Infor SyteLine
Multi-Site Implementation Guide

Contents

Multi-Site Checklist

Follow this checklist when implementing a new multi-site system. Each step has a corresponding chapter that describes the step in detail.

Step	Description	Where
1.	Plan: • See the *Multi-Site Planning Guide* - Create spreadsheets and flowcharts • Decide whether transactional/non-transactional replication will be used	N/A
2.	Set up the database server: • Install Infor SyteLine and create one application database • Depending on how you plan to set up your system, either create additional application databases for sites/entities, or add sites/entities to your existing application database. Use the Infor SyteLine Configuration Wizard. • If you are using one site per database, link the databases with Infor SyteLine Configuration Wizard. • If you are using multiple sites per database, add or copy the additional sites/entities into the application database.	Database server
3.	Set up the utility server: • Install and configure Infor SyteLine. • Create additional client configurations for other sites/entities - Infor SyteLine Configuration Wizard • Add web servers used by the configurations • Define configuration groups • Update Service Configuration Manager utility settings to: • Set up monitoring of configurations for events • Set up monitoring of configurations by TaskMan • Set up a replication configuration (non-transactional only) • Restart the services • Use one console to administer all sites/entities	Utility server

Step	Description	Where
4.	Set up end user clients.	Utility server or client machines
5. A	Set up transactional replication: • Set up replication links - Intranets form, Sites/Entities form • Update views and triggers if linked sites/entities are in different databases • Set up replication categories and rules - Replication Categories form, Replication Rules form, Replication Management form • Populate parameter _all records at other sites	Sites and Entities
5. B	Set up master site and shared _all tables: • Set up transactional replication (above) • Set up the master site - Intranets form, Sites/Entities form, Intranet Shared Tables form	Sites and Entities
5. C	Set up non-transactional replication: • Create replication user - Users form, User Modules form (requires license) • Set up system types - System Types form • Set up replication links - Intranets form, Sites/Entities form • Update views and triggers if linked sites/entities are in different databases • Set up replication categories and rules - Replication Categories form, Replication Rules form, Replication Management form • Populate parameter _all records at other sites	Sites and Entities
6.	Set up licensing: • If using intranet licensing, turn it on at the master site and any participating sites and entities - Sites/Entities form • License modules for a database on the License Management form • Enable modules for a site on the Optional Modules form	Sites and Entities

Step	Description	Where
7.	Set up financial reporting hierarchy: ● Change Reports To Entity form	Sites and Lower-level Entities
	Set up accounts: ● Multi-FSB (optional) ● Chart of Accounts form - add all accounts; add CTA account ● Multi-Site Chart Copy form - copy COA to mid-level entities ● Unit Code 1-4 forms ● Copy Unit Codes to Accounts form ● Accounting Periods form ● Set up financial statements - Financial Statement Definition, Financial Statement Definition Columns, and Financial Statement Line Definition forms	Top-level Entity
	Set up accounts: ● Multi-FSB (optional) ● Chart of Accounts form - specify Reports To account information ● Unit Code 1-4 forms ● Copy Unit Codes to Accounts form ● Accounting Periods form ● Verify Accounts To Report form ● Set up financial statements (only if mid-level entities will run them)	Mid-level Entities
	Set up accounts: ● Multi-FSB (optional) ● Chart of Accounts form - delete accounts that don't apply ● Unit Code 1-4 forms ● Copy Unit Codes to Accounts form ● Accounting Periods form - just specify current period ● Set up financial statements (only if sites will run them)	Sites

Step	Description	Where
8.	Set up parameters and codes needed for later steps: ● Set up site groups - Site Groups form ● Set up countries and states - Countries form, Prov/States form ● Set up currency - Multi-Currency Parameters form, Currency Codes form, Currency Rates form ● General Parameters form	Sites and Entities (some information will replicate)
	Set up bank codes: ● Bank Reconciliations form	Sites
	Set up system parameters: ● Inter-Site Parameters form ● Accounts Receivable Parameters form ● Accounts Payable Parameters form ● Order Entry Parameters form ● Purchasing Parameters form ● Transfer Order Parameters form ● Planning Parameters form ● Inventory Parameters form ● Other parameter forms as needed	Sites
9.	Set up users and authorizations: ● Set up sharing of user tables at the master site - Intranet Shared User Tables form (optional) ● Add "Enter Out of Date Range" group for "sa" user - Users form ● Set up parameters for passwords - Password Parameters form ● Set up other users - Users form, Object Authorizations for Users form, User Modules form (if using intranet licensing, run User Modules only at master site) ● Set up any external customers or suppliers who will log in remotely via the internet as users on particular sites.	Sites and Entities
10.	Set up supporting data: ● See the list of forms in this step. The forms you use depend on your company's requirements.	Sites

Step	Description	Where
11.	Set up operational data: ● Add common customers - Customers form or Multi-Site Customers form ● Add common vendors - Vendors form or Multi-Site Vendors form ● Add common items - Items form or Multi-Site Items form, Global Items form ● Set up employees - Employees form ● Set up other operational data - see list of forms in this step. The forms you use depend on your company's requirements.	Sites
12.	Set up add-on products and modules	Depends on the product

Chapter 1: Planning

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1

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Follow these steps to plan your multi-site implementation:

1   See the *Multi-Site Planning Guide*. When you complete the steps in that guide, you will have spreadsheets and flowcharts containing most of the information you need to install and configure your sites. You can then update the spreadsheets to track changes as your system grows.

2   You must know which type of replication you are using before you set up your system, because some steps apply only to one type or the other:

- *Non-transactional* replication, as used in this guide, refers to any inbound or outbound asynchronous replication. This can include applications that integrate with SyteLine by posting data via XML documents into the SyteLine sites, as well as SyteLine sites using XML to communicate with each other. SyteLine Enterprise Financials and EAM would fall into this category.

- *Transactional* replication, as used here, generally means that sites and entities are on the same database server and are replicating records through database triggers and stored procedures as soon as the records are added or changed on one site. The use of master sites and intranet shared tables requires much of the same setup as transactional replication.

3   Strongly consider setting up a test environment and making sure everything works properly before setting up your production environment. See Appendix B, "Setting Up a Test Environment," for more information.

Chapter 2: Setting Up the Database Server

2

Install Infor SyteLine and Create an Application Database with One Site

Note: If you plan to set up multiple sites in one database, your database server must be running **Microsoft SQL Enterprise Server** and the database you create is automatically partitioned.

On *each* SQL server machine where you will be adding site or entity databases, follow the steps in the *Infor SyteLine Installation Guide* chapter "Setting Up the Database Server" to install the application and do the following:

- Create one initialized application database.

  If you plan to set up multiple sites in one application database, name the database appropriately, taking into account any other sites/entities that you plan to add to it.

- Use your SiteEntity spreadsheet (from the Planning phase) to enter the site information when configuring the application database.

- Create at least one forms database for your system. Your SiteEntity planning spreadsheet should indicate how many forms databases you need and what to name each one. Later, on the utility server, you will specify which forms databases are used with which application databases.

- Create at least one objects database for your system. The SiteEntity planning spreadsheet should contain the information you need for this. Later, on the utility server, you will specify which objects databases to use with application databases.

  If you plan to set up multiple sites per database, only one objects database is allowed for those sites.

After you create *one* application database, *one* forms database, and *one* objects database, return to this chapter to perform additional steps. At this point, you will either:

Option	Page
Create additional sites and entities in separate databases and link them together. Continue with "Create Additional Site and Entity Databases."	16
Create additional sites and entities in the same application database. Skip to "Add New Sites and Entities to an Existing Application Database."	21

Create Additional Site and Entity Databases

To add multiple application databases on each database server, with one site or entity in each database:

1   Run the Infor SyteLine Configuration Wizard again. (Run as Administrator.)

2   Select **Create SyteLine Databases** and click **Next**.
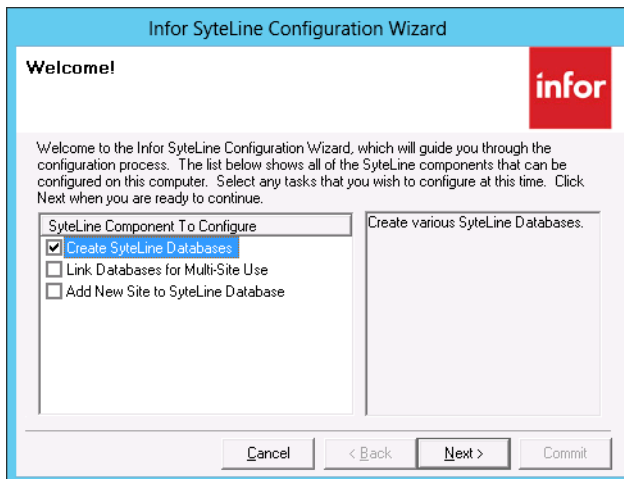
3   You can add all of the site and entity application databases in one session. Just click the **Add** button again after defining each database.
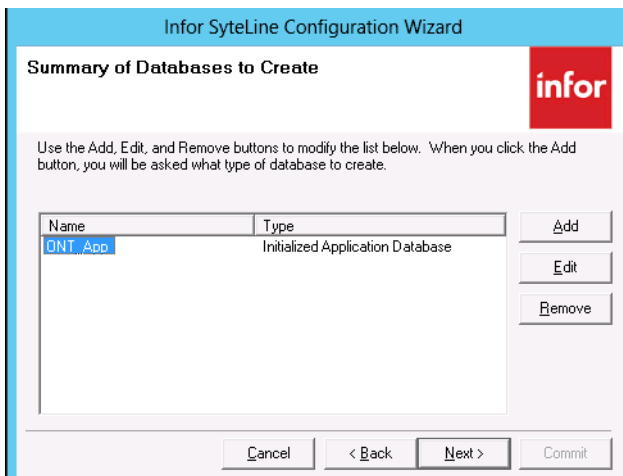
a   When prompted for the database type, select **Initialized Application Database** This is true for either site or entity databases. (The only times you would choose Empty Application Database instead is if you are migrating from a Progress database, or if you are upgrading from a SQL version of SyteLine and are copying multiple sites into a single database.)

b   On the Database Name and Location screen and the Set Database Site Parameters screen, enter the application database information from your **SiteEntity** planning spreadsheet. The SQL Data File Path and Log File Path are generally just defaulted in for application databases. The SQL User defaults to the "sa" user.

c Click **Next** to return to the Summary screen with the new database listed.

4 Click **Next** to review and then **Commit** the configuration changes. If you are creating several databases, this step may take some time to complete.

5 Click **Finish** to close the wizard.

Link Databases

Note: Perform the steps in this section only if you plan to use *transactional replication* to replicate data to or from sites/entities in application databases located on this database server.

After you have defined all your databases, link them so they can communicate with each other. Follow these steps:

1 Run the Infor SyteLine Configuration Wizard again. (Run it as Administrator.

2 Select **Link Databases for Multi-Site Use** and click **Next.**
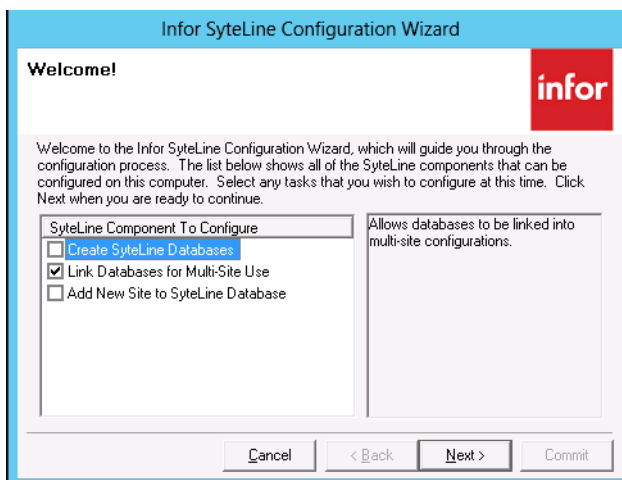
3   When you first enter the Link Multi-Site Databases screen, there are no databases listed. Specify a **Group Name** for the set of sites/entities on this machine that you want to link together. Use the group name from your SiteEntity spreadsheet.

Every time you run the Configuration Wizard, the first time you display this screen, the list of sites/entities will be blank - even if linked databases already exist in the group you specify. To add a new site/entity to an existing group, you must re-add all of the sites/entities here. This sets up each database for multi-site communication and links it to all of the other databases that are added at the same time.

Note: Later, in the application's Site Groups form, you can add more groups or change the groups to which a site or entity belongs.

4   For *each* site or entity that you want to be linked, click **Add** and specify the connection information for the database:

- **SQL Server Name**: Name of the SQL Server where the application database you want to link to resides.
- **SQL Username** and **Password**: Name and password of a SQL user who can access and update this database. Sometimes this is set up as the **sa** user.

- **Application Database to Link**: Enter or select the name of one of the application databases to be linked. (You will be adding the others in the next step.)

- **Site ID**: Select a site or entity ID in the database you specified. For single-site databases, the site or entity ID displays.

- **Site Description**: the description of the the database you specified displays.

5   Click **Next** to return to the previous screen and add another site/entity to be linked.

Note: Make sure you link only *application* databases (not forms or objects databases).

6   When all of the sites and entities you want to link are listed, click **Next**.

7   Review the changes and click **Commit**.

8   Click **Finish** to close the wizard.

Note: Each time you run the Configuration Wizard on either the database server or the utility server, it appends information about the configuration changes to a log file found on that server under
Infor\SyteLine\Tools\SLConWiz.log.

9   If you plan to perform *transactional* replication *between sites on this database server and other sites that are not on this database server*, create a linked server definition in the SQL server

master database of both the current site and the To site. Do this with the SQL Server Management Console: in the console tree, open the Server Objects folder for the server and right-click on the Linked Servers node.

This should match the list of linked servers you added in the Configuration Wizard.

Note: If all sites are on one database server, or if you are not using transactional replication, you can skip this step.

About Linking Databases

- Whenever you add a new site to an existing transactional multi-site environment, you must relink all sites using the Configuration Wizard. If you create and configure the new site by itself, it will prepare that database for multi-site work, but it will not know about other existing databases.
- Although the databases do not all have to be on the local server, transactional replication is much more efficient when they reside on the same server.
- You can run the wizard again to add more links later if needed.
- When you link multi-site databases with the Configuration Wizard, the following things are altered in the databases:
    - site table: new entries are added or updated.
    - *_all tables: row pointers are altered, foreign keys are temporarily dropped, tables are truncated and repopulated, and foreign keys are reapplied.
    - ApsResyncAllSp runs against each database.
    - site_group table: new entries are added or updated.
    - site_live_link table: new entries are added or updated.
- If you plan to use *transactional replication* between all the sites and entities in each reporting hierarchy or intranet, but also use *non-transactional replication* between sites in different reporting hierarchies or intranets, you should create a group for each reporting hierarchy or intranet and link together the sites/entities in each group. So you would run the wizard multiple times to create multiple linked groups.

Add New Sites and Entities to an Existing Application Database

Use your SiteEntity spreadsheet (from the Planning phase) to enter the site information when adding and configuring sites and entities.

To create a new site or entity in the application database you created earlier in this chapter:

1 Prevent users from accessing or making any changes in the target databases during this process

2 Open the SyteLine Configuration Wizard. (Run as Administrator.)

3 Select **Add New Site to SyteLine Database** and click **Next**.
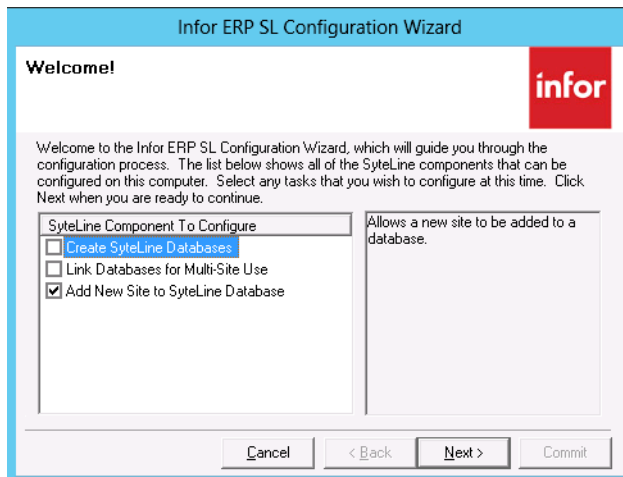
4 In the **Select Source Type** dialog box, select **Initialized Application Site** and click **Next**.
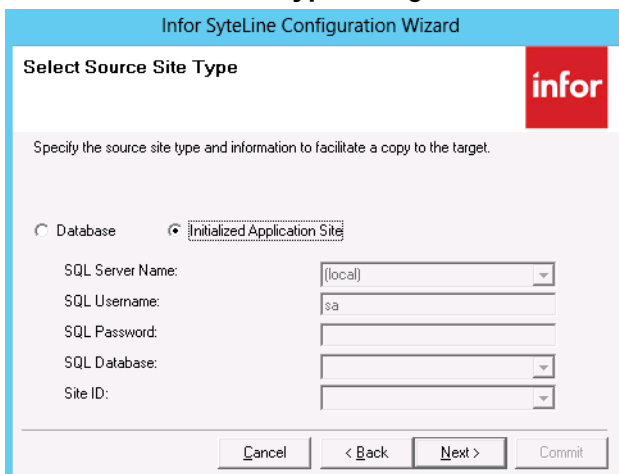
5   In the **Set Site Parameters** dialog box, specify this information for the site, from the information in your **SiteEntity** planning spreadsheet:

- **Site ID:** Specify an ID, which can be a shorter version of the site name (8 characters maximum).
- **Site Name:** Specify a name for the site.
- **Site Description:** Specify a description for the site environment being created.
- **Site Group:** Specify a group name for the environment being created. The group name should be descriptive of the sites in the group. For example, you might have a group name of "NoAm" for North America if all the sites in that group are in North America.
- **Site Currency:** Accept the default value of USD or specify the appropriate currency code for the environment.
- **Site Type:** In most cases, accept the default value of **Site**. Select **Entity** if you are setting up a financial entity to consolidate data from the sites.
- **Time Zone:** Specify the time zone for the site.

6   In the **Set the Target Database Information** dialog box, specify information about the application database that you created earlier. Do not select Analyze Only; that field applies only when you copy existing sites from other databases.

7   Click **Next**.

8   Review the changes and click **Commit**.
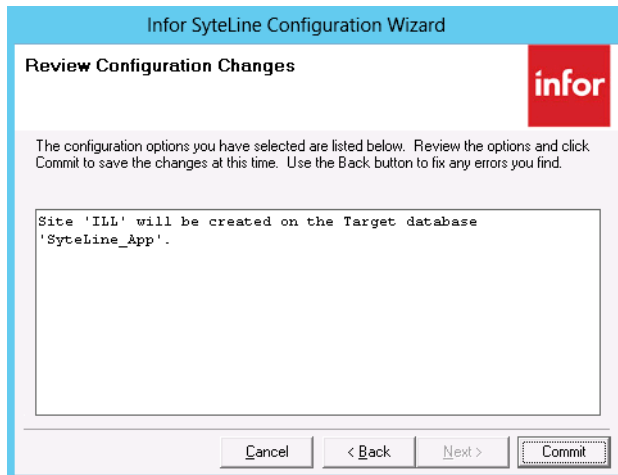
9   Click **Finish**.

10 To add more sites or entities to the application database, reopen the Configuration Wizard and repeat the steps above.

Chapter 3: Setting Up the Utility Server

3

Install SyteLine and Configure Components

On *each* utility/Web server machine where you will be creating configurations, follow all the steps in the *Infor SyteLine Installation Guide* chapter "Setting Up the Utility Server." These steps will:

- Install the application.
- Create an initial configuration on the utility server that links to *one* site database, using one of the configuration names you specified during your Planning phase.
- Set up the various Web services (IIS-based) on the utility server. These are used by clients connecting using http protocol, by the online help, for non-transactional replication, for integration with some applications, and so on.
- Set up Web rendering, if appropriate.
- Set up the TaskMan service for the utility server.
- Set up replication services on the utility server.

    Note: Replication services are needed only if any of the configurations to be defined on this utility server will be running *non-transactional* replication.

- Set up a Planning and Scheduling gateway and server (used only with APS).
- Set up Reporting Services so that you can print and preview reports.
- Set up the Application Search Web service, if appropriate.
- Through the Service Configuration Manager, set up monitoring of that first configuration by the TaskMan, replication, and event services.
- Set up an administrative client on the utility server that points to a specified URL. This URL is the utility/web server where the various configurations will be defined.

Then return to this chapter for the following additional steps to create configurations for the rest of your sites and entities.

Create Additional Client Configurations

You must add a client configuration for *each* site and entity database you want to access through this utility/web server.

> **Caution:** If you have multiple utility/web servers, only one of them should be designated as the Configuration Server, and the Configuration Manager utility should be run only on that Configuration Server. The resulting MongooseConfigs.xml file should then be copied to the other utility/web servers so they have access to the defined configurations. See the *Multi-Site Planning Guide* for information about the Configuration Server.

For *each* site and entity, you must create one configuration name that exactly matches the site ID, including case, and that uses the site's application database. (You can create additional configurations for the site or entity, with different names.)

1   On the utility/web server, open the Configuration Manager (Run as Administrator). For most operating systems, navigate to **Start > All Programs > Infor > Tools > Configuration Manager.** For Windows Server 2012, find Configuration Manager under Apps. The Configuration Manager displays the initial configuration that was created during installation and setup of the utility/web server.
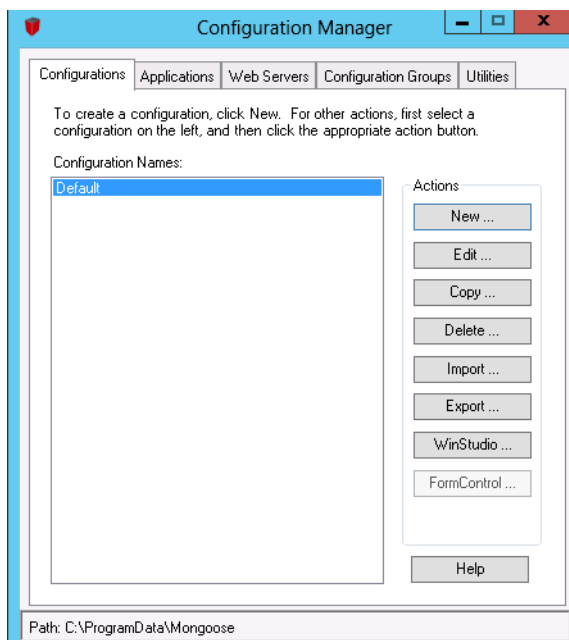
2   Click **New** to create a new confguration.
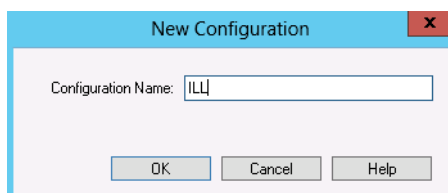
3   Enter the new configuration name and click **OK**.

4   In the **Runtime (Client)** tab, define the application and forms database connection information for the new configuration:

Note: Use the information from your SiteEntity and Configurations planning spreadsheets to help you fill in access information (SQL server name, login, password, and database name) for the application, forms, and objects databases.

5   In the **Objects Metadata** tab, click **Set Objects DB Specification** and then specify the Objects database name.

Note: You can associate only one Objects database with an application database. So if you have multiple sites in one application database, make sure that all configurations for sites in that database point to the same Objects database.
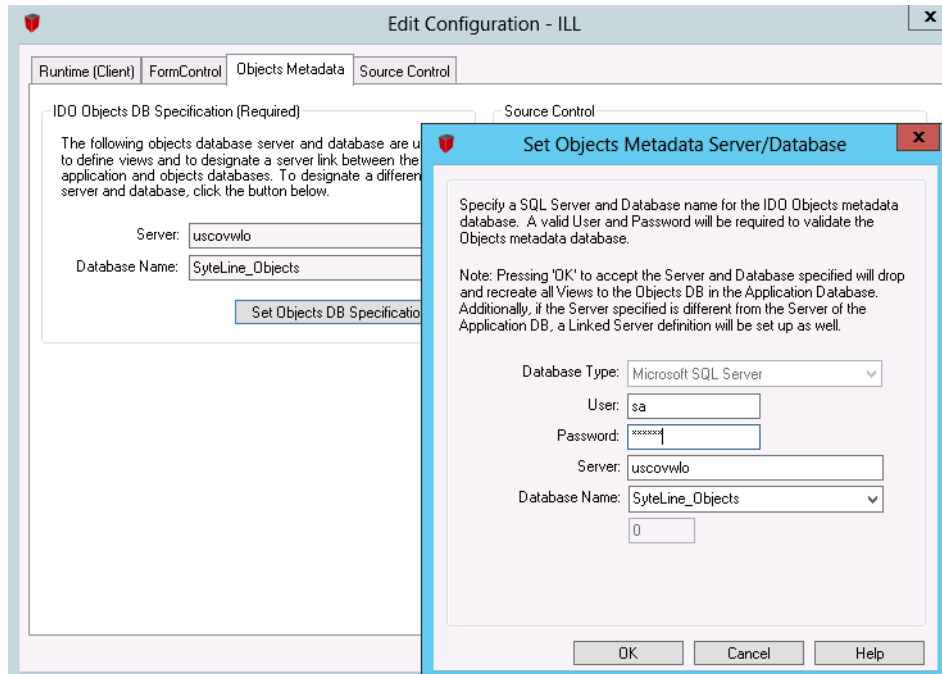
6   Click **OK**. A confirmation message displays; click **OK** again.

7   If you use FormControl or a source control system, set up information on those tabs as needed.

8   Click the **OK** button at the bottom of the Edit Configuration screen to save the configuration and return to the **Configurations** tab, where the new configuration displays:
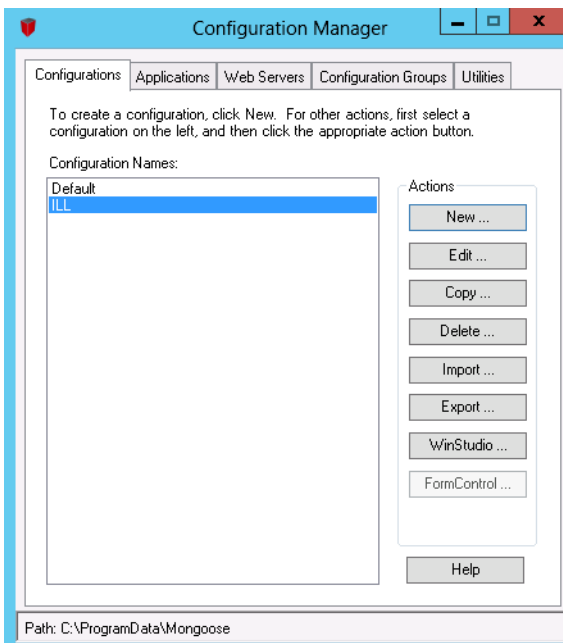
9   Repeat steps 2 - 8 until all configurations are defined.

Note: If a new configuration definition will be very similar to an existing one (for example, if just the application database name is different), you may want to use **Copy** instead of **New.** This creates a copy with a new configuration name and you then select **Edit** to modify the definition.

You must manually specify the Objects database in each copied configuration.

Add Web Servers Used by the Configurations

If you have multiple web/utility servers through which your clients can access the configurations, define them in the Web Servers tab of the Configuration Manager. They will be accessed in round-robin order as session requests come in to the Configuration Server. (See the **CAUTION** on page 26 about running the Configuration Manager utility only on the Configuration Server.)

Note: Do not include DMZ servers in this list.

1   Click **New**.
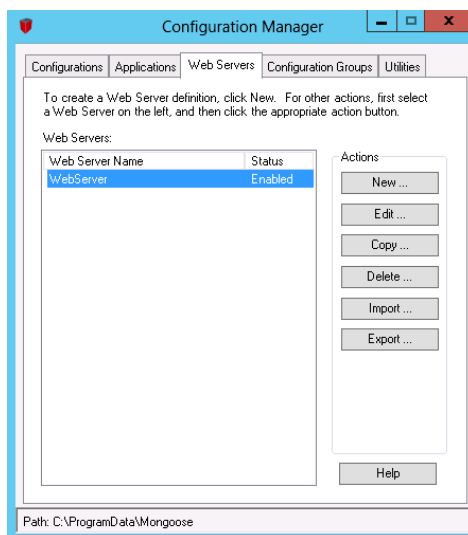
2   Enter a logical name for the web/utility server, and click **OK.**
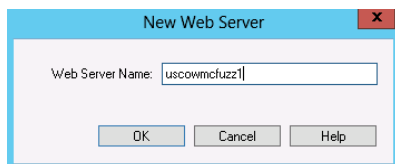
3   Enter the http address of the web/utility server and click **OK**.
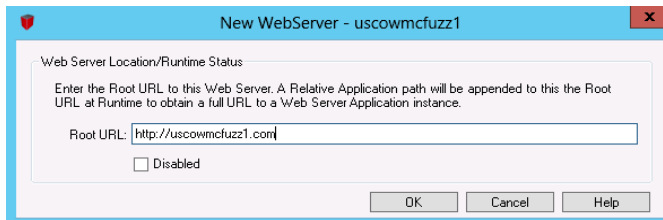
4   The server is added to the list of web servers the configurations can access.
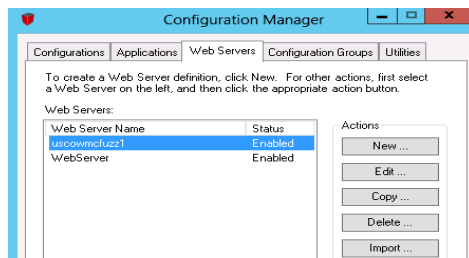
Define Configuration Groups

You should have determined during the Planning phase whether you will have multiple configuration groups. If so, select the **Configuration Groups** tab in the Configuration Manager utility.
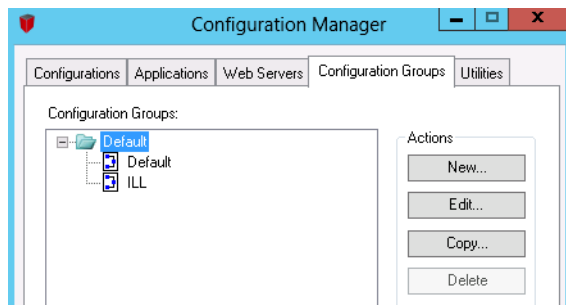
Click **New** or **Edit** to display a dialog where you can define new groups and add configurations to them. The configurations must already be defined on the **Configurations** tab.
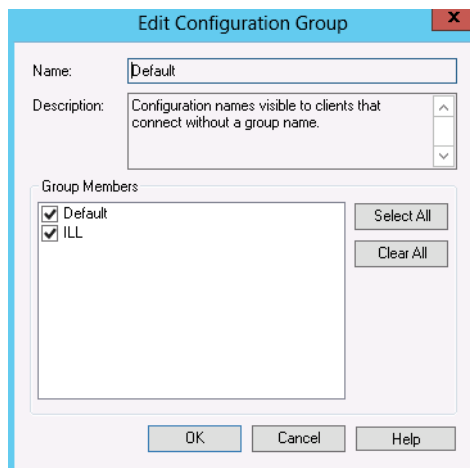
Configuration group names can contain only alphanumeric characters and the underscore character.

The Default group is predefined and cannot be deleted (but it can be edited). This group initially contains every configuration. If there are no configuration groups defined in your current configuration file (MongooseConfigs.xml), you will still see the Default group containing all configurations. Whenever you create a new configuration, it is added to the Default configuration group. If clients request configurations and do not specify a configuration group (or specifies "Default"), they will be presented with only configurations in the Default group.

Update Service Configuration Manager Settings

When you add configurations, you need to update the Service Configuration Manager utility so that the new configurations will be monitored by Infor services such as TaskMan, Replication, and the Event System.

Open the Service Configuration Manager on the utility server. (Run as Administrator.) For most operating systems, navigate to **Start > All Programs > Infor > Tools > Service Configuration Manager**. For Windows Server 2012, find Service Configuration Manager under Apps. .
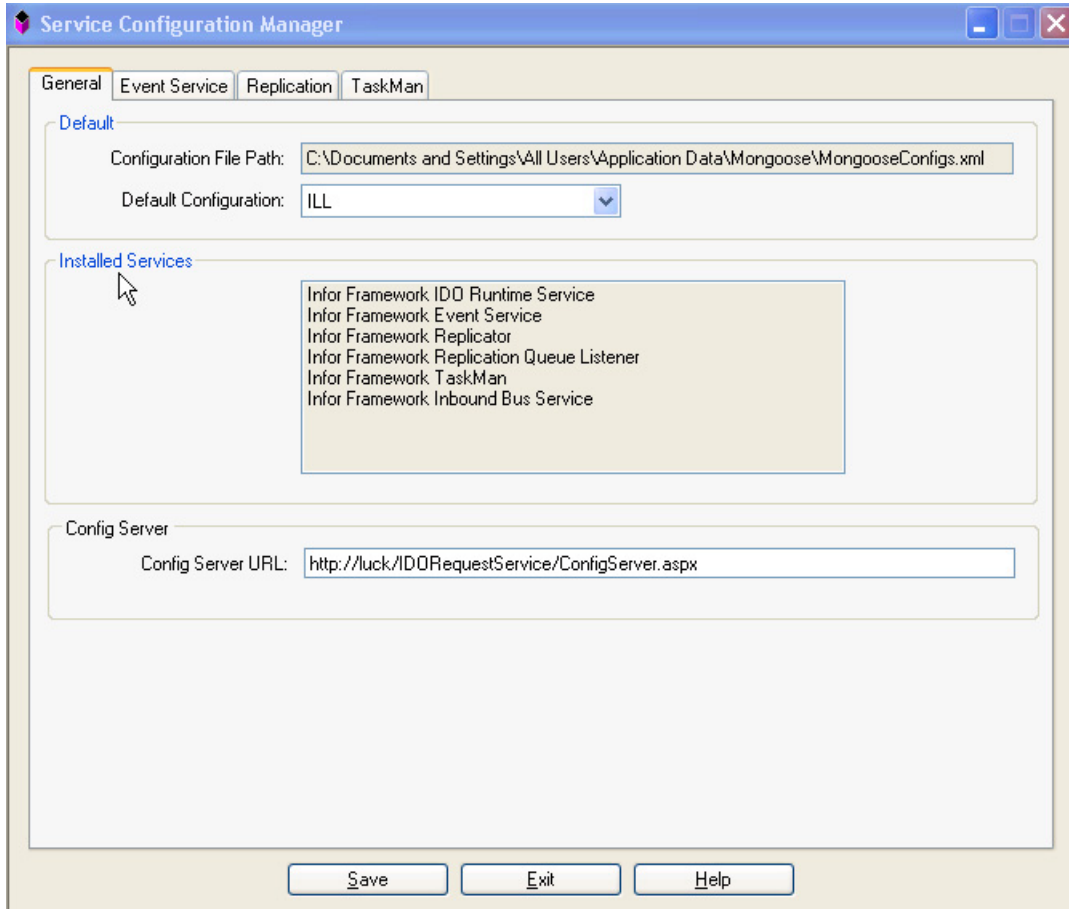
The **General** tab shows what services are installed on this utility server and where to find configuration files. You can also specify a default configuration here, but currently it only applies to the Replication services.

Use the **Config Server URL** field to specify the URL to the configuration server.

Set Up Monitoring of Events for Various Configurations

Use the Event Service tab on the Service Configuration Manager to specify each of the configurations you want the Event System to monitor.
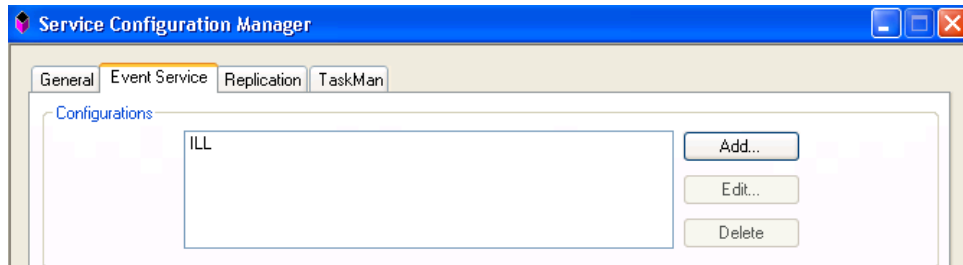
See the *Multi-Site Planning Guide* for information about monitoring configurations for events. You may have created an Events spreadsheet as part of your planning process.

1   On the **Events** tab, click **Add** to display a dialog box where you can select a configuration and optionally specify sleep time (defaults to 10 seconds) and the maximum number of concurrent events that can run in this configuration (defaults to 5). For more information, see the Service Configuration Manager online help.
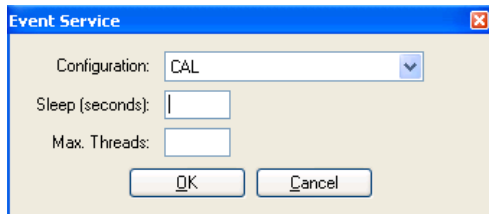
2   Repeat Step 1 for all configurations you want the Event System to monitor. Usually you will select all configurations for monitoring.

3   Click the **Save** button at the bottom of the window to save your changes. The system will not recognize the changes until you stop and restart the services later in this chapter.

Set Up TaskMan Monitoring of Configurations

Set up TaskMan to monitor configurations for any application database on which users will be executing reports, stored procedures, IDO methods, executables, or other background tasks. Include entity application databases, since financial reports can be run on them.

See the information on TaskMan monitoring of sites in the *Multi-Site Planning Guide*.

1   Go to the **TaskMan** tab of the Service Configuration Manager.
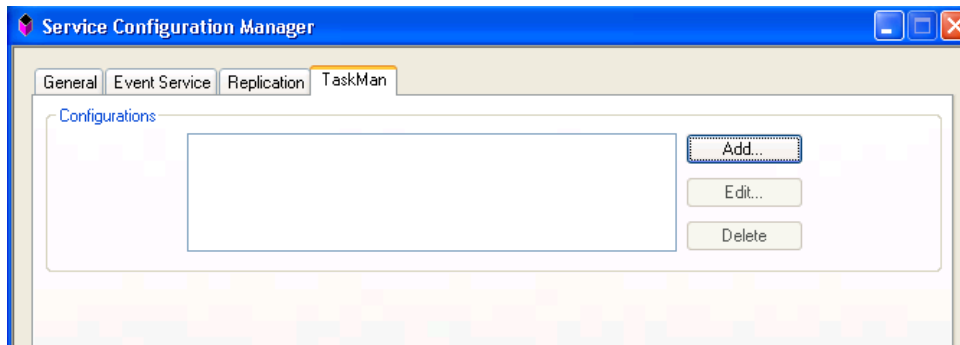
2   Click **Add** to display a dialog box where you can select a configuration and optionally a DSN. (DSNs are only needed for some custom reports created in previous versions. See the Service Configuration Manager online help for more information.)
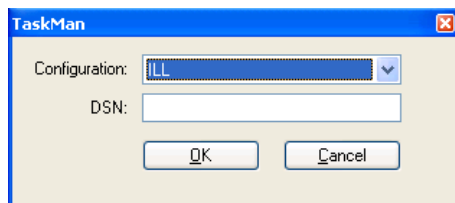
3   Click **OK**. The configuration is added to the list in the TaskMan tab.

4   Repeat steps 2 and 3 until you have added all the configurations you want TaskMan to monitor.

5   Click the **Save** button at the bottom of the window to save your changes. The system will not recognize the changes until you stop and restart the services later in this chapter.

Set Up Replication and BOD Options

On the **Replication** tab, configure the options used in non-transactional replication and in BOD replication.
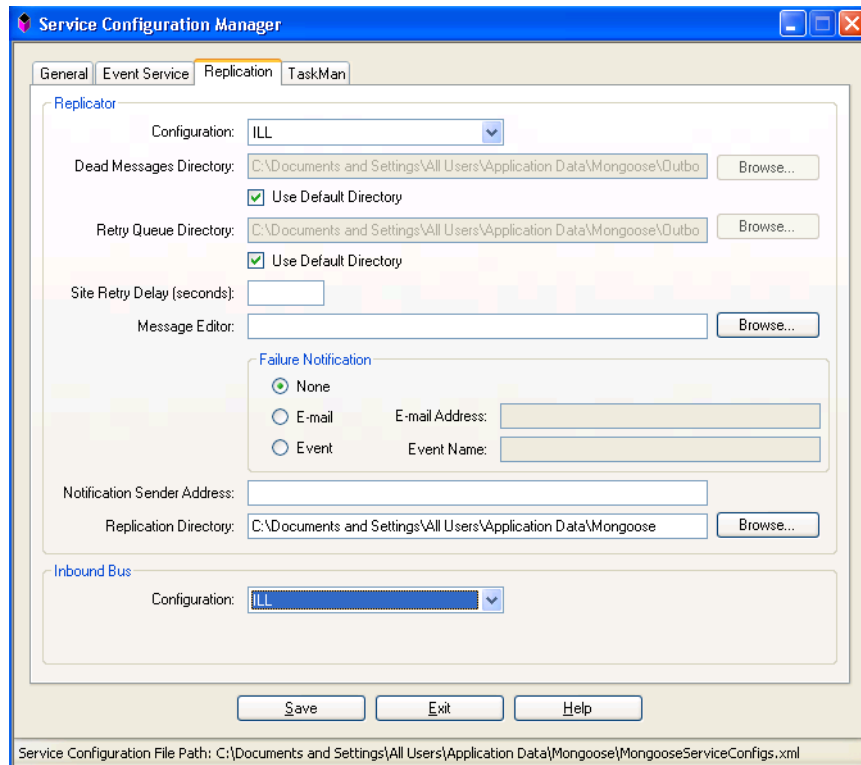
Refer to the online help for this tab of the Service Configuration Manager for details on how to set up these fields. Be aware of the following:

● If any of the configurations defined on this utility server will be running *non-transactional* replication (see the definition on page 13), specify a **Replicator Configuration** here. The configuration name must exactly match a site ID.

 The Replicator service uses this site to bootstrap itself. From this site, the Replicator can query a list of all the other sites on its intranet, and connect to those to monitor them as well. Choose a site at which the site and intranet definitions are completely up to date.

 Each site configuration on this utility server must have a configuration name that *exactly matches* its site name. This allows the Replicator to connect to the other sites by mapping the site name to the configuration name when it logs in.

● If you set up a default configuration on the **General** tab, the system uses that configuration as the replicator configuration if you don't specify a different configuration here.

● In a multi-site environment, one site per intranet collects in its replication document outbox all outbound business object documents (BODs) generated by sites on that intranet. That site is designated through the **Replicator Configuration** field.

● In a multi-site environment, you designate one configuration whose application database is the entry point for BODs sent by the Infor BOD service for all sites on the intranet. (That is, the replication document inbox on the site is expected to receive inbound BODs for all sites on its

intranet.) The Infor Framework Inbound Bus Service uses this site's replication document rules and site definitions for processing all incoming BODs. This site is designated through the **Inbound Bus Configuration** field.

● Click the **Save** button at the bottom of the window to save your changes. The system will not recognize the changes until you stop and restart the services later in this chapter.

Stop and Restart Infor Services

On the utility server, stop and restart the services so that they will be aware of any updates made in the Configuration Manager and Service Configuration Manager.

1   Go to **Administrative Tools > Services**.
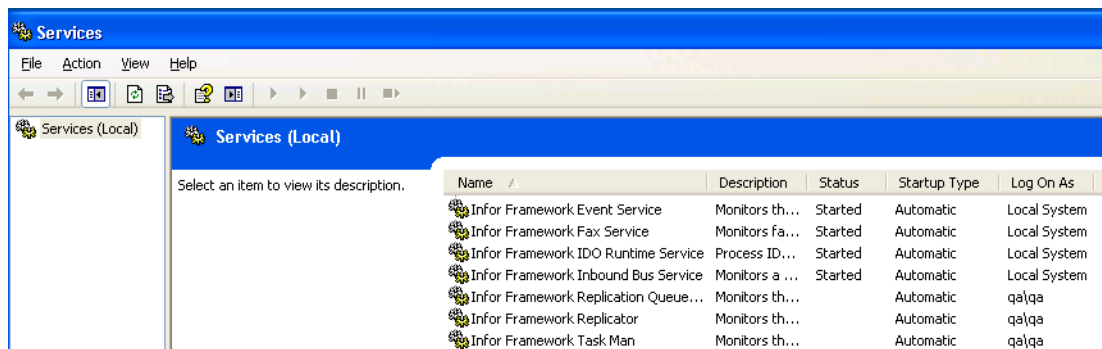
2   Right-click on the **Infor Framework IDO Runtime Service** and select **Stop**. A message displays to tell you that stopping this service will also stop other dependent Framework services.

3   Click **OK**.

4   When the services are stopped, restart them again, starting the Infor Framework IDO Service first.

Note: It may be simpler to just restart the utility server machine. This automatically stops and starts all the services.

About the Services

Service Name	When to Stop/Start
Infor Framework Event Service Infor Framework Replication Queue Listener Infor Framework Replicator Infor Framework TaskMan	When you add**,** edit or delete configurations, or change which configurations are monitored, you must stop and restart these services so they recognize the changes. If you change the following information for a site, you must restart the *TaskMan service*: * Forms Database Name * Intranet Name * Polling Interval * Maximum Concurrent Tasks * Maximum Concurrent Report Tasks * Report URL * TaskMan Path If you change any of this information, you must restart the *replication services*: * the Intranet Name for a site * other non-descriptive information about the site or intranet * the password for a user who is set up in the Sites/Entities form for use in non-transactional replication.
Infor Framework IDO Runtime Service	Stopping the IDO Runtime Service also stops all dependent services (Event, Inbound Bus, Replication Queue Listener, Replicator, and TaskMan). When restarting the services manually, start the IDO Runtime Service first. When you edit or delete configurations, or change which configurations are monitored, you must stop and restart this service so it recognizes the changes. When you *add* configurations, you can either: * Stop and restart this service, or * Discard the cache. On the Configuration Manager's **Utilities** tab, click **Discard IDO Cache**. This refreshes the list of configuration to pick up any new configurations created since the IDO Runtime Service was started.
Infor Framework Inbound Bus Service	If you change the configuration used by BODs on the **Replication** tab of the Service Configuration Manager, you must stop and restart the service.
Infor Framework Fax Service	This service, which monitors certain folders and picks up fax control files at specified polling intervals, is not affected by configuration changes.

Use One Console to Administer All Sites/Entities

You should be able to log in to client configurations for each site and entity from a single console. This will simplify the setup and administration of your multi-site system.

If some of your sites/entities are on a remote utility server, set up a remote client configuration as described in the *Infor SyteLine Installation Guide* chapter on setting up clients.

Chapter 4: Setting Up End User Clients

4

Install and configure end user clients as described in the *Infor SyteLine Installation Guide* chapter on setting up a client workstation.

Stop before you perform the steps in the "Run Infor SyteLine" section of that chapter, and return to this guide. Multi-site setup has some different steps - and many additional steps - as described in the following chapters.

Users of each site and entity need access to an end user client configuration for that site or entity.

First Time Login

1   Using the administrative client on each utility server, start SyteLine. Use the shortcut on the desktop, or use the Windows menu to navigate to **Infor>SyteLine Client**.

2   Select the configuration for that site or entity, and log in as **sa**. Enter the password defined for the sa user during SyteLine database server setup (page 18). This is the default password for the SyteLine sa user; you can change it later in the application.
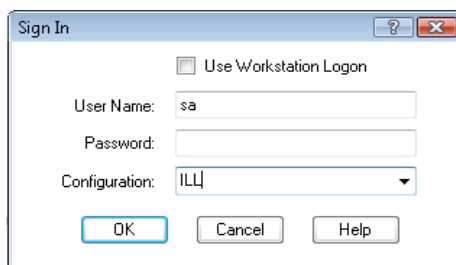
Note: If you will be administering several site configurations from a single console, you may want to display the site configuration name in the window's title bar. This helps you keep track of which site you are currently working in. To set this up, select **View>User Preferences** from the SyteLine toolbar. In the Settings dialog, select **Show configuration name on caption**.

Specifying a Configuration Group for a Client

When users start SyteLine, they are presented with a list of configuration names to select from. If you set up configuration groups through the Configuration Manager utility, then you can specify a group name as part of the client connection information:

- If a client is using a WinStudio shortcut, you can specify the configuration group name using the **-g*config-group*** command line option. For example:

  WinStudio.exe -gAcme

- If a client is connecting to the Configuration Server using HTTP, the configuration group may be specified as a query parameter in the URL. For example:

  http://slutil/IDORequestService/ConfigServer.asmx?ConfigGroup=Acme

- If you are using XML to connect, you can specify the configuration group name as part of the GetConfigurations IDO request. For example:

```
<IDORequest>
<RequestHeader Type="GetConfigurations" ConfigGroup="Acme"/>
</IDORequest>
```

Specifying Other Startup Parameters for a WinStudio Client

If a client is connecting using a WinStudio shortcut, you can specify additional startup parameters as described in the "About WinStudio Startup Parameters" help topic.

Chapter 5: Setting Up Replication at Sites and Entities

5

During the Planning phase, you should have determined which type of data sharing you will use, and which categories of data will be replicated or shared. For detailed information about how replication works, see the *Replication Reference Guide*.

Type of Replication	Page
Transactional Replication	42
Master site and shared _all tables (Follow the steps for transactional replication first)	49
Non-transactional replication	53

Setting Up Transactional Replication

Note: Skip this section if you are *not* using *transactional replication* (see the definition on page 13).

Log into *each site* and *entity* as "sa" and perform the following steps. See the online help on the various forms for more information about any step.

Define Intranets

1   In the Intranets form, specify all intranets to be used in this multi-site system. The default intranet is DEMO. You may need additional intranets. During the Planning phase you should have determined the intranets you need and which sites will use them.

   Note: Some forms, like this one, open "filter-in-place." Click the filter button in the toolbar to see all existing records and add new ones.

2   If you will be sharing _all tables and using a master site, define an intranet that will include all the sites that share tables. This cannot be an "External" intranet. All the sites on this intranet must use the same version of SyteLine.

   Note: We recommend that you specify a new intranet - not the default DEMO intranet - for this purpose.

   Do not define the master site for the intranet yet - that will be done later.

3   In the **TaskMan Path** field for each intranet, specify the shared path to the folder containing TaskMan.exe on the utility server used by that intranet (usually *servername*\SyteLine). For more information about how this field is used, see the *Multi-Site Planning Guide* information on TaskMan monitoring.

Any time you change the TaskMan Path, you should restart all TaskMan services that monitor configurations for application databases connected to this intranet.

4   If you want users to preview report output over the internet, use the **Report Server URL** field to specify the base URL path to the report output files. You will also need to create an IIS virtual directory that maps to this Report URL.

Define Linking Between Sites and/or Entities

Use the Sites/Entities form to specify information about this site/entity and the other entities and sites that it communicates with:

1   On the Sites/Entities form, ensure that each site/entity that was linked to the current site (see "Link Databases" on page 17) has a record in this form. This should happen automatically.

2   On the **System Info** tab, select the record for each site:

a   Make sure the **Time Zone**, **Database Name**, and **Forms Database Name** are set correctly.

b   Set the **Intranet Name** to one of the intranets you defined on page 42.

Note: The **Reports To** (entity) field on this tab is display-only. Reporting hierarchies are set up later through the Change Reports to Entity utility (page 71).

3   Review the list of linked sites shown in the **Link Info** tab. If you used the Infor SyteLine Configuration Wizard on the database server to set up linked sites (page 17), this tab shows

those links, which are used in transactional replication between the currently selected site record's database and other site/entity databases.

● The *local site*'s record should show all the other databases linked to this site.
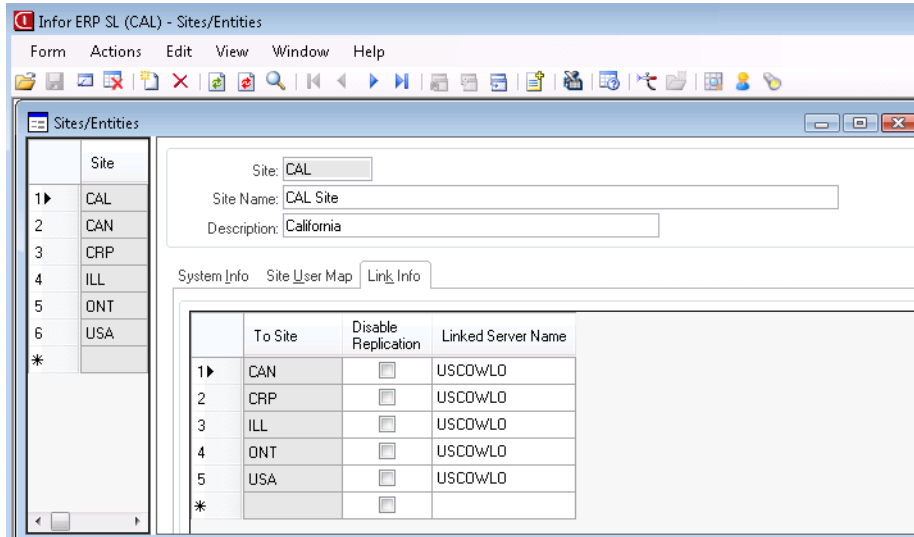
● The records for *other* sites/entities should show the link to the local site.
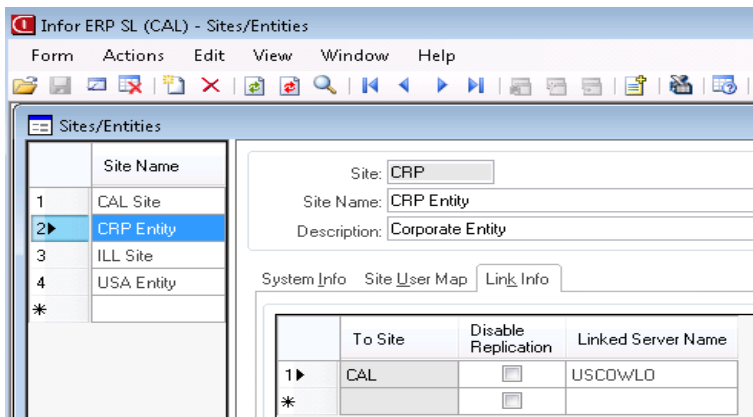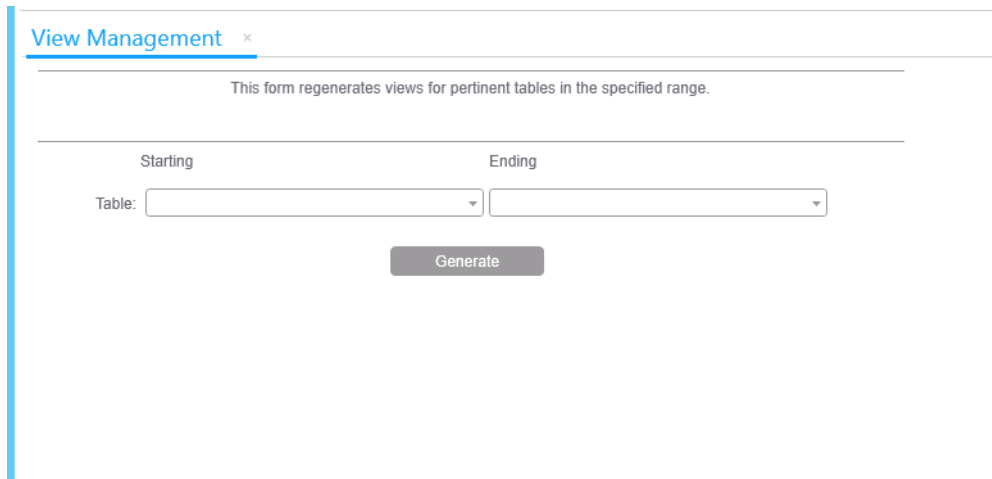
● The **Linked Server Name** is the name of the *database server* where the site database resides.

● On the *local site*'s record, you can add any other needed links between this local site/entity and other site/entity databases that will perform *transactional* replication with this database. If you later make changes to this record, the changes can be replicated to other sites through manual replication of the Site Admin replication category.

Regenerate Views

Use the **View Management** form to regenerate table views.

1   At one site/entity in each application database, open the **View Management** form.

2   Leave the range fields blank and click **Generate**.

Regenerate Triggers

Use the **Trigger Management** form to regenerate table triggers.

1   At one site/entity in each application database, open the **Trigger Management** form.

2   Leave the range fields blank and click **Generate**.

Set Up Replication Categories and Rules

1   Familiarize yourself with the default categories listed in the Replication Categories form. Be aware of what categories are available and what each one handles. See the *Multi-Site Planning Guide* for additional information about the categories.

2   Use the default categories "as is" for now. You may want to add new categories later when your system is up and running.

Note: Adding new categories and rules requires significant knowledge of the database and business rules. When multiple tables are related, the order of replication can be critical. Improperly creating and executing replication categories and rules can result in catastrophic loss of data. Ensure that all such development and testing is performed in a controlled pilot environment prior to implementation. We strongly suggest that you contact Infor Consulting Services for assistance.

3   In the Replication Rules form, set up rules for the **Site Admin** category from this site to all other sites and entities where replication will take place.

Add more rules from this site/entity to other sites/entities, as appropriate.

- For the **Interval Type**, select **Transactional**.

- You should have created a ReplicationRules spreadsheet as part of your Planning phase. You can save time by importing the appropriate rules for each site from the spreadsheet into the grid on the form at that site/entity. See Appendix C, "Data Load To/From Spreadsheets," for more information.

- If a rule refers to a site/entity that is not set up with matching information in the Sites/Entities form, the system will give a validation error when you try to save it.

- Even if a category contains _all tables that you plan to share, you generally still want to include replication rules for the category. The shared _all tables in the category will not be replicated; however, many categories contain additional base tables or stored procedures that are needed to perform certain functions. (See the example on page 52.)

4   Go to the Replication Management form and click **Regenerate Replication Triggers**.

Note: Finish this step for *all* sites and entities before continuing with the next step.

If you have multiple sites/entities per database, you can set up rules for each site and entity and then regenerate triggers for all sites/entities in the database from one site.

Populate Parameter _All Records at Other Sites

In the Update _All Tables form at *each site and entity*, repopulate certain _all tables.

Note: You must perform this step if the Sites/Entities form lists at least one site that is not in the same application database, even if you are not currently replicating any data to/from that site. The form lists only those tables that are shareable. If all of the internal sites (that is, sites on an intranet that is not set to "External") which are listed on the Sites/Entities form reside in the same application database, this should be an empty list.

In an initialized database, the parameters tables already have one record defined for the local site. Because the record already exists, it will not be created at other sites through normal replication. Repopulating the tables ensures that a parameter record for the local site exists at other sites where it is needed. Use these steps:

1 Click **Deselect All** to deselect all tables in the form.

2 Select the **Initialize _All Parameters** replication category and click **Select By Category** to select the parameters tables.

3 Make sure *nothing else* is selected (including Disable Replication or a Site name).

4 Click **Repopulate Tables** to repopulate each selected parameters _all table at the local site and to create or repopulate the local site record at any other sites/entities to which the local site is replicating a category that contains the parameter table.

Back Up Databases

At this point, it may be wise to back up all of your databases, so you do not have to re-add all of your replication setup if problems occur later in the implementation.

Setting Up a Master Site and Shared _All Tables

Note: Skip this section if you are *not* using a *master site* or *intranet shared tables*.

See the online help on the various forms for more information about any step.

Set Up All Sites on the Intranet

At all sites and entities on the intranet where sharing will take place (including the master site), perform all the steps under "Setting Up Transactional Replication" on page 42 through 48.

Note: If you already have a shared master site and intranet, and you just want to add a new site to it, see Appendix E, "Adding a Site or Entity to an Existing Shared Tables Intranet."

Then return to this page for additional instructions.

Set Up the Master Site

Log in to the site that you want to make the master site where the shared tables will exist for the intranet. Then follow these steps at that site *only*:

Note: Use a site, not an entity, as your master site.

1 Verify the information on the **Link Info** tab on the Sites/Entities form at the *master site*:

a On the Link Info tab for the *master site's record*, each of the other sites on its intranet should be listed as linked sites. For example, if the master site is ILL and the other sites on the intranet are CRP, USA, and CAL, the local site record for ILL would list all the other sites on its intranet.

b   On the Link Info tab for *other site records on the shared intranet*, the master site should be listed. For example, when you are logged into the ILL master site, the CAL site record's Link Info tab would look like this:
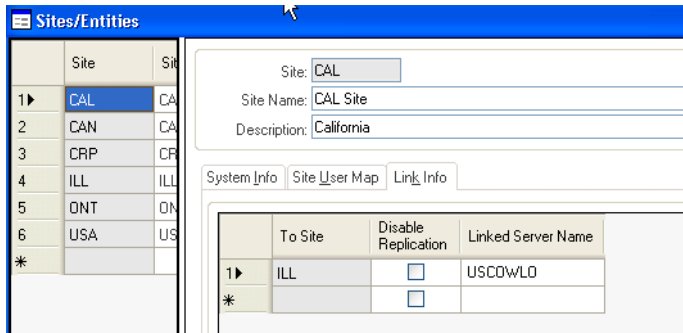
Sites on *other intranets* do not require Live Link information at the master site.

2   On the Intranets form, select this site's intranet. In the **Master Site** field, specify the master site where shared tables will reside.
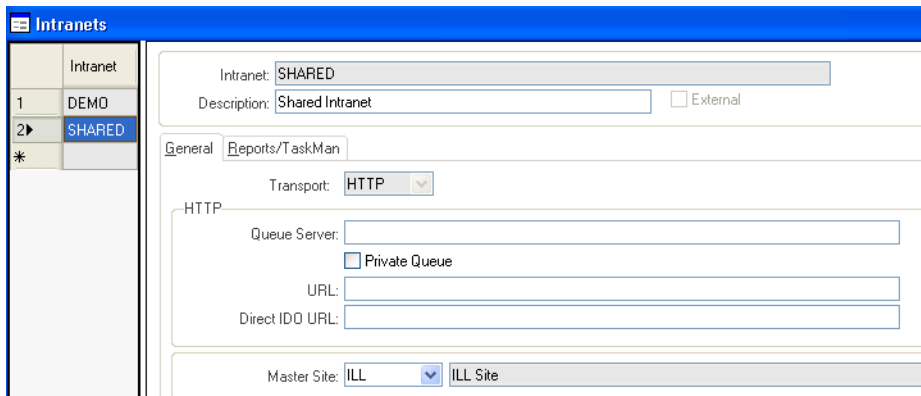
The following must be true in order to add or change a value in this field:

● You must be logged into the site that you want to specify as the master site.

● This site must be defined as being within the selected intranet. Live links must be set up (on the Sites/Entities form) between this site and the other sites in the intranet.

● No table within the intranet is currently shared.

This master site must be a SyteLine site, not an entity.

Note: After you define the master site for an intranet on the master site's Intranets form, the master site name displays, but cannot be changed, on the Intranets form at all other sites. (This assumes you have set up replication of the Site Admin category from the master site to the other sites in the intranet, or the sites are in the same application database.)

Set Up Shared _All Tables

On the Intranet Shared Tables form at the *master site*, select this site's intranet. A list of the _all tables that can be shared displays. (Not every _all table is listed; some are not available for sharing.)

Note: If you share _all tables or user tables, all sites in the same database must be on the same intranet.

1   For tables that you want to be shared between all sites on the intranet, select **Shared**.

Another way to choose the shared tables is to select the replication categories that you want to share. When you select a Replication Category from the drop-down list and click **Select by Category**, the system marks _all tables in that category as Shared.

2   When you have selected all the tables you want to share, select **Actions>Save**.

3   Click **Process**. This copies information from the tables at the other sites to the master site's table, deletes the table from the other sites (creating views into the master site tables instead), and regenerates the replication triggers for the other sites. If you have selected several tables and have many sites on this intranet, processing may take a while. The Processing Step area displays the system's progress.

> **Caution:** During processing, the selected tables are removed from all sites on the intranet except the master site. Unsharing (rebuilding the tables at the using sites) is time-consuming - so be very sure that you have everything set the way you want it before clicking the Process button.

During processing, the system validates live link setup between the master site and the using sites of an intranet. If it finds a problem, an error message displays and nothing is processed; fix the link and then click **Process** again.

The Processed field indicates which tables have been processed - for example, if shared, they are now resident only in the master site's database. (Once a row on the form is marked as Processed, subsequent "Process" runs will not reprocess that row.)

After processing all the tables and sites, the system regenerates the replication triggers at the master site.

Set up Replication to Sites in Other Intranets

If there are other intranets with sites that want to replicate (not share) _all table data to/from sites in the sharing intranet:

- For tables that are shared, set up replication categories/rules between the *master site* and the sites on the other intranets. (You probably will also need to set up the same categories/rules between the specific shared site and the sites on other intranets; see the example below.)

- For tables that are not shared, set up replication categories/rules between any/all of the sites in the shared intranet and the sites on the other intranets.

Example

In the setup shown below, the following are true:
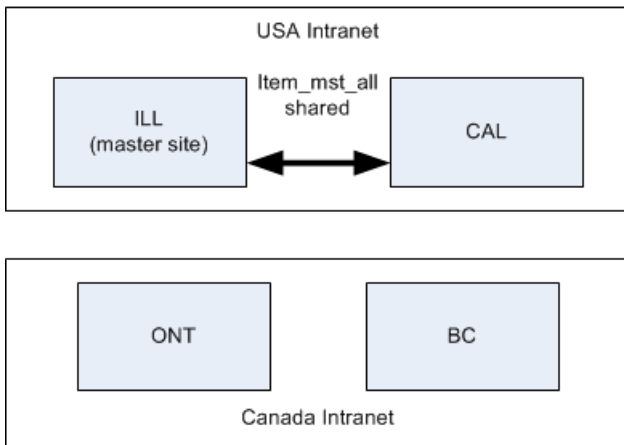
- If CAL needs visibility into BC's item data, replication rules for a category containing the item_mst_all table should be set up from BC to ILL.

- If BC needs visibility into CAL's item data, replication rules for a category containing the item_mst_all table should be set up from ILL to BC.

- If BC and CAL interact in other ways, for example order entry of an item in BC and shipment of the item from CAL, you still need Centralized Order Entry replication rules between CAL and BC, since additional tables and stored procedures in that category are needed to perform these functions. The item_mst_all table, although it exists in the category, will not be replicated from CAL to BC.

- If ONT needs visibility into CAL's customer data (which is not in a shared table), replication rules for a category containing the customer_mst_all table should be set up from CAL to ONT.

Setting Up Non-Transactional Replication

Skip this section if you are *not* using *non-transactional replication* (see the definition on page 13).

If you are using non-transactional replication only to interface to another Infor product, refer to the setup steps in the appropriate product's implementation guide, instead of the steps below.

Log into *each site* and *entity* as "sa" and perform the following steps. See the online help on the various forms for more information about any step.

Set Up a Replication User

Note: Before completing this step, you will need to install a license. See Chapter 6, "Setting Up Licensing at Sites and Entities," for instructions.

Create a user account that will be used during replication between the sites/entities. Assign this user the appropriate permissions to allow replication data to complete the transaction. This protects the local site from another site inappropriately adding or modifying data on the local site without permission.

1   Add a replication user called **repl_user** on the Users form at *all sites/entities where non-transactional replication will be used*. Initially, make that user a super user and do not assign any authorization groups. It does not matter what multi-site group you assign this user to.

If you have multiple administrators for different sites/entities, you can later decide to revise the permissions and groups assigned to this replication user, in order to limit the data that certain sites are allowed to send to other sites. However, until everything is set up and working properly, leave this user as a super user who can access everything.

2   Click **User Modules** to specify the license module this user is assigned to. Generally, this should be **SyteLineAutomation**.
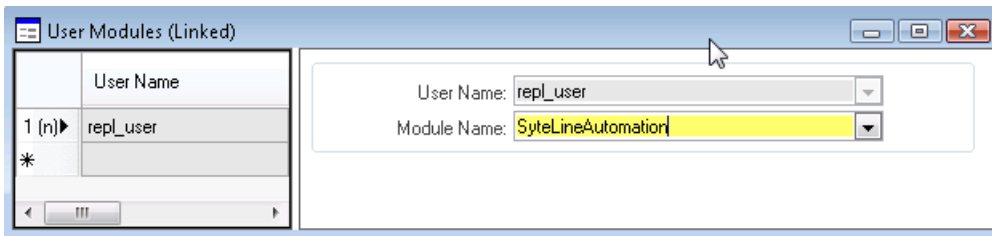
Set Up System Types

If this site will be replicating data to other applications, or to other versions of Infor SyteLine, use the System Types form to create a system type for each other application/version. This system type is used when defining the target site for the application in the Sites/Entities form. You should also define a system type for the SyteLine application. (The source and target system types are used in the names of XSL stylesheets that can be used to transform the XML data; see the System Types help topic for more information.)
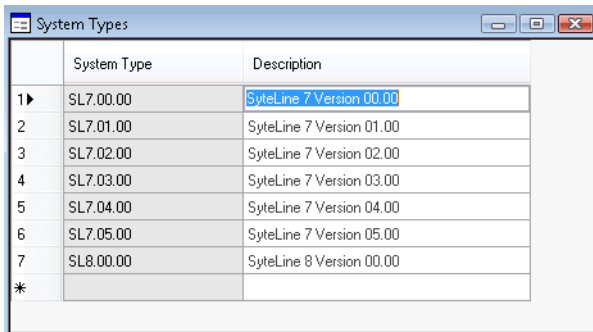
The list of system types should match at all sites. System Types are replicated by the Site Admin category rules, so create a minimum list now and add more types later as needed.

If there is not an existing system type called **SyteLine**, add it. Some add-on applications may require this system type.

Define Intranets

1   In the Intranets form, specify all intranets to be used in this multi-site system. The default intranet is DEMO. You may need additional intranets. During the Planning phase you should have determined the intranets you need and which sites will use them.
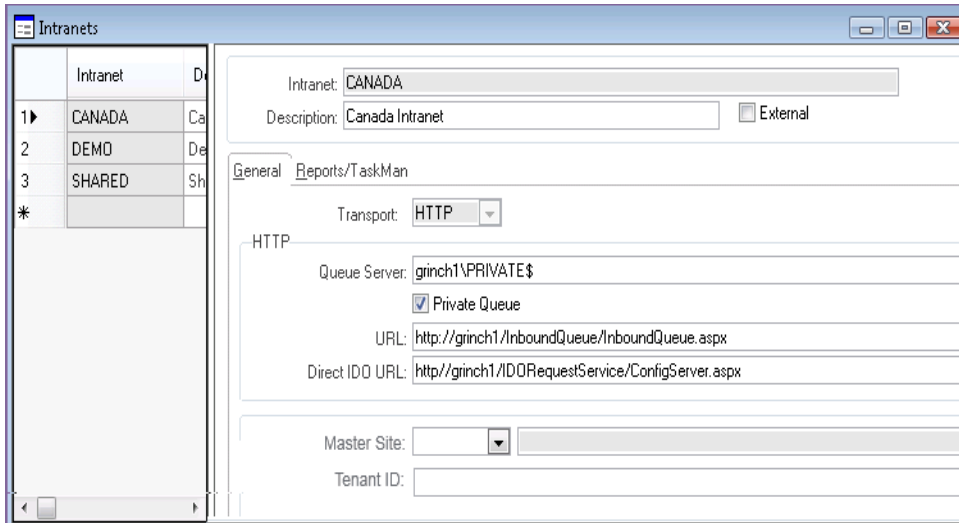
2   Specify connection information used in data requests to and from the other sites:

- **External**: Select this field if the intranet is an external intranet, meaning that it allows applications other than those based on the SyteLine (WinStudio) toolset. Replication done on an external intranet must be non-transactional, and an external intranet cannot have a master site.

- **Transport**: This field, which is enabled if you selected External, allows you to select either HTTP or ESB as the transport protocol for exchanging data with external applications.
    - HTTP POST is used to handle most non-transactional replication. If you select HTTP, you then define a set of MSMQ instances, MSMQ listeners, and URLs for the intranet.
    - ESB is used for connecting to messaging middleware through Infor ION.

- HTTP: Options in this group are enabled only if you chose HTTP as the Transport method:
    - **Queue Server**: Enter the name of the MSMQ server for the intranet. If left blank, this field defaults to the utility server running this application, and the private queue area. If you have multiple intranets on different servers, include the utility server machine name in the path (for example, *machinename*\PRIVATE$).

    - **Private Queue:** We recommend that you select this field, since queues in non-transactional replication are used only by SyteLine services on the same machine. Setting up public MSMQ instances requires further ActiveDirectory setup, which is not required by the SyteLine services.

    - **URL**: This is the web address to which the XML request/response documents will be posted. When replication occurs between sites on different intranets, XML documents are routed to this URL for the target site. It may also be used by system integrators for programmatic access to a site on this intranet.

      This URL could be an active server page (ASP) on the external system that receives and processes the XML from the SyteLine message queue. The processing done at this URL

is up to you; for example, an ASP could map the data into the proper format for the external system, or it could write the XML documents to a location on its server for later processing.

In many cases, this field provides the address of the default InboundQueue ASP in the virtual directory that was installed with the web server components.

- **Direct IDO URL**: This is the web address of the synchronous XML interface to this Intranet. It is used primarily by WinStudio clients which are configured to connect via the Internet. It may also be used by system integrators for programmatic access to a site on this intranet.

  You must specify a fully qualified URL. It should be the address of the ConfigServer, which is deployed on your utility server when you include the web server feature of the utility server setup. For example, if the machine name is UTILSERVER, then the URL might look like this:

  http://UTILSERVER/IDORequestService/ConfigServer.aspx

  Or if you want to use secured http - a good idea if this server will be open to the internet for http traffic - use this format:

  https://UTILSERVER/IDORequestService/ConfigServer.aspx

- **Master Site**: See "Set Up the Master Site" on page 49.
- **Tenant ID**: This field is used during integration to other applications through business object documents (BODs). See the online help for more information.

3 On the **Reports/TaskMan** tab, specify the **TaskMan Path** for each intranet. This is the shared path to the TaskMan folder on the utility server used by that intranet (usually

machinename\SyteLine). If you change the value in this field, restart all TaskMan services that monitor configurations for application databases connected to this intranet.

Define Linking Between Sites and/or Entities

Use the Sites/Entities form to define entities and sites in your system.

1   In all records for sites and entities that will be participating in non-transactional replication, specify a system type. On the **System Info** tab, **System Type** field, select from the list you created in the System Types form. The system type you choose should exist at all of your sites and entities.

If this is a new site/entity record being added for non-transactional replication, specify additional information about the site or entity, as applicable, on this tab.
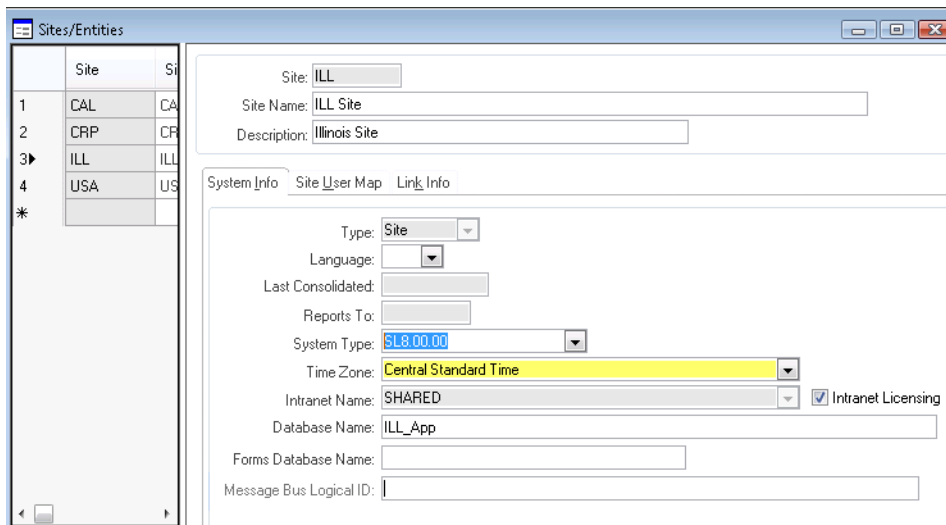
The **Reports To** (entity) field on this form is display-only. Reporting hierarchies are set up later through the Change Reports to Entity utility (page 71).

2   On the **Site User Map** tab, specify the SyteLine user name under which the *local site* (the one you are currently logged into) communicates with the *target site* (the site whose record is currently displayed). **From Site** is the local site. **User Name** is the local user that the local site specifies when using the IDO connection to perform the requested transaction on the target site. The user name and the password for that user must be the same on both the local and target sites. For now, specify the user name **repl_user** (set up on page 53) for all sites.

●   For site/entity records where the current site/entity will perform *non-transactional* replication with the local site, the **Site User Map** tab looks like this:
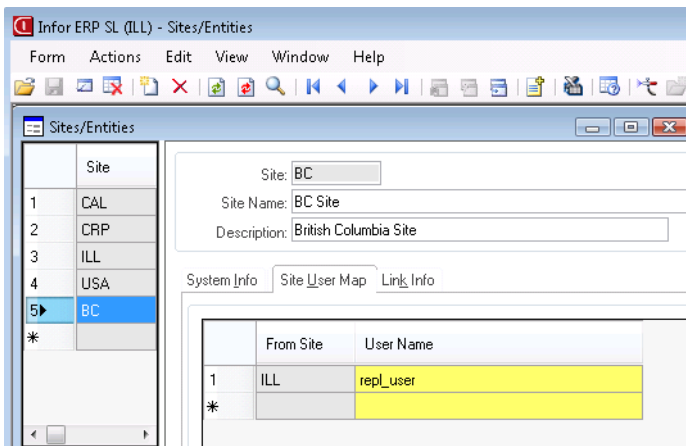
BC (the current record) is the "To" site and ILL (the local site) is the "From" site.

- For site/entity records where the current site/entity will perform transactional replication with the local site, the **Site User Map** tab looks like this:
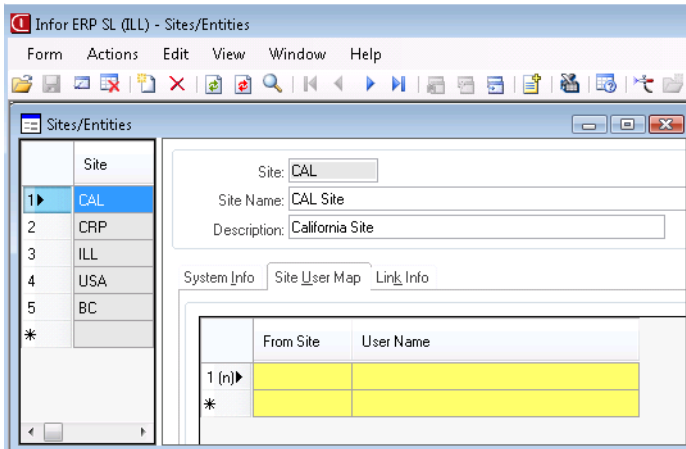
The tab is blank because no Site User information is required from ILL to CAL.

- For the local site's site/entity record when the local site is also used as the replication "bootstrap" configuration for the utility server (see page 35), the **Site User Map** tab looks like this:
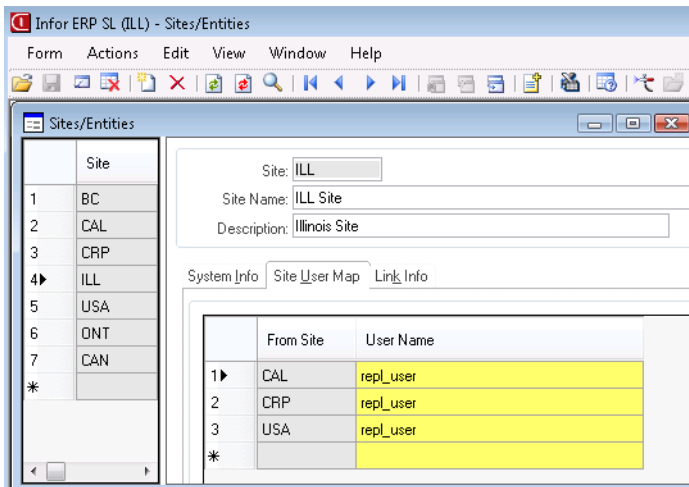
The **Site User Map** lists all the other sites on the utility server where replication will be "bootstrapped" from ILL (the local site).

- For the local site's site/entity record when the local site is not used as the "bootstrap" configuration, the **Site User Map** tab looks like this:
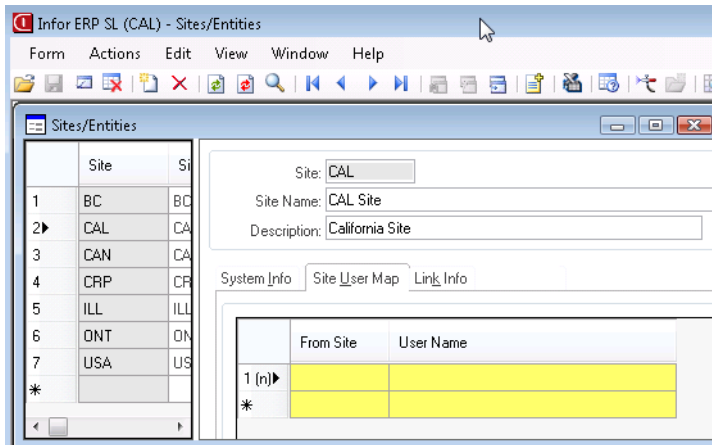
No sites are listed in the **Site User Map** tab (because the CAL site does not replicate data to itself).

Update Views

Use the **View Management** form to regenerate table views.

1   At one site/entity in each application database, open the **View Management** form.

2   Leave the range fields blank and click **Generate**.

Regenerate Triggers

Use the **Trigger Management** form to regenerate table triggers.

1   At one site/entity in each application database, open the **Trigger Management** form.

2   Leave the range fields blank and click **Generate**.

Set Up Replication Categories and Rules

1   Familiarize yourself with the default categories listed in the Replication Categories form. Be aware of what categories are available and what each one handles. See the *Multi-Site Planning Guide* for additional information about the categories.

Use the default categories "as is" for now. You may want to add new categories later when your system is up and running.

Note: Adding new categories and rules requires significant knowledge of the database and business rules. When multiple tables are related, the order of replication can be critical. Improperly creating and executing replication categories and rules can result in catastrophic loss of data. Ensure that all such development and testing is performed in a controlled pilot environment prior to implementation. We strongly suggest that you contact Infor Consulting Services for assistance.

2   In the Replication Rules form at *each site/entity*, set up non-transactional rules for the **Site Admin** category between this site and all other sites and entities where non-transactional replication will take place.

Add more non-transactional rules from this site/entity to other sites/entities, as appropriate.
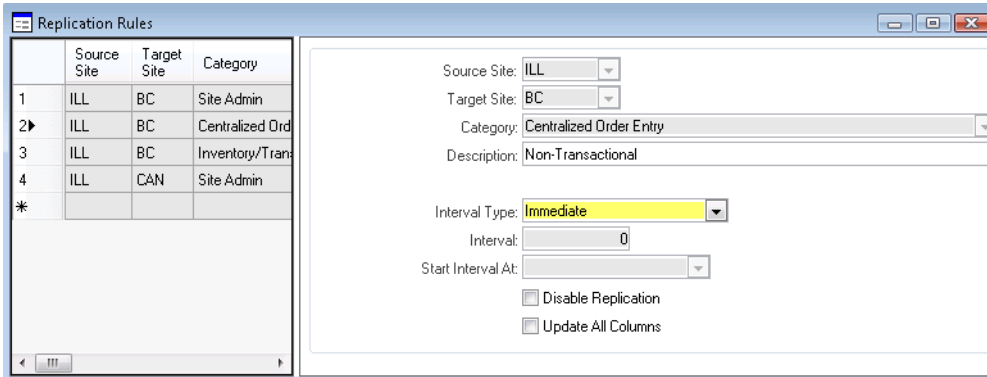
- For the **Interval Type**, select anything other than Transactional, and specify the appropriate interval and start date/time.

- You should have created a ReplicationRules spreadsheet as part of your Planning phase. You can save time by importing the appropriate rules for each site from the spreadsheet into the grid on the form at that site/entity. See Appendix C, "Data Load To/From Spreadsheets," for more information.

- If a rule refers to a site/entity that is not set up with matching information in the Sites/Entities form, the system will give a validation error when you try to save it.

3   At *each site/entity,* go to the Replication Management form and click **Regenerate Replication Triggers**.

Note: Finish this step for all sites and entities before continuing with the next step.

If you have multiple sites per database, you can set up rules and regenerate triggers for all sites in the database from one site.

Populate Parameter _All Records at Other Sites

In the Update _All Tables form at *each site and entity*, repopulate certain _all tables.

Note: You must perform this step if the Sites/Entities form lists at least one site that is not in the same application database, even if you are not currently replicating any data to/from that site. The form lists only those tables that are shareable. If all of the internal sites (that is, sites on an intranet that is not set to "External") which are listed on the Sites/Entities form reside in the same application database, this should be an empty list.

In an initialized database, the parameters tables already have one record defined for the local site. Because the record already exists, it will not be created at other sites through normal replication. Repopulating the tables ensures that a parameter record for the local site exists at other sites where it is needed.

1   Click **Deselect All** to deselect all tables in the form.

2   Select the **Initialize _All Parameters** replication category and click **Select By Category** to select the parameters tables.

3   Make sure *nothing else* is selected (including Disable Replication or a Site name).

4   Click **Repopulate Tables**. This repopulates each selected parameters _all table at the local site and creates/repopulates the local site record at any other sites/entities to which the local site is replicating a category containing the parameter table.

Note: At this point, back up all databases to save your replication setup in case problems occur later in the implementation.

Chapter 6: Setting Up Licensing at Sites and Entities

<div style="float:right">

6

</div>

You should have requested and received the proper licenses for each of your sites and entities from your Infor representative. Use the Licensing spreadsheet from your Planning phase to help with this.

Intranet Licensing

If you do not plan to use intranet licensing, skip to "Site/Entity Licensing" on page 66.

Note: Intranet licensing is required if you plan to use the Intranet Shared User Tables feature.

Prerequisites

If you plan to use the Intranet Licensing feature, the following must be true. Instructions for all of these prerequisites are found in Chapter 5, "Setting Up Replication at Sites and Entities:"

● You must have set up an intranet with a master site.

● All sites that will use the intranet licensing must be set up (in their Sites/Entities form) to use that intranet.

● All sites on that intranet must be replicating the Site Admin category, in order to recognize the master site.

● All sites that will use the intranet licensing must specify an application database name in their Sites/Entities form.

Turn on Intranet Licensing at the Master Site

1   At the *master site only,* log in and follow the steps under "Site/Entity Licensing" on page 66 to apply a license.

2   In the *master site*'s Sites/Entities form, select the **Intranet Licensing** check box on the local site record and save the record.

Turn on Intranet Licensing at Other Sites

1   Make sure all other users are logged out of the sites.

2   Log into any other *sites and entities* where you want to use the master site's licensing. On the Sites/Entities form at each site, select the *local site* record and select **Intranet Licensing**. Save the record.

3   Log out of all the sites, including the master site, and then log back in. This picks up the changes to certain licensing records, which are now stored only on the master site. The licensing forms are now disabled in the non-master sites on the intranet.

Site/Entity Licensing

Note: Licensing is applied to an application database. If you have multiple sites in one application database, you apply licensing in one site in the database, and then use the Optional Modules form in each of the sites in the database to enable the features for licensed modules in that site.

Initial Steps

Perform the following steps *at each site and entity.* Or, if you are using intranet licensing, perform these steps *only* at the *master site*.
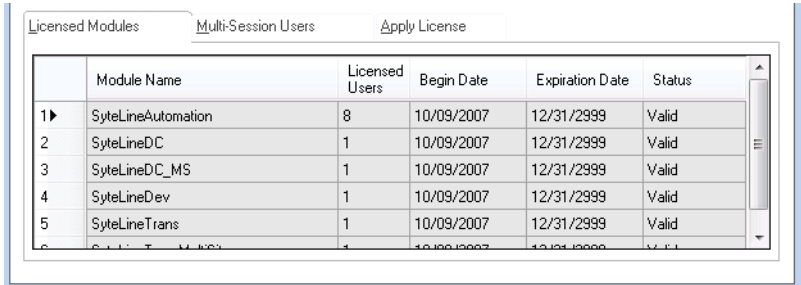
1   Go to the License Management form, where you will apply the appropriate licenses.

2   Select the **Apply License** tab.
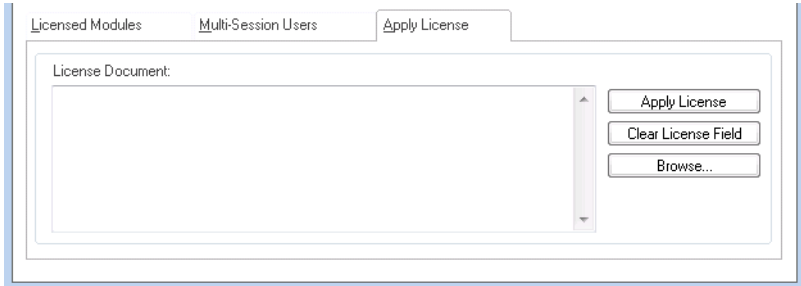
3   Paste your license document into the License Document field. You can cut and paste the information from the license document into this field, or you can click **Browse** and select the document from your drive. The document is encrypted and every character counts, so if you copy and paste, make sure to copy the entire contents of the document.

4   Click **Apply License**. Any previous licensing that you had for this site is deleted and replaced with the licensing defined in the new license document.

The **Licensed Modules** tab should look similar to the following example after you apply your license; however, you may have different or additional modules licensed.

The **Multi-Session Users** tab lists any multi-session users defined by your license; generally this just displays the SL_Internal user. For information about this user and about how concurrent or named user licensing works, see the *Infor SyteLine Licensing* document.

Additional Steps

1 *At each site*, use the **Optional Modules** form to enable the licensed modules for that site.

2 If there were active WinStudio sessions when you applied the license, perform the following steps *on the utility server*. If there were not any active sessions, you can skip these steps.

   a Open the Configuration Manager utility (**Start>All Programs>Infor>Tools>Configuration Manager**).

   b Select the **Utilities** tab.
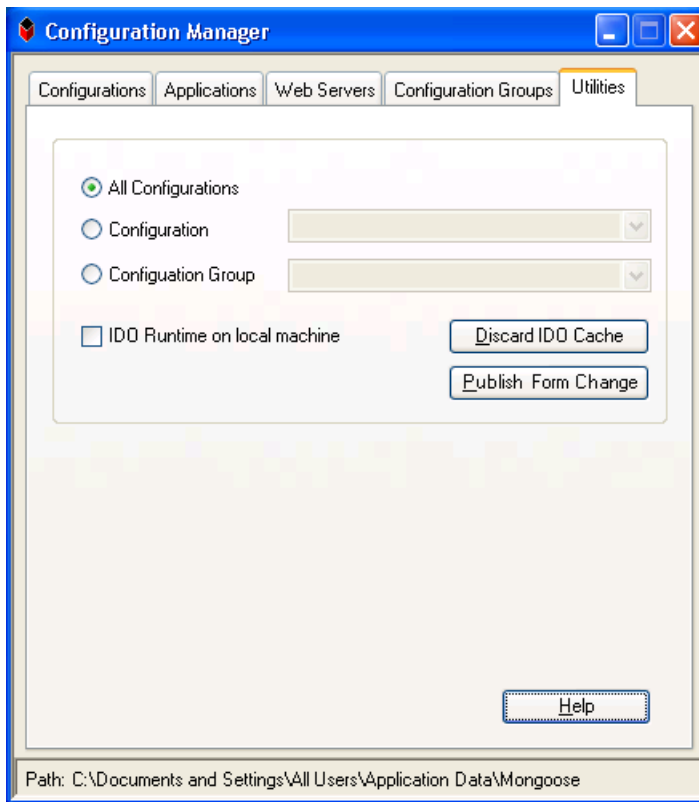
   c Discard the Runtime Service Cache for all configurations that reference the application database to which the new license has just been applied. To do this, select **All**

Configurations and **IDO Runtime on local machine**, and then click **Discard IDO Cache**. See the Configuration Manager online help for more information about the options on this tab.

Chapter 7: Setting Up Accounts and Financial Reporting Hierarchies

<div align="right">7</div>

Set Up the Financial Reporting Hierarchy

Note: Perform this step only if you are setting up a hierarchy of sites and entities.

1   At *each site* and *lower-level entity*, run the Change Reports To Entity utility and specify the entity to which this site/entity reports.

- Use your flowchart from the *Multi-Site Planning Guide* when setting up this hierarchy.
- If there is *only one* entity in the hierarchy, you do not need to run this utility at the entity.
- You do not need to run this utility at the *highest-level* entity in the hierarchy.
- For sites and entities that will communicate financial information through replication, replication rules must be set up and running before you run the Change Reports To Entity utility. The Change Reports To data is replicated in the G/L or Ledger Consolidation categories, and the **Reports To** field is replicated in the Site Admin category.

- Before running this utility, make sure base currency and the chart of accounts match at the current site and the entity it will report to. (If this is a new site/entity, the chart of accounts will not yet exist.)

- The site will report to the new entity on the day after the **Cutoff Date**. This date cannot be earlier than the creation date of the site database.

- During consolidation, the system will look for a currency exchange rate with the **Currency Translation Date** you specify here, and then uses that rate for the consolidation.

- See the online help for additional information about this utility.

2   After you run this utility, verify whether the reporting hierarchy is set up correctly. Go to the Sites/ Entities form at the highest-level entity and check whether the **Reports To** field displays as expected for each site and entity.

Set Up Accounts

1   In the Chart of Accounts form at the *corporate (highest-level) entity*, add all of your accounts. (If your system does not include any entities, set up the Chart of Accounts at each site.)

Note: You might be able to input your accounts from a spreadsheet that is set up to match the form's grid view. See Appendix C, "Data Load To/From Spreadsheets," for more information.

You cannot add the unit code information in the same spreadsheet as the account information, since they are different collections.

a   If you have entities and are consolidating accounts, be sure to add an account with an Account Type of Owner's Equity to be used as your Cumulative Translation Adjustment (CTA) account.

b   Make sure that Inter-entity account numbers used for material transfers at sites that perform transfers with profit are different from your normal sales account numbers. This helps you know what to eliminate (as profit) when you consolidate to the entity level.

c   By default all unit codes are accessible for all accounts. If you want certain unit codes to be required or not accessible for certain accounts, specify that in the Chart of Accounts at the *corporate entity*. When you save the account record, a message similar to the following pops up for each unit code you marked as not accessible:
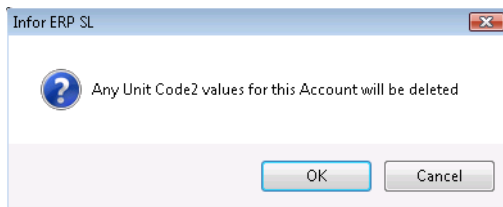
Click **OK**.

d   Do not set up information on the Unit Code 1-4 tabs yet. This information may be different for each account at each site/entity and will be set up later, after unit codes are defined.

2   If you have multiple levels of entities, do the following. If you have only one entity, or no entities, skip this step.

a   At the *corporate entity,* use Multi-Site Chart Copy to copy the chart of accounts from the corporate entity to any *mid-level entities* that use the same (or similar) chart of accounts.
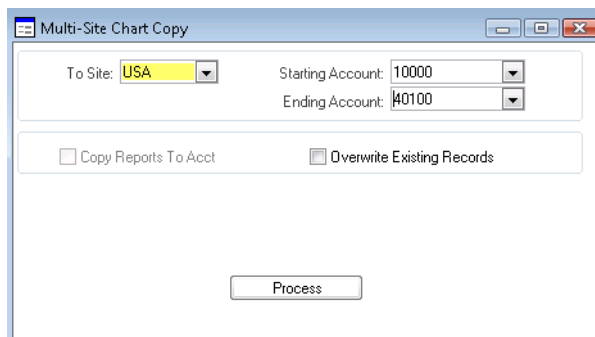
You may see the message Account will be created. If so, click **OK**. When processing is complete, a message indicates the number of accounts that were processed.

If an error message displays while you are performing this step, see the information in the "Troubleshooting" chapter on page 111.

If a different chart of accounts is required at the mid-level entity, then the chart of accounts can be created at the mid-level entity, setting up Reports To accounts to the corporate entity.

b In *mid-level entities*, use the Chart of Accounts form to map each account to a "Reports To" account in the entity being reported to. You must do this in order for the Ledger Consolidation utility to work properly.

- The existing accounts at the higher entity are listed in the **Reports To Acct** field drop-down. You can map to the same account or to a different account.

- If the mid-level entity's base currency is different from the higher entity's base currency, you can specify the currency translation method to use when consolidating the account information. To comply with FASB52 or GAAP standards, you must set the currency translation method to **Average** for revenue and expense accounts and to **End** for asset and liability accounts.

3 Verify that the Chart of Accounts was automatically populated in each of the *sites* reporting to each entity. This is handled by ChartAcctRemoteSp in the Ledger Consolidation or G/L replication category.

Note: Users cannot change the chart at the child sites, but they can update descriptions, delete accounts that do not apply to the local database, update obsolete/effective dates, and set up the **Unit Code 1-4** tabs for the accounts.

4   At *each site and entity*, set up the unit codes that can be selected for each account.

a   Define unit codes on the Unit Code 1-4 forms. See the help topic on "Account Unit Code (1-4)" for information about how unit codes are used.

Note: You might be able to input your unit codes from a spreadsheet that is set up to match the form's grid view. See Appendix C, "Data Load To/From Spreadsheets," for more information.

b   Run the Copy Unit Codes to Accounts form to copy a range of unit codes to a range of accounts. This fills in the information for each account on the Chart of Accounts form's Unit Codes tabs at the site or entity. If an account is set up so that one or more of the unit codes is inaccessible, the utility does not populate those unit codes.

Note: When you define unit codes for an account at any site/entity, we recommend that you also define the unit codes for the account at the entities it reports to. Otherwise, after you consolidate the ledger transactions, the unit code is inserted into the unit code table at the entity but the description is not populated. Also, the unit code is not populated for the chart of accounts in the entity.

c   For greater efficiency, you may choose to copy *all* unit codes to *all* accounts in step b, and then go to the Chart of Accounts form to delete individual unit codes from certain accounts, as appropriate.
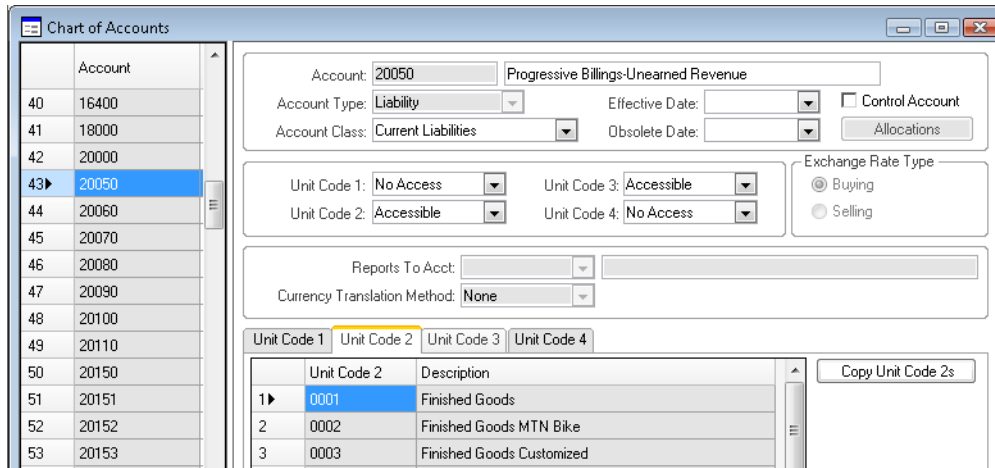
5   At *all entities*, in the Accounting Periods form, add accounting periods. (If your system does not include any entities, set up Accounting Periods at each site.)
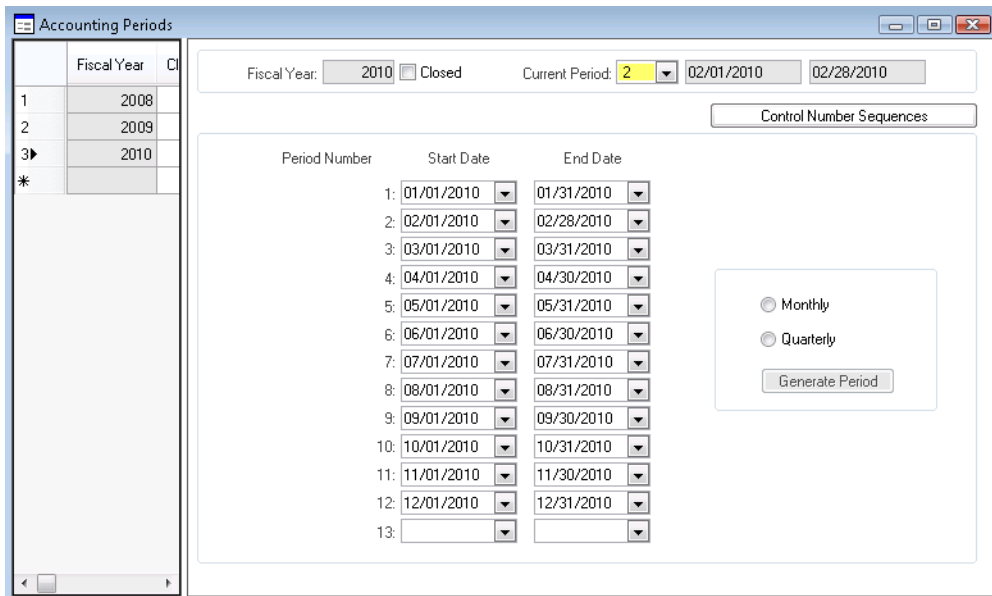
Note: Accounting periods set at an entity will automatically populate each child *site*'s accounting periods (through Ledger Consolidation or G/L replication). If you have entities, you cannot update accounting periods at the site level. You will maintain the Current Period at all entities and sites.

Accounting periods must be set up manually at mid-level *entities*. You might want to export the accounting period grid at the corporate entity to a spreadsheet, to use when populating mid-level entities. See Appendix C, "Data Load To/From Spreadsheets," for more information.

6   Make sure the Accounting Periods were replicated to the appropriate sites.

7   If you have multiple levels of entities, do this: at *mid-level entities*, run the Verify Reports To Account Report, turning off the **Invalid Accounts Only** flag so that all accounts are listed. Keep this printout for future reference. (If you have only one entity, or no entities, skip this step.)

Multiple Financial Sets of Books

If you need more than one set of financial books, you can set up that feature at any time, for a specific site. The first step is to select Multiple Financial Sets of Books on the General Parameters form (page 82). For more information, see the help topic on Setting up Multiple Financial Sets of Books.

Set Up Financial Statements

During the Planning phase, you should have determined where you want to run financial statements (at which level of entity, or at each site). Perform this step at *those sites or entities*.

Use the Financial Statement Definition form, along with the Financial Statement Definition Columns and Financial Statement Line Definition forms, to specify the content and format of a statement.

Once you have defined a statement, you can print it by specifying the Report ID in the Financial Statement Output form.

Reports you might design using the Financial Statement Definition form include:

- Balance Sheet
- Income Statement (Profit and Loss)
- Statement of Cash Flow
- Components of Working Capital
- Changes in Financial Position

See the online help topic titled "Financial Statement Setup" for the steps to follow.

You can also use SyteLine's Excel-based toolset for financial reporting to connect to any site or entity database and extract data, using formulas, into a spreadsheet. The spreadsheet can then be used for financial reporting. The toolset does not support multi-currency consolidations. For more information, see the *Infor SyteLine Microsoft Office Integration User Guide*.
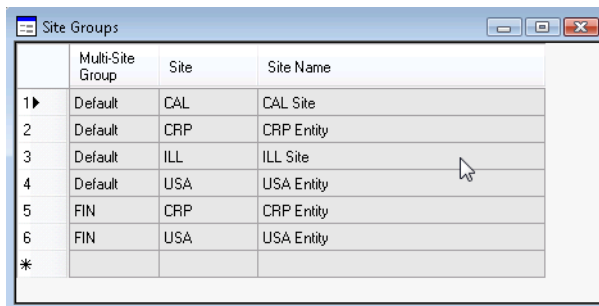
Chapter 8: Setting Up Parameters and Codes

The following parameters and codes must be set up next, because they are used when creating the records in later steps. Any special implications for multi-site setup are explained below. Read the online help for each form to get additional details.

Set Up Site Groups

At *all sites* and *entities*, set up Site Groups for the various sites that will be doing centralized order entry, transfer orders, or financial reporting. Since Site Groups are replicated (in the Site Admin category), they can be set in one site or entity and be replicated to other linked sites/entities.

	Multi-Site Group	Site	Site Name
1 ▶	Default	CAL	CAL Site
2	Default	CRP	CRP Entity
3	Default	ILL	ILL Site
4	Default	USA	USA Entity
5	FIN	CRP	CRP Entity
6	FIN	USA	USA Entity
*			

One site group was set up with the Infor SyteLine Configuration Wizard on the database server, but the sites in the group might need tweaking, or you might want to define additional groups for additional purposes.

Set Up Countries and States

1   For each *site* and *entity*, go to the Countries form and add records for the countries listed on the Currency spreadsheet you created during the Planning phase, plus any countries that will be needed for the site/entity addresses on the General Parameters form (see page 82). You can also add other countries needed for customers and vendors.

	Country	ISO Country Code	ISO Country	EU Code	SSD EU Code	Export Document Required
1	ANDORRA	AD	ANDORRA			☐
2▶	ANGOLA	AO	ANGOLA			☐
3	Australia	AU	AUSTRALIA	AU	AU	☐
4	Austria	AT	AUSTRIA	AT	AT	☐
5	Bahrain	BH	BAHRAIN			☐
6	Belgium	BE	BELGIUM	BE	BE	☐
7	BOSNIA AND HERZEGOVINA	BA	BOSNIA AND HERZEGOVINA			☐
8	Brazil	BR	BRAZIL	BR	BR	☐
9	Bulgaria	BG	BULGARIA	BG	BG	☐
10	Canada	CA	CANADA	CA	CA	☐
11	China	CN	CHINA	CN	CN	☐
12	Cyprus	CY	CYPRUS	CY	CY	☐
13	Czech Republic	CZ	CZECH REPUBLIC	CZ	CZ	☐
14	Estonia	EE	ESTONIA	EE	EE	☐

●   Country codes are replicated to other sites/entities if A/P, Shared Currency, or Centralized Order Entry categories are being replicated. So if you are maintaining currency information at one site or entity and replicating it to the others, you should enter your initial country list at the site/entity where you will maintain currency information.

●   If the **Activate EU VAT Reporting** field is not selected on the General Parameters form, the **EU** and **SSD EU** fields are disabled here and do not allow data entry.

●   When integrating SyteLine with other Infor BOD-enabled products, only ISO country codes can be passed in the BODs. If you are creating a new system, we recommend that you use the ISO country codes when defining new countries. If you already have existing non-ISO country codes, you can map them to ISO codes using this form.

2   For each *site* and *entity*, go to the Prov/States form and create province and state records to be used when you enter the company address in the General Parameters form for each site and entity database. You can also add other provinces and states needed for customers and vendors.

	Prov/State	Description	1099 Postal Code	1099 Minimum Payment	1099 Magnetic Media
1	BC	British Columbia		0.00	☐
2	CAL	California		0.00	☐
3	ILL	Illinois		0.00	☐
4	IN	Indiana		0.00	☐
5	ONT	Ontario		0.00	☐
6▶	OH	Ohio		0.00	☐
✳					☐

Province and state codes are replicated in the Multi-Site CRM category.

Set Up Currency

1   For each *site* and *entity*, set up Multi-Currency Parameters. These are used as the default account values when you add new currency codes.

- Domestic currency was determined when the database was created and cannot be changed.
- You can return to this form later to specify the Euro currency, if necessary. It is not defined until the next step.
- This information is not replicated and must be entered at each site and entity.

2   For each *site* and *entity*, set up Currency Codes information.

Note: When you use this form, a message displays to indicate that you must log out of SyteLine after updating this information. However, you actually can continue through setting up the General Parameters (page 82) before logging out and restarting SyteLine.

- Some currency information is replicated to other sites/entities if categories containing the currency_mst, currency_mst_all, currate_mst or currate_mst_all tables are being replicated. So if you are maintaining currency information at one site or entity and replicating it to the

others, you should enter your initial currency codes at the site/entity where you will maintain currency information.

- When you integrate SyteLine with other Infor BOD-enabled products, only ISO currency codes can be passed in the BODs. If you are creating a new system, we recommend that you use the ISO currency codes when defining new currencies. If you already have existing non-ISO currency codes, you can map them to ISO codes using this form.

- The currency codes, formats and rates are replicated with any of the above categories, but the related account information is not replicated.

- Use the Currency spreadsheet you created during the Planning phase. An initial record already exists for the site's domestic currency, so do not include the domestic currency in the import from the spreadsheet. Edit that record manually in the form.

3   If you enter additional currencies beyond the domestic currency, then when you save the record the system asks if you want to run the Currency Rates form to create rates for the new currency codes. Click **No**. (Clicking Yes opens the Currency Rates form linked to the last new currency you added. It is faster to set multiple rates using an unlinked version of the form, as in the step below.)

4   For each *site* and *entity*, on the Currency Rates form, specify the appropriate rates between the domestic currency and any other currencies. Rates can be modified later.

Set General Parameters

For each *site* and *entity*, go to the General Parameters form.

Note: Some general parameter information for each site can be replicated to other sites and stored in the parms_mst_all table. None of that information from other sites is displayed on this form, however.

1   On the **Address** tab, specify the company address to be used for the entity or site. The name and address specified on this tab is displayed on invoices, checks, credit/debit memos, payroll and tax documents, and so on.

2   On the **General** tab, specify at least the following options. Many of the parameters here turn on/off other features and fields in SyteLine. Use the online help to select the options you need.

- Update the **Current Fiscal Year**.

- Specify a multi-site group. This group becomes the default value that is used in the **Site Group** field on reports and utilities.

- Optionally, specify a transfer/project BOL prefix. Site-specific prefixes can make it easier to determine which site originated an advance ship notice.

- Select **Set Default Ending Value to Starting Value**. Then, in any form where users can specify a range of values, the value they specify in the Starting field is automatically set as the

default value in the Ending field. This prevents users from accidentally running extremely long reports that list all possible values.

- If you want to use multiple financial sets of books, select that option. For more information about this feature, see the online help.

- For *entities*, specify the **CTA Account**. This account is used to store the currency translation differences that might occur during the consolidation of accounts to this corporate entity.

   Note: The CTA account can only be set up after the Reports To Entity hierarchy is set up (see page 71).

3   Log out of the site/entity and then log back in. Changes to the currency codes and the general parameters require this.

Set Up Bank Codes

At each *site*, you must set up at least one bank code. If A/P checks will be written in multiple currencies, you must set up a bank code representing each currency. Use the Bank Reconciliations form to do this.

Set System Parameters

1 At all *sites* that will transfer items or material to other sites, use the Inter-Site Parameters form to establish the relationship between sites and to identify the inter-company account numbers to use during transactions. See the help topic "Moving Items or Materials Between Sites."

- This form must be completed before any multi-site activities take place. Specify the information in one site, and then most of the information in the records is added automatically at other sites where Site Admin is being replicated.

- On the **General** Tab, define the following:

  - **Posting Method**: Although your choice here is "intra-entity" or "inter-entity," this setting really has little to do with entities. It determines how accounting transactions between the sites are handled. Think of "intra-entity" as "at cost" and "inter-entity" as "with revenue."

  - **Price Code**: This code can be selected here but it is not defined yet. Return to this form and select a price code later. The price code is only used when the **Posting Method** is inter-entity.

  - **Exchange Rate**: The exchange rate is only used when the **To Site** and the **From Site** have different base currencies.

  - The accounts listed at the bottom of this tab are used only when the Posting Method is intra-entity.

- The information on the **Ship From**, **Ship From COS**, and **Receive To** tabs is used only when the Posting Method is inter-entity.

- The information on the Payment Tab is used only for A/P and A/R payments.

2   At the *sites*, set up Accounts Receivable Parameters.

- You must specify a multi-site group on this form. Only records for sites in this group are considered when performing Accounts Receivable payments and quick invoice payments, and when consolidating A/R posted transactions.

- You can set up a customer prefix that indicates the originating site as well as the type of record. For example, you can use **CI** as the prefix for customer numbers local to the ILL site and **CC** for customers local to the CAL site. If you have global customers, you could have one site that can create only global customers, and use the prefix **CG** in that site. For more information about prefixes, see the *Multi-Site Planning Guide*.

- A credit hold reason code can be specified here but is not defined yet. You can return to this form later to select the appropriate code.

3   At the *sites*, set up Accounts Payable Parameters.

- You must specify a multi-site group on this form. Only records for sites in this group are considered when performing Accounts Payable payments and quick voucher payments, and when consolidating A/P posted transactions.

- You can set up a vendor prefix that indicates the originating site as well as the type of record. For example, you could use the prefix **VI** for vendors local to the ILL site and **VC** for vendors local to the CAL site. If you have global vendors, you could set up one site that can create only global vendors, and use the prefix **VG** in that site. See the *Multi-Site Planning Guide* for more information about using prefixes.

4   At the *sites*, set up Order Entry Parameters.

● Specify the invoice number length in the **Invoice Length** field. We recommend that you set this field to 12, which is the maximum.

> **Caution:** The invoice number length must be the same for all sites in the system. It must be set at each site; it cannot be replicated to the other sites. When you enter a value here, the system verifies it against the **Invoice Length** value set for other sites, if the other sites are replicating at least one category containing the coparms_all table with this site.
>
> After the **Invoice Length** field is set to a non-null value, the value can never be updated.
>
> When you save the change, the system updates about 50 database tables, so it may take a long time to process.
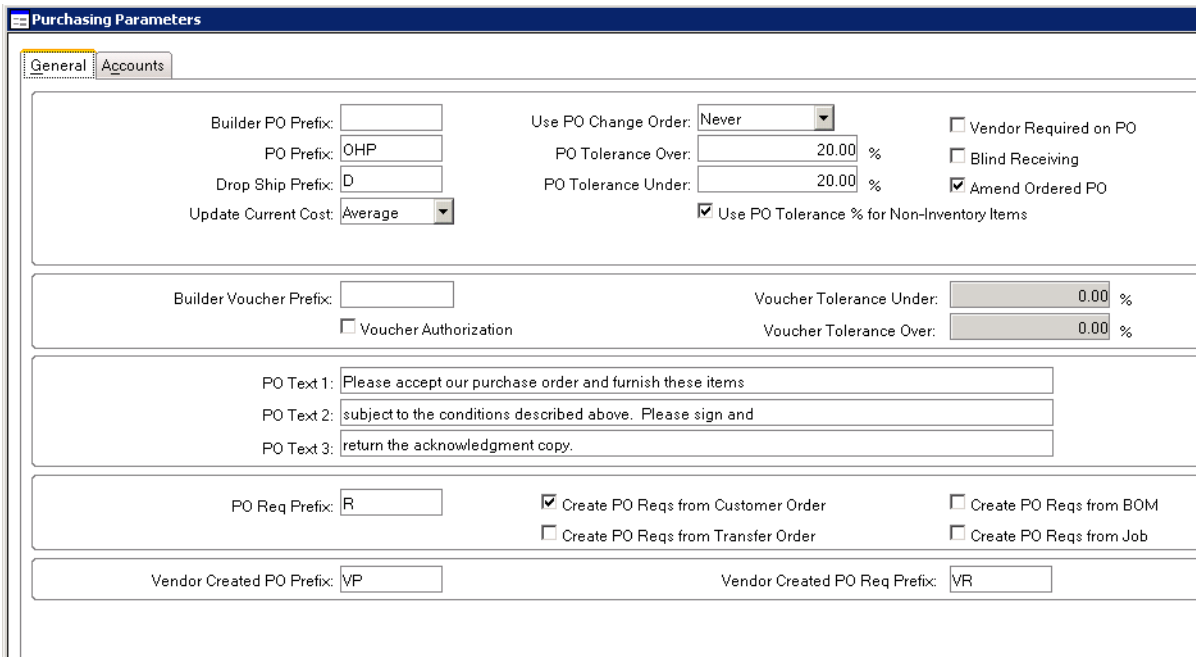
● If you plan to use delivery orders, specify the DO/BOL length.
● Site-specific prefixes are recommended if Centralized Order Entry, Invoice Builder, or Accounts Receivable payments across sites will be performed. See the information on prefixes in the *Multi-Site Planning Guide*.
● If you will use DIFOT (Delivered In Full and On Time) as a standard to measure delivery performance in your supply chain, provide tolerances in the **DIFOT** tab.

- If the **Price From Originating Site** field is selected, default item prices for CO lines are pulled from the site originating the order. This allows you to maintain pricing in one centralized site. Otherwise, the system pulls the default prices from the site that ships the order line item.

> **Caution:** After you update the **Invoice Length** and/or **DO/BOL Length** and save the record, log yourself and all other users out of SyteLine. This resets the session variables. Then use the Configuration Manager utility (on the utility server) to publish form changes. This clears the form cache on your users' computers the next time the users log in to SyteLine.

- When you save this record, you might see a message that asks you to perform manual replication of A/R data. If so, go to the Manual Replication Utility, select the A/R category, and select the site(s) to which A/R data is being replicated. This ensures that the required data is in the proper tables at the other sites.

5   At the *sites*, set up Purchasing Parameters.

- Site-specific prefixes are recommended if Accounts Payable payments across sites will be performed. See the information about prefixes in the *Multi-Site Planning Guide*.

6   At the *sites*, set up Transfer Order Parameters.

- Site-specific prefixes are recommended to make it easier to determine which site initiates a transfer order. See the information about prefixes in the *Multi-Site Planning Guide*.

7   At the *sites*, if you will be using MRP or APS, set up Planning Parameters.
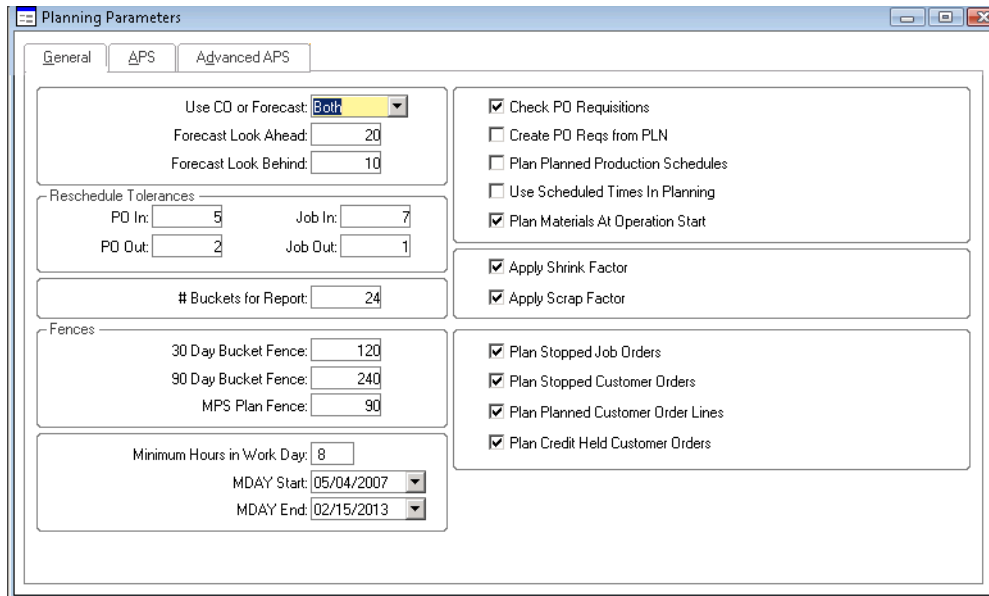
Refer to the online help and the *Infor SyteLine APS Configuration Guide* for information about how to set up these parameters for use in a multi-site environment.

8   At the *sites*, set up Inventory Parameters to determine how SyteLine handles inventory at each site.
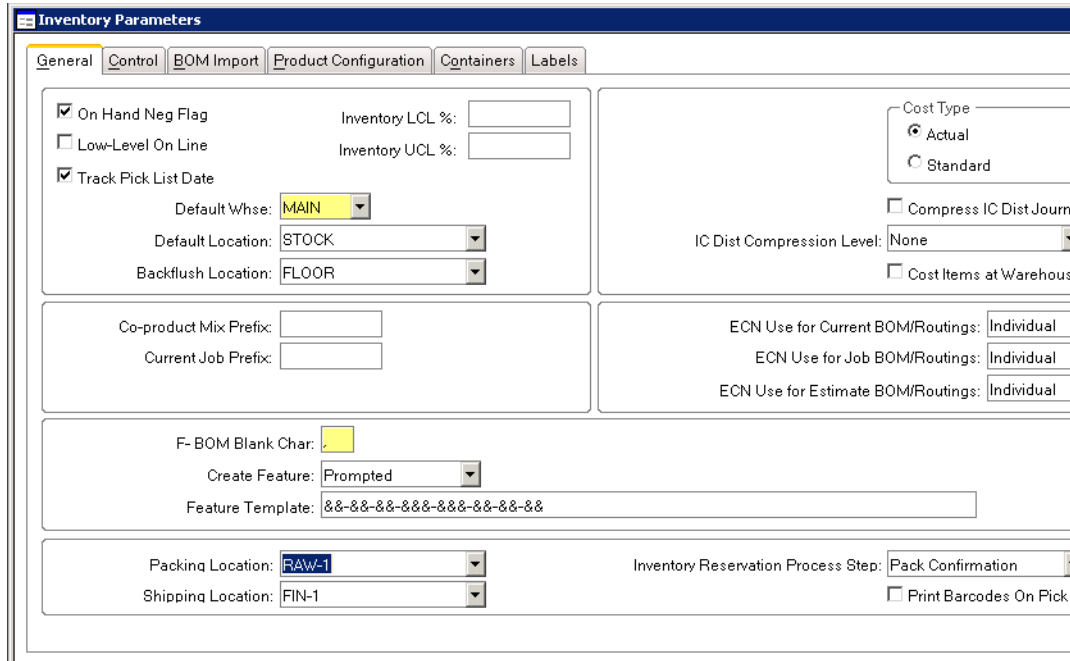
Note: You can choose to track the cost of items at the warehouse level rather than at the item level (that is, for the entire site). Read the help to determine the consequences of this selection.

9   At the *sites*, go to the **Master Explorer>Modules>Codes>Parameters** and open the other
parameters forms you have not yet accessed, to set up parameters appropriate for your system.

- Depending on your system, you might not need to set up some of these parameters.

- Some forms might require selection of data that is not yet set up. If so, return to finish the
  setup of those forms later.

- When a Prefix field appears on a parameter form, you may want to specify a site-specific
  prefix where appropriate, as described for the other parameter forms above.

10 After you update all parameters, log out of *each site/entity* and then log in again. This updates
system variables so that they contain the latest parameter information.

Chapter 9: Setting Up Users and Authorizations

<div style="text-align:right">**9**</div>

If you plan to use a master site to maintain users for all sites on an intranet, set up the shared user tables as described below and then perform the other steps in this chapter at the *master site* only. If you are using Intranet Licensing, the users at all sites must also be defined at the master site. Then the users must be assigned to license modules on the master site (through the User Modules form).

If you are not using a master site, skip the first step and perform the other steps in this chapter at *each site* and *entity* to set up users.

Setting Up Shared User Tables

Note: Intranet Licensing must be set up at the master site and all participating sites before you share user tables for the sites. Also, if you share user tables, all sites and entities in the same database must be on the same intranet.

You can maintain user and group names and permissions, user-group mappings, user license module assignments, and application-specific user information at the master site of an intranet. To do this, you must share the user tables from all sites on the intranet; that is, set up views to the tables, which only reside at the master site:

1   Log in to the master site for the intranet where you want to share user tables.

2   On the Intranet Shared User Tables form, select the master site's intranet.
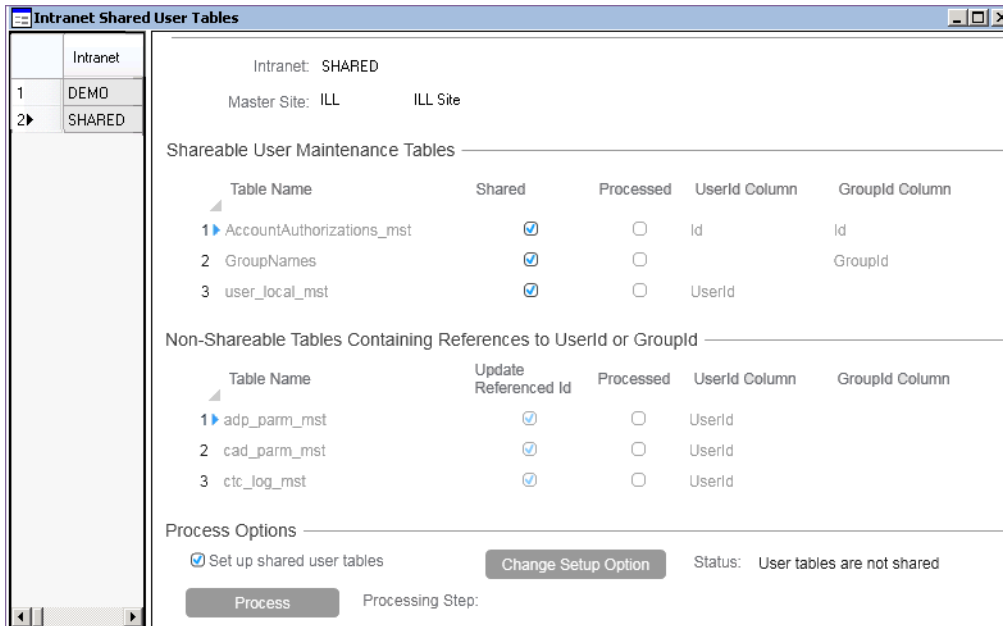
Two lists of tables display:

- The top grid lists user tables that can be shared. You can clear the Shared option for some tables, but not all of them, as described below.

- The bottom grid lists tables that contain a column whose base domain is UserNames.UserId or GroupNames.GroupId. The bottom grid is used during setup of shared user tables to identify the tables and columns that may need to be updated if records that were formerly defined in the Usernames or Groupnames tables in the non-master site are moved to the master site, but with different UserId or GroupId values.

3   If you have custom tables that contain a column whose value comes from base domain UserNames.UserId or GroupNames.GroupId, add your custom table and its associated ID column to the Non-Shareable Tables grid. We recommend that your custom tables refer to the Username or Groupname columns, rather than the ID columns, because the distinct list of Usernames and Groupnames across intranet sites is always the same, whether they are stored in shared tables or per site, and therefore no changes are required for data referencing this base domain.

4   Select **Set up shared user tables**, which automatically selects **Shared** for all tables in the top grid and **Update Referenced ID** for all tables in the bottom grid.

5   In the top grid, clear the Shared check box for any tables that you do not want to share between sites.

   Note: Be aware of how this works. For the Usernames, GroupNames, UserEmail, UserModules, UserPasswordHistory, UserCalendar, and UserTask tables:

   - If you do not share these tables on the Intranet Shared User Tables form, these tables are:
     - Not shared across multiple sites, if one site per database
     - Shared if there are multiple sites per database
   - If you do share these tables on the Intranet Shared User Tables form, these tables are:

- Shared across multiple sites, if one site per database
- Shared if there are multiple sites per database

For the AccountAuthorizations_mst, user_local_mst, and UserGroupMap_mst tables:

- If you do not share these tables on the Intranet Shared User Tables form, these tables are:
  - Not shared across multiple sites, if one site per database
  - Not shared if there are multiple sites per database
- If you do share these tables on the Intranet Shared User Tables form, then you can optionally share each of these tables across multiple sites, regardless of whether each site is in its own database or all sites are in the same database.

6 Click **Process** to copy information from the tables at the other sites to the master site's table, delete the table from the other sites (creating views into the master site tables instead), and regenerate the replication triggers for the other sites. (Removing tables and setting up views does not happen if the non-master site is in the same application database as the master site.)

If you have many sites on this intranet or many users and groups, processing can take a while to complete. The Processing Step area displays the system's progress.

During processing, the system validates link setup between the master site and the using sites of an intranet. If it finds a problem, an error message displays and nothing is processed; fix the link and then click **Process** again.

The **Processed** field indicates which tables have been processed - for example, if shared, they are now resident only in the master site's database. (After a row on the form is marked as Processed, subsequent "Process" runs do not reprocess that row.)

The **Status** field indicates that the user tables are either shared or not shared.

After processing all the tables and sites, the system regenerates the replication triggers at the master site.

7 After processing is complete, you must reapply a valid license document on the master site.

8 In the *master site*, open the View Management form and regenerate views at the master site, so that the views reflect the changes to table sharing.

9 In the *master site*, open the Trigger Management form and regenerate table triggers at the master site.

Update the "sa" User

On the Users form, select the "sa" user and add the **Enter Out of Date Range** group authorization. This authorization can be used to limit journal entries incorrectly created to the wrong accounting period.
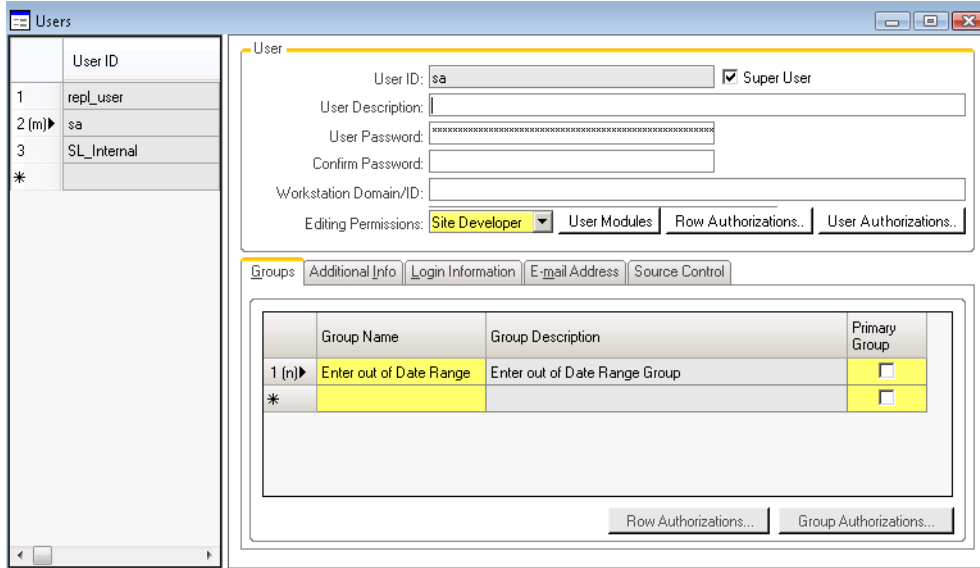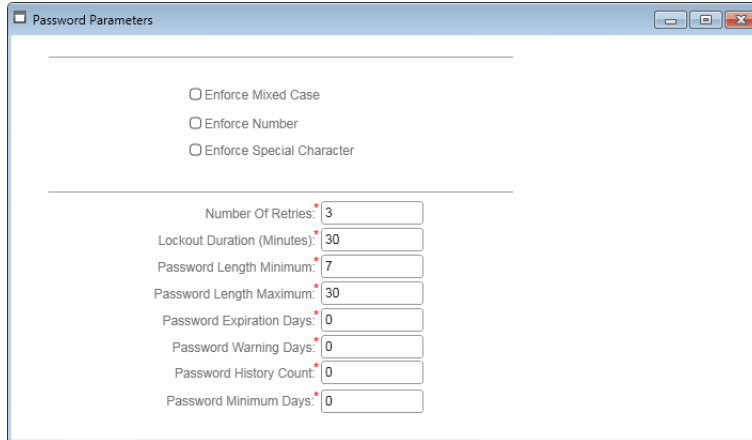
You also might be asked to select a Site Group for this user. Since this is a Super User, the group you choose does not matter.

About the SL_Internal User

The SL_Internal user exists in every site. It is a multi-session internal user. You should not have to modify any information about this user.

Set Up Password Parameters

Use the Password Parameters form to specify password expiration and complexity rules for all users. Be sure to explain the rules you choose to the users of your system.
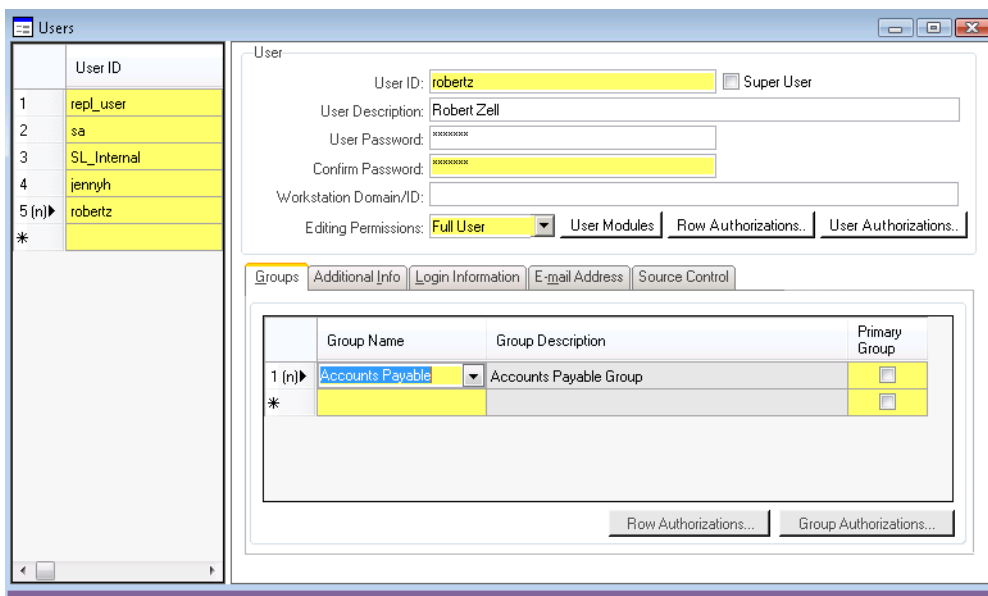
The password parameter data is replicated as part of the Site Admin category.

Add Common Users

1   In the Users form, set up other common users - those who will be working in multiple sites. You can also set up local users now, if you want.

   These users are in addition to the sa and SL_internal users (and the repl_user, if set up in Chapter 5, "Setting Up Replication at Sites and Entities"), which have full access to the local site or entity.

Note: If the user_local_mst table is not shared in the Intranet Shared User Tables form, then you must update the multi-site group and other user fields at each site where the user record exists, even for sites in the same database. If the AccountAuthorizations and/or UserGroupMap tables are not shared, then you must update authorizations and groups at each site.

- You must specify a default authorization group for each user.
  - For *entity* users, the authorization group should be Entity Forms. This will prevent users from doing anything in the entity that is not supposed to be done in an entity.
  - For *site* users, select an authorization group. For now, select one or more of the default authorization groups. On the Users form, select one or more authorization groups for each user from the drop-down list. (Later, after you become more familiar with the system, you may want to set up new groups that more closely resemble your needs. Do not change the default groups!)
  - To find out which forms are included in each default authorization group, go to the Groups form. Select a group and then click **Group Authorizations** to list the forms that members of this group can access.
  - If you do not set up at least one authorization group for a user, then the user has access to no forms, unless the user is set up with super user access.
- You must specify a default multi-site group for each user. This is the default value that appears in the **Multi-Site Group** field when this user opens the Item Availability form.
- For mobile users, specify a Mobile Default Form on the Login Information tab. See the help topic on setting up SyteLine mobile access for more information.
- For developer users, if you are using a source control system, specify the user's login information for the source control system.
- You cannot replicate the usernames or groupnames tables because those tables use identity columns. However, to simplify the initial setup of multi-site users, you could add the multi-site users and groups in one site, export the data to Excel spreadsheets, and import into sites and entities in other databases.(See Appendix C, "Data Load To/From Spreadsheets," for more information.)

  For sites in separate application databases, the user password, e-mail addresses, and workstation login can be set up in one site and replicated to the rest (through the UserNamesRemoteUpdateSp in the Site Admin category). However, the user record, assigned user module, authorization group and other required fields must already be set up at the individual sites and entities.
- If you have multiple sites/entities in one application database, any data stored in the non-multi-site tables is shared across all of the sites and entities. This data includes the user ID, password, and e-mail addresses, as well as some other fields. However, certain other fields such as multi-site group must be set up at each site and entity, if those other fields are in tables that are not being shared.
- Warehouse (Whse) may be specified here but is not defined yet. You can return to this form later to select the appropriate warehouse.

2 From the Users form, click **User Authorizations** to display the Object Authorizations for User form, where you set up object authorizations for each new user record. Settings made here override any group authorizations for this user.

Some of your users may require special access to certain forms that is not covered in the default group authorizations. For example, the user robertz is in the Purchasing authorization group,

which has full access to the Purchase Orders form. However, you do not want to allow robertz to delete POs.

3   If you decided during the Planning phase to use *named user licensing*, return to the Users form and select a user record. Click **User Modules** to go to the User Modules form where you can set up licensing for the selected user.

Repeat this step for each user in the site or entity. Use the Licensing spreadsheet from your Planning phase to help with this.

If you are using Intranet Licensing, the User Modules form is available only at the master site and not at the participating sites.

See the *Infor SyteLine Licensing Guide* for more information about how licensing works.

4   If the site will allow access from a SyteLine portal, set up the portal users as described in the *Portal Setup and Administration Guide*.

5   Run the User Authorization Report form if you want to have a list of authorization information for each user, for auditing purposes.

Copy Users

If you have many common users between sites, and you are not using a master site with shared user tables, or multiple sites per application database, you can set up the users in one site and then use the Copy User Tables utility to copy them to other sites. For most operating systems, navigate to **All Programs>Infor>Tools>Copy User Tables**. For Windows Server 2012, find Copy User Tables under Apps.

For more information about the utility, see the *Infor SyteLine Administration Guide.*

Adding External Users

External customers or suppliers may be added as users on particular sites. (Since they will log in remotely via the internet, the web server through which they will log in should be configured to use https, so that data being transferred over the intranet is encrypted.)

Set up these users in Infor SyteLine using authorizations that limit their access only to the specific forms you want them to view. You may also want to limit their object authorizations to view-only, as described on page 98.

Chapter 10: Setting Up Supporting Data

10

In each *site*, set up the following data. The forms listed below add data to supporting tables that are used when entering customer, vendor, and item information, creating transactions, and so on. Your company may not use some of the following data; in that case, you can skip those forms.

Note: Be careful about the order in which the data is defined, so that table dependencies are not violated, which will prevent records from loading. For example, product codes must be defined before distribution accounts are defined, both of which must precede the definition of items. Items must be defined before routings, BOMs, CO and PO lines, jobs, and so on.

The forms are generally listed in the order the data should be entered because of data dependencies.

- Offices
- Companies: optionally includes CEO (from Employees, which is not available until later)
- Divisions: requires Company and Office, optionally includes Div Manager (from Employees, not available until later)
- Departments: optionally includes Company, Office and Manager (from Employees, not available until later)
- Price Codes: you might want to skip until later when items are defined
- Project Cost Codes
- Product Codes: optionally includes Price Code and Project Cost Code.

  Even though the account fields are not required fields in this form, you must specify them now. When you add items later, the product cost requires these associated accounts.
- Nature of Transaction Codes (NOTC)
- Secondary NOTC
- Carrier Codes
- Ship Via Codes: optionally includes Carrier Code
- Delivery Terms
- Warehouses: optionally includes Prov/State, Country, NOTC, Secondary NOTC, Delivery Terms and Ship Via
- Distribution Accounts: requires Warehouse and Product Code (In-Transit account values default from the product code)
- Tax Codes: requires Tax System - but there is a default Tax System 1 defined here, optionally includes Tax Jurisdiction
- Tax Systems: requires Tax Code

- Tax Jurisdictions: requires Tax System, optionally includes EC Code (from Countries form) and Vendor number (not available until later)
- Billing Terms
- Reason Codes: there are many of these - use **Form>Open** and filter on **reason** to find them all. Some of them optionally include NOTC and Secondary NOTC
- Scheduling Shifts
- Resource Types
- Resources: requires Resource Types and Shift Exception ID, optionally includes Item (not added until later), Scheduling Shift, Fixed Asset Number (which in turn requires other data)
- Resource Groups: requires Resources
- Work Centers: requires Department, optionally includes Scheduling Shift and Resource Group
- Locations: optionally includes Work Centers
- Unit of Measure Codes: some U/M information is replicated between sites when the sites are replicating the Centralized Order Entry, Inventory/Transfers, Purchase Order Builder, or Voucher Builder categories
- Shift Codes
- Commodity Codes
- Language IDs
- Multi-Lingual Ship Via
- Multi-Lingual Terms
- Unit of Measure Conversions: requires Unit of Measure Codes
- End User Types
- Customer Types
- Vendor Categories
- Fixed Asset Class Codes: optionally includes Department
- Printers
- Territories
- Sales Periods
- Campaign Statuses, Campaign Types
- Lead Statuses
- Opportunity Task Types, Opportunity Sources, Opportunity Statuses, Opportunity Stages
- E-Mail Types
- Lot Attributes
- Manufacturers
- Electronic Signature Setup
- Electronic Signature Authorizers

Simplifying the Data Load Process

In many cases, you can create a spreadsheet based on the grid view of a form to copy and paste the supporting data into SyteLine. See Appendix C, "Data Load To/From Spreadsheets," for more information.

Chapter 11: Setting Up Operational Data   11

Data Loads and Replication

Note: If the following statements are true, you might want to turn off replication before loading operational data, in order to speed up the data load:

● You are loading large amounts of data into tables, AND

● Those tables have triggers replicating to _all tables, AND

● Your system is replicating those _all tables between sites, AND

● Those _all tables reside at the local sites rather than at one master site.

Also, if there are possible conflicts between data records being loaded at different sites (for example, different customers with the same number), you might want to turn off replication before loading the data, in order to minimize errors, and then deal with the conflicts later.

In these cases, go to the Sites/Entities form's **Link Info** tab and disable replication between sites before loading the data.

After the load is complete, enable replication and run the Manual Replication Utility for the necessary replication categories.

Set Up Shared Customers, Vendors, and Items

You might want an administrator to control adding, updating, and deleting shared customers, vendors, and items across the system. Keep in mind that each site can control its local customer records, and these records are independent of other sites.

Add Shared Customers Using a Master Site

If you have set up a master site, use the Multi-Site Customers form at the master site to add customers for all sites in the intranet. Instructions for using this form are in the online help. Appropriate replication rules must be set up between the sites in order for the form to work. See the

chapter on Master Sites in the *Multi-Site Planning Guide* for information about the replication rules required.

Add Shared Items Using a Master Site

If you have set up a master site, use the Multi-Site Items form at the master site to add items for all sites in the intranet. Instructions for using this form are in the online help. Appropriate replication rules must be set up between the sites in order for the form to work. See the chapter on Master Sites in the *Multi-Site Planning Guide* for information about the replication rules required.

Add Shared Vendors Using a Master Site

If you have set up a master site, use the Multi-Site Vendors form at the master site to add vendors for all sites in the intranet. Instructions for using this form are in the online help. Appropriate replication rules must be set up between the sites in order for the form to work. See the chapter on Master Sites in the *Multi-Site Planning Guide* for information about the replication rules required.

Copy Customers, Vendors, or Items Using a Master Site

You can define a customer, vendor or item record in one site and then select **Actions > Multi-Site Copy** in the Multi-Site Customers, Multi-Site Vendors, or Multi-Site Items form to copy the record to other sites that are in the same intranet and multi-site group as the master site. BOMs are not copied with item records when you use this method; use the Multi-Site BOM Builder form to copy the BOM to the other sites.

Add Shared Customers, Vendors, and Items Without a Master Site

As described in the *Multi-Site Planning Guide*, some customer, vendor, and/or item data may be replicated when a new customer, vendor or item is added. However, the new record is not automatically displayed in the Customers, Vendors, and Items forms at the other sites. You must add it as described below.

Add Shared (Global) Customers - No Master Site

When a customer record is added in one site, it does not automatically populate in other shared sites. If you want a customer to exist in multiple sites, first create it in one site and then add the existing customer into other shared sites using these steps:

Note: In the following description, "sharing sites" means all categories that contain the custaddr table are being replicated between the sites.

1   In one site, go to the Customers form. Add and save the new customer records. The customer number, name, and some other data from the custaddr table is replicated to sharing sites.

2   At the other sites, go to the Customers form and select **Actions>New**.

3   Specify the customer number. The customer name, address, and some other information from the custaddr table displays.

4   Fill in the rest of the information manually in the Customers form at the sharing site.

Add Shared (Global) Vendors - No Master Site

When a vendor record is added in one site, it does not automatically populate in other shared sites. If you want a vendor to exist in multiple sites, first create it in one site and then add the existing vendor into other sharing sites using these steps:

Note: In the following description, "sharing sites" means all categories that contain the vendaddr table are being replicated between the sites.

1   In one site, go to the Vendors form. Add and save the new vendor records. The vendor number, name and some other information from the vendaddr table is replicated to sharing sites.

2   At the other sites, go to the Vendors form and select **Actions>New**.

3   Specify the vendor number. The vendor name, address and some other information from the vendaddr table displays.

4   Fill in the rest of the information manually in the Vendors form at the sharing site.

Add Shared (Global) Items - No Master Site

When an item record is added in one site, it does not automatically populate in other shared sites. If you want an item to exist in multiple sites, first create it in one site and then add the existing item into other sharing sites using these steps:

Note: In the following description, "sharing sites" means the Centralized Order Entry category and/or the Inventory/Transfers category are being replicated between the sites.

1   In one site, go to the Items form and add and save the items.

The item numbers, descriptions and U/M values are replicated to sharing sites - but the new items will not automatically appear in the Items form at the sharing sites. This information will, however, appear in the sharing sites' Global Items form.

2   In the sharing sites, go to the Items form and select **Actions>New**.

3   Specify the item number. The system enters the default values from the Global Items form into these fields: **Item**, **Description**, and **U/M**.

4   Fill in the rest of the item record manually at the sharing site.

The Global Items form also contains a default **Shipping Site**, which is used to determine how the Customer Order Line ship site defaults when entering a centralized order for the item.

Typically, shared sites have identical Global Items default values when all sites are within the same country. If sites are in different countries, the **Description** and **U/M** fields can be updated as required.

Alternative Methods - Copying Records

Another way to duplicate vendor, customer or item records in multiple sites is to create the records in one site, export them to a spreadsheet, and import the spreadsheet into the same form at the new site. (Make sure the form's grid columns are arranged in the same order at both sites.) See Appendix C, "Data Load To/From Spreadsheets," for more information.

If your sites are accessible through a single computer, you also may be able to use the right-click **Copy** feature to copy the item rows from the Customers, Vendors, or Items form on one site and then select **Edit>Paste Rows Append** to add them at the other site.

Set Up Employees

On the Employees form, enter information about each employee. Fill in at least the required fields, which are used in other areas of the system.

Set Up Other Operational Data

1   In each site, set up current routings and BOMs.

2   In each site, set up beginning balances for accounts in the Journal Entries form.

3   In each site, set up units on the Units form.

Chapter 12: Setting Up Other Modules and Products

12

Once you have your basic SyteLine multi-site system set up, you can install and configure other modules and products according to the documentation listed below. Note that this may not be a complete list of all available modules and products.

To set up this	Refer to this information
APS	*Infor SyteLine Installation Guide*, *APS Configuration Guide for SyteLine*, online help
Application Event System	*Application Event System Guide*, online help
Infor BI for SyteLine	*Infor BI for SyteLine Installation Guide*, *Infor BI for SyteLine Administration Guide*
Infor Business Analytics and Infor Reporting	*Infor SyteLine Integration Guide* for *Business Analytics* , *Infor SyteLine Integration Guide* for *Infor Reporting*
Infor CPM (PM 10)	*Infor SyteLine Integration Guide for Infor CPM*
Country Packs/ Localizations	If separately installed: *Infor SyteLine Country Packs Installation Guide* and any appropriate documents. If installed as part of SyteLine: online help.
Credit Card Interface	*Infor SyteLine Credit Card Interface Implementation Guide*, online help
Data Collection background tasks	online help
Industry Packs	If separately installed: *Infor SyteLine Industry Packs Installation Guide* and any appropriate documents. If installed as part of SyteLine: online help.
Infor EAM	*Infor SyteLine Integration Guide for Infor EAM*
EDI	Online help
EFT (bank reconciliations, customer payments)	Online help

To set up this	Refer to this information
e-Commerce	*Infor SyteLine Integration Guide for Infor e-Commerce*
Infor SyteLine Enterprise Financials (SunSystems interface)	*Infor SyteLine Enterprise Financials Interface Installation and Setup Guide*
Inforce	*Infor SyteLine Integration Guide for Inforce*
Infor Framework FAX Service	*Infor SyteLine Installation Guide*
Infor Global Financials (Varial)	*Infor SyteLine Integration Guide for Infor Global Financials*
Infor ION	*Infor SyteLine Configuration Guide for Infor ION*
Portals	*Infor SyteLine Portals Setup and Administration Guide*
Microsoft Office	*Infor SyteLine Microsoft Office Integration User Guide*, online help
Infor Ming.le	*Infor SyteLine Integration Guide for Infor Ming.le*
Mobile	Online help, mobile user guides
.NET Web Service	*Infor SyteLine Installation Guide*
Online help	*Infor SyteLine Installation Guide*
Payroll Interface	Online help
Infor PLM	*Infor SyteLine Integration Guide for PLM*, online help
Infor Product Configuration Management	Various PCM installation, upgrade, integration, and reference guides, SyteLine online help
Product Configurator (Features and Options)	Online help
Infor Road Warrior	*Infor SyteLine Integration Guide for Infor Road Warrior*
Tax Interface	*Infor SyteLine Tax System Interface Configuration Guide*, online help
Infor Time Track	Contact Infor Consulting Services
Infor Warehouse Mobility	Contact Infor Consulting Services

Some of these products are installed as part of the SyteLine installation, but are licensed separately. These products are licensed for an application database, but you must also use the Optional Modules form in SyteLine to enable the products for each site. For more information, see the *Licensing* guide.

Appendix A: Troubleshooting

A

Handling Replication Errors

Errors During Transactional Replication

Validation errors relating to transactional replication generally display during data entry or saving of transaction records at the local site, and do not allow the user to continue.

However, if transactional replication appears to not be working (that is, the data is not being moved to the target site as expected) and the cause is not immediately apparent, use the "Replication Troubleshooting Checklist" on page 112 to help find the problem.

Errors During Non-Transactional Replication

If errors occur when sending or receiving XML request documents through SyteLine's replication system, the following processes handle the errors.

SyteLine Replication - Outbound Flows

```
                 ┌──────────┐                    ┌──────────────┐
                 │Replicator│                    │ Replication  │
                 │          │                    │   Queue      │
                 └──────────┘                    │  Listener    │
                                                 └──────────────┘
  ┌──────────┐        ┌──────────┐                              ┌──────────────┐
  │ SyteLine │        │ SyteLine │                              │ Destination  │
  │ Database │───────▶│ Outbound │─────────────────────────────▶│  External    │
  │          │        │  Queue   │                              │  System or   │
  └──────────┘        └──────────┘                              │  SyteLine    │
                                  ┌──────────────┐              │  Intranet    │
                                  │ Replication  │              └──────────────┘
                                  │    Tool      │
                                  └──────────────┘
```

SyteLine Replication - Inbound Flows

```
            ┌──────────────┐                    ┌──────────────┐
            │ Replication  │                    │ Replication  │
            │   Queue      │                    │   Queue      │
            │  Listener    │                    │  Listener    │
            └──────────────┘                    └──────────────┘
  ┌─────────────────┐      ┌──────────┐                          ┌──────────────┐
  │ SyteLine Target │      │ SyteLine │                          │   Source     │
  │ Site Database   │◀─────│ Inbound  │◀─────────────────────────│  External    │
  │ ┌─────────────┐ │      │  Queue   │                          │  System or   │
  │ │ Replication │ │      └──────────┘                          │  SyteLine    │
  │ │ Errors      │ │                 ┌──────────────┐           │  Intranet    │
  │ │ Form        │ │                 │ Replication  │           └──────────────┘
  │ └─────────────┘ │                 │    Tool      │
  └─────────────────┘                 └──────────────┘
                                                      System
                                                      Boundary
```

Legend

Application in control of this stage of the flow

Error handling application for this stage of the flow

Replication Troubleshooting Checklist

Problem: *Replication does not seem to be working*. For example, a newly added item is not available from a drop-down menu in another, replicating site.

Solution: View the appropriate _all table(s) using SQL Server tools, to determine if data is being populated. For our example problem above, view the item_all table. If replication is not working, the table typically will not contain the newly entered data records. In this case, there probably is a problem with the replication rules.

For replication problems, check the following areas:

1. Configuration Manager utility (page 26): Verify, for each site and entity, that you have created at least one configuration name that exactly matches the site/entity ID, including case, and that uses the site/entity's application database.

2. Replication Rules form (page 46 and 62): Make sure the rules are set up properly between the site where the data was added and the one where it was supposed to appear.

Are the proper categories being replicated? Use the following table to see what types of results to expect on the target site for each replicated category.

Category	Expected results on target site (for forms with Site or Site Group fields)
A/P	Posted A/P vouchers, adjustments and payments from source sites are visible on view forms.
	A/P reports contain data from source sites.
	_all tables contain account, currency, item, journal, period, vendor and tax information from source sites.
A/R	Posted A/R invoices, debit memos, credit memos and payments from source sites are visible on view forms.
	A/P reports contain data from source sites.
	_all tables contain account, currency, item, journal, period, customer and tax information from source sites.
CCI Centralized Order Entry	Credit card authorization information is replicated from the source site.
Centralized Order Entry	Customer orders with lines that have a local ship site are visible.
	Transfer orders to or from the local site are visible.
	_all tables contain customer, customer order, account, currency, item, job, period, purchase order, project, transfer order and tax information from source sites.
Customer Portal	Portal users can see item pricing. B2B users can see that prices are from multiple sites.
Dimensions	View dimensions and attributes at other sites.
ESB	Data is received in other BOD-enabled application; acknowledgement data is received in SyteLine.
EXTFIN	Not typically used between SyteLine sites.
EXTFIN Customer	Not typically used between SyteLine sites.
EXTFIN Vendor	Not typically used between SyteLine sites.
G/L	Financial and G/L reports and views show data from source sites.
	_all tables contain ledger, account, currency, period, and journal information from source sites.
Initialize _All Parameters	N/A. Used only during replication setup.
Inventory/ Transfers	Transfer orders to or from the local site are visible.
	_all tables contain account, currency, item, job, period, and transfer order information from source sites.

Category	Expected results on target site (for forms with Site or Site Group fields)
Invoice Builder	Invoices for customer order shipments and returns can be created at target sites.
Journal Builder	Pending journal transactions created by Journal Builder in source site appear in the local site.
	Journal Builder site can validate data from the local site.
Ledger Consolidation	Ledger records are consolidated from source sites when invoked.
	_all tables contain account, currency, and period information from source sites.
Ledger Detail	Ability to drill down into G/L records from remote sites if transaction data is also replicated.
	_all tables contain account, material transaction and voucher pre-register information from source sites.
Manufacturer Item	_all tables contain manufacturer and manufacturer item information and cross-reference information between manufacturer item and SyteLine item records from source sites.
Multi-Site (home forms)	This applies to the Multi-Site Buyer, Controller, CRM, Customer Service, Inventory Control, Production Planner, and Project Manager categories: On the various Home forms, information from source sites is visible.
Multi-Site Customers	On Multi-Site Customers form, customer information defined on source sites is visible.
Multi-Site Items	On Multi-Site Customers form, item information defined on source sites is visible.
Planning	Planning is invoked for source sites when specified.
	Planning views include requirements and receipts for source sites.
PO-CO Across Sites	Upon receiving a customer's order, the demanding site automatically creates a PO and links it to the source site.
Purchase Order Builder	POs are created in the local sites with data entered at the source site through the Purchase Order Builder.
	Purchase Order Builder site can validate data from the local site.
Service - Global Incidents	Incidents and associated events, reasons and resolutions are replicated from the source site.
Service - Global Scheduling Shared Partners	Scheduled appointments for Service are replicated from the source site.
Service - Global Service History	Summarized history information about Incidents, service orders, and units are replicated from the source site.
Service - Global Units	Units and their component configuration, warranty information and owner history are replicated from the source site.

Category	Expected results on target site (for forms with Site or Site Group fields)
Service - Multi-Site SRO Copy	Users can trigger the copy of a service order from the source site to the target site.
Shared Currency	Currency information from source sites is visible.
Site Admin	Site/Intranet information from source sites is visible. _all tables contain account information from source sites.
Vendor Portal	Vendor portal users can see purchase orders initiated from multiple sites.
Voucher Builder	Vouchers and adjustments are created in the local sites with data entered at the source site through the Voucher Builder. Vouchers are created in the local sites with data entered at the source site through the Manual Voucher Builder. Voucher Builder site, or Manual Voucher Builder site, can validate data from the local site.

    a. View the Replication Rules form in the source site (for example, if you're expecting to see CAL data in ONT, view the CAL database), and determine if there is a rule set up with Target Site equal to the site where you expect to see the data, and with Category equal to the category as determined above.

    b. If such a record *does not exist*, this means the behavior was expected. You can create a new rule if desired, and retest to verify that the data was passed over.

    c. If the record *exists*, check its **Interval Type**:

       ● If the Interval Type is **Transactional**, there may be another problem with the replication setup. Continue through the other steps in this check list.

       ● If the Interval Type is **Immediate**, there may be a problem with the setup of the replication services.

       ● If the Interval Type is something other than Transactional or Immediate, wait until the time specified in **Start Interval At** before testing again. If the interval time has passed and the change has still not occurred on the target machine, there may be a problem with the setup of the replication services.

3. Sites/Entities form (page 46 and 61): Make sure the database name and the linked servers (for transactional replication) or user maps (for non-transactional replication) are set up correctly.

4. Replication Management form (page 47): You *must* click the **Regenerate Replication Triggers** button on this form after any replication rules have been changed. Failure to do so will result in replication not working properly.

5. Find Replication Setup Issues form (page 122): Use this form to find problems relating to the setup of replication from the current site to another site/entity for a particular database table or stored procedure.

Not all problems found by this utility are valid in all situations. For example, it checks to see if a user name is set up between the sites, which applies only if non-transactional replication is being used.

6. Replication Errors form (page 121): This form shows the data that failed to submit to a target site during non-transactional replication. Use the form to fix and resubmit data, or delete it.

7. Replication Tool (page 119): This tool on the utility server is used to troubleshoot non-transactional replication.

8. ReplicatedRows3 and ShadowValues tables: When something is to be replicated through *non-transactional* replication, it gets copied to the ReplicatedRows3 and ShadowValues tables. (See the *Replication Reference Guide* for details.) If the data is not there, it is likely that either your replication rules aren't set properly or that you need to click the Regenerate Replication Triggers button on the Replication Management form.

9. Services: If you are using *non-transactional* replication, make sure the Infor Replication Queue Listener and Infor Replicator services are started on the utility server.

10. MSMQ or Message Queuing: Turn on journaling.

11. Event Viewer: Check the event viewer in the Windows Administrative Tools on the utility server or database server. The events that are logged may give you a clue about where replication failed.

12. UETs: If you are using user extended tables, and the UET information is not replicating properly, see the information about UETs and _all tables in the *Replication Reference Guide*.

Common Replication Solutions

Problem: *System performance is slow and you suspect replication may be causing this.*

Solution: Check the following:

1. Use the stored procedure sp_spaceused (in the Master database) to determine which tables consume a lot of space.

2. If there are _all tables (that is, replicated data) that contain very large numbers of records, then make sure you are not replicating unnecessary data. See the Replication Categories chapter in the *Replication Reference Guide*, particularly the information about replicating financial data.

   Also look at the descriptions of how the tables in each category are used. If your large _all tables are used only for reports that you rarely or never require, you may be able to remove that object from the category.

   Note: Before making changes to replication categories, seriously consider requesting help from your Infor SyteLine provider or Infor Consulting Services.

3. See also the information on improving system performance in the *Infor SyteLine Administration Guide*.

Problem: *Replication failure due to SQL Linked Server error.* If your system returns an error like one of these, the local server probably no longer has a link to itself:

- Server 'servername' is not configured for Data Access. Distributed Transaction Completed. Either enlist this session in a new transaction or the NULL transaction.

- New transaction cannot enlist in the specified transaction coordinator.

- The operation could not be performed because the OLE provider 'SQLOLEDB' was unable to begin a distributed transaction.

Solution: To fix this problem, run the following SQL commands on the App database:

```
exec sp_addserver servername, LOCAL
-- restart SQL Server.
EXEC sp_serveroption 'servername', 'Data Access', 'True'
```

Replace *servername* with the name of the local server.

Message: *Invalid Column name UF_xxxx.* If your system returns an error message similar to this during replication, you may have user extended tables (UETs) set up in one site but not in another.

Solution: You must have identical schemas in all sites and entities to replicate data. If your system includes User Extended Tables (UETs), consider the following when replicating data to other sites.

If one site contains UET modifications to a table, but the same table in another site does not contain those modifications, errors probably will be generated during replication of that table's data from one site to the other.

For that reason, before you replicate data between sites, you should copy any UET schema changes to all sites involved in the replication. A stored procedure, ExportUETClassSp, assists in handling this process. See the document *Modifying Infor SyteLine* for more information and a copy of the script used to create the stored procedure.

Problem: *Outbound BODs are not being sent from Infor SyteLine to another system.*

Solution: Follow these steps to determine the cause:

1. Does the BOD appear in the Replication Document Outbox?

   (BODs are saved in the outbox after processing only if the BOD service is configured to not delete them.)

   If Yes, continue to the next step.

   If No, then do this:

   a. If this is a multi-site system, verify that you are checking the inbox on the "bootstrap" site; that is, the site defined in the configuration designated as the bootstrap in the Service Configuration Manager utility.

   a. From the SyteLine utility server, run the LogMonitor utility.

   b. In the SyteLine application, perform the processing that should send the BOD. (See the Replication Document Outbound Cross References form for a list of the application events that generate the BOD.)

c. In the LogMonitor utility, look for ReplQListener log information that might indicate an error in the BOD processing.

2. Is the Processed check box selected?

If Yes, the BOD was picked up by the BOD service. Check in that application(s) for details.

If No, then there is a problem that is preventing the BOD service from picking up the message; either the service is not running or the configuration and deployment of the sending/receiving applications is not set up properly in the receiving application(s).

Problem: *Inbound BODs are not being received or processed by Infor SyteLine.*

Solution: Follow these steps to determine the cause:

1. Does the BOD appear in the Replication Document Inbox?

(If there are many documents in the inbox, it can be difficult to find the BOD because currently you cannot filter by BOD name.)

If Yes, continue to the next step.

If No, then something prevented it from being delivered by the BOD service:

- If this is a multi-site system, verify that you are looking at the inbox on the site designated in the Inbound Bus Configuration field of the Service Configuration Manager.
- Check the BOD service logs to find failed message transmissions or information about why the failure occurred.
- Check whether the BOD service is running.
- Check whether the configuration and deployment of the sending/receiving applications is set up properly. See the appropriate integration guide for more information.

2. Is the Processed check box selected?

If Yes, and the expected information does not appear in the appropriate SyteLine form or table, then there was an error in processing. Check the Replication Document Outbox for a Confirmation BOD. A confirmation BOD indicates an error. Check the following areas to determine the cause of the error:

- Windows application event viewer
- LogMonitor utility on the utility server, if it is running

If No, then either the Infor Framework Inbound Bus Service is not running, or it is still working through previous messages.

Problem: *After adding a site in a different database, replication is not working*

If all sites were previously in the same application database, and you add a site in a different application database, you must regenerate views and replication triggers, and repopulate _all tables.

Solution: Follow these steps in one site in each application database:

1. In the Trigger Management form, leave the fields blank and click **Generate** to regenerate table triggers. (This is not related to replication, but it must be done after adding a new site in another database.)

2. If any new replication rules were set up to/from the new site, open the Replication Management form and click **Regenerate Replication Triggers**.

3. In the View Management form, leave the fields blank and click **Generate** to regenerate views over tables.

4. Restart the replication services on the utility server.

5. In the Update _All Tables form, select all tables, set **Site** to the current site and click **Repopulate**.

   Note: This step must be performed at every site and entity.

Problem: *Error in Replication Document Manual Request Utility due to timeout*

If you receive either of the following errors during generation of BODs through the Replication Document Manual Request utility, then transactions are taking longer to run than the timeout values set in SyteLine or other related applications and services.

```
Exception from load collection: Error processing an IDO request
(Protocol=Http, URL=http://jokerswild/IDORequestService/RequestService.aspx):
The remote server returned an error: (500) Internal Server Error.
```

or

```
The transaction has aborted.
Transaction Timeout
```

Solution: For a list of timeout values that can be reset, see the chapter on improving performance in the *Infor SyteLine Administration Guide*.

Problem: *Multi-Site Customers, Items, or Vendors forms are not showing drop-down values for the selected site*

Solution: Make sure that the replication rules are set up between the sites as described in the online help for the multi-site form. Then regenerate the replication triggers at each of the sites involved.

Forms and Utilities Used to Troubleshoot Replication

Replication Tool (Inbound or Outbound Flow)

If errors happen while SyteLine replication is processing an inbound or outbound request, you can use the Replication Tool on the utility server to:

● View, correct, and resubmit inbound and outbound XML request documents
● View the status of sites linked to this site for replication

The Replication Tool can be used to view errors in any XML being sent from Infor SyteLine to a different SyteLine intranet or an external system. For most operating systems, navigate to **All**

Programs > Infor > Tools > Replication Tool. For Windows Server 2012, find Replication Tool under Apps.
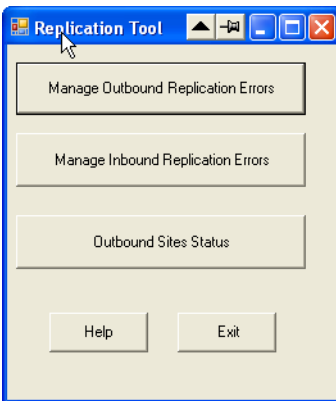
Service Configuration Manager (Setup)

Before you run the Replication Tool, use the Service Configuration Manager utility to configure replication options on the **Replication** tab. Then click **Save** to save these settings in the service configuration XML file specified on the **General** tab.
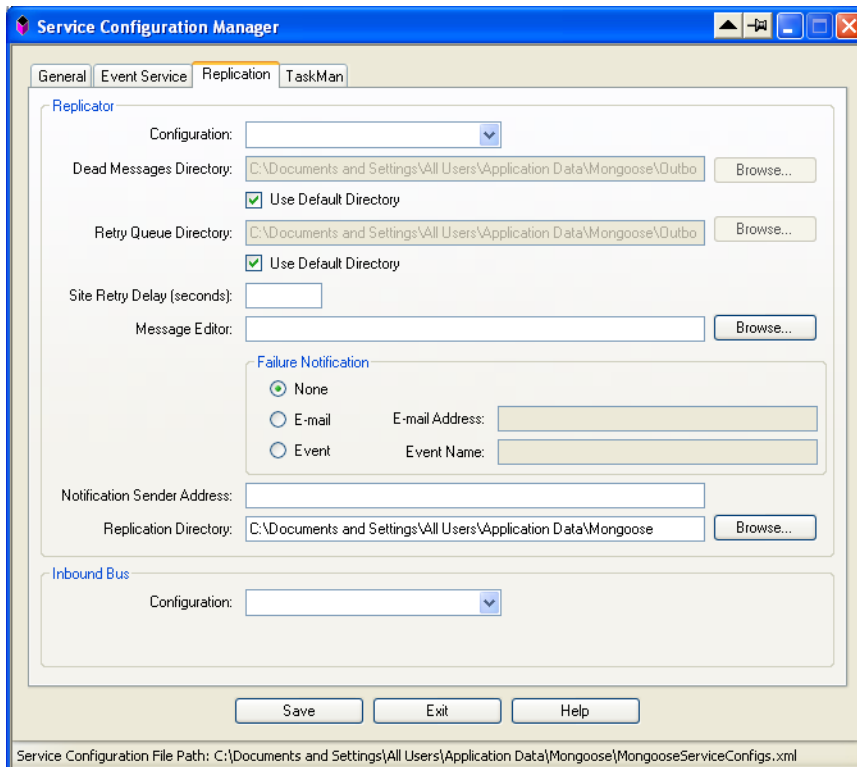
Instructions for using the Replication Tool and Service Configuration Manager are found in their online help.

Replication Errors Form (Inbound Flow)

During non-transactional replication, if an XML document makes it into a SyteLine intranet, is retrieved from the inbound MSMQ by the Replication Queue Listener, but fails when executed against the target site, its errors are displayed in Infor SyteLine's Replication Errors form on the target site. Generally these documents contain valid login and target site information but are failing for another reason.

If an inbound XML document fails before that point, you can view and correct it through the Replication Tool described above.

Use the form to fix and resubmit the data. If the update succeeds this time, the data is removed from the ShadowValuesErrors table; if it fails again, it will remain in the table.

The fields of interest are:

- **From Site**: Site where the record orginated.
- **Object Name/Object Type**: Name and type of record to be replicated (for example, co table).
- **Operation Number:** Distinguishes different elements in the errors. For example, an insert of an item record might use several lines of old and new values, all with the same Operation Number.
- **Operation Type**: Type of operation: insert, update, delete, or method call.
- **Line**: Indicates which line of data for a particular record contained the error. The data is stored in rows of 55 name/value pairs, so for example, if there are 85 columns of data, there will be 2 lines.
- **Old/New**: Indicates whether a particular row of the collection represents the old or new values. For updates, the old values are also displayed.
- **Error**: Text of the error message received when this record was submitted.
- **Label**: Label seen on forms.
- **Value**: Data for a particular column. For example, the column "Description" might have data "bike seat" as a value.

Find Replication Setup Issue

If you know that a specific object (for example, the item_all table) is not replicating changes from the current site to another site, use this form to help troubleshoot why replication is not occurring.

You enter an object name and type (a table, stored procedure, or XML document) and select the remote site name. When you click **List Issues**, any setup errors for that site/object combination are listed.

Some of the setup problems that may be displayed include:

● The From Site or To Site does not exist in the site table.

● No replication category contains the specified object (table, SP, etc.).

● No replication rule exists for the specified From Site and To Site, and for any category that contains the specified object.

● A rule exists for a category using the specified object, but the rule is currently disabled on the Replication Rules form.

● Replication is currently disabled between the specified From Site and To Site on the Sites/Entities form.

● No replication trigger exists for the specified object (if it is a table), or the trigger is disabled.

● The To Site has not been set up with a linked server name on the Sites/Entities form or through the Infor SyteLine Configuration Wizard. (Transactional replication)

   Note: Transactional replication checks are made only if at least one transactional replication rule is enabled at this site.

● The To and From sites are on different database servers, and the To Site's database server has no link to it from this site's database server. This is established through the Linked Servers node in SQL Server. (Transactional replication)

● The To Site's database name is not specified on the Sites/Entities form. (Transactional replication)

● The user name specified for this From Site and To Site does not exist. (Non-Transactional replication)

- The replication user name is not a super user or has not been given access to the proper license module and group. (Non-Transactional replication)

- The To Site and/or From Site does not have an Intranet defined on the Sites/Entities form. (Non-Transactional replication)

- The To Site's intranet has no URL defined on the Intranets form. This is a problem only if the To Site is on a different intranet than the From Site. (Non-Transactional replication)

If no problems are found, the replication triggers may just need to be regenerated.

Troubleshooting Other Setup Problems

You may encounter other error messages during implementation. One common message and its solution is described below.

Message: Maximum Number of Databases Used for Each Query has been Exceeded

Close and restart the Infor SyteLine session where the error occurred. Retry the procedure you were running at the time of the error.

If you still get the error, close all open Infor SyteLine sessions and restart only the one for the configuration you were in when the error occurred. Retry the procedure that caused the error.

Framework Logging

All framework logging, from sources such as as WinStudio, TaskMan, Replicator, and the IDO Runtime Service, is sent to a common logging routine. This log information can be viewed on the utility server through the Log Monitor
(**Start>All Programs>Infor>Tools>Log Monitor**).

Note that information sent to the logs while the Log Monitor program is not running is not stored anywhere. If a developer is using the IDO Runtime Development Server instead of the Log Monitor, that program displays logging information.

Appendix B: Setting Up a Test Environment

<div style="text-align: right">B</div>

Note: Refer to the Support Web site for the latest information on requesting license keys for demo or pilot databases.

Before you "go live" with a multi-site environment, you probably want to set up a test environment, possibly with your company's data. Follow the steps below to set up a multi-site test environment with transactional replication:

1. Create one test site. You have 2 choices:

   - Create an initialized application database that contains a "demo" site with data provided by Infor. This is described in the installation guide.
   - If you have already set up a site using this version of Infor SyteLine with your data in a "test" single-site environment, you can use that site as your initial site.

2. Repeat step 1 to create more application databases with different site names.

   Note: The demo site has an invoice length to 10, so all of your test sites must have an invoice length of 10 if you are using any demo sites in your multi-site test setup.

3. If you want to have multiple sites in a database, choose one of your existing application databases as the target. Copy sites from your other application databases into the target database, using the **Add New Site in SyteLine Database** option in the Configuration Wizard. See Appendix F, "Copying an Existing Site into an Existing Database (Multiple Sites per Database)" for additional instructions

4. Create at least one forms database. If you use the same forms database for both your live and test environments, be aware that any form customizations you make are then applied to both environments.

5. Create at least one object database.

6. On the database server, run the SyteLine Configuration Wizard to link all the sites that you want in your multi-site environment.

7. On the utility server, use the Configuration Manager to create client configurations that point to the new sites.

8. On the utility server, use the Service Configuration Manager to set up monitoring of your new configurations for TaskMan, non-transactional replication, and the application event system.

9. Log into one site configuration on each application database as "sa" .

    a. In the License Management form, enter the license for this database. If you need to request special licenses, see the section in the *Licensing Guide* on licensing Demo and Pilot databases.

    b. In the Sites/Entities form, make sure the application and forms database names are set for each site in this database.

    c. Log out.

10. Log into each site and set up replication rules and/or shared tables between all the sites, as described in Chapter 5, "Setting Up Replication at Sites and Entities."

Appendix C: Data Load To/From Spreadsheets

<div style="text-align:right">C</div>

Requirements for Loading Data From Spreadsheets

If you have many sites with similar data to be entered at each site, it may make sense to load the data into the system from a spreadsheet. The spreadsheet method only works well if you have smaller volumes of data. It is much more difficult to deal with errors in spreadsheets when you are trying to load a large number of records at once.

Note: Consider using Infor Consulting Services if you have larger volumes of data to load. Contact your Infor representative for more information.

- Make sure the columns in the spreadsheet exactly match the order of the grid in the form, and that the data is in the format required by the form. The best way to do this is to create several sample records in the SyteLine form and then export them to a spreadsheet. Then use that data as a template for the other rows. Or you may want to create a "demo" database and export the sample data to use as a template.

  In the template, you may want to hide columns for data that comes from calculated or read-only fields so that you do not enter data into them accidentally. Do not delete these columns; otherwise the columns will not match up when you paste them back into SyteLine.

- Make sure any supporting data has already been loaded. For example, if you try to load a customer address that includes IN as the state, but a Prov/States record does not yet exist for IN, the system sends a validation error and stops importing.

Exporting Data From a Form to a Spreadsheet

To quickly create a spreadsheet that contains all the rows in the current form's grid, including the header rows, use this process:

1. In the form's grid, select the rows (shift-click in the row numbers on the left):
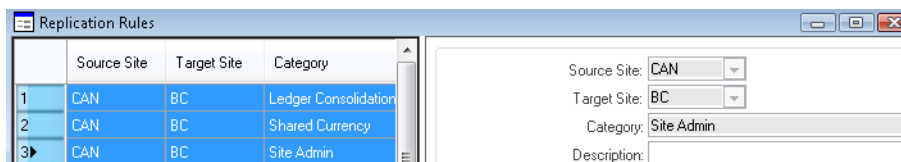
    Note: You can use Ctrl-2 to toggle between the grid view and the form view.

2. Type Ctrl-C to copy the rows to the clipboard.

3. Open a spreadsheet and paste the rows into it. Notice that some columns are empty and some are set to a different format than appears in the form (for example, 0's and 1's instead of checkboxes).

Note: You can also use the SyteLine **Actions > To Excel** menu option. The spreadsheet then automatically opens in Microsoft Excel. By default, this option saves the columns in the order they appear in the IDO collection, which may not be the same order that they appear in the grid. However, you can choose to match the sequence of columns in the grid instead. Also, be aware that rows with multi-line cells that contain hard and soft returns might not work as expected with the **To Excel** option.

Importing Data From a Spreadsheet into a Form

1. Make sure the columns in the spreadsheet are in the same order as the columns in the form's grid.

2. In the spreadsheet, select the rows (shift-click in the row numbers on the left).

3. Right-click and select **Copy**.

4. Make sure the form is in "Add" mode. that is, the **Create a New Object** toolbar button is enabled.

5. In the form's grid, click in the left column of the first empty row:

6. Select **Edit>Paste Rows Append**. The rows are added in the grid:

7. Click the Save button to save the rows.

The copy works only if all the information in the rows is valid and in the proper format. Otherwise, you get data validation errors and the import stops. See "Requirements for Loading Data From Spreadsheets" on page 127.

When the system encounters an error, it asks if you want to correct the field. If you answer **Yes**, the import stops. If you answer **No**, the system continues pasting the rest of the rows. When it completes, you can correct the rows marked with "ne" in the SyteLine form.

Appendix D: Removing a Site or Entity from an Existing System

<div style="text-align: right">D</div>

Note: Be aware that, if you remove a master site, the Multi-Site Customers, Items, and Vendors forms and intranet licensing will no longer be available, since these features depend on having a master site.

The steps below describe removal of a site or entity that exists by itself in an application database.

There currently is no way to remove one site or entity from a multi-site application database. In that case, you would copy the site to one new database, then copy all of the other sites to another new database, then remove the original database that previously contained all of the sites. See the steps for Appendix F, "Copying an Existing Site into an Existing Database (Multiple Sites per Database). Also see "Problem: After adding a site in a different database, replication is not working" on page 118. Many of the logical separation steps described below would still apply in that case.

For more information on any step, refer to the online help.

1. If the site/entity currently reports to an entity and general ledger activity has been performed at the site, do the following:

   a. Post and consolidate all journals and the ledger for transactions in the current site. Run the Ledger Consolidation activity at each site to calculate the ending balances for every account number at the site and consolidate them up through the old entity hierarchy.

   b. Because the full account balances will be closed out and moved, any balances that are to remain in the old structure must be manually transferred to other sites by journal entries in both sites. Post and consolidate those journal entries.

2. If a *site* is being removed from a reporting hierarchy (that is, it currently reports to an entity) the Change Reports To utility should be run at the site, with the **Reports To** field blank.

3. If an *entity* is being removed from a reporting hierarchy:

   a. Run the Change Reports To utility at sites reporting to that entity, to change the hierarchy so that no sites are reporting to it.

   b. If the entity also reported to a higher-level entity, run the Change Reports To utility at the entity being removed, with the **Reports To** field blank.

4. Make sure all other users are logged out of the site. If you are removing a master site, all users must be logged out of all sites on the master sites' intranet. If the remaining sites are all in one

application database, and the removed site/entity is the *only site/entity* not in that database, all users must be logged out of that application database.

5. If the site/entity belongs to an intranet that is sharing tables:

    a. Go to the *master site's* Intranet Shared Tables form and unshare all the shared _all tables. This adds the shared tables back to all of the sites/entities in the intranet.

    b. Go to the *master site's* Intranet Shared User Tables form and unshare the shared user tables. This adds the shared user tables back to all of the sites/entities in the intranet.

    c. At the *site/entity being removed*, go to the Sites/Entities form and change the Intranet value to some other intranet (or make it blank).

    d. If the site being removed **is** the *master site for the shared intranet,* log into the *master site*. On the Intranets form, blank out the Master Site field. This should replicate to all the other sites in the shared intranet.

6. If the site being removed uses intranet licensing, deselect the **Intranet Licensing** check box on the Sites/Entities form and save the record.

    If the site being removed is a *master site* using intranet licensing, you must also deselect the **Intranet Licensing** field at all slave sites and then apply a license at each site.

    > **Caution:** Turning Intranet Licensing off at a site requires that a license document be applied to that site. It may also result in incomplete licensing on that site for some user-created objects, because the ModuleMembers records created for new and copied forms will have been created in the master site application database and in the originator's site application database. If Intranet Licensing at a site is disabled, and if it is not the master site or the site from which the new or copy action was originated, then the appropriate ModuleMember licensing records for those user-created forms and IDOs are not present in the application database of that site

    Users cannot access sites where you have turned off intranet licensing until you either set up specific licensing for that site, or set up a new master site with intranet licensing and then reselect the **Intranet Licensing** check box at the master and slave sites.

7. Remove replication rules:

    - from other sites and entities to the site/entity being removed
    - from the site/entity being removed to other sites and entities.

8. If the removed site/entity uses a linked server definition to connect to other sites/entities (see step 9 on page 19), change the linked server setup within SQL Server or with the Configuration Wizard on the database server.

9. If the remaining sites are all in one application database, and the removed site/entity is the *only site/entity* not in that database, use the **Update _All Tables** form to truncate the _all tables in each site/entity.

10. Delete the removed site/entity's record in the Sites/Entities form at the other sites and entities.

    Since the Site Admin category is replicated between all sites/entities, removing the site record from one site/entity should remove it from all of the others. Verify this at each site/entity.

You may need to delete data relating to the removed site, so that Infor SyteLine will allow the deletion of the removed site's records on the Sites/Entities form. If so, an error message displays information about the problem. You can also use SQL queries to review any data that references the site/entity, to make sure you are not leaving databases in a state where orphaned data causes issues with functionality.

Some records for the site are automatically removed by the system. For example, the site's record is removed from the Site Groups form.

Site records remaining in _all tables should not cause problems with the application. However, they do take up space in the database. See step 16.

11. If the remaining sites are all in one application database, and the removed site/entity is the *only site/entity* not in that database, use the **View Management** and **Trigger Management** forms to regenerate the views and table triggers in that application database.

12. If the site being removed was the master site, specify a new master site (optional). Log into the site that will be the new master site. On the Intranets form, select the shared intranet. In the **Master Site** field, select this site to specify it as the master site for the intranet.

13. At the *master site*, delete any references to the removed site in the Sites/Entities form's **Link Info** tab.

14. In the *removed site/entity*, delete records for the other sites/entities in the Sites/Entities form. See the Note above.

15. Regenerate the replication triggers at *all sites/entities*.

16. You may want to use the Update _All Tables utility to truncate and repopulate the _all tables, deleting references to the removed site. Or you may want to temporarily preserve the site records in the _all tables for later auditing. If you choose to truncate/repopulate, perform the truncation at all sites/entities first; then perform the repopulation at all sites/entities. (If you truncated the tables in step 9, you can skip this step.)

17. If the site/entity was removed from an intranet with shared _all tables, go to the *master site*. Open the Intranet Shared Tables form and re-share the shared _all tables that you unshared in step 5.

18. If the site/entity was removed from an intranet with shared user tables, go to the *master site*. Open the Intranet Shared User Tables form and re-share the shared user tables that you unshared in step 5.

19. In the Service Configuration Manager on the utility server, if the removed site's configurations were being monitored by TaskMan or the Event Service, remove it from the list of monitored configurations. If the site's configuration was the bootstrap configuration for the Replication services or for the Inbound Bus service, specify a different configuration to use.

20. In the Configuration Manager on the utility server, remove the site's configurations from any configuration groups, and remove or edit the configuration definitions.

21. Restart the Infor Framework services on the utility server to pick up the configuration changes.

After removing this site/entity from its current system, you might want to add it to another SyteLine multi-site system.

Appendix E: Adding a Site or Entity to an Existing Shared Tables Intranet

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After your multi-site system is set up and running, you might need to add a site to it. Use this chart to find the instructions to use:

New or Existing	Adding to a database with	See
New site or entity	One site per database	page 136
New site or entity	Multiple sites per database	page 21
Existing site or entity	One site per database	page 140
Existing site or entity	Multiple sites per database	page 143

To simplify the explanation of this process, we will use these site names in our examples in this chapter:

● OH is the master site on the existing shared tables intranet.

● MI and CA are other sites on the intranet.

● IN is the site being added to the intranet.

About Manual Replication

During this process, one of the steps you will perform is manual replication from the master site to the new site.

Before you can perform manual replication from the master site, site records must already exist in the target database (the new site) for all sites in the master site's intranet. That is, if the master site's intranet includes OH (the master site), MI, CA, and KY, and you are adding the new site IN, then you must create site records in the IN site for OH, MI, CA and KY, before you run manual replication from the master site (OH) to the new site (IN). You should only fill in the site name and time zone when you create the other site records at IN. During manual replication, the site records at IN are overwritten with the information from the site records at OH.

Add a New Site or Entity to an Existing System (One Site per Database)

To add a new site or entity with no existing data to an existing multi-site system with a master site and shared tables intranet, follow these steps. See the relevant chapters earlier in this guide for additional details about any step.

Note: Back up all existing databases before starting this process.

1. On the *database server*, create the additional site or entity database as described in "Create Additional Site and Entity Databases" on page 16. Do not link the database.

2. On the *utility server*, use the Configuration Manager to set up a client configuration for the new site (named IN using our example), using the steps under "Create Additional Client Configurations" on page 26.

3. Apply the same patches to the new database that have been applied to the other databases in the shared intranet.

4. If you have UETs defined at other sites in the shared intranet, ensure that the same UET schema changes are made in the new site.

5. Use the Trigger Management form to regenerate triggers for all tables in the new site.

6. Follow the other steps in Chapter 3 to do the following:

   - Use the Configuration Manager to set up any new web servers or configuration groups needed for the new configuration.
   - Use the Service Configuration Manager to add event monitoring for the new configuration, if needed.
   - Use the Service Configuration Manager to add TaskMan monitoring for the new configuration.
   - Stop and restart the Infor services so they are aware of the new configuration.

7. Log into the *new site* (IN), using the SQL sa user name and password.

8. In the *new site* (IN), open the License Management form and apply the license. (If you are using Intranet Licensing for your shared intranet, skip this step.)

9. In the *new site* (IN), open the Sites/Entities form and look at the existing record for this site (IN). The record should include the time zone, an intranet name (probably Demo if this is a new site), a database name, and a forms database name.

10. In the *new site* (IN), in the Sites/Entities form, add site records for all sites that already exist on the shared intranet. In our example, you would add records for OH, MI, and CA.

    Note: In the records for the other sites, only specify a **Time Zone**. Any information in these records will be overwritten later, when you run manual replication. See "About Manual Replication" on page 135 for more information.

11. In the *master site* (OH in our example), open the Sites/Entities form and add a site record for the new site (IN). In this record, specify *exactly* the same information (Time Zone, Intranet Name, Database Name, etc.) that is displayed in the IN record at the IN site.

12. In the *master site* (OH), in the Sites/Entities form, add Link Info for each site. For example, the Link Info for the master (OH) site record looks like this:

To Site	Linked Server Name
CA	usserver1\slutil
IN	usserver2\slutil
MI	usserver1\slutil

The Link Info for the CA site record looks like this:

To Site	Linked Server Name
IN	usserver2\slutil
OH	usserver1\slutil
MI	usserver1\slutil

The Link Info for the MI site record looks like this:

To Site	Linked Server Name
CA	usserver1\slutil
IN	usserver2\slutil
OH	usserver1\slutil

The Link Info for the new site record (IN) looks like this:

To Site	Linked Server Name
CA	usserver1\slutil
MI	usserver1\slutil
OH	usserver1\slutil

Note: Do not manually update the site records at any of the other existing sites on the intranet.

13. In the *master site* (OH), add a replication rule to send Site Admin data to the new site (IN):

14. In the *master site* (OH), open the Replication Management form and regenerate replication triggers.

15. In the *master site* (OH), open the Manual Replication Utility and send all Site Admin data from the master site (OH) to the new site (IN). Clear the **Local Site Data Only** field.

16. In the *new site* (IN), open the Sites/Entities form and verify that the site records for the other sites (OH, MI, and CA) were updated.

17. In the *new site* (IN), open the Intranet Shared Tables form and verify that tables that are shared in the other sites now appear to be shared in this site.

    Note: Although the tables *appear* to be shared, they are not actually shared until after you complete step 18.

18. In the *new site* (IN), open the Sites/Entities form and change the **Intranet Name** to the shared intranet's name. After you select the intranet, you will see this message:

    At least one Intranet Shared Table where Shared is Yes exists for Intranet that has [Intranet: *name*]. Processing may require a significant amount of time.

    Click **OK** and save the record.

    During the process, several Replication Triggers Regenerated messages are displayed.

19. Use the View Management and Trigger Management forms at each site and entity to regenerate the views and table triggers.

20. In the *database server* for the new site (IN), verify that the shared _all views have been created and the shared _all tables no longer exist:
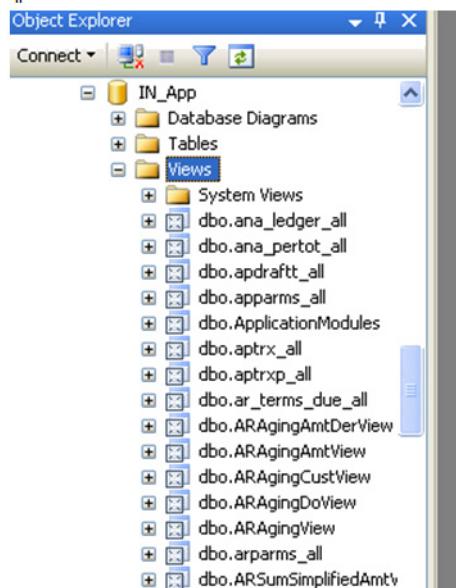
    Note: Depending on your setup, some _all tables might be shared, and others might not be shared. In that case, you will still see some _all tables in the Tables node, but the shared _all tables should not be listed.

21. At this point, you can set up other replication rules in the *new site* (IN) to/from other sites in the intranet. See Chapter 5, "Setting Up Replication at Sites and Entities," for more information.

22. Regenerate the replication triggers after adding the rules.

23. At the *new site/entity*, follow the steps in Chapter 7, "Setting Up Accounts and Financial Reporting Hierarchies to set up the site's accounting and reporting information.

    ● For *new sites* that report to an *existing entity*, the chart of accounts and accounting periods should be automatically replicated. In order for this to occur, these conditions must be met:

        ● The hierarchy between the site and entity must be set up as described in Chapter 7.

        ● The Ledger Consolidation rule must be set from the entity to the site, and the GL Replication rule must be set from the site to the entity, and replication triggers must be regenerated.

        ● Manual replication of Ledger Consolidation from the entity to the site, and manual replication of General Ledger from the site to the entity, must be processed.

    ● For *new entities*, the chart of accounts and accounting periods must be copied manually as described in Chapter 7.

    ● If some *existing sites* will report to a *new entity*, use the Change Reports To Entity utility at those sites to specify the new reporting hierarchy. Do this *after* performing all of the other steps in Chapter 7 and - if there are now multiple levels of entities - after specifying the CTA account information at the corporate (top-level) entity as described on page 84.

24. Follow the steps in Chapters 8-12 to finish setting up the new site or entity. You will probably be copying much of the data from existing sites.

   - On the Inter-Site Parameters form, if appropriate, set up relationships between the new site and the other existing sites that will be transferring items or material to/from the new site. If Site Admin is being replicated, this information will be added automatically at the other sites.
   - On the Order Entry Parameters form, set the invoice length to match the length set at the other sites.

Add an Existing Site or Entity to an Existing System (One Site per Database)

To add a site/entity with existing data to an existing multi-site system, follow these steps. See the relevant chapters in this guide or the online help for additional details about any step.

Before You Start

- Back up all existing databases before starting this process.
- If the existing site currently reports to an entity and will report to a different entity after moving, think carefully about the implications.
- Also, if the site previously did not report to an entity, but it will now, you must ensure that the site's currency, chart of accounts, and so on, match those at the entity.
- See the information in the *Multi-Site Planning Guide* about entities and reporting structures, especially the information on changes to reporting structures.

Steps

1. If the site currently is part of another multi-site SyteLine system, follow the steps in Appendix D, "Removing a Site or Entity from an Existing System." Then return to this page and complete the following steps.

2. Follow steps 9 through 16 under "Add a New Site or Entity to an Existing System (One Site per Database)" on page 136; then return to this process.

3. To synchronize customer and vendor information at *sites*:

   a. Using SQL queries, find existing vendors and customers in the newly added site that have matching numbers but different names in existing sites.

   b. At the added site, use the Move Local Customers and Move Local Vendors utilities to change customer and vendor numbers at this site to match the number used at existing sites in this multi-site system. See the online help on these forms for more information about how to use them.

   c. If you ran the Move Local Customers utility in the previous step, run the Rebalance Customer Balances utility to update the customers' posted balance and order balance.

4. Set up replication rules between the new site/entity and the other sites and entities. For more information, see Chapter 5, "Setting Up Replication at Sites and Entities."

5. Regenerate the replication rules at all sites and entities.

6. If the added site/entity will report to an entity in its new structure:

   a. If chart records exist at the added site/entity that do not exist at the entity it will report to, add those records to the financial entity.

   b. Run the Change Reports To Entity utility at the added site/entity.

- You can only change the Reports To Entity to a financial entity that has the same base (domestic) currency, Chart of Accounts and accounting periods. Also, the system verifies that all accounts defined at the site already exist at the financial entity. If this validation fails, the change will not be allowed and a report is created detailing the failures.

- If no Chart of Accounts, financial statement account templates, or accounting periods have been set up yet at the site, this Change Reports To Entity utility will copy them from the entity to the site.

   c. Run Ledger Consolidation (again) at each site/entity in the new structure. This consolidates the beginning balances for each account up through the new financial entity hierarchy.

7. If you are adding an *entity*:

   a. If chart records exist at the existing site/entity that do not exist at the added entity they will report to, add those records to the entity.

   b. Run the Change Reports To Entity utility at the sites that will report to this entity, specifying the name of this added entity.

- You can only change the Reports To Entity to a financial entity that has the same base (domestic) currency, Chart of Accounts and accounting periods as the site. Also, the system verifies that all accounts defined at the site already exist at the financial entity. If this validation fails, the change will not be allowed and a report is created detailing the failures.

- If no Chart of Accounts, financial statement account templates, or accounting periods have been set up yet at the site, this Change Reports To Entity utility will copy them from the entity to the site.

   c. Run Ledger Consolidation (again) at each site/entity in the new structure. This consolidates the beginning balances for each account up through the new financial entity hierarchy.

Add a New Site into an Existing Database (Multiple Sites per Database)

See "Add New Sites and Entities to an Existing Application Database" on page 21."

Appendix F: Copying an Existing Site into an Existing Database (Multiple Sites per Database)

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Before You Start

Think about these things:

● If you have custom tables in your existing sites (possibly created with the SQL Tables form in a previous version of SyteLine), they will be copied, but they will not be changed to multi-site tables. That is, the table name is not changed to xxx_mst, no view is created over the table, and no multi-site column is added to the table. If you want a custom table to be multi-site, create and run a script to perform conversions. For more information about the required schema conversions, see the white paper *Coding and Schema Changes Made in SyteLine 9.00 for Multiple Sites per Database*.

● Tables or columns that exist in the source must also exist in the target database. So if you have custom tables or columns in the source, you must make sure they are added to the target.

● Use the **Analyze Only** option (see below) to find additional potential problems that you must address before you perform the copy. If you do not find and correct these problems, and the copy process hits a validation error, the copy process is aborted.

● For the current version of Infor PCM (BuyDesign), configuration output tables are excluded from this process and are not copied to the target database by the SyteLine Configuration Wizard.

Steps

To copy an existing site from a (source) application database into another (target) application database:

1. Disable any replication to the source site for the duration of the copy process. Prevent users from accessing or making any changes in the source and target databases during the copy.

2   Open the SyteLine Configuration Wizard.

3   Select **Add New Site to SyteLine Database** and click **Next**.
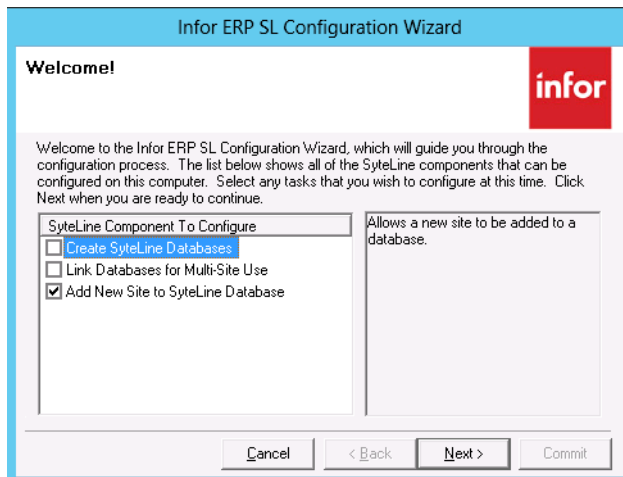
4   In the **Select Source Site Type** dialog box, select **Database** and specify the SQL information about the source database and site.
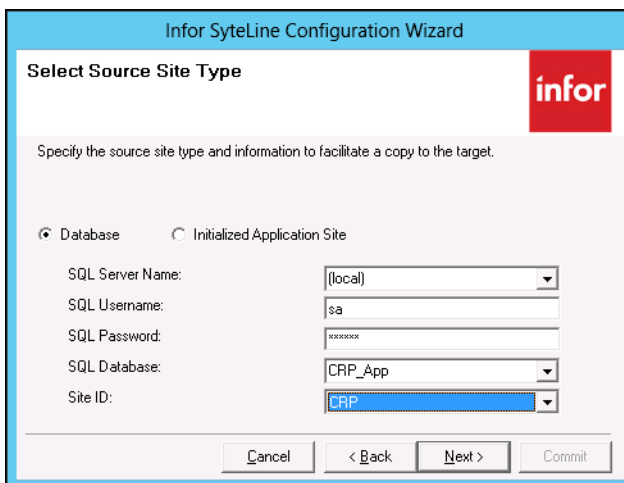
5   Click **Next**.

6   In the Set the Target Database Information dialog box, specify the SQL information about the target application database into which the site will be copied.

7   Select **Analyze Only** to compare the two databases (source and target) to identify any problems that might occur during the copy. Possible problems to be addressed are listed in "Validations" on page 146.

8   Click **Next** to review changes.

9   Click **Commit** and then click **Finish**. Review the log file for analysis results.

10 After any problems are resolved, repeat the steps above and clear **Analyze Only** so the copy can be performed. See "What Is Copied" on page 147 for a list of the types of information that is copied, and exceptions that are not copied.

11 Click **Next** and then **Commit** to complete the process.

12 On the utility server, use the App Document Metadata Sync utility to export replication document metadata from the source database and import it into the target database. In the first screen, select both the **Base SyteLine** and **Core** Access As values. In the second screen, select **Replication Documents**. Password parameters are copied from the source database to the target database if the target database is empty (and therefore does not include password parameters).

13 Redefine any Full Text Indexes on tables in the target database.

14 Verify that the site in the target database is working properly and all data was copied correctly. Then you can delete or archive the source database.

Note: This step assumes that the source database contains only one site. If the source database has multiple sites, you cannot delete or archive one site from the database.

Re-licensing the target database

After you perform this procedure, you might need to re-license the target database, depending on how the source site was originally licensed. Here are some examples where re-licensing might be required:

● If Intranet Shared Licensing is used, the target database looks to the master site for licensing. If the master site is being moved into the target database, the target database must now be licensed.

● Named user licensing was used at the source site, but concurrent licensing is used in the target database.

● The source was defined as an "entity" database, but the target database currently contains only "sites" and is not licensed for "entities."

See the *Licensing Guide* for more information about licensing setup.

Validations

During the process, these areas of validation are performed:

● Is the target database partitioned? If not, in the target (empty) database, foreign keys are dropped, the partition function is created, partition scheme is created, multi-site tables are partitioned using the partition scheme, and foreign keys are recreated.
If the target database is already partitioned, the partition scheme and partition function are updated for the site that is being added.

● If user table or _All table sharing is enabled for either the source or target database, then the source site and all sites in the target database must be on the same intranet. Otherwise, the process is aborted.

● Table compatibility:

    ● If a table exists in the source database, but a table with the same name does not exist in the target database, the process is aborted.

    ● If a table exists in the target database, but a table with the same name does not exist in the source database, a warning is logged but the process continues.

● User Extended Tables (UET) compatibility:

    ● If the Source and Target databases both have UET data, verify its compatibility. If these areas are not compatible, the process is aborted:

        ● For fields, no differences in data type, decimals, user-defined datatype, and precision.

- For indexes, no differences in index uniqueness specification or fields.
- No difference in fields associated with a class.
- For table classes, no differences in table_rule, extend_all_recs, allow_record_assoc, and active values.
- If the Target database has UET data that is not impacted, the process is aborted.
- If there is a unique UET index on a _mst table, the copy process is aborted. You must add the Site Column Name to the index. (If you plan to later add a unique UET index in this _mst table with UET fields, you must manually add the site_ref column to this index.)
- If any Application Event System events are actively running or queued in the source database, the process is aborted. The events are listed in the error messages with the name of the event, the IDO, the table, and the RowPointer.
- If any differences are found in these areas for Application Event System events, a message is logged but the process continues:
  - Differences in values for matching EventHandler records
  - Differences between any matching EventAction values
  - Event actions that exist for a handler in the source, but not in the target, or vice versa
  - EventActionVariableAccess values that differ between the source and target
  - For an event, sequence, event action sequence, and variable name, any rows that exist in the source, but not in the target, or vice versa

What Is Copied

During the process, this data is copied from the source to the target database:

- UET definitions. Only the impacted schema changes are copied. If the source database has UET data that has not been impacted, it is not copied. The schema is impacted at the target if necessary. (See above for validation information.)
- All multi-site tables except AccountAuthorization_mst, user_local_mst, and UserGroupMap_mst. If these three tables are not shared, then they are copied like any other multi-site table. If these tables are shared, they are processed like other user tables, based on the type of sharing being done (see below).
- All non-multi-site tables. Some tables require special processing:
  - Notes: Internal token numbers that overlap are renumbered. If the same note text exists in both the source and target databases, after the copy there are duplicate notes in the target.
  - Documents: Sequence numbers that overlap are renumbered.
  - Service schedules (see above for validation information)
  - Application Event System data:
    - New Event rows are copied from source to target
    - New EventMessageCategory are copied from source to target
    - New EventInitialState rows are copied from source to target

- If anything is different in EventInitialVariables for an existing EventInitialState record, the state is renamed when it is copied to the target. For example, xxx becomes xxx2. The copied event handlers are also changed to use the new initial state name.
- New EventInitialVariable are copied from source to target, as well as existing rows that required a newly renamed EventInitialState record.
- Users and Groups: What is copied depends on the type of sharing, if any, currently being done between the source site and the target database:
  - No sharing of user tables between source and target: for tables where UserId is part of the unique key, copy the unique records; if duplicate user IDs exist, use the record from the target.
  - If all sites are on the same intranet, the source site is a subordinate site and the target database contains a master site: For tables where UserId is part of the unique key, copy the unique records; if duplicate user IDs exist, ignore the duplicates, remapping UserId during the process for comparison.
  - If all sites are on the same intranet, the source site is the master site, and the target database contains only subordinate sites: Drop the view in the target database, and copy the source table into the target database. For tables where UserId is part of the unique key, copy the unique records; if duplicate user IDs exist, ignore the duplicates, remapping UserId during the process for comparison.
  - If all sites are on the same intranet, the source site is a subordinate site, and the target database contains only subordinates sites: For tables where UserId is part of the unique key, copy the unique records; if duplicate user IDs exist, ignore the duplicates, remapping UserId during the process for comparison.
  - UserPasswordHistory: If users are shared, this table is always shared. If users are not shared, and the user already exists in the target database, the history is not copied. If the user does not exist in the target database, the history is copied.
- Custom (non-SyteLine) tables, either multi-site or not multi-site. To copy a non-multi-site custom table, the copy process requires a unique constraint on the table, and it tries to move any data from the source to the target that does not already exist in the target, based on this constraint.
- Updates site.app_db_name to the database name of the target database
- Updates site_link_info.linked_server_name to the server name of the target database for all rows where site_link_info.to_site = site being moved

If the source site is in a database that contains other sites, the data is filtered so that only the specified site's data is copied.

Appendix G: Upgrading a Multi-Site System

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To upgrade from SyteLine version 7 or 8, see the *Infor SyteLine Installation Guide* chapter on upgrading a SyteLine database. Follow the steps in that chapter to upgrade each of your application databases.

To migrate a SyteLine version 5 or 6 multi-site environment to Infor SyteLine 9, see the *Infor SyteLine Installation Guide* chapter on migrating from SyteLine 5 or SyteLine 6 (multi-site). Follow the steps in that chapter to migrate each of your application databases.

Note: If you plan to keep all of your sites in separate databases, then stop here and do not continue with the steps below.

Converting a Multi-Site, Multi-Database System to a Multi-Site, Single Database System

After reading the information in the *Multi-Site Planning Guide*, if you want to convert from a multi-site, multi-database system to a multi-site, single database system, use these steps:

Note: SQL Server Enterprise Manager must be installed on the target database server.

1. If you are on a previous version of SyteLine, upgrade each of your site databases to the current version (SyteLine 9.00 or above). See the *Installation Guide* for instructions.

2. If you have any business partner add-on products, upgrade those products on each of your site databases. See the appropriate product guide for instructions.

3. On the target database server, use the SyteLine Configuration Wizard to create a new, **empty** application database that will contain the sites and entities in your new multi-site, single database system. This database is automatically partitioned when it is created.

4. Follow the steps in Appendix F, "Copying an Existing Site into an Existing Database (Multiple Sites per Database).

5. After all sites are copied, use the View Management and Trigger Management forms to regenerate the views and table triggers in all application databases.

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