

# What You Need to Know About IBM's Sub-Capacity Pricing, Mobile Workload Pricing and MWRT

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# Goal and Plan for the Session

- Quick Sub-Cap Pricing Overview to set the stage
- Overviews of All IBM Pricing Capabilities
- z13 Pricing Changes
  - Country Multiplex Pricing
- IBM's Backend Processes
- 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
    - Reduce 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																		
				9672 & All Others	MP3K	z/800 Standalone	z/800 In a Qualified Sysplex	z/890 Standalone	z/890 In PricingPlex	z/900, z/990, z9-109 in Pricing Plex	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 PricingPlex	z13 Stand-alone	z13 in PricingPlex	
	Metric	Description	Sub-Capacity Allowed?	Aggregation Allowed?																					
MLC	GOLC	Growth and Opportunity License Charge - One of oldest models, Operates at a Group Level				Yes																			
MLC	FLAT	Much Older Fixed MLC			Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
MLC	PSLC	Parallel Sysplex License Charge	No	Yes	Yes		Yes		Yes	Yes		Yes			Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
MLC	ULC	S/390 Measured Usage License Charge	No	Yes	If PSLC	if GOLC	Part of PSLC Sysplex		Part of PSLC Sysplex	Part of PSLC Sysplex		Part of PSLC Sysplex	Part of PSLC Sysplex	Part of PSLC Sysplex		Part of PSLC Sysplex		Part of PSLC Sysplex		Part of PSLC Sysplex	Part of PSLC Sysplex	Part of PSLC Sysplex	Part of PSLC Sysplex	Part of PSLC Sysplex	Part of PSLC Sysplex
MLC	zELC	zSeries Entry License Charge	No, Model Based Only		or equivalent to z800		Yes		110 Model only	110 Model only		A01 Model Only	A01 Model Only												
MLC	AWLC	Advanced Workload License Charges, Full and Sub-Cap	Yes	Yes												Yes, if All Others z196	Yes	Yes, if all z196	Yes	Yes, Mixed PricingPlex with z196s		Yes, Mixed PricingPlex with z196s		Yes, Mixed PricingPlex 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			Yes	Yes	No, Use EWLC	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	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	No	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	Yes	Yes	Yes	Yes	
MLC	EWLC	Entry Workload License Charge	Yes	No			Yes		Yes	No, Consider WLC		Yes	No, Consider WLC												
MLC	EWLC Full Cap	Entry Workload License Charge	Yes	No	OS/390 Allowed		OS390 allowed, or not zArch		OS390 allowed	OS390 allowed		OS390 allowed	OS390 allowed												
MLC	AEWLC	Advanced Entry Workload License Charges, Full and Sub-Cap	Yes	No											Yes							w Tech Update			
MLC	TWLC	Tiered Workload License Charge		No			Yes		Yes			Yes			Yes						Yes				
MLC	NALC	New Application License Charge (not available after z/OS 1.8)	Yes w/WLC, No w/PSLC	No	w/PSLC		No, Use z/OS.e	No, Use z/OS.e	No, Use z/OS.e	Yes	Yes	No, Use z/OS.e	No, Use z/OS.e	No, Use zNALC	No, Use zNALC	No, Use zNALC	No, Use zNALC	No, Use zNALC	No, Use zNALC	No, Use zNALC	No, Use zNALC	No, Use zNALC	No, Use zNALC	No, Use zNALC	
MLC	zNALC	System z New Application License Charges	most, Execution, Reference &	Yes	Yes	No	No	Yes	Yes	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.)		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	

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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 PricingPlex with z196s		Yes, Mixed PricingPlex with z196s		Yes, Mixed PricingPlex 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	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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## July 2010 No Further Separation of MSUs

- Beginning with z196 machines IBM stopped adjusting the relationship between HW and SW MSUs
  - The ratio is now stabilized 1 SW MSU = 0.68 HW MSUs
- ***This was a significant change***
  - Adjusting the MSUs, depending on your contracts with ISVs may have lowered your ISV charges
  - *Without further adjustment the new pricing metrics only lower IBM MLC Software Charges*
  - AWLC and AEWLC provide MLC discounts depending on your software stack and the “size of your shop”
    - No effect on your payments to other vendors
    - No effect on zIPLA OTC or zIPLA S&S charges
- New HW now uses “**Technology Update Pricing**” discounts



## My New Term: “Virtual” Tiers of Pricing for z/OS Base zEC12

- This is referred to as TU1 (Technology Update Pricing), for zEC12 or a PricingPlex with zBC12s and zEC12s

5694-A01 S00T4FR z/OS V1 Base	PSLC PERMSU	Early VWLC PERMSU	Current VWLC PERMSU	AWLC PERMSU	TUP 316+ 4.5%	TUP 1,316+ 5.0%	TUP 2,677+ 6.0%	TUP 5,477+ 7.0%
Base Charge 3 MSUs	3,921	3,735	3,921	3,921	3,744.56	3,724.95	3,685.74	3,646.53
4 - 45	865	800	383	368	351.44	349.60	345.92	342.24
46 - 175	277	255	320	301	287.46	285.95	282.94	279.93
176 - 315	207	110	226	216	206.28	205.20	203.04	200.88
316 - 575	159	110	120	115	109.83	109.25	108.10	106.95
576 - 875	159	85	93	88	84.04	83.60	82.72	81.84
876 - 1,315	159	60	65	62	59.21	58.90	58.28	57.66
1,316 - 1,975	159	45	49	47	44.89	44.65	44.18	43.71
1,976 - 99,999,992	159	36	39	38	36.29	36.10	35.72	35.34

- The light blue columns are additional levels of discounting not available previously in any metric
- TUP is Technology Update Pricing
  - [http://www.sherkow.com/updates/tup\\_for\\_awlc\\_new\\_slopes\\_for\\_pricingplexes.html](http://www.sherkow.com/updates/tup_for_awlc_new_slopes_for_pricingplexes.html)
- AI's Thought: “Virtual” tiers, new pricing slope points, may be added with Country Multiplex*

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## My New Term: “Virtual” Tiers of Pricing for z/OS Base z13

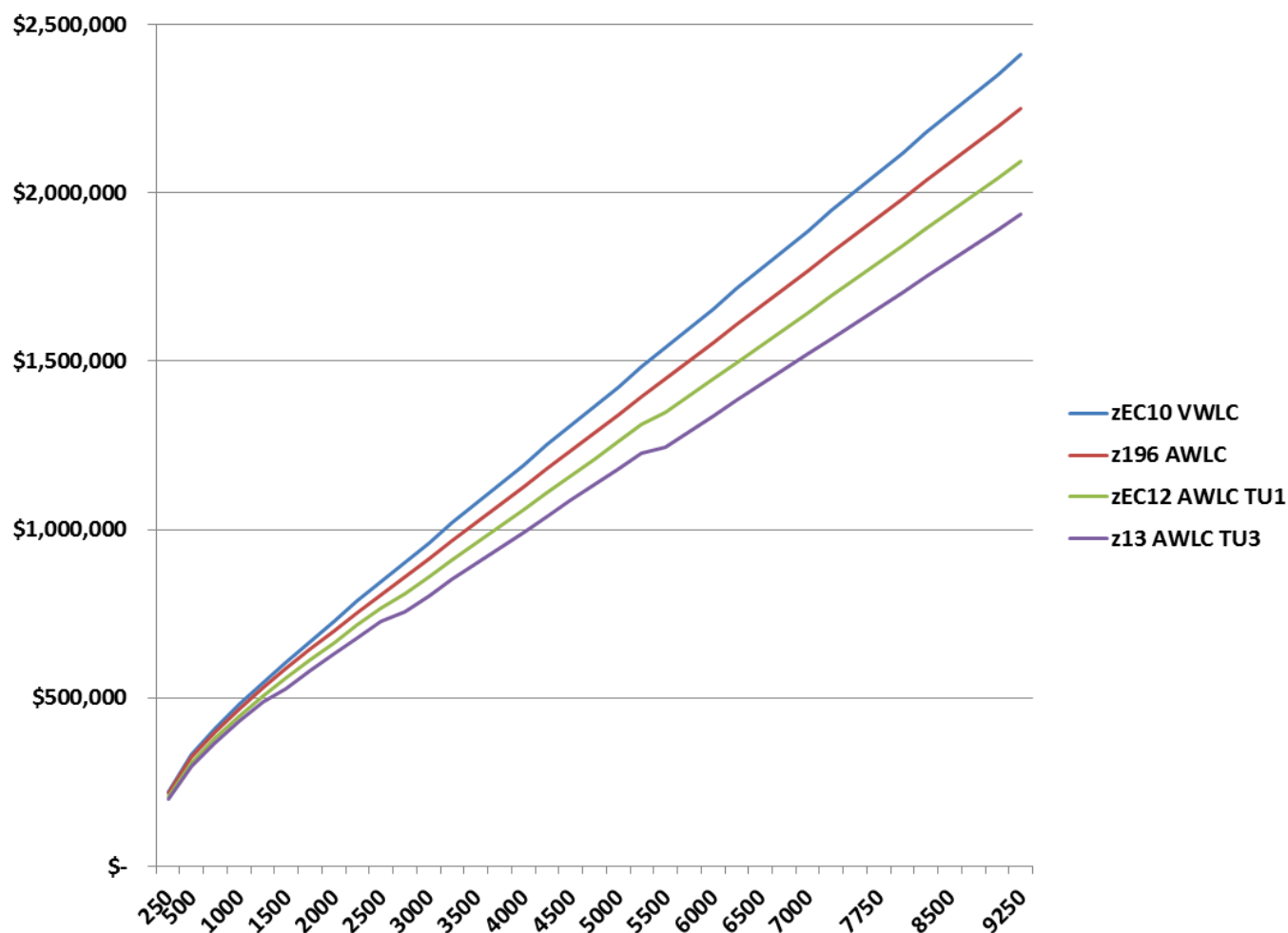
- This is referred to as TU3, for z13 standalone a PricingPlex with only z13s, about 5% better than zEC12

5694-A01 S00T4FR z/OS V1 Base	PSLC PERMSU	Early VWLC PERMSU	Current VWLC PERMSU	AWLC PERMSU	TU3 316+ 8.0%	TU3 1,316+ 10.0%	TU3 2,677+ 12.0%	TU3 5,477+ 14.0%
<b>Base Charge 3 MSUs</b>	3,921	3,735	3,921	3,921	3,607.32	3,528.90	3,450.48	3,372.06
<b>4 - 45</b>	865	800	383	368	338.56	331.20	323.84	316.48
<b>46 - 175</b>	277	255	320	301	276.92	270.90	264.88	258.86
<b>176 - 315</b>	207	110	226	216	198.72	194.40	190.08	185.76
<b>316 - 575</b>	159	110	120	115	105.80	103.50	101.20	98.90
<b>576 - 875</b>	159	85	93	88	80.96	79.20	77.44	75.68
<b>876 - 1,315</b>	159	60	65	62	57.04	55.80	54.56	53.32
<b>1,316 - 1,975</b>	159	45	49	47	43.24	42.30	41.36	40.42
<b>1,976 - 99,999,992</b>	159	36	39	38	34.96	34.20	33.44	32.68

- These are larger discounts than TU1 for zEC12s against the same AWLC prices
  - TU3 discounts at these levels were: 4.5%, 5%, 6% and 7%
- MSUs above 1,976 are charged:
  - \$38.00 on z196s,
  - \$36.10 on zEC12s
  - \$34.20 on z13s
- MSUs above 5,477 remain \$38 on z196s, but \$35.34 on zEC12s and \$32.68 on z13s

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## “Sample” Software Stack Across zEC10, z196, zEC12 & z13



*Remember this chart is for this "sample" software stack,  
your charges may be higher or lower*

# Hardware and Pricing Metric Summary

- Any z10EC, z10BC leads to VWLC or VWLC and a Transition Plan
  - Note: a z13 is not supported in a SYSPLEX with z10 (from a pricing point of view)
- Any z196, z114 leads to AWLC
  - z10EC and z196 uses VWLC and a Transition Plan
- Any zEC12, zBC12 uses AWLC with Technology Update or Transition Plan
- Any z13 uses AWLC with Technology Update or Transition Plan
- The oldest technology is the limiting factor on the Transition Plans and the Technology Update plans

## “Virtual” Tiers for TU1 Sub-Capacity Products: DB2 V10 Example

5605-DB2 S015SW2 DB2 V10	PSLC PERMSU	Early VWLC PERMSU	Current VWLC PERMSU	AWLC PERMSU	TUP 316+ 4.5%	TUP 1,316+ 5.0%	TUP 2,677+ 6.0%	TUP 5,477+ 7.0%
Base Charge 3 MSUs	5,560	N/A	5,259	5,259	5,022.35	4,996.05	4,943.46	4,890.87
4 - 45	300	N/A	292	281	268.36	266.95	264.14	261.33
46 - 175	127	N/A	145	137	130.84	130.15	128.78	127.41
176 - 315	95	N/A	108	104	99.32	98.80	97.76	96.72
316 - 575	71	N/A	82	78	74.49	74.10	73.32	72.54
576 - 875	71	N/A	61	59	56.35	56.05	55.46	54.87
876 - 1,315	71	N/A	61	56	53.48	53.20	52.64	52.08
1,316 - 1,975	71	N/A	61	54	51.57	51.30	50.76	50.22
1,976 - 99,999,992	71	N/A	61	54	51.57	51.30	50.76	50.22

- This is referred to as TU1, for zEC12 or a PricingPlex with zBC12s and zEC12s
- The green is highlighting tiers that are not being used in each column
- The light blue columns are additional levels of discounting not available previously

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# Integrated Workload Pricing (IWP)

- *4 Hour Rolling Average MSUs of some WebSphere 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 LPAR as a Container of CICS and IMS **Smaller**
- Provides less incremental MLC software increase when adding WebSphere products into existing LPARs
  - **Reducing a “barrier” to further use of WebSphere products on z**
- IBM would like more sites to use WebSphere products on z
  - Evidence: “Getting Started Sub-Capacity Pricing” for WebSphere Products from 2008, revised in April 2009 and in 2011
  - Sites choose between building new LPARs for WebSphere or adding WebSphere to existing LPARs
    - Pros and Cons both technically and culturally
- IWP removes the actual 4HRA of Some WebSphere Products from the 4HRA of the LPARs (Only for IMS and CICS)
  - So ... .. If you add WebSphere to an existing LPAR the 4HRA of z/OS, DB2, MQSeries and other product probably increases 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
  - In This Range with AWLC CICS is 64USD/MSU savings \$13,696/mo
- How is that peak hour 979 MSUs determined?

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## IWP Review

- IWP may help IBM as sites begin with new deployments of WAS, Processor Server, Message Broker, Enterprise Service Bus and other WebSphere Products on z
- ***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 ...



# Mobile Workload Pricing

- For Mobile Applications that execute on z
  - Phones, Tablets, iOS, Android, Windows Phone
    - Not laptops, desktops, netbooks
- If this is a Browser Application you need to be able to separate Mobile use from non-Mobile
- IBM Must Approve Each Mobile App for Each Customer
  - IBM Forms are used to describe the app, and to describe how you can analyze it
- For DB2, IMS, CICS, WAS and MQSeries

# Mobile Workload Pricing

- You could have an enterprise App using DB2 for the database and that could qualify
  - IF you can isolate MOBILE
- ***Think About How You Might Identify Mobile Work to Simplify This Task***
  - It must also be “auditable” by IBM
  - Transaction logs are voluminous
  - You could spend more resources processing this data than you’ll save in software charges

# Mobile Workload Pricing

- A new tool, MWRT processes the Mobile Data, and it runs on WINDOWS 7 only
  - Yikes! (*This tool will move to z/OS in the future*)
- Replaces SCRT for sites using MWP
  - All the functions of SCRT, plus new analysis for Mobile
- Using MWRT
  1. Move your SCRT SMF (70s and 89s) and MWP Input data to Windows
  2. Execute MWRT
  3. *Review and Audit MWRT*
  4. Send MWRT Output CSV to IBM

## MWP: How It Works

- The 60% of CPU Time of MOBILE Work, is Removed from the LPAR's 4HRA
  - **Making the LPAR (as a “container” of products) Smaller**
  - This Reduces the Billable MSUs of Every IBM product in the LPAR
    - Everything: z/OS, CICS, DB2, IPLA zOTC, etc.
- What is Your Site's Incremental MLC Per MSU?
  - \$200/MSU in a large shop, \$700/MSU in a small shop?
  - The savings add up Quickly

## MWP: What to do...

- Determine if you have Mobile Work
- Can you identify the Mobile Work in your SMF data?
- Is there a way you could identify it and process the data with less resources?
  - *Change your Software Development Standards*
- If you have something easy start with that application
- Working with Barry Merrill MXG has new code and “donated” code to help you get started and build the MWRT Input CSV files for CICS, DB2, WAS, IMS and MQ Series
  - Each Customer Builds Unique Mobile Identification Logic!

## MWP: Issues ...

- The biggest issue has been “management” of the MWRT Input Data
  - The data is voluminous, most sites will process it daily
  - What’s next? 30 daily files each for DB2, CICS, etc?
    - DB2, CICS, etc must be in separate files
  - Hourly data must be unique, Not usual with handling of SMF data and lots of LPARs. Midnight on March 4<sup>th</sup> can only be in one DB2 file
    - MXG 33.01 includes MOBWRKSU to summarize daily files into a monthly file

# IBM Collocated Application Pricing (ICAP)

- Relaxing of rules for placing new workloads (1H2015)
  - Allows you to make workload placement decisions based more on your business and technical issues than on Software Cost issues
    - At least for some IBM software
    - Not fully specified yet: e.g. CICS, DB2, IMS, MQ, WAS, Broker, etc.
- New application must be approved by IBM
  - Similar to zNALC and MOBILE, must use “new” technology
- Easier Than MOBILE, but YOU must be able to identify CPU Time for the new Application



## ICAP (coming 1H2015)

- Other products in the same LPAR due to new Application
  - No effect on reported MSUs for sub-cap middleware products
    - Similar to MWP
  - 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 Example: New 100MSU MQ Application

## Existing LPAR

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

MLC \$422,112

## New MQ, no ICAP

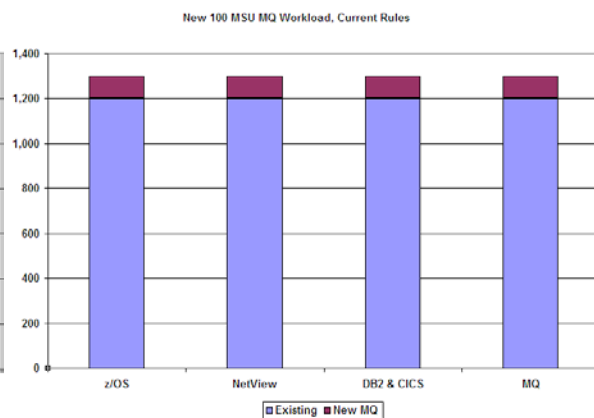
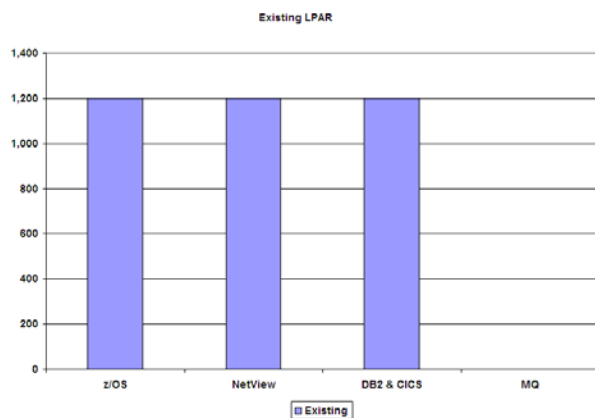
z/OS V1	1,300
NetView	1,300
DB2 & CICS	1,300
MQ (LPAR)	1,300

MLC \$498,140

## New MQ, With ICAP

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

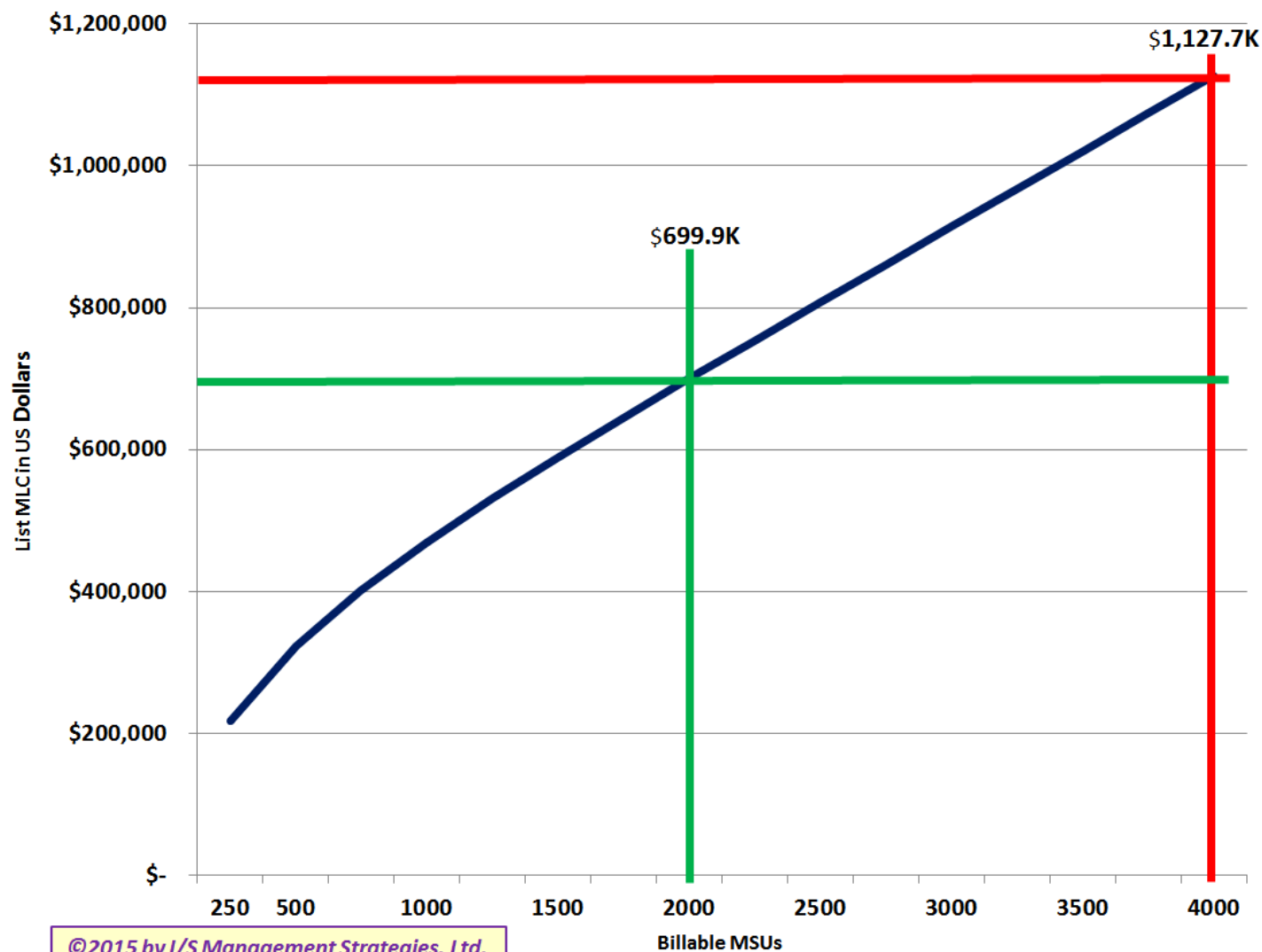
MLC \$437,361



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

# Importance of a PricingPlex

## Do Not Pay For the Expensive MSUs Twice



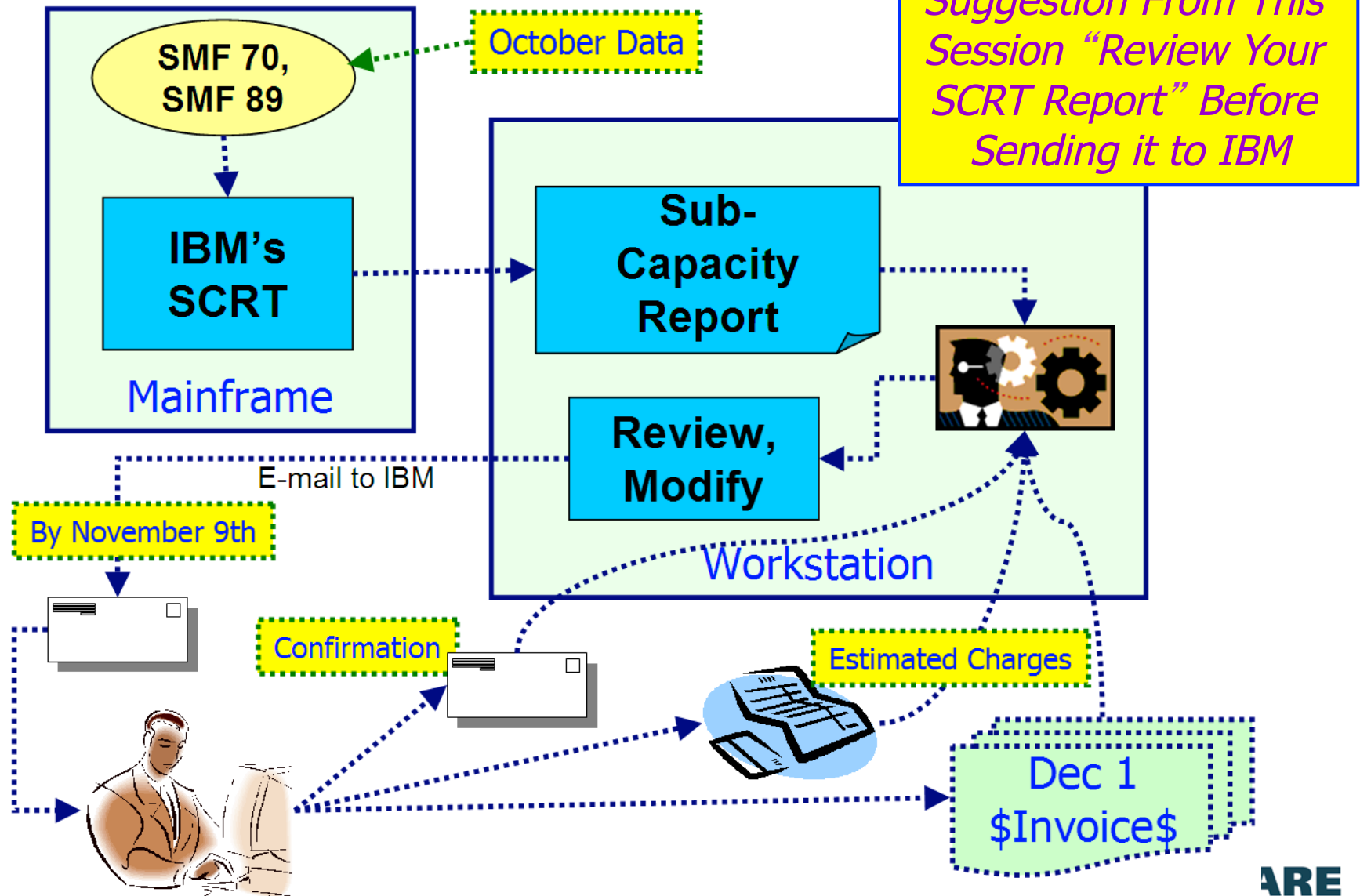
# Importance of a PricingPlex & Country Multiplex Pricing (1H2015)

- Country Multiplex is an Improvement, but ***it does not immediately lower any site's software charges***
- With Country Multiplex a new tool from IBM will compute the 4HRA across all LPARs of all machines
  - Helps with the issue of moving LPARs between machines mid-month
  - Will lead to a lower Simultaneous 4HRA than individual machines
- If you have two PricingPlexes this will set a new “baseline” and future growth will be less costly
  - This will be of large value to sites with multiple data centers in a country or multiple PricingPlexes

# Country Multiplex Pricing

- z196, z114, zEC12, zBC12, and z13 machines
- Eliminates SYSPLEX 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

## SCRT with Time Frames



Complete your session evaluations online at [www.OTMARE.org/Seattle-Eval](http://www.OTMARE.org/Seattle-Eval)

# When You Receive the Resultant Invoice What Should You Do?

5655S97 CICS TS FOR Z/OS V4

S015H9T	CICS TS FOR Z/OS	04/01/13	04/30/13	206,078.08	206,078.08
					12,364.68
	ADV. WORKLOAD LICENSE CH				
	MSU 3,136				
	BASIC				
	MONTHLY CHARGE				

- This is a sample captured from an IBM invoice based on a March 2-9, 2013 SCRT Report of February 2 through March 1 SMF data
- Note the date is April 2013
- Audit the Invoice
  - Are the 3,136 MSUs the same as those submitted on the SCRT report?
  - Does the invoice amount 206,078.08 match what you calculate based on the pricing metric?
  - The 12,364.68 is the tax on this line item; in this case 6%. Is the tax correct?



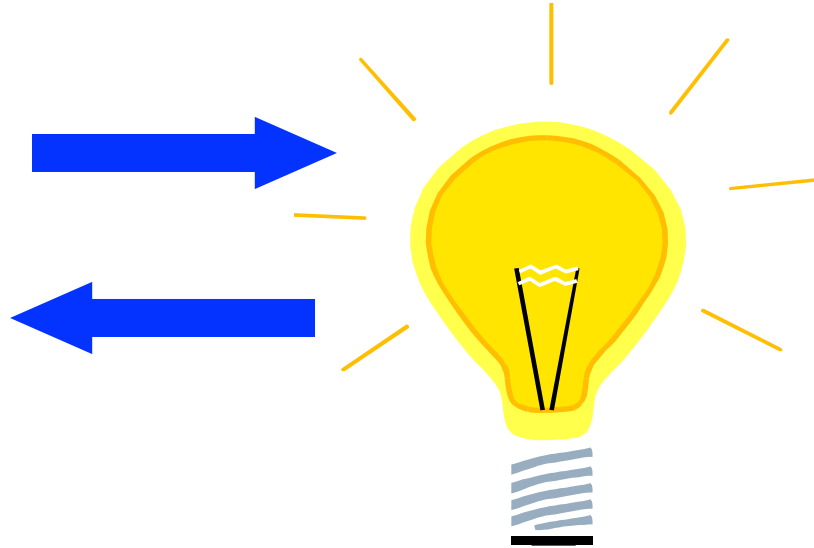
## What Kind of Errors Do I Find Auditing Invoices?

- Incorrect MSUs. For example I have found 359 MSUs invoiced as 395
  - This was within the past two years on an ELA Audit Spreadsheet which was based on an SCRT data entered into an IBM WLPricer Report
- Incorrect Product Versions. For example a site was using DB2 V8 on a machine and when the machine was upgraded, the new configuration showed DB2 V9, which lead to higher software charges
- Transition Plan discount was not applied to the invoice
- If you are not auditing then you don't know
- While you are a partner with IBM you still should be auditing
- ***If IBM is auditing you with Parallel Sysplex and other types of audits, why are you not auditing IBM?***

# Study and Re-evaluate the Evolution

- Some pricing changes may not provide value at your site
  - However you should re-evaluate over time
- Some changes have no pricing impact today, but will lower future costs
  - Sub-Cap IPLA
  - Country Multiplex
- IBM has been manipulating the LPAR sizes to reduce costs within the basic WLC structure of LPARs and 4HRA
  - GSSP, IWP, MWP and ICAP all remove CPU Time from the LPAR's 4HRA for some products
  - How will you identify MOBILE and ICAP CPU Time?

## Discussion, Questions?



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