

Unit 9: License Management



Tivoli software **IBM**


Unit 9: License Management

@business software IBM Software Group

Introduction

This unit provides instructions for the tasks involved in creating and maintaining license entitlement information and licenses for products.

Objectives




2

Objectives


Upon completion of this unit, you will be able to:

- Create new licenses for a product.
- Limit access to a license to specific divisions, agents, nodes, and users.

Tivoli software




Lesson 1: The License Management Process



The License Management Process

The main portion of the investment required to set up an IT infrastructure is related now to software. Regarding this information, the software asset management process is becoming more and more important. In a business point of view, this process includes the software and vendors evaluation, contracts negotiation, budget planning, hardware compliance analysis, software life cycle planning, and so on.

However, one of the most important steps of this business process is software monitoring. This is the only way to exactly know what software is installed within an enterprise and, more importantly, which software and how many pieces of it is used within the IT infrastructure.

Tivoli software 

3

Sometimes, enterprises buy corporate licenses even though licenses are procured for some specific divisions and will not be used by the rest of the enterprise. Many organizations are overbuying licenses so as to not expose the enterprise to the risk of noncompliance usage of software products, merely because they are not able to prove or to evaluate how many licenses they really need or use.


The license procurement information must be properly reconciled with the software usage and inventory data. This is the only way an enterprise has to tell whether it is paying more license fees than necessary or whether it should buy new licenses to be compliant with the product license policies.

Currently, many software vendors leave the responsibilities of license management to the enterprises that buy the products. They often do not provide technical support to maintain or apply the product license policies. Furthermore, the organizations have to prove that they are not using more licenses than they are authorized for.

IBM Tivoli License Compliance Manager offers a technical way to control and apply the software vendors predefined policies. It allows the Administrator to easily manage different products in different ways, reflecting the rules of each products license agreement.

All software vendors apply pricing policies. However, the license counting process depends on each software vendor. Sometimes, the license counting is based on the number of concurrent users, number of installed or configured processors on machines, number of installed hard disks, on the amount of memory, and so on. Furthermore, for the same software, the rules can differ if the license is limited to a user, a group of users, or a division.

Lesson 2: License Measurement and Scope



4

License Management and Scope


When talking of licensing software, what measurement is it being licensed by? How many people are using it? The number of computers it is running on? What about by how many processors the software uses? Should software running on two partitions located on a single computer count as one or two instances?

It turns out that there are two major entities that software is licensed by – physical entities like machine or user, or by logical entities like processor or partition (known as capacity licensing).

Tivoli software

IBM

Licensing by Physical Entities



5


Licensing by Physical Entities

There are two traditional ways that software is licensed by: how many people are using it (by user) or how many machines it is installed on (by node).

Examples would be something like only 25 copies of a piece of software can be installed, no matter how many people use it at a time. Or there is no limit to how many copies can be installed, but only a maximum of 25 users can run it at the same time.

Tivoli software **IBM**

Licensing by Logical Entities



6


Licensing by Logical Entities

A newer concept than licensing by physical entities, licensing by processor or partition can have distinct advantages in certain situations.

Licensing by capacity has three major benefits for the customer:

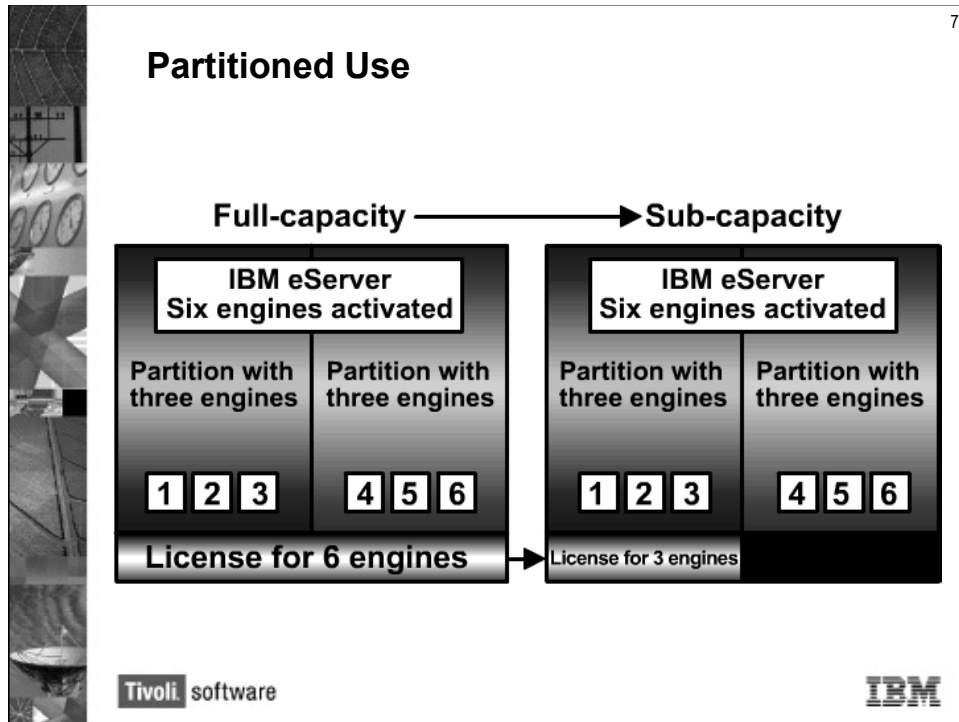
- Customer can align costs with capacity requirements and pay for utilization as needs grow.
- Ability to pilot new applications.
- Supports server consolidation.

Tivoli software



IBM offers International Program License Agreements (IPLA) that are processor-based. This means that the license charges depend on the number of processors on the computer or partition where the licensed product is installed and running. If a product is licensed under a full-capacity agreement, you require an entitlement for the number of processors on the computer where the product is installed and in use. If the product is licensed under a sub-capacity agreement, the entitlement required depends on the number of processors assigned to the partition where the product is installed and in use. How this is calculated depends on the configuration of the partitioned environment.


Partitioned Use



In the image, the sub-capacity customer is only using the software on the left partition in each block.

IBM Tivoli License Compliance Manager agents can be deployed in partitions and can collect the information related to the processors allocated to the partitions, and can detect the presence and use of products in the partitions. This enables IBM Tivoli License Compliance Manager to provide the information required to assess the level of sub-capacity entitlement that is required for a product running in a partitioned environment.

Partitioning and Sub-capacity Licenses




8

Partitioning and Sub-capacity Licenses

A computer can be partitioned in a static or dynamic configuration, and within the dynamic configuration there are different levels of complexity, as follows:

- Static partitioning
- Dynamic partitioning
- Virtualized partitioning

Tivoli software 

A computer can be partitioned in a static or dynamic configuration, and within the dynamic configuration there are different levels of complexity, as follows:

- **Static partitioning (for example, logical partitioning or LPAR)** – The computer is partitioned to form virtual servers, each of which is assigned at least one processor. If a product licensed under a sub-capacity agreement is installed in a static partition to which two processors are assigned, it requires an entitlement for two processors.
- **Dynamic partitioning (for example, dynamic LPAR or DLPAR)** – A dynamic configuration of partitions provides the capability to reallocate system resources in real time in response to a business need. A base configuration defines the default allocation of processors to partitions, but as demand changes processors could be added to or taken away from the partition. If a product licensed under a sub-capacity agreement is installed in a dynamic partition, it requires an entitlement for the highest number of processors that are assigned to its partition. For example, in the base configuration, the partition has two processors, and during a time of peak demand it is expanded to 4 processors. The required entitlement is 4 processors.
- **Virtualized partitioning** – This type of configuration is available on IBM eServer p5 and i5. It enables you to create shared pools of processors. As demand changes on the system, the processors or fractions of the processors that make up

the shared pool are dynamically allocated to the partitions. There are two classifications of partition that can obtain processing power from the shared pool: capped and uncapped. These specify whether the number of processors that can be used is limited.

- **Micro-partitioning** – Micro-partitioning is an extension of the virtualization capabilities that have already been described. It includes the shared pool, capped and uncapped partitions, and their properties, as described for the virtualized partitioning configuration.

License Targets




The next decision to be made is to target the license, which can be done by division, agent or user.

By division – If a marketing department receives a new version of their contact software, the license distribution could be limited to the marketing department and not the engineering or IT departments.

By agent – A new anti-virus utility comes out and there are different versions for Windows and UNIX. The Windows version could be distributed to only Windows machines, same with the UNIX version.

By user - A company has just purchased five copies of a very expensive drawing program. The only people authorized to run this program are five CAD/CAM engineers. The distribution can be limited to only those five users.

Lesson 3: License Types



10

License Types

There is a distinction between licenses that grant installation of a product and licenses that grant use of a product. All the licenses of a single product must have the same license type assignment (either use or installation). License assignment to targets and users is performed by the License Administrator after the license is created by the Procurement Manager.


Tivoli software

IBM

During license creation, the complete license quota is assigned to the default target type and the License Administrator then creates distribution quotas by modifying that default. For example, the Procurement Manager creates a license for a product that consists of 100 licenses that is automatically assigned to the organization target type, and the License Administrator then creates 5 distribution quotas of 20 licenses each, selecting 5 different divisions and the targets for the distribution quota.

Whether multiple instances of a license is allowed depends on the type of license.

Use Licenses for Physical Entities




11


Use Licenses for Physical Entities

Usage concurrent session – For usage concurrent session licenses, multiple instances of the product run concurrently by the same user, or by different users, on the same agent are counted separately.

Usage concurrent nodelock – For usage concurrent nodelock licenses, multiple instances of the product run concurrently on the same agent are counted as one, regardless of who is using them.

Tivoli software 

Use Licenses for Logical Entities

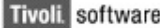



12


Use Licenses for Logical Entities

IPLA full-capacity – The license use is counted as the highest number of processors on the computer during the time that the product is in use. The IPLA license types base the calculation of license use on the number of processors on a computer or assigned to a partition.

IPLA sub-capacity – The license use is counted as the highest number of processors available for the partition on which the product is installed during the time that the product is in use. Sub-capacity licenses are for IBM products that are licensed under sub-capacity terms.

Installation Licenses for Physical Entities




13


Installation Licenses for Physical Entities

Install instance – With installation instance licenses, multiple installations of a product on the same agent are counted as one.

Tivoli software



Installation Licenses for Logical Entities

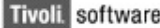



14

Installation Licenses for Logical Entities

Install IPLA full-capacity – The license use is counted as the highest number of processors on the computer during the time that the product is installed.

Install IPLA sub-capacity – The license use is counted as the highest number of processors available for the partition on which the product is installed during the time that the product is installed.

Managing Licenses with the Interface

The screenshot displays the 'Manage Licenses' interface. On the left is a 'Portfolio' navigation menu with options like 'Produce Reports', 'Manage Batch Reports', 'Manage Licenses' (highlighted), 'Assign Licenses', 'Define Product Properties', 'Schedule Software Scans', 'Manage Resources', 'Manage Complex Products', 'Manage Infrastructure', 'Manage Organizations', 'Manage Access', 'Define Custom Fields', 'Export IBM Use', and 'Return to the Organization Data Page'. The main area is titled 'Manage Licenses' and contains a 'Search for Licenses' section with a search prompt and fields for 'License name', '* License type' (set to 'All'), '* Delivery month' (set to 'January'), and '* Delivery year' (set to '1970'). Below these are buttons for 'Create', 'Create from file', 'Change...', 'Delete', and 'As'. A table header shows columns for 'Select', 'License name', 'License owner', and 'Contract num', with a message 'No data is currently available.' below it. The Tivoli software and IBM logos are at the bottom.

You provide the procurement information of the license according to the terms and conditions of the contract. When you create a new license using the Web interface, a distribution is automatically created for use by the IBM Tivoli License Compliance Manager license.

To manage license procurement you should be logged on as the Administrator for small organizations, the Procurement Manager for large organizations, or the Procurement and Licensing Manager.

Adding License Details with the Interface


17

Adding License Details with the Interface

Business information	Create or Modify License
Legal information	<p>Create or modify the parameters of the license, and link it with a product in the catalog.</p> <p>*License name <input style="width: 100%;" type="text"/></p> <p>*License type <input style="width: 100%;" type="text" value="Usage Concurrent Session"/></p> <p>*Total quantity <input style="width: 100%;" type="text" value="0"/></p> <p>Total cost <input style="width: 100%;" type="text"/></p> <p>Currency <input style="width: 100%;" type="text" value="AED"/></p> <p>Purchase type <input style="width: 100%;" type="text" value="Unknown"/></p> <p>*Start date <input style="width: 100%;" type="text" value="2 / 9 / 2006"/></p> <p>*Expiration date <input style="width: 100%;" type="text" value="2 / 9 / 2016"/></p>

Tivoli software
IBM

Electronic Entitlements




18

Electronic Entitlements

An electronic entitlement (EE) is a machine-readable file that contains information about a software license. It can be used to quickly define licenses for IBM products, avoiding all errors that can occur when the definition of license information is done manually using the Web interface. To be specific, an EE is a signed XML file.

Tivoli software



An electronic entitlement defines (partially or totally) the information required by ITLCM to correctly license a product.


The introduction of functionality to import electronic entitlements automates the creation of licenses and eliminates the risk of error when creating the license and assigning products.

Passport Advantage Primary (www.ibm.com/lotus/sub-capacity) Contacts or other contacts designated by them and registered with the License Management System (LMS) site can generate and download EEs from the site starting the month following the software product general availability.

When a quantity has been included by IBM in the electronic entitlement, the quantity reflects the use-authorization entitlement only for the transaction which caused this electronic entitlement to be made available to you, and may not reflect your company's total use-authorization entitlement for this product.

If you have licensed a new product during the month when it was announced, the IBM catalog will not include an entry for your product. You must wait until the end of month to download a catalog and to obtain an EE.

Benefits of Electronic Entitlements



19


Benefits of Electronic Entitlements

Once the electronic entitlement for a purchased product is available, the customer just needs to import it into IBM Tivoli License Compliance Manager and make a few customizations to create a license.

Reduces the possibility of mistakes (misinterpretation of contract terms and conditions and license agreement, erroneous product assignment, and so on).

Electronic entitlement files are signed, so:

- Customers can trust that license information included within EEs are provided by the vendor.
- Vendors can be confident that the customer creates ITLCM licenses based on correct terms and conditions.

Tivoli software 

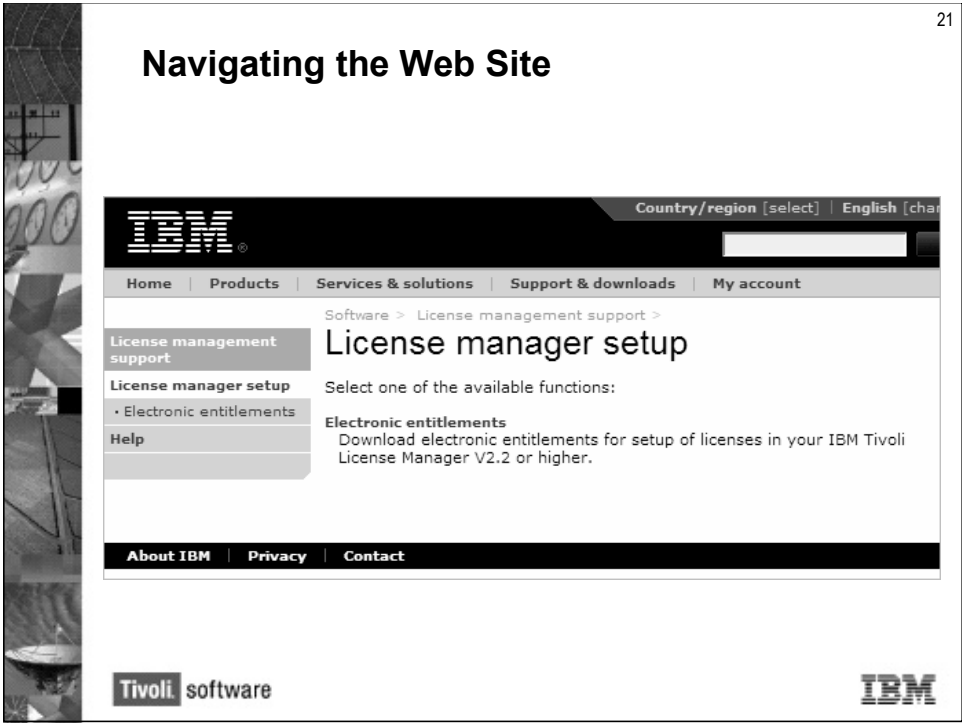
Where to Get Electronic Entitlements



You can obtain an electronic entitlement from the primary contact for the Passport Advantage site under which the software is purchased, or you can download it from the license management support Web site - <http://www-5.ibm.com/software/lms>.

Due to the fact that there is no easy way to simulate this process in a lab, screen-by-screen details will be given.

Navigating the Web Site



After logging in, select **Electronic entitlements**.

Searching for Entitlements

22

The screenshot shows the IBM Tivoli License Compliance Manager web interface. The main heading is "Electronic entitlements". Below the heading, there is a search bar with the text "Enter a program number or name" and a "Go" button. To the right of the search bar, there is a "Sign out" button and a "My cart" button. Below the search bar, there is a section titled "Download recent electronic entitlements" which contains a table with columns for "Select", "Program number", "Program description", "Release level", and "Part number". The table is currently empty. At the bottom of the page, there are links for "About IBM", "Privacy", and "Contact".

To generate and download an electronic entitlement not previously generated, search for product by entering a program number or name and selecting **Go**.

Entitlement Search Results

23

Entitlement Search Results

Electronic entitlements

Search results
To specify license details choose a product from the list by selecting the program number or to search for another product by entering a new program number or name and select Go.

Newsflash

Latest news

Sign out

→ Leave the application?

My cart

→ Go to cart (0 electronic entitlements)

Search for a product

Enter a program number or name

Generic electronic entitlement search results				
Program number	Program description	Chargeable component	Charge unit	Part number
5765F31	DB2 Data Links Manager	DB2 Data Links Manager	Processor(s)	D5ARFL
				D5ARLL
				E1ARHL
				E1ARLL
			SubCapacity Processor	D54D4L
				D54D5L
				E01Q0L
				E01Q1L
5765F38	DB2 Net Search Extender	DB2 Net Search Extender	Processor(s)	D5ASKL
				D5ASNLL
				E1ASML
				E1ASMLL
			SubCapacity Processor	D54DHL
				D54DILL
				E01WLL
				E01WLLL
5724D04	IBM DB2 Everyplace	DB2 Evpl Enterprise Edition	Processor(s)	D519ALL
				D519CLL
				E00BRL
				E00BRL

Tivoli software **IBM**

After searching (DB2 has been entered as an example) you are shown a list of all matching entitlements.

Generating and Downloading the Entitlement

24

Generating and Downloading the Entitlement

Software > License management support > License manager setup >

Generation options

Selected part	
Part number	D518GLL
Part description	DB2 UDB Enterprise Server Ed Per Processor Lic+SW Maint 12 Mo
Electronic Entitlement	
Program number	5765F41
Program description	DB2 UDB Enterprise Server Edition V8.x
Chargeable component	DB2 UDB Enterprise Server Ed
Release level	8.x <input type="button" value="v"/>
License model	usage-full-capacity
Charge unit	Processor(s)
Quantity	<input type="text"/>
Use type	<input checked="" type="radio"/> Normal

Newsflash

Sign out
→ Leave the application?

My cart
→ Go to cart (0 electronic entitlements)

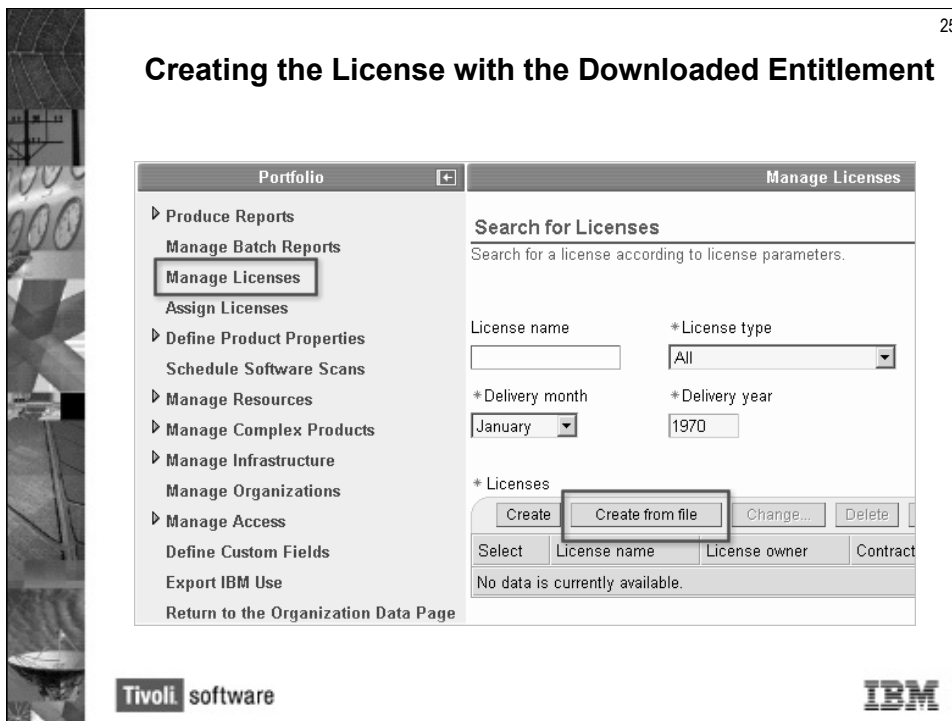
Tivoli software **IBM**

After selecting a specific entitlement (in this case, the DB2 UDB Enterprise Server Edition v8.x processor), you will be shown a screen where you can enter the quantity and download the entitlement.

To download an electronic entitlement file you must provide any information requested and then either download the file directly to your workstation or add the file to your cart for multiple downloads.

You can download an electronic entitlement multiple times.

Creating the License with the Downloaded Entitlement



Now that you have an electronic entitlement, you need to enter it into ITLCM.

As with the manual process, you first select **Manage Licenses**. Then, instead of **Create**, select **Create from file**.

You are then asked to select the electronic entitlement file. The file is then validated and the associated license is created.

Electronic Entitlement Customizations

26

Electronic Entitlement Customizations

Manage Licenses [?] [X]

Create or Modify License
Create or modify the parameters of the license, and link it with a product in the catalog.

i **CODW199991**
The electronic entitlement has been successfully imported.
[Close message](#)

Vendor	Product ID	Product name
IBM	5724-E34	MQ OSHO Administration Tool for M

*** License name**
DB2 UDB DW Enterprise Edition 8.x subcapacity

*** License type** *** Total quantity**
IPLA Sub-Capacity 17

Total cost **Currency** **Purchase type**
 AED Unknown

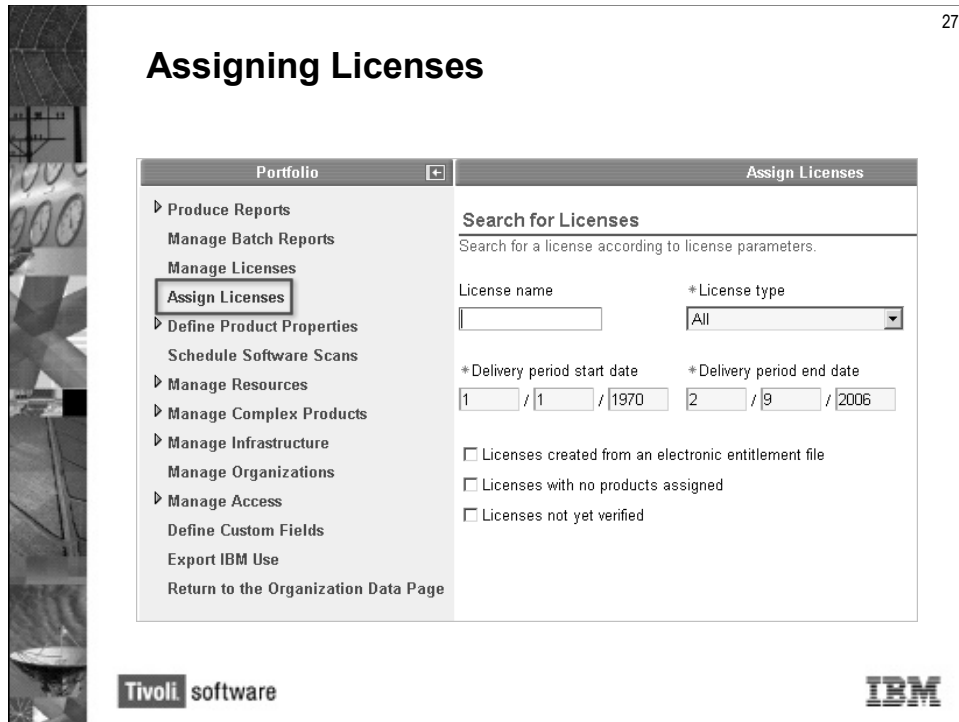
*** Start date** *** Expiration date**
11 / 1 / 2005 11 / 1 / 2006

Tivoli software **IBM**

After the license is validated, you will notice that some fields are not editable, as these reflect the software license agreed with the vendor.

When a quantity has been included by IBM in the electronic entitlement, the quantity reflects the use-authorization entitlement only for the transaction which caused this electronic entitlement to be made available to you, and may not reflect your company's total use-authorization entitlement for this product.

Assigning a License Using the Interface



After the license is created, it must be assigned in order to limit the access to a license to specific divisions, agents, nodes, and users.

You can assign licenses only if you have one of the following roles: Administrator, License Administrator, Procurement and Licensing Manager.

Assigning a license is also referred to as creating a license distribution quota and comprises the following steps:

1. Assigning products to the license. Note that this step cannot be performed if the license was created from an electronic entitlement.
2. Modifying the license settings to indicate that the license has been verified.
3. Distributing the license to targets.

In the Portfolio, select **Assign Licenses**.

You would then select the license and assign products to it.

Assigning Products to Licenses

28

Assigning Products to Licenses

Select a License

Select a license to assign a distribution quota, products, or to distribute.

* Filtered licenses:

Change... Assign products... Distribute...

Select	License name	License owner	Contract number	Total quantity	License type	EE Created
<input type="checkbox"/>	IBM DB2 Enterprise Edition	-	-	5	Usage Concurrent Session	No

Page: 1 of 1 1 Go Displayed 1 of 1

Tivoli software IBM

And finally you would distribute the license. Depending on the license type, you may need to select targets for the license.

Lesson 5: License Management Scenarios

29

License Management Scenarios


License Management Scenario A or **License Management Scenario B**

A or **B**

Tivoli software IBM

The following scenarios present one of the possible flows that you will follow when assigning licenses. How you assign licenses for distribution depends on how the Procurement Manager defined the license parameters during license creation. You can assign licenses only if you have one of the following roles: Administrator, License Administrator, Procurement and Licensing Manager.

Assigning a Usage Concurrent Session License




30

Assigning a Usage Concurrent Session License

Assigning the license distribution quota to targets includes three distinct steps:

- Assign the product to the license.
- Modify the license settings to indicate that the license has been verified.
- Assign a distribution quota.

Tivoli software 

For this scenario assume that you are creating a distribution quota for a Usage Concurrent Session license for the CiscoWorks 2000 Server UNIX product and that you want to assign it to a specific division within the organization.

The Procurement Manager for the organization has already created a license with name LicCiscoWorks and quantity equal to ten. The entire quantity was automatically assigned to the default target type (Organization).

Assigning the license distribution quota to targets includes three distinct steps:


1. Assign the product to the license.
2. Modify the license settings to indicate that the license has been verified. After you have assigned products to a license, and before assigning distribution quotas, you should modify the license settings to indicate that the license has been checked.
3. Assign a distribution quota. After you have assigned a product to a license, and reviewed it accordingly, you can assign distribution quotas to it. When the license was created, all of the available licenses were assigned to the default target type. Therefore, before you can create a new distribution quota, you must modify the default quota that was created. Change the quantity value of the existing

distribution from ten to eight. Then create a new distribution with a quantity of two, and the target type of Division.



Note: You cannot assign products to a license that was created from an electronic entitlement.

Assigning a Sub-capacity License




31

Assigning a Sub-capacity License

Assigning the license distribution quota to targets includes three distinct steps:

- Assign the product to the license.
- Modify the license settings to indicate that the license has been verified.
- Assign a distribution quota.

Tivoli software 

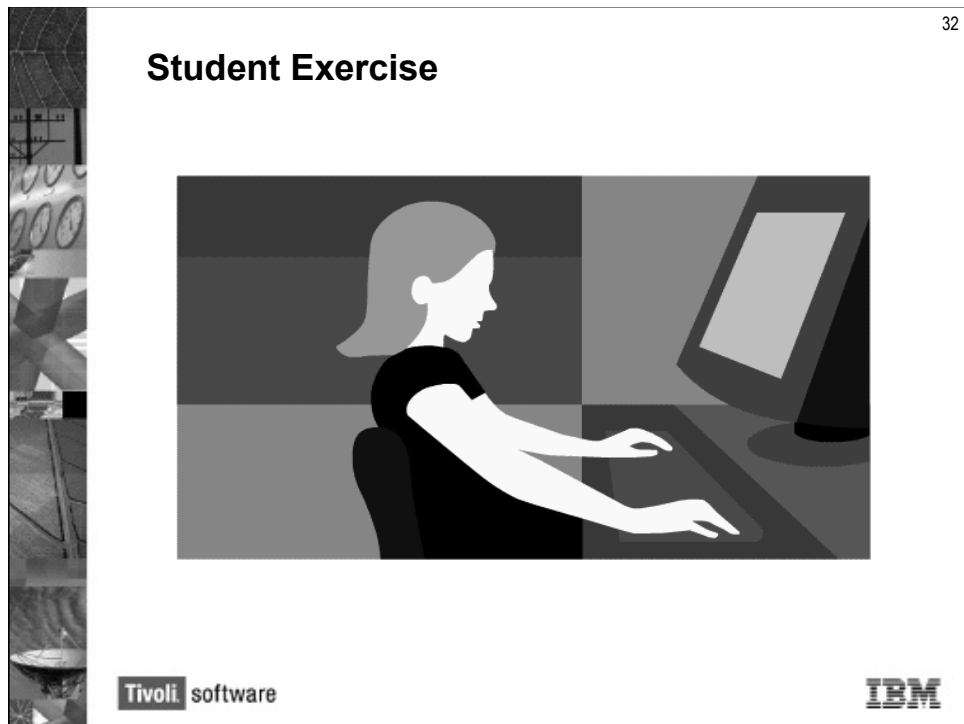
For this scenario assume that you are creating a distribution quota for an IPLA Sub-capacity license for the IBM DB2 UDB Data Warehouse Enterprise Edition Version 8.2 product and that you want to assign it to a specific node within the organization.

The Procurement Manager for the organization has already created a license with name Lic_DB2_UBD and quantity equal to 10. The entire quantity has been automatically assigned to the default target type (Organization).

Assigning the license distribution quota to targets includes three distinct steps:

1. Assign the product to the license. In this scenario, DB2 UDB Data Warehouse Enterprise Edition Version 8.2 is to be assigned. Therefore you must set the hierarchy level to Release so that catalog entries for version 8.2 can be selected. Setting the hierarchy level to Product or Version would make it impossible to filter out use information for versions of the product that do not use the sub-capacity pricing model.
2. Modify the license settings to indicate that the license has been verified. After you have assigned products to a license, and before assigning distribution quotas, you should modify the license settings to indicate that the license has been checked.
3. Assign a distribution quota. After you have assigned a product to a license, and reviewed it accordingly, you can assign distribution quotas to it. When the license

Student Exercise



Open your *Student Exercises* book and perform the exercises for this unit.

Review Answers

1. Every product that is licensed must have a contract entry in IBM Tivoli License Compliance Manager.

No that is incorrect. Creating contracts are optional.


2. Licenses can be targeted by:

Division

Agent

User

Summary



33

Summary

You should now be able to:

- Create new licenses for a product.
- Limit access to a license to specific divisions, agents, nodes, and users.

Tivoli software **IBM**

