



# Infor LN User Guide for Enterprise Structures

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## About this Guide

This document describes the processes and procedures involved in setting up enterprise structures using the multisite concept.

### Assumed knowledge

Although you need no detailed knowledge of the LN software to read this guide, general knowledge of the LN functionality will help you understand this guide.

### References

Use this guide as the primary reference for setting up enterprise structures based on the multisite concepts. Use the current editions of these related references for information that is not covered in this guide:

- *User Guide for Multisite Company Structures*
- *User Guide for Item Setup*
- *User Guide for Site Activation*
- *User Guide for Intercompany Trade*
- *User Guide for Multisite*

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This document is assembled from online Help topics.

Text in italics followed by a page number represents a hyperlink to another section in this document.

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# Chapter 1: Introduction

## Multisite overview

In an enterprise structure, parameter settings and master data related to business processes are specified by *company*, *enterprise unit*, *warehouse* and *department*.

If the *multisite* concepts are activated in the **Concept Activation (tceмм4600m000)** workbench session, item data and other master data are also specified by *site*.

Sites are used to group data and settings. Together with enterprise units, sites are on a level between the company and the warehouse or department level. Enterprise units reflect the financial flow, and sites reflect the logistics flow of the business processes of an organization.

If the multisite concepts are not activated, sites are unavailable and you can specify only global, that is, companywide settings, or local warehouse and department settings.

### Company structure

A company structure can include multiple *logistic* and *financial companies*.

A logistic company can include multiple sites, enterprise units, warehouses, and departments. A financial company can include multiple enterprise units.

The warehouses and departments of a logistic company are linked to a site to reflect the logistics or production flow, and to an enterprise unit to reflect the financial flow.

#### Note:

The current topic primarily discusses the setup of multisite enterprise structures within a *logistic company*. See *User Guide for Multisite Company Structures* for information about enterprise structures that consist of multiple logistic and financial companies.

You can use the **Enterprise Model Workbench (tceмм8350m000)** session to view the hierarchical structure of an enterprise, and view the locations of the entities on a scalable map.

### Sites - logistics flow

To reflect the production and logistics flows of a company, warehouses and departments are linked to a site.

A logistic company can include multiple sites, and a site can include multiple warehouses and departments. Consequently, parameter settings and master data related to business processes are specified by company, by *site*, or by warehouse and *department*. These business processes include production, planning, warehousing, and order handling.

Parameter settings by *subentity* are available at the company level and at the site level.

### Enterprise units - financial flow

To reflect the financial structure of a company, a *financial company* can include multiple enterprise units, and an *enterprise unit* can include multiple warehouses and departments.

Financial management is performed centrally for an entire organization or locally for one or more business units. These business units are modeled as enterprise units.

The warehouses and departments for which a business unit within a legal entity is financially responsible are linked to the enterprise unit that represents the business unit. The financial transactions resulting from logistic transactions by the warehouses or departments within a site are registered in the financial company of the enterprise unit. Within a financial company, segment reporting can be used to create a balancing trial balance by enterprise unit.

### Standard costs

*Standard costs* are specified by company or by enterprise unit. If your business units use different standard costs, you must specify the standard cost by enterprise unit and link the warehouses and departments to the enterprise units.

### Item data

In addition to the item master data sessions at the global, company level, specific sessions are available to define item master data related to these entities:

- Sites
- Enterprise units
- Planning clusters
- Offices
- Warehouses

See *User Guide for Item Setup*.

### Order data

Production orders, warehousing orders, sales orders, service orders, and purchase orders include references to the sites and departments for which these orders are created.

### Planning clusters

If Enterprise Planning is implemented, logistics and production planning is based on *planning clusters*. Sites are grouped by planning cluster within the company. A planning cluster can include multiple sites, and a site can be linked to one planning cluster.

**Note:** Site-related sessions and fields are available only if the *multisite* concepts are activated in the **Concept Activation (tcomm4600m000)** workbench session. To adopt multisite functionality in a multicompany or single company environment previously without sites, you must carry out a site activation process if your current LN version was migrated from an older version previously without sites. See *User Guide for Site Activation*.

## Chapter 2: Enterprise Model

A company structure can include multiple *logistic* and *financial companies*.

A logistic company can include multiple sites, enterprise units, warehouses, and departments. A financial company can include multiple enterprise units.

The warehouses and departments of a logistic company are linked to a site to reflect the logistics or production flow, and to an enterprise unit to reflect the financial flow.

### Enterprise model - multisite setup

If the **Sites** concept is activated in the **Concept Activation (tcomm4600m000)** workbench session, parameter settings and master data related to business processes such as production, planning, warehousing, and order handling is specified by company, by *site*, or by *warehouse* and *department*.

#### Logistics flow

Various settings specified by company are used as default values for all sites, departments, and warehouses of the company. At an individual site, for various data you must specify whether the company data and settings must be used, or specific settings for the site can be specified.

For example, for site A you can specify that inbound warehousing data are defined at company level, and outbound data is specified at site level.

Similarly, most settings specified by site are used as default values for the related departments or warehouses, but you can replace these default settings with department or warehouse settings.

If you use company settings for a site, warehouse, or department, changes made to these company settings are updated to the site, warehouse, or department. You cannot change a company setting at a site, warehouse, or department.

#### Financial flow

To reflect the financial flow of an organization, you can define one or more *financial companies* for a company structure. A financial company can include multiple *enterprise units*.

The warehouses and departments of a site must be linked to an enterprise unit. The warehouses and departments for which a business unit is financially responsible are linked to the enterprise unit that represents the business unit.



This is to ensure that the financial transactions resulting from production, order handling, or logistic handling performed by the warehouses and departments are registered in the financial company of the enterprise unit.

Also, *standard costs* are specified by enterprise unit. If your business units use different standard costs, you must specify the standard cost by enterprise unit and link the warehouses and departments to the enterprise units.

The *entities* within a site can be linked to different enterprise units, or the entities within an enterprise unit can be linked to different sites. This depends on these factors:

- The business unit that the enterprise unit represents
- The financial company to which the financial transactions of the entities must be booked
- The way the standard costs are set up

### Example

An enterprise has two production plants located in different countries. To produce an end item, each production plant uses the same materials, which it buys from different external suppliers at different prices.

You can model this by defining two sites and linking receiving warehouses, *production departments*, *purchase offices*, and a ship-from warehouse to each site.

For each site, you can specify settings that apply to the warehouses, purchase offices, and production departments of the site.

To define the standard costs, the receiving warehouses of each site must be linked to different enterprise units.

For the purchased materials you can define the standard costs by enterprise unit and various item settings by site. For the finished item, you can also define site or office settings if the item properties are different from the global item properties.

### Note:

- In addition to the item master data sessions at the global, company level, specific sessions are available to define item master data related to these entities:
  - Sites
  - Enterprise units
  - Planning clusters
  - Offices
  - Warehouses

See *User Guide for Item Setup*.

- If you use the Enterprise Modeler Content Pack with LN, consider using the MAA0005 (Financial Enterprise Structure) *wizard* to set up financial companies. You can execute this predefined wizard from the **Wizards by Project Model (tgwzr4502m000)** session after you specified the *business function model* for your company. See *Business function model*.

## Enterprise units

An enterprise unit is a financially independent part of your organization that includes entities such as departments, work centers, warehouses, and projects. In the enterprise structure, an enterprise unit identifies a financial or a fiscal unit.

The enterprise unit's entities must all belong to the same logistic company, but a logistic company can contain multiple enterprise units. An enterprise unit is linked to a single financial company.

When you carry out logistic transactions between enterprise units, the resulting financial transactions are posted in the financial companies to which each enterprise unit is linked.

To use invoicing and pricing between enterprise units, you must link the enterprise units to internal business partners. You can use enterprise units to perform separate financial accounting for parts of your business.

For example, you can define enterprise units for separate parts of your organization that belong to one logistic company, but that are located in different countries.

The accounting of each enterprise unit is performed in each country's national currency, and in the financial company linked to the enterprise unit.

The intercompany trade relationships and intercompany trade agreements between the enterprise units determine whether intercompany trade is applicable, and if yes, the applicable intercompany trade conditions. See the *User Guide for Intercompany Trade (Ucomitrug\_US)*.

## Sites

An enterprise can include multiple business units in different locations and countries. At each business unit, various activities, such as production, sales, or warehousing can take place.

*Sites* are used to group *entities* at the same business location. At a site, activities such as production, warehousing, sales, or a combination of these can be performed. To model the activities, you can specify site settings and link *warehouses*, *assembly lines*, and various types of *departments* to the site.

For example, if an enterprise has two production plants each using the same materials but bought from different suppliers, you can model this by defining two sites. For each site, you specify a warehouse, a *purchase office*, and a *production department*, companywide item properties, and the materials supplier.

### Administrative sites

At an administrative site, only administrative tasks are performed. You cannot link *planning clusters*, *production departments*, warehouses, work centers, *assembly lines*, or service locations to an administrative site. *Subentity* settings and external relations are unavailable.

An administrative site can only have these types of departments:

- *purchase office*
- *sales office*
- *accounting office*
- *service office*

- *shipping office*
- *project management office*

### External sites

An external *site* belongs to an external party such as a customer or a subcontractor. External sites can include warehouses in which inventory owned by your company or by the customer is stored, and for which your company performs planning.

You can specify a *sold-to business partner* and a *ship-to business partner* for an external site.

At an external site, only production for the external party can take place.

## Sites and offices

*Sites* and *offices* are used to maintain data and settings for specific business processes.

### Offices

*Sales offices*, *purchase offices*, and *service offices* are *departments* in which master data and settings are defined that relate to administrative processes such as order handling and invoicing.

In an office, data such as order number series, price books, rates, and various default values for orders are maintained. For example, in a purchase office, settings for payment methods, retro-billing, supplier staged payments, and self-billing are maintained. In a sales office, settings related to sales agreements with customers are maintained.

### Sites

Site settings control the logistics and production processes. In the purchase process, for example, the supplier, the price, the inbound lead times, and the carriers are determined by the site.

### The position of sites and offices in the purchase process

In the purchase process, the focus is on the logistics rather than the commercial aspect. The receiving site requires the goods, such as items to be sold to customers or materials needed to produce a finished item. The logistics settings involved in the receipt of the goods are defined at the site.

The item-purchase data by site are mandatory, but the commercial settings defined at the purchase office are only required if they are different from the standard company settings.

### The position of sites and offices in the sales process

In the sales process, it is the other way round: the focus is on the commercial aspect. The logistics data defined for the site do not affect the agreements with the customers. For example, if a delivery of goods is more expensive because they were delivered from a different distribution center, this does not affect the price

agreed with the customer. The only thing the customer would notice, is that the customs and other transport documents are different if the goods were shipped from a different country.

The item data related to the customer that are defined in the sales office are mandatory, whereas the logistics item settings defined for the site are only required if they are different from the standard company settings.

### The site of an office

An office is a type of department and therefore, an office is linked to a site.

The site at which a purchase, sales, or service office is located can be different from the site for which the office handles the purchase, sales, or service activities.

For example, the New York purchase office is located at the New York site. The New York site is where the staff of the New York purchase office work, but the New York purchase office handles the purchase of materials for the Boston, Philadelphia, and Pittsburgh production sites.

Thus the New York site is not involved in the purchase processes that the New York purchase office controls for the Boston, Philadelphia, and Pittsburgh sites. But draft contracts, order acknowledgements, and so on, must be sent to the New York site address. Therefore, the site at which an office is located is important for the address, and for overviews showing the locations at which the activities take place.

The site at which an office is located is specified in the **Part of Site** field in these sessions:

- **Sales Offices (tdsls0512m000)**
- **Purchase Offices (tdpur0112m000)**
- **Service Offices (tsmdm1100m100)**

## Departments

You must specify *departments* to issue orders and other document types.

Departments can be:

- *Sales offices*
- *Purchase offices*
- *Service offices*
- *Accounting departments*
- *Production departments*
- *Work centers*
- *Shipping offices*
- *Project management offices*
- *Inventory management departments*

For example, a service department issues service contracts, service orders, and calls.

## Department types

You can define more than one department of each type for a company. For example, you can have separate sales offices that deal with sales of different products or sales to different market segments, or work for multiple sites that each manufacture a different product.

## The department's enterprise unit and financial company

A department is linked to an *enterprise unit*. Each enterprise unit is linked to one *financial company*. The financial data related to a department is registered in the financial company to which the enterprise unit of the department is linked. You can link multiple departments of each department type to an enterprise unit.

You can define *relationships* between the departments for transactions between the departments and between departments and warehouses, for example, sales or purchase transactions. See *User Guide for Intercompany Trade*.

## The department's site

If the *multisite* concepts are activated in the **Concept Activation (tceem4600m000)** workbench session, a department must be linked to an enterprise unit and a *site*. For more information, refer to Multisite overview.

## Defining departments

Departments are defined in the Enterprise Units (tceem0130m000) session and the Departments (tceem1124m000) session. If the **Sites** concept is activated, you can also define departments in the Sites (tceem0150m000) session. From these sessions, the following sessions are accessed in which you specify the department details:

Department type	Session
Work center	<b>Work Centers (tirou0101m000)</b>
Work cells	<b>Work Cells (tirpt0140m000)</b>
Repair cells	<b>Repair Cells (tirpt0140m100)</b>
Production department	<b>Production Departments (tirou2100m000)</b>
Sales office	<b>Sales Offices (tdsls0512m000)</b>
Purchase office	<b>Purchase Offices (tdpur0112m000)</b>
Service office	<b>Service Offices (tsmdm1100m100)</b>
Accounting office	<b>Department (tcmcs0165s000)</b>
Shipping office	<b>Shipping Office (fmfmd0680m000)</b>
Inventory management department	<b>Inventory Management Departments (whwmd0120m000)</b>

## Inventory management departments

An *inventory management department* is used to group one or more warehouses.

You can set up specific business partner role data by inventory management department.

If multiple tax registrations in different countries are present for a financial company, the inventory management department enables you to use the registrations of different tax countries as default values for warehouses. In this way, the tax registration and the tax country of the warehouse can be specified on the intercompany trade invoice sent by the warehouse.

Employees such as order pickers or goods receipts officials can be linked to an inventory management department, which enables you to book expenses based on the inventory management department.

### Conditions

You can link multiple warehouses to an inventory management department, but a warehouse can be linked to only one inventory management department. To link a warehouse to an inventory management department, the warehouse and the inventory management department must be linked to the same enterprise unit.

Inventory management departments are not mandatory for warehouses.

## Chapter 3: Setup

### Setting up a multisite structure within a company

If the **Sites** concept is activated in the **Concept Activation (tceem4600m000)** workbench session, a logistic company consists of one or more sites, and each site consists of multiple *entities*. The entities are also linked to an *enterprise unit*.

The typical procedure of setting up a multisite structure includes these steps:

- 1 Define enterprise units.
- 2 Define sites.
- 3 Define site subentity settings.
- 4 Define entities.

The alternative procedure includes these steps:

- 1 Define sites.
- 2 Define site subentity settings.
- 3 Define enterprise units.
- 4 Define entities.

These steps describe the regular procedure in detail:

- 1 Define enterprise unit  
See Defining enterprise units and entities.
- 2 Define site
  - a In the Sites (tceem0150m000) session, click New.
  - b In the Site (tceem0650m000) session that starts, specify this information:
    - The properties of the site, such as the *planning cluster*, *logistic company*, and address.
    - An *enterprise unit*, if all of the site's *entities* must belong to the same enterprise unit.
- 3 Define subentity settings by site  
In the **Settings** tab of the Site (tceem0650m000) session, define the *subentity* settings for the site.  
The subentity setting buttons refer to these sessions:
  - **Procurement**  
Procurement Settings by Site (tdpur0111m000)  
These settings are used to receive *purchase orders* at the site.
  - **Sales**

Sales Settings by Site (tdsls0511m000)

These settings are used to ship *sales orders* from the site.

- **Warehousing**

Warehousing Settings by Site (whwmd2101m000)

Warehouse data and settings on company level

Warehouse data and settings on site level

These settings are used to perform *warehousing* activities at the site.

- **Production**

Production Settings by Site (timfc0180m000)

These settings are used to handle *production orders* and perform production activities at the site.

- **Service**

Service Settings by Site (tsmdm1103m000)

These settings are used to perform service activities at the site.

When you start these sessions, default settings are generated from the company parameters related to the *subentities*.

For example, if you click **Warehousing**, the **Warehousing Settings by Site (whwmd2101m000)** session starts and warehousing settings from various warehousing parameter sessions are set as default values in this session.

You can change the default settings and specify specific settings for the site as required.

**Note**

Defining **Warehousing** and **Production** subentity settings by site is a prerequisite to link warehouses, *production departments*, and *work centers* to sites. For example, you cannot link a site to a *production department* if production settings by site are not present.

Defining **Procurement**, **Sales**, or **Service** subentity settings for a site is not required to define purchase offices, sales offices, or service offices located at that site.

#### 4 Define entities and link entities to site and enterprise unit

In the tabs of the lower half of the **Site (tcemm0650m000)** session, you can start the sessions in which you define the entities. In these sessions, you must link the entity to a site and an enterprise unit. See *Defining entities for sites* and *Defining enterprise units and entities*.

If you carry out the alternative procedure, in step 4, entities are created in the **Enterprise Unit (tcemm0630m000)** session. In the **Enterprise Unit (tcemm0630m000)** session, you can also access the sessions in which you define entities and link these to a site and an enterprise unit.

## Defining enterprise units and entities

*Enterprise units* are used to register the financial transactions, which result from the activities performed at the *entities* of a company, to the appropriate *financial company*. For a *logistic company*, you can define multiple enterprise units.

### 1 Define enterprise unit



- a Click New in the **Enterprise Units (tcemm0130m000)** session.
- b Specify this information:
  - The properties of the enterprise unit, such as the *financial company*, *logistic company*, and enterprise unit category.
  - If the **Sites** concept is activated in the **Concept Activation (tcemm4600m000)** workbench session, specify a *site*, if all of the enterprise unit's *entities* must belong to the same site.
  - Optionally, the *entities* of the enterprise unit. If you create entities in the **Site (tcemm0650m000)** session, you can save and close the current session without adding entities.

## 2 Optionally, add entities

Entities must be linked to an enterprise unit. If the **Sites** concept is activated in the **Concept Activation (tcemm4600m000)** workbench session, entities must be linked to both an enterprise unit and a site.

You can create entities in the **Site (tcemm0650m000)** session or in the **Enterprise Unit (tcemm0630m000)** session.

If you create an entity in the **Site (tcemm0650m000)** session, the entity is linked to the site by default and you must manually link an enterprise unit. If you create an entity in the **Enterprise Units (tcemm0130m000)** session, the entity is linked to the enterprise unit by default, and you must manually link a site.

To create entities in the **Enterprise Unit (tcemm0630m000)** session:

- a Click New in the Warehouses or the Departments tab.
- b In the session that opens, create the entity. If you click New in the Departments tab, you must first select the type of *entity*. Based on the selected type of entity or tab, the session starts in which you can define the details of the entity:

Tab	Entity
Warehouses	<i>Warehouse</i>
Departments	<i>Work center</i>
	<i>Work cell</i>
	<i>Repair cell</i>
	<i>Production department</i>
	<i>Sales office</i>
	<i>Purchase office</i>
	<i>Service office</i>
	<i>Accounting office</i>
	<i>Shipping office</i>
	<i>Project management office</i>
	<i>Inventory management department</i>

The entity that you define is by default linked to the enterprise unit.

### Note:

Projects are displayed in the Projects tab of the **Enterprise Unit (tceмм0630m000)** session, but projects are not created in this tab. You can create projects in the **Project (tppdm6600m400)** session.

If the **Sites** concept is activated in the **Concept Activation (tceмм4600m000)** workbench session, complete these steps:

- Link the *entities* of an enterprise unit to a *site*.
- Optionally, link an enterprise unit to a site. Consequently, the entities of the site are also linked to the enterprise unit.
- Alternatively, link a site to an enterprise unit. Consequently, the entities of the enterprise unit are also linked to the site.

## Defining entities for sites

To create entities in the **Site (tceмм0650m000)** session:

- 1 Click New in the Warehouses, Departments, Assembly Lines, or Service Locations tabs.
- 2 In the session that opens, create the entity. If you click New in the Departments tab, you must first select the type of *entity*.

Based on the selected tab or type of department, a session starts in which you can define the details of the entity:

Tab	Entity
Warehouses	<i>Warehouse</i>

Tab	Entity
Departments	<i>Work center</i>
	<i>Work cell</i>
	<i>Repair cell</i>
	<i>Production department</i>
	If you link a production department to a site, the site is automatically passed on to the shop floor components that are related to the production department.
	The shop floor components include these entities:
	<ul style="list-style-type: none"> <li>• <i>Work centers</i></li> <li>• <i>Work cells</i></li> <li>• <i>Line stations</i></li> <li>• <i>Machines</i> related to work centers.</li> <li>• <i>Repair cells</i></li> </ul>
	<i>Sales office</i>
	<i>Purchase office</i>
	<i>Service office</i>
	<i>Accounting office</i>
	<i>Shipping office</i>
	<i>Inventory management department</i>
	<i>Project management office</i>
Assembly Lines	<i>Assembly line</i>
	<i>Line station</i>
Service Locations	Service location

The entity that you define is linked to the site by default.

## Chapter 4: Examples

### Multisite examples

To describe the setup of a multisite enterprise structure, the example of a fictional manufacturer of passenger aircraft located in the USA is used.

First, the enterprise structure of the aircraft manufacturer is described, followed by the corresponding enterprise model in LN, using sites, enterprise units, offices, work centers, and warehouses.

The item data is described for the purchase, sales, production, and intercompany trade business-scenarios.

### Multisite examples - the company structure of an aircraft manufacturer

Our fictional manufacturer of passenger aircraft has three production units and one sales unit. All business units and departments of the aircraft manufacturer are located and registered in the USA.

Production units A, B, and C each manufacture a different type of aircraft. The table displays the type of aircraft manufactured at each production unit.

Production Unit	Location	Aircraft Type
A	Pittsburgh	Eagle Long Range
B	New York	Eagle Midrange
C	Philadelphia	Buzzard Pro

Sales unit S handles the sale of the aircraft manufactured by production units A, B, and C.

Each production unit equips the planes they build with the same type of oxygen mask.

Production unit A manufactures the oxygen masks themselves. Units B and C each buy the oxygen masks from a different local supplier.

Each unit is responsible for its own management accounting.

#### Finance

Financial reporting is performed centrally for the entire organization, but the production units and the sales unit have their own management accounting.

**Costing**

Because the production units and the sales unit have their own management accounting, the standard costs for the completed aircraft and the oxygen masks are registered for each business unit.

At production units A, B, and C, the standard costs of the completed aircraft are based on local production. The production costs are different for each production unit.

At sales unit S, the standard costs of each type of aircraft are based on the internal transfers from the production units.

At production unit A, the standard costs of the oxygen masks are based on local production.

At units B and C, the standard costs of the masks are based on local procurement. Production units B and C have different standard costs for the same type of oxygen mask.

**Production**

At production unit A, the oxygen masks are manufactured in a dedicated work center. In this simplified example, the oxygen mask is a component of an aircraft. The aircraft are manufactured in a production hall. In this production hall, the oxygen masks are fitted into the airplane cabins.

At production units B and C, the aircraft are also produced in production halls. In these production halls, the purchased masks are fitted into the aircraft cabins.

**Planning**

Production units A, B, and C are responsible for their own production planning.

**Logistics**

At each production unit, the completed aircraft are transferred from an inspection warehouse to a finished goods warehouse. The inventory stored in the finished goods warehouses is owned by sales unit S. From the finished goods warehouses, the aircraft are shipped to the customers. Each production unit hires a different carrier to transport the aircraft to the customers.

At unit A, the completed oxygen masks are transferred from the oxygen-mask work center to a shop floor warehouse. From the shop floor warehouse, the masks are issued to the work centers where they are fitted into the airplane cabins.

At unit B and unit C, the purchased masks are received in a normal warehouse from where they are issued to the work centers.

**Purchase**

At production unit B, purchase office B handles the purchase of the oxygen masks from production unit B's local supplier. Similarly, at production unit C, purchase office C handles the local purchase of the oxygen masks from production unit C's local supplier.

## Sales

The sale of the completed aircraft from each production unit is handled by sales unit S. The sales office of sales unit S is located on the premises of production unit A. Sales unit S owns the inventory of the finished goods warehouses located at product units A, B, and C.

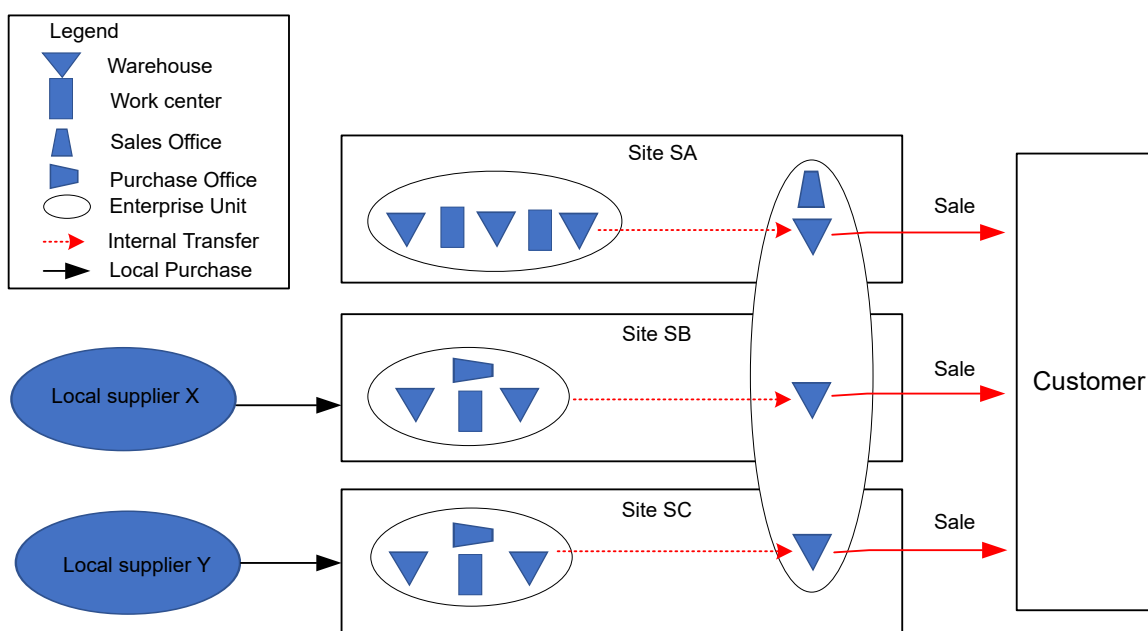
## Intercompany trade

Each production unit charges sales unit S for each transfer of completed aircraft from the inspection warehouse to the finished goods warehouse.

# Multisite example - LN enterprise model of the aircraft manufacturer

The aircraft manufacturer is modeled using the various Enterprise Modeling Management building blocks available in LN.

This diagram displays the enterprise units, sites, departments, and warehouses involved in the logistics, production, and financial flows of the aircraft manufacturer:



## Companies

The aircraft manufacturer is modeled as a logistic company and a corresponding financial company.

The aircraft manufacturer is modeled as a *logistic company* because in LN, a logistic company is used to maintain companywide transactional data and logistic and commercial master data.

Because financial reporting is performed centrally, and all parts of the organization are part of one legal entity, one *financial company* is also defined for the aircraft manufacturer.

### Enterprise units

To reflect the financial flow of the aircraft manufacturer, each production unit is modeled as an *enterprise unit*. Production unit A is modeled as enterprise unit EUA, production unit B is modeled as enterprise unit EUB, and production unit C is modeled as enterprise unit EUC.

Sales unit S is modeled as enterprise unit EUS.

Enterprise unit EUA includes all facilities, such as warehouses and work centers, involved in the production of the oxygen masks and the Eagle Long Range. It does not include the finished goods warehouses, from where the completed aircraft are shipped to the customers.

Enterprise unit EUB includes these entities:

- The warehouses and the production hall involved in the production of the Eagle Midrange, except for the finished goods warehouses, from where the completed aircraft are shipped to the customers.
- The warehouses involved in the receipt and the issue to production of the purchased oxygen masks.
- The purchase office responsible for the local purchase of the oxygen masks at production unit B.

Enterprise unit EUC includes these entities:

- The warehouses and the production hall involved in the production of the Buzzard Pro, except for the finished goods warehouses, from where the completed aircraft are shipped to the customers.
- The warehouses involved in the receipt and the issue to production of the purchased oxygen masks.
- The purchase office responsible for the local purchase of the oxygen masks at production unit C.

Enterprise unit EUS includes these entities:

- The sales office that handles the sale of the aircraft manufactured at each production unit.
- The finished goods warehouses, from where the aircraft manufactured at production units A, B, and C are shipped to the customers.

This table displays the sites where the finished goods warehouses for each type of aircraft are located:

Aircraft Type	Site
Eagle Long Range	SA
Eagle Midrange	SB
Buzzard Pro	SC

In LN, an *enterprise unit* represents a part of an organization that is responsible for its own financial management. An enterprise unit thus reflects the financial flow of a business unit. Also, *standard costs* are defined by enterprise unit.

Each production unit, and the sales unit, must be defined as separate enterprise units. This is because the aircraft manufacturer performs management accounting at the unit level, and the standard costs are different at each production unit and the sales unit.

## Sites

To reflect the production and logistics flow of the aircraft manufacturer, these *sites* are defined:

- SA

At site SA, these parts of the organization are located:

- All facilities, such as warehouses and work centers, involved in the production of the oxygen masks and the Eagle Long Range. These facilities belong to enterprise unit EUA.
- The finished goods warehouses, from where the completed Eagle Long Range aircraft are shipped to the customers. These warehouses are part of enterprise unit EUS.
- The sales office of sales unit S, which belongs to enterprise unit EUS.

- SB

At site SB, these parts of the organization are located:

Entities	Use	Belongs to enterprise unit
Warehouses	Involved in production of Eagle Midrange	EUB
Work centers	Production of Eagle Midrange	EUB
Warehouses	Receipt and issue to production of purchased oxygen masks	EUB
Purchase office	Local purchase of oxygen masks for production unit B	EUB
Finished goods warehouses	Receipt of completed Eagle Midrange and shipment to customers	EUS

- SC

At site SC, these parts of the organization are located:

Entities	Use	Belongs to enterprise unit
Warehouses	Involved in production of Buzzard Pro	EUC
Work centers	Production of Buzzard Pro	EUC
Warehouses	Receipt and issue to production of purchased oxygen masks	EUC
Purchase office	Local purchase of oxygen masks for production unit C	EUC
Finished goods warehouses	Receipt of completed Buzzard Pro and shipment to customers	EUS

The sites have been modeled to allow you to define this data:

- The logistics and production data specific for each production unit.
- The warehouses and departments located at each site.



## Site subentity settings

For the sites, these *subentity* settings are required:

- **Production**  
For site SA, production subentity settings are required to set up work centers and define production data. Production data includes production order series, operation settings, and handling of materials for both the oxygen masks and the completed aircraft. For sites SB and SC, production settings are needed only for the completed aircraft.
- **Warehousing**  
For all sites, warehousing subentity settings are required to set up warehouses and define settings that control the inbound and outbound flow at each site. See *Warehousing User Guide for Multisite*.
- **Sales**  
For all sites, sales subentity settings are required to ship the completed aircraft based on sales orders.
- **Procurement**  
Sites SB and SC also require procurement subentity settings. These settings are required to receive the purchased oxygen masks based on purchase orders.

## Warehouses

The shop floor warehouses, normal warehouses, inspection warehouses, and finished goods warehouses of each production unit are defined as *warehouses* in LN, and linked to the site where the warehouse is located.

Except for the finished goods warehouses, the warehouses of each site are also linked to the enterprise unit defined for the production unit.

The finished goods warehouses of each site are linked to enterprise unit EUS for these reasons:

- The inventory is owned by the sales unit.
- The standard costs of EUS are based on the internal transfer between the production units and the sales unit.

Thus the finished goods warehouses are linked to the site of the production unit to which they belong, and to the enterprise unit of the sales unit. In this way, the logistic data of the site, such as lead times and the carrier, and the standard costs of the enterprise unit apply to the finished goods warehouses.

## Offices

Office At	Model Name	Defined As	Type	Linked Site	Linked Enterprise Unit
Sales unit S	SO	<i>Department</i>	<i>Sales office</i>	SA	EUS
Production unit B	PB	<i>Department</i>	<i>Purchase office</i>	SB	EUB
Production unit C	PC	<i>Department</i>	<i>Purchase office</i>	SC	EUC

The sales office of sales unit S is defined as sales office SO, because commercial data such as the sales price and sales order data are defined in sales offices in LN. Sales office SO is linked to enterprise unit EUS, because management accounting is performed at unit level and sales office SO belongs to sales unit S. The sales office is linked to site SA to indicate that the sales office is located at site SA.

Purchase office PB is linked to site SB, because it is located at site SB and the purchase price of the oxygen masks is defined at site level in LN.

Purchase office PB is linked to enterprise unit EUB, because the aircraft manufacturer performs management accounting at unit level. Also, the financial transactions involved in the purchase of the oxygen masks at production unit B must be booked in the financial company, which is linked to enterprise unit EUB. Similarly, purchase office PC is linked to site SC and enterprise unit EUC.

### Work centers

The work centers and production halls of each production unit are defined as departments of type *work center* in LN, and linked to the site defined for the production unit.

### Planning clusters

Because each site performs its own production planning, a separate planning cluster is defined for each site. For site SA, planning cluster PLA is defined. For sites SB and SC, planning clusters PLB and PLC, respectively, are defined.

### Intercompany trade relationships

To define the intercompany trade price between each production unit and sales unit S, these intercompany trade relationships must be set up:

From	To
EUA	EUS
EUB	EUS
EUC	EUS

## Multisite example - item data in the purchase scenario

In the purchase scenario, item data is set up for these entities:

- Sites SB and SC
- Purchase offices SB and SC
- Enterprise units EUB and EUC

At site SB, purchase office PB handles the purchase of the oxygen masks from local supplier X.

At site SC, purchase office PC handles the purchase of the oxygen masks from local supplier Y.

At enterprise units EUB and EUC, the standard costs for the purchased oxygen masks at sites SB and SC are calculated.

At site SA, purchase is not applicable, because the oxygen masks are manufactured.

This item data must be set up for the oxygen mask:

- Item by site  
In the **Items by Site (tcibd1550m000)** session, the supply source is **Purchase** for sites SB and SC. If required, you can specify additional data such as product types or manufacturers.
- Item-ordering by site  
In the **Items - Ordering by Site (tcibd2150m000)** session, for sites SB and SC, you must specify the default warehouse in which the oxygen mask is received. Also, specify data such as the order method and the applicable lot sizes as required.
- Item-purchase by site  
In the **Items - Purchase by Site (tdipu0181m000)** session, you must specify supplier X for site SB and supplier Y for site SC. Also, in this session you must specify the purchase price and the price group for sites SB and SC. You can also specify purchase office PB for site SB and purchase office PC for site SC, and other settings as required.
- Item-warehousing by site  
In the **Item - Warehousing by Site (whwmd4604m000)** session, specify data such as the default package definition, settings for locations, handling units, or rejected items, for the purchased oxygen masks at sites SB and SC.
- Item-purchase by office  
Item purchase data by office is not mandatory. In the **Items - Purchase by Office (tdipu0181m100)** session, you can specify the tax code and stage payment setting for each purchase office if these settings are different from the company settings.
- Item costing by enterprise unit  
For enterprise unit EUB, in the **Item - Costing (ticpr0107m000)** session, for item oxygen mask, specify costing source **Purchase** and the warehouse of site SB where the purchased oxygen masks are received. Consequently, the purchase price specified in the **Items - Purchase by Site (tdipu0181m000)** session for site SB is used to calculate the standard costs for enterprise unit EUB.  
Likewise, for enterprise unit EUC, specify costing source **Purchase** and the warehouse of site SC where the purchased oxygen masks are received. Consequently, the purchase price defined for site SC is used to calculate the standard costs for enterprise unit EUC.

**Note:** To specify specific item data for an individual site, clear the Use Global check box in the site-related sessions mentioned in the previous list.

## Multisite example - item data in the sales scenario

In the sales scenario, item data is set up for these entities:

- Sites SA, SB, and SC
- Sales office SO
- Enterprise units EUA, EUB, EUC, and EUS

At site SA, SB, and SC, the aircraft are manufactured and shipped to the customers.

Sales office SO is responsible for the sale of the aircraft manufactured at all sites.

For enterprise units EUA, EUB, EUC, the standard costs are calculated for the aircraft manufactured at sites SA, SB, and SC. At enterprise unit EUS, the standard costs are calculated for the aircraft sold by sales office SO.

This item data must be set up for the completed aircraft:

- Item by site  
In the **Items by Site (tcibd1550m000)** session, set the supply source to **Job Shop** for all sites. You can also specify data such as configuration and customization settings.
- Item-ordering by site  
In the **Items - Ordering by Site (tcibd2150m000)** session, for each site, you must specify the default warehouse from which the completed aircraft are shipped.
- Item-sales by site  
Item sales data by site are not mandatory, you can specify this data if it is different from the global company settings. In the **Items - Sales by Site (tdisa0181m100)** session, you can specify data as required if these data at sites SA, SB, or SC are different from the company settings.
- Item-warehousing by site  
In the **Item - Warehousing by Site (whwmd4604m000)** session, specify data such as the default package definition, and settings for locations, serialization, or handling units for the warehouses from which the aircraft are shipped at each site.
- Item-sales by office  
In the **Items - Sales by Office (tdisa0181m000)** session, for sales office SO, for each type of aircraft, specify this information:
  - The sales price and other pricing information
  - Ordering data, such as the warehouse where the aircraft to be shipped are stored, shipping constraints and component handling
- Item costing by enterprise unit  
See Item costing by enterprise unit in Multisite example - item data in the intercompany trade scenario.

**Note:** To specify specific item data for an individual site, clear the Use Global check box in the site-related sessions mentioned in the previous list.

## Multisite example - item data in the production scenario

In the production scenario, item data is set up for these entities:

- Sites SA, SB, and SC
- Enterprise units EUA, EUB, EUC, and EUS.

At site SA, SB, and SC, the aircraft are manufactured and shipped to the customers. Also, at site SA, the oxygen masks are manufactured.

For enterprise units EUA, EUB, EUC, the standard costs are calculated for the aircraft manufactured at sites SA, SB, and SC. At EUA, the standard costs are calculated for the oxygen masks manufactured at site SA.

For sales unit EUS, the standard cost is based on the intercompany transfer price from the production unit to the sales unit.

This item data must be set up for the oxygen masks and the completed aircraft:

- **Item by site**  
In the **Items by Site (tcibd1550m000)** session, set the supply source to **Job Shop** for all sites, the oxygen masks, and the three types of aircraft. You can also specify data such as configuration and customization settings.
- **Item-ordering by site**  
In the **Items - Ordering by Site (tcibd2150m000)** session, for each site and type of aircraft, specify the default warehouse in which the completed aircraft are stored. In this example, this is the warehouse in which the aircraft are inspected after production.  
For the oxygen masks, at site SA this is the warehouse in which the completed masks are stored after production. As sites SB and SC, this is the warehouse in which the purchased oxygen masks are received from the supplier.
- **Item-production by site**  
In the **Items - Production by Site (tiipd0151m000)** session, specify that inbound inspection is required after production for each type of completed aircraft at each site.  
Specify that inbound inspection is required for the purchased oxygen masks received from the supplier for sites SB and SC. For site SA, specify that outbound inspection is required for the completed oxygen masks before they are fitted into the airplane cabins.
- **Item-warehousing by site**  
In the **Item - Warehousing by Site (whwmd4604m000)** session, specify data such as the default package definition, and settings for locations, serialization, or handling units for the warehouses at each site in which the oxygen masks or the aircraft are stored.  
For example, data that apply to the warehouses in which the oxygen masks are received and issued at site SA, and data that apply to the inspection and finished goods warehouses for the Eagle Midrange at site SB.
- **Item costing by enterprise unit**  
See Item costing by enterprise unit in Multisite example - item data in the intercompany trade scenario.

**Note:** To specify specific item data for an individual site, clear the Use Global check box in the site-related sessions mentioned in the previous list.

## Multisite example - item data in the intercompany trade scenario

At each site, the completed aircraft are internally transferred from the inspection warehouses to the finished goods warehouses. The inspection warehouses belong to enterprise units EUA, EUB, and EUC, and all of the finished goods warehouses belong to EUS.

The Eagle Long Range is manufactured at site A. The aircraft are transferred from the inspection warehouse to the finished goods warehouse. The inspection warehouse belongs to enterprise unit EUA and the finished goods warehouse belongs to enterprise unit EUS. EUA internally charges EUS for the transfer costs incurred.

Likewise, at sites SB and SC, where the Eagle Midrange and the Buzzard Pro are manufactured, the aircraft are transferred from the inspection warehouses to the finished goods warehouses. The inspection warehouses belong to EUB and EUC, respectively, and the finished goods warehouses belong to EUS. EUB and EUC internally charge EUS for the transfer costs incurred.

To define the intercompany trade price between each production unit and sales unit S, intercompany trade relationships are set up between EUA and EUS, EUB and EUS, and EUC and EUS.

For the intercompany trade scenario, item costing data for the completed aircraft is set up at these enterprise units:

- EUA
- EUB
- EUC
- EUS

At enterprise units EUA, EUB, EUC, the standard costs are calculated for the aircraft manufactured at sites SA, SB, and SC. At enterprise unit EUS, the standard costs are calculated for the aircraft that are internally bought from EUA, EUB, and EUC by sales office SO. Sales office SO sells the completed aircraft to the external customers.

This item data must be set up for the completed aircraft:

- Item by site  
In the **Items by Site (tcibd1550m000)** session, set the supply source to **Job Shop** for all sites. You can also specify data such as configuration and customization settings.
- Item-ordering by site  
In the **Items - Ordering by Site (tcibd2150m000)** session, for each site, you must specify the default warehouse from which the completed aircraft are shipped.
- Item costing by enterprise unit  
For enterprise units EUA, EUB, EUC, in the **Item - Costing (ticpr0107m000)** session, for each type of completed aircraft, specify costing source **Job Shop** and the inspection warehouse at each site where the completed aircraft are received from production, inspected, and transferred to the finished goods warehouses.  
Consequently, the data in the **Items - Production by Site (tiipd0151m000)** session related to the site of the selected warehouse is used to calculate the standard costs.  
For enterprise unit EUS, in the **Item - Costing (ticpr0107m000)** session, for each type of completed aircraft, specify this information:
  - Costing source **Intercompany Transfer**
  - The finished goods warehouse in which the aircraft is received:
    - For the Eagle Long Range, this is the finished goods warehouse at site SA.
    - For the Eagle Midrange, this is the finished goods warehouse at site SB.
    - For the Buzzard Pro, this is the finished goods warehouse at site SC.
  - The enterprise unit from which the aircraft is transferred:
    - For the Eagle Long Range, this is enterprise unit EUA.
    - For the Eagle Midrange, this is enterprise unit EUB.

- For the Buzzard Pro, this is enterprise unit EUC

Consequently, for each type of aircraft the standard cost is calculated based on the intercompany trade price specified between the selling and the buying enterprise unit:

- For the Eagle Long Range, this is the intercompany sales price specified for intercompany transfers between enterprise unit EUA and EUS.
- For the Eagle Midrange, this is the intercompany sales price specified for intercompany transfers between enterprise unit EUB and EUS.
- For the Buzzard Pro, this is the intercompany sales price specified for intercompany transfers between enterprise unit EUC and EUS.

**Note:** To specify specific item data for an individual site, clear the Use Global check box in the site-related sessions mentioned in the previous list.

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