Save Money with Workload License Charges 2011 Update

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Goals, Plan for the Next 60 Minutes … …

- ## Very Quick Sub-Capacity Pricing Overview
- ## z196 Changes
  - No further HW MSU to SW MSU separation on z196s
  - Advanced Workload License Charges
  - New, Announced in January 2011, Available with Feb 2nd through March 1st data is Integrated Workload License Charges
  - New, Published 10 February 2011, Available with Feb 2nd through March 1st data is GSSP reduction for DB2 type 2 connections
- ## z114 Changes
  - No further HW MSU to SW MSU separation on z114s Similar to z196s
  - Advanced Entry Workload License Charges

Workload License Charges

- Over the Last 25 Years the Correlation Between MIPS and Software Value Has Been Lost

- LPARs Allow for More Granular Capacities

- Software Must be More Granular Also

- So Now IBM Provides LPAR Based Pricing
    - Is LPAR Pricing Fair?
    - Perhaps Not, but it is Better than Charging for Software Based on the Whole "Machine"

Workload License Charges

- **WLC is IBM's Attempt to:**
  - Remove the SW Cost Obstacle that Holds Back HW Sales
  - Lower Mainframe Total Cost of Ownership
- **WLC Is Not Static – It is Evolving**
- **IBM Is Changing WLC at Least One Time Per Year**
  - July 2010: AWLC for z196 HW (yes, this is not from 2011)
  - January 2011: Integrated Workload Pricing
  - February 2011: Improved GSSP for DB2 Type 2 Connections to WebSphere GSSP Products
  - July 2011: z114s and AEWLC
- **WLC Started Simply in October 2000**
- **After 11 Years of Evolution Workload License Charges is Now Quite Complicated!**
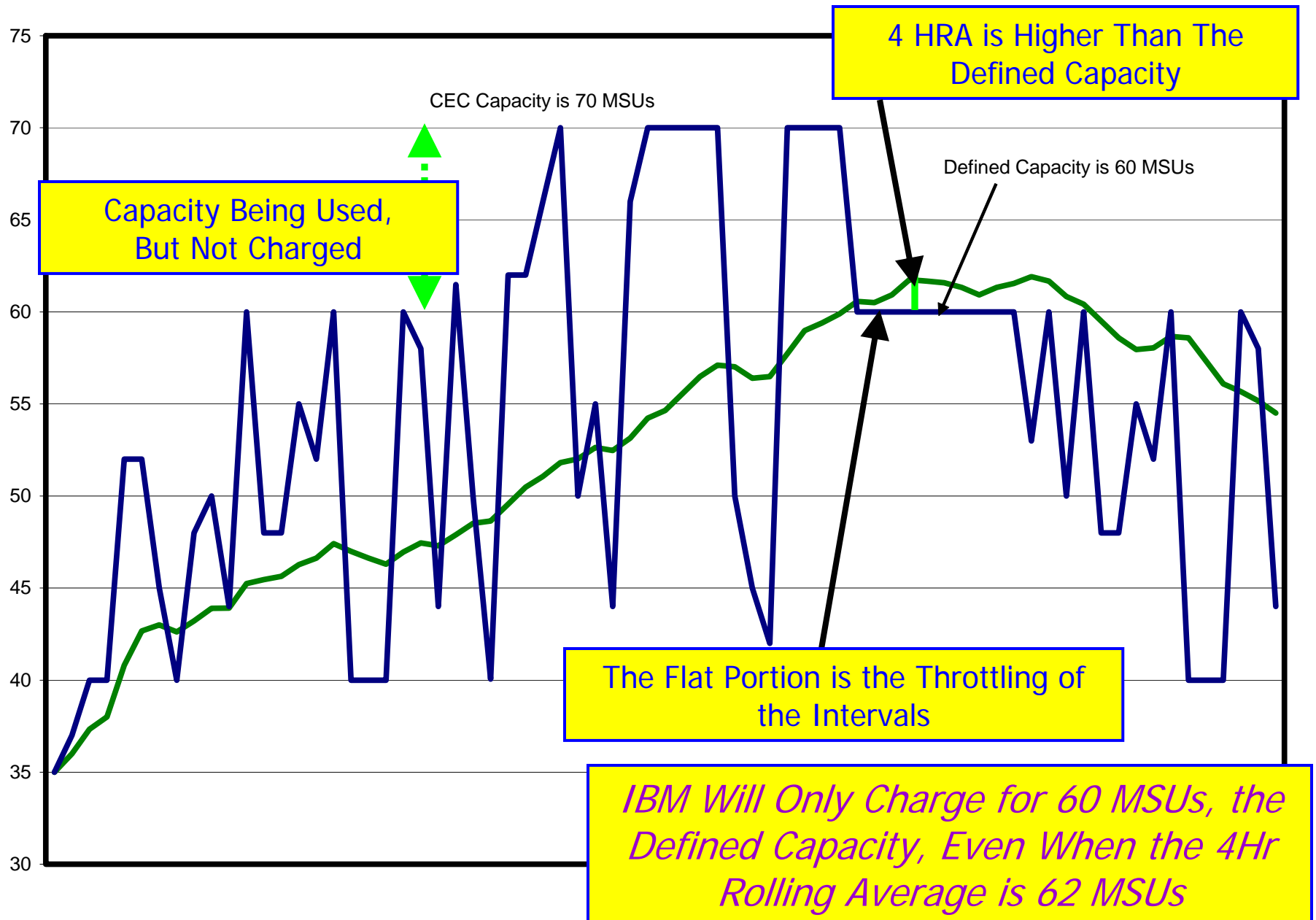
zSeries, z/OS and zWorkload zPricing

	Metric	Description	Sub-Capacity Allowed?	Aggregation Allowed?	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
										Qualified Hardware							
MLC	FLAT	Much Older Fixed MLC			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
MLC	ULC	S/390 Measured Usage License Charge	No (Pay for actual CPU usage by the product)	Yes		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		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										NO	Yes, if All Others z196	Yes	Yes, If all z196
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	Yes, Mixed
MLC	GSSP	Getting Started SubCapacity Pricing	Yes	Yes						Yes	Yes	Yes	Yes			Yes	Yes
MLC	IWP	Integrated Workload Pricing	Yes	Yes						No	No	No	No			Yes	Yes
MLC	FWLC	WorkLoad License Charge - Fixed Price Per Footprint	Yes	Effectively NO	Yes	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		No	OS390 allowed, or not zArch		OS390 allowed	OS390 allowed		OS390 allowed	OS390 allowed						
		Advanced Entry Workload License Charges, Full and Sub-Cap	Yes	No										Yes			
MLC	TWLC	Tiered Workload License Charge		No	Yes		Yes			Yes				Yes			
MLC	NALC	New Application License Charge (not available after z/OS 1.8)	Yes w/WLC, No w/PSLC	No	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
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

zSeries, z/OS and zWorkload zPricing

	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
MLC	FLAT	Much Older Fixed MLC			Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
MLC	PSLC	Parallel Sysplex License Charge	No	Yes		Yes			Yes	Yes	Yes	Yes
MLC	ULC	S/390 Measured Usage License Charge	No (Pay for actual CPU usage by the product)	Yes		Part of PSLC Sysplex	Part of PSLC Sysplex	Part of PSLC Sysplex		Part of PSLC Sysplex		Part of PSLC Sysplex
MLC	AWLC	Advanced Workload License Charges, Full and Sub-Cap	Yes	Yes					NO	Yes, if All Others z196	Yes	Yes, If all z196
MLC	VWLC	WorkLoad License Charge, Full and Sub-Cap	Yes	Yes	No, Use EWLC	Yes	Yes	Yes	No	No	No	In Transition
MLC	GSSP	Getting Started SubCapacity Pricing	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
MLC	FWLC	WorkLoad License Charge - Fixed Price Per Footprint	Yes	Effectively NO	Yes	Yes	Yes	Yes			Yes	Yes
MLC	EWLC	Entry Workload License Charge	Yes	No	Yes	No, Consider WLC						
MLC	EWLC Full Cap	Entry Workload License Charge		No	OS390 allowed	OS390 allowed						
MLC	AEWLC	Advanced Entry Workload License Charges, Full and Sub-Cap	Yes	No					Yes			
MLC	TWLC	Tiered Workload License Charge		No	Yes				Yes			
MLC	zNALC	System z New Application License Charges	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

4-Hour Rolling Average & Defined Capacity

CEC Capacity is 70 MSUs

4 HRA is Higher Than The Defined Capacity

Defined Capacity is 60 MSUs

Capacity Being Used, But Not Charged

The Flat Portion is the Throttling of the Intervals

IBM Will Only Charge for 60 MSUs, the Defined Capacity, Even When the 4Hr Rolling Average is 62 MSUs

z196, z114 No Further Separation

- With the previous 3 mainframe technologies IBM separated the hardware's ability to run your work, from the "size" of the machine used for software pricing
  - I refer the MSUs calculated from the SRM constant as the "Hardware MSUs" and the MSUs announced for each machine, used for software pricing, as "Software MSUs"

- 1,000 HW MSU Workload Requires Approximately:
  - 1,000 SW MSUs on z900
  - 900 SW MSUs on z990
  - 770 SW MSUs on z9EC
  - 680 SW MSUs on z10EC
  - 680 SW MSUs on z196 (YM-WILL-Vary, try zPCR!)

- No further separation on z114 or z196

No Further Separation of HW MSUs and SW MSUs

- This is a significant change
  - What happens with the next machine?
- The separation in the past changed how machines were "measured" for IBM & ISVs
  - Depending on your contracts with other Vendors
- Advanced Workload License Charges provides a discount depending on your software stack and "size of your shop"
  - AWLC has no effect on the software charges you pay to other vendors
- Separation provided a "plateau" or flattening of MSUs while your workload grew to consume the additional separation

Advanced Metrics Only available on z114s & z196s

- The savings is provided through changes in Pricing Tables for sub-capacity eligible MLC products
- Two new tiers are "activated" for AWLC

EWLC & AEWLC Tiers	EWLC	AEWLC
Base, includes 3 MSUs	5,009	4,008
4 - 17 MSUs	71	124
18 - 30 MSUs	258	230
31 - 45 MSUs	400	368
46 - 87 MSUs	126	124
88 - 175 MSUs	126	120
176 - 260 MSUs	94	89
261 - 315 MSUs	94	89
315 + MSUs	94	80

VWLC & AWLC Tiers	VWLC	AWLC
Base, includes 3 MSUs	5,009	5,009
4 - 45 MSUs	270	260
46 - 175 MSUs	126	119
176 - 315 MSUs	94	90
316 - 575 MSUs	71	68
576 - 875 MSUs	53	51
876 - 1315 MSUs	53	49
1316 - 1975 MSUs	53	47
1976 + MSUs	53	47

- More Significant Change in Pricing between EWLC and AEWLC
- NO Savings or plateau for IPLA products

Advanced WLC for z196s

- Should lower MLC software charges if you are using VWLC on a standalone machine or in a PricingPlex
  - You Must Sign "ICA Attachment for IBM System z Advanced Workload License Charges (Z125-8538)"

- "Transition Charges for Sysplexes" provides a portion of the AWLC's value while you have mixed hardware technologies in a PricingPlex

- To better understand the value of AWLC compared to VWLC study "your" software stack
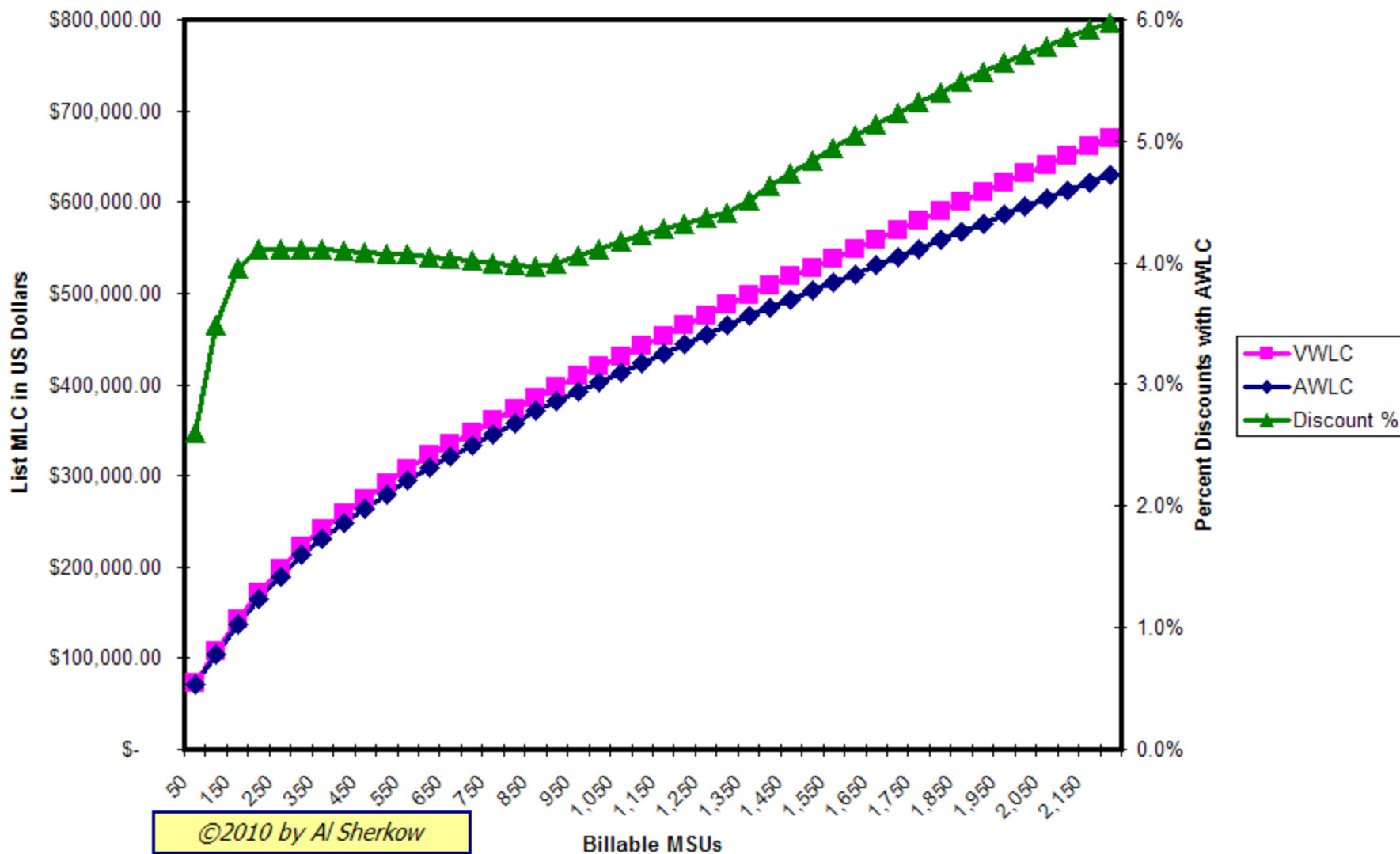
Sample Software Stack

	Pricing Plex	LCS 2063-AG1		Full Capacity				Variable Capacity		
	Machine Types	2097-716 1264 MSUs								
	Announced MSUs	1264								
	Default Machine Sub-Capacity MSUs	800								
	Sub-Capacity MSUs Percent of Announced MSUs	63.3%								
PRODID	PRODNAME	Count of Machines	Estimated Full Capacity PSLC Price	Estimated Full Capacity VWLC Price	Estimated Full Capacity EWLC Price	Estimated Full Capacity AWLC Price	Estimated Variable VWLC Price	Estimated Variable EWLC Price	Estimated Variable AWLC Price
5694-A01	Z/OS V1 BASE	1	$ 241,244.00	$ 167,368.00	$ 289,741.00	$ 159,373.00	$ 137,114.00	$ 190,445.00	$ 130,586.00
5694-A01	Z/OS V1 HCM	1	$ 420.00	$ 449.00	$ 420.00	$ 449.00	$ 449.00	$ 420.00	$ 449.00
5694-A01	Z/OS V1 HLASM TOOLKIT	1	$ 109.00	$ 109.00	$ 109.00	$ 109.00	$ 109.00	$ 109.00	$ 109.00
5694-A01	Z/OS V1 RMF	1	$ 9,563.00	$ 8,395.00	$ 11,516.00	$ 8,395.00	$ 6,464.00	$ 7,804.00	$ 6,464.00
5694-A01	Z/OS V1 SDSF	1	$ 4,883.00	$ 3,781.00	$ 5,753.00	$ 3,781.00	$ 3,242.00	$ 3,897.00	$ 3,242.00
5694-A01	Z/OS V1 SECURITY SERVER	1	$ 13,319.00	$ 10,835.00	$ 16,147.00	$ 10,705.00	$ 8,829.00	$ 11,043.00	$ 8,699.00
5625-DB2	DB2 V8	1	$ 94,368.00	$ 91,588.00	$ 122,556.00	$ 86,934.00	$ 69,316.00	$ 82,652.00	$ 66,368.00
5655-M15	CICS TS FOR Z/OS V3.1	1	$ 106,075.00	$ 105,857.00	$ 139,846.00	$ 100,947.00	$ 80,337.00	$ 94,838.00	$ 77,133.00
5655-L82	WEBSP MQ V6	1	$ 46,825.00	$ 46,131.00	$ 60,728.00	$ 43,955.00	$ 34,531.00	$ 40,776.00	$ 33,208.00
5697-ENV	TIV NETVIEW FOR Z/OS	1	$ 28,970.00	$ 29,316.00	$ 37,333.00	$ 28,225.00	$ 21,892.00	$ 25,269.00	$ 21,190.00
5655-G53	COBOL V3 FULL FUNCTION	1	$ 20,586.00	$ 15,101.00	$ 16,309.00	$ 15,059.00	$ 10,925.00	$ 11,205.00	$ 10,883.00
	Totals		$ 566,362.00	$ 478,930.00	$ 700,458.00	$ 457,932.00	$ 373,208.00	$ 468,458.00	$ 358,331.00

- Obviously EWLC is not a metric for this size of machine
- For this sample stack, all products priced at 1,264 and 800 MSUs
  - Savings to move from Sub-Cap WLC $373,208 to Sub-Cap AWLC $358,311. Monthly savings is $14,877

"Sample" Software Stack Every 50 MSUs

(z/OS, DB2 V8, CICS V3, MQ V6, COBOL, NetView)

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Remember this discount is for this "sample" software stack,
your particular discount may be higher or lower

Save Money w/ Workload License Charges 2011 Update —

Software Savings to Move to z196/AWLC

	A	B	C	D	E	F	G	H	I	J
1	LPAR Capacity and Software Usage Analysis ©2011 by I/S Management Strategies, Ltd.									
2	This Page Shows the Matrix of Variable WLC Products and Machines							The License Key Expires on 30-Dec-2011		
3								Pricing Plex	LCS 2063-AG1	
4								Total All Machines Announced MSUs	3262	
5								Total of Sub-Capacity MSUs set for All Machines	2764	
6								Machine Number	1	2
7								Your Machine ID	2097-QQQQ	2097-KKKK
8								Your Familiar Name for the Machine ID		
9								Machine Type (Drop Down List)	2097-722 1631 MSUs	2097-722 1631 MSUs
10								Announced MSUs	1631	1631
11								Maximum Machine Sub-Capacity MSUs (From Column Below)	1210	1554
12								Sub-Capacity MSUs Percent of Announced MSUs	74.2%	95.3%
13								Technology Dividend for Newer Machines	100.00%	100.00%
14	PRODID	FunctionID	Product Name	Sub-Cap Eligible?	Num of Machines	Full Cap MSUs	Sub Cap MSUs	Estimated VWLC Price		
15	5694-A01	S00T4FR	Z/OS V1 BASE	Y	2	3,262	2,764	$ 230,032	1210	1554
16	5694-A01	S00T4FZ	Z/OS V1 C/C++ WITHOUT DEBUG	Y	1	1,631	1,210	$ 8,465	1210	
17	5694-A01	S00T4GB	Z/OS V1 RMF	Y	2	3,262	2,764	$ 12,157	1210	1554
18	5694-A01	S00T4GC	Z/OS V1 SDSF	Y	2	3,262	2,764	$ 5,281	1210	1554
19	5694-A01	S00T4GF	Z/OS V1 SECURITY SERVER	Y	1	1,631	1,210	$ 10,619	1210	
20	5694-A01	S00T4G0	Z/OS V1 DFSMS DSSHSM	Y	2	3,262	2,764	$ 20,811	1210	1554
21	5694-A01	S00T4G3	Z/OS V1 DFSORT	Y	2	3,262	2,764	$ 3,480	1210	1554
22	5625-DB2	S00X44M	DB2 V8	Y	2	3,262	2,691	$ 160,084	1200	1491
23	5655-M15	S0118T7	CICS TS FOR Z/OS V3.1	Y	2	3,262	2,691	$ 184,342	1200	1491
24	5655-L82	S011P8R	WEBSP MQ V6	Y	2	3,262	2,691	$ 81,806	1200	1491
25	5655-S71	S014DVZ	ENTERPRISE COBOL V4	Y	2	3,262	2,574	$ 26,999	1181	1393
26	5655-A01	S000S02	IMAGEPLUS OBJECT SERVER V2	N	1	1,631	1,631	$ 625	1631	
27	5655-A02	S0017TX	IMAGEPLUS LIBRARY SERVER V2	N	1	1,631	1,631	$ 55,000	1631	
28	5655-M32	S012556	ENHANCED ACIF	N	1	1,631	1,631	$ 400		1631
29	5655-002	S00176J	APPL. SUPPORT FACILITY	N	1	1,631	1,631	$ 970	1631	
30	5655-002	S00XJ55	ASF V3 R3 BASE INCL COMP FTR	N	1	1,631	1,631	$ 3,499	1631	
31	5655-041	S000WWF	ACF/SSP VERSION 4 MVS	N	2	3,262	3,262	$ 2,702	1631	1631
32	5665-366	S00064S	SDF II MVS	N	2	3,262	3,262	$ 4,138	1631	1631
33	5688-169	S00001C	GDQF VERSION 2	N	2	3,262	3,262	$ 2,164	1631	1631
34	5688-190	S000D2D	PPFA/370	N	2	3,262	3,262	$ 520	1631	1631
35	5688-191	S0007LM	OGL/370	N	2	3,262	3,262	$ 740	1631	1631
36	5748-XXE	S0011BL	DLF DOCUMENT LIBRARY FACILITY	N	1	1,631	1,631	$ 201	1631	
37	5748-XX9	S0011KZ	DCF DOC COMPOSITION FACILITY	N	2	3,262	1,902	$ 3,960	1066	836
38	5688-023	S0003KB	COBOL II COMPILER AND LIBRARY	N	2	3,262	2,231	$ 4,938	1020	1211

- **Customer Example starting with Two z10s**

Two z10s, VWLC: $823,933USD

Pricing Plex	LCS 2063-AG1		Source Code Level: 06.01 17DEC2010, XFRPRICE Change Level: 04.185		
Machine ID	2097-QQQQ	2097-KKKK			
Machine Types	**2097-722 1631 MSUs**	2097-722 1631			
Announced MSUs	1631	1631			
Default Machine Sub-Capacity MSUs	1210	1554	0	0	0 0 0 0
Technology Dividend Used for Each Machine	100.00%	100.00%	100.00%	100.00%	100.00% 100.00% 100.00% 100.00%
Total All Machines Announced MSUs	3,262				
Total of Sub-Capacity MSUs set for All Machines	2,764				

PRODID	PRODNAME	Count of Machines	VWLC Full Capacity		Variable WLC Sub-Capacity (VWLC)			Advanced WLC Sub Capacity (AWLC)	
Sub-Capacity MSUs Percent of Announced MSUs	84.7%		MSUs for Full-Capacity WLC	Estimated Price	Sub Capacity WLC MSUs	Estimated SubCap WLC Price	Savings FullCap WLC to Variable WLC	Estimated SubCap Advanced WLC Price	Savings SubCab WLC to Advanced WLC
5694-A01	Z/OS V1 BASE	2	3,262	$ 248,458.00	2,764	$ 230,032.00	$ 18,426.00	219,775	$ 10,257.00
5694-A01	Z/OS V1 C/C++ WITHOUT DEBUG	1	1,631	$ 9,833.00	1,210	$ 8,465.00	$ 1,368.00	8,465	$ -
5694-A01	Z/OS V1 RMF	2	3,262	$ 13,153.00	2,764	$ 12,157.00	$ 996.00	12,157	$ -
5694-A01	Z/OS V1 SDSF	2	3,262	$ 5,779.00	2,764	$ 5,281.00	$ 498.00	5,281	$ -
5694-A01	Z/OS V1 SECURITY SERVER	1	1,631	$ 11,987.00	1,210	$ 10,619.00	$ 1,368.00	10,489	$ 130.00
5694-A01	Z/OS V1 DFSMS DSSHSM	2	3,262	$ 22,803.00	2,764	$ 20,811.00	$ 1,992.00	20,681	$ 130.00
5694-A01	Z/OS V1 DFSORT	2	3,262	$ 3,978.00	2,764	$ 3,480.00	$ 498.00	3,480	$ -
5625-DB2	DB2 V8	2	3,262	$ 187,492.00	2,691	$ 160,084.00	$ 27,408.00	146,970	$ 13,114.00
5655-M15	CICS TS FOR Z/OS V3.1	2	3,262	$ 215,747.00	2,691	$ 184,342.00	$ 31,405.00	169,596	$ 14,746.00
5655-L82	WEBSP MQ V6	2	3,262	$ 96,081.00	2,691	$ 81,806.00	$ 14,275.00	75,400	$ 6,406.00
5655-S71	ENTERPRISE COBOL V4	2	3,262	$ 33,191.00	2,574	$ 26,999.00	$ 6,192.00	25,656	$ 1,343.00
5655-A01	IMAGEPLUS OBJECT SERVER V2	1	1,631	$ 625.00	1,631	$ 625.00	$ -	625	$ -
5655-A02	IMAGEPLUS LIBRARY SERVER V2	1	1,631	$ 55,000.00	1,631	$ 55,000.00	$ -	55,000	$ -
5655-M32	ENHANCED ACIF	1	1,631	$ 400.00	1,631	$ 400.00	$ -	400	$ -
5655-002	APPL. SUPPORT FACILITY	1	1,631	$ 970.00	1,631	$ 970.00	$ -	970	$ -
5655-002	ASF V3 R3 BASE INCL COMP FTR	1	1,631	$ 3,499.00	1,631	$ 3,499.00	$ -	3,499	$ -
5655-041	ACF/SSP VERSION 4 MVS	2	3,262	$ 2,702.00	3,262	$ 2,702.00	$ -	2,702	$ -
5665-366	SDF II MVS	2	3,262	$ 4,138.00	3,262	$ 4,138.00	$ -	4,138	$ -
5688-169	GDQF VERSION 2	2	3,262	$ 2,164.00	3,262	$ 2,164.00	$ -	2,164	$ -
5688-190	PPFA/370	2	3,262	$ 520.00	3,262	$ 520.00	$ -	520	$ -
5688-191	OGL/370	2	3,262	$ 740.00	3,262	$ 740.00	$ -	740	$ -
5748-XXE	DLF DOCUMENT LIBRARY FACILITY	1	1,631	$ 201.00	1,631	$ 201.00	$ -	201	$ -
5748-XX9	DCF DOC COMPOSITION FACILITY	2	3,262	$ 3,960.00	1,902	$ 3,960.00	$ -	3,960	$ -
5688-023	COBOL II COMPILER AND LIBRARY	2	3,262	$ 4,938.00	2,231	$ 4,938.00	$ -	4,938	$ -
	=====================			==========		==========	==========	==========	==========
Totals				$ 928,359.00		$ 823,933.00	$ 104,426.00	$ 777,807.00	$ 46,126.00

One z10, One z196, AWLC Transition Plan: $799,215USD

			VWLC Full Capacity		Variable WLC Sub-Capacity (VWLC)			Advanced WLC Sub Capacity (AWLC)	
Machine ID	2097-QQQQ	2097-KKKK							
Machine Types	2817-715 1648 MSUs	2097-722 1631							
Announced MSUs	1648	1631							
Default Machine Sub-Capacity MSUs	1210	1554	0	0	0	0	0	0
Technology Dividend Used for Each Machine	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Total All Machines Announced MSUs	3,279								
Total of Sub-Capacity MSUs set for All Machines	2,764								

			VWLC Full Capacity		Variable WLC Sub-Capacity (VWLC)			Advanced WLC Sub Capacity (AWLC)	
Sub-Capacity MSUs Percent of Announced MSUs		84.3%							
PRODID	PRODNAME	Count of Machines	MSUs for Full-Capacity WLC	Estimated Price	Sub Capacity WLC MSUs	Estimated SubCap WLC Price	Savings FullCap WLC to Variable WLC	Estimated SubCap Advanced WLC Price	Savings SubCab WLC to Advanced WLC
5694-A01	Z/OS V1 BASE	2	3,279	$ 249,087.00	2,764	$ 230,032.00	$ 19,055.00	219,775	$ 10,257.00
5694-A01	Z/OS V1 C/C++ WITHOUT DEBUG	1	1,648	$ 9,884.00	1,210	$ 8,465.00	$ 1,419.00	8,465	$ -
5694-A01	Z/OS V1 RMF	2	3,279	$ 13,187.00	2,764	$ 12,157.00	$ 1,030.00	12,157	$ -
5694-A01	Z/OS V1 SDSF	2	3,279	$ 5,796.00	2,764	$ 5,281.00	$ 515.00	5,281	$ -
5694-A01	Z/OS V1 SECURITY SERVER	1	1,648	$ 12,038.00	1,210	$ 10,619.00	$ 1,419.00	10,489	$ 130.00
5694-A01	Z/OS V1 DFSMS DSSHSM	2	3,279	$ 22,871.00	2,764	$ 20,811.00	$ 2,060.00	20,681	$ 130.00
5694-A01	Z/OS V1 DFSORT	2	3,279	$ 3,995.00	2,764	$ 3,480.00	$ 515.00	3,480	$ -
5625-DB2	DB2 V8	2	3,279	$ 188,308.00	2,691	$ 160,084.00	$ 28,224.00	146,970	$ 13,114.00
5655-M15	CICS TS FOR Z/OS V3.1	2	3,279	$ 216,682.00	2,691	$ 184,342.00	$ 32,340.00	169,596	$ 14,746.00
5655-L82	WEBSP MQ V6	2	3,279	$ 96,506.00	2,691	$ 81,806.00	$ 14,700.00	75,400	$ 6,406.00
5655-S71	ENTERPRISE COBOL V4	2	3,279	$ 33,344.00	2,574	$ 26,999.00	$ 6,345.00	25,656	$ 1,343.00
5655-A01	IMAGEPLUS OBJECT SERVER V2	1	1,648	$ 625.00	1,631	$ 625.00	$ -	625	$ -
5655-A02	IMAGEPLUS LIBRARY SERVER V2	1	1,648	$ 55,000.00	1,631	$ 55,000.00	$ -	55,000	$ -
5655-M32	ENHANCED ACIF	1	1,631	$ 400.00	1,631	$ 400.00	$ -	400	$ -
5655-002	APPL. SUPPORT FACILITY	1	1,648	$ 970.00	1,631	$ 970.00	$ -	970	$ -
5655-002	ASF V3 R3 BASE INCL COMP FTR	1	1,648	$ 3,499.00	1,631	$ 3,499.00	$ -	3,499	$ -
5655-041	ACF/SSP VERSION 4 MVS	2	3,279	$ 2,702.00	3,262	$ 2,702.00	$ -	2,702	$ -
5665-366	SDF II MVS	2	3,279	$ 4,138.00	3,262	$ 4,138.00	$ -	4,138	$ -
5688-169	GDQF VERSION 2	2	3,279	$ 2,164.00	3,262	$ 2,164.00	$ -	2,164	$ -
5688-190	PPFA/370	2	3,279	$ 520.00	3,262	$ 520.00	$ -	520	$ -
5688-191	OGL/370	2	3,279	$ 740.00	3,262	$ 740.00	$ -	740	$ -
5748-XXE	DLF DOCUMENT LIBRARY FACILITY	1	1,648	$ 201.00	1,631	$ 201.00	$ -	201	$ -
5748-XX9	DCF DOC COMPOSITION FACILITY	2	3,279	$ 3,960.00	1,902	$ 3,960.00	$ -	3,960	$ -
5688-023	COBOL II COMPILER AND LIBRARY	2	3,279	$ 4,938.00	2,231	$ 4,938.00	$ -	4,938	$ -
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Totals				$ 931,555.00		$ 823,933.00	$ 107,622.00	$ 777,807.00	$ 46,126.00

VWLC discounts for the Transition Charges for Sysplexes	
Percent of Installed MSUs On zEnterprise 196 (rounded):	50%
VLC discounts Percentage Based on z196 MSUs/Total MSUs:	3.0%
Discount Amount:	$ (24,718.00)
Estimated VWLC Charges with Transition Plan Discount:	$ 799,215.00

Save Money w/ Workload License Charges 2011 Update —

Two z196s, AWLC: $777,807USD, Value: $46,126/month

					All z196s, AWLC Will Be Used (VWLC in Yellow Columns Shown for Reference)			Advanced WLC Sub Capacity (AWLC)	
Machine ID	2097-QQQQ	2097-KKKK							
Machine Types	**2817-715 1648 MSUs**	2817-715 1648							
Announced MSUs	1648	1648							
Default Machine Sub-Capacity MSUs	1210	1554	0	0	0	0	0	0	
Technology Dividend Used for Each Machine	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	
Total All Machines Announced MSUs	3,296								
Total of Sub-Capacity MSUs set for All Machines	2,764								

			All z196s, AWLC Full Capacity		All z196s, AWLC Will Be Used (VWLC in Yellow Columns Shown for Reference)			Advanced WLC Sub Capacity (AWLC)	
Sub-Capacity MSUs Percent of Announced MSUs		83.9%							
PRODID ▾	PRODNAME ▾	Count of Machines ▾	MSUs for Full-Capacity WLC	Estimated Price	Sub Capacity WLC MSUs	Estimated SubCap WLC Price	Savings FullCap WLC to Variable WLC	Estimated SubCap Advanced WLC Price	Savings SubCab WLC to Advanced WLC
5694-A01	Z/OS V1 BASE	2	3,296	$ 238,927.00	2,764	$ 230,032.00	$ 8,895.00	219,775	$ 10,257.00
5694-A01	Z/OS V1 C/C++ WITHOUT DEBUG	1	1,648	$ 9,884.00	1,210	$ 8,465.00	$ 1,419.00	8,465	$ -
5694-A01	Z/OS V1 RMF	2	3,296	$ 13,221.00	2,764	$ 12,157.00	$ 1,064.00	12,157	$ -
5694-A01	Z/OS V1 SDSF	2	3,296	$ 5,813.00	2,764	$ 5,281.00	$ 532.00	5,281	$ -
5694-A01	Z/OS V1 SECURITY SERVER	1	1,648	$ 11,908.00	1,210	$ 10,619.00	$ 1,289.00	10,489	$ 130.00
5694-A01	Z/OS V1 DFSMS DSSHSM	2	3,296	$ 22,809.00	2,764	$ 20,811.00	$ 1,998.00	20,681	$ 130.00
5694-A01	Z/OS V1 DFSORT	2	3,296	$ 4,012.00	2,764	$ 3,480.00	$ 532.00	3,480	$ -
5625-DB2	DB2 V8	2	3,296	$ 172,380.00	2,691	$ 160,084.00	$ 12,296.00	146,970	$ 13,114.00
5655-M15	CICS TS FOR Z/OS V3.1	2	3,296	$ 198,636.00	2,691	$ 184,342.00	$ 14,294.00	169,596	$ 14,746.00
5655-L82	WEBSP MQ V6	2	3,296	$ 88,710.00	2,691	$ 81,806.00	$ 6,904.00	75,400	$ 6,406.00
5655-S71	ENTERPRISE COBOL V4	2	3,296	$ 31,432.00	2,574	$ 26,999.00	$ 4,433.00	25,656	$ 1,343.00
5655-A01	IMAGEPLUS OBJECT SERVER V2	1	1,648	$ 625.00	1,631	$ 625.00	$ -	625	$ -
5655-A02	IMAGEPLUS LIBRARY SERVER V2	1	1,648	$ 55,000.00	1,631	$ 55,000.00	$ -	55,000	$ -
5655-M32	ENHANCED ACIF	1	1,648	$ 400.00	1,631	$ 400.00	$ -	400	$ -
5655-002	APPL. SUPPORT FACILITY	1	1,648	$ 970.00	1,631	$ 970.00	$ -	970	$ -
5655-002	ASF V3 R3 BASE INCL COMP FTR	1	1,648	$ 3,499.00	1,631	$ 3,499.00	$ -	3,499	$ -
5655-041	ACF/SSP VERSION 4 MVS	2	3,296	$ 2,702.00	3,262	$ 2,702.00	$ -	2,702	$ -
5665-366	SDF II MVS	2	3,296	$ 4,138.00	3,262	$ 4,138.00	$ -	4,138	$ -
5688-169	GDQF VERSION 2	2	3,296	$ 2,164.00	3,262	$ 2,164.00	$ -	2,164	$ -
5688-190	PPFA/370	2	3,296	$ 520.00	3,262	$ 520.00	$ -	520	$ -
5688-191	OGL/370	2	3,296	$ 740.00	3,262	$ 740.00	$ -	740	$ -
5748-XXE	DLF DOCUMENT LIBRARY FACILITY	1	1,648	$ 201.00	1,631	$ 201.00	$ -	201	$ -
5748-XX9	DCF DOC COMPOSITION FACILITY	2	3,296	$ 3,960.00	1,902	$ 3,960.00	$ -	3,960	$ -
5688-023	COBOL II COMPILER AND LIBRARY	2	3,296	$ 4,938.00	2,231	$ 4,938.00	$ -	4,938	$ -
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Totals				$ 877,589.00		$ 823,933.00	$ 53,656.00	$ 777,807.00	$ 46,126.00

VWLC discounts for the Transition Charges for Sysplexes	
Percent of Installed MSUs On zEnterprise 196 (rounded):	100%
WLC discounts Percentage Based on z196 MSUs/Total MSUs:	All AWLC
Discount Amount:	All AWLC
Estimated VWLC Charges with Transition Plan Discount:	All AWLC

Recent Changes

- ## SMF APAR OA31615
  - Closed 2010-11-12
  - Adds zXXP time to SMF89 record at the "product" level
  - Today, we know this also laid the ground work for IWP and the GSSP/DB2 Type 2 Connector improvements

- ## 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
  - Provides less incremental MLC software increase when adding WebSphere products into existing LPARs
    - ***Reducing a "barrier" to further use of WebSphere products on z***
    - May help current customers also

Wearing My "analyst" Hat: IWP

- 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
  - Sites choose building new LPARs for WebSphere or adding WebSphere to current 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 increase due to IWP

IWP Requirements

Unique Machine Identifier: 2817#RRRR

z196 Machine: Pass

IWP Control Statement: YES

LPARNAME	LPAR Has APAR OA31615	LPAR Has z/OS 1.10 or Later	LPAR Has IWP Defining Programs	LPAR Has IWP Adjusting Programs
TST1	Fail	Pass	Yes	Yes
PRDD	Mixed	Pass	Yes	Yes
PRDM	Mixed	Pass	Yes	Yes
PRDS	Fail	Pass	No	No

IWP Highest Simultaneous 4HRA Before & After

Unique Machine Identifier: 2817#RRRR
Product ID: 5655-M15 CICS TS V3

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

- "manufactured" test data for this example
- 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 51USD/MSU savings $10,914/mo
- How is that peak hour 979 MSUs determined?

IWP Math by LPAR by Hour

Start of the Hour	LPAR	LPAR Orig 4HRA	IWP Defining Products 5655-M74 Subtract Product 4HRA MSUs	5655-N02 Subtract Product 4HRA MSUs	Total Subtrac-tions	LPAR IWP 4HRA
03FEB11:12	TST1	5		0.0	0	5
	PRDD	907	0.1	298.9	299	608
	PRDM	286	0.1	218.7	219	67
03FEB11:12		1198	0.2	517.6	518	680
05FEB11:02	TST1	4		0.0	0	4
	PRDD	527	0.1	28.2	28	499
	PRDM	483	0.0	2.9	3	480
05FEB11:02		1014	0.1	31.2	31	983

- Highest original hour was 1,193. TST1 was not running CICS during the hour
- IWP Highest hour also did not have CICS in TST1, resulting in 979 MSUs

IWP Review

- IWP may help IBM 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 you can use SCRT to study the potential

- Before you satisfy the requirements there is one tool I'm aware of that can do the analysis ...

WebSphere Products With DB2 type 2 Connectors

- SCRT V19.2.0 User Guide: "SCRT subtracts the four-hour rolling average utilization of the DB2 time, which is used by the GSSP eligible product via the DB2 type 2 connector, from that GSSP product"
  - The DB2 CPU time is also reported elsewhere DB2
  - This further reduces the GSSP product's billable MSUs, but does not change DB2

WebSphere Products With DB2 type 2 Connectors

- This enhancement in SCRT V19.2.0 was not "announced", it was published in the SCRT User Guide
- z/OS 1.10+ and SMF APAR OA31615 are required (but not a z196)
- DB2 APARs and other requirements are in the SCRT V19.2.0 User Guide

- *GSSP is already automatically computed by SCRT and when the requirements for this enhancement are met, this is automatic also*

- If this applies at your shop there is an interesting twist:

  - The GSSP MSUs if you have DB2 type 2 Connectors for WAS, Process Server, Msg Broker or Enterprise Service Bus are
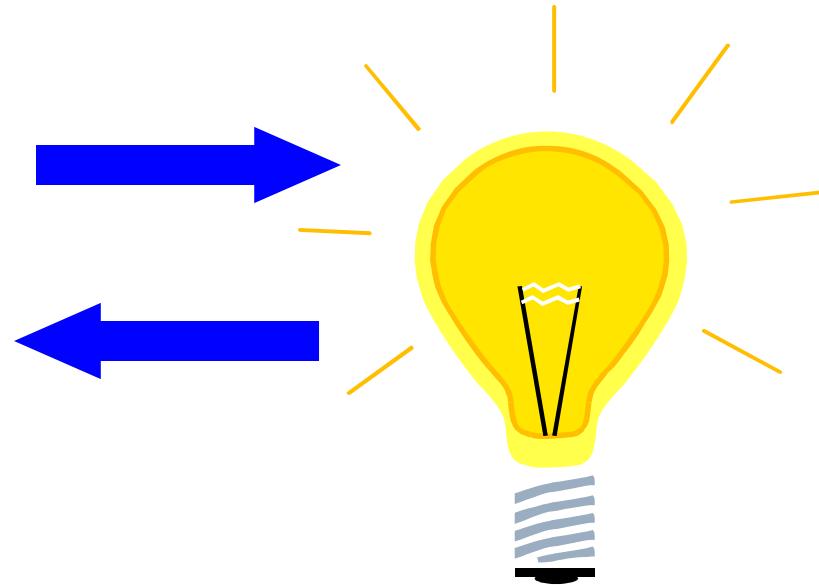
    SMALLER

    Than the IWP MSUs for the same products. IWP does not subtract the DB2 type 2 connector CPU time

One More Page on IWP

- Once your site has met all the requirements of IWP and

  if you have the IWP Defining Programs (products) in LPARs with CICS and IMS

  then IWP will not raise your software charges and IWP may lower your software charges

- However from the announcement letter "Your agreement to IWP terms and conditions is required for the receipt of IWP benefits."
  - The Addendum for Integrated Workload Pricing to Attachment for IBM System z Advanced Workload License Charges (Z125-8702)

Discussion, Questions?

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