

IBM @server zSeries and S/390 Software Pricing Reference Guide



zSeries and S/390 Software Pricing

Overview

IBM@server® zSeries® and IBM S/390® software pricing methodologies are designed to offer:

- Price-to-value
- Flexibility to run software where it is most efficient
- Capability to predict software charges
- Help with cost of new applications
- Flexibility to pay for software based on workload requirements

Monthly License Charge Pricing Metrics

Monthly License Charge (MLC) metrics are those where a recurring charge applies each month. This charge includes the right to use the product and access to IBM product support.

IBM offers a variety of MLC pricing metrics to meet the diverse needs of our customers. An IBM pricing metric established both the prices and the applicable terms and conditions for IBM software products. Select an MLC pricing metric, based on your goals and/or your environment (see the “MLC Metrics” table below). The selected metric will be used to price MLC products, such as middleware, z/OS®, OS/390®, compilers and selected systems management tools and utilities.

Table 1: MLC Metrics

	z900 & z990	z890	z800	Multiprise® 3000	All others
Workload License Charges (WLC)	X		X		
Entry Workload License Charges (EWLC)		X	X		
Parallel Sysplex® License Charges (PSLC)	X		X		X
zSeries Entry License Charges™ (zELC)			X		
Growth Opportunity License Charges (GOLC)				X	

Table 1 notes:

1. WLC and PSLC are only available on IBM@server zSeries 800 (z800) or IBM@server zSeries 890 (z890) when the z800 or z890 is participating in a qualified Parallel Sysplex®.
2. On machines with PSLC or GOLC, Usage License Charges (ULC) is a valid alternative for pricing CICS®, DB2®, IMS™ and MQSeries®.
3. On machines with WLC or PSLC, New Application License Charge (NALC) is a valid alternative for pricing select software products in dedicated e-business environments.
4. WLC and PSLC provide for aggregation benefits across a qualified Parallel Sysplex cluster.
5. The z890 capacity setting 110 is priced using zSeries Entry License Charges.

International Program License Agreement Pricing Metrics

International Program License Agreement (IPLA) metrics are those where customers pay a single, up-front charge for an entitlement to the product. A separate, optional annual charge called Subscription and Support provides customers with future versions at no additional charge and access to IBM product support.

There are three pricing metrics that generally apply to zSeries IPLA products:

- Value Unit pricing applies to the zSeries IPLA tools that run on z/OS. Value Unit pricing is based upon a number of MSUs and allows for lower cost of incremental growth.
- z/VM V4 and Linux Middleware have engine-base pricing where products each have a single price per engine.
- z/VM V5 is also priced based on the number of engines. However, Engine-based Value Unit pricing is introduced to allow for a lower cost of incremental growth with additional engine-based licenses purchased.

Table 2: IPLA Metrics

	IMS™ Tools, CICS® Tools & DB2® Tools	Application Development Tools	WebSphere® Products for z/OS & OS/390	Linux Middleware, z/VM® V4 & z/VM V5	z/VM V5
Value Unit Pricing	X	X	X		
Engine-Based Pricing				X	
Engine-Based Value Unit Pricing					X

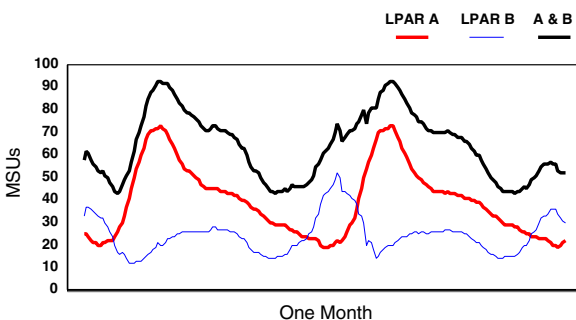
Sub-Capacity Pricing

Traditionally, software licenses in the mainframe environment have been based upon the full mainframe capacity. Sub-Capacity pricing provides a mechanism to license and pay for select IBM software products at a level less than the full capacity of the mainframe.

Mechanics of Sub-Capacity

Sub-Capacity pricing allows select IBM software products to be licensed based upon the capacity of the LPAR or LPARs where a product executes. To support the on demand needs of today's marketplace, LPAR capacity is determined each month by measuring the highest rolling 4-hour average utilization of the LPAR each month. By establishing a link between LPAR utilization and software charges, monthly variations in LPAR utilization may result in changes in software billing.

For example, in the illustration below, LPAR A's highest rolling four-hour average during the month is 73 MSUs. Products running all month solely in partition A would have Sub-Capacity charges based on that 73 MSU value. Similarly, LPAR B's highest rolling four-hour average is 52 MSUs. Products running all month solely in partition B would have Sub-Capacity charges based on that 52 MSU value. Lastly, products running in both LPARs all month would be charged based on the highest simultaneous rolling four hour average utilization of both LPARs, which is shown at 98 MSUs.



Sub-Capacity Benefits

Sub-Capacity pricing can allow for many benefits, such as the ability to:

- Pay for select IBM software with LPAR-level granularity
- Vary charges each month, based on monthly variations in LPAR utilizations
- Increase installed hardware capacity without necessarily increasing software charges
- Manage software costs by managing workload utilizations
- Pay for software based on the highest 4-hour average utilization (a benefit when compared with the measured peak utilization)

Sub-Capacity Eligible Products

Select IBM products are eligible for Sub-Capacity pricing. IBM offers both MLC products and IPLA products with Sub-Capacity eligibility. For MLC products, licensed capacity may increase or decrease each month. However, for IPLA products, the licensed capacity cannot decrease once the license has been purchased. The following are some examples of Sub-Capacity eligible MLC/IPLA products:

- *Monthly License Charge - z/OS, DB2, IMS, CICS, MQSeries, NetView®, OPC, Tivoli® Workload Scheduler, System Automation, Lotus® Domino™ and more. For a complete list, visit ibm.com/zseries/library/swpriceinfo/mlc.html*
- *IPLA - The majority of zSeries IPLA programs now qualify for Sub-Capacity pricing. Execution-based IPLA programs, such as WebSphere Application Server, may be charged based upon the capacity of the LPAR(s) where they execute. Reference-based IPLA programs, such as DB2 Tools, CICS Tools and IMS Tools, may be charged based upon the sub-capacity MSUs of their parent program (DB2, CICS or IMS). For a complete list, visit ibm.com/zseries/library/swpriceinfo/ipla.html*

Sub-Capacity Metrics

IBM offers two Sub-Capacity capable pricing metrics for MLC software:

- *Workload License Charges (WLC) - Sub-Capacity charging for z900 and z990 customers. WLC is also available on z800 and z890, if the z800 or z890 participates in a qualified Parallel Sysplex .*
- *Entry Workload License Charges (EWLC) - Sub-Capacity charging for z800 or z890 customers.*

WLC and EWLC may each be implemented in one of two ways:

- *Full-Capacity - the price points of the WLC/EWLC metric are used; charges are based upon the full (rated) capacity of the machine.*
- *Sub-Capacity - the price points of the WLC/EWLC metric are used; charges are based upon the LPAR utilization of the LPAR(s) where each Sub-Capacity eligible product executes.*

Only when Sub-Capacity MLC pricing is successfully implemented on a particular machine, will that machine also be eligible for Sub-Capacity charging on eligible IPLA products, subject to IBM terms and conditions.

Full-capacity WLC/EWLC Prerequisites

Eligibility is assessed on a machine-by-machine basis.

WLC: For a machine to qualify for Full-Capacity WLC pricing, it must be a zSeries machine with a z/OS license. z800 or z890 machine must participate in a qualified Parallel Sysplex to qualify for WLC. All instances of z/OS on the machine must be executing in 64-bit mode.

z800 EWLC: For a z800 machine to qualify for Full-Capacity EWLC pricing, it must have a z/OS license. All instances of z/OS on the z800 must be executing in 64-bit mode.

z890 EWLC: All z890 machines qualify for Full-Capacity EWLC pricing, except the smallest z890 - the model 110. All instances of z/OS on the z890 must be executing in 64-bit mode.

The presence of OS/390, z/VM, VSE or Linux does not affect Full-Capacity WLC/EWLC eligibility.

Sub-Capacity WLC/EWLC Prerequisites

Eligibility is assessed on a machine-by-machine basis.

For a machine to qualify for Sub-Capacity pricing, it must be a zSeries machine fully migrated to z/OS. All instances of z/OS on the machine must be executing in 64-bit mode. The license and the use of OS/390 must be discontinued. The presence of z/VM, VSE or Linux does not affect Sub-Capacity eligibility.

Sub-Capacity Pricing also requires the use of the Sub-Capacity Reporting Tool (SCRT). Customers must use SCRT each month to generate a monthly Sub-Capacity Report for each zSeries machine with Sub-Capacity pricing. The Sub-Capacity Reports summarize the number of MSUs needed per product. Customers must submit to IBM, via e-mail, one Sub-Capacity Report per machine per month. These reports are used as the basis for Sub-Capacity pricing. For more information on SCRT, visit ibm.com/zseries/swprice/scrt

Workload License Charges

Workload License Charges is one of IBM's Sub-Capacity capable MLC pricing metrics, available for z900 and z990 customers. WLC is also available on z800 or z890, if the z800 or z890 participates in a qualified Parallel Sysplex cluster. When customers adopt the WLC pricing metric, all PSLC/ULC priced products will be moved to the WLC pricing metric. The WLC pricing metric has two charging categories: Variable WLC and Flat WLC.

Variable WLC

Under WLC, all Sub-Capacity eligible products have Variable WLC pricing. Variable WLC offers MSU-based pricing, with lower cost of incremental growth. Aggregation of MSUs is allowed across a fully qualified Parallel Sysplex cluster, subject to IBM terms and conditions.

Variable WLC Price Structure (Cumulative)

Base WLC	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

Flat WLC

Flat WLC products will have one simple "flat" charge per product, per zSeries server. This flat charge is independent of server capacity.

Entry Workload License Charge

Entry Workload License Charges is another one of IBM's Sub-Capacity capable MLC pricing metrics, available for z800 and z890 customers.

The EWLC price structure, for sub-capacity-eligible products, offers MSU-based cumulative pricing, with lower cost of incremental growth. Aggregation of MSUs is not allowed.

z800 Standalone

z800 standalone customers may choose to adopt EWLC pricing. If they choose to adopt the EWLC pricing metric, then all sub-capacity eligible products must be moved to the EWLC pricing metric. The remaining, non-sub-capacity eligible products will be priced using zSeries Entry License Charge (zELC) pricing. For more information on zELC, see page 7 of this document.

z890 Standalone

z890 standalone customers will have EWLC pricing. All sub-capacity eligible products will be priced using the EWLC pricing metric. The remaining, non-sub-capacity eligible products will be priced using the EWLC Tiered price structure. EWLC Tiered price structure, for non-sub-capacity products offers flat pricing based on z890 server capacity using a tiered structure. The EWLC Tiered price structure is exclusive to the z890 server.

Note:

The z890 capacity setting 110 is also priced using zELC. For more information on zELC, see page 7 of this document.

Parallel Sysplex License Charge

EWLC Price Structure (Cumulative)

Base EWLC	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

EWLC Tiered Price Structure (Flat)

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

Customers operating a z800 or a z890 in a qualified Parallel Sysplex may elect to have the z800 or z890 priced as a standalone machine (zELC, EWLC and EWLC Tiered) or may elect aggregated PSLC or aggregated WLC pricing, subject to applicable terms and conditions. If the customer selects aggregated pricing then zELC, EWLC and EWLC Tiered price structures do not apply.

Parallel Sysplex License Charges (PSLC) is a monthly license charge pricing metric where software charges are based upon the rated capacity of the machine(s) where a product executes. PSLC may be applied to many different types of mainframes including S/390 Enterprise servers, zSeries servers and others. PSLC may be applied to a standalone mainframe environment. Aggregation benefits apply across a fully qualified Parallel Sysplex environment. PSLC complements the function and flexibility provided by the Parallel Sysplex architecture. Significant capabilities of a Parallel Sysplex cluster include data sharing, high availability and the ability to dynamically balance work across the sysplex. PSLC is designed to provide improved price/performance as you grow. This lower cost of incremental growth is provided via the decreasing unit cost per MSU, a key element of the PSLC price structure.

Sysplex - In a fully qualified sysplex environment, PSLC software charges are based on the total MSU value for only those machines where the products execute. This provides you the flexibility to grow your sysplex either horizontally (grow an existing server) or vertically (add a new server) and experience similar incremental software costs.

Standalone - For a standalone (uncoupled) machine, PSLC charges are also available. Software charges for products executing in this environment are based on the MSU capacity of the machine. In an uncoupled environment, MSU values are not aggregated with any other machines.

PSLC Pricing Structure (Cumulative)

Base Charge	3 MSUs
Level A	4-45 MSUs
Level B	46-175 MSUs
Level C	176-315 MSUs
Level D	316 + MSUs

zSeries Entry License Charge

zSeries Entry License Charge (zELC) is a monthly license charge pricing metric designed especially to support the new IBM **@server** zSeries 800 (z800) server. IBM introduced zSeries Entry License Charge to deliver appropriate software price/performance for a variety of z800 customer needs. Customers who are migrating from a Multiprise® 3000 server to a small z800 may find price/performance similar to Growth Opportunity License Charge. Customers who are migrating from an S/390 Enterprise Server to a larger z800 server may find price/performance similar to Parallel Sysplex License Charge.

zSeries Entry License Charge is determined based on the particular z800 model (0E1, 0A1, 0B1, 0C1, 001, 0X2, 0A2, 002, 003, 004) where the software is licensed. For a z800 that actively participates in a Parallel Sysplex environment, customers may choose for that z800 either zELC or the applicable aggregated base pricing metric, either Parallel Sysplex License Charge or Workload License Charge, depending on PSLC/WLC terms and conditions. zELC is only offered on z800 machines.

Note:

The z890 capacity setting 110 is also priced using zELC.

z/OS.e Operating System

z/OS.e is a specially priced offering of the z/OS operating system providing select z/OS function. Exclusive to z800 and z890 z/OS.e is for new e-business workloads with an attractive cost of ownership. z/OS and z/OS.e are the same code, except certain z/OS functionality will not be available in a z/OS.e environment, such as the ability to execute CICS or IMS transactions.

z/OS.e is attractively priced, approximately 90% less expensive than z/OS. For zELC, WLC and PSLC customers, z/OS.e has a single monthly license charge per engine, regardless of the engine size. For EWLC customers, z/OS.e is a sub-capacity-eligible product and has EWLC MSU-based pricing. Middleware executing in a z/OS.e environment will be priced according to the base pricing metric (zELC, PSLC, WLC, EWLC) selected for that z800 or z890 machine.

z/OS.e also allows z800 and z890 customers to divide a machine into two portions: “new workload” and “traditional.” Applicable software products which are only executing on the “new workload” portion of the machine will only require a license for that portion of the machine. Likewise, applicable software products only executing on the “traditional” portion of the machine will only require a license for that portion of the machine. To divide a machine between traditional workload and new workload, the machine must have the z/OS.e operating system and at least one other operating system. For z800 or z890 machines with zELC, WLC or PSLC, the machine must have two or more physical engines and this logical division must occur on an engine boundary.

Other Pricing Metrics

- *S/390 Usage Pricing*
- *New Application License Charges*
- *VM/VSE Pricing*

S/390 Usage Pricing

IBM S/390 Usage Pricing, also known as Usage License Charges (ULC), offers an attractive pricing alternative for customers with either PSLC or GOLC monthly license charges. For a product with the ULC pricing metric, software charges are based upon the utilization of that product. Specifically, ULC charges are based upon the highest of the 12 monthly peaks, where the monthly peak is defined as the 4th highest utilization of that product each month. ULC does allow for sysplex aggregation across a fully qualified Parallel Sysplex cluster, if all terms are met. ULC is available to PSLC and GOLC customers. ULC price points are available for DB2, CICS, IMS and MQSeries. ULC provides a mechanism to deploy low-utilization software products across an enterprise, with excellent price/performance. In most cases, S/390 Usage Pricing provides improved price/performance for subsystems with peak utilization below 25% of installed capacity.

Usage License Charges requires submission of a yearly "Software Usage Report". IBM provides a reporting tool (ships with OS/390 V2 and z/OS) that analyzes 12 months of Systems Measurement Facility (SMF) data and generates the Software Usage Report. This annual report summarizes use over the past 12 months and establishes the Usage License Charges level for the next 12 months.

New Application License Charges

New Application License Charges (NALC) is available to customers who dedicate an entire mainframe server to a qualifying e-business application, such as WebSphere or a qualifying enterprise application such as SAP or PeopleSoft. For a product with the NALC pricing metric, there is a single low price per MSU per product and software charges are based upon the capacity of the machine where the product executes. NALC is available to PSLC and WLC customers. NALC provides low price points for z/OS, OS/390 and Domino Version 5.

NALC is available on a dedicated e-business mainframe that participates in a Parallel Sysplex environment. While NALC-priced products are not eligible for aggregation, other non-NALC middleware on the NALC machine may aggregate with middleware across the Parallel Sysplex environment, if all IBM terms are met.

It is suggested that zELC or EWLC customers rely on z/OS.e to obtain reduced price points for environments with e-business and/or enterprise applications.

VM/VSE Pricing

VM/VSE has two pricing metrics which have not yet been discussed in this document:

- *Graduated Monthly License Charges (GMLC), is model group pricing for machines that are rated at less than or equal to 80 MSUs*
- *Extended License Charges (ELC), is MSU-based pricing for machines that are rated at greater than 80 MSUs*

Refer to the following table to determine whether GMLC or ELC pricing should apply:

Table 3: MLC Pricing Metrics for VM/VSE

	zSeries server with WLC	z890 stand-alone	z800 stand-alone	Multiprise 3000	All Others
Flat WLC	X				
EWLC Tiered		X			
zELC			X		
GOLC				X	
GMLC/ ELC					X

Table 3 notes:

1. z/VM V4 and z/VM V5 are engine-based IPLA, they do not have monthly license charges. However, VM/VSE middleware in a z/VM environment would follow the rules in Table 3.
2. If a VM/VSE product does not have GOLC/zELC/Flat WLC/EWLC Tiered price, then the GMLC/ELC price applies.

Version to version upgrades

Customers moving to a new version of a licensed program may require continued use of an earlier version of the same program during the transition. Under some circumstances, such use may be permitted without payment for the earlier version, for a transition or migration period. This is known as Single Version Charging (SVC). Contact your IBM representative to determine SVC eligibility.



To learn more

Visit the zSeries Software Pricing Web site at ibm.com/zseries/swprice or call IBM DIRECT at 1 800 IBM-CALL in the United States and Canada.

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