Tivoli Software

IBM Tivoli Pricing Manual
Licensing Definitions and Pricing Examples

V11.06.27

Contents

IBM Tivoli Pricing Terminology Definitions

Note: The definitions below are either current pricing metrics or key terms used to currently license the products included in the examples as of May 2nd, 2011. This document is to assist in providing examples for new purchases of the products below. This is not intended to be an exhaustive list of metrics used through time for Tivoli products. Please refer to the License Information (LI) document that accompanies each product. Copies of the License Information document and base license for each product are available at http://www-03.ibm.com/software/sla/sladb.nsf. The base license and License Information document control the use of the product and may differ from the examples in this document.
// note definitions are also found at: http://www-01.ibm.com/software/lotus/passportadvantage/about_software_licensing.html

THIS LICENSE AND DEFINITION DOCUMENT AND THE RESULTS OBTAINED FROM IT ARE PROVIDED "AS IS" WITHOUT WARRANTY OF ANY KIND INCLUDING THE IMPLIED WARRANTIES OF MERCHANTIBILITY, FITNESS FOR A PARTICULAR PURPOSE OR AGAINST INFRINGEMENT.

Activated Processor Core
An Activated Processor Core is a processor core that is available for use in a physical or virtual server, regardless of whether the capacity of the processor core can be or is limited through virtualization technologies, operating system commands, BIOS settings, or similar restrictions. Licensee can deploy the Program using either Full Capacity licensing or Virtualization Capacity (Sub-Capacity) licensing according to the Passport Advantage Sub-Capacity Licensing Terms (see webpage below). If using Full Capacity licensing, each Activated Processor Core in the physical hardware environment managed by the Program must be counted, except for those servers from which the Program permanently no longer manages. If using Virtualization Capacity licensing, the Virtualization Capacity License Counting Rules that defines how many Activated Processor Cores must be counted, is located at:
http://www.ibm.com/software/lotus/passportadvantage/Counting_Software_licenses_using_specific_virtualization_technologies.html

Asset
An Asset is any tangible resource or item of value to be managed, including production equipment, facilities, transportation, IT hardware and software. Licensee must obtain entitlements for the total number of Assets accessed or managed by the Program.

Authorized User
Authorized User is a unit of measure by which the Program can be licensed. An Authorized User is a unique person that is given access to the Program. The Program may be installed on any number of computers or servers and each Authorized User may have simultaneous access to any number of instances of the Program at one time. Licensee must obtain separate, dedicated entitlements for each Authorized User accessing the Program in any manner directly or indirectly (for example: via a multiplexing program, device, or application server) through any means. An entitlement for an Authorized User is unique to that Authorized User and may not be shared, nor may it be reassigned other than for the permanent transfer of the Authorized User entitlement to another person.

Application Instance
Application Instance is a unit of measure by which the Program can be licensed. An entitlement is required for each instance of an application connected to or managed by the Program. An application in a test, development, staging, or production environment is each considered to be a separate instance of the application and each must have an entitlement. As well, multiple application instances in a single environment are each considered to be separate instances of the application and each must have an entitlement.

Client Device
Client Device is a unit of measure by which the Program can be licensed A Client Device is a single user computing device or special purpose sensor or telemetry device that requests the execution of or receives for execution a set of commands, procedures, or applications from or provides data to another computer system that is typically referred to as a server or is otherwise managed by the server. Multiple Client Devices may share access to a common server. A Client Device may have some processing capability or be programmable to allow a user to do work. Examples include, but are not limited to actuators, appliances, automated teller machines, automatic meter readers, cash registers, disk drives, desktop computers, kiosks, notebook computers, personal digital assistant, point-of-sale terminals, sensors, smart meters, tape drives, and technical workstations. Licensee must obtain entitlements for every Client Device which runs, provides data to, uses services provided by, or otherwise accesses the Program and for every other computer or server on which the Program is installed.

Concurrent User
Concurrent User is a unit of measure by which the Program can be licensed. A Concurrent User is a person who is accessing the Program at any particular point in time. Regardless of whether the person is simultaneously accessing the Program multiple times, the person counts only as a single Concurrent User. The Program may be installed on any number of computers or servers, but Licensee must obtain entitlements for the maximum number of Concurrent Users simultaneously accessing the Program. Licensee must obtain an entitlement for each simultaneous Concurrent User accessing the Program in any manner directly or indirectly (for example: via a multiplexing program, device, or application server) through any means

Limited Use Concurrent User (Deprecated)
Limited Use Concurrent User is a unit of measure by which the Program can be licensed. A Limited Use Concurrent User is a person who is given limited use access to the Program such as read-only capability and is accessing the Program at any particular point in time. Regardless of whether the person is simultaneously accessing the Program multiple times, the person counts only as a single Limited Use Concurrent User. The Program may be installed on any number of computers or servers, but Licensee must obtain entitlements for the maximum number of Limited Use Concurrent Users simultaneously accessing the Program. Licensee must obtain an entitlement for each simultaneous Limited Use Concurrent User accessing the Program in any manner directly or indirectly (for example: via a multiplexing program, device, or application server) through any means.

Engine
An engine is also referred to as a central processor (CP) or processor. Engines for traditional workloads are called General Purpose CPs. Engines for Linux workloads are called Integrated Facility for Linux (IFL) engines or Linux-only engines. Engines for Coupling Facility workloads are called Integrated Coupling Facility (ICF) engines.

Enterprise
Any legal entity (such as a corporation) and the subsidiaries it owns by more than 50 percent.

External User
An External User is a unique person that is given access to the program that is not part of, a contractor performing work on behalf of, or an employee of the licensee.

IBM Integrated Facility for Linux (IFL)
This optional facility enables additional processing capacity exclusively for Linux workload, with no effect on the model designation of a System z or OS/390 server. Consequently, executing Linux workload on the IBM IFL will not, in most cases, result in any increased IBM software charges for z/OS™, OS/390®, VM, VSE, or TPF operating systems or applications. There is, as indicated, a charge associated with the IFL, and there may also be a charge for applications that run on the IFL.

The IFL may be dedicated to a single Linux-mode logical partition or it may be shared by multiple Linux-mode logical partitions. Installations should note that the Linux workspace enabled by this facility will not support any of the S/390 traditional operating systems (OS/390, TPF, VSE, or VM). Only Linux applications or Linux operating in conjunction with the Virtual Image Facility, an environment that operates within a logical partition or in native S/390 mode and provides the capability to create multiple Linux images, is supported by the IBM S/390 IFL.

IBM Tivoli Directory Integrator Connected System

A connected system is any directory, database, application, or file integrated or merged by IBM Tivoli Directory Integrator.

IBM Tivoli Storage HSM for Windows Terabyte (TB) Capacity

IBM Tivoli Storage HSM for Windows TB capacity includes primary HSM disk storage pool size combined with the amount of utilized HSM removable media storage pool. Storage pools are configured on the IBM Tivoli Storage Manager server.

IBM System Storage Archive Manager TB Capacity

IBM System Storage Archive Manager Terabyte (TB) Capacity includes primary disk storage pool size combined with the amount of utilized primary removable media storage used by the IBM System Storage Archive Manager server.

Capacity notes:

- Capacity does not include:
  - Copy storage pools for the space-managed data that reside on disk.
  - Copy storage pools for the space-managed data that reside on removable media.
  - Space used on the IBM Tivoli Storage Manager server for any purpose other than the primary storage of space-managed data.
  - Disk on the host being space managed.
- A virtual tape library (VTL) is considered a removable media device, so capacity is based on utilization.
- The minimum amount of capacity that can be licensed is 1 TB.
- Partial capacity will be rounded up to the next whole number of TB.
- Additional capacity must be added in increments of 1 TB

IBM Total Storage Productivity Center TB Capacity

A TB capacity is each individual TB of storage capacity managed by the IBM TotalStorage Productivity Center products. Managed capacity for the IBM TotalStorage Productivity Center for Replication includes only the source and not the target devices.

IBM Tivoli Storage Manager Suite for Unified Recovery TB Capacity

A TB capacity is each individual TB of data stored within IBM Tivoli Storage Manager primary pools and IBM Tivoli Storage Manager FastBack repositories.

IBM Tivoli Storage FlashCopy Manager

A TB capacity is each individual TB of data of all volumes managed by Tivoli Storage FlashCopy Manager.

Install

Install is a unit of measure by which the Program can be licensed. An Install is an installed copy or instance of the Program on a physical or virtual disk made available to be executed on a computer. Licensee must obtain an entitlement for each Install of the Program.

Internal User

An Internal User is an authorized user that is part of the enterprise.

MSU
Millions of Service Units (MSU) is defined as millions of CPU service units per hour; the measure of capacity used to describe the computing power of the hardware processors on which S/390 or System z software runs. Processor MSU values are determined by the hardware vendor, IBM, or Software Compatible Vendors (SCVs).

For more detailed information about System z software pricing, go to:
http://www-1.ibm.com/servers/eserver/System z/library/refguides/sw_pricing.html

Network Node or Node
Network Nodes include routers, switches, hubs, and bridges that contain a network management agent. A single network node may contain any number of interfaces or ports. Licensee must obtain an entitlement for every Network Node managed by the Program.

Network Security Device
Network security device is any network-based security appliance or server running network security software that provides a source of security events or logs. Examples include, but are not limited to, firewalls, application firewalls, intrusion detection systems, intrusion protection systems, virtual private networks (VPNs), threat protection products (antivirus gateways), content filtering (Web, e-mail), identity and access management, directory servers, network anomaly behavior products, and multifunction security appliances.

Processor Value Unit
The Processor Value Unit (PVU) is a unit of measure by which the Program can be licensed. Proofs of Entitlement for PVUs are based on processor technology (defined within the PVU Table by Processor Vendor, Brand, Type and Model Number at http://www.ibm.com/software/lotus/passportadvantage/pvu_licensing_for_customers.html). IBM continues to define a processor, for the purpose of PVU-based licensing, to be each processor core on a chip.
Licensee must obtain entitlements sufficient to cover every activated processor core* in the environment which is made available to the Program. Unless the Program is sub-capacity eligible and Licensee has deployed the Program according to the Passport Advantage Sub-Capacity Licensing Terms (see http://www.ibm.com/software/lotus/passportadvantage/subcaplicensing.html), the Licensee must obtain entitlements sufficient to cover all activated processor cores* in the physical hardware environment.
* “Activated processor cores” are processor cores that are available for use in a physical or virtual server. When the Program is not licensed and deployed under the Sub-Capacity Licensing Terms, the physical hardware environment includes all processor cores:
1. That are activated (available for use) when the server is shipped by the manufacturer or
2. That is activated subsequently through activation codes licensed from the server manufacturer by the customer; in each case, regardless of whether the capacity of the processor cores can be or is limited through virtualization technologies, operating system commands, BIOS settings, or similar restrictions.

Resource Value Unit
Resource Value Unit (RVU) is a unit of measure by which the Program can be licensed. RVU Proofs of Entitlement are based on the number of units of a specific resource used or managed by the Program. Licensee must obtain sufficient entitlements for the number of RVUs required for Licensee's environment for the specific resources as specified in the table(s) below. RVU entitlements are specific to the Program and the type of resource and may not be exchanged, interchanged, or aggregated with RVU entitlements of another program or resource. The RVU tables are shown for each applicable product example below.

Server
Server is a unit of measure by which the Program can be licensed. A Server is a physical computer that is comprised of processing units, memory, and input/output capabilities and that executes requested procedures, commands, or applications for one or more users or client devices. Where racks, blade

enclosures, or other similar equipment is being deployed, each separable physical device (e.g., a blade or a rack-mounted device) that has the required components is considered itself a separate Server. For the purpose of Server-based licensing, Licensee must obtain entitlements for each Server which is made available to the Program, regardless of the number of processor cores and/or partitions in the Server or the number of copies of the Program on the Server.

Standby or Backup Systems

For programs running or resident on backup machines, IBM defines three types of situations: cold, warm and hot. In cold and warm situations, a separate entitlement for the copy on the backup machine is normally not required and typically no additional charge applies. In a hot backup situation, the customer needs to acquire other licenses or entitlements sufficient for that server. All programs running in backup mode must be solely under the customer's control, even if running at another enterprise's location.

As a practice, the following are definitions and allowable actions concerning the copy of the program used for backup purposes:

> **Cold:** A copy of the program may reside, for backup purposes, on a machine as long as the program is not started. There is no additional charge for this copy.
>
> **Warm:** A copy of the program may reside for backup purposes on a machine and is started, but is idling, and is not doing any work of any kind. There is no additional charge for this copy.
>
> **Hot:** A copy of the program may reside for backup purposes on a machine, is started, and is doing work. The customer must acquire a license or entitlement(s) for this copy and there will generally be an additional charge.

Doing work includes, for example, production, development, program maintenance, and testing. It also could include other activities such as mirroring of transactions, updating of files, synchronization of programs, data, or other resources (for example, active linking with another machine, program, database or other resource, and so on), or any activity or configurations that would allow an active hot switch or other synchronized switch-over between programs, databases, or other resources to occur.

In the case of a program or system configuration that is designed to support a high availability environment by using various techniques (for example, duplexing, mirroring of files or transactions, maintaining a heartbeat, active linking with another machine, program, database, or other resource,), the program is considered to be doing work in the hot situation and a license or entitlement must be obtained.

Terabyte (T/TB)

1 terabyte of managed storage = 2 to the 40^{th} power bytes = 1,099,511,627,776 bytes.

User Value Unit

User Value Unit (UVU) is a unit of measure by which the Program can be licensed. UVU Proofs of Entitlement are based on the number and type of Users for the given Program. Licensee must obtain sufficient entitlements for the number of UVUs required for Licensee's environment as specified in the table(s) below. The UVU entitlements are specific to the Program and type of user and may not be exchanged, interchanged, or aggregated with UVU entitlements of another program or type of user. The UVU tables are shown for each applicable product example below.

Value Units

A Value Unit (VU) is a unit of measure by which the Program can be licensed. Value Unit entitlements are based on the quantity of a specific designated measurement, for example MSUs, Users, Engines, Tape Drives, etc., for the given software. Licensee must obtain sufficient entitlements for the number of Value Units required for Licensee’s environment as specified in the specific Program terms. The Value Unit entitlements are specific to the Program and may not be exchanged, interchanged, or aggregated with other Value Unit entitlements of another program.

License and Definitions Document Purpose

Note: The examples below are current licensing examples for the products included as of May 2nd, 2011. This document is to assist in providing examples for new entitlements of the products below. This is not intended to be an exhaustive list of examples used through time for Tivoli products.

THIS LICENSE AND DEFINITION DOCUMENT AND THE RESULTS OBTAINED FROM IT ARE PROVIDED "AS IS" WITHOUT WARRANTY OF ANY KIND INCLUDING THE IMPLIED WARRANTIES OF MERCHANTIBILITY, FITNESS FOR A PARTICULAR PURPOSE OR AGAINST INFRINGEMENT.

Distributed pricing examples (Processor Core and Processor Value Unit based)

The following examples are provided to illustrate the customer's licensing requirements.

References to processor-based licensing do not represent the actual number of entitlements required. Entitlement requirements are Value Unit based. Processors referenced in these examples represent the designated measurement on which the required number of Value Unit entitlements will be calculated. The number of Value Units required per processor core will depend on the processor type. To determine the number of Value Unit entitlements required per processor core, refer to the Processor Value Unit conversion table on the Passport Advantage Web site

http://www.ibm.com/software/lotus/passportadvantage/pvu_licensing_for_customers.html

The pricing example below should be used to determine required license entitlements for the following distributed products:

- IBM Editor for Messages on Distributed Systems
- IBM Virtual Security Protection for VMware
- IBM Tivoli Access Manager for e-business:, for Enterprise Single Sign-On (ESSO) * , for Operating Systems *
- IBM Tivoli System Automation Integrated Operations Management*
- IBM Tivoli Composite Application Manager for Transactions *
- IBM Tivoli Contract Compliance Manager *
- IBM Tivoli Directory Server *
- IBM Tivoli Enterprise Console *
- IBM Tivoli IntelliWatch
- IBM Tivoli License Compliance Manager *
- IBM Tivoli Asset Discovery for Distributed*
- IBM Maximo Asset Management for Energy Optimization*
- IBM Tivoli Security Compliance Manager *
- IBM Tivoli Service Level Advisor
- IBM Tivoli Storage Manager *
- IBM Tivoli System Automation Application Manager
- IBM Tivoli System Automation for Multiplatforms
- IBM Tivoli Switch Analyzer *
- IBM Tivoli Workload Scheduler*

Products with an asterisk (*) indicator also have program-specific licensing terms, which are described later in this document. Consult the program-specific licensing terms to determine total licensing requirements for the applicable products.

Pricing example:
The following customer network (referred to as the core environment) applies to all of the examples to enable the reader to see where products tend to manage something less than the entire environment. The customer's overall core environment includes:

Distributed servers
- 20 uniprocessor cores
- 65 2-way servers
- 12 4-way servers
- One 8-way server
- One 12-way server with two virtual or logical partitions
- One 14-way server
- One 16-way Sun Ultra server with two 8-way physical partitions (only one of which is managed by Tivoli applications)
- One 24-way server
- One z800 server with two uniprocessor IFLs running Linux (also known as "Linux on System z")

  Note: *Linux on System z offerings may not be available for all Tivoli products. This licensing example assumes such availability. Linux on System z offerings have distinctly orderable part numbers in Passport Advantage, which should be used when ordering entitlements for IFLs running Linux.*

  If pricing products without a Linux on System z offering, you should exclude the z800 server entitlement requirement indicated below.

The customer wants to manage the applicable distributed server environment, which requires Processor Value Unit entitlements associated with the following number of processor cores:

Systems Managed	Quantity in Customer Environment	Processor cores to be Licensed
Uniprocessor core	20	20
2-way	65	130
4-way	12	48
8-way	1	8
12-way (2 logical partitions)	1	12
14-way	1	14
16-way (2 physical partitions, one of which is managed by Tivoli applications)	1	16
24-way	1	24
z800 server with 2 uniprocessor IFLs *(requires Linux on System z availability)*	1	2
Total Processors to be Licensed		274

IBM Tivoli Access Manager for Operating Systems

The customer wants to secure its distributed servers with UNIX operating systems (one 8-way, one 14-way, one 24-way) and 50 clients (technical workstations, each with two processor cores). The customer must obtain Processor Value Unit entitlements associated with the following number of processor cores:

Systems Managed	Quantity in Customer Environment	Processor cores to be Licensed
8-way	1	8
14-way	1	14
24-way	1	24
2-way (technical workstations)	50	100
Total Processor cores to be Licensed		146

NOTE: All UNIX systems require the per-Processor Value Unit entitlements, whether they are clients or servers.

IBM Tivoli System Automation Integrated Operations Management

The application or managing server (where the IBM Tivoli System Automation Integrated Operations Management server code is running) is the server to which the per-processor core licensing applies and is an exception to the Environment-Managed model.

The customer wants to enable secure remote control access from one of its servers. The customer manages access from one of its two-way servers. The customer must obtain Processor Value Unit entitlements associated with the following number of processor cores:

Managing System	Quantity in Customer Environment	Processor cores to be Licensed
2-way (managing server)	1	2
Total Processor cores to be Licensed		2

IBM Tivoli Composite Application Manager for Transactions

Client Response:
Count the number of clients on which the client response monitor will be run. For example, to monitor Lotus Notes on 100 Windows XP desktop systems requires 100 Client Device licenses.

Web response:
The customer wants to manage the Web server environment, which requires Value Unit entitlements associated with the following number of processor cores:

Systems Managed	Quantity in Customer Environment	Processor Cores to be Licensed
Uniprocessor core	20	20
2-way	65	130
4-way	12	48
8-way	1	8
12-way (2 logical partitions)	1	12
14-way	1	14
16-way (2 physical partitions, one of which is managed by Tivoli applications)	1	16
24-way	1	24
z800 server with 2 uniprocessor IFLs *(requires Linux on System z availability)*	1	2
Total Processor Cores to be Licensed		274

Robotic response:
Similar to Web response monitoring, but in the case of robotic response monitoring, the number of licenses is determined by where the robot is being run, sometimes called points of presence. It doesn't matter how many servers or devices make up the transaction. In this example, the customer wants to monitor transactions from several points of presence, which requires Value Unit entitlements associated with the following number of processor cores:

Systems managed	Environment	Licensed
Uniprocessor core	4	4
2-way	4	8
4-way	2	8
Total processor cores to be licensed		20

Transaction tracking:

Transaction tracking is licensed based on the environment through which the transaction is being tracked, which determines the number of required Value Units. In this example, the transactions run across the following environment:

Systems Managed	Quantity in Customer Environment	Processor Cores to be Licensed
Uniprocessor core	20	20
2-way	65	130
4-way	12	48
8-way	1	8
12-way (2 logical partitions)	1	12
14-way	1	14
16-way (2 physical partitions, one of which is managed by Tivoli applications)	1	16
24-way	1	24
z800 server with 2 uniprocessor IFLs *(requires Linux on System z availability)*	1	2
Total Processor Cores to be Licensed		274

IBM Tivoli Contract Compliance Manager

For IBM Tivoli Contract Compliance Manager, the application server (where the IBM Tivoli Contract Compliance Manager Server code is running) is the server to which the per-Processor Value Unit licensing applies and is an exception to the Environment-Managed model.

The customer must acquire the following entitlements:

Managing Systems	Quantity in Customer Environment	Processor Cores to be Licensed
Processor Cores	1	1
Total Processor Cores to be Licensed		1

IBM Tivoli Directory Server

IBM® Tivoli® Directory Server V6.3 is a powerful and authoritative enterprise directory infrastructure that is a critical enabler for enterprise security and delivers:

- Support for SHA-2 and Salted SHA-2 families of hashing algorithms to broaden encryption support
- Enhanced idsilist utility, with additional parameter to show details about specific instance
- Co-requisite currency with support for IBM DB2® V9.7, Global Secure Toolkit (GSKit) 8, IBM Enhanced WebSphere® Application Server V7.0, Abstract User Interface Markup Language (AUIML) V7.2, IBM Tivoli Directory Integrator V7.1, and Java™ 6

- Linux® and AIX® compiler upgrades
- Proxy support for schema updates
- Documentation enhancements with GUI-based scenarios

Pricing Example

The following customer network (referred to as the core environment) applies to all of the examples to enable the reader to see where products tend to manage something less than the entire environment. The customer's overall core environment includes:

Distributed servers

- 20 uniprocessors
- 65 2-way servers
- 12 4-way servers
- One 8-way server
- One 12-way server with two virtual or logical partitions, one 4-way and one 8-way (of which only the 4-way is managed by IBM Tivoli applications)
- One 14-way server
- One 16-way Sun Ultra server with two 8-way physical partitions (only one of which is managed by IBM Tivoli applications)
- One 24-way server
- One z9™ server with two IFLs running Linux on System z

The customer wants to manage the applicable distributed server environment, which requires Value Unit entitlements associated with the following number of processors:

Systems Managed	Quantity in Customer Environment	Processor Cores to be Licensed
Uniprocessor core	20	20
2-way	65	130
4-way	12	48
8-way	1	8
12-way (2 logical partitions)	1	4
14-way	1	14
16-way (2 physical partitions, one of which is managed by Tivoli applications)	1	8
24-way	1	24
z800 server with 2 uniprocessor IFLs *(requires Linux on System z availability)*	1	2
Total Processor Cores to be Licensed		258

IBM Tivoli Enterprise Console

There is a minimum order quantity of 30 processor cores for IBM Tivoli Enterprise Console. IBM Tivoli Enterprise Console does not require separate entitlements for the server that manages the environment.

IBM Tivoli Enterprise Console also requires Processor Value Unit entitlements associated with 250 processor cores to manage a non-IBM environment (per environment managed), even if the actual number of processor cores managed is less. The non-IBM environment charge applies to each non-IBM product that provides events to IBM Tivoli Enterprise Console, regardless of geographic location.

As an alternate example, assume the customer is using IBM Tivoli Enterprise Console to manage events from an HP OpenView environment. The HP OpenView server that is feeding events to IBM Tivoli Enterprise Console is a 4-way server.

The customer must acquire Processor Value Unit entitlements associated with the following number of processor cores:

Systems Managed	Quantity in Customer Environment	Processor Cores to be Licensed
HP 4-way server	1	250
Total Processor Cores to be Licensed		250

IBM License Metric Tool

Customers licensing software measured on Activated Processor Cores in either Full-Capacity or Sub-Capacity basis must use the IBM License Metric Tool (ILMT) to monitor the number of Activated Processor Cores in use by that software. The customer will install the ILMT server in a dedicated server and also install the ILMT agents to monitor ten (10) two-processor core (2-way) servers in full capacity mode (no partitions) and five (5) quad-core (4-way) processor servers with two virtual partitions in each physical server.

Licensing of the IBM License Metric Tool is on a "per establishment" basis, irrespective of the server environment being monitored. The customer is permitted to deploy an unlimited number of copies of the IBM License Metric Tool only on machines owned or leased by you that are located at a single physical site, including the surrounding campus and satellite offices.

IBM Tivoli License Compliance Manager & IBM Tivoli Asset Discovery for Distributed

The customer wants to use IBM Tivoli License Compliance Manager or IBM Tivoli Asset Discovery for Distributed to manage software license compliance on 3,500 user workstations. In addition, the customer will manage 30 2-way servers and 5 uniprocessor core servers with IBM Tivoli License Compliance Manager or IBM Tivoli Asset Discovery for Distributed.

Since licensing of IBM Tivoli License Compliance Manager & IBM Tivoli Asset Discovery for Distributed is for all systems managed by IBM Tivoli License Compliance Manager or IBM Tivoli Asset Discovery for Distributed, the customer must obtain Processor Value Unit entitlements associated with the following number of processor cores:

Systems Managed	Quantity in Customer Environment	Processor Cores to be Licensed
Uniprocessor core	3,505	3,505
2-way	30	60
Total Processor Cores to be Licensed		3,565

Note: There is a minimum order quantity of 50 processor cores to be licensed when placing the initial order for IBM Tivoli License Manager or IBM Tivoli Asset Discovery for Distributed.

IBM Cloudburst

IBM CloudBurst is a combination of IBM hardware, software, and services. The base IBM CloudBurst configuration consists of four IBM BladeCenter blade servers, an IBM System x management server, an IBM System Storage™ controller, IBM CloudBurst software, and Quickstart Implementation services. IBM CloudBurst software can only be entitled when configured with the applicable IBM CloudBurst hardware. Entitlement of the IBM CloudBurst software is based on processor cores being managed within the IBM CloudBurst BladeCenter chassis. Entitlement for IBM CloudBurst software is based on the Processor Value Units of the managed IBM BladeCenter blade servers.

Scenario 1
The customer has the IBM CloudBurst hardware configured with four blade servers -- one managing blade server and three managed blade servers. The customer will require the following entitlements for the IBM CloudBurst software:

IBM Cloudburst Hardware	Number of Cores per Blade Server	Number of Blade Servers in Chassis Required	Total Number of Core Entitlements
Managing Blades	12	1	0
Managed Blades	12	3	36
Total Entitlements Required			**36**

Scenario 2
The customer who licensed an IBM CloudBurst configured with four blades now adds one more managed blade server to the IBM CloudBurst configuration. The customer will require the following entitlements for IBM CloudBurst software in addition to the requirements above in scenario 1:

IBM Cloudburst Hardware	Number of Cores per Blade Server	Number of Blade Servers in Chassis Required	Total Number of Core Entitlements
Additional Managed Blade	12	1	12
Total Entitlements Required			**12**

IBM Tivoli Security Compliance Manager

IBM Tivoli® Security Compliance Manager (SCM) is a security policy compliance product that lets you define consistent security policies and monitor compliance of the defined security policies.
SCM provides security policies as guidelines for getting started. You may also modify these security policies and you may create new security policies. With SCM's automation and centralization features, the

time needed to manage security policies, establish compliance, and conduct security audits can be reduced.

Pricing Example

The customer wants to secure the following servers with UNIX operating systems (one 8-way, one 14-way, one 24-way) and 50 clients (technical workstations, each with two processor cores). The customer must obtain Processor Value Unit (PVU) entitlements associated with the following number of processor cores:

Systems Managed	Quantity in Customer Environment	Processor Cores to be Licensed (PVU Entitlements Obtained)
8-way	1	8
14-way	1	14
24-way	1	24
2-way (technical workstations)	50	100
Total Processor Cores to be Licensed (PVU entitlements obtained)		146

NOTE: All UNIX systems require the per-Processor Value Unit entitlements, whether they are clients or servers.

In addition to the core environment above, the customer's environment also includes 1,500 clients (for example workstations and laptops) to be managed by IBM Tivoli Security Compliance Manager. Therefore, in addition to the Processor Value Unit entitlements associated with the 274 processor cores the customer must also acquire license entitlements for the distributed clients as identified below:

Systems Managed	Quantity in Customer Environment	Client Entitlements Required
Clients	1,500	1,500
Total Client Entitlements		1,500

IBM Tivoli Storage Manager

Notes:

- License entitlements for IBM Tivoli Storage Manager or IBM Tivoli Storage Manager Extended Edition are required for all managed servers including the managing server. Licensing entitlement is Processor Value Unit based and both full capacity and sub-capacity licensing is offered.
- License entitlements for IBM Tivoli Storage Manager or IBM Tivoli Storage Manager Extended Edition are required for all Client Devices being managed.
- IBM Tivoli Storage Manager supports tape libraries (including virtual tape libraries) up to and including 4 drives or 48 slots. A Proof of Entitlement for IBM Tivoli Storage Manager Extended Edition is required to use any of the following function: disaster recovery manager, Network Data Management Protocol (NDMP), support of tape libraries (including virtual tape libraries) with more than 4 drives or more than 48 slots.

- Client Device entitlements for IBM Tivoli Storage Manager and IBM Tivoli Storage Manager Extended Edition are interchangeable.
- An IBM Tivoli Storage Manager server cannot be used to manage IBM Tivoli Storage Manager Extended Edition components.
- An IBM Tivoli Storage Manager Extended Edition server cannot be used to manage IBM Tivoli Storage Manager components.
- An IBM Tivoli Storage Manager server can communicate with and send data to an IBM Tivoli Storage Manager Extended Edition server.
- An IBM Tivoli Storage Manager Extended Edition server can communicate with, and send data to, an IBM Tivoli Storage Manager server.
- All NetApp Network Attached Storage (NAS) devices, that are being backed up, must be entitled.
- If the NAS device is backed up using NDMP, entitlement for IBM Tivoli Storage Manager Extended Edition is required.
- If the NAS device is backed up using Common Internet File System (CIFS) or Network File System (NFS), entitlement for either IBM Tivoli Storage Manager or IBM Tivoli Storage Manager Extended Edition is required.
- An IBM Tivoli Storage Manager for Storage Area Networks entitlement is required for each IBM Tivoli Storage Manager server that is sharing a library where an IBM Tivoli Storage Manager acts as the library manager. An entitlement is required for each library client and library manager. An IBM Tivoli Storage Manager for Storage Area Networks license entitlement is required for each system that performs LAN-free operations.

Scenario 1: The customer wants to do basic archiving and retrieval for all of the LAN-connected servers in its network. The customer environment consists of the following:

- 20 Client devices (laptops)
- 10 4-way servers
- Five 8-way mail servers
- Five 16-way database servers
- One 32-way server
- One 8-way managing server

The customer must obtain the following entitlements for IBM Tivoli Storage Manager or IBM Tivoli Storage Manager Extended Edition:

Systems Managed	Quantity in Customer Environment	Total Client Device Entitlements Required
Client Devices	20	20
Total Client Device Entitlements		20

Systems Managed	Quantity in Customer Environment	Processor Entitlements Required
4-way	10	40
8-way	5	40
16-way	5	80
32-way	1	32
8-way (managing server)	1	8
Total Processors to be Licensed		200

The customer must obtain the following additional entitlements for IBM Tivoli Storage Manager for Databases:

Systems Managed	Quantity in Customer Environment	Processor Entitlements Required
16-way	5	80
Total Processor Entitlements		80

Note: This example is valid for any database application supported by IBM Tivoli Storage Manager for Databases. IBM Tivoli Storage Manager or IBM Tivoli Storage Manager Extended Edition is required for each system with a database managed by IBM Tivoli Storage Manager for Databases.

The customer must obtain the following additional entitlements for IBM Tivoli Storage Manager for Mail:

Systems Managed	Quantity in Customer Environment	Processor Entitlements Required
8-way	5	40
Total Processor Entitlements		40

Note: This example is valid for any mail application supported by IBM Tivoli Storage Manager for Mail. IBM Tivoli Storage Manager or IBM Tivoli Storage Manager Extended Edition is required for each system with a mail server managed by IBM Tivoli Storage Manager for Mail.

Scenario 2: Assume the customer in Scenario 1 has a SAN and wants to do LAN-free backup using IBM Tivoli Storage Manager for Storage Area Networks. The customer must obtain the following entitlements for IBM Tivoli Storage Manager for Storage Area Networks in addition to the entitlements required in Scenario 1:

Systems Managed	Quantity in Customer Environment	Processor Entitlements Required
4-way	10	40
8-way	5	40
16-way	5	80
32-way	1	32
8-way (managing server)	1	8
Total Processors to be Licensed		200

Notes:

- In this scenario the managing server is also acting as the library manager and the customer wants to do LAN-free operations on all servers in their environment.
- IBM Tivoli Storage Manager for Storage Area Networks can be used with IBM Tivoli Storage Manager or IBM Tivoli Storage Manager Extended Edition. Entitlement for IBM Tivoli Storage Manager for Storage Area Networks is in addition to IBM Tivoli Storage Manager or IBM Tivoli Storage Manager Extended Edition.
- IBM Tivoli Storage Manager for Storage Area Networks includes a component called Tivoli SANergy®. The use of this component is limited to LAN-free backup and restore to disk.

Scenario 3: VMware environment with VMware Consolidated Backup (VCB) or VMware vStorage API

The customer environment consists of the following:

- ESX server 1 with four virtual servers, three running as file servers, and the fourth running as a SQL server.
- ESX server 2 with four virtual servers, three running as file servers, and the fourth running as a Microsoft Exchange server.
- Both ESX servers are consolidated using VCB onto a VCB proxy server.
- Each virtual machine is assigned one processor core.
- The customer is doing file-level backup only.

Notes:

- The IBM Tivoli Storage Manager or IBM Tivoli Storage Manager Extended Edition full capacity entitlement requirement to back up the VCB (or VMware vStorage API) environment requires that all physical system cores on the VMware ESX servers, being backed up by the proxy server, are to be entitled.
- The IBM Tivoli Storage Manager or IBM Tivoli Storage Manager Extended Edition sub-capacity entitlement requirement to back up the VCB (or VMware vStorage API) environment requires that the virtual cores, assigned to virtual machines on the VMware ESX servers being backed up by the proxy server, are to be entitled.

- The VCB (or VMware vStorage API) proxy server does not require entitlement for Tivoli Storage Manager, Tivoli Storage Manager Extended Edition, or "Tivoli Storage Manager for" products.

Full capacity requirement

Quantity of Processor Core Entitlements Required	ESX 1 (4 way)	ESX 2 (4 way)	Proxy Server (4 way	Total
TSM or TSM Extended Edition	4	4	0	8

Sub-capacity requirement

Quantity of Processor Core Entitlements Required	ESX 1 (4 way)	ESX 2 (4 way)	Proxy Server (4 way	Total
TSM or TSM Extended Edition	3	3	0	6

Note: Only the virtual machines running as file servers require entitlement since the customer is not doing application specific backup.

Scenario 4: VMware environment with IBM Tivoli Storage Manager or IBM Tivoli Storage Manager Extended Edition backup agent installed inside a virtual machine and the customer is backing up Oracle and Microsoft Exchange

The customer environment consists of the following:

- ESX server 1 with four virtual servers, three running as file servers, and the fourth running as an Oracle server.
- ESX server 2 with four virtual servers, three running as file servers, and the fourth running as a Microsoft Exchange server.
- Each virtual machine is assigned one processor core.

Notes:

- The full capacity IBM Tivoli Storage Manager or IBM Tivoli Storage Manager Extended Edition entitlement requirement is based on physical system cores and not virtual cores.
- The sub-capacity IBM Tivoli Storage Manager or IBM Tivoli Storage Manager Extended Edition entitlement requirement is based on virtual cores.

Full capacity requirements

Quantity of Processor Core Entitlements Required	ESX 1 (4 way)	ESX 2 (4 way)	Total
TSM or TSM Extended Edition	4	4	8
TSM for Databases	4	0	4
TSM for Mail	0	4	4

Note: If VMware VMotion is running across all ESX servers, enabling migration of virtual machines between the two ESX servers, then the ESX cluster is treated as the server at full capacity, which requires all cores on all ESX servers to be entitled. If VMotion is running in the above scenario, then IBM Tivoli Storage Manager Extended Edition, IBM Tivoli Storage Manager for Databases, and IBM Tivoli Storage Manager for Mail will each require eight cores to be entitled.

Sub-capacity requirements

Quantity of Processor Core Entitlements Required	ESX 1 (4 way)	ESX 2 (4 way)	Total
TSM or TSM Extended Edition	4	4	8
TSM for Databases	1	0	1
TSM for Mail	0	1	1

Note: If VMware VMotion is running across all ESX servers, enabling migration of virtual machines between the two ESX servers, entitlement requirements would not change from the above required entitlements.

Scenario 5: VMware environment with IBM Tivoli Storage Manager or IBM Tivoli Storage Manager Extended Edition backup agent running inside a virtual machine

The customer environment consists of the following:

- ESX server 1 with four virtual servers, three running as file servers, and the fourth running as an Oracle server.

Notes:

- The full capacity IBM Tivoli Storage Manager or IBM Tivoli Storage Manager Extended Edition entitlement requirement is based on physical system cores and not virtual cores.
- The sub-capacity IBM Tivoli Storage Manager or IBM Tivoli Storage Manager Extended Edition entitlement requirement is based on virtual cores.

Full capacity requirements

Quantity of Processor Core Entitlements Required	ESX 1 (4 way)	Total
TSM or TSM Extended Edition	4	4
TSM for Databases	4	4

Sub-capacity requirements

Quantity of Processor Core Entitlements Required	ESX 1 (4 way)	Total
TSM or TSM Extended Edition	4	4
TSM for Databases	1	1

IBM Tivoli Storage Manager for Virtual Environments

The customer environment consists of the following:

- vSphere (host) 1 with 12 virtual machines (guests).
- vSphere (host) 2 with 19 virtual machines (guests).

All of the guests on both vSphere servers (hosts) are protected using Tivoli Storage Manager for Virtual Environments V6.2.

Notes:

- Either IBM Tivoli Storage Manager or IBM Tivoli Storage Manager Extended Edition are prerequisite products for Tivoli Storage Manager for Virtual Environments and require entitlement on all physical system cores on the vSphere hosts. This entitlement applies only to the vSphere hosts protected by Tivoli Storage Manager for Virtual Environments.
- Tivoli Storage Manager for Virtual Environments is physically installed on a centralized vStorage backup server, which is a secondary or proxy machine that is used to perform the backup using the vStorage application programming interface (API). This secondary or proxy machine can be either a physical machine or a virtual machine. A single vStorage backup server can be used to protect one or more virtual machines that reside on one or more vSphere servers. The customer can use one or more vStorage backup servers.
- Entitlements for Tivoli Storage Manager for Virtual Environments, Tivoli Storage Manager, and Tivoli Storage Manager Extended Edition are not required on the vStorage backup server. Tivoli Storage Manager for Virtual Environment, Tivoli Storage Manager, and Tivoli Storage Manager Extended Edition entitlements are only required for the managed environment, which is the processor cores on the vSphere hosts running the virtual machines being protected.
- Tivoli Storage Manager for Virtual Environments can also be licensed under sub-capacity software licensing terms, if required. Processor Value Unit (PVU) sub-capacity licensing lets you license an eligible software product for less than the full capacity (or total number of processors) of your server or group of servers. It provides the licensing granularity needed to leverage various multicore chip and virtualization technologies. The sub-capacity software licensing terms are documented in the International Passport Advantage Agreement (IPAA) Attachment for Sub-capacity Licensing Terms (Sub-capacity Licensing Attachment).

Full capacity requirement

Scenario 1 - use a single vStorage backup server to protect both vSphere hosts

Quantity of Processor Core Entitlements Required	vSphere Host 1 (4-way)	vSphere Host 2 (8-way)	vStorage Backup Server (2-way)	Total
Tivoli Storage Manager or Tivoli Storage Manager Extended Edition	4	8	0	12
Tivoli Storage Manager for Virtual Environments	4	8	0	12

Scenario 2 - use two (2 way) vStorage backup servers to protect only the larger vSphere host

Quantity of Processor Core Entitlements Required	vSphere Host 1 (4-way)	vSphere Host 2 (8-way)	vStorage Backup Server 1 (2-way)	vStorage Backup Server 2 (2-way)	Total
Tivoli Storage Manager or Tivoli Storage Manager Extended Edition	0	8	0	0	8
Tivoli Storage Manager for Virtual Environments	0	8	0	0	8

IBM Tivoli Storage Manager FastBack

- Licensing for IBM Tivoli Storage Manager FastBack (TSM FastBack) is per processor core on protected servers.
- A protected server is a server that backs up to, or sends data to a TSM FastBack server. Protected servers also include any TSMFastback server sending its data to another TSM Fastback server or a server that restores TSM FastBack protected data.
- Licensing for Tivoli Storage Manager FastBack Center (TSM FastBack Center) is per protected server. TSM FastBack Center can only be used on a server that contains eight or less processor cores. If you have a server with more than eight cores, you must acquire one or more of the following: TSM FastBack, TSM FastBack for Microsoft Exchange, TSM FastBack for Bare Machine Recovery.
- Any TSM FastBack server that is backed up by TSM (or TSM Extended Edition) will require separate entitlements for TSM (or TSM Extended Edition).
- Separate entitlements for TSM (or TSM Extended Edition) are **not** required if the TSM FastBack protected servers are restored directly from a TSM (or TSM Extended Edition) server **and** those TSM FastBack protected servers were backed up initially to a TSM FastBack server which was then backed up by TSM (or TSM Extended Edition). In this situation, **only** the TSM Fastback server that was backed up by TSM (or TSM Extended Edition) would require TSM (or TSM Extended Edition) entitlements.
- TSM FastBack for Microsoft Exchange is supported only for use with data backed up by TSM FastBack or TSM for Mail.
- TSM FastBack is a prerequisite for TSM FastBack for Bare Machine Recovery.
- Licensing for Tivoli Storage Manager FastBack for Workstations is per 25 client devices

Example 1
The customer has two Tivoli Storage Manager FastBack servers, of which one is backing up three application servers and the other is backing up one application server that is virtualized. Each application server has four processor cores. Each Tivoli Storage Manager FastBack server has eight processor cores.

Systems Managed	Quantity in Customer Environment	Quantity of Processor Core Entitlements
TSM FastBack servers (8 processor cores)	2	0
Application server 4 processor cores	3	12

Virtualized application server 4 processor cores (2 logical partitions, 2 processor cores each, 1 of which is protected)	1	2
Total requirements		14

Note: Tivoli Storage Manager FastBack servers that are not protected servers do not require processor core entitlements. This example shows sub-capacity licensing for which a customer needs to agree to the terms of the Sub-capacity Licensing Attachment.

Example 2
Customer has two TSM FastBack servers, each backing up three application servers. Each application server has 4 processor cores. Each TSM FastBack server has 8 processor cores. On one of the TSM FastBack servers, data is replicated to a TSM FastBack disaster recover server at a disaster recovery site.

Systems Managed	Quantity in Customer Environment	Quantity of Processor Core Entitlements
TSM FastBack servers (8 processor cores)	2	8
Application server 4 processor cores (2 logical partitions)	3	12
Application server 4 processor cores (2 logical partitions, 1 of which is managed by Tivoli application)	3	12
Total Processor Core Entitlements		32

Note: TSM FastBack servers that are not protected servers; do not require processor core entitlements.

Example 3
Customer has two TSM FastBack servers, each backing up three application servers. In each group of three servers, one is a Microsoft Exchange Server, which requires item level exchange recovery capability. Each application server has 4 processor cores. Each TSM FastBack server has 8 processor cores. On one of the TSM FastBack servers, data is replicated to a TSM FastBack disaster recovery server at a disaster recovery site.

Systems Managed	Quantity in Customer Environment	Quantity of Processor Core Entitlements required for TSM FastBack	Quantity of Processor Core Entitlements required for TSM FastBack for MS Exchange
TSM FastBack servers (8 processor cores)	2	8	0
Application server 4 processor cores (2 logical partitions)	3	12	4
Application server 4 processor cores (2 logical partitions, 1 of which is	3	12	4

managed by Tivoli application)			
Total Processor Entitlements		32	8

Note: TSM FastBack servers that are not protected servers; do not require processor core entitlements.

Example 4
Customer has two TSM FastBack servers, each backing up 3 application servers, all of which need bare machine recovery. Each application server has 4 processor cores. Each TSM FastBack server has 8 processor cores. On one of the TSM FastBack servers, data is replicated to a TSM FastBack disaster recovery server at a disaster recovery site.

Systems Managed	Quantity in Customer Environment	Quantity of Processor Core Entitlements required for TSM FastBack	Quantity of Processor Core Entitlements required for TSM FastBack for Bare Machine Recovery
TSM FastBack servers (8 processor cores)	2	8	0
Application server 4 processor cores (2 logical partitions)	3	12	12
Application server 4 processor cores (2 logical partitions, 1 of which is managed by Tivoli application)	3	12	12
Total Processor Entitlements		32	24

Note: TSM FastBack servers that are not protected servers; do not require processor core entitlements.

Example 5
Customer has two TSM FastBack servers, each backing up three application servers, all of which are Microsoft Exchange servers that require item level recovery capability and need bare machine recovery. Since customer will require TSM FastBack, TSM FastBack for Microsoft Exchange, and TSM FastBack for Bare Machine Recovery, and have servers that are 8 processors cores or less, they can order TSM FastBack Center, which bundles all three products and is licensed on a per Server basis. Each TSM FastBack server has 8 processor cores and all application servers have 4 processor cores. On one of the TSM FastBack servers, data is replicated to a TSM FastBack disaster recovery server at a disaster recovery site.

Systems Managed	Quantity in Customer Environment	Quantity of Server Entitlements required for TSM FastBack Center
TSM FastBack servers (8 processor	2	1

cores)		
Application server 4 processor cores (2 logical partitions)	3	3
Application server 4 processor cores (2 logical partitions, 1 of which is managed by Tivoli application)	3	3
Total Processor Core Entitlements		7

Note: TSM FastBack Center servers that are not protected servers, do not require server entitlements.

IBM Tivoli Storage Manager FastBack for Workstations

The customer has 500 desktops and 1,000 laptops (1,500 client devices) and wants to backup all 1,500 client devices.

The customer must obtain the following client device entitlements of IBM Tivoli Storage Manager FastBack for Workstations for the desktops and laptops.

Systems Managed	Quantity in Customer Environment	Total Client Device Entitlements Required
Client Devices	1500	1500
Total Client Device Entitlements		1500 (Refer to Note 1)

Note 1: To license IBM Tivoli Storage Manager FastBack for Workstations for 1,500 client devices, the customer must license 60 of the 25 client device packs.

IBM Tivoli Switch Analyzer

Instead of the core environment in the main pricing example above, the customer's environment includes 100 network nodes to be managed by IBM Tivoli Switch Analyzer. These 100 network nodes (routers, switches, bridges, and hubs) have a total of 2,000 ports. The customer manages these from 1 of their two-way servers.

For IBM Tivoli Switch Analyzer, the application server (where the IBM Tivoli NetView or IBM Tivoli Switch Analyzer server code is running) is the server to which the per-Processor Value Unit licensing applies and is an exception to the Environment-Managed model.

The customer must entitle the ports and acquire Processor Value Unit entitlements based on the following:

Systems Managed	Quantity in Customer Environment	Entitlements Required
Ports	2,000	2,000
Total Entitlements		2,000

Managing System	Quantity in Customer Environment	Processor Cores to be Licensed
2-way (managing server)	1	2
Total Processor Cores to be		2

Licensed		

IBM Tivoli Workload Scheduler

The following customer network applies to all of the examples to enable the reader to see where products tend to manage something less than the entire environment. The customer's environment includes:

Distributed Servers

- 20 uniprocessor cores
- 65 2-way servers
- 12 4-way servers
- 1 8-way server
- 1 12-way server with two virtual or logical partitions
- 1 14-way server
- 1 16-way Sun Ultra server with two 8-way physical partitions (only 1 of which is managed by Tivoli applications)
- 1 24-way server

Others:

- 1 z800 server with two uniprocessor core IFLs running Linux
- 1 1,500 MSU System z server
- 500 workstations and 1,000 laptops (1,500 clients)
- 100 network nodes

The customer desires to schedule work on its 14-way distributed server and its 24-way distributed server. Thus, the customer must obtain Processor Value Unit entitlements associated with the following number of processor cores, for its distributed environment:

Systems Managed	Quantity in Customer Environment	Processor Cores to be Licensed
14-way	1	14
24-way	1	24
Total Processor Cores to be Licensed		38

IBM Tivoli Workload Scheduler for Applications

The customer desires to schedule work on its 14-way distributed server and its 24-way distributed server. The servers include 1 instance of Oracle (on the 14-way distributed server), one of SAP (on the 24-way distributed server), and 1 custom mainframe application (on the 14-way System z server). Thus, the customer must obtain Processor Value Unit entitlements associated with the following number of processor cores

Systems Managed	Quantity in Customer Environment	Processor Cores to be Licensed
14-way	1	14
24-way	1	24
14-way	1	14
Total Processor Cores to be Licensed		52

Notes:

- IBM Tivoli Workload Scheduler for Applications requires licensing for IBM Tivoli Workload Scheduler. For the purpose of licensing IBM Tivoli Workload Scheduler for Applications, licensing for IBM Workload Scheduler is per-processor core based on the server on which the IBM Tivoli Workload Scheduler for Applications product is installed. There is no longer a 1:1 licensing requirement for IBM Tivoli Workload Scheduler for Applications and for IBM Tivoli Workload Scheduler.
- Licensing for IBM Tivoli Workload Scheduler for Applications is per-processor core on the server where the application is scheduled
- For Enterprise Resource Planning (ERP) scheduling, entitlements are required for all of the ERP servers, applications, and databases.

Distributed Pricing Examples (Processor Cores and Client Devices on Resource Value Units)

General Example

The following products are entitled per activated cores on resource value units (RVUs) or client device on resource value units (RVUs.)

Products entitled by Activated Cores on RVUs
IBM Tivoli Monitoring
IBM Tivoli Monitoring for Virtual Servers
ITCAM for Application Diagnostics
ITCAM for Microsoft Applications
ITCAM for SOA *
ITCAM for Applications Agent
Tivoli Provisioning Manager
Tivoli Provisioning Manager for OSD
Tivoli Provisioning Manager for Images
Tivoli Service Automation Manager
IBM Service Delivery Manager for VMware
IBM Service Delivery Manager on POWER

Products entitled by Client Device on RVUs
IBM Tivoli Monitoring Universal Agent for Clients
Tivoli Provisioning Manager
Tivoli Provisioning Manager for OSD
Tivoli Provisioning Manager for Images

Products with an asterisk (*) indicator also have program-specific licensing terms, which are described later in this document. Consult the program-specific licensing terms to determine total licensing requirements for the applicable products.

Pricing examples for activated cores and client devices on RVUs.

The RVU table for Activated Processor Cores on RVUs is below:

Activated Core Table

Usage Level	Core Quantity		Required RVU/Core
	From	To	
Tier 1	0	2,500	1.00
Tier 2	2,501	10,000	0.80
Tier 3	10,001	50,000	0.60
Tier 4	50,001	150,000	0.40
Tier 5	150,001 and over		0.20

The RVU table for Client Devices on RVUs is below:

Client Device Table

Usage Level	Core Quantity		Required RVU/Core
	From	To	
Tier 1	0	2,500	1.00
Tier 2	2,501	10,000	0.90
Tier 3	10,001	25,000	0.80
Tier 4	25,001	50,000	0.70
Tier 5	50,001 and over		0.50

Pricing example 1:
A customer wishes to license for the servers in the following core environment:
Distributed servers
20 One Processor, Single Core servers
65 One Processor, Dual Core servers
12 Two Processor, Dual Core servers
10 Two Processor, Quad Core servers
One Eight Processor, Dual Core server with two virtual or logical partitions
One Four Processor, Quad Core server
One z800 server with two uniprocessor IFLs running Linux (also known as "Linux on System z")
Note: Linux on System z offerings may not be available for all Tivoli products. This licensing example assumes such availability. Linux on System z offerings have distinctly orderable part numbers in Passport Advantage, which should be used when ordering entitlements for IFLs running Linux.
If pricing products without a Linux on System z offering, you should exclude the z800 server entitlement requirement indicated below.
The customer wants to manage the applicable distributed server environment:

Systems Managed	Quantity in Customer Environment	Activated Processor Cores to be Licensed
One Processor, Single Core	20	20
One Processor, Dual Core	65	130
Two Processors, Dual Core	12	48
Two Processors, Quad Core	10	80
Eight Processors, Dual Core (2 Logical	1	16

Partitions		
Four Processors, Quad Cores	1	16
z800 server with 2 uniprocessor IFLs *(requires Linux on System z availability)*	1	2
Total Processors to be Licensed	**312**	**312**

Based on the 312 Activated Processor Cores, the customer would require 312 RVUs.

Pricing example 2:
A customer wishes to license in the following core environment:

- Servers with 45,000 Activated Processor Cores
- 25,000 Client Devices

The following calculation is used to determine the number of RVUs required to license the 45,000 Activated Processor Cores in the server environment:

Tier1	Quantity of Activated Processor Cores	RVUs
1	2,500	2,500
2	7,500	6,000
3	35,000	21,000
4	0	0
5	0	0
Total	**45,000**	**29,500**

The first tier based on the RVU table is used to calculate the first 2,500 Activated Processor Cores at a factor of 1 per core or in the case above 2,500 RVUs (2,500 x 1). The second tier is used to calculate the Activated Processor Cores from 2,501 to 10,000 at a .8 factor or (7,500 x .8 = 6,000). The third tier is used for those Activated Processor Cores between 10,001 and 50,000. In the example, 35,000 of the Activated Processor Cores reside in tier 3 or (35,000 x .6 = 21,000). Adding the RVUs together for each tier, the customer requires 29,500 RVUs to license the 45,000 Activated Processor Cores.

The following calculation is used to determine the number of RVUs required to license the 25,000 Client Devices in the environment.

Tier1	Quantity of Client Devices	RVUs
1	2,500	2,500
2	7,500	6,750
3	15,000	12,000
4	0	0

5	0	0
Total	**25,000**	**21,250**

The first tier based on the RVU table is used to calculate the first 2,500 Client Devices at a factor of 1 per core or in the case above 2,500 RVUs (2,500 x 1). The second tier is used to calculate the Client Devices from 2,501 to 10,000 at a .9 factor or (7,500 x .9 = 6,750). The third tier is used for those Client Devices between 10,001 and 25,000. In the example, 15,000 of the managed cores reside in tier 3 or (15,000 x .8 = 12,000). Adding the RVUs together for each tier, the customer requires 21,250 RVUs to license the 25,000 Client Devices.

Tivoli Endpoint Manager

All components of Tivoli Endpoint Manager (TEM) are licensed by activated cores on RVUs. However, client devices for TEM are not licensed per RVU. Client devices are licensed per device for all components of TEM.

Please use the pricing example 1 above for activated cores. For pricing example 2, please use the following.

Pricing example 2:
A customer wishes to license in the following core environment:

- Servers with 45,000 Activated Processor Cores
- 25,000 Client Devices

The following calculation is used to determine the number of RVUs required to license the 45,000 Activated Processor Cores in the server environment.

Tier1	Quantity of Activated Processor Cores	RVUs
1	2,500	2,500
2	7,500	6,000
3	35,000	21,000
4	0	0
5	0	0
Total	**45,000**	**29,500**

The first tier based on the RVU table is used to calculate the first 2,500 Activated Processor Cores at a factor of 1 per core or in the case above 2,500 RVUs (2,500 x 1). The second tier is used to calculate the Activated Processor Cores from 2,501 to 10,000 at a .8 factor or (7,500 x .8 = 6,000). The third tier is used for those Activated Processor Cores between 10,001 and 50,000. In the example, 35,000 of the Activated Processor Cores reside in tier 3 or (35,000 x .6 = 21,000). Adding the RVUs together for each tier, the customer requires 29,500 RVUs to license the 45,000 Activated Processor Cores.

In addition to the RVU entitlements for activated cores on the 45,000 servers, the customer would require 25,000 client device licenses to be entitled for the 25,000 client devices in the environment.

IBM Tivoli Usage and Accounting Manager Enterprise Edition

License entitlement for IBM Tivoli Usage and Accounting Manager Enterprise Edition has a fixed and variable component.

FIXED: An install license is required per environment being licensed.

VARIABLE:
Data collectors are the variable component and they are priced per Resource Value Unit (RVU). The resource for the purpose of the RVU calculation is Activated Processor Cores managed by the Program. An Activated Processor Core is a processor core that is available for use in a physical or virtual server, regardless of whether the capacity of the processor core can be or is limited through virtualization technologies, operating system commands, BIOS settings, or similar restrictions. Licensee can deploy the Program using either Full Capacity licensing or Virtualization Capacity (Sub-Capacity) licensing according to the Passport Advantage Sub-Capacity Licensing Terms (see webpage below). If using Full Capacity licensing, each Activated Processor Core in the physical hardware environment managed by the Program must be counted, except for those servers from which the Program permanently no longer manages. If using Virtualization Capacity Licensing, the Virtualization Capacity License counting rules at

http://www.ibm.com/software/lotus/passportadvantage/CountingSoftware_licenses_using_specific
virtualization_technologies.html
defines how many activated Processor Cores must be counted.

The RVU table for Managed Cores on RVUs is below:

Activated Core Table

Usage Level	Core Quantity		Required RVU/Core
	From	To	
Tier 1	0	2,500	1.00
Tier 2	2,501	10,000	0.80
Tier 3	10,001	50,000	0.60
Tier 4	50,001	150,000	0.40
Tier 5	150,001	and over	0.20

In addition, if advanced data collection is needed, then the Enterprise Data Collection Pack Value Unit license entitlements are required for each processor core where advanced data collection is being used. This Enterprise Data Collection Pack requires entitlement to the base Data Collection as a prerequisite.

Similarly, if network flow data collection is needed, then the Network Flow Collector Value Unit license entitlements are required for each processor core where network traffic is being processed.

PRICING EXAMPLE ONE:

A customer wishes to license for the servers in the following core environment:

Distributed servers:

- 20 One Processor, Single Core servers
- 65 One Processor, Dual Core servers
- 12 Two Processor, Dual Core servers
- 10 Two Processor, Quad Core servers
- One Eight Processor, Dual Core server with two virtual or logical partitions
- One Four Processor, Quad Core server
- One z800 server with two uniprocessor IFLs running Linux (also known as Linux on System z)

Systems Managed	Quantity in Customer Environment	Activated Processor Cores to be Licensed
One Processor, Single Core	20	20
One Processor, Dual Core	65	130
Two Processors, Dual Core	12	48

Two Processors, Quad Core	10	80
Eight Processors, Dual Core (2 Logical Partitions	1	16
Four Processors, Quad Cores	1	16
z800 server with 2 uniprocessor IFLs *(requires Linux on System z availability)*	1	2
Total Processors to be Licensed	**312**	**312**

The customer wishes to license entitlements for IBM Tivoli Usage and Accounting Manager with the base data collectors. For this environment the customer would need to license the following entitlements:

Systems Managed	Licenses Required
IBM Tivoli Usage & Accounting Manager - Install	1
IBM Tivoli Usage & Accounting Manager - Resource Value Units	312

If the customer wishes to license the entitlements required for the advanced enterprise data collection for this environment, the customer would need to license the following entitlements:

Systems Managed	Licenses Required
IBM Tivoli Usage & Accounting Manager - Install	1
IBM Tivoli Usage & Accounting Manager - Resource Value Units	312
IBM Tivoli Usage & Accounting Enterprise Collector Pack Resource Value Units	312

NOTE: The base data collectors are required to be licensed as a prerequisite for the Enterprise Data Collector Pack.

PRICING EXAMPLE TWO:

A customer wishes to license in the following core environment:

- Servers with 45,000 Managed Cores

The following calculation is used to determine the number of RVUs required to license the 45,000 managed cores in the server environment.

Tier1	Quantity of Activated Processor Cores	RVUs
1	2,500	2,500
2	7,500	6,000
3	35,000	21,000
4	0	0
5	0	0

Total	**45,000**	**29,500**

The first tier based on the RVU table is used to calculate the first 2,500 managed cores at a factor of 1 per core or in the case above 2,500 RVUs (2,500 x 1). The Second tier is used to calculate the managed cores from 2,501 to 10,000 at a .8 factor or (7,500 x .8 = 6,000). The third tier is used for those managed cores between 10,001 and 50,000. In the example, 35,000 of the managed cores reside in tier 3 or (35,000 x .6 = 21,000). Adding the RVUs together for each tier, the customer requires 29,500 RVUs to license the 45,000 managed cores.

Therefore, a customer would need to order the following IBM Tivoli Usage and Accounting Manager entitlements:

Systems Managed	Licenses Required
IBM Tivoli Usage & Accounting Manager - Install	1
IBM Tivoli Usage & Accounting Manager - Resource Value Units	29,500

IBM Tivoli Composite Application Manager for SOA Platform

DataPower SOA Appliances are priced using a fixed one processor charge. In addition to the core environment described above (processor value unit entitlements associated with the 274 Managed Processor requirement for the IBM Tivoli Composite Application Manager for SOA program), the customer decides to manage ten (10) DataPower SOA Appliances. The customer must obtain processor Value Unit entitlements associated with the following number of processors with a processor Value Unit assignment of 100 Value Units per processor:

No. of DataPower SOA appliances	Fixed 1 processor charge	Activated Processor to be Licensed
10	1	10

Distributed Pricing Examples (User Based, or both User & Processor Core)

IBM Maximo Asset Management

IBM Maximo Asset Management contains the following orderable components:

- IBM Maximo Asset Management
- IBM Maximo Asset Management Self Service Requestor
- IBM Maximo Asset Management Desktop Requisitioner
- IBM Maximo Asset Management for Linear Asset Management
- IBM Maximo Asset Management for Service Providers
- IBM Maximo Asset Management for Internal Service Providers
- IBM Maximo Scheduler
- IBM Maximo Asset Management Object Access for SMART Mobile Business Partners only
- IBM Maximo Everyplace

IBM Maximo Asset Management is licensed per Authorized User and Limited Use User. Authorized Users have full access to IBM Maximo Asset Management functionality while a Limited Use User has access to only three modules within IBM Maximo Asset Management. A customer may license just Authorized Users or both Authorized Users and Limited Use Authorized Users, but a customer may not exceed a ratio of three Limited Use authorized User licenses for every one Authorized User license owned in their Enterprise. If a customer has 100 users who require full access and 50 users who require limited access to IBM Maximo Asset Management, the following licensing scheme applies:

Pricing metric	Quantity in customer environment	License entitlements required
Authorized Users	100	100
Limited Use Users	50	50

IBM Maximo Asset Management Self Service Requestor and IBM Maximo Asset Management Desktop Requisitioner are licensed per Authorized User. All Authorized Users and Limited Use Users of IBM Maximo Asset Management include Self Service Requestor and Desktop Requisitioner functionality. If the customer has users that require access only to Self Service Requestor or Desktop Requisitioner functionality, then licenses for just that functionality can be licensed through IBM Maximo Asset Management Self Service Requestor and IBM Maximo Asset Management Desktop Requisitioner. If a customer has 100 users that require full access to Maximo, 25 users that require access to submit service requests and to enter self-service license requisitions, 10 users that only need to submit service requests, and 20 users that only need to enter self service license requisitions, the following license scheme applies:

- 100 Authorized Users of IBM Maximo Asset Management
- Users of IBM Maximo Asset Management Self Service Requestor
- Users of IBM Maximo Asset Management Desktop Requisitioner

IBM MAXIMO ASSET MANAGEMENT FOR MANAGED SERVICE PROVIDERS

IBM Maximo Asset Management for Managed Service Providers is licensed per Authorized User and per Limited Use User. IBM Maximo Asset Management for Managed Service Providers requires a 1:1 sync with the number of IBM Maximo Asset Management entitlements. Thus, if a customer using Maximo to provide services to its clients has 100 users that require full access, 50 users that require limited access,

and 250 users that require access only to submit service requests, the following licensing scheme applies:

Pricing metric	Quantity in customer environment	License entitlements required
IBM Maximo Asset Management Authorized Users	100	100
IBM Maximo Asset Management for Service Providers Authorized Users	100	100
IBM Maximo Asset Management Limited Use Users	50	50
IBM Maximo Asset Management for Service Providers Limited Use Users	50	50

IBM MAXIMO ASSET MANAGEMENT FOR INTERNAL SERVICE PROVIDERS

IBM Maximo Asset Management for Internal Service Providers is licensed per Authorized User and per Install and may not be used to provide services outside of the Customer's Enterprise. Unlike IBM Maximo Asset Management for Managed Service Providers, it does not require a 1:1 sync with the number of IBM Maximo Asset Management entitlements. If a customer has 500 users that require full access, 100 of whom will use Maximo to provide services to other departments within the enterprise, the following licensing scheme applies:

Pricing metric	Quantity in customer environment	License entitlements required
IBM Maximo Asset Management Authorized Users	500	500
IBM Maximo Asset Management for Internal Service Providers Authorized Users	100	100
IBM Maximo Asset Management for Internal Service Providers Install	1	1

IBM MAXIMO ASSET MANAGEMENT SCHEDULER

IBM Maximo Asset Management Scheduler is an add-on for scheduling work orders and forecasting preventive maintenance activities. This product is licensed per Authorized User. Each IBM Maximo Asset Management Scheduler Authorized User must also have a license or limited use license with work order access for IBM Maximo Asset Management or an IBM Maximo Industry Solution. For example, if a customer has 20 maintenance technicians, 3 administrators, plus 3 planners who schedule the maintenance efforts, then the following license scheme applies:

Pricing metric	Quantity in customer environment	License entitlements required

IBM Maximo Asset Management Authorized Users	26	26
IBM Maximo Asset Management Scheduler Authorized Users	3	3

IBM MAXIMO LINEAR ASSET MANAGEMENT

IBM Maximo Linear Asset Manager is a product add-on used for managing assets such as roads, pipelines, rail lines and transmission lines. This product is licensed per Authorized User. Each IBM Linear Asset Management Authorized must also have a license or limited use license with asset access for IBM Maximo Asset Management or an IBM Maximo Industry Solution.

IBM MAXIMO ASSET MANAGEMENT OBJECT ACCESS FOR SMART MOBILE BUSINESS PARTNERS ONLY

If a business partner sells Syclo SMART Mobile licenses to a customer without IBM involvement, the business partner must also sell a license of IBM Maximo Asset Management Object Access for SMART Mobile Business Partners Only for each Syclo SMART Mobile license sold. The following licensing scheme applies (this license is not required when Syclo SMART Mobile products are sold directly from IBM):

Pricing metric	Quantity in customer environment	License entitlements required
Syclo SMART Mobile for (product) Authorized Users	100	100
IBM Maximo Asset Management Object for SMART Mobile Business Authorized Users	100	100

IBM MAXIMO EVERYPLACE

IBM Maximo Everyplace is licensed per Authorized User. An IBM Maximo Everyplace Authorized User is required to have an existing entitlement to one or more of the following core products: IBM Maximo Asset Management, IBM Tivoli Asset Management for IT, IBM Tivoli Service Request Manager or Tivoli Change and Configuration Management Database. Self Service Requestors do not need to license an entitlement of IBM Maximo Everyplace to access IBM Maximo Everyplace functionality. Whether the user's entitlement for a core product is an Authorized User, Limited Use User, or Concurrent User, they must obtain an Authorized User entitlement to IBM Maximo Everyplace for that user. An Authorized User of IBM Maximo Everyplace can only access the modules for which the user is licensed in the core product, or those Everyplace applications derived from the originating modules using the IBM Maximo Everyplace interface.

Pricing metric	Quantity in customer environment	IBM Maximo Everyplace license entitlements required
Authorized Users	50	Up to 50
Limited Use Users	100	Up to 100
Self Service Requestors	500	Not required
Total IBM Maximo Everyplace Authorized User entitlements		Up to 150

An IBM Tivoli Asset Management for IT, IBM Tivoli Service Request Manager or Tivoli Change and Configuration Management Database customer might have the following environment and IBM Maximo Everyplace license requirements:

Pricing metric	Quantity in customer environment	IBM Maximo Everyplace license entitlements required
Authorized Users	15	Up to 15
Concurrent Users ('n' represents the number of users logged in the security module using concurrent license entitlements)	30	Up to n
Self Service Requestors*	NA	Not required
Total IBM Maximo Everyplace Authorized User entitlements		Up to 15 + n

IBM MAXIMO ASSET MANAGEMENT ESSENTIALS
IBM Maximo Asset Management Essentials enables smaller organizations to organize, track, and manage asset and work management processes with industry-leading technology. It is ideal for smaller organizations that require a subset of the extensive range of features in the IBM Maximo Asset Management product. The total number of Authorized Users acquired may not exceed twenty-five (25). The total number of Program installations may not exceed one (1) instance.

IBM MAXIMO INDUSTRY SOLUTIONS
The IBM Maximo Industry Solutions are:

- IBM Maximo for Nuclear Power
- IBM Maximo for Oil and Gas
- IBM Maximo for Transportation
- IBM Maximo for Utilities
- IBM Maximo for Life Sciences
- IBM Maximo for Government

The IBM Maximo Industry Solutions contain the following orderable components:

- IBM Maximo for (industry name)

- IBM Maximo for (industry name) Add-On

A customer may license Authorized Users of an Industry Solution or, if the customer already owns IBM Maximo Asset Management, the customer can license a trade up from an IBM Maximo Asset Management Authorized User or an IBM Maximo Asset Management Limited Use User to an Authorized User of an Industry Solution. IBM Maximo Industry Solutions are not licensed per Limited Use User.

An "Add-on User" is licensed on an Authorized User basis and is the addition to an Authorized User of a Maximo Industry Solution of an Authorized User of another IBM Maximo Industry Solution product. Both Industry Solutions must be licensed to the same user. The number of Add-on Users may not exceed the number of Authorized Users of the first IBM Maximo Industry Solution product.

For example, if a customer with 100 authorized users of IBM Maximo for Oil & Gas wishes to add-on 100 authorized users of IBM Maximo for Nuclear Power Add-On, the following licensing scheme applies:

	Quantity in Customer's Environment	Previous Licensed Entitlements	New License Entitlements	Users Entitled
Pricing Metric				
Maximo for Oil & Gas Authorized Users	100	100	0	100
Maximo for Nuclear Power Authorized User Add On	100	0	100	100

If a customer already owns 100 authorized users of IBM Maximo Asset Management and wishes to trade up to IBM Maximo for (industry name) authorized users, the following licensing scheme applies (note that Maximo Asset Management licenses are surrendered in exchange for new Maximo for (industry name) licenses):

	Quantity in Customer's Environment	Previous Licensed Entitlements	New License Entitlements	Users Entitled
Pricing Metric				
Maximo Asset Management Authorized Users	n/a	100	0	0
Maximo for (Industry Name) Authorized User trade-up	n/a	0	100	0
Maximo for (Industry Name) Authorized Users	100	0	0	100

If a customer already owns 100 limited use users of IBM Maximo Asset Management and wishes to trade-up to IBM Maximo for (industry name) Authorized Users, the following licensing scheme applies (note that Maximo Asset Management licenses are surrendered in exchange for new Maximo for (Industry Name) licenses):

Pricing Metric	Quantity in Customer's Environment	Previous Licensed Entitlements	New License Entitlements	Users Entitled
Maximo Asset Management Limited Use Users	n/a	100	0	0
Maximo for (Industry Name) Limited Use User Trade-up	n/a	0	100	0
Maximo for (Industry Name) Authorized Users	100	0	0	100

IBM MAXIMO CALIBRATION

IBM Maximo Calibration is sold as a product add-on in combination with core products: IBM Maximo Asset Management and IBM Maximo Industry Solutions except IBM Maximo for Life Sciences and Maximo for Nuclear Power which include the IBM Maximo Calibration applications. It is licensed per Authorized User only; Limited Use User, trade-up, add-on and concurrent license metrics do not apply.

IBM MAXIMO CHANGE AND CORRECTIVE ACTION MANAGER

IBM Maximo Change and Corrective Action Manager is sold as a product add-on in combination with IBM Maximo Asset Management and IBM Maximo Industry Solutions (except IBM Maximo for Oil & Gas and IBM Maximo for Nuclear Power which already include the Maximo Change & Corrective Action Manager applications). This product is not sold with IBM Tivoli Service Request Manager or IBM Tivoli Asset Management for IT. This product is licensed per Authorized User only; Limited Use User, trade-up, add-on and Concurrent User license metrics do not apply.
NOTE: There is a free entitlement to legacy customers owning licenses of
IBM Maximo Change and Configuration Management Database.

IBM MAXIMO ADAPTER FOR MICROSOFT PROJECT & IBM MAXIMO ADAPTER FOR PRIMAVERA

IBM Maximo Adapter for Microsoft Project and IBM Maximo Adapter for Primavera are licensed per Authorized User and per Concurrent User. The Concurrent User option may only be used in conjunction with a Concurrent User license for IBM Tivoli Asset Management for IT, IBM Tivoli Service Request Manager, or IBM Tivoli Change and Configuration Management Database. The customer is required to have an equal or greater number of Concurrent User licenses for IBM Tivoli Asset Management for IT, IBM Tivoli Service Request Manager, and IBM Tivoli Change and Configuration Management Database as the number of Concurrent User entitlements for the IBM Maximo Adapter for Microsoft Project or IBM Maximo Adapter for Primavera.

IBM MAXIMO MOBILE SUITE
There are three IBM Maximo Mobile Suite products built with the same architecture as Maximo that can be run on hand-held devices: IBM Maximo Mobile Inventory Manager, IBM Maximo Mobile Work Manager and IBM Maximo Mobile Asset Manager. IBM Maximo Mobile Suite products are available with Authorized User and Concurrent User licenses but Concurrent User licenses apply only when licensed with Concurrent Users of IBM Tivoli Asset Management for IT, IBM Tivoli Service Request Manager, or IBM Tivoli Change and Configuration Management Database. If, in addition to the IBM Maximo mobile products, a user requires access to applications in the core IBM Maximo Asset Management, IBM Tivoli Asset Management for IT, IBM Tivoli Service Request Manager or IBM Tivoli Change and Configuration Management Database products, the user must also be licensed for those products. An Add-on license option is available for each of the mobile products if the user is already licensed as an Authorized User or

Limited Use User in the core products. Users requiring access to both core product applications and one or more of the mobile products should get (or have) the core user license (either an Authorized User or Limited Use User) first and then add the mobile Add-on license for each of the mobile products. An Add-on option is not available for concurrent users.

For example, facility maintenance department uses IBM Maximo Asset Management to manage a headquarters office building and 3 warehouses and wants to buy IBM Maximo Mobile Work Manager. This customer has the following environment:

- 10 facilities where people maintain the office building and the 3 warehouses and want to perform mobile work management
- All 10 users work remotely at least part of the time
- 1 of the 10 already has access to a workstation and uses Maximo at her desk with an Authorized Users license
- 3 of the 10 already have access to workstations and are partial users with Limited Use Authorized User licenses

For this example, the following license scheme would apply:

Pricing metric	Quantity in customer environment	License entitlements required
IBM Maximo Asset Management Authorized Users	1	1
IBM Maximo Asset Management Limited Use Users	3	3
IBM Maximo Maximo Mobile Work Manager Add-on Authorized User	4	4
IBM Maximo Maximo Mobile Work Manager Authorized User	6	6

IBM MAXIMO SPATIAL ASSET MANAGEMENT

IBM Maximo Spatial Asset Management is sold as a product add-on in combination with IBM Maximo Asset Management and IBM Maximo Industry Solutions except IBM Maximo for Utilities which includes the IBM Maximo Spatial Asset Management applications. Customers buy IBM Maximo Spatial Asset Management priced in two components, per Authorized User and per Install, and customers must license at least one of each. A customer may own a combination of IBM Maximo for Utilities Industry Solution, an Authorized User license for IBM Maximo Asset Management and a Limited Use Authorized User license for IBM Maximo Asset Management. The two IBM Maximo Asset Management users may also be licensed for IBM Maximo Spatial Asset Management in which case the customer is not required to license an Install license - only an Authorized User license - for IBM Maximo Spatial Asset Management. No add-on or trade-up metrics apply.

IBM MAXIMO ASSET CONFIGURATION MANAGER

IBM Maximo Asset Configuration Manager is licensed per Authorized User or per Asset. These licensing metrics are exclusive: one or the other may be acquired by the customer, but not both. Contact your IBM sales representative for assistance in determining whether you should license per Authorized User or per Asset.

IBM MAXIMO Enterprise Adapter
IBM Maximo Enterprise Adapter contains the following components:

- IBM Maximo Enterprise Adapter for SAP
- IBM Maximo Enterprise Adapter for Oracle Applications

The Maximo Enterprise Adapter is business interface that enables real-time information exchange between base Maximo products and 3rd Party applications (SAP R/3, my SAP, Oracle E-Business Suite applications) by providing bi-directional connectivity with pre-built integrations between them. It is used with base products including Maximo Asset Management, Maximo Industry Solutions, Tivoli Asset Management for IT and Tivoli Service Request Manager. The IBM Maximo Enterprise Adapter is licensed per Install.
IBM MAXIMO SPACE MANAGEMENT FOR FACILITIES
IBM Maximo Space Management for Facilities is a stand-alone solution that does not have to be used in combination with other Tivoli products. This product is licensed per Authorized User. For example, a customer has a campus of 15 buildings for corporate offices and R&D space. This company has the following environment:

- 100 facilities engineers and maintenance technicians who maintain the buildings and building systems
- 3 space planners who are responsible for optimally assigning people and groups to different buildings and floors based on space requirements, functional needs and cost constraints
- 1 architect who does graphical design layout of changes to space and location of building systems

For this environment, the following license scheme applies:

Pricing metric	Quantity in customer environment	License entitlements required
IBM Maximo Asset Management Authorized Users	100	100
IBM Maximo Space Management for Facilities Authorized Users	4	4

IBM MAXIMO ARCHIVING WITH INFOSPHERE OPTIM DATA GROWTH SOLUTION
IBM Maximo Archiving with InfoSphere Optim Data Growth Solution is licensed per authorized user and requires an authorized user for every IBM Maximo Asset Management authorized user and limited use user in its IBM Maximo environment. This bundle provides the customer with both IBM InfoSphere Optim Software and the adapter required to integrate it with IBM Maximo Asset Management software. If a customer has 100 authorized users and 300 limited use users in its IBM Maximo environment, the following licensing scheme applies:

Pricing Metric	Quantity in customer environment	License entitlements required
IBM Maximo Asset Management Authorized User	100	100
IBM Maximo Asset Management Limited Use User	300	300
IBM Maximo Archiving with Optim Data Growth Solution Authorized User	400	400

If a customer already owns IBM InfoSphere Optim Data Growth Solution and IBM Maximo Asset Management, the customer may integrate the two sets of software using the IBM Maximo Archiving Adapter for InfoSphere Optim Data Growth Solution. This adapter requires an authorized user for every IBM Maximo Asset Management authorized user and limited use user in its IBM Maximo environment. If a customer has 100 authorized users and 300 limited use users in its IBM Maximo environment, the following licensing scheme applies:

Pricing Metric	Quantity in customer environment	License entitlements required
IBM Maximo Asset Management Authorized User	100	100
IBM Maximo Asset Management Limited Use User	300	300
IBM Maximo Archiving Adapter for Optim Data Growth Solution Authorized User	400	400

IBM Tivoli Asset Management for IT

IBM Tivoli Asset Management for IT contains the following orderable components:

- IBM Tivoli Asset Management for IT
- IBM Tivoli Asset Management for IT Self Service Requestor
- IBM Tivoli Asset Management for IT Desktop Requisition
- IBM Tivoli Asset Management for IT Service Providers
- IBM Tivoli Asset Management for IT Internal Service Providers

IBM Tivoli Asset Management for IT and IBM Tivoli Asset Management for IT Service Providers are licensed per authorized user and concurrent user. A customer has the choice between the metrics and may license under one or both models. IBM Tivoli Asset Management for IT Self Service Requestor and IBM Tivoli Asset Management for IT Desktop Requisition are licensed per authorized user. IBM Tivoli Asset Management for IT Internal Service Providers is licensed by Authorized User and per Install.

If a customer has 100 authorized users and 50 concurrent users for IBM Tivoli Asset Management for IT, the following licensing scheme applies:

	Quantity	License

Pricing metric	in customer environment	entitlements required
Authorized User	100	100
Concurrent User	50	50

IBM Tivoli Asset Management for IT Self Service Requestor and IBM Maximo Asset Management for Desktop Requisitioner are licensed per Authorized User (for Desktop Requisition functionality, a customer would need to license IBM Maximo Asset Management for Desktop Requisitioner). All Authorized Users and Concurrent Users of IBM Tivoli Asset Management for IT include Self Service Requestor and Desktop Requisitioner functionality. If the customer has users that require access only to Self Service Requestor or Desktop Requisitioner functionality, then licenses for just that functionality can be licensed through IBM Tivoli Asset Management for IT Self Service Requestor and IBM Maximo Asset Management for Desktop Requisitioner. If a customer has 100 dedicated users that require full access to IBM Tivoli Asset Management for IT, 25 users that require access to submit service requests and to enter self-service license requisitions, 10 users that only need to submit service requests, and 20 users that only need to enter self service license requisitions, the following license scheme applies:

- 100 Authorized Users of IBM Tivoli Asset Management for IT
- 35 Users of IBM Tivoli Asset Management for IT Self Service Requestor
- 45 Users of IBM Maximo Asset Management Desktop Requisitioner

IBM Tivoli Service Request Manager

The IBM Tivoli Service Request Manager (TSRM) is priced per Authorized User and Concurrent User.

License entitlement is priced per authorized user, concurrent user, or a combination of both. An authorized user may log on to TSRM at any point in time without restriction. The maximum number of concurrent users who may log on simultaneously must be less than or equal to the number of entitled concurrent user licenses. There is no charge for end users (sometimes referred to as self-service requestors).

Pricing Example 1:

A customer wishes to license Tivoli Service Request Manager to help manage an environment of 5,000 employees with 130 service-desk personnel. Of the 130 service-desk personnel, 10 are service desk supervisors who must be able to log on at any point without restriction. The remaining 120 service-desk personnel are service-desk representatives who are scheduled to work during each of three shifts as follows:

- First shift: 40 Representatives
- Second shift: 40 Representatives
- Third shift: 40 Representatives

40 is the maximum number of concurrent users who will need to be logged on during a single shift.

In this example, the customer must license 10 authorized user licenses and 40 concurrent user licenses of TSRM. No licenses are required for the 5,000 employees (the end-users or sometimes called, self service requestors).

Note that the number of service desk personnel and number of employees in this example is not intended to imply a standard ratio. The ratio (as well as authorized user and concurrent user license entitlements) can vary by enterprise.

Pricing Example 2:

A large customer wishes to license Tivoli Service Request Manager to improve the overall efficiency of their global help desk. The customer's IT organization includes two major help desk locations ("Location A" and "Location B")in two different time zones. Each location will require a separate instance of Tivoli Service Request Manager (and thus separate user licenses per install location). The number of service desk personnel at both locations totals 500.

"Location A" employs 250 service desk personnel. 25 of these 250 are supervisors who guide teams of service desk representatives or manage service catalog content and delivery. These supervisors must be able to log in to Tivoli Service Request Manager at any time without restriction. The remaining 225 service desk representatives work across multiple shifts, with a maximum of 75 logging at once.

"Location B" is staffed in the same manner as location A.

In this example the customer must license TSRM entitlements for 50 authorized users and 150 concurrent users.

50 Authorized Users = 25 supervisors for "Location A" + 25 supervisors for "Location B"
150 = 75 service desk reps for "Location A" + 75 service desk reps for "Location B"

IBM TIVOLI ASSET MANAGEMENT FOR IT FOR SERVICE PROVIDERS & IBM TIVOLI SERVICE REQUEST MANAGER FOR SERVICE PROVIDERS

IBM Tivoli Asset Management for IT for Service Providers and IBM Tivoli Service Request Manager are licensed per Authorized User and per Concurrent User. Each Service Provider offering requires a 1:1 sync with the number of core product entitlements (IBM Tivoli Asset Management for IT or IBM Tivoli Service Request Manager). Thus, if a customer using IBM Tivoli Asset Management for IT to provide services to its clients has 100 users that require full access, 50 users that require concurrent access, and 250 users that require access only to submit service requests, the following licensing scheme applies:

Pricing metric	Quantity in customer environment	License entitlements required
IBM Tivoli Asset Management For IT Authorized Users	100	100
IBM Tivoli Asset Management for IT for Service Providers Authorized Users	100	100
IBM Tivoli Asset Management for IT Concurrent Users	50	50
IBM Tivoli Asset Management for IT for Service Providers Concurrent Users	50	50

IBM TIVOLI ASSET MANAGEMENT FOR IT FOR INTERNAL SERVICE PROVIDERS & IBM TIVOLI SERVICE REQUEST MANAGER FOR INTERNAL SERVICE PROVIDERS

IBM Tivoli Asset Management for IT for Internal Service Providers and IBM Tivoli Service Request Manager for Internal Service Providers are licensed per Authorized User and per Install and may not be used to provide services outside of the Customer's Enterprise. The Internal Service Provider offering does not require a 1:1 sync with the number of core product entitlements (IBM Tivoli Asset Management for IT

or IBM Tivoli Service Request Manager). If a customer has 500 users that require full access, 100 of whom will use IBM Tivoli Service Request Manager for Internal Service Provider to provide services to other departments within the enterprise, the following licensing scheme applies:

Pricing metric	Quantity in customer environment	License entitlements required
IBM Tivoli Service Request Manager Authorized Users	500	500
IBM Tivoli Service Request Manager for Internal Service Providers Authorized Users	100	100
IBM Tivoli Service Request Manager for Internal Service Providers Install	1	1

Distributed Pricing Examples (User Value Unit and Processor Core Based Products)

The following scalable usage table is used to determine the required Value Units per 1,000 users. The price per User Value Unit (UVU) will be different for each part number. Some Tivoli Security products may have an additional pricing metric (such as Processor Value Unit) dependent upon market expectations. The Tivoli Security products have User Value Unit pricing:

- IBM Tivoli Directory Integrator Identity Edition
- IBM Tivoli Federated Identity Manager
- IBM Tivoli Identity Manager
- IBM Tivoli Identity Manager Host and Application Adapters
- IBM Tivoli Access Manager for e-business
- IBM Tivoli Access Manager for Enterprise Single Sign-On
- IBM Tivoli Identity and Access Assurance
- IBM Tivoli Identity and Access Manager
- IBM Tivoli Unified Single Sign -On

NOTE: Bundles of, and Trade-ups from/to, the above Tivoli Security per User Value Unit based products, all use the following table as well.

Scalable Usage Level	1	2	3	4
Chargeable Users	1 - 5K	>5K - 15K	>15k - 50K	>50K-150K
Value Units per 1,000 Chargeable Users	1,000	500	300	200

Scalable Usage Level	5	6	7	8
Chargeable Users	>150K-500K	>500K - 1M	>1M - 3M	>3M
Value Units per 1,000 Chargeable Users	100	50	25	10

The pricing model for Tivoli Security per User Value Unit products is enhanced if your systems support a large number of external users. The price for these external users is not the same as for internal users. Tivoli Security families priced per User Value Unit now use a ratio of fifteen external users equal one chargeable user for the purpose of calculating User Value Units (UVUs). Each Internal user equals one chargeable user for the purpose of calculating User Value Units. Infrequent internal users that utilize their IDs less than 5 times a year, and are grouped so as to be traceable and auditable, will be granted a ratio if fifteen (15) infrequent internal users equal one (1) chargeable user for the purpose of calculating Value Units.

Internal (at 1:1) and External (at 15:1) chargeable users are summed together and the total chargeable users are entered into the volume tiering table to calculate the total User Value Units (UVUs) required to cover entitlements. You may mix internal users, external users, and infrequent internal users within your total User Value Units.

Same User Value Unit Table as above, but in a different format that shows cumulative chargeable user totals per Tier. To calculate your User Value Units to order, identify the partial tier in which your total chargeable users fall, calculate User Value Units for that partial tier, and add the User Value Units for that partial tier to the previous cumulative tier total. See the examples for each per User Value Unit product.

Tiers	Charge-able Users	Factor per 1,000 (A)	000's of Charge-able Users in Tier (B)	Total User Value Units (UVUs) in Full Tier (A*B)	Cum Total for 2 Tiers	Cum Total for 3 Tiers	Cum Total for 4 Tiers	Cum Total for 5 Tiers	Cum Total for 6 Tiers	Cum Total for 7 Tiers
Tier 1	250-5k	1,000	5	5,000						
Tier 2	>5k-15k	500	10	5,000	10,000					
Tier 3	>15k-50k	300	35	10,500		20,500				
Tier 4	>50k-150k	200	100	20,000			40,500			
Tier 5	>150k-500k	100	350	35,000				75,500		
Tier 6	>500k-1M	50	500	25,000					100,500	
Tier 7	>1M-3M	25	2,000	50,000						150,500
Tier 8	>3M	10	TBD	- - - - - -						
	UVU SUM of 7 Full Tiers =			150,500						

User Value Units are set per 1000 chargeable users and are rounded up to the next 100. Minimum order quantity is 250 with increments of 100. For example, a customer requiring 153 users to charge for, will be rounded up to 250 chargeable users for the purpose of calculating User Value Units to order. For 2,390 chargeable users, the number would be rounded up to 2400 chargeable users for the purpose of calculating User Value Units to order. Customers may mix internal users, external users, and infrequent internal users within their User Value Unit totals

Examples of mixing and matching to obtain total user value units.

User Value Unit Price Metric Example	A	B	C	D	E	
	Internal Users	Chargeable Internal Users at 1:1	External & Infrequent Internal Users	Chargeable External & Infrequent Internal Users at 15:1	Total Chargeable Users (B+D)	User Value Units to Order
Chargeable User Example 1	57,000	57,000	0	0	57,000	21,900
Chargeable User Example 2	50,000	50,000	105,000	7,000	57,000	21,900
Chargeable User Example 3	30,000	30,000	405,000	27,000	57,000	21,900

Mix and match Internal & External chargeable Users Example 4:

Assume customer GREEN initially has 12,000 company employees and 1,500,000 external users. All of these are authorized users. The total chargeable users are calculated as follows:

- 12,000 internal users = 12,000 chargeable users
- 1,500,000 external users = 1,500,000/15 = 100,000 chargeable users
- Customer GREEN must sum these chargeable users together and license the Value Units required for a total of 112,000 chargeable users.
- If customer GREEN grows to 20,000 company employees and finds that it only needs to entitle approximately 1,380,000 external users (customers, business partners, suppliers), then the total chargeable users are calculated as follows:
- 20,000 internal users = 20,000 chargeable users (20,000 chargeable users at 1:1)
- 1,380,000 external users = 1,380,000/15 = 92,000 chargeable users (at 15:1)
- Customer GREEN would still be covered with their entitlements, as their chargeable user total of 112,000 has not changed. This allows the customer flexibility to accommodate changes in their environment over time.

IBM Tivoli Directory Integrator UVUs (Identity Edition) and Processor Core Based (General Purpose Edition)

IBM Tivoli Directory Integrator is an open-architecture, metadirectory solution that synchronizes and exchanges information across multiple applications and platforms, providing a consistent enterprise-level view of identity or generic data.

For IBM Tivoli Directory Integrator Identity Edition, the same scalable usage table will be used to determine the required Value Units per 1,000 chargeable users as is used for all Tivoli Security per User Value Unit priced products. Tivoli Security families priced per User Value Unit now use a ratio of fifteen external users equal one chargeable user for the purpose of calculating User Value Units (UVUs). Each Internal user equals one chargeable user for the purpose of calculating User Value Units. Infrequent internal users that utilize their IDs less than 5 times a year, and are grouped so as to be traceable and auditable, will be granted a ratio if fifteen (15) infrequent internal users equal one (1) chargeable user for the purpose of calculating Value Units.

Chargeable users are summed up and the volume tiering table then is utilized to calculate the total User Value Units (UVUs) required to cover entitlements. You may mix internal users, external users, and infrequent internal users within your total User Value Units.

Pricing Example

Scenario 1

Transaction 1: Customer ABC is using Tivoli Directory Integrator Identity Edition for an environment comprised of three connected systems with a total of 2,500 unique internal users (employees). Each of these 2,500 internal users equals one chargeable user (or 2,500 total chargeable users). As previously stated, the incremental amount is 100 after the first 250 chargeable users. Therefore for the purpose of calculating User Value Units to order, chargeable user quantity remains 2500 chargeable users.

In this scenario, since all of the users that require a charge fall into the first tier and are a straight one-to-one (chargeable users to User Value Units), the 2,500 chargeable users equates to 2,500 User Value Units to order.

Scenario 2

Transaction 1: A customer is using IBM Tivoli Directory Integrator Identity Edition for an environment comprised of 3 connected systems with 30,000 unique internal corporate users and 15,000 infrequent factory employees (usage less than 5 times per year).

The chargeable authorized users are counted as follows:

- The 30,000 internal users equate to 30,000 chargeable users (at 1 internal user equals 1 chargeable user).
- The 15,000 infrequent factory workers (infrequent internal users) equate to 1,000 chargeable users (at 15 infrequent internal users equals 1 chargeable user, whose usage must be traceable and auditable at less than 5 times per year).

This equates to 31,000 chargeable users for the purpose of calculating User Value Units. All users are counted one time regardless of the number of connections. Based on 31,000 chargeable users, the total number of User Value Units required is as follows:

Pricing Metric	Quantity in Customer Environment (A)	Value Units per 1,000 Registered Users (B)	Value Units Required (A*B)/1,000
Tier 1	5,000	1,000	5,000
Tier 2	10,000	500	5,000
Tier 3	16,000	300	4,800
Total Value Units to Order			14,800

Transaction 2: The customer, 6 months after Transaction 1, now requires IBM Tivoli Directory Integrator Identity Edition for its environment which has grown to 4 connections and now includes 375,000 external users in addition to the existing 30000 internal chargeable users and 15,000 infrequent factory employees (usage less than 5 times per year). . Applying the 15 to 1 ratio of external users to chargeable users, the 375,000 external users equates to 25,000 chargeable users, and a new total of 56,000 chargeable users.

Authorized users are counted as follows: The 420,000 authorized users (30,000 internal users + 15,000 infrequent internal users + 375,000 external users = 420,000 authorized users) equates to 56,000 chargeable users for the purpose of calculating User Value Units to order.

Based on 56,000 chargeable users, the total number of User Value Units required is as follows:

Pricing Metric	Quantity in Customer Environment (A)	Value Units per 1,000 Chargeable Users (B)	Value Units Required (A*B)/1,000
Tier 1	5,000	1,000	5,000
Tier 2	10,000	500	5,000
Tier 3	35,000	300	10,500
Tier 4	6,000	200	1,200
Total Value Units			21,700
Less currently licensed from Transaction 1			(14,800)
Additional Value Units required			6,900

IBM Tivoli Directory Integrator General Purpose Edition (Processor Value Unit)

IBM Tivoli Directory Integrator General Purpose Edition offers a Processor Value Unit (PVU) priced offering.

Pricing Example

Scenario 1

Transaction 1: Company A wants to entitle usage of IBM Tivoli Directory Integrator General Purpose Edition with Change and Configuration Management Database (CCMDB) and use IBM Tivoli Directory Integrator General Purpose Edition to pull systems information from their custom applications into CCMDB. In addition, they want to use IBM Tivoli Directory Integrator General Purpose Edition to directly integrate other custom data with MRO Maximo on two other servers, which is outside the scope of the CCMDB license. (IBM Tivoli Directory Integrator is only bundled for CCMDB integration.) The desired data spans three geographic locations, driving the requirements for three separate installations. In location A1, Company A plans to install IBM Tivoli Directory Integrator General Purpose Edition on a dual-CPU server, while in locations A2 and A3, single CPU computers are utilized. To support their configuration, the customer must license PVUs for 2 processor cores at site A1, 1 processor core at site A2, and 1 processor core at site A3, which equals 4 total processor cores on 3 servers.

Scenario 2

Transaction 1: Company B wants to deploy Alphablox but needs to bring enterprise data from a number of Excel spreadsheets into the Alphablox environment. They want to use IBM Tivoli Directory Integrator General Purpose Edition for this purpose because they recognize that, even though initial data is in Excel format, later expansion of the Alphablox usage may be able to leverage the wide range of data sources from which IBM Tivoli Directory Integrator General Purpose Edition can extract data. For this entitlement, IBM Tivoli Directory Integrator General Purpose Edition is installed on one dual-processor core computer, requiring Company B to license PVUs required to entitle both processor cores on the server.

Transaction 2: In addition, Company B has 15 trading partners that need to similarly extract data from their own systems and provide such data to Company B on a regular basis. As the initiator of this initiative, Company B has requested that its trading partners use IBM Tivoli Directory Integrator General Purpose Edition to move their data. Company B plans to install IBM Tivoli Directory Integrator General Purpose Edition on a quad-CPU server, and therefore must license PVUs required to entitle 4 processor cores. In addition, most of the trading partners have chosen to participate in setting up their environments in support of this initiative. Each of these trading partners has installed IBM Tivoli Directory Integrator

General Purpose Edition on a single-CPU server. Each customer is required to license PVUs required for their single processor core.

IBM Tivoli Federated Identity Manager (FIM)

IBM Tivoli Federated Identity Manager provides federated single sign-on capability in a way that can minimize the impact on business applications to help reduce costs and deployment timeframes for integrating applications into a collaboration infrastructure.

Both IBM Federated Identity Manager, and Federated Identity Manager for zOS, uses the User Value Unit volume tiering table is used to determine the required User Value Units. This is the same table as is used for all Tivoli Security per User Value Unit priced products. Tivoli Security families priced per User Value Unit now use a ratio of fifteen external users equal one chargeable user for the purpose of calculating User Value Units (UVUs). Each Internal user equals one chargeable user for the purpose of calculating User Value Units. Infrequent internal users that utilize their IDs less than 5 times a year, and are grouped so as to be traceable and auditable, will be granted a ratio if fifteen (15) infrequent internal users equal one (1) chargeable user for the purpose of calculating Value Units.

Chargeable users are summed up and the volume tiering table then is utilized to calculate the total User Value Units (UVUs) required to cover entitlements. You may mix internal users, external users, and infrequent internal users within your total User Value Units.

FIM for zOS requires both License and Subscription & Support User Value Unit entitlements.

Pricing Example

Scenario 1

Transaction 1: Customer ABC initially wants to deploy Tivoli Federated Identity Manager for the following user configuration:

- 2,000 employees of ABC who access Web applications from HTTP and J2EE application servers. These authorized users access services on Enterprise ABC's portal and may use the ABC portal to access third-party Web applications.
- 10,000 employee remote internet users whose accounts are stored in the enterprise's IBM Directory Server. These users access services on Enterprise ABC's portal and may use the ABC portal to access third-party Web Applications.

Total chargeable users required are 12,000 (calculated at 1:1) for the purpose of calculating the 8,500 User Value Units to order. Calculation is as follows:

Pricing Metric	Quantity in Customer Environment (A)	Value Units per 1,000 Chargeable Users (B)	Value Units Required (A*B)/1,000
Tier 1	5,000	1,000	5,000
Tier 2	7,000	500	3,500
Total Value Units to Order			8,500

Transaction 2

After the initial license, customer ABC wants to secure access for an additional 1,500,000 external authorized users as follows:

- 500,000 external users whose accounts are stored in the customer's Directory Server. These users access services on ABC's portal and may use the ABC portal to access third-party Web applications.
- 1,000,000 third-party users who sign on to their own company portal and use their company's portal to access ABC's portal. Customer ABC does not maintain local accounts and passwords for these third-party users to sign on directly to ABC's portal.

NOTE: Applying the 15:1 ratio for External Users, this would calculate as 100,000 chargeable users (1,500,000 / 15 = 100,000 users to charge for).

Customer ABC must license 100,000 additional chargeable users of Federated Identity Manager based on the 15 to 1 ratio on the external users to chargeable users.

Total chargeable users increase by 100,000 to 112,000.

Pricing Metric	Quantity in Customer Environment (A)	Value Units per 1,000 Chargeable Users (B)	Value Units Required (A*B)/1,000
Tier 1	5,000	1,000	5,000
Tier 2	10,000	500	5,000
Tier 3	35,000	300	10,500
Tier 4	62,000	200	12,400
Total Value Units	112,000		32,900
Less currently licensed from Transaction 1			(8,500)
Value Units to Order			24,400

Scenario 2: Processor Core-based pricing with unlimited users within processor core count

Assume Enterprise ABC prefers unlimited user access for their environment and has the following configuration:

- Two 2-way servers running WebSEAL
- One 4-way server running the Policy Server and Authorization Server
- One 6-way server running FIM

The customer will be required to license the appropriate number of Processor Value Units (PVUs) to entitle the total number of processor cores as identified in the following table:

Tivoli Federated Identity Manager - Unlimited User Option (PVUs)

Systems Managed	Quantity in Customer Environment	Processor Core Entitlements Required
2-way	2	4
4-way	1	4
6-way	1	6
Total Processor Core Entitlements		14

Notes:

- The Unlimited User Option applies only to the 14 processor cores licensed. If the customer moved FIM from a 6-way to an 8-way server, PVUs for an additional 2 processor cores would be required.
- There is a minimum order quantity of 14 processor cores for the IBM Tivoli FIM Unlimited User Option.
- Processor cores are counted only once under the FIM license. If the Policy server and the Authorization server run on the same processor cores, they are counted only once.

Scenario 3 - Trade-up to IBM Tivoli Federated Identity Manager from Tivoli Access Manager for e-business

Transaction 1: Customer XYZ currently owns 40,500 User Value Units (150,000 chargeable users) of IBM Tivoli Access Manager for e-Business, and plans to trade-up to Tivoli Federated Identity Manager. The customer can take their existing User Value Unit entitlement of IBM Tivoli Access Manager for e-Business, and trade it in for 150,000 chargeable users of IBM Tivoli Federated Identity Manager using the announced trade-up part number. Customer XYZ would then have 40,500 User Value Units of IBM Tivoli Federated Identity Mgr.

IBM Tivoli Identity Manager (Distributed, zLinux, zOS)

IBM Tivoli Identity Manager is an automated, and policy-based solution that manages user access across IT environments. Through the use of roles, accounts, and access permissions, it helps automate the creation, modification, and termination of user privileges throughout the entire user lifecycle.

All of the Tivoli Identity Manager per User Value Unit products (Tivoli Identity Manager, Tivoli Identity Manager for Application Adapters, Tivoli Identity Manager for Host Adapter, Tivoli Identity Manager for zOS) use the same per User Value Unit scalable usage table as the other Tivoli Security per User Value Unit priced products to determine the required User Value Units per 1,000 chargeable users. The price per User Value Unit (UVU) will be different for each part number. Tivoli Security families priced per User Value Unit now use a ratio of fifteen external users equal one chargeable user for the purpose of calculating User Value Units (UVUs). Each Internal user equals one chargeable user for the purpose of calculating User Value Units. Infrequent internal users that utilize their IDs less than 5 times a year, and are grouped so as to be traceable and auditable, will be granted a ratio if fifteen (15) infrequent internal users equal one (1) chargeable user for the purpose of calculating Value Units.

Chargeable users are summed up and the volume tiering table then is utilized to calculate the total User Value Units (UVUs) required to cover entitlements. You may mix internal users, external users, and infrequent internal users within your total User Value Units.

TIM for zOS requires User Value Unit entitlements for both License, and Subscription/Support.

Pricing Example

Scenario 1:

Transaction 1: In Phase 1, customer ABC wants to initially secure access for the following users and adapters through one 4-way server for its 12,000 Internal users: Each Internal user equals one (1) Chargeable user.

- 12,000 Internal users of LDAP
- 12,000 Internal users of Lotus Notes
- 12,000 Internal users of SAP R3
- 2,000 Internal users of RACF

First, total the users for the class of adapters within a part number. A current list of adapters is available at:

- http://www-306.ibm.com/software/sysmgmt/products/support/IBMTivoliIdentityManager.html

Transaction 1

In this example, LDAP and Lotus Notes are no longer separately priced and are included in the license price of the base part number. SAP R3 is in the Application class and RACF is in the Host adapter class. The environment is 12,000 Internal users of Tivoli Identity Manager Base, 12,000 Internal users of Application, and 2,000 Internal users of Host.

	A	B	C	D	E	F
Pricing Metric	**Internal Users**	**Internal Chargeable Users at 1:1**	**Infrequent Internal Users(5 times/year)**	**External Users**	**Infrequent Internal and External Users at 15:1**	**Total Chargeable Users**
Identity Manager	12,000	12,000	0	0	0	12,000
Identity Manager for Applications	12,000	12,000	0	0	0	12,000
Identity Manager for Host	2,000	2,000	0	0	0	2,000

Since the users are all Internal users (column A), they equate to Chargeable users (column B) on a 1 to 1 basis (where one Internal User equals one Chargeable user). There are no External users, or infrequent Internal users to factor in. The Total Chargeable users are calculated column F. In the table below, column G applies the volume tiering discount factor (from the Scaleable Usage Model Table above) to the Chargeable users for that tier, with the resulting User Value Units required to license for entitlement in Column H.

Pricing Metric	Chargeable Users Scale	Total Chargeable Users	User Value Units per 1,000 Chargeable Users	User Value Units Required ((F)*(G))/1,000
Identity Manager				
Tier 1	1-5,000	5,000	1,000	5,000
Tier 2	>5,000 - 15,000	7,000	500	3,500
	Total chargeable =>	12,000	Total User Value Units =>	8,500
Identity Manager for Applications				
Tier 1	1-5,000	5,000	1,000	5,000
Tier 2	>5,000 - 15,000	7,000	500	3,500
	Total chargeable =>	12,000	Total User Value Units =>	8,500
Identity Manager for Host				
Tier 1	1 - 5,000	2,000	1,000	2,000
	Total chargeable=>	2,000	Total User Value Units=>	2,000

Total User Value Units to order are in column H.

NOTE: There is a minimum order quantity of 250 users for both Tivoli Identity Manager and each adapter, the Chargeable user quantity is raised to the next incremental 100 quantity.

Transaction 2

In Phase II, customer ABC wants to secure access for 1,000 additional Internal users with LDAP, Notes and SAP R3. Company ABC also wants to entitle 150,000 External users (mostly suppliers, business partners and consumers) to use the LDAP and Access Manager adapters. Finally, company ABC has 22,500 factory and construction employees who access their benefit information once or twice a year (if at all), and fall into the Infrequent Internal User category. This is an increase of 173,500 users of Identity. The additional users in the new environment for ABC's users would look as follows:

- 173,500 additional users of Tivoli base with LDAP, Access Manager, and Lotus Notes, or 12,500 Chargeable users. See calculation below:
- 1,000 Internal Users (1,000 Chargeable users at 1:1)
- 150,000 External Users (10,000 Chargeable users at 1:15)
- 22,500 Infrequent Internal Users (1,500 Chargeable users at 1:15)
- 1,000 additional Internal users of SAP R3 (1,000 Chargeable users of Application Adapters at 1:1)

The LDAP, Access Manager, and Lotus Notes adapters are counted in the base are not priced separately. For the remaining adapters, the incremental value units are calculated taking advantage of the scalable user table and Customer ABC's previous license.

	F	G	H
Pricing Metric	**Phase 1 Chargeable Users**	**Phase 2 Incremental Chargeable User**	**New Total Chargeable Users in ABCs Environment**
Identity Manager	12,000	12,500	24,500
Identity Manager for Applications	12,000	1,000	13,000
Identity Manager for Host	2,000	0	2,000

		F	G	H
Pricing Metric	**Chargeable Users Scale**	**New Total Chargeable Users**	**User Value Units per 1,000 Chargeable Users**	**User Value Units Required ((F*G))/1,000**
Identity Manager				
Tier 1	1,000 - 5,000	5,000	1,000	5,000
Tier 2	5,000 - 15,000	10,000	500	5,000
Tier 3	15,000 - 50,000	9,500	300	2850
	Total Chargeable=>	24,500	Total User Value Units=>	12,850
Identity Manager for Applications				
Tier 1	1,000 - 5,000	5,000	1,000	5,000
Tier 2	5,000 - 15,000	8,000	500	4,000
	Total Chargeable=>	13,000	Total User Value Units=>	9,000
Identity Manager for Host				
Tier 1	1,000 - 5,000	2,000	1,000	2,000
	Total Chargeable=>	2,000	Total User Value Units=>	2,000

The Table below shows the User Value Units that were ordered in Phase 1 in the second column. The New Required Value Unit Totals required in ABCs environment at the end of Phase II is in the third column. The Incremental Total User Value Units to order are in last column.

Product	Phase 1 User Value Unit Totals	New Required Value Unit Totals	Incremental User Value Units to Order
Identity Manager	8,500	12,850	4,350
Identity Manager for Applications	8,500	9,000	500
Identity Manager for Host	2,000	2,000	0

Scenario 2:

Assume Customer ABC prefers unlimited user access and unlimited adapters for their environment.

The customer will require Processor Value Units to entitle the following environment:

IBM Tivoli Identity Manager - Unlimited User Option

IBM Tivoli Identity Manager Server	Quantity in Customer Environment	Total Processor Cores requiring PVUs
4-way single core	2	8*
4-way dual core	1	8*
	Total Processor Cores requiring PVU entitlements	16

Note:

The Unlimited User Option applies only to the 16 processor cores licensed. If the customer replaced one of the 4-way single core servers with another 4-way dual core server, an additional 4 processor cores would require Processor Value Unit entitlements. This licensing is based on the server in which IBM Tivoli Identity Manager runs.

* There is a minimum order quantity of 14 processor cores for the IBM Tivoli Identity Manager Unlimited User Option.

- For more information on Processor Value Units please go to the following link:

http://www-306.ibm.com/software/lotus/passportadvantage/pvu_licensing_for_customers.html

IBM Tivoli Access Manager for e-Business (TAMeB)

IBM Tivoli Access Manager for e-business is a versatile application security solution that provides flexible authentication and a centralized authorization for Web access management. Primarily focused on Web applications, Tivoli Access Manager for e-business implementations vary from simple Web single sign-on (SSO) to more highly scalable application security infrastructure deployments

Tivoli Access Manager for e-business uses the same per User Value Unit scalable usage table as the other Tivoli Security per User Value Unit priced products to determine the required User Value Units per 1,000 chargeable users. Tivoli Security families priced per User Value Unit now use a ratio of fifteen external user's equal one chargeable user for the purpose of calculating User Value Units (UVUs). Each Internal user equals one chargeable user for the purpose of calculating User Value Units. Infrequent internal users that utilize their IDs less than 5 times a year, and are grouped so as to be traceable and auditable, will be granted a ratio if fifteen (15) infrequent internal users equal one (1) chargeable user for the purpose of calculating Value Units.

Chargeable users are summed up and the volume tiering table then is utilized to calculate the total User Value Units (UVUs) required to cover entitlements. You may mix internal users, external users, and infrequent internal users within your total User Value Units.

Pricing Example

Scenario 1:

Transaction 1: The customer initially wants to work with the following user configuration:

- 5,000 users who access Web applications from HTTP and J2EE application servers - the aim is to provide access control or SSO from Tivoli Access Manager.
- 5,000 additional user records stored in a database table that is referenced in Access Manager's schema using IBM Tivoli Directory Integrator or a third-party directory virtualization tool.
- 1,000 additional mainframe user records from RACF that will be used to access Manager resources via z/OS LDAP and are referenced in Access Manager's schema.
- 1,000 additional user records of a non-secured application that will be recorded in the Access Manager schema (for administrative convenience).
- 1,000 additional users of a non-secured application that will be stored in an IBM Directory Server schema on the same Directory Server as Access Manager users but not in the Tivoli Access Manager schema.

The first four sets of users will all be counted as Tivoli Access Manager authorized users. All users in the Tivoli Access Manager schema should be counted for the purposes of pricing Tivoli Access Manager. This gives a total of 12,000 internal users to charge for, and chargeable users who will be secured in this case using an 8-way server.

Tivoli Access Manager can use IBM Tivoli Directory Server as an identity store. It is provided in the package or a number of other repositories. The license for Tivoli Directory Server provided with Tivoli Access Manager only extends to those users that are stored under the Access Manager schema. Alternative uses of the IBM Directory Server can be covered by a Directory Server license.

User Value Units to order are calculated as follows:

Pricing Metric	Quantity in Customer Environment (A)	Value Units per 1,000 Users (B)	Value Units Required (A*B)/1,000
Tier 1	5,000	1,000	5,000
Tier 2	7,000	500	3,500
Total Value Units	12,000		8,500

Note: For Tivoli Access Manager, there is a minimum order quantity of 250 chargeable users with increments of 100 chargeable users in the scalable usage model.

Transaction 2:

After the initial license described in Transaction 1, customer ABC wants to secure access for 1,500,000 external authorized users (customers and suppliers) who access Web applications from HTTP and J2EE application servers. Customer ABC must license additional User Value Units to entitle the 100,000 additional chargeable users based on the fifteen to one ratio on the external users to chargeable user conversion.,

Pricing Metric	Quantity in Customer Environment (A)	Value Units per 1,000 Users (B)	Value Units Required (A*B)/1000
Tier 1	5,000	1,000	5,000
Tier 2	10,000	500	5,000
Tier 3	35,000	300	10,500
Tier 4	62,000	200	12,400
Total Value Units	112,000		32,900
Less Currently Licensed from Transaction 1			(8,500)
Additional Value Units Required			24,400

Scenario 2:

A customer wishes to license Unlimited User entitlements for processor cores in their environment. The customer will require Processor Value Units to entitle the following environment:

IBM Tivoli Access Manager for e-business - Unlimited User Option

IBM Tivoli Access Manager Server	Quantity in Customer Environment	Total Processor Cores requiring PVUs
4-way single core	2	8*
4-way dual core	1	8*
	Total Processor Cores requiring PVU entitlements	16

The Unlimited User Option applies only to the 16 processor cores licensed. If the customer replaced one of the 4-way single core servers with another 4-way dual core server, an additional 4 processor cores would require Processor Value Unit entitlements. This licensing is based on the server in which TAMeb runs.

Note:

- There is a minimum order quantity of 14 processor cores for the IBM Tivoli Access Manager for e-Business Unlimited User Option.

IBM Tivoli Access Manager for Enterprise Single Sign-On (TAM E-SSO)

IBM Tivoli Access Manager for Enterprise Single Sign-On can help organizations reduce costs, strengthen security, improve productivity, and address compliance requirements. This single sign-on (SSO) solution is easy to install and does not require any changes to the IT infrastructure.

Tivoli Access Manager for Enterprise Single Sign-On uses the same per User Value Unit scalable usage table as the other Tivoli Security per User Value Unit priced products to determine the required User

Value Units per 1,000 chargeable users. The price per User Value Unit (UVU) will be different for each part number. Tivoli Security families priced per User Value Unit now use a ratio of fifteen external users equal one chargeable user for the purpose of calculating User Value Units (UVUs). Each Internal user equals one chargeable user for the purpose of calculating User Value Units. Infrequent internal users that utilize their IDs less than 5 times a year, and are grouped so as to be traceable and auditable, will be granted a ratio if fifteen (15) infrequent internal users equal one (1) chargeable user for the purpose of calculating Value Units.

Chargeable users are summed up and the volume tiering table then is utilized to calculate the total User Value Units (UVUs) required to cover entitlements. You may mix internal users, external users, and infrequent internal users within your total User Value Units.

Pricing Example

Scenario 1: A global automobile parts manufacturer has 23,000 employees. 7,000 of their employees are office workers who have assigned cubicles and PCs. The other 16,000 work on the manufacturing floor and are expected to share kiosk machines on a daily basis.

The customer has 45,000 dealers, suppliers, vendors, and directs sales customers, who access their Web portal to use their online ordering and procurement applications.

Because of the growing list of applications employees have to access, and the frequent password changes, the customer's employees have found it difficult to remember their passwords, resulting in frequent help desk calls. In addition, the 16,000 kiosk workers find it difficult to productively share their kiosk machines because of long logon and logout times as users switch access between each other.

Dealers and suppliers find the online portal difficult to use because of the multiple logins required to access the ordering, tracking and catalog applications. Many dealers and suppliers do not login often enough and tend to forget their passwords, generating many unnecessary help desk calls.

To overcome these issues, the customer plans to deploy enterprise single sign on for all its 23,000 employees, as well as their 45,000 dealers and suppliers. You would need to calculate users to charge for first, and enter into the volume tiering table discussed in a previous section to determine User Value Units to order. For this example, entitlements would be required for both the Tivoli Access Manager for Enterprise Single Sign-On Standard Edition and Tivoli Access Manager for Enterprise Single Sign-On Suite.

The Tivoli Access Manager for Enterprise Single Sign-On Standard Edition User Value Units (UVUs) to order is calculated as follows:

- 7,000 internal user entitlements for Tivoli Access Manager for Enterprise Single Sign-On Standard (the 7,000 office workers only need the Standard package for personal use). Since each internal user equals one chargeable user for the purpose of calculating User Value Units to order, in this case the 7,000 internal users would equate to 7,000 users to charge for and enter into the volume tiering table.

These 7,000 chargeable users calculate as 6,000 User Value Units to order for Tivoli Access Manager for Enterprise Single Sign-On (TAM ESSO) Standard Edition as follows:

Pricing Metric TAM ESSO Standard Edition	Quantity in Customer Environment (A)	Value Units per 1,000 Users (B)	Value Units Required (A*B)/1000
Tier 1	5,000	1,000	5,000
Tier 2	2,000	500	1,000
Tier 3		300	
Tier 4		200	
Chargeable User Total	7,000	User Value Unit Total Required	6,000

The Tivoli Access Manager for Enterprise Single Sign-On Suite User Value Units (UVUs) to order is calculated as follows:

- 16,000 additional internal user entitlements: (These kiosk workers require session management which is only available in the TAMESSO Suite package). Since each internal user equals 1 chargeable user for the purpose of calculating User Value Units to order, in this case the 16,000 internal users would equate to 16,000 users to charge for and enter into the volume tiering table.

- 45,000 external users: (These entitlements will be used by the dealers and suppliers. They require Web Workplace which is only available with the Suite package). Since each external user equals 15 chargeable users for the purpose of calculating User Value Units to order, in this case the 45,000 external users would equate to 3,000 users to charge for and enter into the volume tiering table.

The 16,000 chargeable internal users and the 3,000 chargeable external users are summed together for the purpose of determining User Value Units to order. Using the volume tiering table from the previous section, 11,200 UVUs would need to be ordered for the 19,000 chargeable users for Tivoli Access Manager for Enterprise Single Sign-On (TAM ESSO) Suite as follows:

Pricing Metric TAM ESSO Suite	Chargeable User Qty in Customer Environment (A)	User Value Units per 1,000 Users (B)	User Value Units Required (A*B)/1000
Tier 1	5,000	1,000	5,000
Tier 2	10,000	500	5,000
Tier 3	4,000	300	1,200
Tier 4		200	
Chargeable User Total	19,000	User Value Unit Total Required	11,200

IBM Tivoli Identity and Access Assurance

IBM Tivoli Identity and Access Assurance helps address today's organizational security challenges by administering, securing, and monitoring identities, roles, and entitlements with efficient lifecycle management, access controls, and compliance auditing. IBM Tivoli Identity and Access bundle includes the following products;

IBM Tivoli Identity Manager
IBM Tivoli Access Manager for ESSO (Suite)
IBM Tivoli Access Manager for eBusiness
IBM Tivoli Access Manager for OS (Limited Use)
IBM Tivoli Federated Identity Manager
IBM Tivoli Security Information and Event Manager (Limited Use)

Pricing Example

Scenario 1

A large enterprise is required to manage and protect 12,000 users on their internal network. The initial targets they want to manage are as follows:

• 12,000 internal users of LDAP and who access Web applications from HTTP and Javatm 2 Platform Enterprise Edition (J2EE) application servers for single sign-on using Tivoli Unified Single Sign-On
• 12,000 internal users of Lotus Notes® using Tivoli Identity Manager
Calculate User Value Units

The customer would license 8,500 User Value Units of Tivoli Identity and Access Assurance V1.0. Refer to the calculation below based on the scalable usage model referenced above.

Pricing Metric	Quantity in Customer Environment (A)	Value Units per 1,000 Users (B)	Value Units Required (A*B)/1,000
Tier 1	5,000	1,000	5,000
Tier 2	7,000	500	3,500
Total Value Units	12,000		8,500

Scenario 2

A large enterprise is required to manage and protect up to 12,000 company employees or internal users and 1,500,000 external users. All of these are authorized users. The total chargeable users are calculated as follows:

• 12,000 internal users = 12,000/1 = 12,000 chargeable users.
• 1,500,000 external users = 1,500,000/15 = 100,000 chargeable users.
• The large enterprise must sum these chargeable users together since they all plan to use LDAP and Active Directory for both Tivoli Identity Manager and Tivoli Unified Single Sign-On. As a result they need to license 112,000 users of IBM Tivoli Identity and Access Assurance V1.0.

Calculate User Value Units

The customer would license 32,900 User Value Units of Tivoli Identity and Access Assurance. Refer to the calculation below based on the scalable usage model referenced above.

Pricing Metric	Chargeable User Qty in Customer Environment (A)	User Value Units per 1,000 Users (B)	User Value Units Required (A*B)/1000
Tier 1	5,000	1,000	5,000

Tier 2	10,000	500	5,000
Tier 3	35,000	300	10,500
Tier 4	62,000	200	12,400
Chargeable User Total	112,000	User Value Unit Total Required	32,900

The 15:1 external to internal user ratio is used as external users typically do not have the same level of "usage" that internal users do.

IBM Tivoli Identity and Access Manager

IBM Tivoli Identity and Access Manager helps address today's challenging requirements to manage identities with efficient user lifecycle management and access controls for internal and external users. Ordering this single part number enables you to realize the benefits of two leading solutions - IBM Tivoli Identity Manager and IBM Tivoli Access Manager for e-business - at a very affordable price.

Pricing Example

Scenario 1

Assume a customer has existing entitlements for either Tivoli Identity Manager or Tivoli Access Manager, and would like to leverage this opportunity to trade up to Tivoli Identity and Access Manager at a very affordable price. Further assume the customer has entitled 12,000 company employees and 1,500,000 external users. All of these are authorized users. The total chargeable users are calculated as follows:

• 12,000 internal users = 12,000/1 = 12,000 chargeable users.
• 1,500,000 external users = 1,500,000/15 = 100,000 chargeable users.
• The customer must sum these chargeable users together and license trade-up UVUs required for a total of 112,000 chargeable users from Tivoli Identity Manager (or Tivoli Access Manager - dependent upon which one the customer currently has deployed in their environment) to Tivoli Identity and Access Manager.

If the customer grows to 20,000 company employees and finds that it only needs to entitle approximately 1,380,000 external users (customers, business partners, suppliers), then the total chargeable users are calculated as follows:

• 20,000 internal users = 20,000 chargeable users (20,000 chargeable users at 1:1).
• 1,380,000 external users = 1,380,000/15 = 92,000 chargeable users (at 15:1).
• The customer would still be covered with their entitlements, as their chargeable user total of 112,000 has not changed. This allows the customer flexibility to accommodate changes in their environment over time.

All of the UVUs from the current environment would be required to trade up to Tivoli Identity and Access Manager from either Tivoli Identity Manager or Tivoli Access Manager for e-business, to entitle their environment for 112,000 chargeable users. The UVU calculation would be as follows:

Pricing Metric	Quantity in Customer Environment (A)	Value Units per 1,000 Users (B)	Value Units Required (A*B)/1,000
Tier 1	5,000	1,000	5,000

Tier 2	10,000	500	5,000
Tier 3	35,000	300	10,500
Tier 4	62,000	200	12,400
Chargeable user total	112,000	User Value Units required to Trade up	32,900

Note: The customer can leverage the appropriate trade-up part number in Passport Advantage to ensure they receive the price benefit they are entitled to as an existing customer of either

Tivoli Identity Manager, or Tivoli Access Manager. The same example holds true regardless of which product is being traded up from.

Scenario 2

Transaction 1a

Another example has customer RED seeking to entitle their 15,000 employees, for which they wish to secure their environment for both Identity and Access with Tivoli Identity and Access Manager

Transaction 1b

As a separate transaction they wish to entitle Tivoli Access Manager for e-Business to their 1,500,000 customers to grant access to their Web site. They do not need to secure their identity at this time.

The total chargeable users are calculated as follows:

Transaction 1a

Employees (Tivoli Identity and Access Manager)

• 15,000 internal users = 15,000/1 = 15,000 chargeable users

Transaction 1b

Customers (Tivoli Access Manager for e-business)

• 1,500,000 external users = 1,500,000/15 = 100,000 chargeable users

Customer RED would need to license User Value Units required to entitle 15,000 chargeable users of IBM Tivoli Identity and Access Manager (which they plan to use for their employees) and then license UVUs required to entitle the 100,000 chargeable users for Tivoli Access Manager for e-business (which they plan to use for their customers).

Note: This is a fictional example of how a customer might choose to entitle their environment. A customer may implement to a specific type of user, mix of user types, or move between types of users as long as they remain within their entitlements.

UVUs for customer RED would be calculated as follows:

First, customer RED would license 10,000 UVUs of Tivoli Identity and Access Manager to entitle their 15,000 employees (15,000 chargeable users).

Transaction 1a - Tivoli Identity and Access Manager entitlements

Pricing Metric	Quantity in Customer Environment (A)	Value Units per 1,000 Users (B)	Value Units Required (A*B)/1,000
Tier 1	5,000	1,000	5,000
Tier 2	10,000	500	5,000
Tier 3		300	
Chargeable user total	15,000	User Value Units required of IBM Tivoli Identity and Access manager	10,000

Second, customer RED would also license 30,500 UVUs of Tivoli Access Manager for ebusiness to entitle their 1,500,000 external users (100,000 chargeable users).

Transaction 1b - Tivoli Access Manager for e-business entitlements

Pricing Metric	Quantity in Customer Environment (A)	Value Units per 1,000 Users (B)	Value Units Required (A*B)/1,000
Tier 1	5,000	1,000	5,000
Tier 2	10,000	500	5,000
Tier 3	35,000	300	10,500
Tier 4	50,000	200	10,000
Chargeable user total	100,000	User Value Units required of IBM Tivoli Access Manager for e-business	30,500

Transaction 2

One year after the first transaction, customer RED has made significant modifications to its Web sites and business infrastructure. Customer RED would now like to entitle their external users (which are currently using Tivoli Access Manager for e-business), for Tivoli Identity Manager as well.

The new total chargeable users that would be entitled for Tivoli Identity and Access Manager in company RED's environment would be 115,000 chargeable users (15,000 employees at 1:1 and 1,500,000 customers at 15:1). The total number of UVUs required of Tivoli Identity and Access Manager would be calculated as follows:

Tivoli Identity and Access Manager

Pricing Metric	Quantity in Customer Environment (A)	Value Units per 1,000 Users (B)	Value Units Required (A*B)/1,000

Tier 1	5,000	1,000	5,000
Tier 2	10,000	500	5,000
Tier 3	35,000	300	10,500
Tier 4	65,000	200	13,500
Chargeable user total	115,000	User Value Units required of IBM Tivoli Identity and Access Manager	33,500
Previous entitled chargeable user total	15,000	Current User Value Units of IBM Tivoli Identity and Access Manager	10,000
		User value Units of IBM Tivoli Identity and Access Manager to license	23,500

Customer RED can trade up 23,500 of their 30,500 UVUs of Tivoli Access Manager for ebusiness to Tivoli Identity and Access Manager V1.0. Due to the benefit of volume tiering under one product, customer RED now has 7,000 remaining UVUs of Tivoli Access Manager for ebusiness that they can keep for additional growth, or let expire, allowing them to reinstate at a later date if the need arises.

Example 3

Customer YELLOW has 12,000 employees and wants to deploy both Tivoli Identity and Access Manager in their environment. The users that they are seeking to entitle are as follows:

• 12,000 internal users of LDAP and who access Web applications from HTTP and Java 2 Platform Enterprise Edition (J2EE) application servers for single sign-on
• 2,000 internal users of RACF® and who will also leverage Tivoli Access Manager resources
• 12,000 internal users of Lotus Notes®
• 12,000 internal users of SAP R3

Note: In addition to base license pricing, customer YELLOW will be required to separately license Tivoli Identity Manager Application and Host Edition adapters for integration with SAP and RACF, respectively. Entitlement to Lotus Notes is included in the base license of Tivoli Identity and Access Manager

Calculate User Value Units as follows:

Customer YELLOW would license 8,500 UVUs of Tivoli Identity and Access Manager, 8,500 UVUs of Tivoli Identity Manager Application Edition (for SAP), and 2,000 User Value Units of Tivoli Identity Manager Host Edition (for RACF).

Tivoli Identity and Access Manager - base license

Pricing Metric	Quantity in Customer Environment (A)	Value Units per 1,000 Users (B)	Value Units Required (A*B)/1,000
Tier 1	5,000	1,000	5,000
Tier 2	7,000	500	3,500
Tier 3		300	
Tier 4		200	

Chargeable user total	12,000	User Value Units required of IBM Tivoli Identity and Access Manager	8,500

Customer YELLOW would also license 8,500 UVUs of Tivoli Identity and Access Manager Application Edition for entitlement to manage 12,000 users of SAP.

Tivoli Identity and Access Manager - Application Edition

Pricing Metric	Quantity in Customer Environment (A)	Value Units per 1,000 Users (B)	Value Units Required (A*B)/1,000
Tier 1	5,000	1,000	5,000
Tier 2	7,000	500	3,500
Tier 3		300	
Tier 4		200	
Chargeable user total	12,000	User Value Units required of IBM Tivoli Identity and Access Manager – Application Edition	8,500

Customer YELLOW would also license 2,000 User Value Units of Tivoli Identity and Access Manager Host Edition for entitlement to manage 2,000 users of RACF.

Tivoli Identity and Access Manager - Host Edition

Pricing Metric	Quantity in Customer Environment (A)	Value Units per 1,000 Users (B)	Value Units Required (A*B)/1,000
Tier 1	2,000	1,000	2,000
Tier 2		500	
Tier 3		300	
Tier 4		200	
Chargeable user total	2,000	User Value Units required of IBM Tivoli Identity and Access Manager – Host Edition	2,000

IBM Tivoli Unified Single Sign-On

IBM Tivoli Unified Single Sign-On addresses requirements for single sign-on inside, outside, and between organizations. Ordering this single part number enables you to realize the combined benefits of two leading single sign-on solutions - IBM Tivoli Access Manager for Enterprise Single Sign-On Suite and IBM Tivoli Federated Identity Manager (which includes IBM Tivoli Access Manager for e-business) - at a very affordable price

Pricing Example

Tivoli Access Manager for Unified Single Sign-On Pricing Scenario 1:

Transaction 1

A financial services company has 20,000 employees in 15 countries worldwide, half of them in the Americas. Last year, the company implemented an intranet for their Americas employees. At that time, they obtained entitlements for 10,000 internal users for Tivoli Access Manager for ebusiness. User Value Units required are as follows:

The customer initially licensed 7,500 User Value Units of Tivoli Access Manager to entitle their 10,000 internal users in the Americas. (Note: Each internal user equals one chargeable user for the purpose of calculating User Value Units to order).

Initial Tivoli Access Manager entitlements

Pricing Metric	Quantity in Customer Environment (A)	Value Units per 1,000 Users (B)	Value Units Required (A*B)/1,000
Tier 1	5,000	1,000	5,000
Tier 2	5,000	500	2,500
Chargeable user total	10,000	User Value Units required of Tivoli Access Manager	7,500

Transaction 2

The following summer, the company decided to expand their Web single sign-on capabilities to the approximately 10,000 full-time employees of their affiliated companies outside the Americas (greater than 50% owned by the parent company). The objective is to ensure that an employee of the company can automatically login to online systems of their affiliates through federation.

To overcome these issues, the company is looking at plans to deploy Tivoli Federated Identity Manager to enable employees federated access to affiliate systems, and further plans to deploy Tivoli Access Manager for Enterprise Single Sign-On to alleviate password and login issues. In evaluating all alternatives, the customer decided to deploy unified single sign-on for all its employees, using the following configuration:

• Upgrade their 10,000 user entitlements for Tivoli Access Manager for e-business to Tivoli Unified Single Sign-On by purchasing the trade-up part numbers from Tivoli Access Manager for e-business to Tivoli Unified Single Sign-On.
• License additional entitlements of Tivoli Unified Single Sign-On for the remaining 10,000 users worldwide.

Note: Each internal user equals one chargeable user for the purpose of calculating User Value Units to order.

The Customer would trade up their 7,500 User Value Units of Tivoli Access Manager for ebusiness to Tivoli Unified Single Sign-On to entitle their 10,000 internal users. They would then license an additional 4,000 User Value Units of Tivoli Unified Single Sign-On to entitle their entire environment (remaining 10,000 users for a total of 20,000 users).

The estimate of User Value Units to license are as follows:

Tivoli Unified Single Sign-On

Pricing Metric	Quantity in Customer Environment (A)	Value Units per 1,000 Users (B)	Value Units Required (A*B)/1,000
Tier 1	5,000	1,000	5,000
Tier 2	10,000	500	5,000
Tier 3	5,000	300	1500
Chargeable user total	20,000	User Value Units required of Tivoli Unified Single Sign-On	11,500
Previous 10,000 Less trade-up (7,500) chargeable User Value Unit user total	10,000	Less trade-up user value unit license from transaction 1	(7,500)
		Additional User Value Units required of Tivoli Unified Single Sign-On	4,000

Tivoli Access Manager for Unified Single Sign-On pricing Scenario 2

A pan-European insurance provider, specializing in disability insurance, has grown through acquisitions of mid-size insurance agencies. Through its acquisitions, it has grown from 10,000 agents to a large network of 20,000 full-time agents and another 30,000 part-time contract agents.

Because of its aggressive acquisition strategy, this customer has inherited a complex heterogeneous infrastructure with many, often duplicate, applications. Employees need to login to an average of more than 10 applications, and adhere to often conflicting password policies.

Transaction 1

To improve user satisfaction and password security, the customer deployed Tivoli Access Manager for Enterprise Single Sign-On last year to 10,000 of its full time agents. As per previous examples, these 10,000 internal users (employees) required the license of 7,500 User Value Units in order to entitle these agents. (Note: Each internal user equals one chargeable user for the purpose of calculating User Value Units to order).

Transaction 2
With the recent availability of Tivoli Unified Single Sign-On, this customer decided to not only extend enterprise single sign-on to all its full-time agents, but also deploy an extranet for all its part-time agents.

The customer is looking to do the following to entitle their environment:

• Trade up their 7,500 User Value Units of Tivoli Access Manager for Enterprise Single Sign-On that currently entitles 10,000 existing internal users (10,000 chargeable users) to Tivoli Unified Single Sign-On.
• License Tivoli Unified Single Sign-On entitlements for the remaining 10,000 internal users (full-time agents, again at 1:1). This would equate to another 10,000 chargeable users.
• License entitlements for the remaining 30,000 external users (part-time contract agents), also for Tivoli Unified Single Sign-On. When calculating users to charge for, 15 external users equals 1 user to charge for. In this case, the 30,000 part-time contract agents would equal 2,000 chargeable users (15:1) for calculating User Value Units to order.

For calculating User Value Units, the internal users to charge for (at 1:1), and the external users to charge for (at 15:1) must be added together before entering into the scalable tiering table. The insurance company must entitle 22,000 chargeable users.
The customer would trade up their 7,500 User Value Units of Tivoli Access Manager for Enterprise Single Sign-On to Tivoli Unified Single Sign-On. They would then license an additional 4,600 User Value Units of Tivoli Unified Single Sign-On to entitle their entire environment of 22,000 chargeable users (20,000 full-time internal and 30,000 part-time external).

The estimate of User Value Units to license are as follows:

Tivoli Unified Single Sign-On

Pricing Metric	Quantity in Customer Environment (A)	Value Units per 1,000 Users (B)	Value Units Required (A*B)/1,000
Tier 1	5,000	1,000	5,000
Tier 2	10,000	500	5,000
Tier 3	7,000	300	2,100
Chargeable user total	22,000	User Value Units required of Tivoli Unified Single Sign-On	12,100
Previous 10,000 Less trade-up (7,500) chargeable User Value Unit user total	10,000	Less trade-up user value unit license from transaction 1	(7,500)
		Additional User Value Units required of Tivoli Unified Single Sign-On	4,600

Distributed Pricing Examples (Non-Processor Core Based)

IBM System Storage Archive Manager

Scenario 1

A customer has an IBM System Storage Archive Manager server with a 5 TB primary disk storage pool and a removable media storage pool that will store 4 TB of data within the next 12 months. The data in the primary storage pools will be copied for off-site protection to a copy pool. The customer has designated 10 TB of removable media for a copy storage pool.

The customer needs to license 9 TB of IBM System Storage Archive Manager.

Primary disk Storage Pool	Removable media storage pool	Capacity	Required entitlements
5 TB Storage	4 TB	9 TB	9 TB of IBM System Archive Manager for Windows

Scenario 2 (additional capacity)

A customer licensed 9 TBs of IBM System Storage Archive Manager. 12 months after obtaining those 9 TBs licenses, the customer is managing 9 TB of data. Over the next 12 months the customer estimates they will need to manage an additional 2.4 TB worth of data.

The customer should license an additional 3 TB of IBM System Storage Archive Manager.

Primary disk Storage Pool	Removable media storage pool	Capacity	Required entitlements
5 TB Storage	6.4 TB	11.4 TB	12 TB of IBM System Archive Manager for Windows

IBM Tivoli Application Dependency Discovery Manager

The IBM Tivoli Application Dependency Discovery Manager (TADDM) is priced per Install and per Resource Value Units for managed devices.

Install

At least one install license is required. The initial install license covers the first domain server (as well as an enterprise server if necessary). Multiple domain servers can be deployed at no charge. An additional install license is required for each additional enterprise server needed. The capacity and number of the domain and enterprise servers necessary for a particular environment is a function of the total number of configuration items to be managed for that environment. This capacity will vary based on the size, complexity, and depth of the information obtained for the configuration items. Refer to the TADDM Planning and Installation Guide for additional information on capacity determination. Many customers will

only need one install license for a single enterprise server, regardless of the number of domain servers deployed.

Resource Value Units

In addition to the Install License described above, Resource Value Unit (RVU) licenses are required based on the number of devices in the managed environment. Servers, client devices, and MSUs (for System z servers only) are the designated measurements upon which the Value Units are calculated. The RVU entitlements for the managed devices are dependent on the number of unique devices managed by TADDM functions. The number of Resource Value Units required per scaled volume tier is defined below.

Usage Level, Cumulative	Minimum Devices Servers	Maximum Devices Servers	Minimum MSUs (*)	Maximum MSUs (*)	Resource Value Units per Device and/or MSU
1	1	100	1	100	20
2	101	500	101	500	18
3	501	1,000	501	1000	8
4	1,001	10,000	1,001	10,000	4
5	10,001	25,000	10,001	25,000	2
6	25,001		25,001		1

(*) Used for System z, when ordering one of the part numbers “for z/OS Data”

When licensing client devices, use the following conversion:

1 server = 100 clients (Clients round up to the nearest 100 for the purpose of Resource Value Unit calculation). In other words, 75 clients are rounded up to 100 clients for Resource Value Unit calculation.

The Resource Value Units (RVUs) for servers, clients, and MSUs are calculated independently, using the same scaled volume tiers. RVUs for servers and clients are entitled using the same part number. RVUs for MSUs are entitled using a separate part number.

Servers:

* The first 100 servers are valued at 20 RVUs each.
* The next 50 servers are valued at 18 RVUs each

Clients:

* The first 10,000 clients equate to 100 servers (10,000/100) and are valued at 20 RVUs each
* The next 5000 clients equate to 50 servers (5000/100) and are valued at 18 RVUs each

MSUs:

* The first 100 MSUs are valued at 20 RVUs each
* The next 50 MSUs are valued at 18 RVUs each

For a new or existing TADDM customer who wishes to include Change Management or Release Management Processes with the**ir** TADDM implementation refer to the scenarios under the section *IBM*

Tivoli Change and Configuration Management Database, Change and Release Process Managers. Change and/or Release Management can be licensed in conjunction with either CCMDB or with TADDM.

Scenario 1

A customer wishes to license TADDM to manage an environment of 550 distributed servers and 150 clients. Without the need for process automation initially, the recommended architecture includes one domain (or enterprise) server. The customer must obtain one install license for the domain (or enterprise) server, plus RVU entitlements for the managed servers, and client devices as follows:

Devices managed	Quantity in customer environment
Servers	550
Clients	150

Resource Value Unit Calculation for 550 Servers:

Servers	Resource Value Units per Server	Resource Value Units
Tier 1 = 100	20	2,000
Tier 2 = 400	18	7,200
Tier 3 = 50	8	400
Total = 550		9,600

Resource Value Unit Calculation for 150 Clients: (round up to the nearest hundred: 200)

Clients (100 Clients = 1 Server)	Resource Value Units per Server	Resource Value Units
Tier 1 = 2	20	40
Total = 2		40

In this example, the customer must license 1 install and 9640 Distributed Resource Value Units (9600 for servers plus 40 for clients).

Scenario 2

A customer wishes to license TADDM to manage an environment of 10,000 servers and 20,000 MSUs. The customer must obtain multiple install licenses (an initial install license plus additional install licenses for each additional enterprise server required per capacity calculation). The customer must also obtain RVU entitlements for the managed servers and MSUs indicated below.

Devices managed	Quantity in customer environment
Servers	10,000

MSUs 20,000

Resource Value Unit Calculation for 10,000 servers:

Servers	Value Units per Server	Value Units
Tier 1 = 100	20	2,000
Tier 2 = 400	18	7,200
Tier 3 = 500	8	4,000
Tier 4 = 9000	4	36,000
Total = 10,000		49,200

Resource Value Unit Calculation for 20,000 MSUs:

MSUs	Resource Value Units per MSU	Resource Value Units
Tier 1 = 100	20	2,000
Tier 2 = 400	18	7,200
Tier 3 = 500	8	4,000
Tier 4 = 9,000	4	36,000
Tier 5 = 10,000	2	20,000
Total = 20.000		69,200

In this example, the customer must license at least one install, 118,400 Resource Value Units (49,200 for servers plus 69,200 for MSUs). Note that the Resource Value Units for servers and the Resource Value Units for MSUs are entitled using separate part numbers.

Scenario 3

A customer wishes to license TADDM to manage an environment of 5,000 servers. This scenario describes two customer situations that would require similar entitlement.

4A) Customer A has two different lines of business and wishes to manage the supporting infrastructure for each, entirely separate from one another. Each line of business has the managed environment of 2,500 servers.

4B) Customer B is a holding company with two distinct businesses; a manufacturing factory with 2,500 servers and a distribution operation with 2,500 servers.

Both customer A and customer B must obtain two install licenses (to entitle a separate enterprise server for each of the two distinct lines of business). Domain servers may also be required for each distinct business. This depends on the total number of configuration items per distinct business as well as the size, complexity, and depth of information to be managed per configuration item. After the enterprise server entitlements, any domain servers needed, can be deployed at no charge.

Customer A and customer B both own their respective 5,000 servers that they wish to manage for their distinct lines of business. They must both obtain VU entitlements for the managed servers as show below.

Devices	Quantity in Customer

managed environment

Servers 5,000

Resource Value Unit Calculation for 5,000 Servers:

Servers	Resource Value Units per Server	Resource Value Units
Tier 1 = 100	20	2,000
Tier 2 = 400	18	7,200
Tier 3 = 500	8	4,000
Tier 4 = 4,000	4	16,000
Total = 5,000		29,200

In this example, both customers must obtain 2 install licenses and 29,200 Resource Value Unit licenses.

Scenario 4

A customer is currently entitled for a TADDM Install License and Resource Value Units for 200 servers (3,800 VUs). The customer has licensed additional hardware and now wishes to add entitlement for 150 more servers, and also 375 client devices in their managed environment. The customer must obtain RVU entitlements for the additional servers, and new clients as shown below.

Quantity Devices managed	**Current** Quantity in customer environment	**Additional** Quantity in customer environment	**Revised** Quantity in customer environment
Servers	200	150	350
Clients	0	375	375

Resource Value Unit Calculation for 150 ADDITIONAL Servers:

New Servers	Resource Value Units per Server	Resource Value Units
Tier 2 = 150	18	2,700
Total = 150		2,700

The customer was already entitled to 3,800 RVUs for servers originally calculated using Tier 1 (100 servers x 20 RVUs) and Tier 2 (100 servers x 18 RVUs) in the tiered volume scale. Therefore, the additional RVUs for the new 150 servers are calculated starting at the Tier 2 level. This allows the customer the additive benefit of volume scaling for the RVUs already licensed for servers.

Resource Value Unit Calculation for 375 new clients: (round up to the nearest hundred: 400)

Clients (100 clients = 1 server)	Resource Value Units per Server	Resource Value Units
Tier 1 = 4	20	80
Total = 4		80

In this example, the customer must license 2,780 Value Units (2700 for servers and 80 for clients).

IBM Tivoli Business Continuity Process Manager

V7.1.1 introduces a new usage based licensing method for IBM Tivoli Business Continuity Process Manager

IBM Tivoli Business Continuity Process Manager is priced using the following chargeable components and metrics:

Resource Value Units (RVUs) are based on Recovery Plans. A Recovery Plan within the Business Continuity Process Manager (BCPM) pricing model is defined as:

- An individual BCPM “recovery option” that is identified by a unique name and which is ; the recovery option is included in (used by) a Recovery Plan
- The "recovery option"/"Recovery Plan has a status of "Active"
- The unique name of the recovery option appears in the drop down list of the “Selected Recovery Plan” field’s drop down list in the IT Service Continuity Work Order application of BCPM

Resource Value Unit Table for BCPM V7.1.1

Usage Level (Tier)	Minimum Recovery Plans (Options)	Maximum Recovery Plans (Options)	RVU Per Plan (Option)
1	1	250	20
2	251	1000	18
3	1001	10000	8
4	10001	25000	4
5	25001	50000	2
6	50001		1

Pricing example for BPCM

Implementation Scenario 1: The customer’s business impact and risk analysis plan identifies less than 250 recovery plans that must be implemented to maintain continuity within the business (or pilot project).

Pricing: Based on the customer’s estimate of 125 recovery plans, the customer would license 2,500 RVUs (125 plans X 20 RVUs = 2,500 RVUs)

Implementation Scenario 2: The customer has 37,500 written procedures that identify how to recover business operations in the event of a failure

Pricing: Based on the customer’s estimate of 37,500 recovery plans, the customer would license 175,500 RVUs (175,500 RVUs = 250 plans X 20 RVUs added to 750 plans X 18 RVUs added to 9,000 plans X 8 RVUs added to 15,000 plans X 4 RVUs added to 12,500 plans X 2 RVUs)

IBM Tivoli Change and Configuration Management Database, Change and Release Process Managers

The IBM Tivoli Change and Configuration Management Database (CCMDB) is priced per Install and per Resource Value Units for managed devices. The associated Change and Release Process Managers are both priced per Authorized and/or Concurrent Users

Install

At least one install license is required. The initial install license covers the first domain server (as well as an enterprise server if necessary). Multiple domain servers can be deployed at no charge. An additional install license is required for each additional enterprise server needed. The capacity and number of the domain and enterprise servers necessary for a particular environment is a function of the total number of configuration items to be managed for that environment. This capacity will vary based on the size, complexity, and depth of the information obtained for the configuration items. Refer to the TADDM Planning and Installation Guide for additional information on capacity determination. Many customers will only need one install license for a single enterprise server, regardless of the number of domain servers deployed.

Resource Value Units

In addition to the Install License described above, Resource Value Unit (RVU) licenses are required based on the number of devices in the managed environment. Servers, client devices, and MSUs (System z servers only) are the designated measurements upon which the Resource Value Units are calculated. The RVU entitlements for the managed devices are dependent on the number of unique devices managed by TADDM functions. The number of Resource Value Units required per scaled volume tier is defined below

Usage Level, Cumulative	Minimum Devices Servers	Maximum Devices Servers	Minimum MSUs (*)	Maximum MSUs (*)	Resource Value Units per Device and/or MSU
1	1	100	1	100	20
2	101	500	101	500	18
3	501	1,000	501	1000	8
4	1,001	10,000	1,001	10,000	4
5	10,001	25,000	10,001	25,000	2
6	25,001		25,001		1

(*) Used for System z, when ordering one of the part numbers “for z/OS Data”

When licensing client devices, use the following conversion:

1 server = 100 clients (Clients round up to the nearest 100 for the purpose of Resource Value Unit calculation). In other words, 75 clients are rounded up to 100 clients for Resource Value Unit calculation.

The Resource Value Units for servers, clients, and MSUs are calculated independently, using the same scaled volume tiers. Resource Value Units for servers and clients are entitled using the same part number. Value Units for MSUs are entitled using a separate part number.

Servers:

* The first 100 servers are valued at 20 RVUs each.
* The next 50 servers are valued at 18 RVUs each.

Clients:

* The first 10,000 clients equate to 100 servers (10,000/100) and are valued at 20 RVUs each.
* The next 5000 clients equate to 50 servers (5000/100) and are valued at 18 RVUs each.

MSUs:

* The first 100 MSUs are valued at 20 RVUs each.
* The next 50 MSUs are valued at 18 RVUs each.

Authorized or Concurrent Users

User licenses are required based on the number of people responsible for handling change and/or release management processes. Change management includes activities such as detecting changes in the managed environment and reconciling such changes with an authorized request for change. Release process management involves the coordination and tracking of software and hardware releases across the managed environment.

Scenario 1

A customer wishes to license CCMDB to manage an environment of 550 servers and 150 clients. Without the need for process automation initially, the recommended architecture includes one domain (or enterprise) server. The customer must obtain one install license for the domain (or enterprise) server, plus VU entitlements for the managed servers, and client devices as follows:

Devices managed	Quantity in customer environment
Servers	550
Clients	150

Value Unit Calculation for 550 Servers:

Servers	Value Units per Server	Value Units
Tier 1 = 100	20	2,000
Tier 2 = 400	18	7,200
Tier 3 = 50	8	400
Total = 550		9,600

Value Unit Calculation for 150 Clients: (round up to the nearest hundred clients: 200)

Servers (100 Clients = 1 Server)	Value Units per Server	Value Units
Tier 1 = 2	20	40
Total = 2		40

In this example, the customer must license 1 install and 9640 Distributed Value Units (9600 for servers plus 40 for clients).

Scenario 2

A customer wishes to license CCMDB to manage an environment of 400 servers, as well as hire personnel to administer change and configuration processes. The customer expects a maximum of 50 change administrators to simultaneously access the CCMDB database. The customer must obtain a CCMDB install license, plus VU entitlements to cover the managed servers as shown below. Additionally, the customer must obtain 50 concurrent user licenses of the Change Process Manager.

Devices managed	Quantity in customer environment
Servers	400

Value Unit Calculation for 400 Servers:

Servers	Value Units per Server	Value Units
Tier 1 = 100	20	2,000
Tier 2 = 300	18	5,400
Total = 400		7,400

In this example, the customer must license one install, plus 7400 Value Units, and 50 Concurrent Users.

Scenario 3

A customer wishes to license CCMDB to manage an environment of 10,000 servers and 20,000 MSUs. The customer also plans to allow 300 change users to access the CCMDB database at any time without restriction. The customer must obtain multiple install licenses (an initial install license plus additional install licenses for each additional enterprise server required per capacity calculation). The customer must also obtain RVU entitlements for the managed servers and MSUs indicated below, and 300 Authorized User licenses for Change Management.

Devices managed	Quantity in customer environment
Servers	10,000
MSUs	20,000

Resource Value Unit Calculation for 10,000 servers:

Servers	Resource Value Units per Server	Resource Value Units
Tier 1 = 100	20	2,000
Tier 2 = 400	18	7,200
Tier 3 = 500	8	4,000
Tier 4 = 9000	4	36,000
Total = 10,000		49,200

Resource Value Unit Calculation for 20,000 MSUs:

MSUs	Resource Value Units per MSU	Resource Value Units
Tier 1 = 100	20	2,000
Tier 2 = 400	18	7,200
Tier 3 = 500	8	4,000
Tier 4 = 9,000	4	36,000
Tier 5 = 10,000	2	20,000
Total = 20.000		69,200

In this example, the customer must license at least one install, 118,400 Resource Value Units (49,200 for servers plus 69,200 for MSUs), and 180 Authorized Users. Note that the Resource Value Units for servers and the Resource Value Units for MSUs are entitled using separate part numbers.

Scenario 4

A customer wishes to license CCMDB to manage an environment of 5,000 servers. This scenario describes two customer situations that would require similar entitlement.

4A) Customer A has two different lines of business and wishes to manage the supporting infrastructure for each, entirely separate from one another. Each line of business has the managed environment of 2,500 servers.

4B) Customer B is a holding company with two distinct businesses; a manufacturing factory with 2,500 servers and a distribution operation with 2,500 servers.

Both customer A and customer B must obtain two install licenses (to entitle a separate enterprise server for each of the two distinct lines of business). Domain servers may also be required for each distinct business. This depends on the total number of configuration items per distinct business as well as the size, complexity, and depth of information to be managed per configuration item. After the enterprise server entitlements, any domain servers needed, can be deployed at no charge.

Customer A and customer B both own their respective 5,000 servers that they wish to manage for their distinct lines of business. They must both obtain VU entitlements for the managed servers as show below.

Devices managed	Quantity in Customer environment
Servers	5,000

Resource Value Unit Calculation for 5,000 Servers:

Servers	Resource Value Units per Server	Resource Value Units
Tier 1 = 100	20	2,000
Tier 2 = 400	18	7,200
Tier 3 = 500	8	4,000
Tier 4 = 4,000	4	16,000
Total = 5,000		29,200

In this example, both customers must obtain 2 install licenses and 29,200 Value Unit licenses.

Scenario 5

A customer is currently entitled for a CCMDB Install License and Resource Value Units for 200 servers (3,800 VUs). The customer has licensed additional hardware and now wishes to add entitlement for 150 more servers, and also 375 client devices in their managed environment. The customer must obtain RVU entitlements for the additional servers, and new clients as shown below.

Devices managed	Current Quantity in customer environment	Additional Quantity in customer environment	Revised Quantity in customer environment
Servers	200	150	350
Clients	0	375	375

Resource Value Unit Calculation for 150 ADDITIONAL Servers:

New Servers	Resource Value Units per Server	Resource Value Units
Tier 2 = 150	18	2,700
Total = 150		2,700

The customer was already entitled to 3,800 RVUs for servers originally calculated using Tier 1 (100 servers x 20R VUs) and Tier 2 (100 servers x 18 RVUs) in the tiered volume scale. Therefore, the additional RVUs for the new 150 servers are calculated starting at the Tier 2 level. This allows the customer the additive benefit of volume scaling for the RVUs already licensed for servers.

Resource Value Unit Calculation for 375 new clients: (round up to the nearest hundred: 400)

Servers (100 clients = 1 server)	Resource Value Units per Server	Resource Value Units
Tier 1 = 4	20	80
Total = 4		80

In this example, the customer must license 2,780 Resource Value Units (2700 for servers and 80 for clients).

Scenario 6

A CCMDB customer now wishes to expand their process automation capability through the use of Tivoli Release Process Manager (ITRPM). The customer has 80 IT administrators whose responsibilities include the coordination and tracking of software and hardware releases across the managed environment. Of these 80 people, 20 of them must be able to address release requests at any point in time. The other 60 people will work during three different shifts and will not be logged on simultaneously. The customer estimates that of these 60 support personnel, a maximum of 25 would need to perform release process tasks during a shift.

The customer must obtain licenses for 20 Authorized Users and 25 Concurrent Users for ITRPM.

Scenario 7

A customer is currently entitled to a complementary Tivoli product such as Tivoli Service Request Manager or Tivoli Asset Management for IT. The customer wishes to use Change Management as an extension to these products, but does not need TADDM functionality. The customer anticipates no more than 50 users, will need to access the Change and Configuration Management capabilities simultaneously.

The customer must obtain licenses for 50 Concurrent Users of Change Management.

IBM Tivoli Storage Process Manager

The IBM Tivoli Storage Process Manager is priced per Resource Value Units for managed devices (terabytes).

Resource Value Units

Resource Value Unit (RVU) licenses are required based on the number of devices in the managed environment. Terabytes are the designated measurements upon which the RVUs are calculated for the Storage Process Manager (once the customer is entitled to a CCMDB or TADDM Install license). Terabytes are used for external storage devices (for example RAID arrays, Network Attached Storage (NAS) devices, and SAN systems). Direct Attached Storage Devices (DASD) that are internal to the servers or clients are licensed under the servers and client Resource Value Units (see CCMDB) and do not need to be added to the terabytes of the external storage devices.

The Resource Value Units required for the Storage Process Manager are based on the same scaled volume tier utilized for TADDM/CCMDB value units. However, when licensing terabytes, use the following conversion:

- 10 Servers = 1 Terabyte

Usage Level, Cumulative	Minimum Devices (Servers)	Maximum Devices (Servers)	Resource Value Units per Device
1	1	100	20
2	101	500	18
3	501	1,000	8
4	1,001	10,000	4
5	10,001	25,000	2
6	25,001		1

Example: A CCMDB customer now wishes to license IBM Tivoli Storage Process Manager to configure a storage environment, manage data growth and data compliance, and track incidents associated with storage on an environment 100 terabytes. The customer must obtain entitlements for the terabytes as follows:

Devices managed	Quantity in customer environment
Terabytes	100

Resource Value Unit Calculation for 100 terabytes:

Servers (1 Terabyte = 10 Servers)	Resource Value Units per Server	Resource Value Units
Tier 1 = 100	20	2,000
Tier 2 = 400	18	7,200
Tier 3 = 500	8	4,000
Total = 1,000		13,200

In this example, the customer must license 13,200 Resource Value Units.

IBM Tivoli Continuous Data Protection (CDP) for Files

Tivoli CDP for Files can be licensed to provide continuous protection for a server or PC.
• Servers are licensed per server through Tivoli CDP for Files — Server Edition.
• PCs are licensed per 25 client devices through Tivoli CDP for Files — PC Edition.

Tivoli CDP for Files Starter Edition is intended to offer continuous data protection to the single-user laptop or PC. This product is licensed per client device.

Example 1

The customer's overall network environment includes:

Distributed servers - Site 1
- 20 uniprocessor cores
- 65 2-way servers
- 12 4-way servers

Distributed servers - Site 2
- 1 8-way server
- 1 12-way server with two virtual or logical partitions
- 1 14-way server
- 1 16-way Sun Ultra server with two 8-way physical partitions (only 1 of which is managed by Tivoli applications)
- 1 24-way server

Others
- 500 workstations and 1000 laptops (1,500 clients) at Site 2.

The customer wants to manage all servers in its network with IBM Tivoli CDP for Files. The customer plans to back up all 1,500 clients (that is, technical workstations, desktops, and so forth) at Site 2.

The customer must obtain the following entitlements for IBM Tivoli CDP for Files.

Systems Managed	Quantity in Customer Environment	Processor Core Entitlements Required
Uniprocessor core	20	20
2-way	65	65
4-way	12	12
8-way	1	1
12-way (2 logical partitions)	1	1
14-way	1	1
16-way (2 physical partitions, 1 of which is managed by Tivoli applications)	1	1
24-way	1	1
Total Processor Core Entitlements		102

The customer must obtain the following client entitlements of IBM Tivoli CDP for Files for the laptops and workstations at Site 2.

Systems Managed	Quantity in Customer Environment	Total Client Entitlements Required
Clients	1,500	1,500
Total Client Entitlements		1,500

Note: To license 1,500 clients for Tivoli CDP for Files — PC Edition would require the license of 60 of the 25-client device packs.

Example 2

The new customer wants to continuously protect 5 PCs or laptops individually, using Tivoli CDP for Files Starter Edition.

Systems Managed	Quantity in Customer Environment	Total Client Entitlements Required
Clients	5	5
Total Client Entitlements		5

IBM Tivoli Integration Adapter

IBM Tivoli Integration Adapter is licensed per server on which the product is installed.
If a customer has installed the product on two servers, the following licensing scheme applies:

Pricing metric	Quantity in customer environment	Entitlements required
Server	2	2

IBM Tivoli Storage Manager HSM for Windows

License Scenario 1:

A customer wants to space manage 4.25 TB of files from 6 Microsoft Windows file servers. This means 4.25 TB of files will be migrated from their current location to the IBM Tivoli Storage Manager server's primary HSM storage pools. The migrated files will be replaced with references to the original file. The data in the primary HSM storage pools will be copied for off-site protection to a copy pool. The customer has designated 0.25 TB of disk for an HSM disk storage pool, 4 TB for an HSM removable media storage pool, and 6 TB of removable media for a copy storage pool.

The customer needs to license 5 TB of IBM Tivoli Storage Manager HSM for Windows.

HSM Disk Storage Pool	HSM Removable Media Storage Pool	Capacity	Required Licenses
0.25 TB	4 TB	4.25 TB	5 TB of IBM Tivoli Storage Manager HSM for Windows

License Scenario 2 (ADDITIONAL CAPACITY):
A customer had licensed 5 TB of IBM Tivoli Storage Manager HSM for Windows. Over the last 12 months, the customer consumed the 5 TB of HSM capacity they licensed initially in addition to an additional 1 TB. Over the next 12 months, they expect the amount of space managed data will grow to 9 TB total. They will continue to keep the 0.25 TB for the HSM disk storage pool and thus store the remaining 8.75 TB in the removable media storage pool.

The customer should license an additional 4 TB of IBM Tivoli Storage Manager HSM for Windows.

HSM Disk Storage Pool	HSM Removable Media Storage Pool	Capacity	Required Licenses
0.25 TB	8.75 TB	9 TB	9 TB of IBM Tivoli Storage Manager HSM for Windows

IBM Tivoli Unified Process (ITUP) Composer

Each install of the IBM Tivoli CCMDB application entitles the customer to an initial 10-user license of IBM Tivoli Unified Process Composer. Additional licenses are licensed according to the pricing example below.
Example: A customer wishes to license additional licenses of IBM Tivoli Unified Process Composer to obtain detailed documentation of IBM Tivoli Storage Manager processes based on industry best practices. Licensing for IBM Tivoli Unified Process Composer is based on the number of authorized users, and each license is good for 10 authorized users.

Number of Authorized Users in Customer's Environment	Number of ITUP Composer Licenses/Instances Required
1	1
10	1
12	2
25	3

- Authorized users round up to the nearest ten.

IBM Tivoli Storage Productivity Center Basic Edition

IBM Tivoli Storage Productivity Center Basic Edition is licensed per server and is not based on capacity. Specifically, each server that is running the Tivoli Storage Productivity Center Basic Edition software requires the purchase of a license. IBM Tivoli Storage Productivity Center Basic Edition is **not** free.

IBM Tivoli Storage Productivity Center for Disk, Data, Replication, and Standard Edition

These IBM Tivoli Storage Productivity Center distributed products use a tiered terabyte (TB) pricing model. The model consists of six tiers, which are to be used cumulatively. All tiers must be used in order, (begin with the first one and move on to the second one, and so forth) to get to the desired total amount of TB.

Based on the actual TB tiers, the following example is an illustration, using hypothetical prices, to show how to calculate the prices:

Tier TB range (actual)	$K/TB (hypothetical)
1-12	10
13-32	9
33-64	8
65-100	7
101-250	6
250 +	5

Total TB ordered	How it would be charged
5 TB	$10K x 5 TB = $50K
10 TB	$10K x 10 TB = $100K
15 TB	$10K x 12 TB + $9K x 3 TB = $147K
32 TB	$10K x 12 TB + $9K x 20 TB = $300K
50 TB	$10K x 12 TB + $9K x 20 TB + $8K x 18 TB = $444K
300 TB	$10K x 12 TB + $9K x 20 TB + $8K x 32 TB + $7K x 36 TB + $6K x 150 TB + $5K x 50 TB = $1,958K

IBM Tivoli Storage Productivity Center for Replication notes:

IBM Tivoli Storage Productivity Center for Replication and IBM Tivoli Storage Productivity Center for Replication Three Site BC are licensed based on the amount of storage (in terabytes) to be replicated at the source location.

IBM Tivoli Storage Productivity Center for Replication V4.2 is a prerequisite for IBM Tivoli Storage Productivity Center for Replication Three Site BC V4.2.

It is not possible to order a number of TB for IBM Tivoli Storage Productivity Center Three Site BC that exceeds the number of TB ordered for IBM Tivoli Storage Productivity Center for Replication.

IBM Tivoli Storage Productivity Center for Disk Midrange Edition

IBM Tivoli Storage Productivity Center for Disk Midrange Edition V4.2 is licensed per Storage Device.

In V4.2, the IBM DS3000, DS4000, and DS5000 series are the only Storage Devices supported by IBM Tivoli Storage Productivity Center for Disk Midrange Edition.

Example 1

A customer with an IBM DS5020 has one controller unit and two expansion units for a total of three Storage Devices based on the program's pricing metric. The customer must acquire three Storage Device entitlements for IBM Tivoli Storage Productivity Center for Disk Midrange Edition.

Note: The number, size, or type of drives in the controller unit or expansion unit have no bearing on the required entitlements. Controller units are counted even if they contain no drives.

Example 2

A customer with an IBM DS5100 has two controller units and six expansion units for a total of eight Storage Devices. The customer must acquire eight Storage Device entitlements for IBM Tivoli Storage Productivity Center for Disk Midrange Edition. If this customer later installed another IBM DS5100 (with two controller units and two expansion units) and that device was brought under the management of IBM Tivoli Storage Productivity Center for Disk Midrange Edition, then four additional Storage Device entitlements must be acquired.

Example 3

A customer with an IBM DS5300 that has two controller units and 16 expansion units, for a total of 18 Storage Devices, requires 18 Storage Device entitlements for IBM Tivoli Storage Productivity Center for Disk Midrange Edition. In addition, this customer has other Storage Devices not listed in the supported operating environment. Since IBM Tivoli Storage Productivity Center for Disk Midrange Edition includes the capabilities found in IBM Tivoli Storage Productivity Center Basic Edition (5608-WB1), the customer is entitled to use the features of IBM Tivoli Storage Productivity Center Basic Edition with its other devices.

Note: Performance monitoring and reporting is a key feature of IBM Tivoli Storage Productivity Center for Disk Midrange Edition V4.2 and the use of such management capabilities is limited to the IBM DS3000, DS4000, and DS5000 series. A broader range of device support is available with IBM Tivoli Storage Productivity Center Standard Edition (5608-WC0).

Entitlement information

Customers who have acquired a license of IBM Tivoli Storage Productivity Center for Data V4.2 and IBM Tivoli Storage Productivity Center for Disk V4.2 have the option to trade up to IBM Tivoli Storage Productivity Center Standard Edition V4.2 within Passport Advantage.

IBM Tivoli Storage Manager Suite for Unified Recovery

IBM Tivoli Storage Manager Suite for Unified Recovery is licensed on a per terabyte charge metric for data stored within IBM Tivoli Storage Manager primary pools and IBM Tivoli Storage Manager FastBack repositories.

TSM Suite for Unified recovery uses a tiered terabyte (TB) pricing model. The model consists of seven tiers, which are to be used cumulatively. All tiers must be used in order, (begin with the first one and move on to the second one, and so forth) to get to the desired total amount of TB.

Based on the actual TB tiers, the following example is an illustration, using variables for prices, to show how to calculate the prices:

Tier TB range	$K/TB
1-100	x
101-250	y
251-500	z
501-750	a
751-1250	b
1251-2000	c
2001 +	d

Total TB Ordered	How it would be charged
50 TB	x * 50 TB
150 TB	x * 100 TB + y * 50 TB
500 TB	x * 100 TB + y * 150 TB + z * 250 TB
1200 TB	x * 100 TB + y * 150 TB + z * 250 TB + a * 250 TB + b * 450 TB
1800 TB	x * 100 TB + y * 150 TB + z * 250 TB + a * 250 TB + b * 500 TB + c * 550 TB
2500 TB	x * 100 TB + y * 150 TB + z * 250 TB + a * 250 TB + b * 500 TB + c * 750 TB + d * 500 TB

IBM Tivoli Storage FlashCopy Manager

Tivoli Storage FlashCopy Manager performs snapshots at the storage volume level. Entitlement for Tivoli Storage FlashCopy Manager is on a per terabyte (TB) basis. The storage capacity that requires entitlement is the total allocated size of all volumes managed by Tivoli Storage FlashCopy Manager.

Scenario 1

The customer wants to have application data snapshot capability on a 100 TB pool of storage capacity on their Oracle database. Tivoli Storage FlashCopy Manager entitlements are required on the total allocated size of all volumes managed by Tivoli Storage FlashCopy Manager. Therefore, the customer will require the following entitlements for Tivoli Storage FlashCopy Manager.

TB tiers	Number of TB

	entitlements required
1-12	12
13-32	20
33-64	32
65-100	36
101-250	0
251 +	0
Total entitlements required	100

Notes for Scenario 1

In environments where an application replicates production data to create a replica copy, Tivoli Storage FlashCopy Manager entitlement is only required on the capacity of the total allocated size of all volumes managed by Tivoli Storage FlashCopy Manager for the source volumes of the production application data.

When Tivoli Storage FlashCopy Manager is used in an IBM Tivoli Storage Manager environment and it sends data to an IBM Tivoli Storage Manager server to be managed, you are required to have entitlement for IBM Tivoli Storage Manager or IBM Tivoli Storage Manager Extended Edition for the application server for which Tivoli Storage FlashCopy Manager manages data. In addition, you are required to have entitlement for the appropriate Tivoli Storage Manager application agent (the agent for Microsoft SQL and Oracle is IBM Tivoli Storage Manager for Databases, the agent for Microsoft Exchange is IBM Tivoli Storage Manager for Mail, and the agent for underlying IBM DB2 or Oracle databases for SAP applications is IBM Tivoli Storage Manager for Enterprise Resource Planning). The Tivoli Storage Manager agent for IBM DB2 is included with DB2, so an additional Tivoli Storage Manager application agent entitlement is not required in that case.

Scenario 2

If the customer in Scenario 1 sends that 100 TB of Oracle database data to a Tivoli Storage Manager server to be backed up, then the customer will need to entitle the server that is running the Oracle database for IBM Tivoli Storage Manager for Databases, which also requires entitlement for Tivoli Storage Manager or Tivoli Storage Manager Extended Edition. The Tivoli Storage Manager server needs to be entitled with either Tivoli Storage Manager or Tivoli Storage Manager Extended Edition.

For Scenario 2, the following entitlements are required in addition to the requirements from Scenario 1. In this example, the Oracle database server and the Tivoli Storage Manager server are both dual quad core servers, with a total of eight processor cores on each server.

Tivoli Storage Manager Environment	Processor core entitlements required
Tivoli Storage Manager for Databases	8
Tivoli Storage Manager or Tivoli Storage Manager Extended Edition	16
Total processor core entitlements required	24

Changes to Tivoli Storage Manager and Tivoli Storage Manager Extended Edition licensing

When Tivoli Storage Manager or Tivoli Storage Manager Extended Edition are used in conjunction with Tivoli Storage FlashCopy Manager, the following licensing requirement changes apply for Tivoli Storage Manager and Tivoli Storage Manager Extended Edition. For the purpose of offloaded proxy backup of Tivoli Storage FlashCopy Manager managed data to Tivoli Storage Manager or Tivoli Storage Manager Extended Edition, you are entitled to install on a secondary machine at no additional charge:

- A second copy of Tivoli Storage FlashCopy Manager.
- A second copy of Tivoli Storage Manager or Tivoli Storage Manager Extended Edition.
- A second copy of the Tivoli Storage Manager application agent (the agent for Microsoft SQL and Oracle is Tivoli Storage Manager for Databases, the agent for Microsoft Exchange is IBM Tivoli Storage Manager for Mail, and the agent for underlying IBM DB2 or Oracle databases for SAP applications is IBM Tivoli Storage Manager for Enterprise Resource Planning). The secondary machine is intended for offloaded data backup to Tivoli Storage Manager or Tivoli Storage Manager Extended Edition.

Refer to the Tivoli Storage FlashCopy Manager License Information document for applicable terms.

IBM Tivoli Federated Identity Manager Business Gateway

IBM Tivoli Federated Identity Manager Business Gateway is priced per server. In pricing IBM Tivoli Federated Identity Manager Business Gateway , an example is provided showing the per-server pricing. The definition of a server is provided earlier.

Pricing Example

Example 1a

ABC Consumer Goods deploys IBM Tivoli Federated Identity Manager Business Gateway on 1 server in order to connect with its 10 retailing customers. ABC Consumer Goods must license 1 entitlement for the 1 server.

Example 1b

XYZ Consumer Goods deploys IBM Tivoli Federated Identity Manager Business Gateway V6.1.1 on two servers in order to connect with its 10 retailing customers. XYZ Pharmaceuticals must license two entitlements, 1 for each of the two servers.

Example 2a

ABC Consumer Goods deploys IBM Tivoli Federated Identity Manager Business Gateway management/runtime server on 1 server, and the administrative console on another server. ABC Consumer Goods must license 1 entitlement, 1 for the server that the management/runtime server is deployed on.

Example 2b

XYZ Consumer Goods deploys IBM Tivoli Federated Identity Manager Business Gateway management/runtime server on two servers, and the administrative console on another server. ABC Consumer Goods must license two entitlements, 1 for each of the servers that the management/runtime server is deployed on.

Example 3a

ABC Consumer Goods deploys IBM Tivoli Federated Identity Manager Business Gateway on 1 server. Total users would equal 100. ABC Consumer Goods must license 1 entitlement for the 1 server.

Example 3b

XYZ Consumer Goods deploys IBM Tivoli Federated Identity Manager Business Gateway on 1 server. Total users would equal 10,000. ABC Consumer Goods must license 1 entitlement for the 1 server.

IBM Information Archive

Entitlement for IBM Information Archive V2.1 is on a per terabyte (TB) basis. The entitlement is based on the total storage managed by IBM Information Archive.

The following example is provided to illustrate your licensing requirements.

The customer has IBM Information Archive with a total of 72 TB of storage managed as follows:

- One file archive collection, also known as Network Attached Storage (NAS) collection, with 35 TB of storage
- One System Storage® Archive Manager (SSAM) collection with 37 TB of storage

The customer will require the following entitlements for the IBM Information Archive base license.

TB tiers	Number of TB entitlements required
1-12	12
13-32	20
33-64	32
65-100	8
101-250	0
251 +	0
Total entitlements required	72

In addition, the customer wants to use the IBM Information Archive Index and Search feature, which supports the file archive collection only. Entitlement for the Index and Search feature is on a per TB basis. The TB entitlement for the one file archive collection, also known as Network Attached Storage (NAS) collection, is 35 TB of storage.

To enable the Index and Search feature for the file archive collection, the customer will require the following entitlements for the Index and Search feature.

TB tiers	Number of TB entitlements required
1-12	12
13-32	20

33-64	3
65-100	0
101-250	0
251 +	0
Total entitlements required	35

IBM Tivoli Security Operations Manager

The pricing for Tivoli Security Operations Manager (TSOM) is based on Resource Value Units (RVUs). There are six chargeable license components that may apply in any given installation. Application and Database licensing are now included in TSOM. There are two license volume discount schedules. The following table illustrates the six licenses and the volume discount that applies to that license.

Price metric	Volume Discount Schedule
Tivoli Security Operations Manager installs	Schedule 2
Client devices	Schedule 1
Network nodes	Schedule 1
Network security devices	Schedule 1
Server instances	Schedule 1
Applications and databases instances	Schedule 2

The two volume discount schedules are as follows:

Schedule 1

Tier	Number of Resources	RVUs per Resource
1	0-10	1.00
2	11-100	0.90
3	101-250	0.75
4	251-500	0.60
5	501-5,000	0.45
6	5,001-25,000	0.30
7	>25,000	0.15

Schedule 2

Tier	Number of Resources	RVUs per Resource
1	0-2	1.00
2	3-5	0.90
3	6-10	0.80
4	11-20	0.70

5	21-35	0.60
6	36-50	0.45
7	>50	0.30

The pricing for Tivoli Security Operations Manager software ("TSOM") follows IBM's Enhanced Value-Based model with an additional volume-based discount schedule for each of its components, including the TSOM Install and the adaptor components for each type of resource, device or end point monitored by the customer using TSOM (each a "Device").

TSOM infrastructure, correlation capabilities, security policy rules, incident management functions, user interfaces and reporting capabilities are included in the TSOM Install pricing model. TSOM Install core components include Central Management Servers (CMSs), Event Aggregation Modules (EAMs), security dashboards, reporting, and report designer application. Any number of TSOM Install core components can be copied and installed as needed to handle scalability and performance when monitoring Devices using TSOM.

For each TSOM Install, customers must also acquire adaptor components for each Device based on the applicable Device category: Network Security Devices; Servers instances; Network Nodes; Application and database instances; and Desktop Clients. The number of chargeable adaptor components is based on the number of original, unique sources of event and log inputs in each Device category represented in the customer's inventory. There are no additional charges based on how data is collected by TSOM, whether via a centralized management server, API, agent, or agentless technology. All of the data collection options that TSOM supports (including XML, Syslog, SNMP, JDBC, text file, OPSEC, and Cisco IDS) are included and do not affect pricing.

To provide some clarification of monitored device categories listed above, and which products apply to them, review the pricing examples and details below. Also there are a few pricing instances that may not be clear from the definitions provided above. For example "client" represents sources of logs that come from end clients (personal firewall, antivirus) and the applicable license fee is based on the number of unique endpoints, independent of how TSOM software collects the information. Server Instance represents a unique instance of native operating system logs, of which a physical hardware server may have several, if running virtualization software. Host based intrusion protection and security products for servers, such as IBM ISS Proventia Server, Cisco Security Agent, or Tripwire are counted as network nodes when calculating the applicable license fees. Following are some examples with more detail.

Pricing Example

Pricing Scenario 1

Transaction 1

In phase 1, a customer wants to license TSOM software to set up a Security Operations Center (SOC) for a division that is opening a new electronic commerce portal. The customer's initial deployment goal is to consolidate information from the customer's perimeter security products and Internet-facing servers. The customer's initial deployment will focus on:

- 1 TSOM installation
- No clients
- 100 network infrastructure products and server intrusion protection agents (network nodes)
- In addition, the customer will be monitoring 50 server's operating systems

- 15 firewalls, 10 intrusion protection appliances, and 5 additional network security products (total of 30 network security devices)

Transaction 1 table reflecting quantities to order

Price metric	Schedule	Quantity in Environment	Resource Value Units
TSOM install licenses	Schedule 2	1	1
Client licenses	Schedule 1	0	0
Network node licenses	Schedule 1	100	91
Server instance licenses	Schedule 1	50	46
Network security device licenses	Schedule 1	30	28

Transaction 2

In phase 2, the customer wants to add:

- 1,200 desktop clients collecting desktop antivirus events from McAfee ePolicy Orchestrator
- 60 more server's operating systems
- 3 databases
- 115 more network infrastructure products
- 35 more network security products, including firewalls, VPNs, and identity management servers

Total additional quantities to order are:

Price metric	Schedule	Previous Quantity Totals	New Quantity Totals	Previous Resource Value Units	New Required Resource Value Unit Totals	Resource Value Unit Quantity to Order
TSOM Install licenses	Schedule 2	1	1	1	1	0
Client licenses	Schedule 1	0	1,200	0	669	669
Network node licenses	Schedule 1	100	215	91	178	87
Server instance licenses	Schedule 1	50	110	46	99	53
Network security device licenses	Schedule 1	30	65	28	60	32
APP and DB instance Licenses	Schedule 2	0	3	0	3	3

For Scenario 1, the final quantities in the customer's environment are reflected in the table below.

Scenario 1 quantities in the customer environment

Price metric	New Quantities in the Environment	New Resource Value Unit Quantities
TSOM install licenses	1	1
Client licenses	1,200	669
Network node licenses	215	178
Server instance licenses	110	99
APP and DB instance licenses	3	3
Network security device licenses	65	60

Pricing Scenario 2

A federal government agency wants to license a TSOM installation for three divisions to set up independent Security Operations Centers (SOC) for each. Each division wants control of its own management system, security correlation rules, and operations, and will be set up and staffed independently. Division A is going to start by monitoring 200 network security devices and 300 Network nodes only; Division B will start with 100 Network security devices, 200 Network nodes, 500 desktop clients, and 1,000 Servers; Division C will be covering 200 network security devices, 2,000 servers, 12 databases, 2 applications, 10,000 clients, and 3,000 network nodes.

Summary of Agency's chargeable components

Monitored resource	Division A	Division B	Division C
TSOM installs	1	1	1
Clients	0	500	10,000
Network nodes	300	200	3,000
Servers Instances	0	1,000	2,000
Network security devices	200	100	200
Applications and DBs Instances	0	0	14

Scenario 2 table reflecting total quantities to order

Price metric	Schedule	Quantity in the Environment	Resource Value Unites to Order
TSOM install licenses	Schedule 2	3	3
Client licenses	Schedule 1	10,500	4,029
Network node licenses	Schedule 1	3,500	1,704
Server Instances licenses	Schedule 1	3,000	1,479
Network security device licenses	Schedule 1	500	354
Applications and DBs Instances	Schedule 2	14	12

Additional TSOM pricing details, interpretations, and examples

The license fee charged is dependent upon the number of unique resources monitored regardless of how the data from them is collected. Events or logs may be collected individually from each resource or from a

central management server (like ISS SiteProtector, McAfee ePO, and Juniper NSM). The license fee is based on the number of original event sources, independent of the collection implementation. Examples of customer environments and interpretations on quantifying resources are listed below.

Example A: A customer is collecting Check Point Firewall-1 event logs from 25 firewalls through one Check Point Provider-1 management console connection via an OPSEC API. This counts as 25 network security devices for calculating RVUs. The fact that the TSOM software collects the data via a single OPSEC connection is an implementation detail that doesn't affect the applicable license fee.

Example B: A customer is collecting Windows Event Logs from 200 servers. These Logs have all been forwarded to a single Windows Domain Server for collection by TSOM software. For TSOM software licensing, this counts as 200 server instances.

Example C: A customer is collecting Windows OS event logs, Tivoli Security Compliance Manager alerts, and SAP application logs all from 10 critical servers. This counts as 10 servers, 10 applications, and 10 network security devices under TSOM software licensing.

Example D: A customer is collecting events from 10,000 client systems running Proventia desktop, via a single SiteProtector system. The same 10,000 client systems are running McAfee antivirus, and want to collect these logs via a single McAfee ePolicy Orchestrator server. This counts as 10,000 clients under TSOM licensing.

Example E: A federal government agency acquires TSOM for use in two divisions to set up independent Security Operations Centers (SOC) for each division. Each division wants control of its own TSOM Install in order to control its unique security correlation rules and security operation customizations. Division A will start by monitoring 200 network security devices and 300 network nodes only. Division B will start by monitoring 100 network security devices, 200 network nodes, 500 desktop clients, and 1,000 servers.

Division A will buy:

- An entitlement for a single TSOM Install
- Entitlements for 200 network security devices
- Entitlements for 300 network nodes

Division B will buy:

- An entitlement for a single TSOM Install
- Entitlements for 100 network security devices
- Entitlements for 200 network nodes
- Entitlements for 500 desktop clients
- Entitlements for 1,000 servers

Later, Division B seeks to expand its TSOM Install to handle performance in monitoring its Devices. Division B can achieve performance improvements by installing two more CMS components and five more EAM components. Division B also seeks to monitor 200 additional network security Devices.

Division B will have to buy:

- Entitlements for 200 additional Network Security Devices

Division B will not have to acquire additional TSOM Install entitlements because it can add the additional CMS and EAM components using the original TSOM Install.

IBM Tivoli Security Information Event Manager

IBM Tivoli Security Information and Event Manager addresses concerns around insider threat, compliance management, and audit. It helps you to easily understand your current position with regard to compliance management, audit, and threat.

Pricing Example

The pricing for Tivoli Security Information and Event Manager is based on Resource Value Units (RVUs). There are eight chargeable license components that may apply in any given installation. There are two license volume discount schedules. The following table illustrates the eight licenses and the volume discount that applies to that license.

Price Metric	Volume Discount Schedule
Tivoli Security Information Event Manager Base Install	Per Install
Compliance management modules	Schedule 2
Event Source - Client Devices	Schedule 1
Event Source - Network Nodes and Security Devices	Schedule 1
Event Source - Servers	Schedule 1
Event Source - Applications , databases and zOS instances	Schedule 2
TSIEM Log Management Base Install	Per Install
Event Source – Log Management Events	Schedule 1

The two volume discount schedules are as follows:

Schedule 1

Tier	Number of resources	RVUs per resource
1	0 - 10	1.00
2	11 - 100	0.90
3	101 - 250	0.75
4	251 - 500	0.60
5	501 - 5,000	0.45
6	5,001 - 25,000	0.30
7	>25,000	0.15

Schedule 2

Tier	Number of resources	RVUs per resource
1	0 - 2	1.00
2	3 - 5	0.90
3	6 – 10	0.80
4	11 - 20	0.70
5	21 - 35	0.60
6	36 -50	O.45
7	>50	0.30

Pricing Example

Transaction 1

In phase 1 of a compliance management installation the customer needs to monitor and store logs for select critical systems. In order to do this they need to monitor and collect logs from 27 servers, 15 firewalls and 10 of their databases.

- 1 TSIEM Log Manager Install
- 27 servers
- 15 firewalls
- 10 databases

All of the event sources are being used for log management only and will be calculated as TSIEM Log Management Devices (Schedule 1).

Log management gives the capability to collect logs; to store and retrieve those logs; to search and report on the log content. It requires a TSIEM Log Manager Install to support this.

Price Metric	Quantity	RVU's/Resource (Schedule 1)	RVU's
Tier 1 TSIEM Log Management Devices	10	1.00	10
Tier 2 TSIEM Log Management Devices	42	0.90	37.8
Total Log Management Devices RVUs (rounded up)			48

Price Metric	Quantity
TSIEM Log Manager Install	1
Total TSIEM Log Manager Install	1

Transaction 2

In phase 2 of their implementation they need to provide alerting and compliance management reporting on their key infrastructure for compliance management with PCI-DSS and Sarbanes Oxley. This now requires them to be monitoring 250 servers, 20 databases, and existing firewalls and switches (15 devices in all). To support alerting they also need to upgrade their TSIEM Log Manager Install and their TSIEM Log Management Devices to full W7 support.

- Trade up their 27 Log Management Devices to 27 Server (for the Phase 1 servers)
- Trade up their 10 Log Management Devices to 10 Application and Database Instances and z/OS instances (for the Phase 1 production databases)
- Trade up their 15 Log Management Devices to 15 Network Devices (for the Phase 1 firewall devices)
- 223 more servers

- 10 more databases
- 2 Compliance Management modules

Price Metric	Quantity	RVU's/Resource (Schedule 1)	RVU's
Tier 1 TSIEM Log Management Devices to Server Tradeup	10	1.00	10
Tier 2 TSIEM Log Management Devices to Server Tradeup	17	0.90	15.3
Total Log Management Devices to Server tradeup (rounded up			26

Price Metric	Quantity	RVU's/Resource	RVU's
Tier 1 TSIEM Log Management Devices to Application and Database Instances and z/OS Instances tradeup	10	1.00	10
Total Log Management Devices to Application, Database Instances and z/OS Instances tradeup (rounded up)			10

Price Metric	Quantity	RVU's/Resource (Schedule 1)	RVU's
Tier 1 TSIEM Log Management Devices to Network Devices tradeup	10	1.00	10
Tier 2 TSIEM Log Management Devices to Network Devices tradeup	5	0.90	4.5
Total Log Management Devices to Network Devices tradeup (rounded up)			15

Price Metric	Quantity	RVU's/Resource (Schedule 1)	RVU's
Tier 1 TSIEM Server Event Source	10	1.00	10
Tier 2 TSIEM Server Event Source	100	0.90	90
Tier 3 TSIEM Server Event Source	113	0.75	84.75
Total TSIEM Server Event Sources (rounded up)			185

Price Metric	Quantity	RVU's/Resource (Schedule 2)	RVU's
Tier 1 Application, Database and z/OS Instances	2	1.00	2

Tier 2 Application, Database and z/OS Instances	3	0.90	2.7
Tier 3 Application, Database and z/OS Instances	5	0.8	4
Total Application and Database Instances and z/OS Instances(rounded up)			9

Price Metric	Quantity	RVU's/Resource (Schedule 2)	RVU's
Tier 1 TSIEM Compliance Management Module	2	1.00	2
Total TSIEM Compliance Management Module			2

Price Metric	Quantity
TSIEM Log Manager Install to TSIEM Install tradeup	1
Total TSIEM Log Manager Install to TSIEM Install tradeup	1

Pricing Scenario 2

Transaction 1

In phase 1, a customer wants to license Tivoli Security Information and Event Manager to set up compliance management for a division that runs a large financial system. They want to benefit from the built-in audit and compliance management reporting provided by Tivoli Security Information and Event Manager and to benefit from the advanced analysis and reporting provided through W7 normalization. The initial deployment goal is to consolidate information from their core application and database servers. Their initial deployment will focus on:

- 1 TSIEM Install
- 28 servers
- 4 databases

Transaction 1 tables below reflect Resource Value Units (RVUs) to order based upon per instance using Schedule 2 for each Application and Database Instances and z/OS Instances. Schedule 1 is used to calculate RVUs to order for each Server.

Price Metric	Quantity
TSIEM Log Manager Install to TSIEM Install tradeup	1

Price Metric	Quantity	RVU's/Resource (Schedule 1)	RVU's

Tier 1 TSIEM Server Event Source	10	1.00	10
Tier 2 TSIEM Server Event Source	18	0.90	16.2
Total TSIEM Server Event Sources (rounded up)			27

Price Metric	Quantity	RVU's/Resource (Schedule 2)	RVU's
Tier 1 Application, Database and z/OS Instances	2	1.00	2
Tier 2 Application, Database and z/OS Instances	2	0.90	1.8
Total Application and Database Instances and z/OS Instances(rounded up)			4

Transaction 2

In phase 2 the customer wants to add:

- 20 more databases

The total number of databases licensed increases to 24.

Price Metric	Quantity	RVU's/Resource (Schedule 2)	RVU's
Tier 1 Application, Database and z/OS Instances	2	1.00	2
Tier 2 Application, Database and z/OS Instances	3	0.90	2.7
Tier 3 Application, Database and z/OS Instances	5	0.80	4.0
Tier 4 Application, Database and z/OS Instances	10	0.70	7.0
Tier 5 Application, Database and z/OS Instances	4	0.60	2.4
Total Application and Database Instances (rounded up) and z/OS Instances			19

In this phase, the customer wants to accelerate their compliance management reporting to satisfy auditor requirements. They would then license one Sarbanes Oxley Compliance Management Module to install on their IBM Tivoli Compliance Insight Manager server, as well as purchasing entitlements for other critical network components. Total additional quantities in the customer's environment to order are:

- Sarbanes Oxley Compliance Management Module
- 20 TSIEM Network Devices
- 65 TSIEM Server
- 25 Application and Database Instances and z/OS Instances

Price Metric	Quantity	RVU's/Resource (Schedule 2)	RVU's
Tier 1 TSIEM Compliance Management Module	1	1.00	1
Total TSIEM Compliance Management Module			1

Price Metric	Incremental Quantity	Previous Quantity	New Total Quantity
TSIEM Network Devices	20	0	20
TSIEM Server	65	28	93
Application, Database Instances and z/OS Instances	25	24	49

Additional Tivoli Security Information and Event Manager pricing details, interpretations, and examples

The price charged is dependent upon the number of TSIEM Installs and the number of TSIEM Log Manager Installs and the number of event sources monitored regardless of how the data from them is collected. Events or logs may be collected individually from each resource, from a central management server (like ISS SiteProtector™, McAfee ePO), or through a central point of presence. The number of resources monitored is independent of the collection implementation used.

Examples of customer environments and interpretations on quantifying resources are listed below.

Note 1: A Tivoli Security Information and Event Manager license for an event source includes events only from that individual server log, application log, or database log.

Note 2: For platforms that support partitioning, each individual partition is considered to require separate entitlements for the resources monitored. Examples are: LPARs on the mainframe, Solaris Zones, Database Instances.

Example A: A customer is collecting Check Point Firewall-1 event logs from 25 firewalls through one Check Point Provider-1 management console connection via an OPSEC API. This counts as 25 Network Devices under Tivoli Security Information and Event Manager licensing. The fact that Tivoli Security Information and Event Manager collects the data via a single OPSEC connection is an implementation detail that doesn't affect the price.

Example B: A customer is collecting Windows Event Logs from 20 servers. These Logs are all collected through the agent on a single Windows server for collection by Tivoli Security Information and Event Manager. For Tivoli Security Information and Event Manager licensing, this counts as 20 Servers.

Example C: A customer is collecting Windows operating system event logs, UDB database audit logs, and SAP application logs all from 10 critical servers. This counts as 10 Servers plus 20 Application and Database Instances and z/OS Instances under Tivoli Security Information and Event Manager licensing.

Example D: A customer is collecting Windows operating system event logs and UDB database audit logs from two UDB instances on a single server. This counts as one Server plus two Application and Database Instances and z/OS Instances.

Example E: A customer is collecting z/OS logs from four LPARs on a single sysplex. This is counted as four Application and Database Instances and z/OS Instances, one for each LPAR.

IBM Tivoli Event Log Manager (PRPQ)
IBM Tivoli Event Log Manager is a PRPQ for a basic, entry level version of Tivoli Compliance Insight Manager (TCIM) that will announce in February 2008. It will have two parts, one for the base (which is on RVU Schedule 2), and one for the Event source (which is on RVU Schedule 1).

Pricing Example:

Pricing Scenario 1

A customer wants to license Event Log Manager software to set up a Security Operations Center (SOC) for a division that is opening a new electronic commerce portal.

Transaction 1

In phase 1, the customer's initial deployment goal is to consolidate information from the customer's perimeter security products and Internet-facing servers. The customer's initial deployment will focus on:

- 1 Tivoli Event Log Manager base server installation
- 100 network infrastructure products and server intrusion protection agents (network nodes)
- In addition, the customer will be monitoring 50 servers operating systems
- 15 firewalls, 10 intrusion protection appliances, and 5 additional network security products (Total of 30 network security devices)

Transaction 1 table reflecting quantities to order

Price Metric	Schedule	Quantity in Environment	RVUs
Base Installs	Schedule 2	1	1
Event Sources	Schedule 1	180	151

Transaction 2

In phase 2 the customer wants to add collect logs from more devices as follows:

- 60 more servers operating systems
- 3 databases
- 115 more network infrastructure products
- 35 more network security products, including firewalls, VPNs, and identity management servers

Total additional quantities to order are:

Price Metric	Schedule	Previous Qty Totals	New Qty Totals	Previous RVUs	New req'd RVUs	RVUs to Order
Base Installs	Schedule 2	1	1	1	1	0
Event Sources	Schedule 1	180	393	151	290	139

For Scenario 1, the final quantities in the customer's environment are reflected in the table below.

Scenario 1 quantities in the customer environment

Price Metric	New Quantity in Environment	New RVU Quantities
Base Installs	1	1
Event Sources	393	290

Pricing Scenario 2

A federal government agency wants to license an Event Log Manager installation for three divisions so Security Operation is run independently. Each division wants control of its own management system, compliance tracking, and operations; and will be set up and staffed independently. Division A is going to start by collecting logs from 200 network security devices and 300 network nodes only. Division B will start with 100 network security devices, 200 network nodes, and 1,000 servers. Division C will be covering 200 network security devices, 2,000 servers, 12 databases, two applications, nine z/OS LPARs, and 3,000 network nodes.

Summary of Agency's chargeable components

Monitored Resources	Division A	Division B	Division C
Base Installs	1	1	1
Event Sources	500	1,300	5,223

Scenario 2 table reflecting total quantities to order

Price Metric	Schedule	Quantity in Environment	RVUs to Order
Base Installs	Schedule 2	3	3
Event Sources	Schedule 1	7,023	2,986

IBM Tivoli Security Policy Manager

IBM® Tivoli® Security Policy Manager helps enterprises reduce cost and complexity of securing access to business transactions and services by managing and enforcing security policies in a heterogeneous IT and service oriented architecture (SOA) environments.

The pricing examples below should be used to determine required license entitlements for IBM Tivoli Security Policy Manager for Run Time Security Services and IBM Tivoli Security Policy Manager for Data Entitlement. In many cases, it will require both Processor Value Unit entitlements and Resource Value Unit entitlements. Processor Value Unit entitlements are required to cover the Tivoli Security Policy Manager for Application Entitlements .Please see examples in the Processor Value Unit section.

Value Unit entitlements are required for Tivoli Security Policy Manager for Run Time Security Services and the total resources managed. In this case, the resources to enter into the volume tiering table for the purpose of calculating Resource Value Units to order are the number of instances of Tivoli Security Policy Manager for Run Time Security Services.

Resource Value Units are calculated based upon the following volume tiering table and are rounded up to the next whole number.

Tier	Number of resources	RVUs per resource
1	0 - 2	1.00
2	3 - 5	0.90
3	6 - 10	0.80
4	11 - 20	0.70
5	21 - 35	0.60
6	36 -50	O.45
7	>50	0.30

Customer XYZ wants to license the offering to externalize security from the applications and manage security policies and entitlements for new and existing applications, like Java, Microsoft .NET, mainframe, and even customized applications with the following components and configuration:

• Two 2-way servers running Tivoli Security Policy Manager for Application Entitlements
• 4-way server running one instance of IBM Tivoli Security Policy Manager for Run Time Security Services on each of the four processors

In this case, customer XYZ is required to license Processor Value Units to entitle Tivoli Security Policy Manager for Application entitlements licenses for each of the four processors as identified in the following table:

Tivoli Security Policy Manager for Application Entitlements - PVUs

Systems Managed	Quantity in Customer Environment	Processor Cores to be Licensed
2-way	2	4
Total Processor Cores to be Licensed		4

In addition, customer XYZ is required to license Resource Value Units to entitle Tivoli Security Policy Manager for Run Time Security Services for the four instances installed as identified in the following table:

Tivoli Security Policy Manager for Run Time Security Services Entitlements – RVUs

Tier	Number of resources	Resources in Environment	RVUs per resource	RVU Quantity to Order
1	0 - 2	2	1.00	2.00
2	3 - 5	2	0.90	1.80
3	6 - 10		0.80	
4	11 - 20		0.70	
5	21 - 35		0.60	
6	36 -50		O.45	
7	>50		0.30	
Total				3.80

				(must round up to 4.00)

Note: The total Resource Value Units in the customer's environment are rounded up for the purpose of determining Resource Value Units to order. In this case customer XYZ would order four Resource Value Units of Tivoli Security Policy Manager for Run Time Security Services.

IBM Tivoli Key Lifecycle Manager

IBM Tivoli Key Lifecycle Manager V2.0 provides an automated solution to centralize and strengthen the encryption and key management process throughout the enterprise, helping minimize the risk of exposure and reducing operational costs.

Tivoli Key Lifecycle Manager offers a simple and robust solution for key storage, key serving, and key lifecycle management for IBM self-encrypting storage devices and non-IBM devices. By enabling effective encryption of sensitive data, Tivoli Key Lifecycle Manager enhances data security and compliance management.

IBM Tivoli Key Lifecycle Manager requires entitlement for each TKLM Base Install and all resources managed (Terabytes of storage disk and tape drive storage). In this case, the resources to enter into the volume tiering table to calculate Resource Value Units are the total Terabytes of tape drive storage and total Terabytes of disk storage being managed by Tivoli Key Lifecycle Manager. Tivoli Key Lifecycle Manager provides management of the encryption and authentication keys for encrypted storage.

Resource Value Units are calculated based upon the following volume tiering table and are rounded up to the next whole number.

Tier	Number of Terabytes	RVUs per Terabyte
1	1 - 12	1.00
2	13 – 32	0.8455
3	33 – 64	0.6137
4	65 - 100	0.4639
5	101 - 250	0.3870
6	>250	0.3097

Pricing Example

Transaction 1

Assume customer ABC is setting up their own IT storage environment for tape drives only. They plan to license two Installs of Tivoli Key Lifecycle Manager Basic Edition base. Customer ABC will start off with supporting 80 Terabytes on tape drives with one of the Installs and 60 Terabytes on tape drives on the other Install. The Terabytes are added together to get the total Terabytes to charge for and enter into the volume tiering table to get Resource Value Units to order. In this case 80 Terabytes for one Install and 60 terabytes for the other Install add up to 140 chargeable Terabytes.

Resource Value Units required

Total Resource Value Units to order to entitle ABC's environment for the 140 chargeable terabytes are determined as follows:

Tier	Number of Terabytes	Terabytes in Environment (A)	RVUs per Terabyte (B)	RVU Quantity to Order (A) x (B)
1	1 - 12	12	1.00	12.0000
2	13 – 32	20	0.8455	16.9100
3	33 – 64	32	0.6137	19.6384
4	65 - 100	36	0.4639	16.7004
5	101 - 250	40	0.3870	15.4800
6	>250	--	0.3097	0.0000
Total		140		80.7288 (rounded up to 81.00)

Customer ABC would order 81 Resource Value Units to entitle their environment for the 140 Terabytes managed, and 2 Installs.

Transaction 2

In Phase 2, customer ABC looks to increase the Terabytes managed on the two Installs that they have already entitled. They will add another 120 Terabytes on additional tape drives. The new total of Terabytes managed in the ABC's environment would be the previous 140 plus 120 incremental for a new total of 260 Terabytes.

The new total of Resource Value Units required to entitle their environment would be calculated as follows:

Tier	Number of Terabytes	Terabytes in Environment (A)	RVUs perTerabyte (B)	RVU Quantity to Order (A) x (B)
1	1 - 12	12	1.00	12.0000
2	13 – 32	20	0.8455	16.9100
3	33 – 64	32	0.6137	19.6384
4	65 – 100	36	0.4639	16.7004
5	101 – 250	150	0.3870	58.0500
6	>250	10	0.3097	3.0972
Total		260		126.3958 (rounded up to 127.00)
Less Previous RVU Entitlements From first transaction				(81.00)
Total RVUs to Order				46.00

Customer ABC would need to order an additional 46 Resource Value Units to entitle their new total of 260 Terabytes. No additional installs are required as the customer ABC has originally set up their

environment to handle the incremental resources in Phase 1 when they entitled their environment for the two installs.

Note that the discount for the new storage is greater based on existing RVU entitlement.

Transaction 3

In Phase 3, customer ABC looks to increase the Terabytes managed on the two Installs that they have already entitled. They will add another 80 terabytes of disk storage. The new total Terabytes managed in the ABC's environment would be the previous 260 plus 80 Terabytes which equals 340 terabytes .

The new total of Resource Value Units required to entitle their environment would be calculated as follows:

Tier	Number of Terabytes	Terabytes in Environment (A)	RVUs per Terabyte (B)	RVU Quantity to Order (A) x (B)
1	1 - 12	12	1.00	12.0000
2	13 – 32	20	0.8455	16.9100
3	33 – 64	32	0.6137	19.6384
4	65 – 100	36	0.4639	16.7004
5	101 – 250	150	0.3870	58.0500
6	>250	90	0.3097	27.8730
Total		340		151.1718 (rounded up to 152.00)
Less Previous RVU Entitlements From last transaction				(127.00)
Total RVUs to Order				25.00

IBM Tivoli Data and Application Security

Pricing for IBM Tivoli Data and Application Security V1.0 is based on number of installs, Resource Value Units (RVUs) for terabytes of storage managed, and run time services for access control enforcement.

The following tables are used to determine the number of RVUs based on the number of terabytes of storage managed or the number of instances of run time services deployed for access control enforcement. Resource Value Units are calculated based on the following volume tiering tables and are rounded up to the next whole number.

Terabytes (TB) of Storage

Tier	Number of resources	RVUs per resource
1	1 - 12	1.00
2	13 – 32	0.8455
3	33 – 64	0.6137

4	65 - 100	0.4639
5	101 - 250	0.3870
6	>250	0.3097

Run Time Services

Tier	Number of resources	RVUs per resource
1	0-2	1.00
2	3-5	0.90
3	6-10	0.80
4	11-20	0.70
5	21-35	0.60
6	36-50	0.45
7	>50	0.30

Example 1

Customer A is looking for a data and application security offering to help secure access to one application. In this example the application is Microsoft SharePoint.

Customer A would order:

• One install of IBM Tivoli Data and Application Security Install component

Note that securing access to the Microsoft Sharepoint application constitutes one run time service that is included in IBM Tivoli Data and Application Security at no additional charge.

Example 2

In addition to their initial install license in the first example, Customer A needs to protect access for two IBM Storage Systems with five terabytes (TB) of storage each, and four critical UNIX servers with 2.5 TB of storage each.

This translates into 20 TB of data distributed across two IBM Storage Systems and four critical servers.

IBM Tivoli Data and Application Security Storage Services component is licensed by terabyte (TB) Resource Value Unit (RVU).

Customer A would order:

• RVUs for 20 TB Storage Services component

Tier	Number of resources	Resources in Environment	RVUs per resource	RVU quantity to Order
1	1 - 12	12	1.00	12.00
2	13 – 32	8	0.8455	6.764
	Total	20		18.764 (rounded to 19.00)

Note: The total Resource Value Units in the customer's environment are rounded up for the purpose of determining Resource Value Units to order.

Customer A would order 19 Resource Value Units of IBM Tivoli Data and Application Security V1.0 Storage Services for 20 TB of storage.

Example 3

Customer A is looking to provide access control for one additional application (for example in house developed WebSphere® application) and one database (for example IBM DB2®) to their IBM Tivoli Data and Application Security Install.

This constitutes two run time services.

Customers may use an additional copy of IBM Tivoli Security Policy Manager Run Time Security Services component for each RVU of IBM Tivoli Data and Application Security Run Time Services.

Customer A would order:

• RVUs for two run time services

Run time services RVU calculation

Tier	Number of resources	Resources in Environment	RVUs per resource	RVU Quantity to Order
1	0-2	2	1.00	2.00
	Total	2		2.00

Example 4

Customer A plans to add three more applications to their existing install (as shown in Example 3) of IBM Tivoli Data and Application Security to help secure access to them.

This constitutes three more run time services for a total of five chargeable run time services in Customer A's environment.

Tier	Number of resources	Resources in Environment	RVUs per resource	RVU Quantity to Order
1	0-2	2	1.00	2.00
2	3-5	3	0.90	2.70
	Total	5		4.70 (rounded up to 5.00)
	Less Previous RVU Entitlement			(2.00)
	Additional RVUs to Order			3.00

Note: The total Resource Value Units in the customer's environment are rounded up for the purpose of determining Resource Value Units to order.

The customer would order three additional Resource Value Units for Tivoli Data and Application Security V1.0 Run Time Services.

Example 5

Customer A now also needs to add four more IBM Storage Systems with five TB of data each and 10 Linux servers with 2.5 TB of storage each to the above infrastructure.

This translates into a total of 45 TB of data distributed across 4 additional IBM storage systems and 10 servers for a total of 65 TB of data in the customer's environment.

RVU calculation for 65 TB Storage Services

Tier	Number of resources	Resources in Environment	RVUs per resource	RVU Quantity to Order
1	1 - 12	12	1.00	12.00
2	13 – 32	20	0.8455	16.91
3	33 – 64	32	0.6137	19.6384
4	65 - 100	1	0.4639	0.4639
	Total	65		49.0123 (rounded up to 50.00)
	Less Previous RVU Entitlement			(19.00)
	Additional RVUs to Order			31.00

Note: The total Resource Value Units in the customer's environment are rounded up for the purpose of determining Resource Value Units to order.

The customer would order 31 additional Resource Value Units of IBM Tivoli Data and Application Security Storage Services.

IBM Tivoli Monitoring for Energy Management

The following IBM Tivoli Monitoring for Energy Management components are licensed per Resource Value Unit (RVU:
• Basic Device Tier
• Device Tier
• EMS Tier
• IT Device Tier

Basic Device Tier - A device in the context of the Basic Device Tier is a device that is either an energy meter, environmental sensor, desktop device, telephone or printer.

Device Tier - A device in the context of the Device Tier is a stand-alone device that does not fall into the Basic Device Tier, EMS Tier, or IT Tier.

EMS Tier - A device in the context of the EMS Tier is a device managed by an element management system or an application but excluding applications used solely for consolidation of multiple data sources that would normally be Device Tier devices. Examples include devices managed by third-party and vendor element management systems.

IT Tier - A device in the context of the IT Tier is an IT device that is mounted inside of a data center rack and is managed by IBM Systems Director or is a stand-alone device that is managed by IBM Systems Director.

To determine the number of RVUs applicable to licensee use of the program, licensee must multiply the number of managed entities in a tier by the applicable RVU Factors as follows:

A different RVU factor applies to different number ranges of the managed entities.

RVU factor	Range from	Range to
1.0	1	100
0.9	101	250
0.8	251	500
0.6	501	750
0.5	751	1,250
0.4	1,251	2,000
0.3	2,001	and above

Pricing Example:

ABC Company needs to manage 2,500 environmental sensor (Basic Device Tier), 250 servers (Device Tier), 50 building management systems (EMS Tier), and 1,000 servers using IBM Systems Director (IT Tier).

The customer requires the following:

	Quantity in Customer Environment	Net Resource Value Units Required
Basic Devices	2,500	1,285*
Devices	250	235**
EMS	50	50***
IT	1,000	710****

- * Quantity of 2,500 requires 1,285 RVUs per RVU factor table.
- ** Quantity of 250 requires 235 RVUs per RVU factor table.
- **** Quantity of 50 requires 50 RVUs per RVU factor table.
- **** Quantity of 1,000 requires 710 RVUs per RVU factor table.

IBM Tivoli Monitoring for Microsoft Applications Entry

IBM Tivoli Monitoring for Microsoft Applications Entry is licensed by managed servers. The customer's overall managed environment includes:

Quantity in customer Servers to be
Systems managed environment licensed

Systems Managed	Quantity in Customer Environment	Client Entitlements Required
Uniprocessor core	20	20
2-Way	25	25

4-Way	12	15
8-Way	10	10
Total Servers to be Licensed		**70**

IBM Maximo Asset Management for Energy Optimization

IBM Maximo Asset Management for Energy Optimization is licensed per asset and per install. IBM Maximo Asset Management for Energy Optimization is priced based on the managed environment approach. For example, to manage the Assets in the environment described below requires the following licenses:

Asset Managed	Quantity in Customer Environment	Assets to be Licensed
2-way Server	10	10
4-way Server	8	8
IBM zSeries 900	1	1
Uninterruptible Power System	1	1
Generator	1	1
Power Distribution Units	5	5
Total		27

Pricing Metric	Quantity in Customer Environment	License Entitlements Required
Install	1	1

IBM MAXIMO DATA CENTER INFRASTRUCTURE MANAGEMENT

IBM Maximo Data Center Infrastructure Management is a stand alone solution that does not have to be used in combination with other Tivoli products. This product is licensed per rack. A data center rack is standard datacenter equipment designed and built to contain IT equipment including but not limited to servers, storage, switches, power distribution units, uninterruptible power supplies, management consoles, and cabling.

For example, a datacenter is managed by 4 datacenter administrators, 1 datacenter manager, and 1 IT director; it has 200 racks. The following licensing scheme applies:

Pricing metric	Quantity in customer environment	License entitlements required
Rack	200	200

IBM Tivoli Netcool and Business Service Management

Volume Unit Exhibit (VUE) 002 is applicable to the following products:

IBM Tivoli OMNIbus and Network Manager

IBM Tivoli Netcool OMNIbus

IBM Tivoli Netcool Gateway

IBM Tivoli Network Manager IP Edition

IBM Tivoli Netcool Reporter

IBM Tivoli Netcool Impact

IBM Tivoli Business Service Manager

IBM Tivoli Netcool Performance Manager

IBM Tivoli Netcool Service Quality Management Center

VUE 002 tables A, B, C, D, E, F, N apply to this set of products

Table A

From Quantity	To Quantity	Factor
0	10	1.00
11	250	0.85
251	750	0.70
751	1250	0.55
1251	or more	0.40

Table B

From Quantity	To Quantity	Factor
0	10	1.00
11	100	0.90
101	250	0.80
251	500	0.65
501	or more	0.45

Table C

From Quantity	To Quantity	Factor
0	2	1.00
3	5	0.90
6	10	0.80
11	20	0.70
21	or more	0.60

Table D

From Quantity	To Quantity	Factor

0	2,000	1.00
2,001	10,000	0.70
10,001	20,000	0.50
20,001	40,000	0.40
40,001	60,000	0.25
60,001	80,000	0.15
80,001	120,000	0.10
120,001	160,000	0.05
160,001	or more	0.02

Table E

From Quantity	To Quantity	Factor
0	5 Million	.004500
5 Million	10 Million	.001000
10 Million	50 Million	.000600
50 Million	100 Million	.000575
100 Million	175 Million	.000550
175 Million	300 Million	.000525
300 Million	500 Million	.000500
500 Million	Or More	.000425

Table F

From Quantity	To Quantity	Factor
1	60,000	0.050
60,001	300,000	0.045
300,001	600,000	0.040
600,001	1,200,000	0.035
1,200,001	1,800,000	0.030
1,800,000	2,400,000	0.025
2,400,001	3,600,000	0.020
3,600,001	5,100,000	0.015
5,100,001	6,600,000	0.010
6,600,001	8,400,000	0.005
8,400,001	And more	0.0025

Table N

From Quantity	To Quantity	Factor
1	100	1.0
101	250	0.9
251	500	0.8
501	750	0.6
751	1250	0.5
1251	2000	0.4

2001	And more	0.3

IBM Tivoli Netcool Configuration Manager V6.2

IBM Tivoli Netcool Configuration Manager is priced using the following chargeable components and metrics:

IBM Tivoli Netcool Configuration Manager Base is licensed per install. A single active database instance is considered a single install.

The following IBM Tivoli Netcool Configuration Manager components are licensed per RVU:

Standard Tier
Operating System Manager Tier
SmartModel Tier 1
SmartModel Tier 2
SmartModel Tier 3

• Standard Tier: A device in the context of the Standard Device Tier is any element that is managed by IBM Tivoli Netcool Configuration Manager.
Note: A Standard Tier entitlement is required for all managed elements. Operating System Manager or SmartModel Tier entitlements are licensed in addition not as replacement.

• Operating System Manager Tier: A device in the context of the Operating System Manager Tier is any device for which the licensee needs operating system software upgrade support.
Note: Not all devices are supported for this tier. Check with your IBM Tivoli representative for the latest list of operating system upgrade support.

• SmartModel Tier 1: A device in the context of the SmartModel Tier 1 is a low capacity device for which the licensee needs advanced modeling capabilities. Examples include, but are not limited to, consumer Customer Premise Equipment (CPE) type devices or small enterprise routers and switches used as gateways and on-premise equipment typically with 24 or less physical ports.

• SmartModel Tier 2: A device in the context of the SmartModel Tier 2 is a high capacity device for which the licensee needs advanced modeling capabilities. Examples include, but are not limited to, primarily aggregation and core type
devices found in the network.

• SmartModel Tier 3: meets any one of the following criteria:
– A very large routing or switching device
– A high capacity device that is capable of providing higher layer (OSI layer 4+) services
– A device capable of supporting virtual images

To determine the number of RVUs applicable to licensee use of the program, licensee must multiply the number of managed entities in a tier by the applicable RVU Factors in VUE N.

Pricing example for Netcool Configuration Manager

ABC Telcom deploys 1 install of IBM Tivoli Netcool Configuration Manager on 1 server and is managing configurations on 2,500 devices. ABC needs operating system software upgrade support for 250 devices (Operating System Manager Tier), and SmartModel capabilities for 1,250 devices, of which 10 are very high capacity (SmartModel Tier 3), 240 are high-capacity, core type devices (SmartModel Tier 2), and 1,000 have 24 or less ports (SmartModel Tier 1).

The customer requires the following:

	Pricing Metric	Quantity in customer environment	Installs required	Net Resource Value Units required
ITNCM Base	Install	1	1	
ITNCM Standard Tier	RVU	2,500		1,285*
ITNCM OS Mgr Tier	RVU	250		235**
ITNCM SmartModel Tier 1	RVU	1,000		710***
ITNCM SmartModel Tier 2	RVU	240		226****
ITNCM SmartModel Tier 3	RVU	10		10*****

*Quantity of 2,500 requires 1,285 RVUs per RVU Factor table
**Quantity of 240 requires 226 RVUs per RVU Factor table
***Quantity of 1,000 requires 710 RVUs per RVU Factor table
****Quantity of 240 requires 226 RVUs per RVU Factor table
*****Quantity of 10 requires 10 RVUs per RVU Factor table

IBM Tivoli OMNIbus and Network Manager V8.3

IBM Tivoli Netcool OMNIbus and Network Manager is priced using the following chargeable components and metrics:

• Base per install - Each application instance of an ObjectServer is considered a single installation.
• Resource Value Unit (RVU) per tier - RVU is a unit of measure based on the number of units of a specific resource used or managed. Licensee must obtain sufficient entitlements for the number of RVUs required for licensee's environment as specified in VUE Table N. RVU entitlements are specific to the program and may not be exchanged, interchanged, or aggregated with RVU entitlements of another program. The unit of measure for this program is per tier described below:

– Event Device Tier
– Event Basic Device Tier
– Event EMS Tier
– Event Q3 EMS Tier
– Network Device Tier
– Network Basic Device Tier
– Entry Tier

Event Device Tier or Network Device Tier - A Device in the context of the Event Device Tier or Network Device Tier is an element that has the capability to initiate a notification or respond to a request for notification. Examples include, but are not limited to, servers, routers, and switches.

Event Basic Device Tier or Network Basic Device Tier - A Basic Device in the context of the Event Basic Device Tier or Network Basic Device Tier is an infrastructure sensor or network Subscriber Unit that has the capability to initiate a notification or respond to a request for notification. Examples include, but are not limited to, point-of-sale terminals, printers, VoIP telephones, dslams, cable modems, and plant equipped with sensors for event notification.

Event EMS Tier - An EMS in the context of the Event EMS Tier is an instance of an Element Management System or application managed using generic technologies excluding applications used solely for consolidation of multiple data sources (for example, trap consolidation) where Device pricing is to be applied. Examples include third-party and vendor element management systems, Oracle, mainframe systems per 400 MSUs, and IBM Tivoli Monitoring only for the forwarding of situation events relating to performance data.

Event Q3 EMS Tier - A Q3 EMS in the context of the Event Q3 EMS Tier is an instance of an Element Management System interfaced to via the Q3 protocol.

Entry Tier - The Entry Tier provides Event and Network Management for a device. Licensee may license RVUs to entitle management of a maximum of 1,000 devices at the Entry Tier.

To determine the number of RVUs applicable to licensee use of the program, licensee must multiply the number of managed entities in a tier by the applicable RVU Factors in VUE Table N.

IBM Tivoli OMNIbus and Network Manager pricing example
Customer installs 1 application instance of the Tivoli OMNIbus and Network Manager base, would like network and event device management capabilities for 1,250 devices. This is a new installation of Tivoli OMNIbus and Network Manager, the customer has not previously licensed entry tier entitlements.

The customer requires the following:
• Quantity of 1 Tivoli OMNIbus and Network Manager base install (1 for each instance installed)
• Quantity of 710 of Tivoli OMNIbus and Network Manager Entry* Tier (100 multiplied by factor of 1.0 (100), added to 150 multiplied by a factor of 0.9 (135), added to 250 multiplied by a factor of 0.8 (200), added to 250 multiplied by a factor of 0.6 (150), added to 250 multiplied by a factor of 0.5 (125))
* Because the customer has previously not licensed entry tier entitlements, the customer may license entitlements for a maximum of 1,000 devices using the Tivoli OMNIbus and Network Manager Entry Tier.
• Quantity of 235 Tivoli OMNIbus and Network Manager Event Device Tier (100 multiplied by factor of 1.0 (100), added to 150 multiplied by a factor of 0.9 (135))
• Quantity of 235 Tivoli OMNIbus and Network Manager Device Tier (100 multiplied by factor of 1.0 (100), added to 150 multiplied by a factor of 0.9 (135))

IBM Tivoli Netcool/OMNIbus V7.3

The new release of IBM Tivoli Netcool/OMNIbus V7.3 includes the Web 2.0 based user interface previously provided by IBM Tivoli Netcool/Webtop.

IBM Tivoli Netcool/OMNIbus is priced using the following chargeable components and metrics:

• Base per install - Each application instance of an ObjectServer is considered a single installation.
• Resource Value Unit (RVU) per tier - RVU is a unit of measure based on the number of units of a specific resource used or managed. Licensee must obtain sufficient entitlements for the number of RVUs required for licensee's environment as specified in VUE N. RVU entitlements are specific to the program and may not be exchanged, interchanged, or aggregated with RVU entitlements of another program. The unit of measure for this program is per tier described below:

– Event Device Tier
– Event Basic Device Tier
– Event EMS Tier

– Event Q3 EMS Tier

Event Device Tier - A Device in the context of the Event Device Tier is an element that has the capability to initiate a notification or respond to a request for notification. Examples include, but are not limited to, servers, routers, and switches.

Event Basic Device Tier - A Basic Device in the context of the Event Basic Device Tier is an infrastructure sensor or network Subscriber Unit that has the capability to initiate a notification or respond to a request for notification. Examples include, but are not limited to, point-of-sale terminals, printers, VoIP telephones, dslams, cable modems, and plant equipped with sensors for event notification.

Event EMS Tier - An EMS in the context of the Event EMS Tier is an instance of an Element Management System or application managed using generic technologies excluding applications used solely for consolidation of multiple data sources (for example, trap consolidation) where Device pricing is to be applied. Examples include third-party and vendor element management systems, Oracle, mainframe systems per 400 MSUs, and IBM Tivoli Monitoring only for the forwarding of situation events relating to performance data.

Event Q3 EMS Tier- A Q3 EMS in the context of the Event Q3 EMS Tier is an instance of an Element Management System interfaced to via the Q3 protocol.

To determine the number of RVUs applicable to licensee use of the program, licensee must multiply the number of managed entities in a tier by the applicable RVU Factors in VUE N.
IBM Tivoli Netcool/OMNIbus Pricing example:
Customer installs 2 instances of the IBM Tivoli Netcool/OMNIbus ObjectServer, is managing 300 point-of-sale terminals, and 3 Element Management Systems.

The customer requires the following:
Quantity of 2 IBM Tivoli Netcool/OMNIbus Base Install (1 for each instance installed)
Quantity of 3 of IBM Tivoli Netcool/OMNIbus Event EMS Tier (3 instances multiplied by factor of 1.0)
Quantity of 275 IBM Tivoli Netcool/OMNIbus Basic Device Tier (100 multiplied by factor of 1.0 (100), added to 150 multiplied by a factor of 0.9 (135), added to 50 multiplied by a factor of 0.8 (40))

IBM Tivoli Network Manager IP Edition V3.9

IBM Tivoli Network Manager IP Edition is priced using the following chargeable components and metrics:

- **Base per install -** Each running instance of the program's Network Connectivity and Information Model is considered an installed copy of a Base Install
- **Resource Value Unit (RVU) per Tier -** the unit of measure for this program is per tier described below:
    - where resources counted are Devices:
        - Network Device Tier
    - where resources counted are Basic Devices:
        - Network Basic Device Tier

Network Device Tier - A device in the context of the Network Device Tier is an element that has the capability to initiate a notification or respond to a request for notification. Examples include, but are not limited to, routers and switches.

Network Basic Device Tier - A Basic Device in the context of the Network Basic Device Tier is a resource with limited computing power, equipment monitored by a special purpose sensor or telemetry device, or Network Subscriber Unit (NSU). Examples include, but are not limited to, point-of-sale terminals, printers, VoIP telephones, dsl modems, cable modems, and assets such as production equipment, facilities-related items, and transportation-related items.

To determine the number of RVUs applicable to licensee use of the program, licensee must multiply the number of managed entities in a tier by the applicable RVU Factors in VUE N.

IBM Tivoli Network Manager IP Edition Pricing example:
The customer is running two instances of IBM Tivoli Network Manager IP V3.9 (but sharing one Network Connectivity and Information Model instance) and would like network management capabilities for 500 network routers and switches.
The customer requires the following:

- Quantity of 1 IBM Tivoli Network Manager Base Install (1 for each Network Connectivity and Information Model database)
- Quantity of 435 of IBM Tivoli Network Manager Network Device Tier (100 multiplied by factor of 1.0 (100), added to 150 multiplied by a factor of 0.9 (135), added to 250 multiplied by a factor of 0.8 (200))

IBM Tivoli Netcool/Impact

IBM Tivoli Netcool/Impact is priced per install; each Impact application instance is considered a single install of Impact. It is also priced by tier by the amount of each type of technology that each Impact install (application instances) uses. The number of RVUs required per tier is defined below. Volume scaling is applied to each tier as indicated below per specific VUE (Volume Unit Exhibit).

Tier 1 (VUE C) IBM Tivoli Netcool/Impact
This is counted by the number of Impact installs (application instances) any of each of the following technologies is used with:

- DB2®
- Informix™
- Microsoft SQL server
- ODBC
- Oracle
- PostgresSQL
- Sybase
- MySQL
- Flat files
- XML destinations
- LDAP
- TCP/IP Socket

Tier 1 (VUE C) Third Party IBM Tivoli Netcool/Impact
This is counted by the number of Impact installs (application instances) any of each of the following technologies is used with:

- SNMP

Tier 2 (VUE C) IBM Tivoli Netcool/Impact

This is counted by the number of Impact installs (application instances) any of each of the following technologies is used with:

- Alcatel 5620
- Cramer Dimension
- Smallworld

Tier 3 (VUE C) IBM Tivoli Netcool/Impact
This is counted by the number of Impact installs (application instances) any of each of the following technologies is used with:

- Vitria
- JMS

Tier 3 (VUE C) Third Party IBM Tivoli Netcool/Impact
This is counted by the number of Impact installs (application instances) any of each of the following technologies is used with:

- Tibco
- Web Services

Pricing examples
Example 1a
ABC Consumer Goods deploys IBM Tivoli Netcool/Impact over two application instances across four processor cores (multiprocessor core capable) on two servers and each appliance instance interfaces to Oracle, LDAP, and DB2 databases.
Calculation: two Impact application instances connecting to three Tier 1 databases each = six DSA Tier 1 connections.

Impact DSA Tier 1	Quantity in Customer Environment	Installs Required	Net Resource Value Units Required
Impact Installs	**2**	**2**	
Impact Tier 1	6		6

Example 1b
ABC Consumer Goods deploys IBM Tivoli Netcool/Impact over three application instances across six processor cores (multiprocessor core capable) on three servers and each application instance interfaces to Oracle databases, LDAP systems, TCP/IP Sockets, and XML.
Calculation: 3 Impact application instances interfacing to 4 Tier 1 databases each = 12 DSA Tier 1 connections.

Impact DSA Tier 1	Quantity in Customer Environment (A)	Installs Required	Net Resource Value Units
Impact Installs	**3**	**3**	
Impact Tier 1	12		10*

* Quantity of 12 requires 10 RVU per VUE C

IBM Tivoli Netcool Performance Manager

- **Base per application instance -** An IBM Tivoli Netcool Performance Manager (TNPM) application instance consists of up to one IBM Tivoli Netcool/Proviso database instance and up to one IBM Tivoli Netcool Performance Manager for Wireless database instance, and the other components of the program that connect to these database instances. If a customer deploys only one IBM Tivoli Netcool Performance Manager for Wireless database instance and its associated components, this constitutes one TNPM application instance. If this same customer deployed one IBM Tivoli Netcool/Proviso database instance, this is still considered one TNPM application instance. If this customer then decides to deploy either another IBM Tivoli Netcool/Proviso database instance or an IBM Tivoli Netcool Performance Manager for Wireless database instance, this constitutes a second TNPM application instance.
- **Base per Resource Value Unit -** Resource Value Units will be calculated in the following manner. Supported entities are assigned a certain point value based on size or performance level of the entities. Resource Value Units are calculated from this total number of points based on factors in Volume Unit Exhibit (VUE) 002 Table F below.
- **Technology Pack Tier 1 - 5 per application instance -** IBM has assigned each IBM Tivoli Netcool Performance Manager Technology Pack to a Technology Pack Tier based on price. You must acquire a Proof of Entitlement (PoE) for the corresponding Tier for each Technology Pack that runs on an application instance of TNPM. You may not substitute a PoE for a Technology Pack from one Tier for a PoE for a Technology Pack from a different Tier.
- **Optional features**
    - Data access API for wireline - per application instance
    - Real time reports for wireline - per application instance

An application instance is required for each of these optional features which operates on an IBM Tivoli Netcool Performance Manager Base per application instance

Points are assigned to managed entities according to the following table:

Managed entity point table

Managed entity:	Points:
Large switches, SP Core	5,000
WAN Services, Service Aggregation	500
Large Branch Routers / Switches	250
Small Branch and CPE Routers	70
Wireless Cell/Sector	70
Enterprise VoIP Phones	3
Carrier VoIP Phones	1
Subscriber, for example DSL, Cable	1

Contact your IBM representative or IBM Business Partner for a current list of managed entities.

To determine the number of RVUs applicable to licensee use of the program, licensee must multiply the points derived from the managed entity tiers by the applicable RVU Factors in VUE F.

Technology Pack Tier 1: IBM has assigned each IBM Tivoli Netcool Performance Manager Technology Pack to a Technology Pack Tier based on price. This list is accurate as of the date of this announcement. Contact your IBM representative or IBM Business Partner for a current list of technology packs as appropriate.

Wireline:

Active Directory ASM
Alcatel 7330/7302 ISAM
Alcatel Platform Monitoring
Apache ASM
Cisco AAL5 VCC (ATM Channel Endpoint)
Cisco Catalyst Port QoS
Cisco Class Based QOS
Cisco CMTS
Cisco Device
Cisco Integrated Dashboard
Cisco IP SLA
Cisco IP SLA Administration
Cisco IPT (CCM 4.0 to 6.0)
Cisco MPLS TE (Tunnel)
Cisco NBAR
DISMAN Ping MIB
DSL (RFC 2662)
Exchange Server ASM
Frame Relay (RFC 2115)
Huawei Device Pack
Huawei MPLS
Huawei Ping
IneoQuest Media Monitor (IPTV)
IP Multicast
Juniper E Series
Juniper E Series QOS
Juniper M/T Chassis
Juniper M/T QOS
Juniper MPLS TE
Juniper RPM
Lotus Notes ASM
MIB-2
Netcool/Proviso Monitoring
Oracle ASM
RADIUS Accounting
RADIUS Authentication
Redback SmartEdge 800
SAP ASM
Server Monitoring (SSM)
Sybase ASM
Weblogic ASM
Websphere ASM

Technology Pack Tier 2: IBM has assigned each IBM Tivoli Netcool Performance Manager Technology Pack to a Technology Pack Tier based on price. This list is accurate as of the date of this announcement.

Contact your IBM representative or IBM Business Partner for a current list of technology packs as appropriate.

Wireline:

ACME Packet (SBC)
ACME Packet (SBC) HDR
Alcatel 5020 MGC
Convedia Media Server
Radcom OmniQ
Tekelec (VocalData) VoIP App Server

Wireless:

Alcatel BSS B9
Alcatel BSS B10
Ericsson BSS R07B
Ericsson BSS R12 06B
Ericsson GGSN R3
Ericsson GGSN R5
Ericsson MGW R4.1
Ericsson MGW R4.2
Ericsson MGW R5.1
Ericsson NSS 12.1
Ericsson SGSN R6
Ericsson SGSN R7
Ericsson SGSN R8
Ericsson UTRAN P5
Ericsson UTRAN P6
Ericsson UTRAN P7
Huawei BSS V300R002005
Huawei BSS V300R007
Huawei BSS V900R008
Huawei GGSN V800R002
Huawei GGSN V800R006
Huawei MGW V200R006
Huawei MSC-S V100R006
Huawei SGSN V800R006
Huawei SGSN V800R007
Huawei UTRAN R008
Huawei UTRAN V200R010
Motorola BSS GSR8
Motorola GGSN
Nokia BSS S12
Nokia MGW U2/U3C
Nokia MGW U4
Nokia NSS M13.5/13.2
Nokia NSS M14.1
Nokia UTRAN RAS5.1
Nokia UTRAN RAS6.0
Nortel BSS 14.0
Nortel BSS 15.0
Nortel BSS V16
Nortel EVDO 4
Nortel EVDO 5
Nortel EVDO 6
Nortel MGW 20
Nortel MSC 20

Nortel MTX 14.0
Nortel MTX 15.0
Nortel PDSN 6.0
Nortel UTRAN R5
Siemens BSS BR9
Siemens BSS BR10
Siemens GSN 4.0
Siemens ngHLR
Siemens NSS SR 12
Siemens NSS SR 13
Siemens UTRAN R5
Siemens UTRAN UMR6.5
ZTE EVDO V8.0.1.9
ZTE EVDO V8.19.04
ZTE PDSN 3.5.0.3

Technology Pack Tier 3: IBM has assigned each IBM Tivoli Netcool Performance Manager Technology Pack to a Technology Pack Tier based on price. This list is accurate as of the date of this announcement. Contact your IBM representative or IBM Business Partner for a current list of technology packs as appropriate.

Wireline:

Alcatel 5620 NM
Alcatel 5620 SAM (support SAM 4.0-6.1)
Alcatel 7510
Alcatel 8605 MMAS
Alcatel Lucent 5529 SDC
Cisco NetFlow / IPFLIX
Cisco WAN Manager
Empirix Hammer XMS
Ericsson Call Server
EXFO Brixworks
Fujitsu MSAN
Huawei N2000 Access
Huawei NetStream
Huawei T2000 (Transmission)
Nortel BCP7200
Nortel MG3200

Technology Pack Tier 4: IBM has assigned each IBM Tivoli Netcool Performance Manager Technology Pack to a Technology Pack Tier based on price. This list is accurate as of the date of this announcement. Contact your IBM representative or IBM Business Partner for a current list of technology packs as appropriate.

Wireless:

Aircell ABS
Aircell IP
Aastra MX-One
Custom Data Storage
Ericsson MSN
GPRS Vendor Neutral
GSM Vendor Neutral
Intervoice PrePaid
Intervoice SMS-C 7
Nokia SMSC
Nokia WAP

Tekelec Eagle5 STP 37.6.0
UMTS Vendor Neutral

Technology Pack Tier 5: IBM has assigned each IBM Netcool Performance Manager Technology Pack to a Technology Pack Tier based on price. This list is accurate as of the date of this announcement. Contact your IBM representative or IBM Business Partner for a current list of technology packs as appropriate.

Wireline:

Nortel CS2K

Wireless:

Ericsson IMS

Tivoli Netcool Performance Manager Pricing example

A customer acquires one Base license (application instance) of the IBM Tivoli Netcool Performance Manager to manage their wireline network.

The customer also wants to manage 1 Alcatel 5620 NM Element Management System (EMS), 400,000 carrier VoIP phones and 20 large branch routers (managed by the EMS). In addition, the customer also wants to deploy one instance of Real-time Reports for Wireline.

Chargeable component metric	Quantity in customer environment	Instances required, quantity of part numbers to order	Resource Value Units required, quantity of part numbers to order
Base per instance	1	1	
Tech Pack Tier 3 per instance ***	1	1	
Resource Value Unit	405,000 *		18,000 **
Real-time Reports per instance for wireline	1	1	

* Per the Points table above, 400,000 phones and
    20 large branch routers total 405,000 points.
** 405,000 points requires 18,000 RVUs per VUE 002 Table F
    (60,000*0.05 + 240,000*0.045 + 105,000*0.040).
    Device RVU quantity (part number quantity) to order is 18,000.

*** The Alcatel 5620 EMS requires a Technology Pack (Tier 3) but is
    not counted as an "entity". Only the devices managed through the
    EMS are counted as entities (20 large branch routers in this
    example) and participate to the points and RVU total.

In a future period, the same customer wants to add support for Ericsson BSS and Ericsson NSS to IBM Tivoli Netcool Performance Manager to also manage their 30,000 cell wireless network. The customer is deploying an additional database, but there is no need for an additional Base license since the customer is already entitled to the Base license for the entire IBM Tivoli Netcool Performance Manager solution.

However, the customer must license licenses for one Ericsson NSS and one Ericsson BSS Technology Pack to manage 30,000 cells.

Chargeable	Quantity in	Instances	Resource

component metric	customer environment	required, quantity of part numbers to order	Value Units required, quantity of part numbers to order
Tech Pack Tier 2 per instance	2	2	
Resource Value Unit	2,100,000 ****		63,900 *****

**** Per the Points table above, 30,000 cells total 2,100,000 points.

***** 2,100,000 points managed, requires 63,900 RVUs per VUE 002 Table F (195,000*0.04 + 600,000*0.035 + 600,000*0.03 + 600,000*0.025 + 105,000*0.02). The RVU quantity (part number quantity) to order is 63,900. The calculation of those required RVUs begins at the 0.04 factor level due to the customer's previous license requiring RVUs to entitle the customer to 405,000 points. This allows the customer the additive benefit of volume scaling for the RVUs already licensed.

After these two license orders, the customer would have licensed the following:

Product	Quantity
IBM Tivoli Netcool Performance Manager Base per Application Instance	1
IBM Tivoli Netcool Performance Manager Base per RVU	81,900
IBM Tivoli Netcool Performance Manager Tech Pack Tier 2 Per Application Inst	2
IBM Tivoli Netcool Performance Manager Tech Pack Tier 3 Per Application Inst	1
IBM Tivoli Netcool Performance Manager Tech Real-time Reports for Wireline per Application Instance	1

IBM Tivoli Netcool Performance Flow Analyzer

IBM Tivoli Netcool Performance Flow Analyzer is priced using the following chargeable components and metrics:
• Base per install - An IBM Tivoli Netcool Performance Flow Analyzer Base consists of one instance of the product installed.
• Base per Resource Value Unit (RVU) - RVUs will be calculated in the following manner. Supported entities are assigned a certain point value based on size or performance level of the entities. RVUs are calculated from this total number of points based on factors in Volume Unit Exhibit (VUE) 002 Table F below.

Important: In computing the RVU, it is important to count only those network resources that are sending flow records to the flow analyzer. There may be many devices in a network, but only a subset of these are configured to track flows and forward that information in flow records to the flow analyzer.

For example, in a managed Virtual Private Network (VPN), a service provider might configure the edge devices to track the flows coming in from the customer sites, with no flow monitoring in the core. In this case, only those edge devices are counted for computing RVUs. In another configuration a service provider might only configure flow collection on routers connected to peer networks. In that situation, only those peering routers are counted for computing RVUs.

Points are assigned to managed entities according to the following table:
Managed entity point table

Managed entity point table

Managed entity:	Points:
Large switches, SP Core	5,000
WAN Services, Service Aggregation	500
Large Branch Routers / Switches	250
Small Branch and CPE Routers	70

Contact your IBM representative or IBM Business Partner for a current list of managed entities.

VUE 002 Table F

Points from quantity	To quantity	Factor
1	60,000	0.050
60,001	300,000	0.045
300,001	600,000	0.040
600,001	1,200,000	0.035
1,200,001	1,800,000	0.030
1,800,001	2,400,000	0.025
2,400,001	3,600,000	0.020
3,600,001	and more	0.015

To determine the number of RVUs applicable to licensee use of the program, licensee must multiply the points derived from the managed entity tiers by the applicable RVU Factors in VUE F.

TNPFA Pricing Example:
A set of customer devices that are sending flow records to the flow analyzer consists of managed entities, which total 405,000 points according to the managed entity point table.

- 405,000 points requires 18,000 RVUs per VUE 002 Table F
- (60,000*0.05 + 240,000*0.045 + 105,000*0.040)
- RVU quantity (part number quantity) to order is 18,000

IBM Tivoli Netcool Performance Flow Analyzer is not interchangeable with IBM Tivoli Netcool Performance Manager for the purpose of the calculation of points from the managed entity table, the resulting RVU calculation, nor the resulting entitlement.

IBM Tivoli Netcool Service Quality Management Center

IBM Tivoli Service Quality Management Center is a bundle of three components: IBM Tivoli Netcool Business Service Manager, IBM Tivoli Netcool Service Quality Manager, and IBM Tivoli Netcool Customer Experience Manager. The bundle is priced by the following chargeable components and metrics.

All components require the following metric: Base per install - per physical site, production, hot standby, non-production are each considered a single install. The number of base per install components required are the same regardless of how many components of the bundle are being licensed.

IBM Tivoli Netcool Service Quality Manager

Data Source Tier 1 per connection - Per data source type (for example, PM data, CDR data, Probe data)

Subscribers Tier 2 per Resource Value Unit - The license for a TNSQM Service Solutions is derived from counting the total number of subscribers in the network and using the VUE 002 Table E below to determine the appropriate resource Value Units required.

IBM Tivoli Netcool Customer Experience Manager

Data Source Tier 1 per connection - Per data source type (for example, PM data CDR data, Probe data).

Subscribers Tier 2 per Resource Value Unit - The license for a TNCEM Service Solution is derived from counting the total number of subscribers in the network and using VUE 002 Table E below to determine the appropriate resource Value Units required.

IBM Tivoli Netcool Business Service Manager

Tier 1 devices per Resource Value Unit - The following probes or devices are considered Tier 1. The number of Resource Value Units required is based on VUE002 Table B.

This is counted by the number of end devices monitored via:

- SNMP traps
- Syslog messages
- Syslogd messages
- BMC Patrol per processor
- TL1
- Ping
- ISS SiteProtector

And the number of:

- Oracle Tables monitored
- HTTPD Common Log Format monitored
- HTTPD Server Error Log monitored
- Windows log files monitored
- Cisco PIX monitored
- Cisco SDEE monitored
- Checkpoint Firewall-1 monitored
- Cisco ACS monitored (each instance of Cicso ACS counts as 20 RVUs)
- IBM Tivoli Monitoring managed processor monitored
- IBM Tivoli Enterprise Console managed processor monitored (where these are not consolidated via a TEC server)
- Devices integrated via the EIF Probe per managed processor monitored

Tier 2 Devices per Resource Value Unit - The following probes or devices are considered Tier 2. The number of Resource Value Units required is based on VUE002 Table B.

This is counted by the number of managed devices from the following list:

- Pulsepoint
- RADIUS
- Siemens DCO
- Ericsson AXE 10 per Class 5 Voice Switch
- Nortel DMS per Class 5 Voice Switch
- Alcatel DSC Dex per Class 5 Voice Switch
- Marconi System X per Class 5 Voice Switch
- Avaya Definity G3 per switch
- Lucent ECP

- Lucent 5ESS - Class 5 Voice Switch
- Ericsson ACP 1000
- Arcom Environmental Monitoring System
- Comverse
- Nortel DMS 10
- Nortel Meridian
- Alcatel MT20
- N.E.T. Promina
- Ericsson MD110
- Hewlett Packard OpenView NNM
- IBM NetView/6000
- DEC VAX Operator Communication Facility
- Oracle
- Enterprise SNMP EMS
- Polycenter Watchdog
- SUN Solstice Enterprise Manager
- Freshwater Sitescope
- SUN SunNet Manager
- Castlerock SNMPC
- Aprisma Spectrum
- Sun ManagementCenter
- Compaq Tandem
- CA Unicenter TNG
- Hewlett Packard Vantage Point Operations
- Microsoft Operations Manager (MOM)
- Microsoft System Center for Operations 2007 (SCOM 2007)
- CFS Building Management
- CMS400
- FDF Server - Single Connection
- N.E.T. IDNX
- Hewlett Packard IT/Operations Center
- Siemens Landis and Staefa
- Open NerveCenter
- N.E.T. Open/5000
- Netlabs (DiMONS 2G)
- Nortel Multi-service Data Manager

And by the number of:

- E-mail systems
- Sockets
- Executable programs
- FIFO queues
- Stdin feeds
- Log files monitored
- RoboMon Element Manager
- TEC [AIX|HP|Solaris] Oracle
- Tivoli Enterprise Console (TEC ODBC)

And by the number of databases managed using:

- ODBC
- Informix

This is counted by the number of connections to the managed devices in the following list:

- Nokia NMS100
- Nortel BSSM
- Nortel TN-MS EC1 Element Controller for TN-1X
- Nortel SB OSSI
- Nortel Universal Signalling Point (USP)
- Nortel BB STP
- Octel Voice Message Switch
- Okeford
- Telco Research ORBi-TEL
- Oryx EMS for Exel Switches
- Ascom PANMAN
- Dantel PointMaster
- Ion Networks Sentinel 2000
- Servelec
- Marconi ServiceOn Access
- Siemens EWSD Logfile
- SNM-OS probe
- Siemens TNMS (SNMP)
- Siemens HMS (rs232)
- Airspan Sitespan
- ECI/Telematics
- Ascom TimePlex TimeView/2000
- Ericsson Xmate
- PDS Snyder
- SNMP Telecom EMS
- Huawei T2000 MML
- Lucent ITM-SC
- Alcatel S12
- Nortel EV-DO
- NORTEL IEMS
- Motorola OMC-R (Iden)
- ADAM NOMS
- Lucent Agile ATM
- Alcatel 1000 E10/OCB-283
- Alcatel OMC-R (Terminal Server Connection)
- Alcatel OMC-S
- Telstra AMS
- Cisco CEMF
- Ascom CLOG
- DAWCOM
- Nortel Digital Fault Management (DFMS)
- Tekelec Eagle STP
- ECI/eNM
- Nortel EIF
- Marconi EMOS
- Fujitsu FENS
- FLEXR
- Inet Geoprobe
- Glenayre VMS
- Hughes
- KBU Fivemere
- Fibermux LightWatch
- Lucent ITM-NM/OMS
- ADC Metrica NPR
- NewNet SMS
- NICAD

- Tellabs 2100
- Alcatel NMC 1300
- Tandem SCP
- Lucent OTAF/SDHLR
- Telcordia ISCP-DRS-SPACE
- Alcatel AWS
- Lucent NFM
- Fujitsu Netsmart
- Lucent Wireless ASCII
- Telcordia Wireless ASCII
- Tekelec LSMS
- Prognosis
- Nortel MG9000
- Nortel PTM
- Marconi ServiceOn Data
- Ericsson BNSI
- Siemens TNMS (CORBA)
- Motorola OMC-R (3GPP)
- Huawei T2000 CORBA
- Huawei N2000 CORBA
- Cisco CTM (CORBA)
- NEC Director (CORBA)
- ECI Lightsoft CORBA
- Fujitsu ICS Probe
- Lucent Wavestar SNMS
- Marconi MV38/PSB MNR
- Lucent OMC (CORBA)
- Ciena On Center
- Lucent JMTE (CORBA)
- Alcatel OS-OS
- Nokia Netact/NMS2000
- Nokia NetAct for Broadband
- Nortel EAI
- Nortel Magellan NMS
- Tellabs 8000/8100
- Alcatel 5620 SAM
- Marconi MV36/PFM
- Nortel MDM
- Alcatel 5620 Logfile
- Nortel Preside Wireless (3GPP)
- Nortel CDMA Element Management System (CEMS)
  Nortel CDMA Element Manager (CNM)
- Ericsson 3GPP (OSS-RC/RANOS/CNOS)
- Nokia NetAct for Wireless (3GPP)
- Alcatel OMC-R (3GPP)
- Siemens Switch/Radio/@vantage Commander (CORBA)
- Alcatel 5620 NM CORBA
- Ericsson RANOS (3GPP)
- Nortel OMC-R (Q3)
- Alcatel OMC-R (Q3 Interface)
- Alcatel SMC 1360
- Motorola OMC-R (Q3 Interface)
- Siemens RadioCommander (Q3 Interface)
- Siemens SwitchCommander (Q3 interface)

Pricing Example

A service provider deploys IBM Tivoli Netcool Service Quality Management Center at its country site. The customer only wants to deploy the IBM Tivoli Netcool Service Quality Manager (TNSQM) component of the solution in its environment to manage two services (for example VoIP and IPTV). The customer uses several servers at its country site and has seven million subscribers for both services. The services they want to manage require a total of five data source types.

Chargeable Component Metric	Quantity in Customer Environment	Installs Required, quantity of part numbers to order	Connections Required, quantity of part numbers to order	Net Resource Value Units Required, quantity of part numbers to order
Install	1	1		
TNSQM Data Sources	5		5	
TNSQM Subscribers	14M*			29,900*

* 14 million subscribers of TNSQM (7 million subscribers x 2 services) require 29,900 resource Value Units per VUE002 Table E. The quantity to order of TNSQM Tier 2 is 29,900. The first 5 million subscribers require a factor of .0045, the next 5 million require a factor of .001 and the remaining 4 million require .0006.

In a future period, the service provider expands its network to nine million users and wants to deploy IBM Tivoli Netcool Customer Experience Manager (TNCEM) in its environment. The service provider will need to entitle all nine million subscribers for the IBM Tivoli Netcool Customer Experience Manager component. However, the service provider is already entitled to the install for the entire solution. In addition, the service provider has entitlement for seven million subscribers for IBM Tivoli Netcool Service Quality Manager for two services (VoIP and IPTV.) For the additional 4 million subscribers (2 million x 2 services) of IBM Tivoli Netcool Service Quality Manager, the service provider will use the .0006 factor in VUE002 Table E.

Chargeable Component Metric	Additional Quantity in Customer Environment	Installs Required, quantity of part numbers to order	Connections Required, quantity of part numbers to order	Net Resource Value Units Required, quantity of part numbers to order
TNSQM Subscribers	4M			2,400*
TNCEM Data Sources	5		5	
TNCEM Subscribers	18M**			32,300**

* The 2 million additional TNSQM subscribers entitled to the 2 services require 4 million additional subscriber licenses at .0006 factor per VUE002 Table E or 2,400 Resource Value Units. The service provider is now entitled to nine million subscribers of the IBM Tivoli Netcool Service Quality Manager component for two services.

** The 9 million TNSQM subscribers for 2 new services require 32,300 Resource Value Units per VUE002 Table E. The quantity to order of TNSQM Tier 2 is 32,300. The first 5 million subscribers require a factor of .0045, the next 5 million require a factor of .001 and the remaining 8 million require .0006.

In another future period, the service provider wants to deploy the IBM Tivoli Netcool Business Service Manager (TNBSM) component. For TNBSM, the service provider's network consists of 3,000 Tier 1 devices and 20 Tier 2 devices as outlined in the metric descriptions above. The service provider is already entitled to the install metric from their original license of the solution. To deploy TNBSM, the service provider will need to entitle their 3,000 Tier 1 devices and their 20 Tier 2 devices.

Chargeable Component Metric	Additional Quantity in Customer Environment	Installs Required, quantity of part numbers to order	Connections Required, quantity of part numbers to order	Net Resource Value Units Required, quantity of part numbers to order
TNBSM Tier 1 Devices	3,000			1,499*
TNBSM Tier 2 Devices	20			19**

* Using VUE002 Table B, the service provider requires 1,499 RVUs to entitle their 3,000 Tier 1 devices. The quantity to order is 1,499 Resource Value Units. The first 10 are at a factor of 1.0, the next 90 at a factor of .9, the next 150 at a factor of .8, the next 250 at a factor of .65, and the final 2,500 at a factor of .45.
** Using VUE002 Table B the service provider requires 19 Resource Value Units to entitle their 20 Tier 2 devices. The quantity to order is 19 Resource Value Units. The first 10 at a factor of 1.0 and the next 10 at a factor of .9.

IBM Tivoli Netcool/Reporter

IBM Tivoli Netcool/Reporter is priced per install and per RVU. Each physical site per environment (production, hot standby, non-production) is considered a single install of Netcool/Reporter. RVU is defined below. Volume scaling is applied to tiers as indicated below per specific VUE (Volume Unit Exhibit).

Tier 1 (VUE C) IBM Tivoli Netcool/Reporter
Counted by the number of concurrent users.

IBM Tivoli Business Services Manager

IBM Tivoli Business Service Manager is priced per install and per tier RVU (Resource Value Unit). Each physical site is considered a single install of Tivoli Business Services Manager.

Base per install - per physical site, production, hot standby, non-production are each considered a single install. The number of base per install components required are the same regardless of how many components of the bundle are being licensed.

RVU per tier is described below. Volume scaling is applied to tiers as indicated below per specific VUE (Volume Unit Exhibit).

Tier 1 devices per Resource Value Unit - The following probes or devices are considered Tier 1. The number of Resource Value Units required is based on VUE002 Table B below.

This is counted by the number of end devices monitored via:

- SNMP traps
- Syslog messages
- Syslogd messages
- BMC Patrol per processor
- TL1
- Ping
- ISS SiteProtector

And the number of:

- Oracle Tables monitored
- HTTPD Common Log Format monitored
- HTTPD Server Error Log monitored
- Windows log files monitored
- Cisco PIX monitored
- Cisco SDEE monitored
- Checkpoint Firewall-1 monitored
- Cisco ACS monitored (each instance of Cicso ACS counts as 20 RVUs)
- IBM Tivoli Monitoring managed processor monitored
- IBM Tivoli Enterprise Console managed processor monitored (where these are not consolidated via a TEC server)
- Devices integrated via the EIF Probe per managed processor monitored

Tier 2 Devices per Resource Value Unit - The following probes or devices are considered Tier 2. The number of Resource Value Units required is based on VUE002 Table B below.

This is counted by the number of managed devices from the following list:

- Pulsepoint
- RADIUS
- Siemens DCO
- Ericsson AXE 10 per Class 5 Voice Switch
- Nortel DMS per Class 5 Voice Switch
- Alcatel DSC Dex per Class 5 Voice Switch
- Marconi System X per Class 5 Voice Switch
- Avaya Definity G3 per switch
- Lucent ECP
- Lucent 5ESS - Class 5 Voice Switch
- Ericsson ACP 1000
- Arcom Environmental Monitoring System
- Comverse
- Nortel DMS 10
- Nortel Meridian
- Alcatel MT20
- N.E.T. Promina
- Ericsson MD110
- Hewlett Packard OpenView NNM
- IBM NetView/6000
- DEC VAX Operator Communication Facility
- Oracle
- Enterprise SNMP EMS

- Polycenter Watchdog
- SUN Solstice Enterprise Manager
- Freshwater Sitescope
- SUN SunNet Manager
- Castlerock SNMPC
- Aprisma Spectrum
- Sun ManagementCenter
- Compaq Tandem
- CA Unicenter TNG
- Hewlett Packard Vantage Point Operations
- Microsoft Operations Manager (MOM)
- Microsoft System Center for Operations 2007 (SCOM 2007)
- CFS Building Management
- CMS400
- FDF Server - Single Connection
- N.E.T. IDNX
- Hewlett Packard IT/Operations Center
- Siemens Landis and Staefa
- Open NerveCenter
- N.E.T. Open/5000
- Netlabs (DiMONS 2G)
- Nortel Multi-service Data Manager

And by the number of:

- E-mail systems
- Sockets
- Executable programs
- FIFO queues
- Stdin feeds
- Log files monitored
- RoboMon Element Manager
- TEC [AIX|HP|Solaris] Oracle
- Tivoli Enterprise Console (TEC ODBC)

And by the number of databases managed using:

- ODBC
- Informix

This is counted by the number of connections to the managed devices in the following list:

- Nokia NMS100
- Nortel BSSM
- Nortel TN-MS EC1 Element Controller for TN-1X
- Nortel SB OSSI
- Nortel Universal Signalling Point (USP)
- Nortel BB STP
- Octel Voice Message Switch
- Okeford
- Telco Research ORBi-TEL
- Oryx EMS for Exel Switches
- Ascom PANMAN
- Dantel PointMaster
- Ion Networks Sentinel 2000
- Servelec

- Marconi ServiceOn Access
- Siemens EWSD Logfile
- SNM-OS probe
- Siemens TNMS (SNMP)
- Siemens HMS (rs232)
- Airspan Sitespan
- ECI/Telematics
- Ascom TimePlex TimeView/2000
- Ericsson Xmate
- PDS Snyder
- SNMP Telecom EMS
- Huawei T2000 MML
- Lucent ITM-SC
- Alcatel S12
- Nortel EV-DO
- NORTEL IEMS
- Motorola OMC-R (Iden)
- ADAM NOMS
- Lucent Agile ATM
- Alcatel 1000 E10/OCB-283
- Alcatel OMC-R (Terminal Server Connection)
- Alcatel OMC-S
- Telstra AMS
- Cisco CEMF
- Ascom CLOG
- DAWCOM
- Nortel Digital Fault Management (DFMS)
- Tekelec Eagle STP
- ECI/eNM
- Nortel EIF
- Marconi EMOS
- Fujitsu FENS
- FLEXR
- Inet Geoprobe
- Glenayre VMS
- Hughes
- KBU Fivemere
- Fibermux LightWatch
- Lucent ITM-NM/OMS
- ADC Metrica NPR
- NewNet SMS
- NICAD
- Tellabs 2100
- Alcatel NMC 1300
- Tandem SCP
- Lucent OTAF/SDHLR
- Telcordia ISCP-DRS-SPACE
- Alcatel AWS
- Lucent NFM
- Fujitsu Netsmart
- Lucent Wireless ASCII
- Telcordia Wireless ASCII
- Tekelec LSMS
- Prognosis
- Nortel MG9000
- Nortel PTM

- Marconi ServiceOn Data
- Ericsson BNSI
- Siemens TNMS (CORBA)
- Motorola OMC-R (3GPP)
- Huawei T2000 CORBA
- Huawei N2000 CORBA
- Cisco CTM (CORBA)
- NEC Director (CORBA)
- ECI Lightsoft CORBA
- Fujitsu ICS Probe
- Lucent Wavestar SNMS
- Marconi MV38/PSB MNR
- Lucent OMC (CORBA)
- Ciena On Center
- Lucent JMTE (CORBA)
- Alcatel OS-OS
- Nokia Netact/NMS2000
- Nokia NetAct for Broadband
- Nortel EAI
- Nortel Magellan NMS
- Tellabs 8000/8100
- Alcatel 5620 SAM
- Marconi MV36/PFM
- Nortel MDM
- Alcatel 5620 Logfile
- Nortel Preside Wireless (3GPP)
- Nortel CDMA Element Management System (CEMS)
  Nortel CDMA Element Manager (CNM)
- Ericsson 3GPP (OSS-RC/RANOS/CNOS)
- Nokia NetAct for Wireless (3GPP)
- Alcatel OMC-R (3GPP)
- Siemens Switch/Radio/@vantage Commander (CORBA)
- Alcatel 5620 NM CORBA
- Ericsson RANOS (3GPP)
- Nortel OMC-R (Q3)
- Alcatel OMC-R (Q3 Interface)
- Alcatel SMC 1360
- Motorola OMC-R (Q3 Interface)
- Siemens RadioCommander (Q3 Interface)
- Siemens SwitchCommander (Q3 interface)

VUE 002 Table B

From Quantity	To Quantity	Factor
0	10	1.00
11	100	0.90
101	250	0.80
251	500	0.65
501	or more	0.45

Customer's environment consists of 3,000 Tier 1 devices and 20 Tier 2 devices as outlined in the metric descriptions above. The customer will need to entitle their 3,000 Tier 1 devices and their 20 Tier 2 devices.

Chargeable Component metric	Quantity in Customer Environment	Net Resource Value Units required, quantity of part numbers to order
Tier 1 devices	3,000	1,499 *
Tier 2 devices	20	19 **

* Using VUE002 Table B, customer requires 1,499 RVUs to entitle their 3,000 Tier 1 devices. The quantity to order is 1,499 Resource Value Units. The first 10 are at a factor of 1.0, the next 90 at a factor of .9, the next 150 at a factor of .8, the next 250 at a factor of .65, and the final 2,500 at a factor of .45.

** Using VUE002 Table B customerr requires 19 Resource Value Units to entitle their 20 Tier 2 devices. The quantity to order is 19 Resource Value Units. The first 10 at a factor of 1.0 and the next 10 at a factor of .9.

Tivoli Business Service Manager for the Enterprise

Pricing Definitions

Install

Install is a unit of measure by which the Program can be licensed. An Install is an installed copy of the Program on a physical or virtual disk made available to be executed on a computer. Licensee must obtain an entitlement for each Install of the Program.

Resource Value Unit (RVU)

Resource Value Unit (RVU) is a unit of measure by which the Program can be licensed. RVU Proofs of Entitlement are based on the number of units of a specific resource used or managed by the Program. Licensee must obtain sufficient entitlements for the number of RVUs required for Licensee's environment for the specific resources as specified in the table below. RVU entitlements are specific to the Program and the type of resource and may not be exchanged, interchanged, or aggregated with RVU entitlements of another program or resource.

Instead of the entitlements required for the Resources used by the Program directly, Licensee must obtain entitlements for this Program sufficient to cover the Resources managed by the Program.

General Charge Terms

Resources counted for the purpose of calculating RVUs are based on devices and are organized into Tiers.

Tier 1

The following probes or devices are counted for Tier 1 calculation. A Tier 1 probe or device is a resource that sends metrics that can be consumed by TBSM.

This is counted by the number of end devices monitored via:

SNMP traps

Syslog messages
Syslogd messages
BMC Patrol per processor
TL1
Ping
ISS SiteProtectortm
And the number of monitored devices from the following list:
Oracle Tables
HTTPD Common Log Format
HTTPD Server Error Log
Windows log files
Cisco PIX
Cisco SDEE
Cisco ACS
Checkpoint Firewall-1
IBM Tivoli Monitoring managed processor
IBM Tivoli Enterprise Console managed processor
Each Integrated Facility for Linux(IFL)

Tier 2

The following probes or devices are considered Tier 2. A Tier 2 is a Special Network classification of switches/routers and specialized consolidation product(s) that sends metrics that can be consumed by TBSM.

This is counted by the number of managed devices from the following list:

Pulsepoint
RADIUS
Siemens DCO
Ericsson AXE 10 per Class 5 Voice Switch
Nortel DMS per Class 5 Voice Switch
Alcatel DSC Dex per Class 5 Voice Switch
Marconi System X per Class 5 Voice Switch
Avaya Definity G3 per switch
Lucent ECP
Lucent 5ESS - Class 5 Voice Switch
Ericsson ACP 1000
Arcom Environmental Monitoring System
Comverse
Nortel DMS 10
Nortel Meridian
Alcatel MT20
N.E.T. Promina
Ericsson MD110
Hewlett Packard OpenView NNM
IBM NetView/6000
DEC VAX Operator Communication Facility
Oracle
Enterprise SNMP EMS
Polycenter Watchdog
Sun Solstice Enterprise Manager
Freshwater Sitescope
Sun SunNet Manager
Castlerock SNMPC

Aprisma Spectrum
Sun ManagementCenter
Compaq Tandem
CA Unicenter TNG
Hewlett Packard Vantage Point Operations
Microsoft Operations Manager (MOM)
Microsoft System Center for Operations 2007 (SCOM 2007)
CFS Building Management
CMS400
FDF Server - Single Connection
N.E.T. IDNX
Hewlett Packard IT/Operations Center
Siemens Landis and Staefa
Open NerveCenter
N.E.T. Open/5000
Netlabs (DiMONS 2G)
Nortel Multi-service Data Manager
And by the number of:
E-mail systems
Sockets
Executable programs
FIFO queues
Stdin feeds
Log files monitored
RoboMon Element Manager
TEC (AIX/HP/Solaris) Oracle
Tivoli Enterprise Console (TEC ODBC)
And by the number of databases managed using:
ODBC
Informix®

This is counted by the number of connections to the managed devices in the following list. A connection is defined as data being consumed by TBSM from any of the following devices:

Nokia NMS100
Nortel BSSM
Nortel TN-MS EC1 Element Controller for TN-1X
Nortel SB OSSI
Nortel Universal Signalling Point (USP)
Nortel BB STP
Octel Voice Message Switch
Okeford
Telco Research ORBi-TEL
Oryx EMS for Exel Switches
Ascom PANMAN
Dantel PointMaster
Ion Networks Sentinel 2000
Servelec
Marconi ServiceOn Access
Siemens EWSD Logfile
SNM-OS probe
Siemens TNMS (SNMP)
Siemens HMS (rs232)
Airspan Sitespan
ECI/Telematics
Ascom TimePlex TimeView/2000

Ericsson Xmate
PDS Snyder
SNMP Telecom EMS
Huawei T2000 MML
Lucent ITM-SC
Alcatel S12
Nortel EV-DO
NORTEL IEMS
Motorola OMC-R (Iden)
ADAM NOMS
Lucent Agile ATM
Alcatel 1000 E10/OCB-283
Alcatel OMC-R (Terminal Server Connection)
Alcatel OMC-S
Telstra AMS
Cisco CEMF
Ascom CLOG
DAWCOM
Nortel Digital Fault Management (DFMS)
Tekelec Eagle STP
ECI/eNM
Nortel EIF
Marconi EMOS
Fujitsu FENS
FLEXR
Inet Geoprobe
Glenayre VMS
Hughes
KBU Fivemere
Fibermux LightWatch
Lucent ITM-NM/OMS
ADC Metrica NPR
NewNet SMS
NICAD
Tellabs 2100
Alcatel NMC 1300
Tandem SCP
Lucent OTAF/SDHLR
Telcordia ISCP-DRS-SPACE
Alcatel AWS
Lucent NFM
Fujitsu Netsmart
Lucent Wireless ASCII
Telcordia Wireless ASCII
Tekelec LSMS
Prognosis
Nortel MG9000
Nortel PTM
Marconi ServiceOn Data
Ericsson BNSI
Siemens TNMS (CORBA)
Motorola OMC-R (3GPP)
Huawei T2000 CORBA
Huawei N2000 CORBA
Cisco CTM (CORBA)
NEC Director (CORBA)

ECI Lightsoft CORBA
Fujitsu ICS Probe
Lucent Wavestar SNMS
Marconi MV38/PSB MNR
Lucent OMC (CORBA)
Ciena On Center
Lucent JMTE (CORBA)
Alcatel OS-OS
Nokia Netact/NMS2000
Nokia NetAct for Broadband
Nortel EAI
Nortel Magellan NMS
Tellabs 8000/8100
Alcatel 5620 SAM
Marconi MV36/PFM
Nortel MDM
Alcatel 5620 Logfile
Nortel Preside Wireless (3GPP)
Nortel CDMA Element Management System (CEMS)
Nortel CDMA Element Manager (CNM)
Ericsson 3GPP (OSS-RC/RANOS/CNOS)
Nokia NetAct for Wireless (3GPP)
Alcatel OMC-R (3GPP)
Siemens Switch/Radio/@vantage Commander (CORBA)
Alcatel 5620 NM CORBA
Ericsson RANOS (3GPP)
Nortel OMC-R (Q3)
Alcatel OMC-R (Q3 Interface)
Alcatel SMC 1360
Motorola OMC-R (Q3 Interface)
Siemens RadioCommander (Q3 Interface)
Siemens SwitchCommander (Q3 interface)

Tier 3

Tier 3 required RVUs is based on the total number of MSUs managed by TBSM. For the purpose of RVU calculation, the required number of RVUs are calculated on the full machine based MSU capacity of the machine(s) TBSM is managing.

An MSU is defined as millions of Central Processing Unit (CPU) service units per hour; the measure of capacity used to describe the computing power of the hardware processors on which S/390 or System z software runs. MSU values are determined by the hardware vendor, IBM, or Software Compatible Vendors (SCVs). For more information on mainframe MSU rated capacity, see 'The IBM System z Machines Exhibit (Z125-3901)' or this web page http://www03.ibm.com/systems/z/resources/swprice/reference/exhibits/hardware.html.

RVU Calculation

The total number of RVUs required for Licensee's use of the Program is determined by multiplying the number of managed entities in each tier by the RVU factor determined from the following table and summing the results.

# Resources		RVU per	Maximum	Cumulative
From	To	Resource	# of RVUs	# of RVUs
0	100	1.0	100	100

101	250	0.9	135	235
251	500	0.8	200	435
501	750	0.6	150	585
751	1,250	0.5	250	835
1,251	1,999	0.4	300	1,135
2,000	and greater	0.3		

Pricing Example

Customer's environment consists of 3,000 Tier 1 devices, 20 Tier 2 devices, and 1000 MSUs as. The customer will need to entitlements for the following Tiers as follows:.

Chargeable Component metric	Quantity in Customer Environment	Quantity of Required RVUs
Tier 1	3,000	1,435
Tier 2	20	20
Tier 3	1,000	710

IBM Tivoli Netcool/OMNIbus Gateways

IBM Tivoli Netcool/OMNIbus Gateways is priced per connection (Tier 1) and application instance (Tier 2).

Tier 1 IBM Tivoli Netcool/OMNIbus Gateways:
This is counted by:

- The number of Oracle databases
- The number of SNMP forwarding devices or applications
- The number of sockets (software communication points) that connection is made to

Tier 1 3rd party IBM Tivoli Netcool/OMNIbus Gateways:
This is counted by the number of databases from the following list that connection is made to:

- Sybase
- ODBC (MySQL)
- DB2
- Informix
- MS SQL

Tier 2 IBM Tivoli Netcool/OMNIbus Gateway
This is counted by the number of application systems from the following list that connection is made to:

- Siebel Call Center
- Metasolv TMS
- Clarify

- Vantive
- Peregrine Service Center
- Remedy ARS
- Siebel eCommunications
- Siebel Field Service Desk
- Hewlett Packard Service Desk
- Cramer

Pricing example
The customer deploys IBM Tivoli Netcool/OMNIbus Gateway, connecting to 5 Oracle databases and 5 sockets and 1 Siebel Call center.

Pricing Metric	Quantity in Customer Environment	Applications/Connections Required
Tier 1 connection	10	10
Tier 2 application	1	1

Distributed Pricing Examples (Smart Business Appliances)

IBM Application Manager for Smart Business

Limited Use Managed Server is a unit of measure by which the program can be licensed. A Limited Use Managed Server is a physical computer that is comprised of processing units, memory, and input and output capabilities and that executes requested procedures, commands, or applications for one or more users or client devices. Where racks, blade enclosures or other similar equipment is being employed, each separable physical device, for example, a blade or a rack-mounted device that has the required components is considered itself a separate Limited Use Managed Server. Licensee must obtain entitlements for each Limited Use Managed Server managed by the program and meet the maximum authorized use terms and conditions below.

The Limited Use Managed Server maximum authorized use terms and conditions are managed servers with a maximum of two sockets per managed server. A socket is an electronic circuitry that accepts a processor chip which is an electronic circuitry containing one or more processor cores that plugs into a socket.

The pricing example below should be used to determine required license entitlements for the following distributed products

Pricing example for IBM Tivoli Foundations Application Manager

IBM Tivoli Foundations Application Manager requires licensing of at least one part, IBM Application Manager for Smart Business Starter Kit, and an optional second part, IBM Application Manager for Smart Business, to monitor additional servers in the customer environment, as described below:

• IBM Application Manager for Smart Business Starter Kit

IBM Application Manager for Smart Business appliance runs on the Lotus Foundations Appliance Server and the IBM Application Manager for Smart Business Starter Kit license is required for the Lotus Foundations Appliance Server. IBM Application Manager for Smart Business Starter Kit is licensed by Limited Use Managed Server, and entitles the customer to manage the Lotus Foundations Appliance Server

• IBM Application Manager for Smart Business

IBM Application Manager for Smart Business is priced based on the customer's managed environment and licenses are needed for each physical server being managed. The following customer example illustrates how an assortment of distributed servers would be licensed:

• 20 uniprocessor servers
• 65 2-way servers
• 12 4-way servers (two dual-core processors)
• One 8-way server (two quad-core processors)
• One 12-way server with two virtual or logical partitions (two six-core processors)

The customer wants to manage the applicable distributed server environment, which requires a straightforward counting of the number of servers to be managed, pursuant to the server size and number limits described below.

System managed license	**Quantity in customer environment**	**Managed servers to be licensed**
Uniprocessor core	20	20
2-way	65	65
4-way	12	12
8-way	1	1
12-way (2 six-core processors)	1	1
Total entitlements required		
IBM Application Manager for Smart Business		99
IBM Application Manager for Smart Business Starter Kit		1

Limits:

• Licensee may only use IBM Application Manager for Smart Business to monitor and collect data from a maximum of 150 managed servers up to the level of licensee's entitlements (Limited Use Managed Servers).

• Licensee may only install and use IBM Application Manager for Smart Business on the supported IBM Lotus Foundations Appliance Servers specified in the program documentation.

• Licensee may only use the Tivoli Data Warehouse database component of Tivoli Foundations Application Manager (TDW) with Tivoli Foundations Application Manager and any other Tivoli Foundation branded appliance software program or hardware. Licensee may not use the TDW component with any other software program or hardware.

IBM Tivoli Foundations Service Manager

IBM Tivoli Foundations Application Service Manager requires licensing of 2 parts, IBM Lotus Foundations Start for Tivoli Foundation Services Manager and IBM Tivoli Foundations Service Manager as described below:

- Lotus Foundations Start for Tivoli Foundations Service Manager

The IBM Tivoli Foundations Service Manager appliance runs on the Lotus Foundations Appliance Server and the Lotus Foundations Start for Tivoli Foundations Service Manager license is required for the Lotus Foundations Appliance Server. Lotus Foundations Start for Tivoli Foundations Service Manager is license by Server for the Lotus Foundations Appliance Server.

- IBM Tivoli Foundations Service Manager

IBM Tivoli Foundations Service Manager is licensed per authorized user and per install. If a customer has 5 authorized users for one IBM Tivoli Foundations Service Manager appliance, the following licensing scheme applies:

Orderable component	Quantity in Customer Environment	License Entitlements Required
IBM Tivoli Foundations Service Manager - Authorized User	5	5
IBM Tivoli Foundations Service Manager – Install	1	1

Limits:

- For Tivoli Foundations Service Manager, licensee can buy maximum of 20 authorized user licenses only.
- Licensee may only install and use Tivoli Foundations Service Manager on the supported IBM Lotus Foundations Appliance Server(s) specified in the Program documentation.
- Lotus Foundation Start Server license to be used only for Tivoli Foundations Service Manager

System z Software Pricing Examples (MSU Based)

The pricing example below should be used to determine required license entitlements for the following System z software products:

- IBM Tivoli Storage Optimizer for z/OS
- IBM Editor for Messages on z/OS
- IBM ISPF Productivity Tool
- IBM Tivoli AF/OPERATOR on z/OS
- IBM Tivoli Allocation Optimizer for z/OS
- IBM Tivoli Automated Tape Allocation Manager for z/OS
- IBM Tivoli Advanced Reporting for DFSMShsm
- IBM Tivoli Advanced Catalog Management for z/OS
- IBM Tivoli Advanced Audit for DFSMShsm
- IBM Tivoli Composite Application Manager (ITCAM): for WebSphere, for CICS Transactions, for IMS Transactions, for SOA, for Transactions
- IBM Tivoli License Compliance Manager for z/OS
- IBM Tivoli Asset Discovery for z/OS
- IBM Tivoli OMEGACENTER Gateway on z/OS
- IBM Tivoli OMEGAMON DE on z/OS
- IBM Tivoli OMEGAMON XE: on z/OS, for CICS on z/OS, for CICS Transactions Gateway, for IMS on z/OS, for Mainframe Networks, for Storage on z/OS
- IBM Tivoli OMEGAMON XE for Messaging
- IBM Tivoli Output Manager
- IBM Tivoli Performance Modeler for z/OS
- IBM Tivoli Storage Manager for z/OS
- IBM Tivoli Tape Optimizer on z/OS
- IBM Tivoli Advanced Backup and Recovery for z/OS

System z Server:

- 1 1,500 MSU System z server

All products in this example employ Value Unit slope VUE007 (VUE = Value Unit Exhibit). If the customer has installed 1,500 MSUs, the applicable number of Value Units will be:

MSUs		Value Units / MSU	Value Units
Base	3	1.00	3.00
Tier A	42	.45	18.90
Tier B	130	.36	46.80
Tier C	140	.27	37.80
Tier D	1,185	.20	237.00
Total	1,500		343.50

When calculating the total number of Value Units, the sum is rounded up to the next integer. So the customer will need to license 344 Value Units in this example.

Value Units for non-MSU-based S/390 processor cores:

System	Value Units / System
MP3000 H30	6
MP3000 H50	8
MP3000 H70	12
ESL Models	2

Value Units for IBM 9672 processor cores are based upon the full capacity of these systems. This is applicable to all System z systems measured on MSU capacity. Information on MSU capacities can be found in the IBM System/370, System/390 and System z Machine Exhibit, Z125-3901.

****

The pricing example below should be used to determine required license entitlements for the following System z software products:

- IBM Tivoli Business Service Manager for z/OS
- IBM Tivoli Decision Support 390
- IBM Tivoli Decision Support Accounting Workstation for z/OS
- IBM Tivoli Information Manager
- IBM Tivoli Monitoring for Network Performance
- IBM Tivoli Service Level Advisor for z/OS
- IBM Tivoli System Automation Application Manager on z/OS[(1)]
- IBM Tivoli System Automation for z/OS
- IBM Tivoli Web Access for Information Manager
- IBM Tivoli Workload Scheduler Host Edition

Notes:
[(1)] IBM Tivoli System Automation Application Manager on z/OS is an exception to the managed environment model. Licensing requirements are based on the managing server, not the managed servers.

System z Server:
- 1 1,500 MSU System z server

All products in this example employ Value Unit slope VUE020 (VUE = Value Unit Exhibit). If the customer has installed 1,500 MSUs, the applicable number of Value Units will be:

MSUs		Value Units / MSU	Value Units
Base	3	1.00	3.00
Tier A	42	.15	6.30
Tier B	130	.08	10.40
Tier C	140	.04	5.60
Tier D	1,185	.03	35.55
Total	1,500		60.85

When calculating the total number of Value Units, the sum is rounded up to the next integer. So the customer will need to license 61 Value Units in this example.

Value Units for non-MSU-based S/390 processor cores:

System	Value Units / System
MP3000 H30	3
MP3000 H50	4
MP3000 H70	6
ESL Models	1

Value Units for IBM 9672 processor cores are based upon the full capacity of these systems. This is applicable to all System z systems measured on MSU capacity. Information on MSU capacities can be found in the IBM System/370, System/390 and System z Machine Exhibit, Z125-3901.

Notes:

- IBM Tivoli Service Level Advisor is fulfilled through Passport Advantage.
- Tivoli NetView for z/OS (a separate IBM MLC offering) is a prerequisite for System Automation for z/OS.

IBM Tivoli OMEGAMON for z/VM

In the example below, the customer is managing 30 z/VM engines. Engine-based Value Units for a specified number of engines are determined by the following table.

VUE021:

Level	Engine Min	Engine Max	Value Units per Engine
Base	1	3	10
Tier A	4	6	9
Tier B	7	9	8
Tier C	10	12	7
Tier D	13	16	6
Tier E	17	20	5
Tier F	21	25	4
Tier G	26+		3

Value Unit Calculation:

Level	Engines	Value Units per Engine	Value Units
Base	3	10	30
Tier A	3	9	27
Tier B	3	8	24
Tier C	3	7	21
Tier D	4	6	24
Tier E	4	5	20
Tier F	5	4	20
Tier G	5	3	15
Total	30		181

- The customer needs to license 181 Value Units in this example.

IBM Tivoli zSecure Suite

IBM® Security zSecure suite can help you enhance the security of mainframe systems by:

- Automating routine administrative tasks to help reduce costs, improve productivity, and increase integrity of RACF® security
- Proactively monitoring and auditing incidents to help detect and prevent security exposures
- Supporting an enterprise-wide view of audit and compliance efforts
- Providing monitoring, auditing and reporting of z/OS®, RACF, CA ACF2, and CA Top Secret, UNIX®, CICS®, and DB2® environments
- Offering a wide variety of canned audit reports and the capability to create specialized reports, including historical data
- Providing auditing assistance related to Global Compliance standards.
- Offering extended and independent monitoring to track and assess the consistency of security relevant changes to z/OS
- Providing the ability to administer multiple systems from a single application instance, without requiring RACF Remote Sharing Facility
- Supporting updates to multiple RACF databases through RACF remote sharing facility (RRSF)
- Enhancing ease of administration by providing the capability to apply command to multiple profiles on a display
- Extending monitoring and alerting for security events from many of IBM's premier applications and tools to enhance security compliance

The pricing example below should be used to determine required license entitlements for the following software products for System z:

Product	Value Unit Exhibit (VUE)
IBM Tivoli Compliance Insight Manager Enabler for z/OS	VUE020
IBM Tivoli zSecure Admin	VUE020
IBM Tivoli zSecure Alert	VUE020
IBM Tivoli zSecure Audit	VUE020
IBM Tivoli zSecure CICS Toolkit	VUE020
IBM Tivoli zSecure Command Verifier	VUE020
IBM Tivoli zSecure Manager for RACF z/VM	VUE021
IBM Tivoli zSecure Visual	VUE020

System z server

Consider a System z server with 1,000 MSUs

All products for this example listed above except Tivoli zSecure Manager for RACF z/VM (which uses VUE021) employ Value Unit slope Value Unit Exhibit 020 (VUE020). Translation from MSUs to Value Units:

VUE020

Level	MSU	Value Units/MSU
Base	1-3	1.00
Tier A	4-45	0,15
Tier B	46-175	.08
Tier C	176-315	0.04
Tier D	316+	0.03

If the customer has installed 1,000 MSUs, the applicable number of Value Units will be:

Level	MSU	Value Units per MSU	Value Units
Base	3	1.00	3.00
Tier A	42	0.15	6.30
Tier B	130	.08	10.40
Tier C	140	0.04	5.60
Tier D	685	0.03	20.55
Total	1000		45.85

When calculating the total number of Value Units, the sum is rounded up to the next integer. In this example, the customer will need to license 46 Value Units.

The engine-based Tivoli zSecure Manager for RACF z/VM employs Value Unit slope for Value Unit Exhibit 021 (VUE021). Translation from Engines to Value Units:

VUE021:

Level	Engine Min	Engine Max	Value Units per Engine
Base	1	3	10
Tier A	4	6	9
Tier B	7	9	8
Tier C	10	12	7
Tier D	13	16	6
Tier E	17	20	5
Tier F	21	25	4
Tier G	26+		3

If the customer has installed 25 engines, the applicable number of Value Units will be:

Level	Engine	Value Units per Engine	Value Units
Base	3	10	30
Tier A	3	9	27
Tier B	3	8	24
Tier C	3	7	21
Tier D	4	6	24
Tier E	4	5	20
Tier F	5	4	20
Total	25		166

In this example, the customer needs to license 166 Value Units.

Note: IBM RACF for z/OS (a separate IBM MLC offering) or a comparable competitive offering (CA-ACF2 or CA-TSS) is a prerequisite for the IBM Tivoli zSecure suite. For more information on RACF, please refer to:

www.ibm.com/racf

SCENARIO 1: MSU-based pricing

Transaction 1

Enterprise ABC initially wants to work with the following system configuration:

On 1 System z server with 1,000 MSUs, they want to run IBM Tivoli zSecure Audit and zSecure Alert. The same calculation applies to both Audit and Alert components:

Level	MSU	Value Units per MSU	Value Units
Base	3	1.00	3.00
Tier A	42	0.15	6.30
Tier B	130	.08	10.40
Tier C	140	0.04	5.60
Tier D	685	0.03	20.55
Total	1000		45.85

The customer must license 46 Value Units for Audit and 46 Value Units for Alert.

Transaction 2

After the initial license, enterprise ABC wants to expand their use of the zSecure suite to include the IBM Tivoli zSecure Command Verifier, Admin, Visual, and CICS Toolkit, along with the IBM Tivoli Compliance Insight Manager Enabler for z/OS. IBM Tivoli Compliance Insight Manager is sold separately through distributed pricing structures; refer to the separate pricing example for Tivoli Compliance Insight Manager.

The same calculation applies to each of these components:

Level	MSU	Value Units per MSU	Value Units
Base	3	1.00	3.00
Tier A	42	0.15	6.30
Tier B	130	.08	10.40
Tier C	140	0.04	5.60
Tier D	685	0.03	20.55
Total	1000		45.85

The customer must license 46 Value Units for each of Command Verifier, Admin, Visual, CICS Toolkit, and Tivoli Compliance Insight Manager Enabler.

SCENARIO 2: Engine-based pricing

Transaction 3

Enterprise ABC wants to add Tivoli zSecure Manager for RACF z/VM to their environment to support a Linux partition. They have 25 engines that need support.

Level	Engine	Value Units per Engine	Value Units
Base	3	10	30
Tier A	3	9	27
Tier B	3	8	24
Tier C	3	7	21
Tier D	4	6	24
Tier E	4	5	20
Total	25		166

In this example, the customer needs to license 166 Value Units of Tivoli zSecure Manager for RACF z/VM.

IBM Tivoli Key Lifecycle Manager for z/OS

The focus of IBM® Tivoli® Key Lifecycle Manager for z/OS® is to help:

- Manage your information risk by providing the capability to manage encryption keys used to secure information, help assure information integrity, implement encryption key retention policies, and ease data recovery
- Manage encryption keys for storage administrators
- Manage keys for self encrypting storage such as the DS8000™
- Automate the rotation of keys for life cycle and compliance requirements
- Provide a key management facility for transparent encryption, initially supporting IBM tape drives

IBM Tivoli Key Lifecycle Manager for z/OS V1.0 base product uses the following Value Unit exhibit 007 (VUE007) for the purpose of calculating Value Units to order (based upon MSUs).

Value Unit exhibit 007 (VUE007)

Tier	MSU Range	Value Units per MSU
1	1 – 3	1.00
2	4 – 45	0.45
3	46 - 175	0.36
4	176 - 315	0.27
5	>315	0.20

Transaction 1

For customers ABC with a System z9 EC machine with 185 MSUs, they would require the following license and Subscription and Support (S&S) entitlements, if support is needed. Value Units to order are calculated as follows:

Tier	MSU Range	Total MSUs (A)	Value Units per MSU (B)	MSU Quantity to be Ordered (A x B)
1	1 – 3	3	1.00	3.00
2	4 - 45	42	0.45	18.900
3	46 - 175	130	0.36	46.800
4	176 - 315	10	0.27	2.700
5	>315	-	0.20	0.000
Total		185		71.400 (rounded to 72.00)

Customer ABC would need to license 72 Value Units of S&S entitlements for their environment to go with their license entitlements if they wish to receive support.

Entitlements are also required for the incremental IBM Tivoli Key Lifecycle Manager for Storage resources (terabytes of usable encryption capable disk storage and encryption capable tape drive storage) managed beyond the two terabytes of storage that comes with each base install.

Note: Each base product entitlement comes with two entitled resources (terabytes of disk and/or tape drive storage). Value Unit Exhibit 027 (VUE027) is used for the purpose of calculating Value Units to order (based upon terabytes of storage tape and/or disk drive storage).

Value Unit Exhibit 027 (VUE027) is shown in the table below.

Note: Value Units are rounded up to the next whole number for the purpose of ordering.

Value Unit Exhibit 027 (VUE027)

Tier	Terabyte Range	Value Units per Terabyte
1	1 - 12	1.00
2	13 - 32	0.8455
3	33 - 64	0.6137
4	65 - 100	0.4639
5	101 - 250	0.3870
6	>250	0.3097

Customers ABC are setting up their z/OS storage environment for both disk and tape drives. In Phase one, they plan to manage an additional 96 terabytes of disk drive storage and 92 terabytes of tape drive storage. The total incremental terabytes are added together to get the total terabytes in the environment to entitle. The total terabytes are entered into Value Unit table VUE027 to get Value Units to order. In this case, the 96 terabytes of disk storage data and the 92 terabytes of tape storage add up to a total of 188 terabytes of encryption capable storage.

Customers ABC must license entitlements for the 188 terabytes of storage data.

The Value Units to entitle the incremental terabytes of storage data are determined as follows:

Tier	Terabyte Range	Total Terabytes (A)	Value Units per Terabyte (B)	Value Units Required (A x B)
1	1 - 12	12	1.00	12.0000
2	13 - 32	20	0.8455	16.9100
3	33 - 64	32	0.6137	19.6384
4	65 - 100	36	0.4639	16.7004
5	101 - 250	88	0.3870	34.0560
6	>250	--	0.3097	0.0000
Total		188		99.3048 (rounded up to 100)

Customers ABC would order 100 Value Units to entitle their environment for the 188 terabytes of tape and disk encryption capable storage in Phase one

Transaction 2

In Phase two, customers ABC want to increase the terabytes of encryption capable storage supported by their Phase one entitlements on the System z9 EC machine (with 185 MSUs). They want to add another incremental 64 terabytes of tape storage and another 100 incremental terabytes of disk storage. The new total terabytes of data storage in customers ABC's environment would be the previous 188 terabytes from Phase one, plus Phase two's 164 terabytes for a new terabyte total of 352 terabytes of usable encryption capable disk storage and encryption capable tape drive storage.

The new total Value Units required to entitle their environment would be calculated as follows:

Tier	Terabyte Range	Total Terabytes (A)	Value Units per Terabyte (B)	Value Units Required (A x B)
1	1 - 12	12	1.00	12.0000
2	13 - 32	20	0.8455	16.9100
3	33 - 64	32	0.6137	19.6384
4	65 - 100	36	0.4639	16.7004
5	101 - 250	150	0.3870	58.0500
6	>250	102	0.3097	31.5894
Total		352		154.8882 (rounded to 155.00)
Less Previous VU Entitlements from Transaction 1				(100.00)
Total Incremental VU to Order				55.00

Customers ABC would need to order an additional 55 Value Units to entitle their new total of 352 terabytes of encryption capable storage. No additional IBM Tivoli Key Lifecycle Manager for z/OS base licenses were required as Customer ABC originally set up their environment to handle the incremental terabytes in Phase one when they entitled their environment on the System z9 EC machine with 185 MSUs.

Note: Customers are required to license a Subscription and Support (S&S) entitlement, (in addition to the license entitlements), if support is needed. (For feature numbers, refer to the section.)

IBM Tivoli Security Management for z/OS

IBM Tivoli Security Management for z/OS consists of the following components:

IBM Tivoli zSecure Admin
IBM Tivoli zSecure Audit
IBM Tivoli zSecure Command Verifier
IBM Tivoli Security Information and Event Manager
IBM Tivoli Compliance Insight Manager Enabler for z/OS components:
Tivoli Compliance Insight Manager Enabler for z/OS - RACF
Tivoli Compliance Insight Manager Enabler for z/OS - DB2
Tivoli Compliance Insight Manager Enabler for z/OS – CICS

IBM Tivoli Security Management for z/OS provides security management and is tightly integrated with RACF, enabling compliance management, security administration, user management, and security monitoring on the mainframe.

All products for this example employ Value Unit slope Value Unit Exhibit 020 (VUE020). Translation from MSUs to Value Units:

VUE020

Tier	MSU Range	Value Units per MSU (B)
Base	1-3	1.00
A	4-45	0.15
B	46-175	0.08
C	176-315	0.04
D	>315	0.03

Enterprise ABC initially wants to work with the following system configuration.

On one System z server with 1,000 MSUs, they want to run IBM Tivoli Security Management for z/OS V1.10.

Tier	MSU Range	Total MSUs (A)	Value Units per MSU (B)	Value Units Required (A x B)
Base	1-3	3	1.00	3.00
A	4-45	42	0.15	6.30
B	46-175	130	0.08	10.40
C	176-315	140	0.04	5.60
D	>315	685	0.03	20.55
Total		1,000		45.85 (rounded up to 46.00)

When calculating the total number of Value Units, the sum is rounded up to the next integer. In this example, the customer will need to license 46 Value Units.

Transaction 2

After the initial license, enterprise ABC wants to Run Tivoli Security Management for z/ OS on a second System z server with 500 MSUs for a total of 1,500 MSUs in their environment. The machines must be coupled together in a qualifying parallel Sysplex environment.

Tier	MSU Range	Total MSUs (A)	Value Units per MSU (B)	Value Units Required (A x B)
Base	1-3	3	1.00	3.00
A	4-45	42	0.15	6.30
B	46-175	130	0.08	10.40
C	176-315	140	0.04	5.60

D	>315	1,185	0.03	35.55
Total		1000		60.85
Less previous VU Entitlements from Transaction 1				(46.00)
Additional VUs Required				14.85 (rounded up to 15.00)

When calculating the total number of Value Units, the sum is rounded up to the next integer. In this example, the customer will need to license an additional 15 Value Units.