HW Sales
 - Lower Mainframe Total Cost of Ownership
 - **Enable Deployment of NEW Workloads on the Mainframe**
 - **Such as WebSphere and MOBILE**
- IBM Is Now Changing (Enhancing/Evolving) WLC at Least Once Per Year
 - August 2012: zEC12s and Technology Update Pricing for AWLC
 - July 2013: zBC12s and Technology Update Pricing for AEWLC
 - July 2013: LPAR Absolute Hardware Capping for zBC12s & zEC12s
 - April & June 2014: Mobile Workload Pricing
 - January 2015:
 - AWLC TUP for z13s
 - **Preview** of Country Multiplex Pricing
 - **Preview** of Collocate Application Pricing
- WLC Started Simply in October 2000
- After 15 Years of Evolution Workload License Charges is Now Quite Complicated!

zSeries, z/OS and zWorkload zPricing

21 rows, 22 columns, back to pre-z900, pre-z/OS

						Qualified Hardware																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																												
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zSeries, z/OS and zWorkload zPricing

recent information, larger machines, still 12 rows, now 14 cols

Metric	Description	Sub-Capacity Allowed?	Aggregation Allowed?	Qualified Hardware													
				z9BC, z10BC Stand-Alone	z9BC, z10BC in Pricing Plex	z9EC, z10EC Stand-Alone	z9EC, z10EC in Pricing Plex	z114 Stand-Alone	z114 in Pricing Plex	z196 Stand-Alone	z196 in Pricing Plex	zEC12 Stand-Alone	zEC12 in Pricing Plex	zBC12 Stand-Alone	zBC12 in Pricing Plex	z13 Stand-alone	z13 in Pricing Plex
MLC	FLAT	Much Older Fixed MLC		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
MLC	AWLC	Advanced Workload License Charges, Full and Sub-Cap	Yes	Yes				NO	Yes, if All Others z196	Yes	Yes, If all z196	Yes	Yes, Mixed Pricing Plex with z196s		Yes, Mixed Pricing Plex with z196s		Yes, Mixed Pricing Plex with z196s
MLC	TUP	Technology Update Pricing for AWLC	Yes	Yes								Yes	TU1, if All zEC12s	TU2 on AEWLC	TU1, if All zBC12/zEC12s	TU3	TU3, if All z13s
MLC	VWLC	WorkLoad License Charge, Full and Sub-Cap	Yes	Yes	No, Use EWLC	Yes	Yes	Yes	No	No	No	In Transition	No	Transition with z10EC		Transition with z10EC	Transition with z10EC
MLC	FWLC	WorkLoad License Charge - Fixed Price Per Footprint	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
MLC	GSSP	Getting Started SubCapacity Pricing	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
MLC	IWP	Integrated Workload Pricing	Yes	Yes	No	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
MLC	MWP	Mobile Workload Pricing	Yes	Yes				No	with zEC12+	No	with zEC12+	Yes	Yes	Yes	Yes	Yes	Yes
MLC	ICAP	Collocated Application Pricing	Yes	Yes						Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
		Country Multiplex Pricing	Yes	Yes							Yes		Yes		Yes		Yes
MLC	zNALC	System z New Application License Charges	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
OTC (S&S)	Value Unit	Value Unit (Tivoli, Tools, WebSphere App Server, etc.)	Most, Execution, Reference & z/OS Based	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

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Choose What Applies to Your Site

- No one in IBM has the job of reducing your software charges
- The basic metrics are based on the installed hardware
- *It is up to you!*
 - The first decision: “When to go to Sub-Capacity?”
 - In most cases as soon as possible or already on Sub-Cap
 - The enhancements:
 - Aggregated Parallel Sysplex (PricingPlex)
 - zNALC, IWP, MWP, ICAP, Country Multiplex
 - You also need to re-evaluate the various capabilities and enhancements as your environment changes with new hardware, new applications, and new IBM announcements

“New” Applications, Require IBM Approval

- zNALC
 - Requires approval of a qualified 'new workload' application (Qualified Application) such as Java language business applications running under WebSphere Application Server for z/OS, SAP, PeopleSoft, and Siebel. Or in-house developed
 - Dedicated LPARs
 - Special Pricing for z/OS
- Integrated Workload Pricing (IWP)
 - Approval that the WebSphere branded work is “new”
 - Can remove some WebSphere branded product CPU time from CICS and IMS running in the same LPAR
 - Allows WebSphere branded growth without raising the CICS and IMS monthly charges

“New” Applications, Require IBM Approval

- Mobile Workload Pricing (MWP)
 - Applications for phones, tablets
 - not laptops, desktops, ATMs, kiosks, or netbooks
 - Does not require dedicated LPARs
 - Removes 60% of Mobile CPU time from LPARs lowering 4HRAs
- IBM Collocated Application Pricing (ICAP)
 - “new workload” applications, similar to zNALC
 - Does not require dedicated LPARs
 - Can reduce sub-capacity products (DB2, CICS, COBOL, WebSphere) and z/OS MLC by the ICAP CPU time

zNALC, Requires IBM Approval

- Discounted z/OS Prices for implemented qualified “new workload” applications
- Must use LPARs dedicated to the “new” application
- In general:
 - An application you could implement on another platform: SAP, PeopleSoft, or Siebel
 - An in house application you could implement on another platform, especially WebSphere products and Java
 - DB2 or IMS in a dedicated LPAR on z/OS serving only distributed applications would also qualify
- Specific information in IBM announcement 207-006, January 9, 2007

Integrated Workload Pricing (IWP)

- *4 Hour Rolling Average MSUs of some WebSphere branded products are Subtracted From the LPAR's Full 4 Hour Rolling Average MSUs before computing Simultaneous 4 Hour Rolling Averages for CICS and IMS*
 - This makes the LPARs as “Containers” of CICS and IMS **Smaller**
- Provides less incremental MLC software increase when adding WebSphere branded products into existing LPARs and as those products growth over time
 - *Reducing a “barrier” to further use of WebSphere products on z*

Integrated Workload Pricing (IWP)

- IBM would like more sites to use WebSphere branded products on z
 - Sites choose between building new LPARs for WebSphere branded products or adding WebSphere products to existing LPARs
 - Pros and Cons: technical, cultural, and financial
- Removes the actual 4HRA of Some WebSphere Branded Products from the 4HRA of the LPARs (Only for IMS and CICS)
 - So If you add WebSphere branded products to an existing LPAR the 4HRA of z/OS, DB2, MQSeries and other products probably increase as WebSphere grows. CICS and IMS should not have the same 4HRA increases due to IWP

IWP Highest Simultaneous 4HRA Before & After

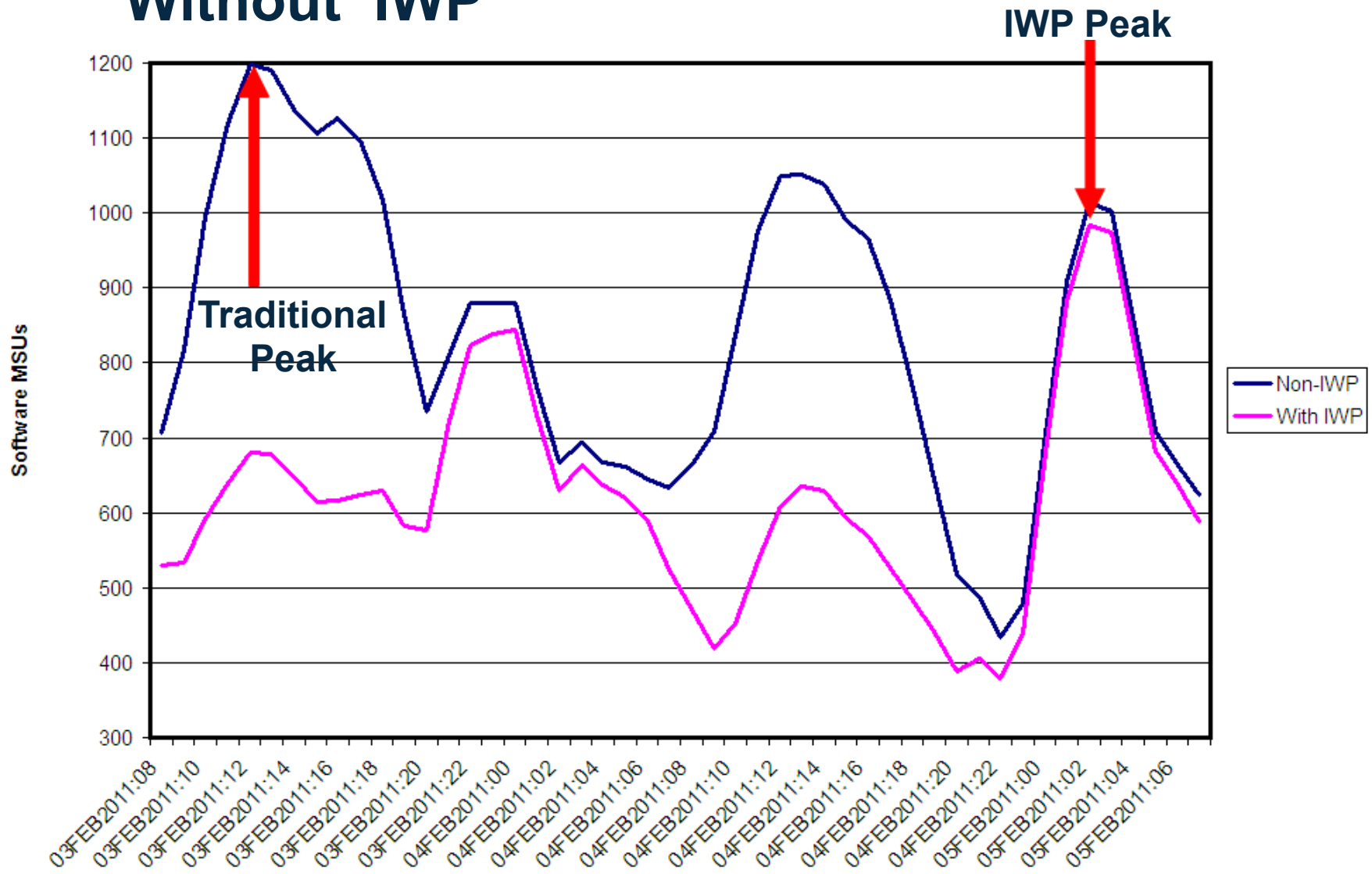
Unique Machine Identifier: 2817#RRRR

Product ID: 5655-S97 CICS TS V4

Timestamp Before IWP	Original Simult'n's 4HRA	Timestamp After IWP	IWP Simult'n's 4HRA	MSUs Saved With IWP
03FEB2011:12	1193	05FEB2011:02	979	214
03FEB2011:13	1186	05FEB2011:03	970	216
23FEB2011:13	1147	12FEB2011:00	899	248
23FEB2011:12	1139	05FEB2011:01	878	261
07FEB2011:13	1134	11FEB2011:23	875	259
08FEB2011:12	1133	25FEB2011:23	854	279

- IWP reduces CICS Charges by changing the billable MSUs from 1,193 to 979, a savings of 214 MSUs

Highest Simultaneous 4HRA With & Without IWP



IWP Example of the Savings

IWPVALUE: VALUE OF INTEGRATED WORKLOAD PRICING

SCRT Reporting Period of 02FEB2011 is used for the invoice of 01APR2011

CICS or IMS Product and Features

	ORIGINAL MSUS	IWP MSUS	ORIGINAL CHARGE	CHARGE WITH IWP	VALUE OF IWP
5655-Y04 CICS TS V5					
S0172DF CICS TS V5	1,193	979	\$119,762	\$106,066	\$13,696
			-----	-----	-----
TOTAL			\$119,762	\$106,066	\$13,696
=====					

- This is a monthly savings, which is variable month to month
- No Change to: z/OS, DB2, WebSphere Branded Products

IWP Review, Requires IBM Approval

- IWP may help you lower software charges as you start new deployments of WAS, Processor Server, Message Broker, Enterprise Service Bus and other WebSphere Branded Products on z; or as current products grow
- ***You may already have these configurations in your shop and IWP may reduce your CICS and IMS monthly charges***
- If your site meets all the requirements including z196 or later you could use SCRT to study the potential
- Before you satisfy the requirements there is one tool I'm aware of that can do the analysis ...

MWP Overview, Requires IBM Approval

- For Mobile Applications that execute on z
 - Phones, Tablets, iOS, Android, Windows Phone
 - Not laptops, desktops, netbooks, ATMs, or kiosks
 - If this is a Browser Application you need to be able to separate Mobile use from non-Mobile use
- Each Mobile App for Each Customer Must Be Approved by IBM
 - The Customer must describe the application, and describe how the SMF data will be analyzed
- For DB2, IMS, CICS, WAS and MQSeries
- See Session 17073 for more details (yesterday)

Mobile Workload Pricing

- You could have an enterprise/distributed Application using DB2 for the database and that could qualify
 - *IF you can isolate/identify the MOBILE DB2 work from the regular work being provided by DB2*
- ***Think About How You Might Identify Mobile Work to Simplify This Task***
 - It must be “auditable” by IBM
 - Transaction logs are voluminous
 - Could you define WLM Report Classes to capture the CPU time?
 - You could spend more resources processing logs than you’ll save in software charges

ICAP (coming 1H2015), Requires Approval

- To allow sites to implement “new” applications in existing LPARs without increasing the costs of all the existing products due to the new apps raising the LPAR 4HRA
- For example to add a new workload that uses WebSphere App Server with Java and DB2 for database
 - As with Mobile
 - You must be able to identify the new work
 - Analyze and compute the CPU time by Hour
 - WLM Report Class again?
 - The ICAP Input is a table of LPARs by CPU time
 - Your analysis must be auditable by IBM
 - You must apply for approval from IBM

ICAP (coming 1H2015)

- The ICAP CPU time will be converted to SW MSUs by IBM's "ICAP" tool and removed from the LPAR's 4HRA (similar to IWP and MWP)
- What happens to billable MSUs for other products in the same LPAR due to new Application?
 - No effect on reported MSUs for sub-cap middleware products
 - For z/OS 50% of the new Application's MSUs will be removed
 - ICAP Defining Program charges
 - Only the New Application MSUs, not the LPAR's 4HRA
 - Increment growth for pre-existing programs priced as usual

ICAP: Completely New 100MSU MQ Workload

Existing LPAR

z/OS V1	1,200
NetView	1,200
DB2 & CICS	1,200
MQ	0

New MQ, no ICAP

z/OS V1	1,300
NetView	1,300
DB2 & CICS	1,300
MQ (LPAR)	1,300

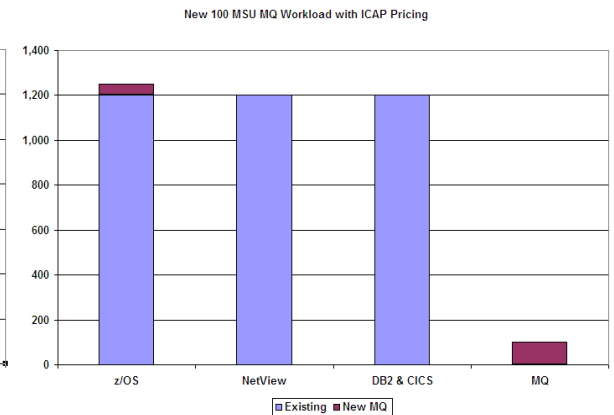
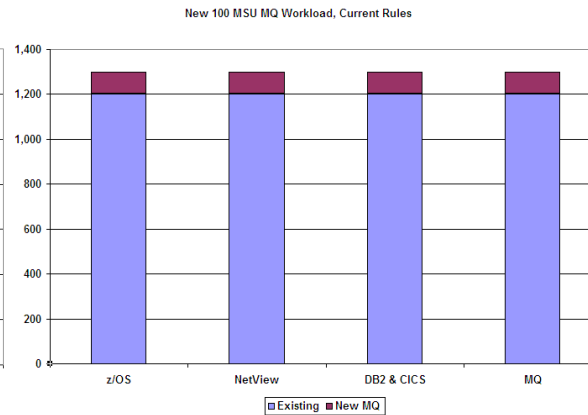
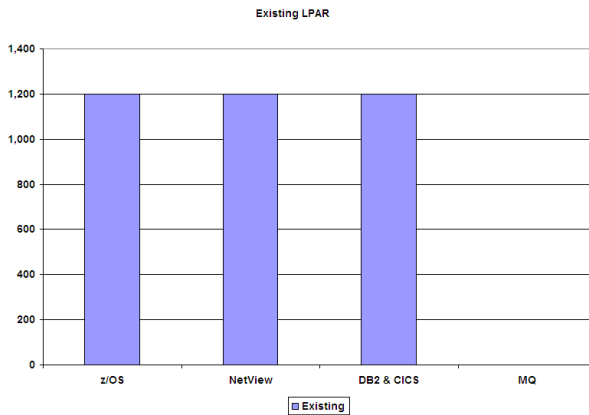
New MQ, with ICAP

z/OS V1	1,250
NetView	1,200
DB2 & CICS	1,200
MQ (usage)	100

MLC \$422,112

MLC \$498,140

MLC \$437,361



z/OS V1, DB2 V10, CICS V4, NetView V6, MQ V7 on a zEC12 (2827-713), AWLC with TU1 Discount of 5%

ICAP: Adding New 100MSU MQ Workload

Existing LPAR

z/OS V1	1,200
NetView	1,200
DB2 & CICS	1,200
MQ (old)	1,200

New MQ, no ICAP

z/OS V1	1,300
NetView	1,300
DB2 & CICS	1,300
MQ (old&new)	1,300

New MQ, with ICAP

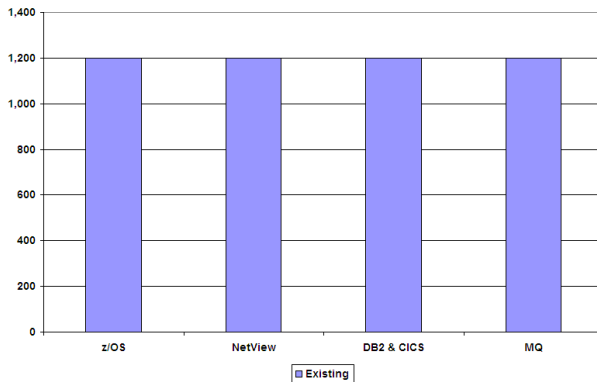
z/OS V1	1,250
NetView	1,200
DB2 & CICS	1,200
MQ (old&new)	1,300

MLC \$475,428

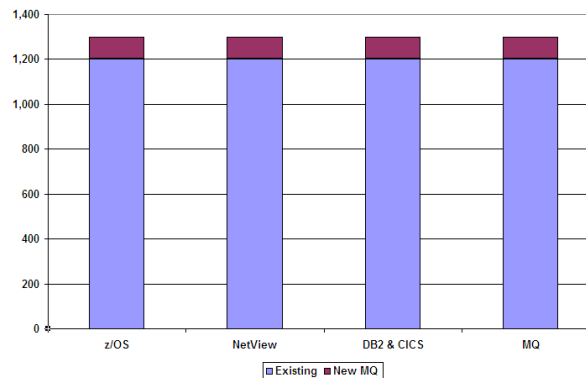
MLC \$498,140

MLC \$481,704

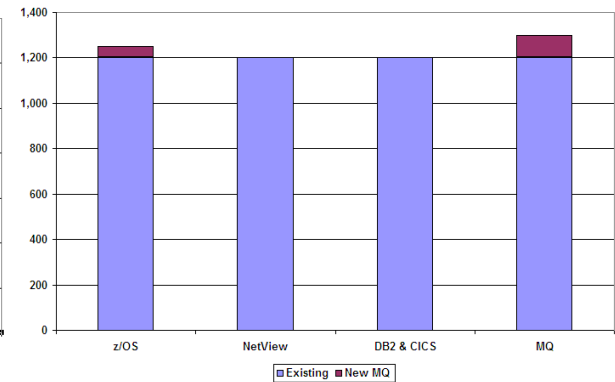
Existing LPAR



New 100 MSU MQ Workload, Current Rules



Additional 100 MSU MQ Workload with ICAP Pricing



z/OS V1, DB2 V10, CICS V4, NetView V6, MQ V7 on a zEC12 (2827-713), AWLC with TU1 Discount of 5%

Country Multiplex Pricing

- z196, z114, zEC12, zBC12, and z13 machines
- Eliminates SYSPLEX Aggregation pricing rules (PricingPlexes)
- You can move and run work where you want
 - Without concern for a peak on the old machine and a peak after a move on a new machine
 - All LPARs, all machines >> only one peak per product

Multiplex MSU Peak

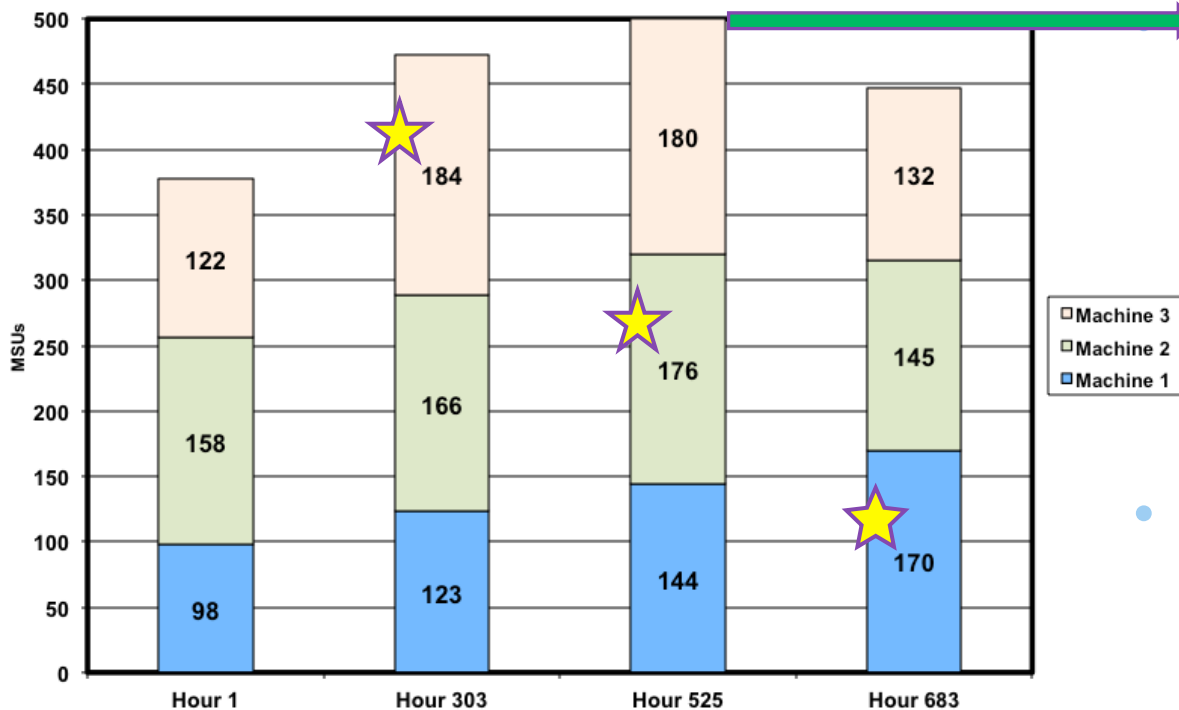
- Each Bar is an Hour of the Month Across 3 Machines
- Traditional SCRT Peak of each individual machine

Machine 1: 170

Machine 2: 176

Machine 3: 184

Sum of peaks: 530 ★

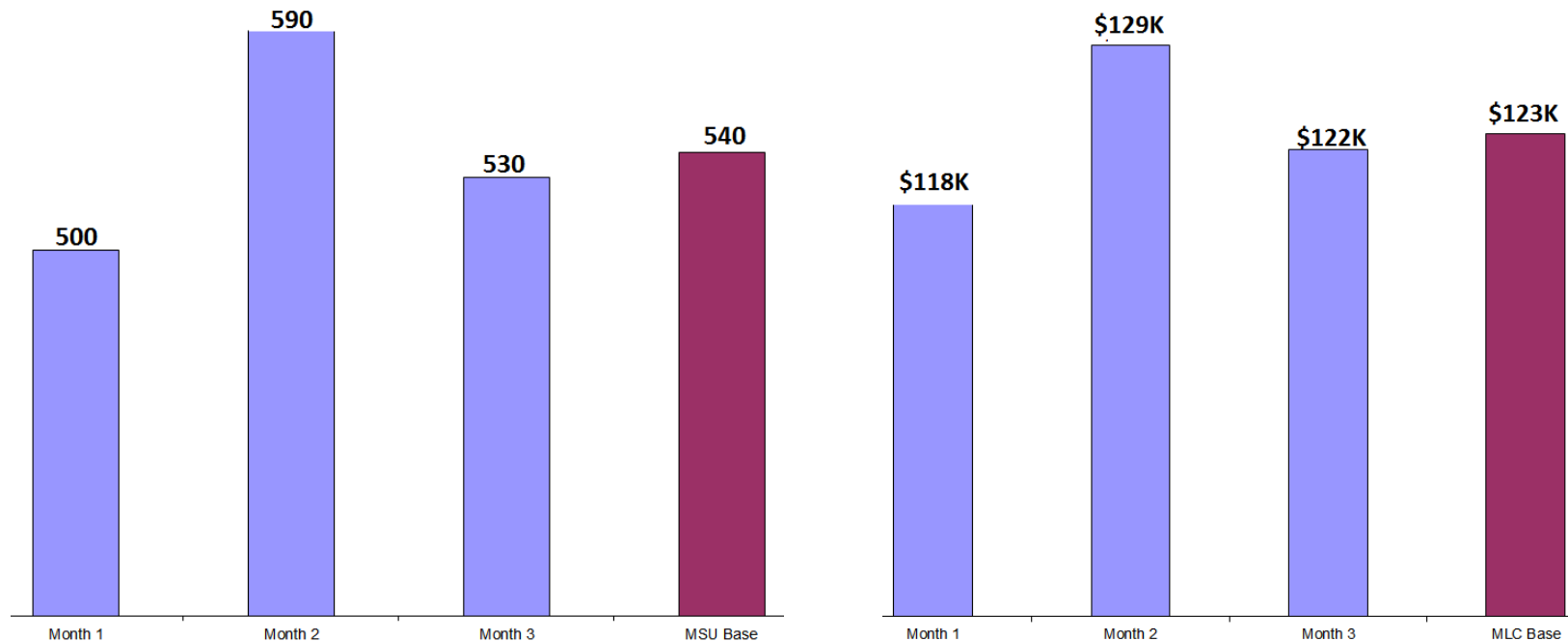


Multiplex Peak:
Maximum
Simultaneous 4HRA
across all LPARs on
all Machines = **500**

- ***Multiplex MSU
Peak will be at or
below SCRT***

Multiplex MSU Peak & New Baseline

- An Initial MSU Base is determined by a 3-month average of the “Multiplex Peak” for each product (not SCRT’s peak)
- The Initial MLC Base is determined by the 3 monthly MLC invoices computed based on current SCRT and allowing PricingPlexes, but not Multiplex
- This example: 540 MSUs and \$123K for z/OS on 3 zEC12s



Next Month the z/OS Multiplex MSUs are 550



- The charge will be \$123K for the first 540 MSUs
- 3 zEC12s use AWLC with TU1, with 550 MSUs the TU1 discount is 4.5%

- **OUR ASSUMPTION, NOT ANNOUNCED**

- I expect it will be similar to the current \$/MSU

			AWLC	w/TU1
z/OS	V2	BASE	\$120.75	\$115.32
z/OS	V2	RMF	\$ 6.30	\$ 6.02
z/OS	V2	SDSF	\$ 3.15	<u>\$ 3.01</u>

$\$124.35 * 10\text{MSUs} = \1243.50

- Total approximately $\$123\text{K} + 1243.50 = \$124,243.50$
- DB2, CICS, COBOL, NetView will be similarly computed
 - Each with their own MSU Base and their own MLC Base

Country Multiplex Pricing

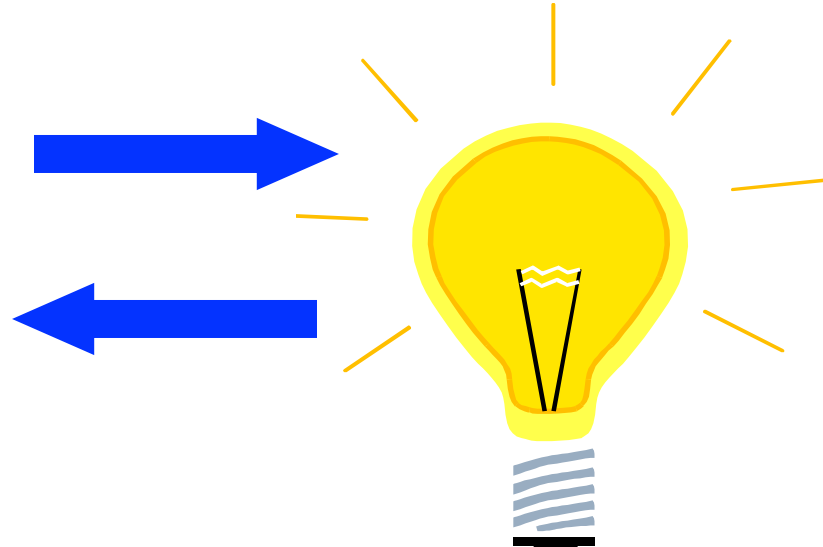
- No More Single Version Charging
 - Will work like z/OS V1 & V2 running together, for example:
 - DB2 (All)
 - Ignoring the version, add DB2's MSUs together, but limit it to the maximum Simultaneous 4HRA of the machine

	A	B	C
51	==E5=====		
52	PRODUCT SUMMARY INFORMATION		
53			
54	MLC Product Name	MLC Product ID	Tool MSUs
55			
56	z/OS V1	5694-A01	1794
60	DB2 10 for z/OS	5605-DB2	1692
61	DB2 V9 for z/OS	5635-DB2	1404

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56	z/OS V1	5694-A01	1794
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- Recently all “versions” were changed to have equal prices

Discussion, Questions?



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