

SYBASE®

Enterprise Architecture Modeling
PowerDesigner® 15.1

Windows

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Getting Started with Enterprise Architecture Modeling

An *enterprise architecture model (EAM)* helps you analyze and document your organization and its business functions, along with the applications and systems that support them and the physical architecture on which they are implemented.

Enterprise architecture modeling helps you to analyze and document the architecture of your organization. Such an analysis, can be required:

- As an end in itself as part of good *corporate governance*
- Where you are required to document your system's *compliance* with standards or regulations
- In the following kinds of *change management* situations:
 - Rationalization – where cost savings and efficiencies are sought
 - A change in technology – where your system will be upgraded
 - An acquisition or merger – where two disparate systems must be made to work together

The diagrams in the PowerDesigner® enterprise architecture model are divided into three layers as follows:

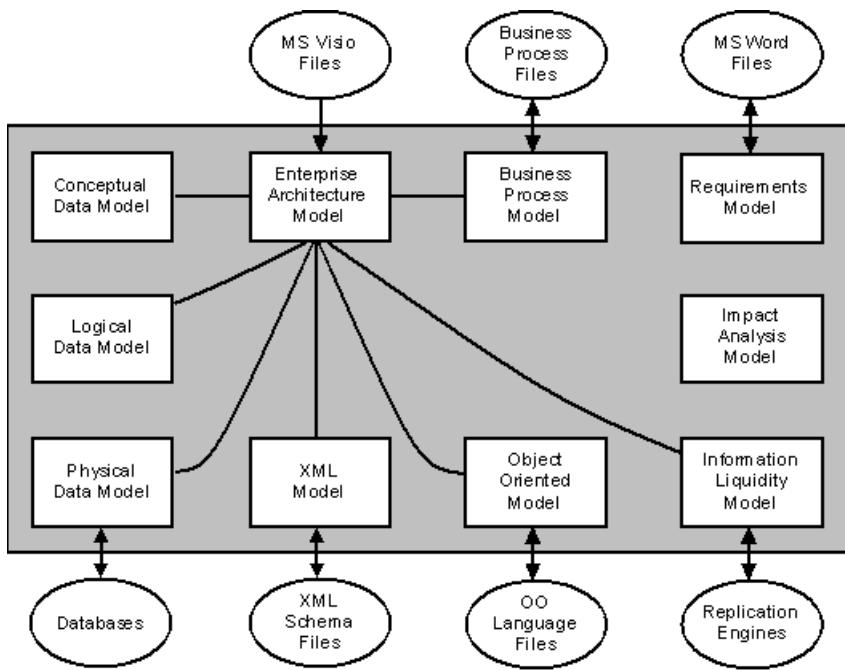
- *Business Layer* - helps you to analyze your organization in various ways:
 - *Organization Charts* – for documenting groups and people
 - *Business Communication Diagram* – for documenting sites and analyzing the interactions between various parts of your organization
 - *Process Map* – for documenting functions
 - *City Planning Diagram* - for providing a big picture, global view of the organization, and for descending to the system and database level, to provide links into the next, application layer.
- *Application Layer* - descends into the applications, databases, and other systems that must implement the business functions identified in the business layer. The two diagrams in the application layer allow you to identify what applications you have, and how they interact with each other, in two different ways:
 - *Application Architecture Diagram* - as traditional discrete applications
 - *Service Oriented Diagram* - in terms of SOA services
- *Technology Layer* - models the hardware on which the software is deployed. If the business layer allows you to define what it is your organization does, and the application layer identifies the software that implements these functions, the technology layer documents the physical equipment on which the software will run. This layer has a single diagram:
 - *Technology Infrastructure Diagram* – for documenting your existing infrastructure, your networks, server clusters, firewalls, and client workstations, and the infrastructure that you want to put in place.

Extending Your Analysis into Other Modules

The enterprise architecture model is intended to give you the big picture of your organization, and to provide means to decompose your functions, processes, and systems to a certain level of detail. However, when it comes time to model the implementation of databases, web services, or OO components, you will want to do this in the PowerDesigner module designed for the task.

The EAM contains wizards that allow you to import objects from and export objects to other PowerDesigner modules. Objects exported or imported remain linked to the original objects, in order to keep all your models synchronized and to allow you to perform cross-module impact analysis to identify the technical impact of changes on your enterprise architecture.

The following diagram illustrated how you can deepen the analysis of your architecture by linking your EA objects with lower-level objects in other types of PowerDesigner models:



Using Enterprise Architecture Frameworks

PowerDesigner projects enable you to easily combine multiple models and view the connections between them. You can follow an enterprise architecture framework such as FEAF by creating a project that combines your EAM diagrams with those of a Physical Data Model and other PowerDesigner modules.

For more information, see [Creating an Enterprise Architecture Framework Project](#) on page 4.

Suggested Bibliography

- O'Rourke, Fishman, Selkow, *Enterprise Architecture: Using the Zachman Framework*, Thompson Course Technology, 2003, 716 pages, ISBN 0-619-06446-3.
- David C. Hay, Morgan Kaufmann, *Data Model Patterns: A Metadata Map*, 2006, 406 pages, ISBN 0-12-088798-3.

The following online resources provide an introduction to enterprise architecture concepts:

- Wikipedia on enterprise architecture and service-oriented modeling:
 - http://en.wikipedia.org/wiki/Enterprise_architecture
 - http://en.wikipedia.org/wiki/Service-Oriented_Modeling
- The Zachman Institute for Framework Advancement (ZIFA):
 - <http://www.zifa.com/>
- The Federal Enterprise Architecture Framework (FEAF):
 - <http://www.cio.gov/Documents/bpeaguide.pdf>
- The Department of Defense Architecture Framework (DODAF):
 - http://www.defenselink.mil/cio-nii/docs/DoDAF_Volume_I.pdf

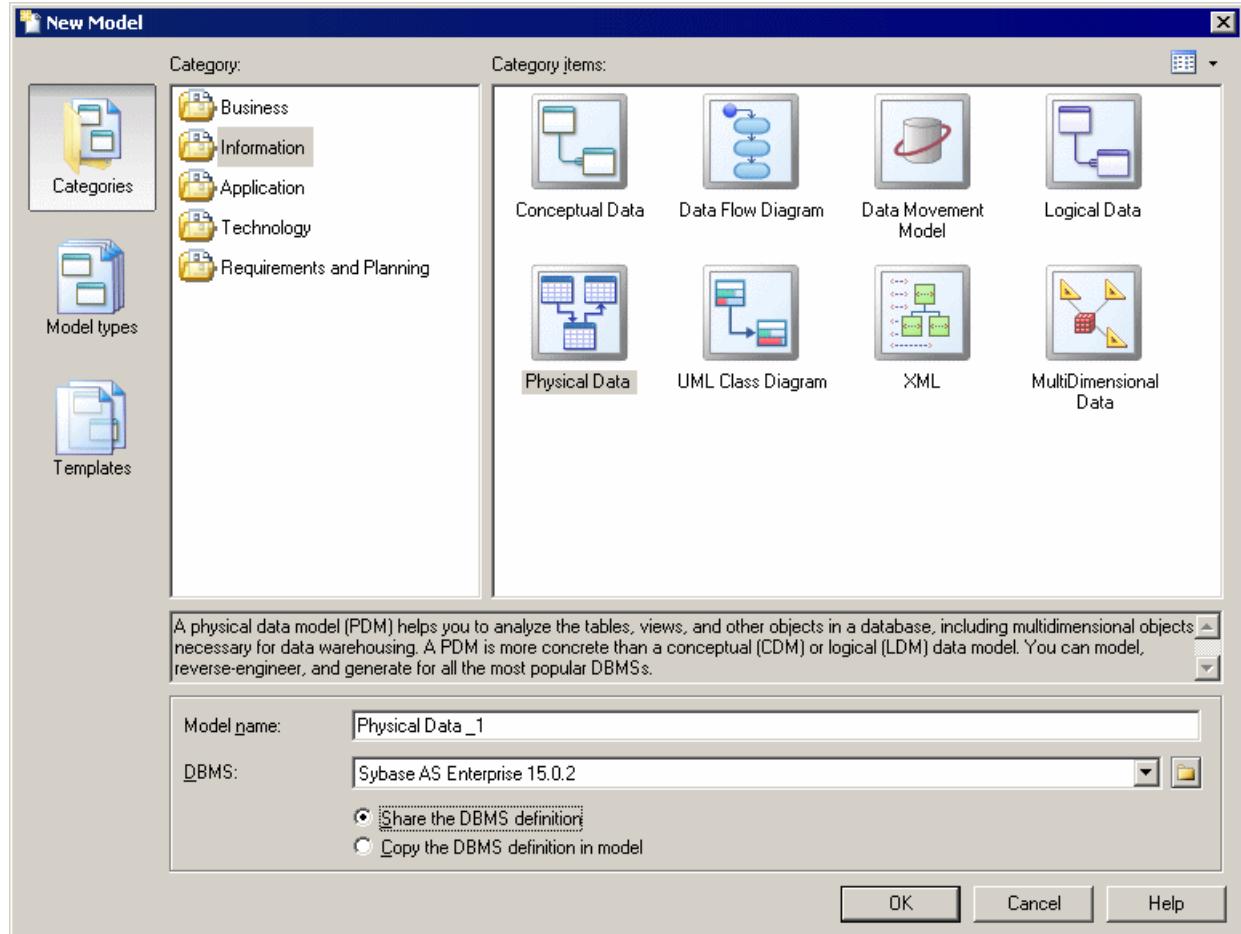
Creating an EAM

You create a new enterprise architecture model by selecting **File > New Model**.

Note: In addition to creating an EAM from scratch with the following procedure, you can also create a model by importing a Visio file (see [Importing Visio Diagrams into PowerDesigner](#) on page 51).

The New Model dialog is highly configurable, and your administrator may have hidden options that are not relevant for your work or provided templates or predefined models to guide you through model creation. When you open the dialog, one or more of the following buttons will be available on the left hand side:

- **Categories** - which provides a set of predefined models and diagrams sorted in a configurable category structure.
- **Model types** - which provides the classic list of PowerDesigner model types and diagrams.
- **Template files** - which provides a set of model templates sorted by model type.



1. Select **File > New Model** to open the New Model dialog.
2. Click a button, and then select a category or model type (**Enterprise Architecture Model**) in the left-hand pane.
3. Select an item in the right-hand pane. Depending on how your New Model dialog is configured, these items may be first diagrams or templates on which to base the creation of your model.
Use the **Views** tool on the upper right hand side of the dialog to control the display of the items.
4. Enter a model name.
The code of the model, which is used for script or code generation, is derived from this name according to the model naming conventions.
5. [optional] Click the **Extensions** button to open the Extended Model Definitions dialog, and attach one or more extensions to your model .
6. Click **OK** to create and open the enterprise architecture model .

Note: Sample EAMs are available in the Example Directory.

EAM Model Properties

Double-click the model node in the Browser to open the model property sheet, which contains information about the model.

The General tab contains the following properties:

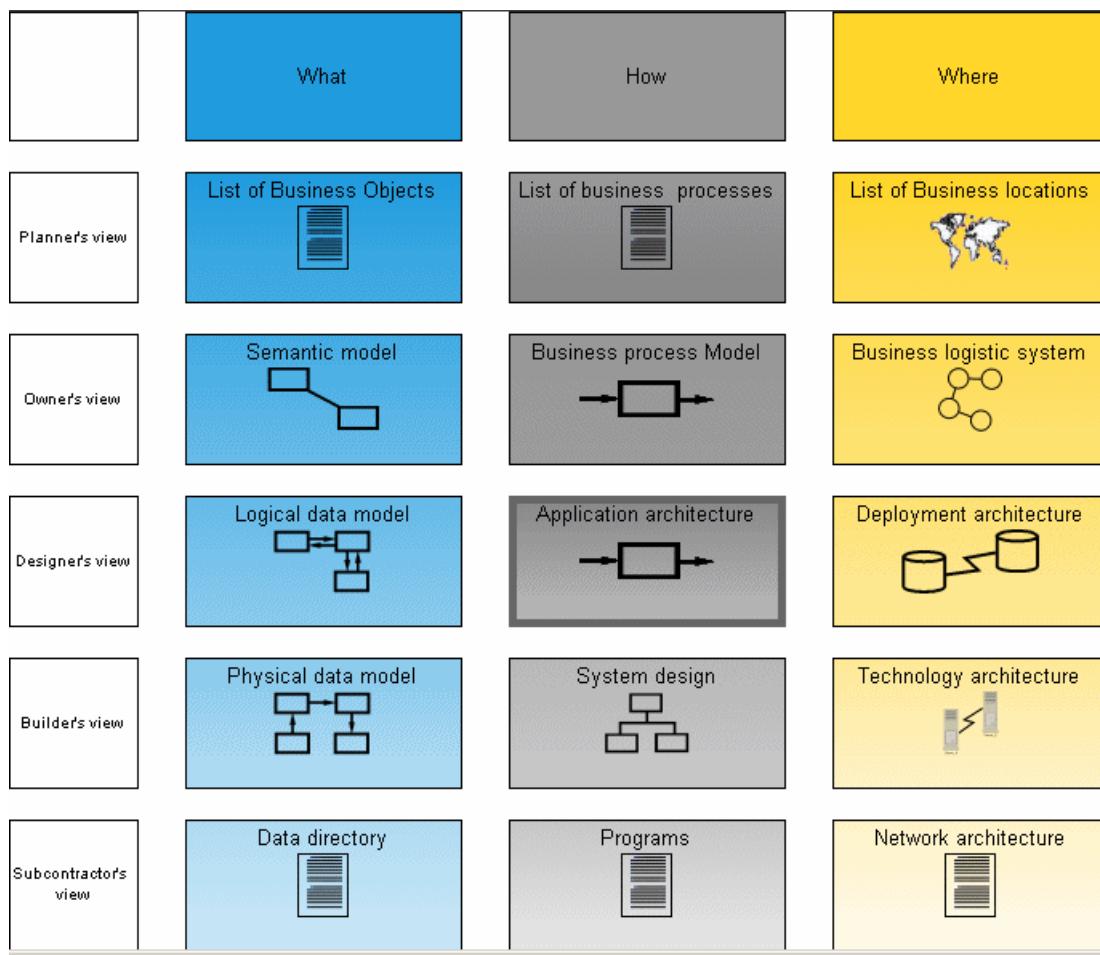
Property	Description
Name	The name of the item which should be clear and meaningful, and should convey the item's purpose to non-technical users.
Code	The technical name of the item used for generating code or scripts, which may be abbreviated, and should not generally include spaces.
Comment	Descriptive label of the model.
File name	Specifies the location of the model file. This field is empty if the model has never been saved.
Author	Specifies the author of the model. If you insert a space, the Author field in the title box remains empty; if you leave the field empty, it will display the user name from the Version Info tab.
Version	Specifies the version of the model. You can use this field to display the repository version or a user-defined version. This parameter is defined in the display preferences of the Title node.
Default diagram	Specifies the diagram displayed by default when opening the model.

Creating an Enterprise Architecture Framework Project

PowerDesigner provides support for some of the most popular enterprise architecture frameworks in the form of project templates.

1. Select **File > New Project** to open the New Project dialog.
2. In the Project type pane, expand the EA Frameworks node and select one of the available frameworks.
3. Specify a name for the project and a location to save it, and then click OK to create the project.

The project opens to the framework matrix, from which you can create models, diagrams, lists, and other items to complete the requirements of the framework:



For detailed information about working with projects, see the Projects and Framework Matrices chapter in the *Core Features Guide*.

Building Business Layer Diagrams

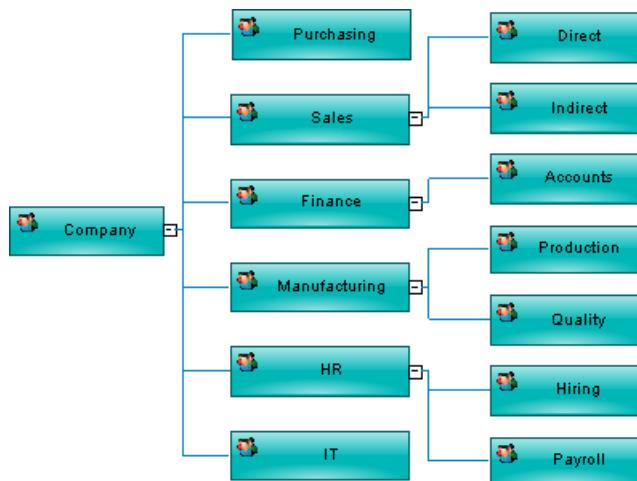
The diagrams in the business layer of the enterprise architecture model help you to analyze your organization in terms of business units, processes, and functions:

- Organization Charts – provide graphical representations of your organization's hierarchies (see [Organization Chart Basics](#) on page 7).
- Business Communication Diagrams – provide a consistent framework for interactions between components of the organization, and with customers, suppliers and partners (see [Business Communication Diagram Basics](#) on page 8).
- Process Maps – provide a view of how high-level processes are associated with business functions (see [Process Map Basics](#) on page 9).
- City Planning Diagrams – provide a "big picture" view of the organization broken down into architectural areas (see [City Planning Diagram Basics](#) on page 10).

Organization Chart Basics

An *organization chart* provides a graphical view of your organization as a tree structure, and helps you analyze and display the relationships between organization units (divisions, groups, teams, etc), individuals, and roles.

In the following example, the company is analyzed into its top-level departments and the major groups within them:



Organization Chart Objects

You can create the following objects in an organization chart:

Object	Tool	Symbol	Description
Organization unit			A group, department, function, or other collection of people or organization units. See Organization Units (EAM) on page 12.
Person			An individual. See People (EAM) on page 13.
Hierarchy link			A link between organization units or people. See Roles (EAM) on page 14.

Note: Most EAM objects can be displayed as icons or as boxes that can display additional properties and sub-objects. You can toggle between the Icon and Detail modes via the contextual menu, or by pressing CTRL+Q. You can control the

default mode, and the information displayed in each mode through the options available by selecting **Tools > Display Preferences**.

Creating an Organization Chart

You can create an organization chart in an existing EAM in any of the following ways:

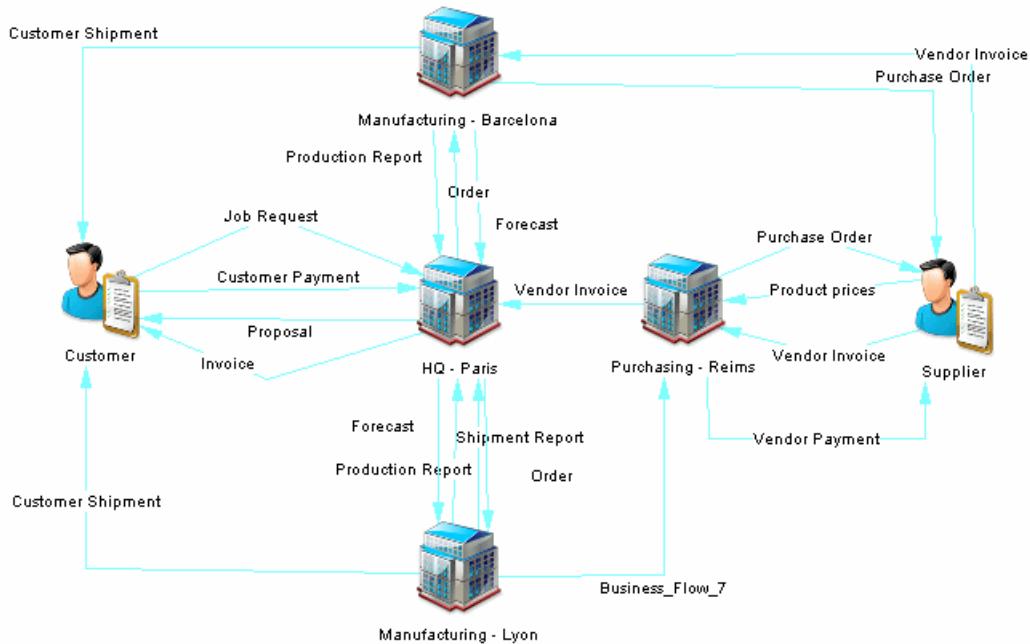
- Right-click the model in the Browser and select **New > Organization Chart**.
- Right-click the background of any diagram and select **Diagram > New Diagram > Organization Chart**.

To create a new EAM with an organization chart, select **File > New Model**, choose to create an enterprise architecture model from the Model type list, choose **Organization Chart** as the first diagram, and click **OK**.

Business Communication Diagram Basics

A *business communication diagram* provides a graphical view of your organization, and helps you analyze, the relationships, flows, and other connections between business functions, organization units, roles, and sites.

In the following example, communications between the company, its customers and suppliers are analyzed, as well as those between the different company sites:



Business Communication Diagram Objects

You can create the following objects in a business communication diagram:

Object	Tool	Symbol	Description
Architecture Area			See Architecture Areas (EAM) on page 16.

Object	Tool	Symbol	Description
Business Function			An aggregation of processes and/or sub-functions. See Business Functions (EAM) on page 18.
Business flow			A link between elements in a business layer diagram. See Business Flows (EAM) on page 20.
Process			An ordering of tasks. See Processes (EAM) on page 19.
Site			A physical location. See Sites (EAM) on page 17.
Organization unit			A group, department, function, or other collection of people or organization units. See Organization Units (EAM) on page 12.
Person			An individual. See People (EAM) on page 13.
Role			A set of responsibilities. See Roles (EAM) on page 14.

Note: Most EAM objects can be displayed as icons or as boxes that can display additional properties and sub-objects. You can toggle between the Icon and Detail modes via the contextual menu, or by pressing CTRL+Q. You can control the default mode, and the information displayed in each mode through the options available by selecting **Tools > Display Preferences**.

Creating a Business Communication Diagram

You can create a business communication diagram in an existing EAM in any of the following ways:

- Right-click the model in the Browser and select **New > Business Communication Diagram**.
- Right-click the background of any diagram and select **Diagram > New Diagram > Business Communication Diagram**.

To create a new EAM with a business communication diagram, select **File > New Model**, choose to create an enterprise architecture model from the Model type list, choose **Business Communication Diagram** as the first diagram, and click **OK**.

Process Map Basics

A *process map* provides a graphical view of your business architecture, and helps you identify your business functions and high-level processes, independent of the people and business units who fulfill them.

In the following example, the major processes within the Manufacturing, Marketing, and Sales business functions are displayed:



Process Map Objects

You can create the following objects in a process map:

Object	Tool	Symbol	Description
Architecture Area			An abstract container object. See Architecture Areas (EAM) on page 16.
Business Function			An aggregation of processes and/or sub-functions. See Business Functions (EAM) on page 18.
Process			An ordering of tasks. See Processes (EAM) on page 19.

Note: Most EAM objects can be displayed as icons or as boxes that can display additional properties and sub-objects. You can toggle between the Icon and Detail modes via the contextual menu, or by pressing CTRL+Q. You can control the default mode, and the information displayed in each mode through the options available by selecting **Tools > Display Preferences**.

Creating a Process Map

You can create a process map in an existing EAM in any of the following ways:

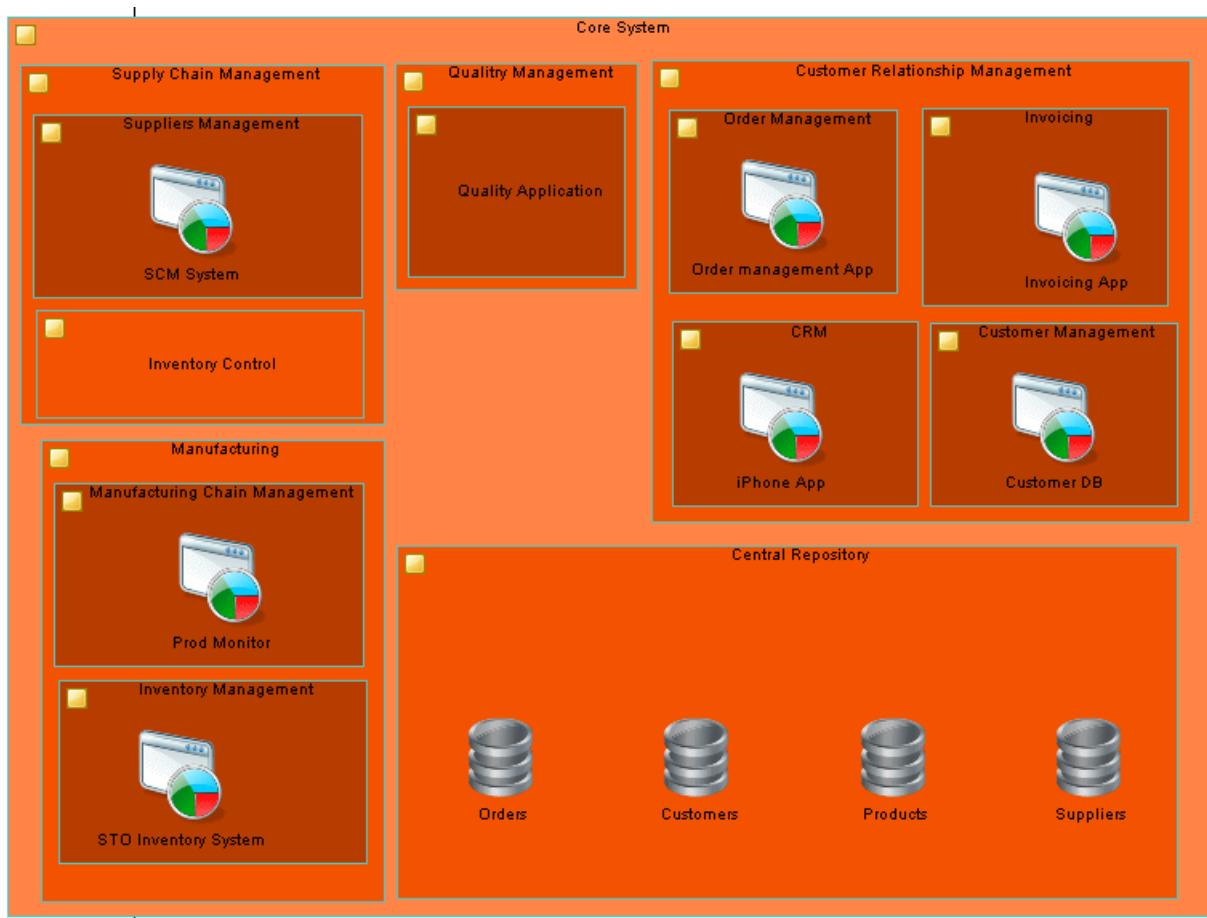
- Right-click the model in the Browser and select **New > Process Map**.
- Right-click the background of any diagram and select **Diagram > New Diagram > Process Map**.

To create a new EAM with a process map, select **File > New Model**, choose to create an enterprise architecture model from the Model type list, choose **Process Map** as the first diagram, and click **OK**.

City Planning Diagram Basics

A *city planning diagram* provides a graphical view of the big picture of your enterprise architecture, using the metaphor of planning the infrastructure of a city to represent the organization of systems, applications, etc into architectural areas.

In the following example, the core system is broken up into five major sub-systems, which are in turn sub-divided into their major functions. Major applications and databases are also highlighted.



City Planning Diagram Objects

You can create the following objects in a city planning diagram:

Object	Tool	Symbol	Description
Architecture Area			An abstract container object. See Architecture Areas (EAM) on page 16.
System			A group of applications, services or sub-systems. See Systems, Applications, and Databases (EAM) on page 29.
Application			A computer program. See Systems, Applications, and Databases (EAM) on page 29.
Database			A database. See Systems, Applications, and Databases (EAM) on page 29.

Object	Tool	Symbol	Description
Business Function		CREDIT	An aggregation of processes and/or sub-functions. See Business Functions (EAM) on page 18.
Application Service			An externally visible unit of functionality. See Application and Business Services (EAM) on page 27.

Note: Most EAM objects can be displayed as icons or as boxes that can display additional properties and sub-objects. You can toggle between the Icon and Detail modes via the contextual menu, or by pressing CTRL+Q. You can control the default mode, and the information displayed in each mode through the options available by selecting **Tools > Display Preferences**.

Creating a City Planning Diagram

You can create a city planning diagram in an existing EAM in any of the following ways:

- Right-click the model in the Browser and select **New > City Planning Diagram**.
- Right-click the background of any diagram and select **Diagram > New Diagram > City Planning Diagram**.

To create a new EAM with a city planning diagram, select **File > New Model**, choose to create an enterprise architecture model from the Model type list, choose **City Planning Diagram** as the first diagram, and click **OK**.

Organization Units (EAM)

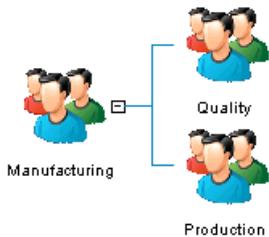
An *organization unit* represents a group of people or other organization units.

An organization unit can be created in the following diagrams:

- Organization chart (see [Organization Chart Basics](#) on page 7)
- Business communication diagram (see [Business Communication Diagram Basics](#) on page 8)
- Technology infrastructure diagram (see [Building Technology Layer Diagrams](#) on page 37)

Example

In this example, the Manufacturing organization unit contains the Quality and Production sub-units:



Creating an Organization Unit

You can create an organization unit in any of the following ways:

- Use the Organization Unit tool in the diagram Palette.
- Select **Model > Organization Units** to access the List of Organization Units, and click the Add a Row tool.
- Right-click the model or package in the Browser, and select **New > Organization Unit**.

For general information about creating objects, see the Objects chapter in the *Core Features Guide*.

Organization Unit Properties

To open an organization unit property sheet and view or edit its properties, double-click its diagram symbol or its Browser entry.

The General Tab contains the following properties:

Property	Description
Name	Specifies the name of the item, which should be clear and meaningful, and should convey the item's purpose to non-technical users.
Code	Specifies the technical name of the object, which is used for generating code or scripts
Comment	Descriptive comment for the object.
Stereotype	Extends the semantics of an object derived from existing objects but specific to your needs.
Manager	Specifies the manager of the organization unit. Select a user or role from the list.
Telephone	Specifies the telephone number of the organization unit.
Email	Specifies the email address of the organization unit.
Web site	Specifies the url for the web site of the organization unit.

The following tabs are also available:

- Sub-Organizations – lists the organization units that belong to this organization unit.
- People – lists the people (see [People \(EAM\)](#) on page 13) that belong to this organization unit.
- Roles – lists the roles (see [Roles \(EAM\)](#) on page 14) that this organization unit fulfills.
- Sites – lists the sites (see [Sites \(EAM\)](#) on page 17) where this organization unit is located.

People (EAM)

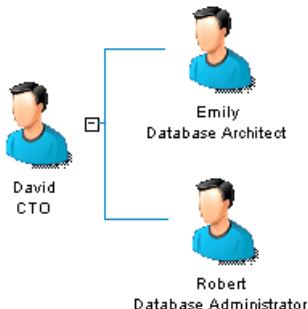
A *person* represents an individual who holds a position within an organization.

A person can be created in the following diagrams:

- Organization chart (see [Organization Chart Basics](#) on page 7)
- Business communication diagram (see [Business Communication Diagram Basics](#) on page 8)
- Technology infrastructure diagram (see [Building Technology Layer Diagrams](#) on page 37)

Example

In this example, David is the manager of Emily and Robert:



Creating a Person

You can create a person in any of the following ways:

- Use the Person tool in the diagram Palette.
- Select **Model > People** to access the List of People, and click the Add a Row tool.
- Right-click the model or package in the Browser, and select **New > Person**.

For general information about creating objects, see the Objects chapter in the *Core Features Guide*.

Person Properties

To open a person property sheet and view or edit its properties, double-click its diagram symbol or its Browser entry.

The General Tab contains the following properties:

Property	Description
Name	Specifies the name of the item, which should be clear and meaningful, and should convey the item's purpose to non-technical users.
Code	Specifies the technical name of the object, which is used for generating code or scripts
Comment	Descriptive comment for the object.
Stereotype	Extends the semantics of an object derived from existing objects but specific to your needs.
Manager	Specifies the manager of the person. Select a person from the list or click the New tool to the right of the field to create a new one.
Site	Specifies the site where this person is located. Select a site from the list or click the New tool to the right of the field to create a new one.
Job title	Specifies the job title of the person.
Telephone	Specifies the telephone number of the person.
Email	Specifies the email address of the person.

The following tabs are also available:

- Roles – lists the roles (see [Roles \(EAM\)](#) on page 14) that this person fulfills.

Roles (EAM)

A *role* is set of responsibilities that are fulfilled by a person or an organization unit.

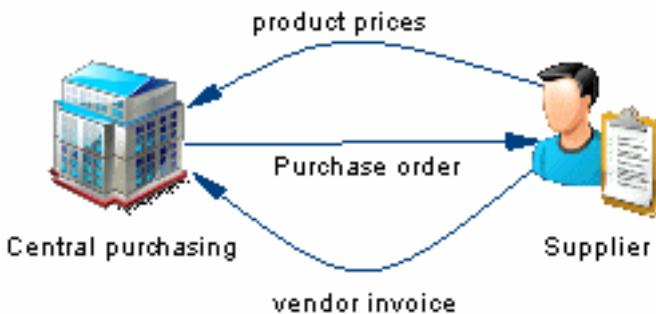
For more information, see [People \(EAM\)](#) on page 13 or [Organization Units \(EAM\)](#) on page 12.

A role can be created in the following diagrams:

- Organization chart (see [Organization Chart Basics](#) on page 7)
- Business communication diagram (see [Business Communication Diagram Basics](#) on page 8)
- Service oriented diagram (see [Service-Oriented Diagram Basics](#) on page 25)
- Technology infrastructure diagram (see [Building Technology Layer Diagrams](#) on page 37)

Example

In this example, the Supplier role interacts with the Central Purchasing site:



Creating a Role

You can create a role in any of the following ways:

- Select **Model > Roles** to access the List of Roles, and click the Add a Row tool.
- Right-click the model or package in the Browser, and select **New > Role**.

For general information about creating objects, see the Objects chapter in the *Core Features Guide*.

Role Properties

To open a role property sheet and view or edit its properties, double-click its diagram symbol or its Browser entry.

The General Tab contains the following properties:

Property	Description
Name	Specifies the name of the item, which should be clear and meaningful, and should convey the item's purpose to non-technical users.
Code	Specifies the technical name of the object, which is used for generating code or scripts
Comment	Descriptive comment for the object.
Stereotype	Extends the semantics of an object derived from existing objects but specific to your needs.

Role Associations

Role associations are used to define links between objects and people, organization units, and roles. For example:

- A person may be defined as the administrator of a hardware server and the manager of a site
- An organization unit may be identified as being responsible for the Sales business function
- A role may be designated as the contact for the Madrid site

Creating a Role Association

You create a role association on the Role Associations tab of an object.

1. Open the property sheet of the object to which you want to connect a person, organization unit, or role, and click the Role Associations tab.
2. Click the Add Objects tool to open a selection box listing all the roles, people, and organization units available in the model.
3. Select the roles, people, and organization units that you want to associate with the object and click OK.
4. [optional] On the Role Associations tab, select or enter a type for each added role association.
5. Click OK to return to the diagram.

Architecture Areas (EAM)

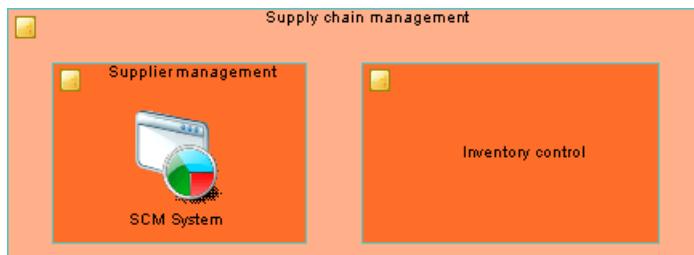
An *architecture area* is an abstract object that can contain and group together other objects.

An architecture area can be created in the following diagrams:

- Business communication diagram (see [Business Communication Diagram Basics](#) on page 8)
- Process map (see [Process Map Basics](#) on page 9)
- City planning diagram (see [City Planning Diagram Basics](#) on page 10)
- Application architecture diagram (see [Application Architecture Diagram Basics](#) on page 23)
- Service oriented diagram (see [Service-Oriented Diagram Basics](#) on page 25)
- Technology infrastructure diagram (see [Building Technology Layer Diagrams](#) on page 37)

Example

In this example, the Supply chain management area contains the Supplier management and Inventory control areas:



Creating an Architecture Area

You can create an architecture area in any of the following ways:

- Use the Architecture Area tool in the diagram Palette
- Select **Model > Architecture Areas** to access the List of Architecture Areas, and click the Add a Row tool.
- Right-click the model or package in the Browser, and select **New > Architecture Area**.

For general information about creating objects, see the Objects chapter in the *Core Features Guide*.

Architecture Area Properties

To open an architecture area property sheet and view or edit its properties, double-click its diagram symbol or its Browser entry.

The General Tab contains the following properties:

Property	Description
Name	Specifies the name of the item, which should be clear and meaningful, and should convey the item's purpose to non-technical users.
Code	Specifies the technical name of the object, which is used for generating code or scripts
Comment	Descriptive comment for the object.
Stereotype	Extends the semantics of an object derived from existing objects but specific to your needs.

The following tabs are also available:

- Role Associations - lists the organization units, people, and roles associated with the area, and the type of role they play in relation to it (see [Role Associations](#) on page 15).
- Attached Objects – lists the objects that are contained within this area.
- Sub-Areas – lists the architecture areas contained within this area.

Sites (EAM)

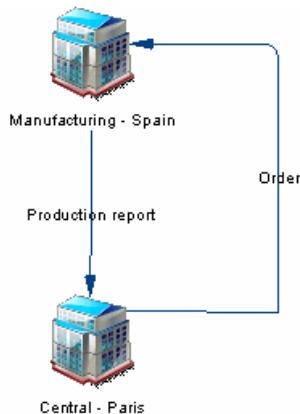
A *site* is a physical location that can contain and group people, organizations and other objects.

A site can be created in the following diagrams:

- Business communication diagram (see [Business Communication Diagram Basics](#) on page 8)
- Application architecture diagram (see [Application Architecture Diagram Basics](#) on page 23)
- Technology infrastructure diagram (see [Building Technology Layer Diagrams](#) on page 37)

Example

In this example, the Central and Manufacturing sites interact:



Creating a Site

You can create a site in any of the following ways:

- Use the Site tool in the diagram Palette.
- Select **Model > Sites** to access the List of Sites, and click the Add a Row tool.
- Right-click the model or package in the Browser, and select **New > Site**.

For general information about creating objects, see the Objects chapter in the *Core Features Guide*.

Site Properties

To open a site property sheet and view or edit its properties, double-click its diagram symbol or its Browser entry.

The General Tab contains the following properties:

Property	Description
Name	Specifies the name of the item, which should be clear and meaningful, and should convey the item's purpose to non-technical users.
Code	Specifies the technical name of the object, which is used for generating code or scripts
Comment	Descriptive comment for the object.

Property	Description
Stereotype	Extends the semantics of an object derived from existing objects but specific to your needs.
Address	Specifies the street address of the site.
Zip	Specifies the zip code of the site.
City	Specifies the city where the site is located.
Country	Specifies the country where the site is located.
Phone	Specifies the telephone number of the site.
Population	Specifies the number of people at the site.

The following tabs are also available:

- Role Associations – lists the organization units, people, and roles associated with the site, and the type of role they play in relation to it (see [Role Associations](#) on page 15).
- Sub-Sites – lists the sites contained within the site.

Business Functions (EAM)

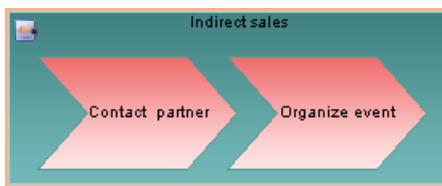
A *business function* is an aggregation of related processes and sub-functions.

A business function can be created in the following diagrams:

- Business communication diagram (see [Business Communication Diagram Basics](#) on page 8)
- Process map (see [Process Map Basics](#) on page 9)
- City planning diagram (see [City Planning Diagram Basics](#) on page 10)

Example

In this example, the Indirect sales function contains the Contact partner and Organize event processes:



Creating a Business Function

You can create a business function in any of the following ways:

- Use the Business Function tool in the diagram Palette.
- Select **Model > Business Functions** to access the List of Business Functions, and click the Add a Row tool.
- Right-click the model or package in the Browser, and select **New > Business Function**.

For general information about creating objects, see the Objects chapter in the *Core Features Guide*.

Business Function Properties

To open a business function property sheet and view or edit its properties, double-click its diagram symbol or its Browser entry.

The General Tab contains the following properties:

Property	Description
Name	Specifies the name of the item, which should be clear and meaningful, and should convey the item's purpose to non-technical users.
Code	Specifies the technical name of the object, which is used for generating code or scripts
Comment	Descriptive comment for the object.
Stereotype	Extends the semantics of an object derived from existing objects but specific to your needs.

The following tabs are also available:

- Role Associations – lists the organization units, people, and roles associated with the function, and the type of role they play in relation to it (see [Role Associations](#) on page 15).
- Sub-Functions – lists the business functions contained within the function.
- Processes – lists the processes (see [Processes \(EAM\)](#) on page 19) associated with the function.
- Sites – lists the sites (see [Sites \(EAM\)](#) on page 17) associated with the function.

Processes (EAM)

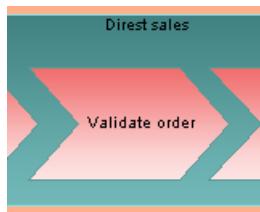
A *process* is an ordering of tasks or activities that may include manual and/or automated operations. Processes can be triggered by events, by initiatives, or by conditions.

A process can be created in the following diagrams:

- Business communication diagram (see [Business Communication Diagram Basics](#) on page 8)
- Process map (see [Process Map Basics](#) on page 9)
- Service oriented diagram (see [Service-Oriented Diagram Basics](#) on page 25)

Example

In this example, the Validate order process forms part of the Direct sales function:



Creating a Process

You can create a process in any of the following ways:

- Use the Process tool in the diagram Palette.
- Select **Model > Processes** to access the List of Processes, and click the Add a Row tool.
- Right-click the model or package in the Browser, and select **New > Process**.

For general information about creating objects, see the Objects chapter in the *Core Features Guide*.

Process Properties

To open a process property sheet and view or edit its properties, double-click its diagram symbol or its Browser entry.

The General Tab contains the following properties:

Property	Description
Name	Specifies the name of the item, which should be clear and meaningful, and should convey the item's purpose to non-technical users.
Code	Specifies the technical name of the object, which is used for generating code or scripts
Comment	Descriptive comment for the object.
Stereotype	Extends the semantics of an object derived from existing objects but specific to your needs.
Reused process	Specifies the name of the reused process.

The following tabs are also available:

- Role Associations – lists the organization units, people, and roles associated with the process, and the type of role they play in relation to it (see [Role Associations](#) on page 15).

Business Flows (EAM)

A *business flow* is an oriented link that is used to connect objects and can contain documents.

A business flow can be created in the following diagrams:

- Business communication diagram (see [Business Communication Diagram Basics](#) on page 8)

Example

In this example the Price request flow goes from the Purchasing function to the Supplier role:



Creating a Business Flow

You can create a business flow in any of the following ways:

- Use the Business Flow tool in the diagram Palette.
- Select **Model > Business Flows** to access the List of Business Flows, and click the Add a Row tool.
- Right-click the model or package in the Browser, and select **New > Business Flow**.

For general information about creating objects, see the Objects chapter in the *Core Features Guide*.

Business Flow Properties

To open a business flow property sheet and view or edit its properties, double-click its diagram symbol or its Browser entry.

The General Tab contains the following properties:

Property	Description
Name	Specifies the name of the item, which should be clear and meaningful, and should convey the item's purpose to non-technical users.
Code	Specifies the technical name of the object, which is used for generating code or scripts

Property	Description
Comment	Descriptive comment for the object.
Stereotype	Extends the semantics of an object derived from existing objects but specific to your needs.
First object	Specifies the object at the origin of the link.
Second object	Specifies the object at the end of the link.

The following tabs are also available:

- Documents – lists the documents associated with the flow (see *Forms, Documents, and Reports (EAM)* on page 32).
- Condition – lets you specify a condition to be evaluated to determine if the flow will be triggered, as well as a short alias for the condition, which can be displayed on the flow symbol.

Building Application Layer Diagrams

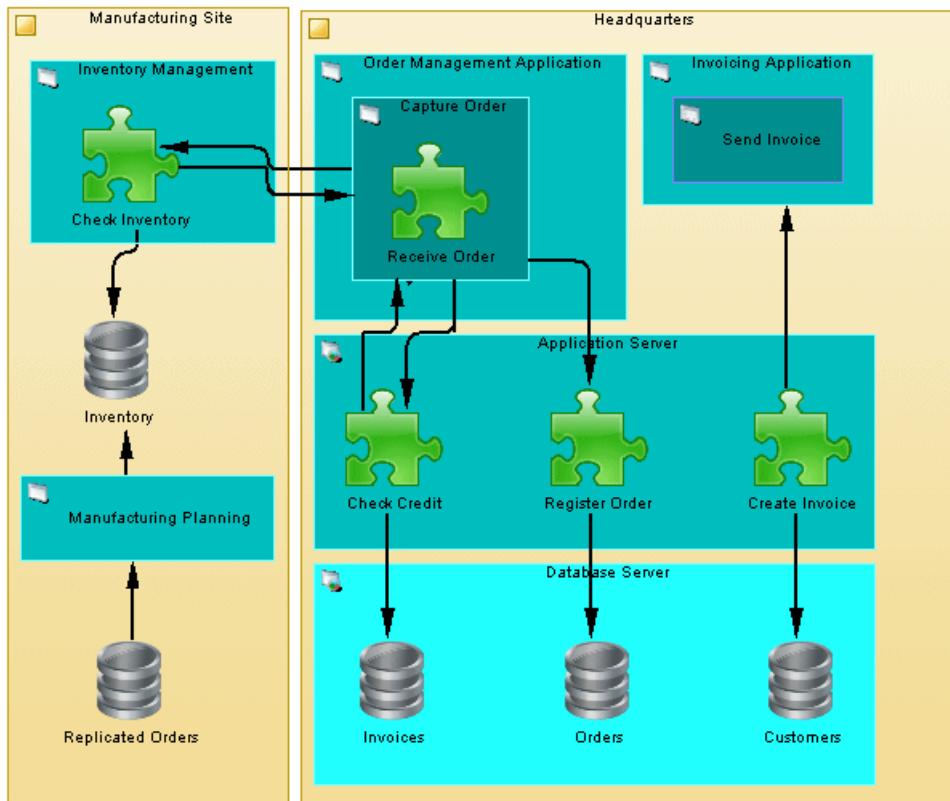
Application layer diagrams allow you to model the architecture of your systems in order to identify your applications and their main components, and to analyze their interactions and how they implement business process and functions:

- Application Architecture Diagrams – organize applications as discrete, interconnected units (see [Application Architecture Diagram Basics](#) on page 23).
- Service Oriented Diagrams – organize applications in terms of SOA layers (see [Service Oriented Diagram Basics](#) on page 25).

Application Architecture Diagram Basics

An *application architecture diagram* provides a high-level graphical view of the application architecture, and helps you identify applications, sub-applications, components, databases, services, etc, and their interactions.

In the following example, interactions between the major order processing and inventory systems at the company's headquarters and manufacturing site are displayed:



Application Architecture Diagram Objects

You can create the following objects in an application architecture diagram:

Object	Tool	Symbol	Description
Architecture Area			An abstract object for grouping other objects. See Architecture Areas (EAM) on page 16.

Object	Tool	Symbol	Description
Site			A physical location. See Sites (EAM) on page 17.
Application Service			An externally visible unit of functionality. See Application and Business Services (EAM) on page 27.
System			A packaged application. See Systems, Applications, and Databases (EAM) on page 29.
Application			A computer program. See Systems, Applications, and Databases (EAM) on page 29.
Database			A database. See Systems, Applications, and Databases (EAM) on page 29.
Component			A replaceable part of an application. See Components (EAM) on page 31.
Form			A UI component. See Forms, Documents, and Reports (EAM) on page 32.
Document			Any conceptual document. See Forms, Documents, and Reports (EAM) on page 32.
Report Document			A report. See Forms, Documents, and Reports (EAM) on page 32.
ETL Job			An ETL job. See ETL Jobs (EAM) on page 34.
Application Link			A link between elements in an application layer diagram. See Application Links (EAM) on page 35.

Note: Most EAM objects can be displayed as icons or as boxes that can display additional properties and sub-objects. You can toggle between the Icon and Detail modes via the contextual menu, or by pressing CTRL+Q. You can control the default mode, and the information displayed in each mode through the options available by selecting **Tools > Display Preferences**.

Creating an Application Architecture Diagram

You can create an application architecture diagram in an existing EAM in any of the following ways:

- Right-click the model in the Browser and select **New > Application Architecture Diagram**.
- Right-click the background of any diagram and select **Diagram > New Diagram > Application Architecture Diagram**.

To create a new EAM with an application architecture diagram, select **File > New Model**, choose to create an enterprise architecture model from the Model type list, choose **Application Architecture Diagram** as the first diagram, and click **OK**.

Service-Oriented Diagram Basics

A *service-oriented diagram* provides a graphical view of your business and application services and the relationships between them, and helps you associate applications and other application layer objects with business services and processes to assist with SOA design.

In the following example, the Open Account and Order-to-cash business services are shown in relation to the application services, applications, and technologies that implement them:



Service-oriented Diagram Objects

You can create the following objects in a service-oriented diagram:

Object	Tool	Symbol	Description
Architecture Area			An abstract object for grouping other objects. See Architecture Areas (EAM) on page 16.
Role			A set of responsibilities. See Roles (EAM) on page 14.
Process			An ordering of tasks. See Processes (EAM) on page 19.
Application Service			An externally visible unit of functionality. See Application and Business Services (EAM) on page 27.
Business Service			A service offered by an organization. See Application and Business Services (EAM) on page 27.
System			A packaged application. See Systems, Applications, and Databases (EAM) on page 29.
Application			A computer program. See Systems, Applications, and Databases (EAM) on page 29.
Database			A database. See Systems, Applications, and Databases (EAM) on page 29.
Component			A replaceable part of an application. See Components (EAM) on page 31.
Contract			An agreement between services. See Contracts (EAM) on page 36.
Application Link			A link between elements in an application layer diagram. See Application Links (EAM) on page 35.

Note: Most EAM objects can be displayed as icons or as boxes that can display additional properties and sub-objects. You can toggle between the Icon and Detail modes via the contextual menu, or by pressing CTRL+Q. You can control the default mode, and the information displayed in each mode through the options available by selecting **Tools > Display Preferences**.

Creating a Service-oriented Diagram

You can create a service-oriented diagram in an existing EAM in any of the following ways:

- Right-click the model in the Browser and select **New > Service-Oriented Diagram**.
- Right-click the background of any diagram and select **Diagram > New Diagram > Service-Oriented Diagram**.

To create a new EAM with a service-oriented diagram, select **File > New Model**, choose to create an enterprise architecture model from the Model type list, choose **Service-Oriented Diagram** as the first diagram, and click **OK**.

Application and Business Services (EAM)

An application service is an externally visible unit of functionality, provided by one or more applications or components, and exposed through well-defined interfaces.

An application service can be created in the following diagrams:

- Application architecture diagram (see [Application Architecture Diagram Basics](#) on page 23)
- Service-oriented diagram (see [Service Oriented Diagram Basics](#) on page 25)
- City planning diagram (see [City Planning Diagram Basics](#) on page 10)

A business service is a service offered by an organization to its customers that directly supports the work performed in a business process or function, exposed by an application-to-business interface.

A business service can be created in the following diagrams:

- Service-oriented diagram (see [Service Oriented Diagram Basics](#) on page 25)

Example

In this example the Register sales business service is implemented by the Finance service application service:



Creating an Application or Business Service

You can create an application or business service in any of the following ways:

- Use the Application or Business Service tool in the diagram Palette.
- Select **Model > Application Services** or **Business Services** to access the appropriate list of services, and click the Add a Row tool.
- Right-click the model or package in the Browser, and select **New > Application Service** or **Business Service**.

For general information about creating objects, see the Objects chapter in the *Core Features Guide*.

Application and Business Service Properties

To open an application or business service property sheet and view or edit its properties, double-click its diagram symbol or its Browser entry.

The General Tab contains the following properties:

Property	Description
Name	Specifies the name of the item, which should be clear and meaningful, and should convey the item's purpose to non-technical users.

Property	Description
Code	Specifies the technical name of the object, which is used for generating code or scripts
Comment	Descriptive comment for the object.
Stereotype	Extends the semantics of an object derived from existing objects but specific to your needs.
Type	<p>Specifies the type of service.</p> <p>For business services, you can choose between:</p> <ul style="list-style-type: none"> • Consulting • Customer Service • Distribution Service • Marketing Service • Personal Service • Sales Service <p>For application services, you can choose between:</p> <ul style="list-style-type: none"> • Business Process • Collaboration • Data • Infrastructure • Integration • Presentation
Quality of Service Level	Specifies the quality of the service. You can choose between:
Security Level	Specifies the security of the service. You can choose between:

The following tabs are also available:

- Role associations – lists the organization units, people, and roles associated with the service, and the type of role they play in relation to it (see [Role Associations](#) on page 15).
- Operations – lists the operations (see [Operations](#) on page 28) that support the service.

Creating Business and Application Service Operations

An operation is an abstract description of an action supported by a service. For example the Login service may require a Get ID operation

You can create an operation by using the Add a Row tool on the Operations tab of a business or application service.

For general information about creating objects, see the Objects chapter in the *Core Features Guide*.

Operation Properties

To open an operation property sheet and view or edit its properties, double-click its Browser entry or its entry on the Operations tab of a business or application service.

The General Tab contains the following properties:

Property	Description
Parent	Specifies the service to which the operation belongs.
Name	Specifies the name of the item, which should be clear and meaningful, and should convey the item's purpose to non-technical users.
Code	Specifies the technical name of the object, which is used for generating code or scripts
Comment	Descriptive comment for the object.
Stereotype	Extends the semantics of an object derived from existing objects but specific to your needs.
Operation type	Specifies the type of the operation. You can choose between: <ul style="list-style-type: none"> • Notification • One-way • Request-Response • Solicit-Response
Input	Specifies the document or data required to start the service (see Forms, Documents, and Reports (EAM) on page 32)
Output	Specifies the document or data returned by the service (see Forms, Documents, and Reports (EAM) on page 32)

Systems, Applications, and Databases (EAM)

A System is a packaged application that can contain sub systems, applications, services and other application elements.

An application is a computer program, a collection of data groups (databases and/or parts of databases) and program modules (components, database management systems, utilities, interactive modules, and system modules), which implements a business function.

A database is a representation of an installed database.

These objects can be created in the following diagrams:

- City planning diagram (see [City Planning Diagram Basics](#) on page 10)
- Application architecture diagram (see [Application Architecture Diagram Basics](#) on page 23)
- Service-oriented diagram (see [Service Oriented Diagram Basics](#) on page 25)

Example

In this example, the Inventory system contains the Stock Management application and the Stock database:



Creating a System, Application, or Database

You can create a system, application, or database in any of the following ways:

- Use the appropriate tool in the diagram Palette.
- Select **Model > Systems , Applications, or Databases** to access the appropriate object list, and click the Add a Row tool.
- Right-click the model or package in the Browser, and select **New > System , Application, or Database**.

For general information about creating objects, see the Objects chapter in the *Core Features Guide*.

System, Application, and Database Properties

To open a system, application, or database property sheet and view or edit its properties, double-click its diagram symbol or its Browser entry.

The General Tab contains the following properties:

Property	Description
Name	Specifies the name of the item, which should be clear and meaningful, and should convey the item's purpose to non-technical users.
Code	Specifies the technical name of the object, which is used for generating code or scripts
Comment	Descriptive comment for the object.
Stereotype	Extends the semantics of an object derived from existing objects but specific to your needs.
Type	[application and database only] Specifies the type of application or database. For applications, you can choose between: <ul style="list-style-type: none"> • Web • Rich Client • Office • Tool • CRM • ERP For databases, you can choose between: <ul style="list-style-type: none"> • Data Warehouse • Data Mart • Multi-Dimensional Data Warehouse • OLTP Database • Virtual Database
DBMS	[database only] Specifies the DBMS of the database.

The following tabs are also available:

- Detail – [application only] records the programming language, version, etc, for the application.
- Role Associations – lists the people, organization units, and roles associated with the application or system, and the type of role they play in relation to it (see *Role Associations* on page 15).
- Source Models – [database only] lists the data models associated with the database. For more information about data models, see *Data Modeling*.
- Applications – [application and system only] lists the applications associated with the application or system.
- Components – [application and system only] lists the components (see *Components (EAM)* on page 31) associated with the application or system.
- Forms – [application and system only] lists the forms (see *Forms, Documents, and Reports (EAM)* on page 32) associated with the application or system.
- Sites – lists the sites associated with the application or system (see *Sites (EAM)* on page 17).

- Application Services – [system only] lists the application services (see [Application and Business Services \(EAM\)](#) on page 27) associated with the system.
- Databases – [system only] lists the databases associated with the system.
- Documents – [system only] lists the documents (see [Forms, Documents, and Reports \(EAM\)](#) on page 32) associated with the system.
- ETL Jobs – [system only] lists the ETL jobs (see [ETL Jobs \(EAM\)](#) on page 34) associated with the system.
- Report Documents – [system only] lists the reports (see [Forms, Documents, and Reports \(EAM\)](#) on page 32) associated with the system.
- Systems – [system only] lists the sub-systems contained within the system.

Components (EAM)

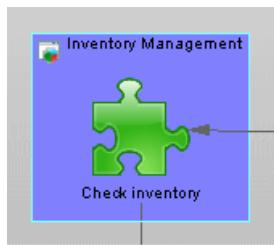
A component is an encapsulated, reusable, and replaceable part of an application, which can be used to implement a service or an application.

A component can be created in the following diagrams:

- Application architecture diagram (see [Application Architecture Diagram Basics](#) on page 23)
- Service-oriented diagram (see [Service Oriented Diagram Basics](#) on page 25)

Example

In this example, the Inventory Management system contains the Check Inventory component:



Creating a Component

You can create a component in any of the following ways:

- Use the Component tool in the diagram Palette.
- Select **Model > Components** to access the List of Components, and click the Add a Row tool.
- Right-click the model or package in the Browser, and select **New > Component**.

For general information about creating objects, see the Objects chapter in the *Core Features Guide*.

Component Properties

To open a component property sheet and view or edit its properties, double-click its diagram symbol or its Browser entry.

The General Tab contains the following properties:

Property	Description
Name	Specifies the name of the item, which should be clear and meaningful, and should convey the item's purpose to non-technical users.
Code	Specifies the technical name of the object, which is used for generating code or scripts

Property	Description
Comment	Descriptive comment for the object.
Stereotype	Extends the semantics of an object derived from existing objects but specific to your needs.
Programming Language	Specifies the programming language in which the component is written.
Type	Specifies the type of the component. You can choose between: <ul style="list-style-type: none"> • EJB • Servlet • Presentation • DataAccess • Controller • COM • ActiveX

Forms, Documents, and Reports (EAM)

A form represents a UI component of an application.

A document represents any conceptual document used in the enterprise.

A report represents any report used in the enterprise.

These objects can be created in the following diagrams:

- Application architecture diagram (see [Application Architecture Diagram Basics](#) on page 23)

Example

In this example the HR system contains the Employee Absence report, the Vacation form, and the Health and Safety Guidelines document:



Creating a Form, Document, or Report

You can create a form, document, or report in any of the following ways:

- Use the appropriate tool in the diagram Palette.
- Select **Model > Forms , Documents, or Reports** to access the appropriate object list, and click the Add a Row tool.
- Right-click the model or package in the Browser, and select **New > Form , Document, or Report**.

For general information about creating objects, see the Objects chapter in the *Core Features Guide*.

Form, Document, and Report Properties

To open a form, document, or report property sheet and view or edit its properties, double-click its diagram symbol or its Browser entry.

The General Tab contains the following properties:

Property	Description
Name	Specifies the name of the item, which should be clear and meaningful, and should convey the item's purpose to non-technical users.
Code	Specifies the technical name of the object, which is used for generating code or scripts
Comment	Descriptive comment for the object.
Stereotype	Extends the semantics of an object derived from existing objects but specific to your needs.
Type	Specifies the type of the document, form, or report.
Version	[document only] Specifies the version number of the document.
Category	[report only] Specifies the category of the report. You can choose between: <ul style="list-style-type: none"> • Business • Specification • Strategic • Technical
Period	[report only] Specifies the frequency with which the report is generated. You can choose between: <ul style="list-style-type: none"> • Daily • Weekly • Monthly • Yearly
Style	[form only] Specifies the style of the form.
Document Format	[document only] Lists the XML models that are used to represent the structure of the document. For more information about XML models, see the <i>XML Modeling</i> guide.

The following tabs are also available:

- Data – [report and document only] lists the data (see [Data](#) on page 33) associated with the document.

Creating Document Data

Data objects are pieces of information that can be assigned to reports and documents.

You can create a data object by using the Add a Row tool on the Data tab of a report or document.

For general information about creating objects, see the Objects chapter in the *Core Features Guide*.

Data Properties

To open a data property sheet and view or edit its properties, double-click its Browser entry.

The General Tab contains the following properties:

Property	Description
Name	Specifies the name of the item, which should be clear and meaningful, and should convey the item's purpose to non-technical users.
Code	Specifies the technical name of the object, which is used for generating code or scripts

Property	Description
Comment	Descriptive comment for the object.
Stereotype	Extends the semantics of an object derived from existing objects but specific to your needs.

ETL Jobs (EAM)

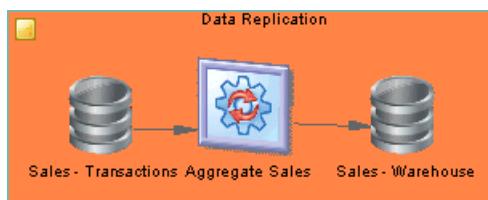
An ETL job represents a task in an ETL data transformation.

An ETL job can be created in the following diagrams:

- Application architecture diagram (see [Application Architecture Diagram Basics](#) on page 23)

Example

In this example the Aggregate Sales ETL job aggregates the data from the Sales –Transactions database to the Sales –Warehouse database:



Creating an ETL Job

You can create an ETL job in any of the following ways:

- Use the ETL Job tool in the diagram Palette.
- Select **Model > ETL Jobs** to access the List of ETL Jobs, and click the Add a Row tool.
- Right-click the model or package in the Browser, and select **New > ETL Job**.

For general information about creating objects, see the Objects chapter in the *Core Features Guide*.

ETL Job Properties

To open an ETL job property sheet and view or edit its properties, double-click its diagram symbol or its Browser entry.

The General Tab contains the following properties:

Property	Description
Name	Specifies the name of the item, which should be clear and meaningful, and should convey the item's purpose to non-technical users.
Code	Specifies the technical name of the object, which is used for generating code or scripts
Comment	Descriptive comment for the object.
Stereotype	Extends the semantics of an object derived from existing objects but specific to your needs.

The following tabs are also available:

- Role Associations – lists the people, organization units, and roles associated with the ETL job, and the type of role they play in relation to it (see [Role Associations](#) on page 15).

Application Links (EAM)

An *application link* is an oriented link that is used to connect objects in the application layer.

An application link can be created in the following diagrams:

- Application architecture diagram (see [Application Architecture Diagram Basics](#) on page 23)
- Service-oriented diagram (see [Service Oriented Diagram Basics](#) on page 25)

Example

In this example, the Create invoice component makes a request to the Invoice database:



Creating an Application Link

You can create an application link in any of the following ways:

- Use the Application Link tool in the diagram Palette.
- Select **Model > Application Links** to access the List of Application Links, and click the Add a Row tool.
- Right-click the model or package in the Browser, and select **New > Application Link**.

For general information about creating objects, see the Objects chapter in the *Core Features Guide*.

Application Link Properties

To open an application link property sheet and view or edit its properties, double-click its diagram symbol or its Browser entry.

The General Tab contains the following properties:

Property	Description
Name	Specifies the name of the item, which should be clear and meaningful, and should convey the item's purpose to non-technical users.
Code	Specifies the technical name of the object, which is used for generating code or scripts
Comment	Descriptive comment for the object.
Stereotype	Extends the semantics of an object derived from existing objects but specific to your needs.
First object	Specifies the object at the origin of the link.
Second object	Specifies the object at the end of the link.

Property	Description
Type	Specifies the type of the application link.

Contracts (EAM)

A contract is an agreement between services

A contract can be created in the following diagrams:

- Service-oriented diagram (see [Service Oriented Diagram Basics](#) on page 25)

Example

In this example, the contract defines acceptable response times for the link between the business and application login services:



Creating a Contract

You can create a contract in any of the following ways:

- Use the Contract tool in the diagram Palette.
- Select **Model > Contracts** to access the List of Contracts, and click the Add a Row tool.
- Right-click the model or package in the Browser, and select **New > Contract**.

For general information about creating objects, see the Objects chapter in the *Core Features Guide*.

Contract Properties

To open a contract property sheet and view or edit its properties, double-click its diagram symbol or its Browser entry.

The General Tab contains the following properties:

Property	Description
Name	Specifies the name of the item, which should be clear and meaningful, and should convey the item's purpose to non-technical users.
Code	Specifies the technical name of the object, which is used for generating code or scripts
Comment	Descriptive comment for the object.
Stereotype	Extends the semantics of an object derived from existing objects but specific to your needs.

The following tabs are also available:

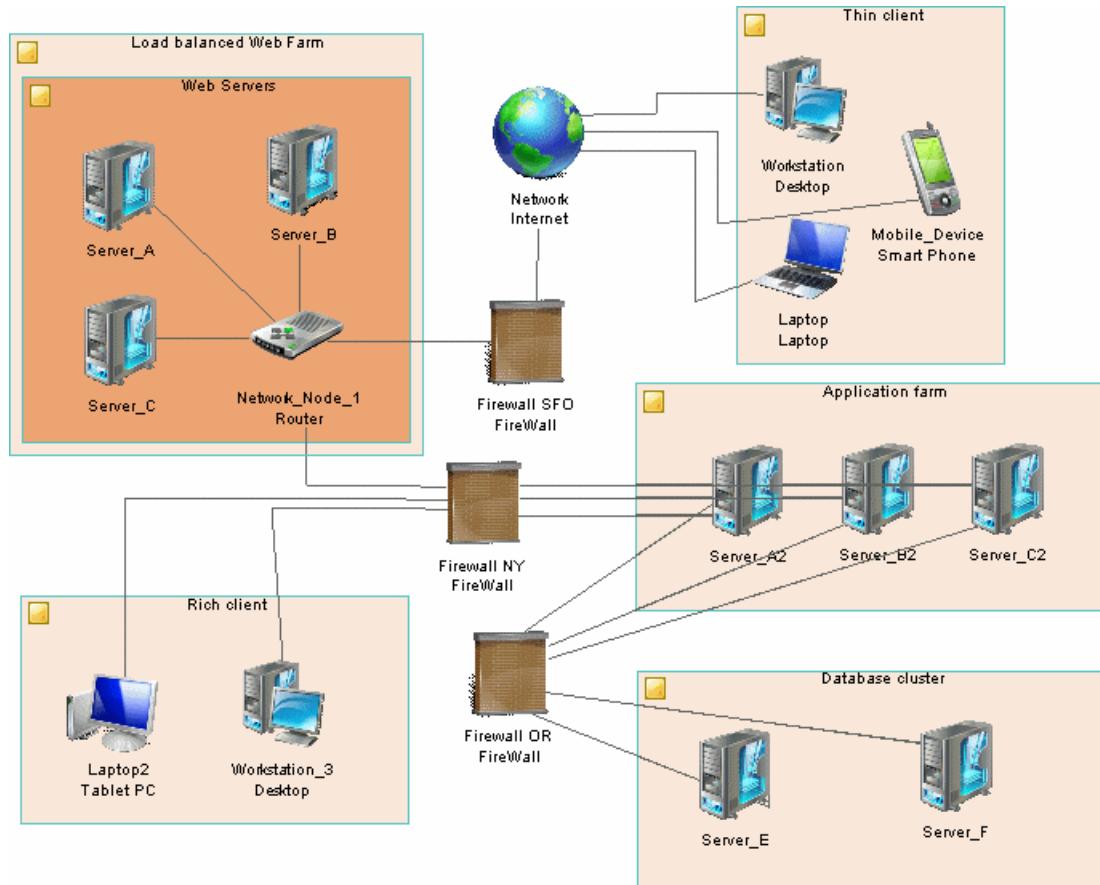
- Role Associations – lists the people, organization units, and roles associated with the contract, and the type of role they play in relation to it (see [Role Associations](#) on page 15).
- Documents – lists the documents (see [Forms, Documents, and Reports \(EAM\)](#) on page 32) associated with the contract.
- XML Models – lists the XML Models that are used to define the contract. For more information about XSMs, see the [XML Modeling](#) guide.

Building Technology Layer Diagrams

A *technology infrastructure diagram* provides a high-level graphical view of the physical architecture required to support the application architecture.

A technology infrastructure diagram is the sole diagram in the technology layer.

In the following example, the deployment of servers within the company network is shown, along with the web access afforded to thin clients:



Technology Infrastructure Diagram Objects

You can create the following objects in a technology infrastructure diagram:

Object	Tool	Symbol	Description
Architecture Area			An abstract object for grouping other objects. See Architecture Areas (EAM) on page 16.
Site			A physical location. See Sites (EAM) on page 17.

Object	Tool	Symbol	Description
Organization Unit			A group, department, function, or other collection of people or organization units. See Organization Units (EAM) on page 12.
Person			An individual. See People (EAM) on page 13.
Role			A set of responsibilities. See Roles (EAM) on page 14.
Network			Any kind of network. See Networks (EAM) on page 39.
Software Server			A commercial software environment. See Servers, Workstations, Mobile Devices, and Network Nodes (EAM) on page 40.
Hardware Server			A high availability resource machine. See Servers, Workstations, Mobile Devices, and Network Nodes (EAM) on page 40.
Workstation			A client machine. See Servers, Workstations, Mobile Devices, and Network Nodes (EAM) on page 40.
Mobile Device			A handheld client. See Servers, Workstations, Mobile Devices, and Network Nodes (EAM) on page 40.
Network Node			Can represent various kinds of network components. See Servers, Workstations, Mobile Devices, and Network Nodes (EAM) on page 40.
Deployment Instance			An instance of an object defined elsewhere. See Deployment Instances (EAM) on page 41.
Infrastructure Link			A link between elements in a technology layer diagram. See Infrastructure Links (EAM) on page 42.

Note: Most EAM objects can be displayed as icons or as boxes that can display additional properties and sub-objects. You can toggle between the Icon and Detail modes via the contextual menu, or by pressing CTRL+Q. You can control the default mode, and the information displayed in each mode through the options available by selecting **Tools > Display Preferences**.

Creating a Technology Infrastructure Diagram

You can create a technology infrastructure diagram in an existing EAM in any of the following ways:

- Right-click the model in the Browser and select **New > Technology Infrastructure Diagram**.
- Right-click the background of any diagram and select **Diagram > New Diagram > Technology Infrastructure Diagram**.

To create a new EAM with a technology infrastructure diagram, select **File > New Model**, choose to create an enterprise architecture diagram from the Model type list, choose **Technology Infrastructure Diagram** as the first diagram, and click **OK**.

Networks (EAM)

A network allows computers to communicate with each other either locally or over large distances via telecommunications.

A network can be created in the following diagrams:

- Technology infrastructure diagram (see [Technology Infrastructure Diagram Basics](#) on page 37)

Example

In this example, the client communicates with the server via an intranet:



Creating a Network

You can create a network in any of the following ways:

- Use the Network tool in the diagram Palette.
- Select **Model > Networks** to access the List of Networks, and click the Add a Row tool.
- Right-click the model or package in the Browser, and select **New > Network**.

For general information about creating objects, see the Objects chapter in the *Core Features Guide*.

Network Properties

To open a network property sheet and view or edit its properties, double-click its diagram symbol or its Browser entry.

The General Tab contains the following properties:

Property	Description
Name	Specifies the name of the item, which should be clear and meaningful, and should convey the item's purpose to non-technical users.
Code	Specifies the technical name of the object, which is used for generating code or scripts
Comment	Descriptive comment for the object.
Stereotype	Extends the semantics of an object derived from existing objects but specific to your needs.
Type	Specifies the type of the network.
Site	Specifies the site within which the network is located.

The following tabs are also available:

- Role Associations – lists the people, organization units, and roles associated with the object (see [Role Associations](#) on page 15).

Servers, Workstations, Mobile Devices, and Network Nodes (EAM)

A software server is a commercial software environment, which contains a set of applications. A software server can be deployed on a hardware server.

A hardware server is a device that serves data or other support for devices on the network. It usually has higher specifications than client devices, such as workstations or mobile devices.

A workstation is a client machine to which an application or a server can be deployed.

A mobile device is designed to be easy to carry and used remotely to access the network.

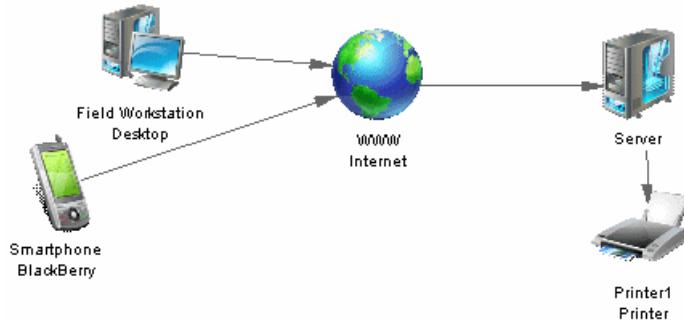
Network nodes can represent other type of objects connected to the network (routers, switches, firewalls, modems, printers, faxes, etc).

These objects can be created in the following diagrams:

- Technology infrastructure diagram (see [Technology Infrastructure Diagram Basics](#) on page 37)

Example

In this example, the field workstation and smartphone connect via the web to the server, which is also connected to a network node of type printer:



Creating a Software or Hardware Server, Workstation, Mobile Device, or Network Node

You can create these objects in any of the following ways:

- Use the appropriate tool in the diagram Palette.
- Select **Model > Objects** to access the appropriate object list, and click the Add a Row tool.
- Right-click the model or package in the Browser, and select **New > Object**.

For general information about creating objects, see the Objects chapter in the *Core Features Guide*.

Software and Hardware Server, Workstation, Mobile Device, and Network Node Properties

To open a software or hardware server, workstation, mobile device, or network node property sheet and view or edit its properties, double-click its diagram symbol or its Browser entry.

The General Tab contains the following properties:

Property	Description
Name	Specifies the name of the item, which should be clear and meaningful, and should convey the item's purpose to non-technical users.

Property	Description
Code	Specifies the technical name of the object, which is used for generating code or scripts
Comment	Descriptive comment for the object.
Type	Specifies the type of the object.
Site	Specifies the site to which the object is deployed.
Stereotype	Extends the semantics of an object derived from existing objects but specific to your needs.
Multiple	[hardware server, workstation and mobile device only] Specifies that the object represents multiple machines.

The following tabs are also available:

- Detail – contains information to identify the object in the environment.
- Deployment Instances – [not network node] lists the deployment instances (see [Deployment Instances \(EAM\) on page 41](#)) associated with the object.
- Software Servers – [workstation, hardware server, and mobile device only] lists the software servers associated with the object.
- Role Associations – lists the people, organization units, and roles associated with the object (see [Role Associations](#) on page 15).

Deployment Instances (EAM)

A deployment instance is an instance of another object that is deployed on a server or elsewhere in the environment.

A deployment instance can be created in the following diagrams:

- Technology infrastructure diagram (see [Technology Infrastructure Diagram Basics](#) on page 37)

Example

In this example, an instance of the Suppliers database is stored on the Failover server:



Creating a Deployment Instance

You can create a deployment instance in any of the following ways:

- Open the property sheet of the object to deploy and use the Add a Row tool on its Deployment Instances tab.
- Use the Deployment Instance tool in the diagram Palette.
- Select **Model > Deployment Instances** to access the List of Deployment Instances, and click the Add a Row tool.
- Right-click the model or package in the Browser, and select **New > Deployment Instance**.

Note: In all but the first method above, you must specify the object of which you are creating an instance, by opening the deployment instance property sheet and specifying the object of which it is an instance in the Deployed object field.

For general information about creating objects, see the Objects chapter in the *Core Features Guide*.

Deployment Instance Properties

To open a deployment instance property sheet and view or edit its properties, double-click its diagram symbol or its Browser entry.

The General Tab contains the following properties:

Property	Description
Name	Specifies the name of the item, which should be clear and meaningful, and should convey the item's purpose to non-technical users.
Code	Specifies the technical name of the object, which is used for generating code or scripts.
Comment	Descriptive comment for the object.
Stereotype	Extends the semantics of an object derived from existing objects but specific to your needs.
Type	Specifies the type of the deployment instance.
Deployed Object	Specifies the object being deployed. Click the buttons to the right of the field to create a new object, select an existing object, or to open the property sheet of the selected object.

Infrastructure Links (EAM)

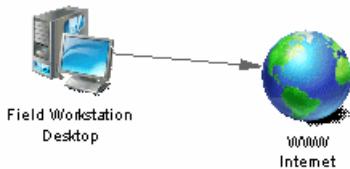
An *infrastructure link* is an oriented link that is used to connect objects in the technology layer.

An infrastructure link can be created in the following diagrams:

- Technology infrastructure diagram (see *Technology Infrastructure Diagram Basics* on page 37)

Example

In this example, the Field Workstation accesses the internet:



Creating an Infrastructure Link

You can create an infrastructure link in any of the following ways:

- Use the Infrastructure Link tool in the diagram Palette.
- Select **Model > Infrastructure Links** to access the List of Infrastructure Links, and click the Add a Row tool.
- Right-click the model or package in the Browser, and select **New > Infrastructure Links**.

For general information about creating objects, see the Objects chapter in the *Core Features Guide*.

Infrastructure Link Properties

To open an infrastructure link property sheet and view or edit its properties, double-click its diagram symbol or its Browser entry.

The General Tab contains the following properties:

Property	Description
Name	Specifies the name of the item, which should be clear and meaningful, and should convey the item's purpose to non-technical users.
Code	Specifies the technical name of the object, which is used for generating code or scripts
Comment	Descriptive comment for the object.
Stereotype	Extends the semantics of an object derived from existing objects but specific to your needs.
First object	Specifies the object at the origin of the link.
Second object	Specifies the object at the end of the link.
Type	Specifies the type of the infrastructure link.
Protocol	Specifies the protocol of the infrastructure link.
Physical type	Specifies the physical type of the infrastructure link.

Working with Enterprise Architecture Models

Enterprise architecture models benefit from the powerful model tools available in the PowerDesigner enterprise modeling environment.

Customizing the Enterprise Architecture Modeling Environment

The PowerDesigner enterprise architecture modeling environment includes a set of parameters and configuration options that define various aspects of the model content and behavior. You can set these parameters:

- At model creation
- After creating a model with default options and parameters
- When creating a model template

Setting EAM Model Options

This section explains how to set global options for the objects in your EAM. These options apply only to the current EAM.

For information about controlling the naming conventions of your models, see "Naming Conventions" in the Customizing your Modeling Environment chapter of the *Core Features Guide*.

To set Model Settings, select **Tools > Model Options** or right-click the diagram background and select Model Options from the contextual menu.

The following options are available on this tab:

Option	Description
Name/Code case sensitive	<p>Specifies that the names and codes for all objects are case sensitive, allowing you to have two objects with identical names or codes but different cases in the same model.</p> <p>If you change case sensitivity during the design process, we recommend that you check your model to verify that your model does not contain any duplicate objects.</p>
Enable links to requirements	<p>Displays a Requirements tab in the property sheet of every object in the model, which allows you to attach requirements to objects in your model. These attached requirements are kept synchronized with your requirements model.</p> <p>For more information, see the <i>Requirements Modeling</i> guide.</p>

Setting EAM Display Preferences

PowerDesigner display preferences allow you to customize the format of object symbols, and the information that is displayed on them.

To set EAM display preferences, select **Tools > Display Preferences** or right-click the diagram background and select Display Preferences from the contextual menu.

All EAM object symbols are fully customizable both in terms of their format and the information displayed upon them. For more information, see "Display Preferences" in the Customizing your Modeling Environment chapter of the *Core Features Guide*.

Generating an EAM from an EAM

You can generate another EAM from your EAM. When changes are made to the source model, they can be easily propagated to any generated models by regenerating, using the Update Existing Model generation mode.

1. Select **Tools > Generate Enterprise Architecture Model** to open the EAM Generation Options Window:
2. On the General tab, select to generate a new or update an existing model, and complete the appropriate options.
3. [optional] Click the Detail tab and set any appropriate options. We recommend that you select the Check model checkbox to check the model for errors and warnings before generation.
4. [optional] Click the Target Models tab and specify the target models for any generated shortcuts.
5. [optional] Click the Selection tab and select or deselect objects to generate.
6. Click OK to begin generation.

Note: For detailed information about the options available on the various tabs of the Generation window, see the Linking and Synchronizing Models chapter of the *Core Features Guide*.

Checking an Enterprise Architecture Model

You can check the validity of your enterprise architecture model at any time in one of the following ways:

- Press F4, or
- Select **Tools > Check Model**, or
- Right-click the diagram background and select Check Model from the contextual menu.

Application, Application Service, Component and Database Checks

The following model checks are made on applications, application services, components, and databases:

Check	Description and Correction
Name and code uniqueness	Names and codes must be unique in the model. Manual correction: Modify the duplicate name/code. Automatic correction: Appends a number to the duplicate name/code.
No deployment instance	The object must be deployed as at least one deployment instance. Manual correction: Deploy the object as a deployment instance. Automatic correction: None

Application Link Checks

The following model checks are made on application links:

Check	Description and Correction
Unsuitable application link type	The link type is not compatible with the link extremities. For example, if the link type is "use" the link must have a role player as one extremity. Manual correction: Change the link type. Automatic correction: Changes the link type.

Contract Checks

The following model checks are made on contracts:

Check	Description and Correction
Contract name and code uniqueness	Contract names and codes must be unique in the model. Manual correction: Modify the duplicate name/code. Automatic correction: Appends a number to the duplicate name/code.
Contracts are not correctly used	Contracts must have at least one incoming and one outgoing link with an application service, a business service, or a role. Manual correction: Create input and output links with the appropriate objects. Automatic correction: None
Multiple types of input	All input objects must be of the same type. Manual correction: Remove any input links that are not of the same type. Automatic correction: None
Same input and output link	Contracts cannot be the intermediary between the same service. Manual correction: Modify the input or output link. Automatic correction: None

Deployment Instance Checks

The following model checks are made on deployment instances

Check	Description and Correction
Deployment instance name and code uniqueness	Deployment instance names and codes must be unique in the model. Manual correction: Modify the duplicate name/code Automatic correction: Appends a number to the duplicate name/code
Deployment Instance not deployed	Each deployment instance must be deployed to a platform or server. Manual correction: Deploy the deployment instance to the appropriate object. Automatic correction: None
No Object to Deploy	The deployment instance must be an instance of some object. Manual correction: Specify the object to be deployed in the deployment instance property sheet General tab. Automatic correction: None
Unsuitable Software Server	The deployment instance must be suitable for the server software type to which it is deployed. Manual correction: Modify the software server type or delete the deployment instance from the software server. Automatic correction: None

Form Checks

The following model checks are made on forms:

Check	Description and Correction
Form name and code uniqueness	Form names and codes must be unique in the model. Manual correction: Modify the duplicate name/code. Automatic correction: Appends a number to the duplicate name/code
No deployment instance	The object must be deployed as a deployment instance. Manual correction: Deploy the object as a deployment instance. Automatic correction: None

Hardware Server, Mobile Device, Network Node and Workstation Checks

The following model checks are made on hardware servers, mobile devices, network nodes and workstations:

Check	Description and Correction
Name and code uniqueness	Names and codes must be unique in the model. Manual correction: Modify the duplicate name/code. Automatic correction: Appends a number to the duplicate name/code.
Serial number uniqueness	Serial numbers must be unique in the model. Manual correction: Modify the duplicate serial numbers. Automatic correction: Appends a number to the duplicate serial numbers.
Asset number uniqueness	Asset numbers must be unique in the model. Manual correction: Modify the duplicate asset numbers. Automatic correction: Appends a number to the duplicate asset numbers.
Mac address uniqueness	Mac addresses must be unique in the model. Manual correction: Modify the duplicate mac addresses. Automatic correction: Appends a number to the duplicate mac addresses.
Isolated node	The object must be linked with at least one other node. Manual correction: Link the object to an appropriate object. Automatic correction: None

Network Checks

The following model checks are made on networks:

Check	Description and Correction
Network name and code uniqueness	Network names and codes must be unique in the model. Manual correction: Modify the duplicate name/code. Automatic correction: Appends a number to the duplicate name/code.
Isolated node	The object must be linked with at least one other node. Manual correction: Link the object to an appropriate object. Automatic correction: None

Organization Unit Checks

The following model checks are made on organization units:

Check	Description and Correction
Organization Unit name and code uniqueness	Organization Unit names and codes must be unique in the model. Manual correction: Modify the duplicate name/code. Automatic correction: Appends a number to the duplicate name/code.
Manager must belong to the managed organization	The manager specified in the Manager field must be listed in the People tab. Manual correction: Add the manager in the list of people on the People tab. Automatic correction: Adds the manager to the list of people.

Person Checks

The following model checks are made on people:

Check	Description and Correction
Person code uniqueness	People codes must be unique in the model. Manual correction: Modify the duplicate code. Automatic correction: Appends a number to the duplicate code.
No organization unit	A person must belong to an organization unit. Manual correction: Add the person to an organization unit. Automatic correction: None
Circular dependency through manager property	A person cannot manage herself. Manual correction: Remove the person from the Manager field of her own property sheet. Automatic correction: None

Software Server Checks

The following model checks are made on software servers:

Check	Description and Correction
Software Server name and code uniqueness	Software server names and codes must be unique in the model. Manual correction: Modify the duplicate name/code. Automatic correction: Appends a number to the duplicate name/code.
Software Server not deployed	A software server must be deployed to a physical server. Manual correction: Deploy the software server in the appropriate object. Automatic correction: None
Software Server serial number uniqueness	Software Server serial numbers must be unique in the model. Manual correction: Modify the duplicate serial numbers. Automatic correction: Appends a number to the duplicate serial numbers.

Exporting and Importing Objects to and from Other Models

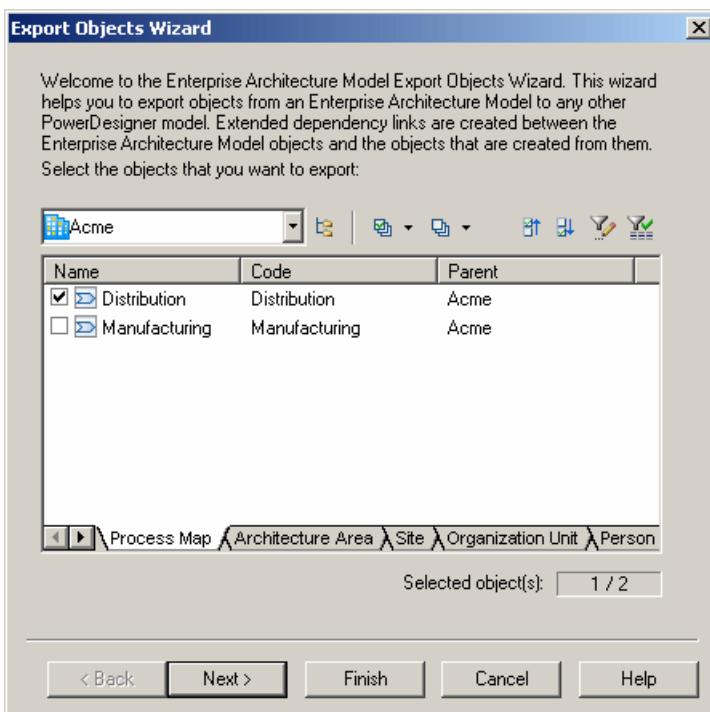
An enterprise architecture model is intended to provide a big picture view of your organization and to permit you to decompose your functions, processes, and systems to a certain extent, but it cannot show detailed information about how they are (or will be) implemented. In order to model such information, you will want to use other PowerDesigner models, such as the conceptual, logical, physical data models, business process models, or object-oriented models.

The EAM provides wizards to export EA objects to these other, lower-level models and to import implementation objects to be represented in the EAM.

Exporting Objects from an EAM to Another Model

The Export Objects Wizard helps you to export EAM objects to other PowerDesigner models to allow you to model their implementation in detail.

1. Select **Tools > Export Objects** to open the Export Objects Wizard:



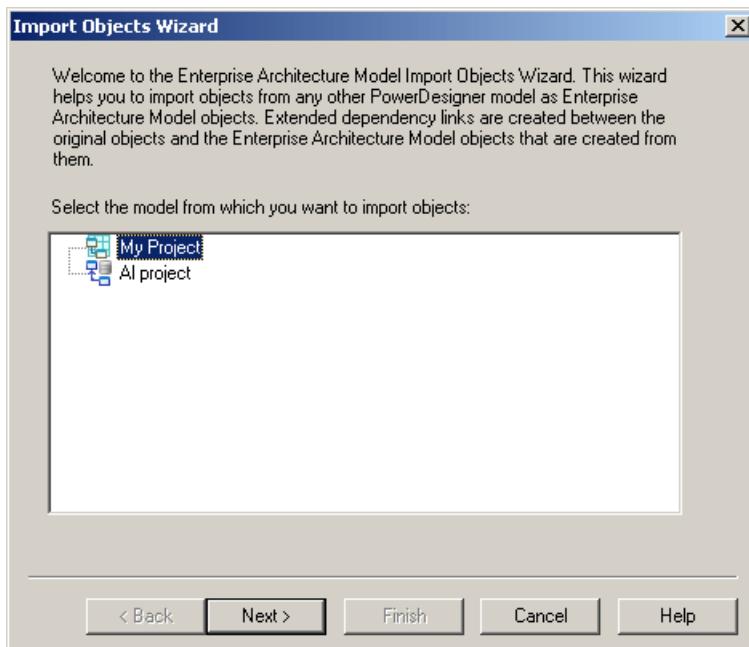
2. Specify the EAM objects that you want to export to another model by selecting them from among the sub-tabs in the selection field, and then click Next.
3. Specify the model to which you want to export the EAM objects from among the models open in the workspace, and then click Next.
4. Specify the kind of object that you want to create in the target model.
5. [optional] Enter or select a stereotype to identify the type of dependency that will be created between the EAM objects and the objects that you are creating from them. For example, "Implemented by".
6. Click Finish to start the export.

The EAM objects are exported to and created in the specified model.

Importing Objects from Another Model into an EAM

The Import Objects Wizard helps you to import objects from other PowerDesigner models into an EAM to model their placement in your enterprise architecture.

1. Select **Tools > Import Objects** to open the Import Objects Wizard:



2. Specify the model from which you want to import the objects to the EAM from among the models open in the workspace, and then click Next.
3. Specify the objects that you want to import to the EAM by selecting them from among the sub-tabs in the selection field, and then click Next.
4. Specify the kind of object that you want to create in the EAM and the location (package) where you want to create them.
5. [optional] Enter or select a stereotype to identify the type of dependency that will be created between the objects and the EAM objects that you are creating from them. For example, "Implements".
6. Click Finish to start the import.

The objects are imported to and created in the EAM.

Importing Visio Diagrams into PowerDesigner

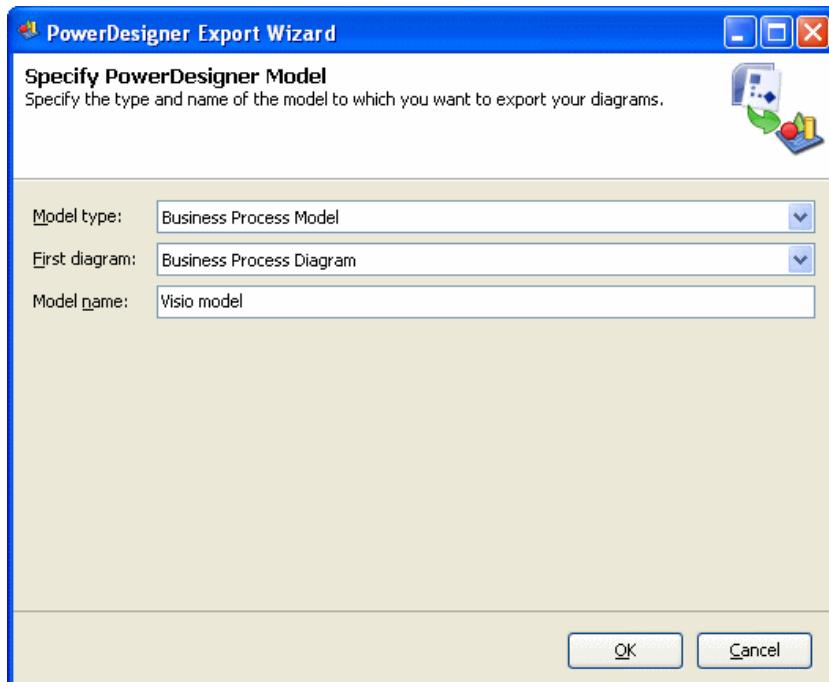
Importing your Visio diagrams into PowerDesigner's rich metadata environment enables you to link your architectural objects with the objects that will implement them, and to profit from PowerDesigner's powerful impact and lineage analysis features. You must have installed Visio 2002 or higher and have selected to install the Visio plug-in from the PowerDesigner installer.

You can import the following diagrams into a PowerDesigner BPM or EAM:

Visio diagram	PowerDesigner
Audit Diagram	BPM Analysis/ Business Process Diagram
Basic Flowchart	BPM Analysis/ Business Process Diagram
Cross-functional flowchart	BPM Analysis/ Business Process Diagram
Business Process/ Data flow Diagram Software/ Data Flow Diagram	BPM Data Flow Diagram
Event Driven Process Chain Diagram	BPM Business Process Diagram

Visio diagram	PowerDesigner
ITIL Diagram	BPM Business Process Diagram
Work Flow Diagram	BPM Business Process Diagram
Flowchart/ SDL Diagram	BPM Business Process Diagram
Organization Chart	EAM Organization Chart Diagram
Software/ Enterprise Application	EAM Application Architecture Diagram
Network/ Basic Network Diagram/ Detailed Network Diagram	EAM Technology Infrastructure Diagram
Active Directory	EAM Organization Chart Diagram
LDAP Directory	EAM Organization Chart Diagram

1. Open your diagram in Visio and select **PowerDesigner > Export to PowerDesigner model** to open the PowerDesigner Export wizard:



2. Specify the type of model to which you want to export your diagram, enter a name for the model to be created, and then click OK to start the export.
3. When the export is complete, click OK to close the wizard.

The diagram is opened as a new BPM or EAM in PowerDesigner.

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