Honeywell

Pro-Watch™ Software Suite
Release 4.3.5

Enterprise Configuration Guide

June 2017

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Overview

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1.1 Enterprise Overview

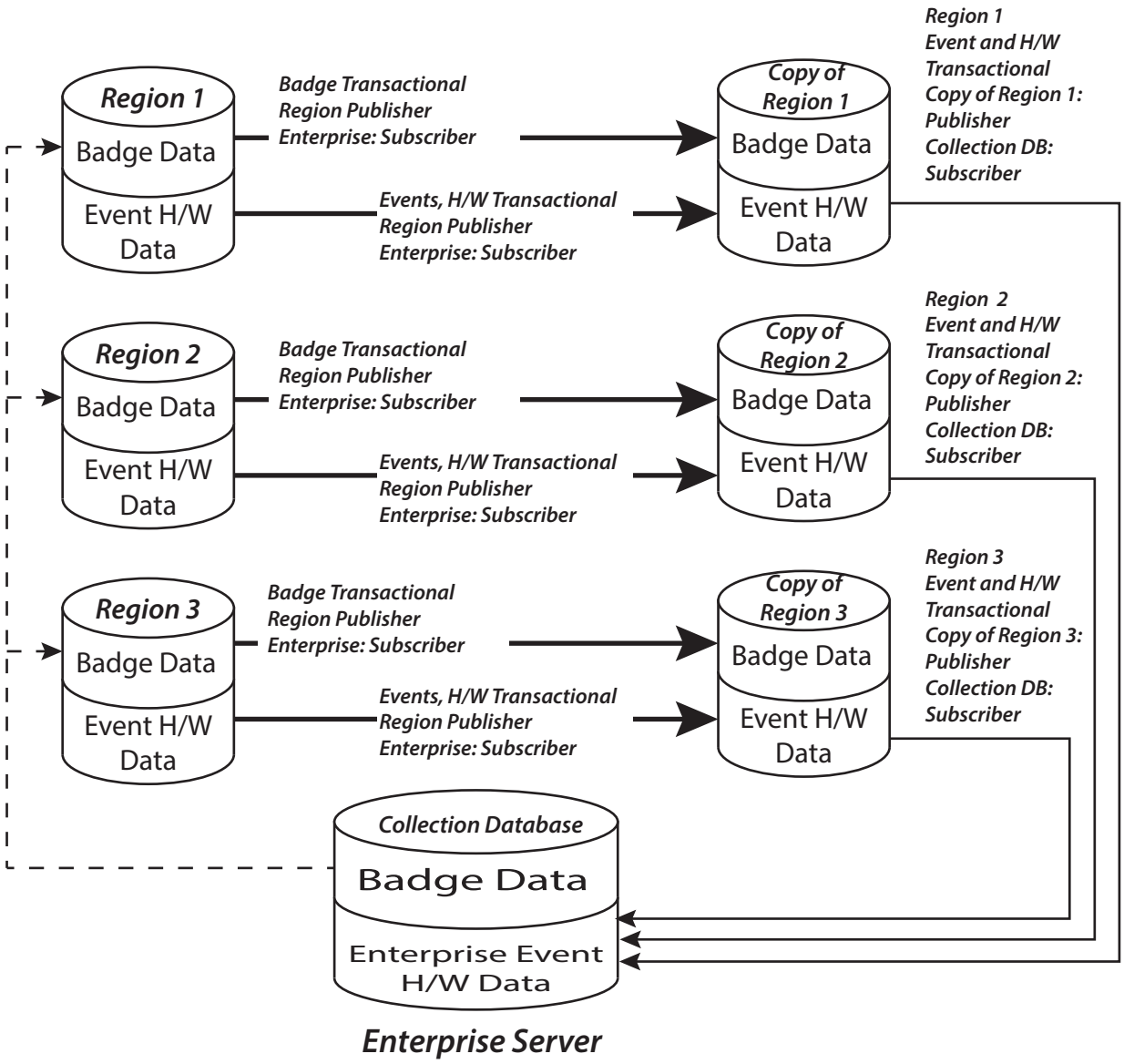
A Pro-Watch Enterprise system is a system that consists of multiple regional Pro-Watch installations and a central Enterprise server used as a data repository and central hub. This distributed system uses merge and transactional replication to coordinate badging and event transactions across the distributed system.

Pro-Watch Enterprise uses Structured Query Language (SQL) Server to create a central Pro-Watch database that is accessible to all regions in the enterprise. This Enterprise collection database includes a copy of each regional Pro-Watch database. The copy is called a publisher database. Each region's alarm, event, and badging data are replicated to its respective publisher database in the Enterprise server. Then, all publisher databases publish their data to the Enterprise collection database to create a single database for the entire enterprise.

The badging data is published by merge replication. Badging data from all regional publisher databases is merged into the single Enterprise database at regularly scheduled intervals. Then, the badging data in this Enterprise database is "pushed back" to each regional server and merged with the regional server's Pro-Watch database. The enterprise-wide badging data at every region is therefore synchronized.

A merge replication schedule also keeps the badging data current across the enterprise. Figure 1-1 illustrates the Pro-Watch Enterprise data replication.

Figure 1-1 Pro-Watch Enterprise Data Replication



1.1.1 Merge Replication for Badging

The Enterprise system uses merge replication from the central Enterprise server to propagate the changes made to badges on any one of the Pro-Watch regions to all of the other regions. This enables the single collection of badges to be able to access hardware at any of the regional sites. Badges are common to all regions, but access is granted on a region-by-region basis, using either the company membership of the badgeholder or individual device grants and revokes to control access at a particular region.

The SQL Enterprise server uses a unique identifier, called a “rowguid.” A rowguid identifier is added to the badging table of each region participating in replication, in conjunction with special triggers that track inserts, updates, and deletes. An SQL server agent (called the “merge agent”) uses the

rowguid identifier to track the current version of a particular row, and if that row gets updated at one of the regions, then the change is first propagated over the network to the Enterprise server central repository database, and then the Enterprise server propagates the change out to each of the other regions. All of this data propagation occurs according to schedules. The schedules can be configured on a region-by-region basis to conform to slow network links or other bandwidth constraints.

1.1.2 Transactional Replication for Event Control

Regional alarm and event data are published by transactional replication; that is, the events and alarms are replicated as they occur. The transactional replication "pushes" event transactions from all of the regions down to the central Enterprise server. This enables the Enterprise operator to monitor any region's events from any region, and to create enterprise-wide reports.

The SQL Enterprise server uses an agent called the "log reader agent." The log reader agent tracks row changes in the Regional server tables that handle events and hardware definitions. When an insert, update, or delete is detected in the transaction log for the replicated database, the log reader detects the change and pushes the data from the region down to a partial copy of the regional database that exists on the Enterprise server for each region. Then, another log reader agent catches the change and pushes it to the central repository database.

To avoid primary key conflicts, a special varbinary column (called REGIONAL_ID) is added to each table participating in transactional replication. The REGIONAL_ID contains the workstation ID of the region to guarantee each row's uniqueness in the central repository database. By default, the transactional process runs continuously, but it may be scheduled if more control is needed during the data transfer.

1.2 Enterprise Components

1.2.1 Database

The Pro-Watch Enterprise system includes three database categories:

Badging, or cardholder, data. Badging data includes any data that is directly related to defining the Cardholder and printing a badge. This includes First Name, Last Name, Card Number, Location, Department, and so on.The Cardholder template data must be visible to all regions. Therefore, the Cardholder data must be created in a single Company at the Enterprise level. This data is then saved at the Enterprise server and distributed to all regions. Note that the Badging data does not include any Clearance Codes, since these are created and assigned at the regional level.

Event data. Event data includes all transactions that occur anywhere within the entire Enterprise system. An operator at any Regional server can run reports directly on anything that has occurred within the region. By connecting to the Enterprise server, an operator can run a report on any activity recorded at the Enterprise server from anywhere within the entire system.

Hardware configuration and Clearance Codes. The hardware configuration and clearance code data is region-specific. Therefore, it is normally viewed and used for reports within each region. Like event data, it is possible to connect to the Enterprise server and run a global report.

1.2.2 Enterprise Server

The Enterprise server contains copies of both a Collection Database and a Copy Database for each region in the complete system.

Collection database. The collection database serves as the publisher, or master site, for all Badging data created at the Regional servers and clients. It gathers and stores all Cardholder entries, modifications, or deletions from all locations. It does this on a timed schedule established by the installer and system administrator. The program also decides on a hierarchy if changes are made to the same Cardholder record at two or more regions before synchronizing with the Enterprise database.

Copy database. The Collection database also serves as the final destination for all event activity that occurs, and it is collected at the Regional servers. It functions as a "subscriber" to each of the regional databases that automatically forward transaction logs to it. The Copy databases are automatically updated by the Regional servers as long as communication is intact.

Note: There can only be one Enterprise server on the enterprise system; the Enterprise server cannot also be a Regional server.

The Enterprise server requires the following:

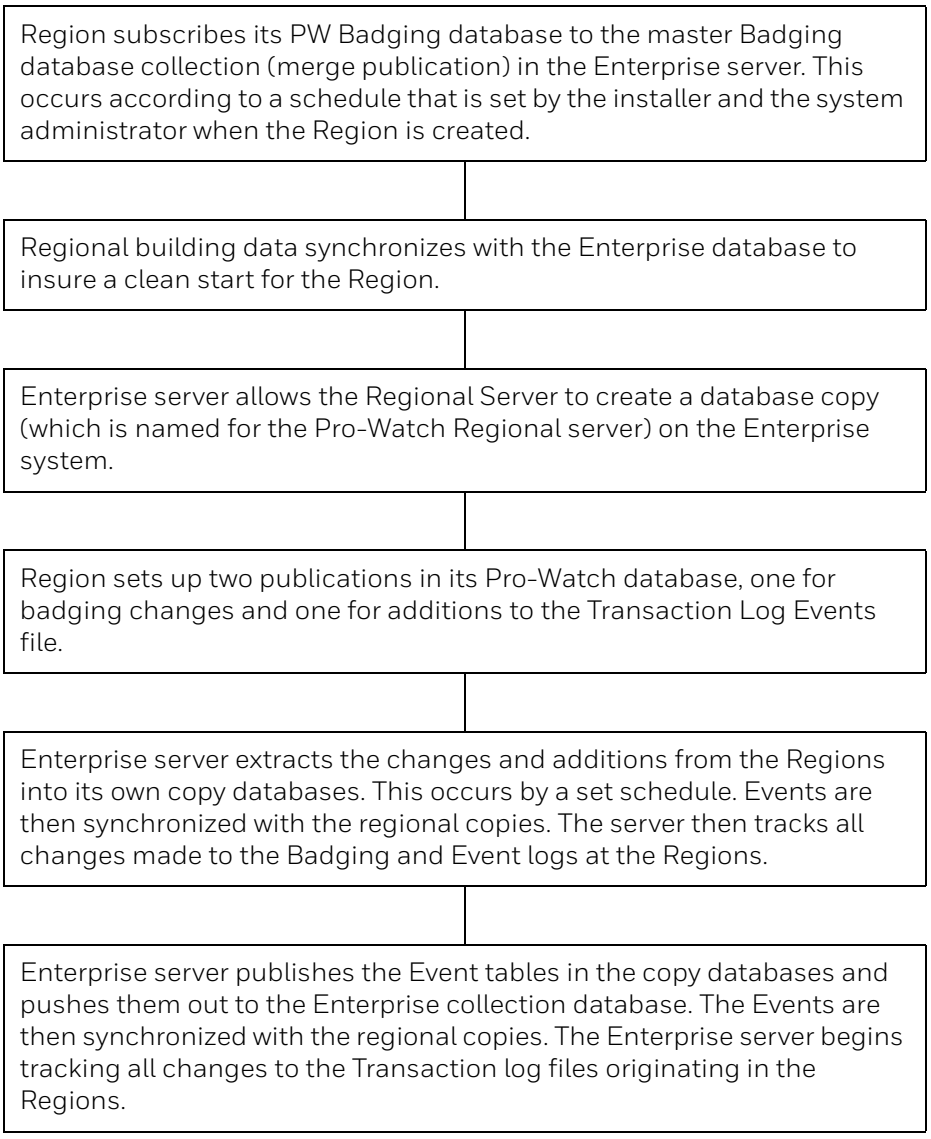
- Microsoft Windows Server 2008 or Windows Server 2012 R2.
- SQL 2012 SP1.
- Pro-Watch Client.
- Data drive (not C:) with capacity up to 300 GB. The server's collection database collects data from all Regional servers. If the collection exceeds the drive's capacity, the system will fail. Also, if the Regional systems cannot deliver their transactions to the Enterprise server, they will fail as well.
- O/S drive configured as a spindle drive sized for the O/S files (100 to 200 GB).

1.2.3 Regional Servers

A Regional server begins as a Pro-Watch Corporate Edition system. The Professional Edition system uses a Microsoft SQL Server Express edition database, and it is not compatible with the Enterprise Server SQL database.

The Regional server functions as a Pro-Watch Corporate Edition server. With the "Standard Server" Enterprise option configured, the Regional server forwards database updates to the Enterprise server and retrieves enterprise-wide updates to cardholders.

When the Regional server is incorporated in an Enterprise system, the following events occur:



The Enterprise server requires the following:

- Microsoft Windows Server 2008 or Windows Server 2012 R2.
- SQL 2012 SP1.
- Pro-Watch Client.
- Data drive (not C:) with capacity up to 300 GB. The Enterprise server sends each Regional server the badging data for the entire enterprise. If the data exceeds the drive's capacity, the system will fail.
- O/S drive configured as a spindle drive sized for the O/S files (100 to 200 GB).

1.3 Workaround Solution for Creating Enterprise DB

Some users may get an error message when creating the Enterprise DB from the Enterprise UI.

Here is a workaround solution for such users:

Insert the BADGE_C_AUX in the TABLE_REPL with REPL_STATUS value as 2 in your Enterprise machine PWNT database.

SQL Script: "INSERT INTO TABLES_REPL VALUES('BADGE_C_AUX', 2)"

Enterprise Setup

2

In this chapter...

2.1 Overview

This chapter explains how to configure a Pro-Watch Enterprise system. An Enterprise system, by definition, requires the coordination of multiple systems, personnel, and infrastructure. Enterprise configurations vary from enterprise to enterprise, depending upon each enterprise's needs. However, all Enterprise systems consist of multiple regional Pro-Watch installations and a central Enterprise server used as a data repository and central hub.

2.1.1 Workaround

Here is a workaround to save Signature on Advanced Badging when it is connected to Enterprise Server as a Regional Server:

1. In **SQL**, right click on **server ID** and select **Properties** from the menu.
2. Click **Advanced**.
3. The "**Max Test Replication Size**" is set to **65536**. Change it to **-1 (minus one)**. -1 causes SQL not to limit the size of the replication object.

All Regional Servers must be updated.

2.2 Planning an Enterprise System

Pro-Watch Enterprise system designs vary from enterprise to enterprise, depending upon the enterprise's particular needs. However, the following points are useful for every Enterprise designer to consider:

Availability of bandwidth between Region servers and the Enterprise server. You will need to gauge the quantities of changes, transaction loads occurring at the Region, host updates, and business rules to handle data consolidated from multiple sites into one central repository.

- Potential for duplicate logical records. Pro-Watch, with a few exceptions, guarantees that no two primary keys in the database will be duplicated. A logical duplication occurs if two regions add, for example, two holiday records that both refer to New Year's Day. When you view data on the Enterprise, you see multiple New Year's holidays, each coming from different regions.
- You also should avoid duplication of badgeholder records. For example, two regions should not be able to enter the same badgeholder twice. While you may have multiple people with the same name, each enterprise should design a business rule to perform a unique identification of each person by a criterion other than the person's name. Another way to solve the problem would be to have a Human Resources system feed the badgeholders directly into the Enterprise server. Then, the Enterprise server transmits the master list to each of the Regions.
- Timing database updates. The Enterprise server serves as a central repository and a clearinghouse for badgeholder updates. In addition to collecting data from all the Regions, the Enterprise server sends out badgeholder updates to every Region to keep the badgeholder database synchronized throughout the enterprise. When implementing an Enterprise system, the administrator must keep the following issues in mind:
  - Clearance Codes are specific to a Region. When assigning Clearance Codes to a badgeholder, they cannot span multiple Regions. A badgeholder's credential may contain multiple Clearance Codes from multiple Regions, but an individual Clearance Code will be specific to the Region in which it was created.

  - Credentials are automatically numbered. Pro-Watch provides automatic numbering of credentials when they are created. Since credentials are created as unique to a Region, the potential exists for creating duplicate card numbers within the Enterprise. A Pro-Watch Enterprise system does not allow duplicate card numbers. The operator must be responsible for assigning access credential numbers that are based on some attribute of the data or from an external source, such as the embedded card number of a proximity access credential.
  - Report capability. The Enterprise server hardware should be adequate to handle report generation and to accept database updates from multiple Regions simultaneously. The enterprise should at least have more than one processor with 1 GB of RAM and a Redundant Array of Independent Disks (RAID) disk array with ample free space.
  - Backup hardware. An Enterprise server also requires a quick and high-density backup device. You can use a Microsoft Cluster server if additional availability is required to ensure that if one server fails, the cluster (and the Enterprise server) can continue to process updates and badgeholders.

- Unique logical sites. Pro-Watch systems are designed with a concept of logical sites. Each site contains a hardware tree, and it is assigned to a Pro-Watch workstation to perform panel communication. Each site identifier must be unique across the entire enterprise. When you add a site, Pro-Watch coordinates with the Enterprise server to ensure the site identifier is unique. After the identifier is assigned, the site's hardware tree is transmitted to the Enterprise server to supply the rest of the Regional server's hardware configuration.
- When adding a new Regional server, the operator can copy certain configurations from the Enterprise server, such as time-zones, holidays, hardware templates, and badgeholders, and copy them in the Regional server's database. This ensures that all regions start with a known good data load. From that point, the operator can modify the Regional server's database and publish the updates back to the Enterprise server.
- Event monitoring and control. In an Enterprise system, a single workstation monitor must be able to monitor more than one Regional server for alarm and transaction activity. For example, some regions may be staffed during business hours. But during the off hours, another Region will assume the monitoring responsibilities for the Regions to reduce costs.

To set up remote monitoring, a Regional server adds routing groups and assigns them to any other Regional server. A Send All feature allows the Regional server to designate the sites that will receive events and the events that they will receive. This feature, therefore, can help the system administrator to reduce the unnecessary traffic to the other monitoring regions.

Authentication and security. All of the SQL server agents run in the security context of the SQL server agent service on the machine. Pro-Watch uses integrated security for its authentication model. Therefore, the SQL server agents used on the regional and Enterprise servers must use an account that has context in the domain(s) in which the Regional servers and Enterprise server reside.

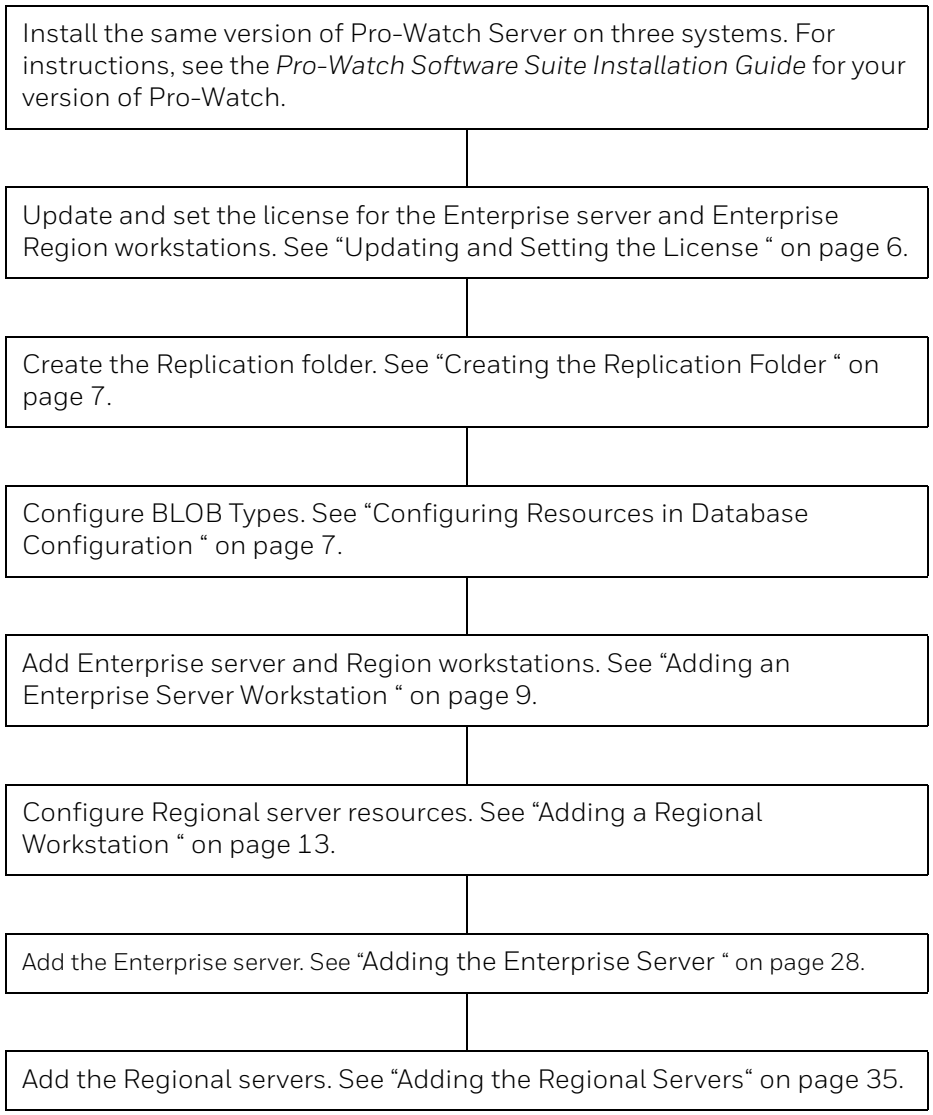
Different domain accounts can be used on each Regional server; however, if they are in different domains they need to be members of the same Windows domain. This ensures that all domains know of each others' accounts via a trust relationship.

Typically, the account used for the agent on the regions and the account used for the Pro-Watch service are the same. The account is set as dbo (database owner) for the Pro-Watch database and sysadmin on the SQL server. However, sysadmin is not required for running SQL server replication. The minimum requirement is that the used account must have access to the distribution and publication databases on the server and to the snapshot files. The account used to configure Enterprise on the enterprise machine must be a sysadmin account on that SQL server, since sysadmin privileges are required for configuring replication. The LocalSystem account is not usable for replication on either the enterprise or Regional servers.

SQL server encryption is not yet supported for the Enterprise version of Pro-Watch. The TCP/IP port used for communication is the one defined for the SQL server TCP/IP library that is used. The default TCP/IP library is 1433.

2.3 Setting Up the Pro-Watch Enterprise System

The following flow chart identifies the basic tasks required to set up a Pro-Watch Enterprise system:



2.3.1 Before You Start

Verify that the following software is installed before you create an Enterprise system:

- Pro-Watch Corporate Edition, Release 4.3.5.

This procedure requires three separate PC systems that are connected and communicating via a local area network:

The configuring PC will be loaded with the complete Pro-Watch server and client applications, and it will have a complete Pro-Watch SQL database. The software key must be installed on this system, and it must be installed before the Pro-Watch program. If the key is not in place before you install Pro-Watch on the configuring PC, the program will load as a regular Corporate Edition. This

would require a complete de-installation and a fresh start. Note that after the Enterprise PC has been fully configured, you can convert the configuring PC to a Regional server.

The actual Enterprise PC will become the Enterprise server. It must have SQL and Pro-Watch Client loaded on it, but it SHOULD NOT have a Pro-Watch Server program or database. The collection databases for Cardholders, Event logs, and all Hardware configurations will exist on this unit. Also, the Regional database copies will be retained here. If a Pro-Watch database exists on this unit, it will be ignored by the program and will serve no purpose. Note that this PC CANNOT also be used as a Regional server.

Warning: A strong working knowledge of networking and Microsoft 2012 Database management is critical to the success of your enterprise.

2.3.2 Installing Pro-Watch

The same version of Pro-Watch Server must be installed on all Enterprise systems. The Enterprise system consists of a minimum of three workstations — one Enterprise server and two Region systems. The default database is installed. Note that the Regional systems should have C: drives with enough space to hold the distribution database for up to two weeks. For installation instructions, see the *Pro-Watch Software Suite Installation Guide* for your Pro-Watch version.

Caution: If you are updating an existing Pro-Watch installation, be sure to back up the existing Pro-Watch database before converting the machine to an Enterprise server or Regional server. Consider the size of the EV_log table before converting a machine as well—one million records in the table will significantly affect the enterprise's data storage and the time required to convert the machine to an Enterprise system.

2.3.3 Updating and Setting the License

The Enterprise server machine must be capable of communicating with all of the panel types across the enterprise. The license enables the server to do this. Therefore, you must be sure that the license on your Enterprise server is updated to provide this capability. After the server's license is updated, it must also be set for server operation. To have the license updated and activated, contact your nearest customer support representative.

To determine whether a license is currently set as an Enterprise server or a Standard server, see the License Information screen. In the Pro-Watch wizard, select **License Information**.

2.3.4 Creating the Replication Folder

Create a network shared folder (the snapshot directory) on each Regional server and the Enterprise server. Name each folder "Replication." This folder will contain all SQL objects that are necessary to initialize subscriptions to the enterprise badging publication, as well as log files created during enterprise and regional setup.

Open Pro-Watch on the Enterprise server. It should point to the default database on the Enterprise server.

The SQL Server Agent starts automatically on Pro-Watch startup. On the Enterprise server and each Regional server, a domain account is used for the service account. The domain account requires SQL Server administrator access privileges. Administrator-level access is required to configure and run replication. A file share is created on the Enterprise server to hold the merge replication data and log files. The agent service account is granted read/write file share privileges.

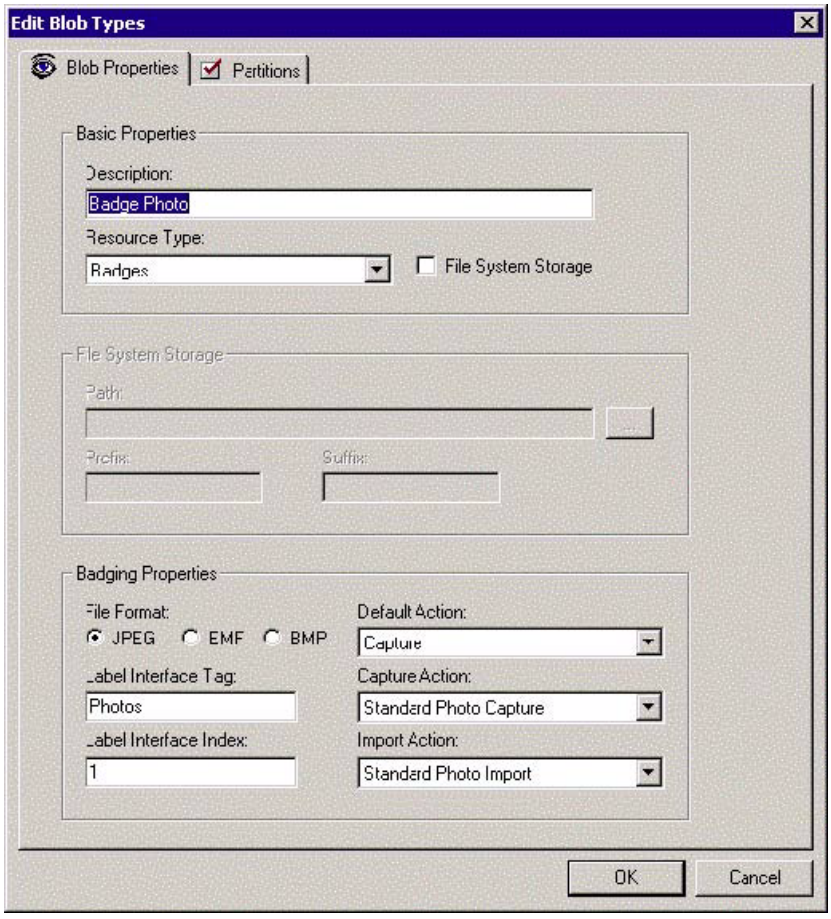
2.3.5 Configuring Resources in Database Configuration

You must configure specific resources within the Database Configuration component of Pro-Watch.

Note: The following steps assume you are using the default Pro-Watch database, on the Enterprise server.

1. Select and open **Database Configuration**.
2. Click **BLOB Types** from the Database Configuration tree list.
3. Right-click the default Badge Photo BLOB type and select **Properties**. The Edit BLOB Types dialog box appears.

4. Click to clear the **File System Storage** check box, which enables the BLOB to be stored in the database.

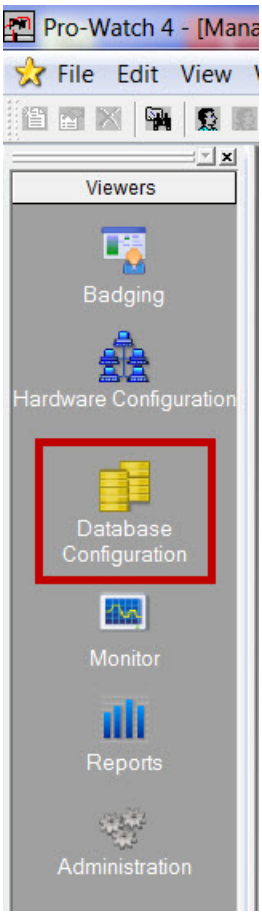


5. Right-click the default Badge Signature BLOB type and select **Properties**.
6. In the Properties window, click to clear the **File System Storage** check box to enable the BLOB to be stored in the database.

2.3.6 Adding an Enterprise Server Workstation

Follow these steps:

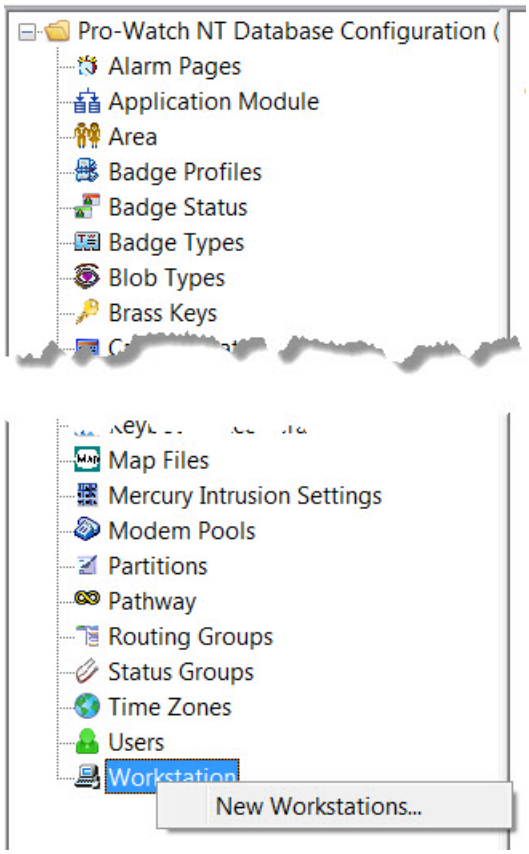
1. From the Pro-Watch navigation bar, click the **Database Configuration** icon:



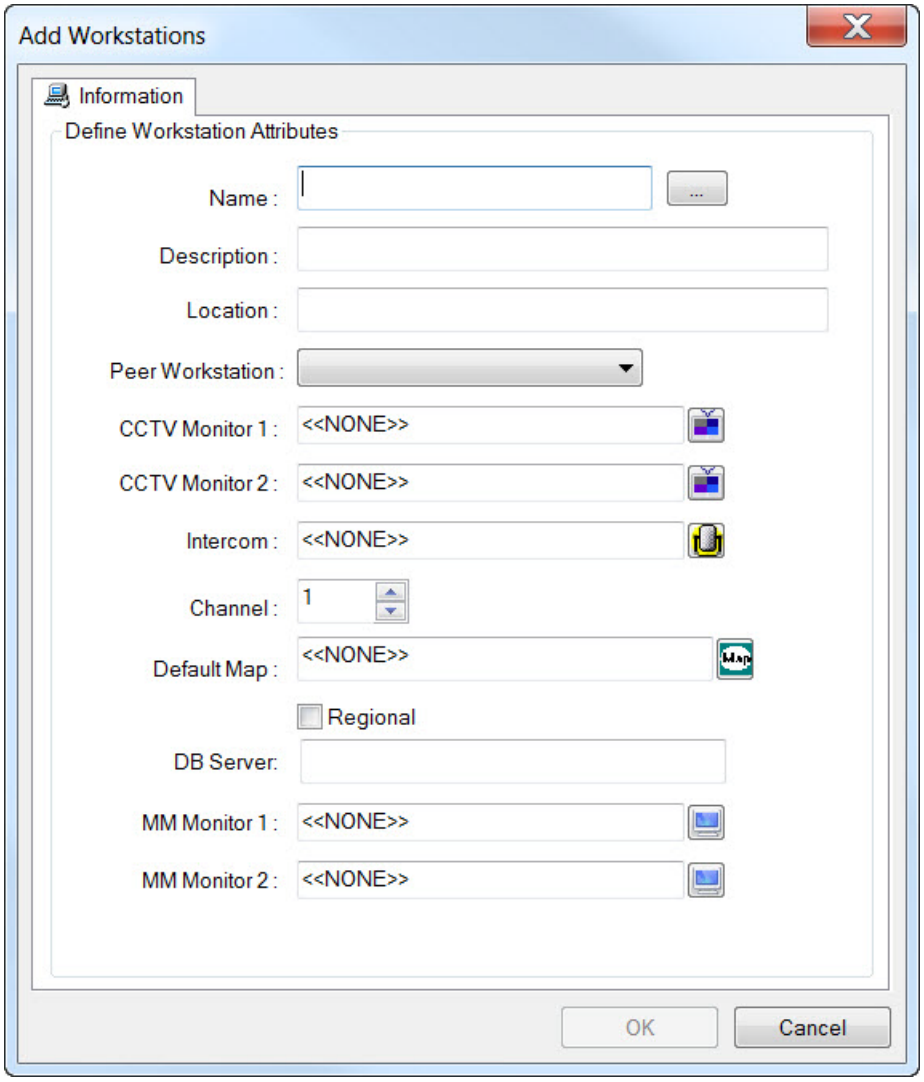
The Pro-Watch Database Configuration tree appears at the left of the screen.

2. Click **Workstation** at the bottom of the tree.

3. Right click **Workstations** and select the **New Workstations** button:



The **Add Workstations** dialog box appears:



4. Enter the following at the **Add Workstations** screen:

   a. **Name** – Click the ellipse icon beside the Name field to display a list of workstation choices. Select the workstation you want to be a Enterprise server.

   b. **Description** – Enter a desired description of the workstation.

   c. **Location** – Enter the location of the machine that will become the Enterprise server.

   d. Pick a **Peer Workstation**.

   e. Select one or two **CCTV Monitor.**

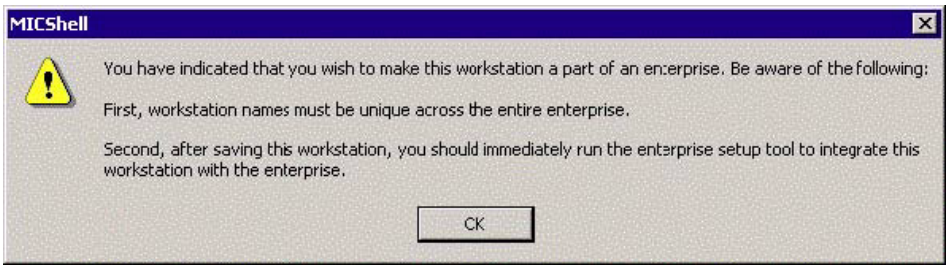
   f. Select an **Intercom**, if any.

   g. Select a **Channel**.

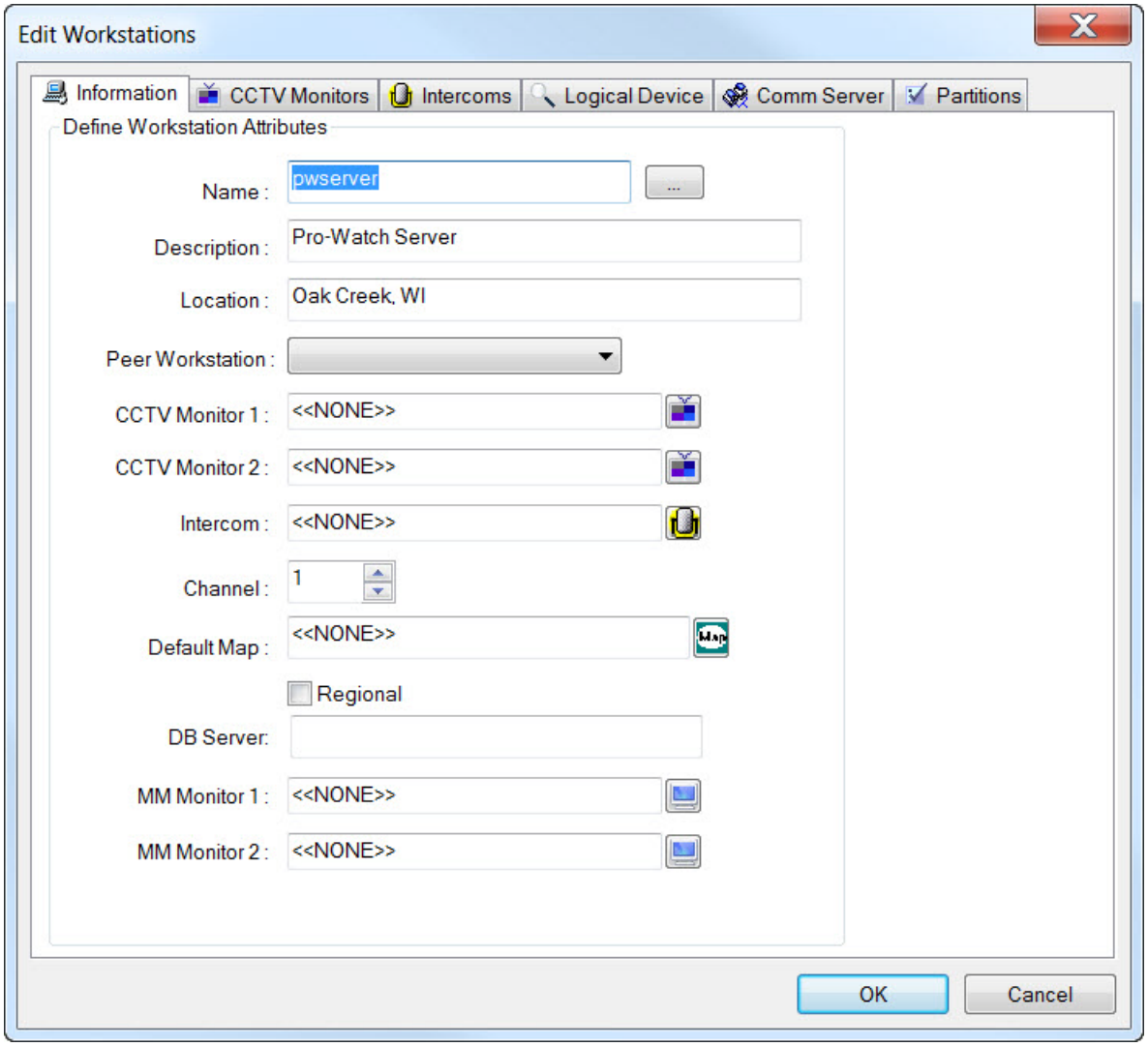
   h. Select a **Default Map**.

   i. Do not select the **Regional** check-box**.**

5. Click **OK**. A warning message appears stating that you have chosen to make this workstation a part of the enterprise, and, therefore, workstation names must be unique.



6. Click **OK**. The **Edit Workstations** screen appears:

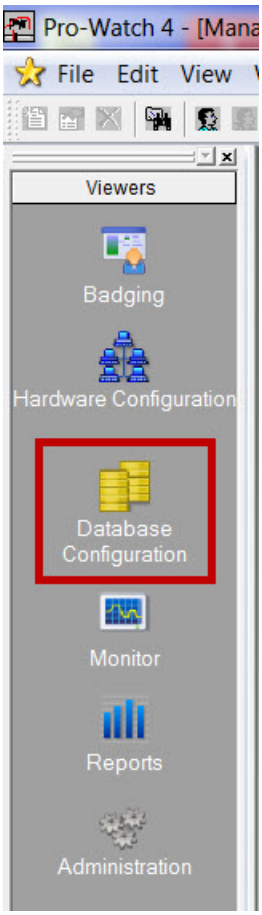


7. Click **OK**. The Enterprise server is now added in the database.

2.3.7 Adding a Regional Workstation

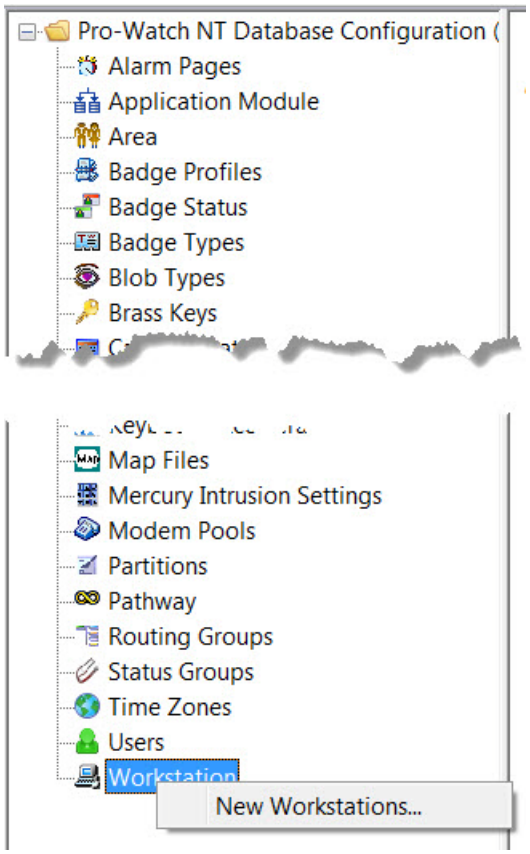
Follow these steps:

1. From the Pro-Watch main screen, click the **Database Configuration** icon:

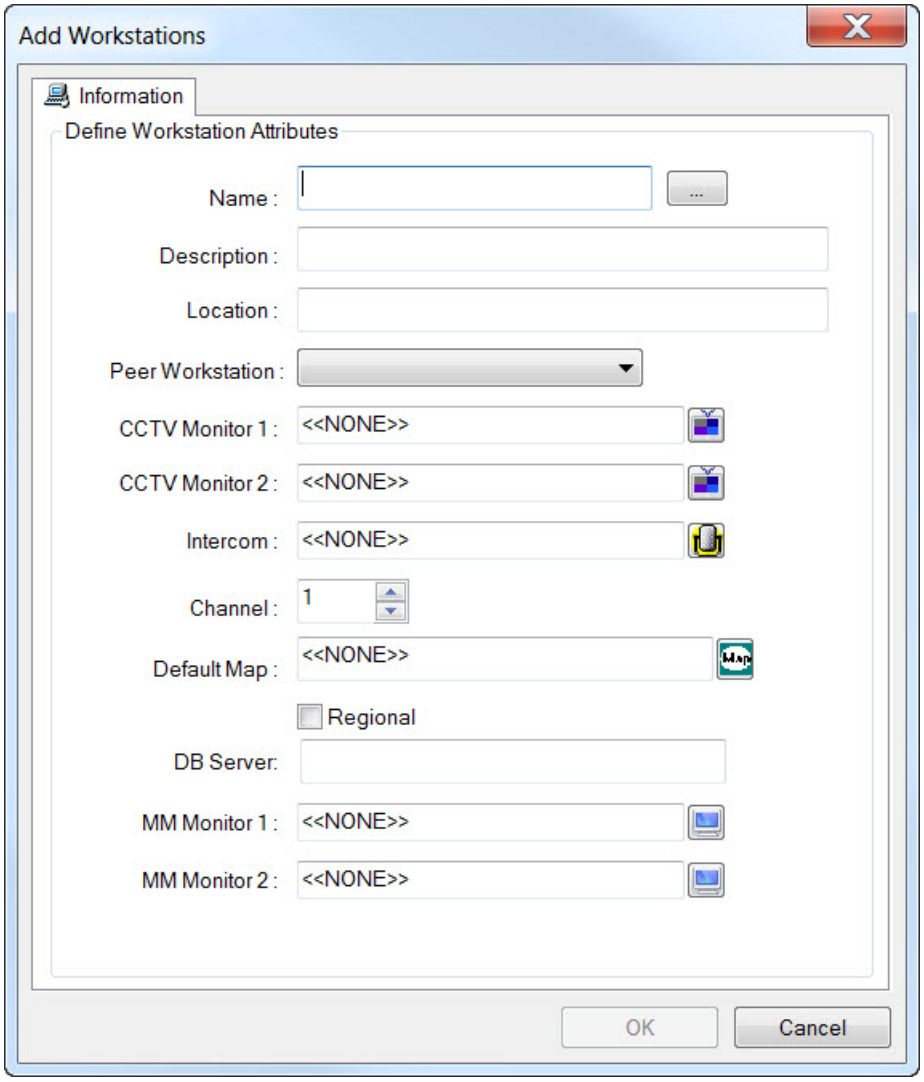


The Pro-Watch Database Configuration tree appears at the left of the screen.

2. Right click **Workstations** at the bottom of the Data Configuration tree and select the **New Workstations** button:

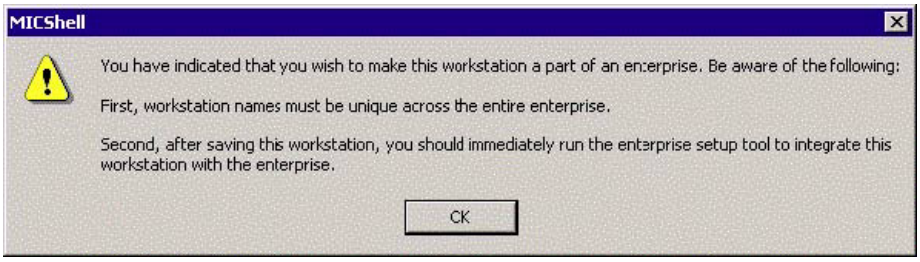


The Add Workstations dialog box appears:



3. Enter the following at the Add Workstations screen:
   a. Name – Click the ellipse icon beside the Name field to display a list of workstation choices. Select the workstation you want to be a Regional server.
   b. Description – Enter a desired description of the workstation.
   c. Location – Enter the location of the machine that will become the Regional server.
   d. Server type – Select the **Regional** checkbox at the bottom of the window. This sets a flag in the WRKST table (the ENTERPRISE column) that allows the Pro-Watch enterprise setup utility to recognize the server that is to be set up as a Regional server.

4. Click **OK.** A warning message states that you have chosen to make this workstation a part of the enterprise, and, therefore, workstation names must be unique.



5. Click **OK**. The Add Workstations screen appears, showing the workstation configured as a Regional server.
6. Click **OK** again at the Workstation dialog box to complete the addition of the workstation. A warning message appears, reminding you to add the workstation to the routing group.
7. Click **OK**. A message reminds you that workstations must be unique across the entire enterprise and that, after saving the workstation, you should immediately run the enterprise setup tool to integrate the workstation with the enterprise.

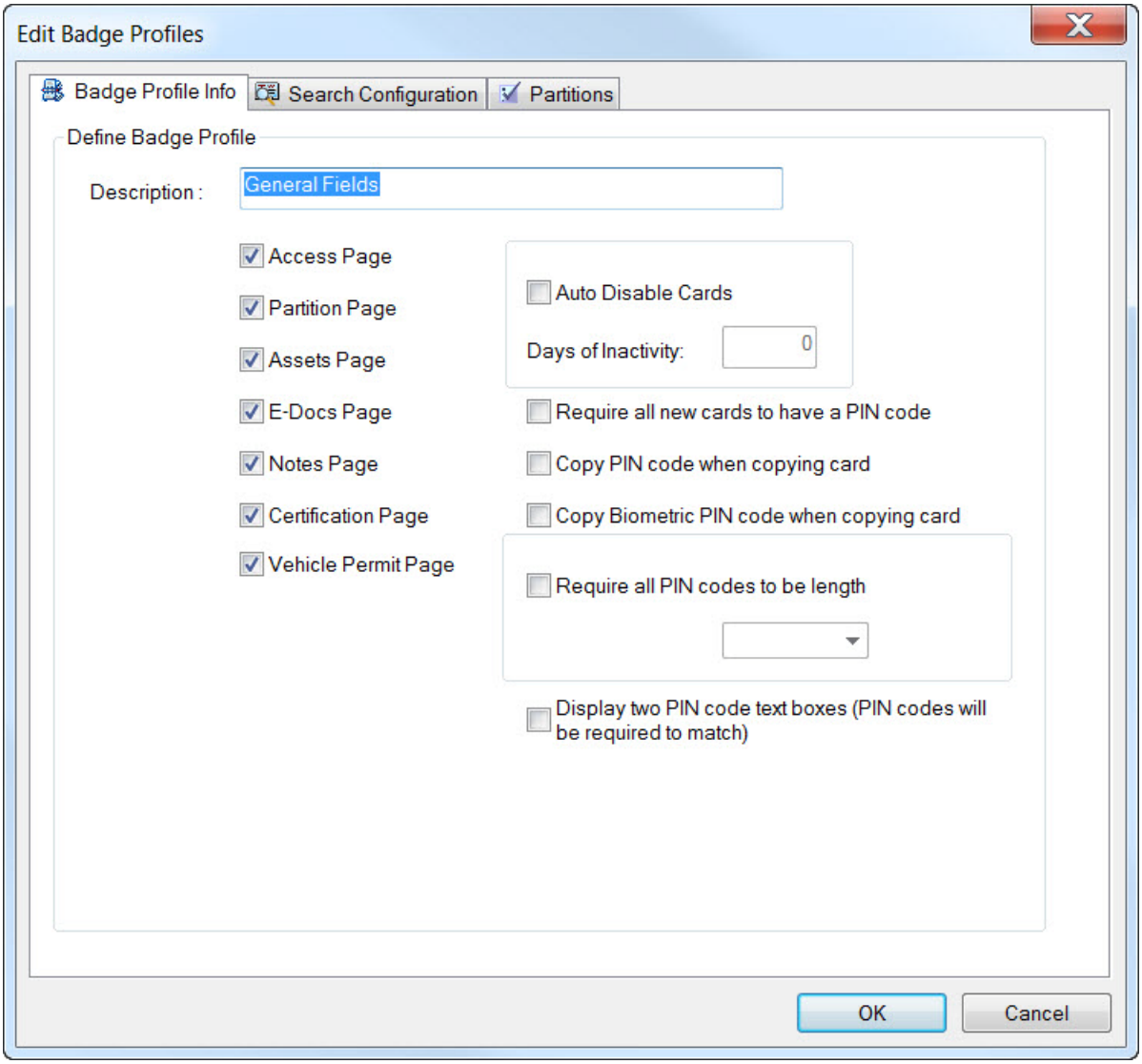
Repeat steps 1 through step 8 until all Regional servers have been added to the enterprise. Also, be sure to add all the workstations to the configured class (probably the root class) for both Enterprise and Regional servers.

2.3.8 Configuring Regional Server Resources

You must configure several resources on each Regional server:

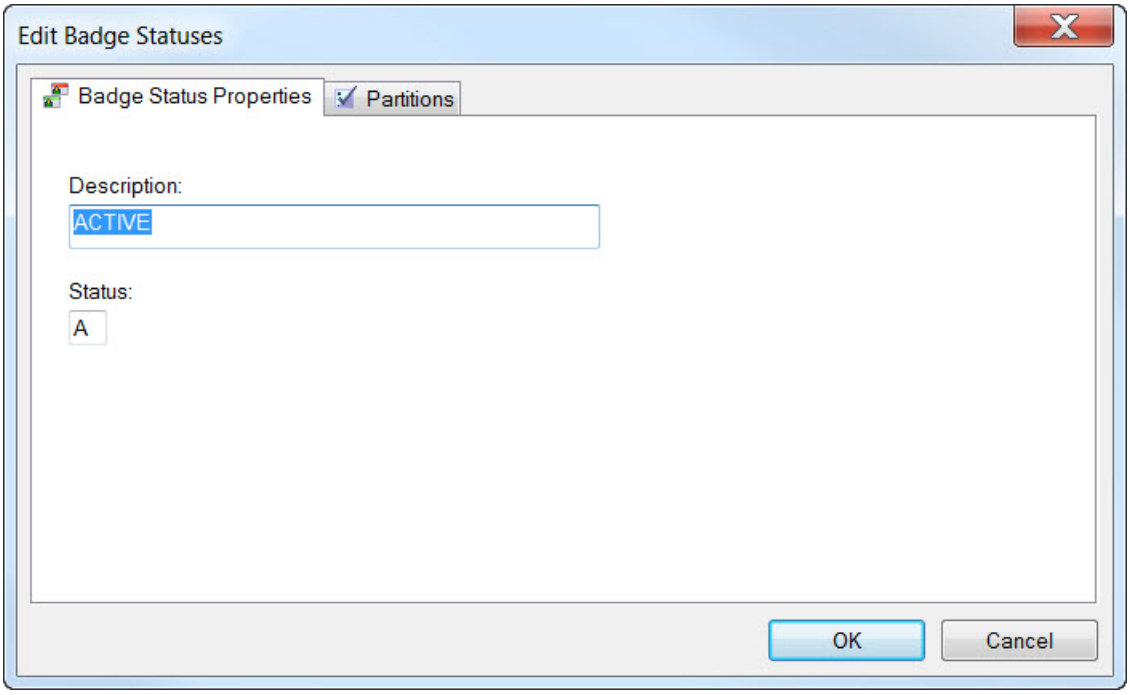
1. Open Pro-Watch on a Regional server workstation.
2. Select **Database Configuration > Badge Profiles** to display the currently defined Badge Profiles.

3. Right-click the **General Fields Badge Profile** and select **Properties** to display its **Edit Badge Profiles** dialog box:



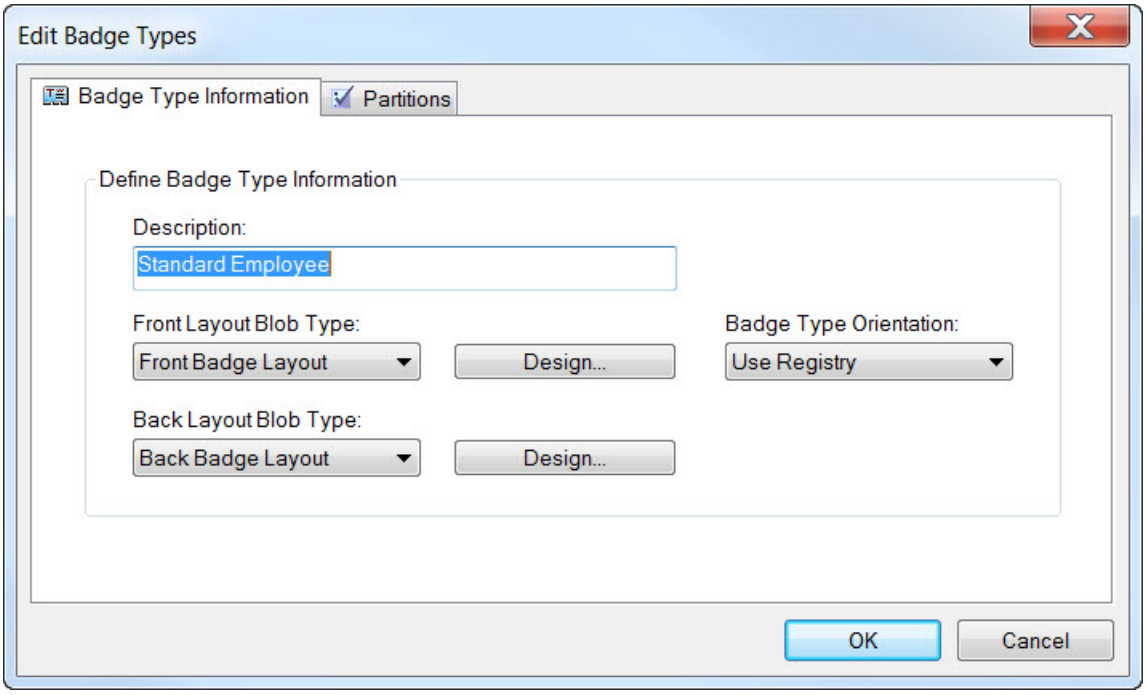
4. Enter a unique description in the **Description** field.
5. Click **OK**.
6. Select **Database Configuration > Badge Statuses** to display the currently defined Badge Statuses.

7. Right-click the default Badge Status, and select **Properties** to display the **Edit Badge Statuses** dialog box:



8. Enter a description that clearly identifies the status.
9. Enter a unique one-character status code by which the status can be identified.
10. Click **OK**.
11. Select **Database Configuration > Badge Types** to display the currently defined Badge Types.

12. Right-click the default **Badge Type**, and select **Properties** to display the **Edit Badge Types** dialog box:

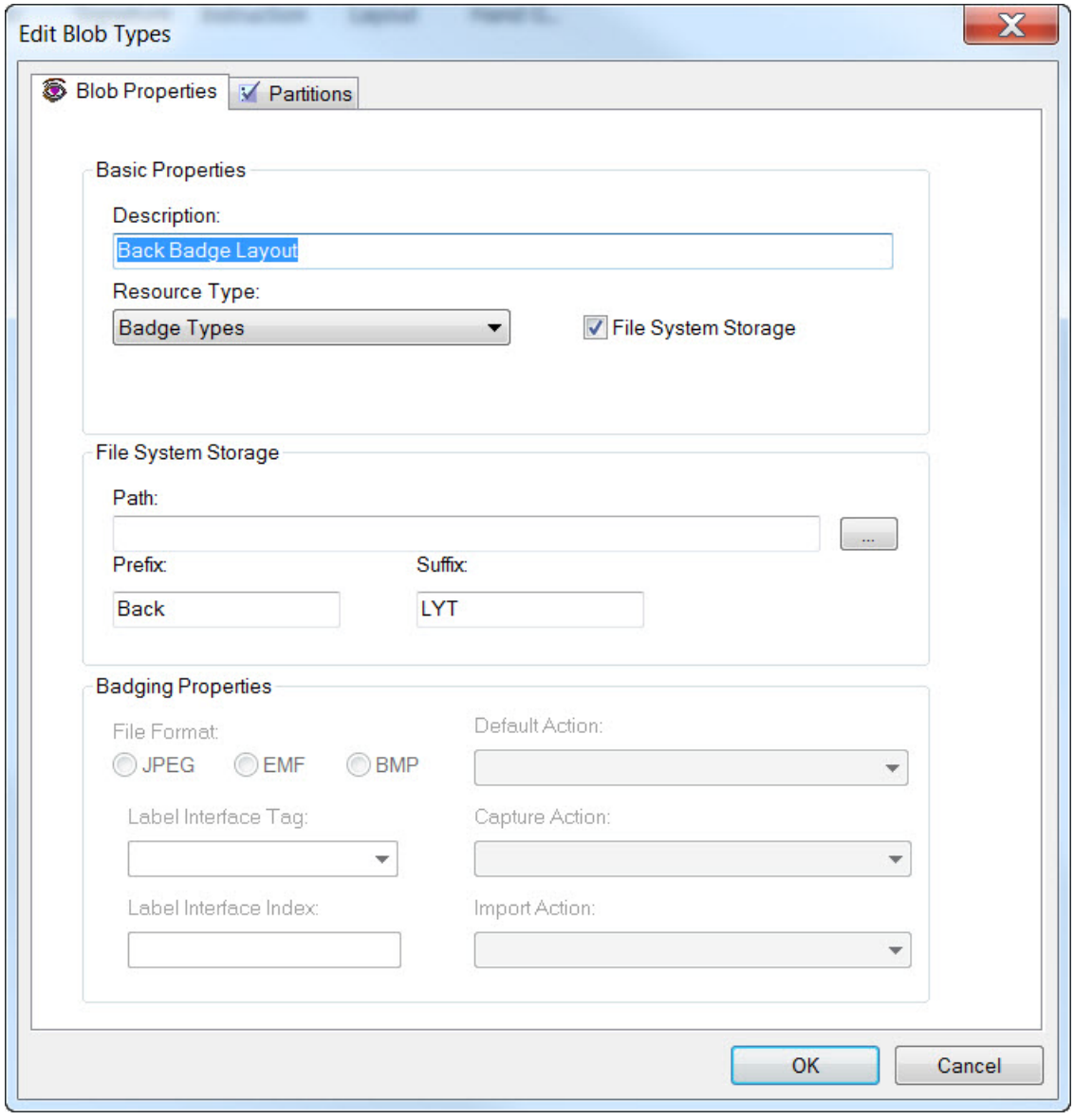


13. In the **Description** field, enter a unique description that identifies the type of badge.

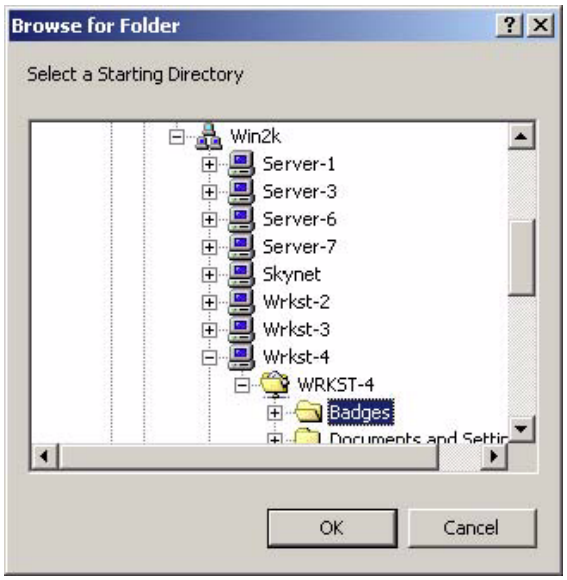
14. Click **OK** to accept the edited badge type.

15. Select **Database Configuration > BLOB Types** to display the currently defined BLOB Types. This dialog box defines how graphic database items such as images, videos, sound, and even programs or fragments of code will be stored. These objects are stored collectively as a single entity (a Binary Large Object, or BLOB) in the Pro-Watch database.

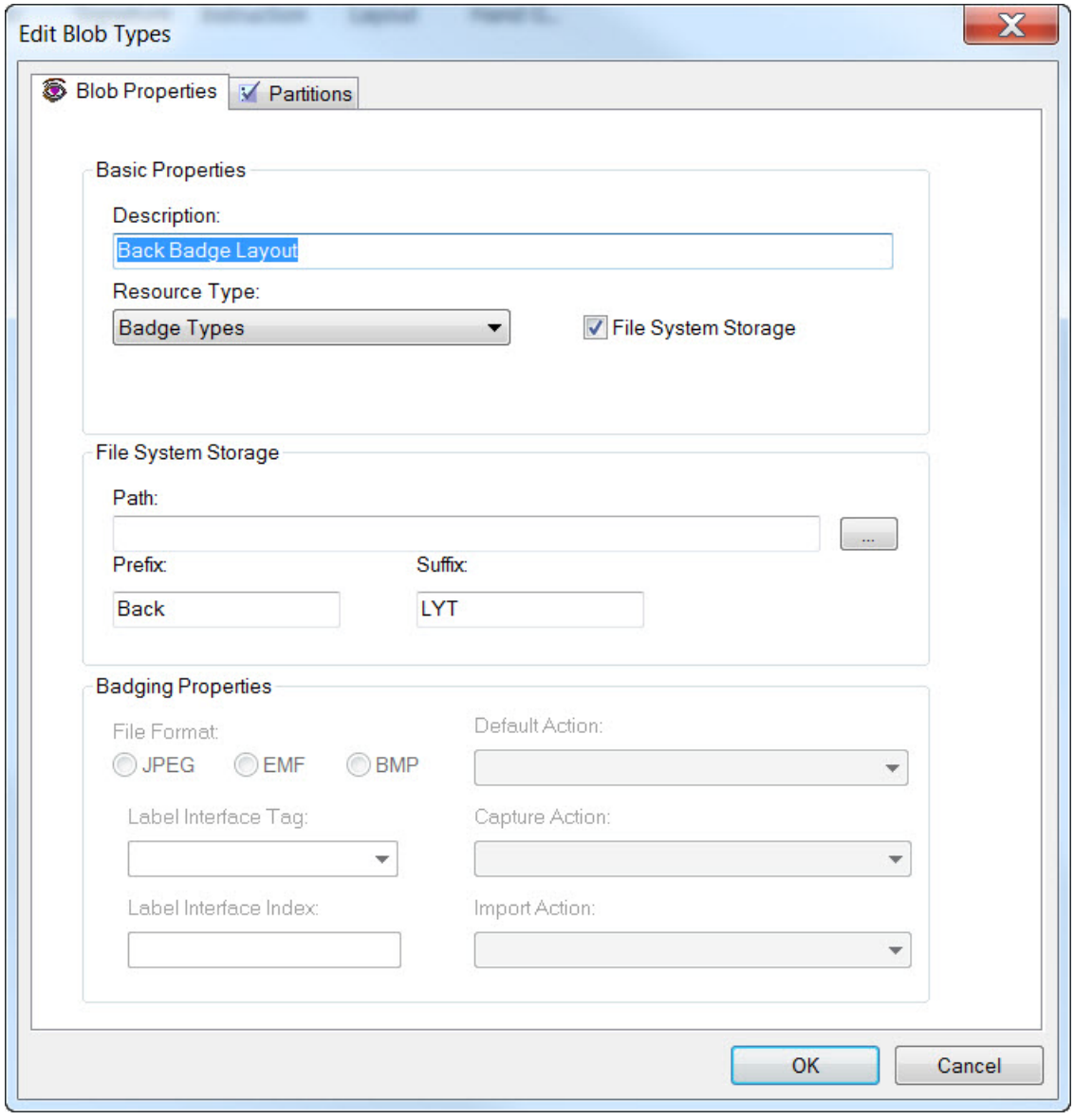
16. Right-click the default Back Badge Layout BLOB Type, and select **Properties** to display the Edit BLOB Types dialog box:



17. Edit the default Back Badge Layout BLOB type:
    a. In the **Description** field, enter a unique description for the Back Badge Layout BLOB.
    b. Click the ellipsis beside the **Path** field, and change to a network path that points to a badges folder on this machine.

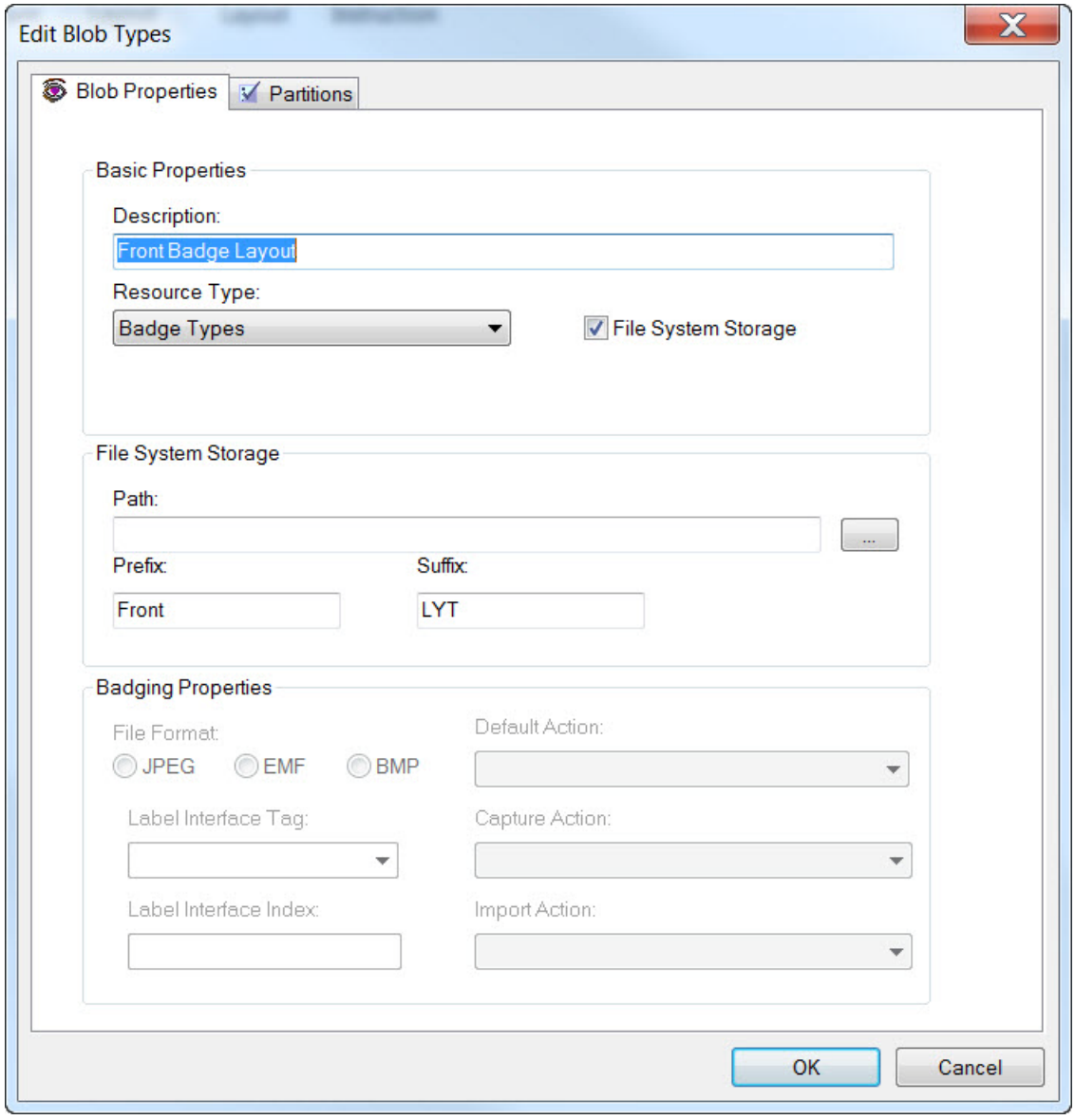


c. Click **OK** to accept the path. The new path now appears in the **Edit BLOB Types** dialog box:



d. Click **OK**.to accept the edited Back Badge Layout BLOB Type.

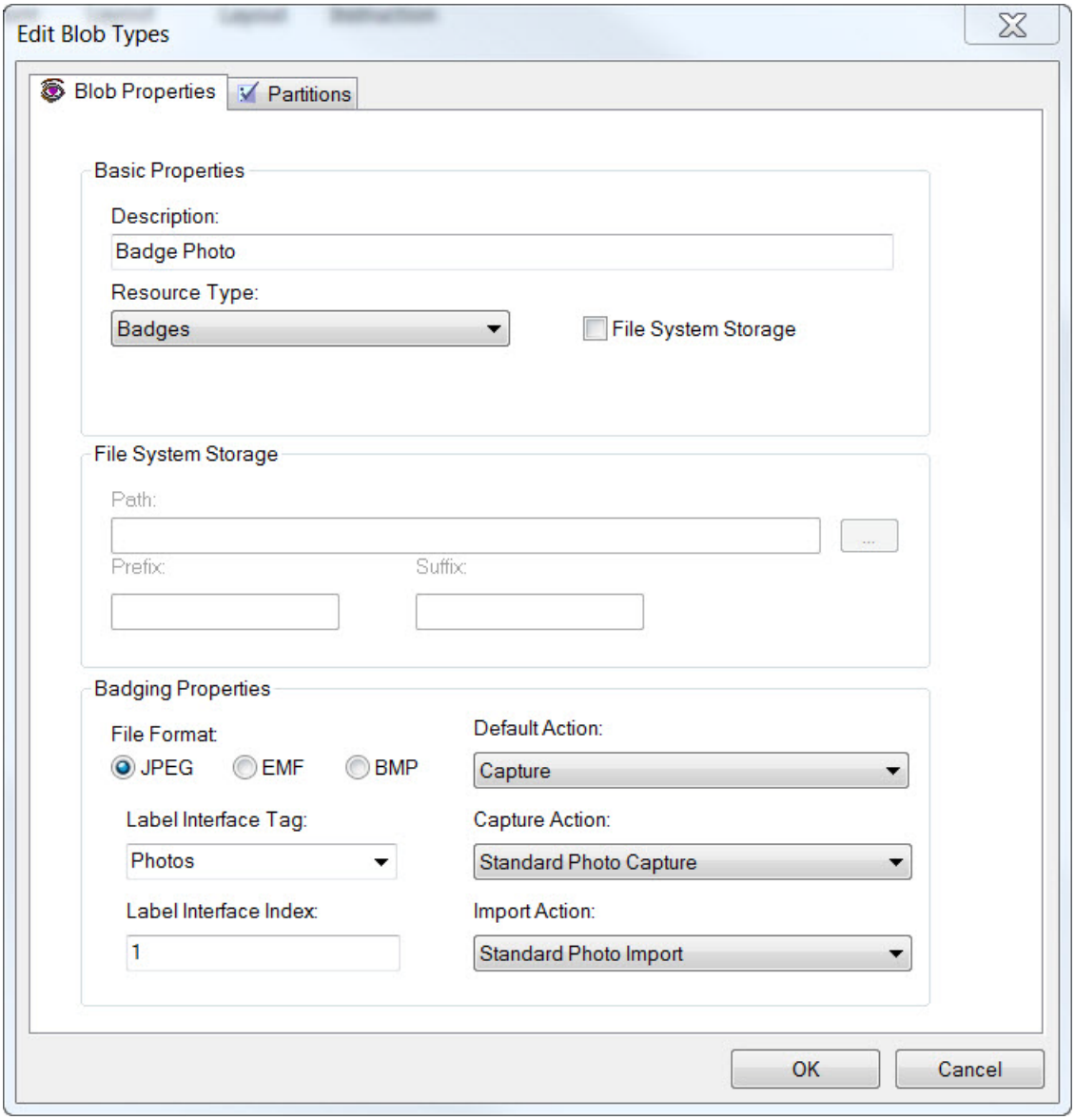
e. In the Pro-Watch BLOB Types window, right-click the **Front Badge Layout BLOB Type** and select **Properties**:



18. Edit the default Front Badge Layout BLOB Type, using the same steps taken to edit the Back Badge Layout BLOB Type.
    a. In the Description field, enter a unique description for the Front Badge Layout BLOB.
    b. Click the ellipsis beside the Path field, and change to a network path that points to a badges folder on this machine.
    c. Click **OK** to accept the description and path.
    d. Click **OK** to accept the edited **Front Badge Layout BLOB Type**.

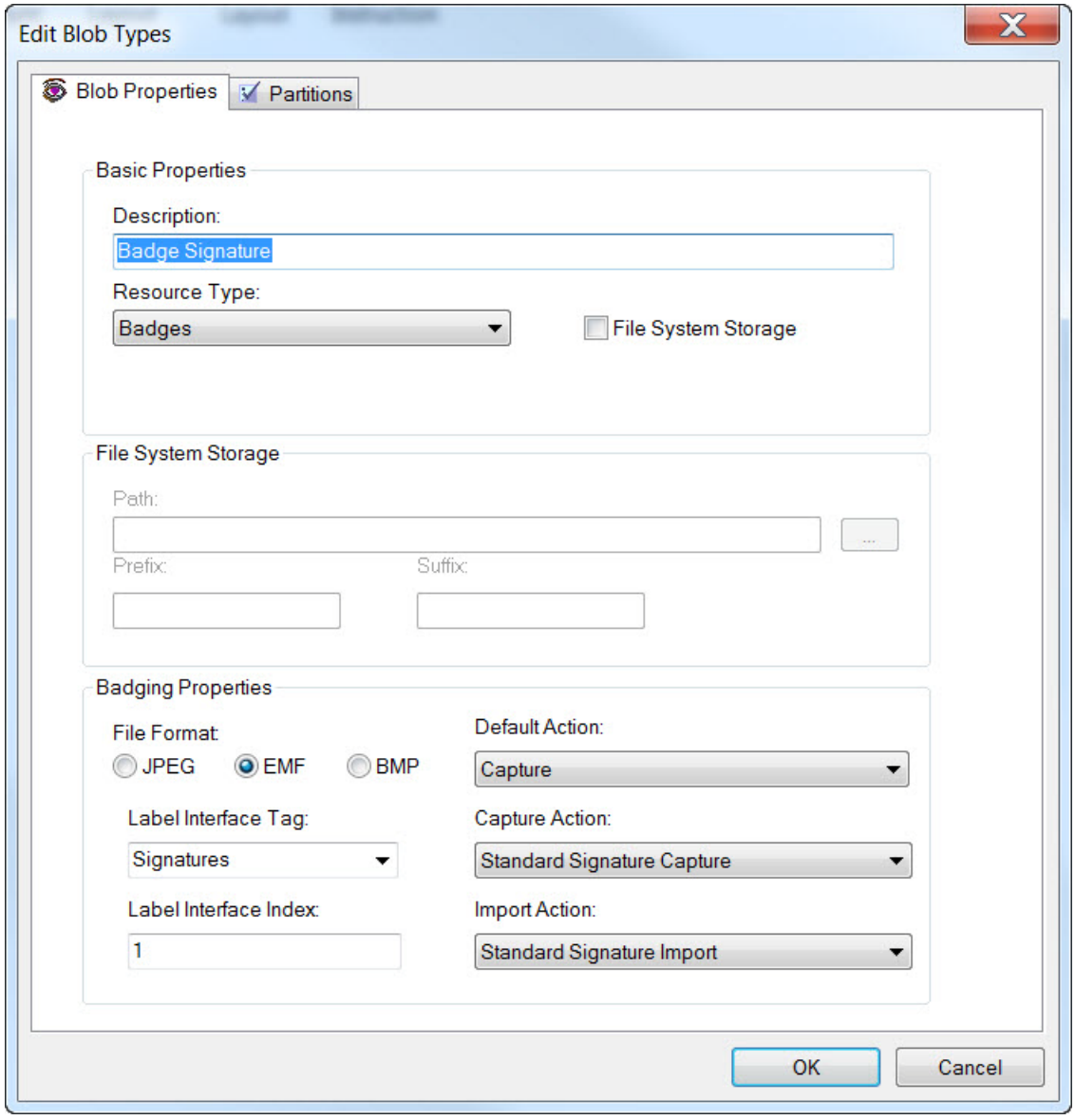
19. In the Pro-Watch BLOB Types window, right-click the **Badge Photo BLOB Type** and select **Properties**.

20. De-select the File System Storage checkbox to enable the BLOB to be stored in the database:



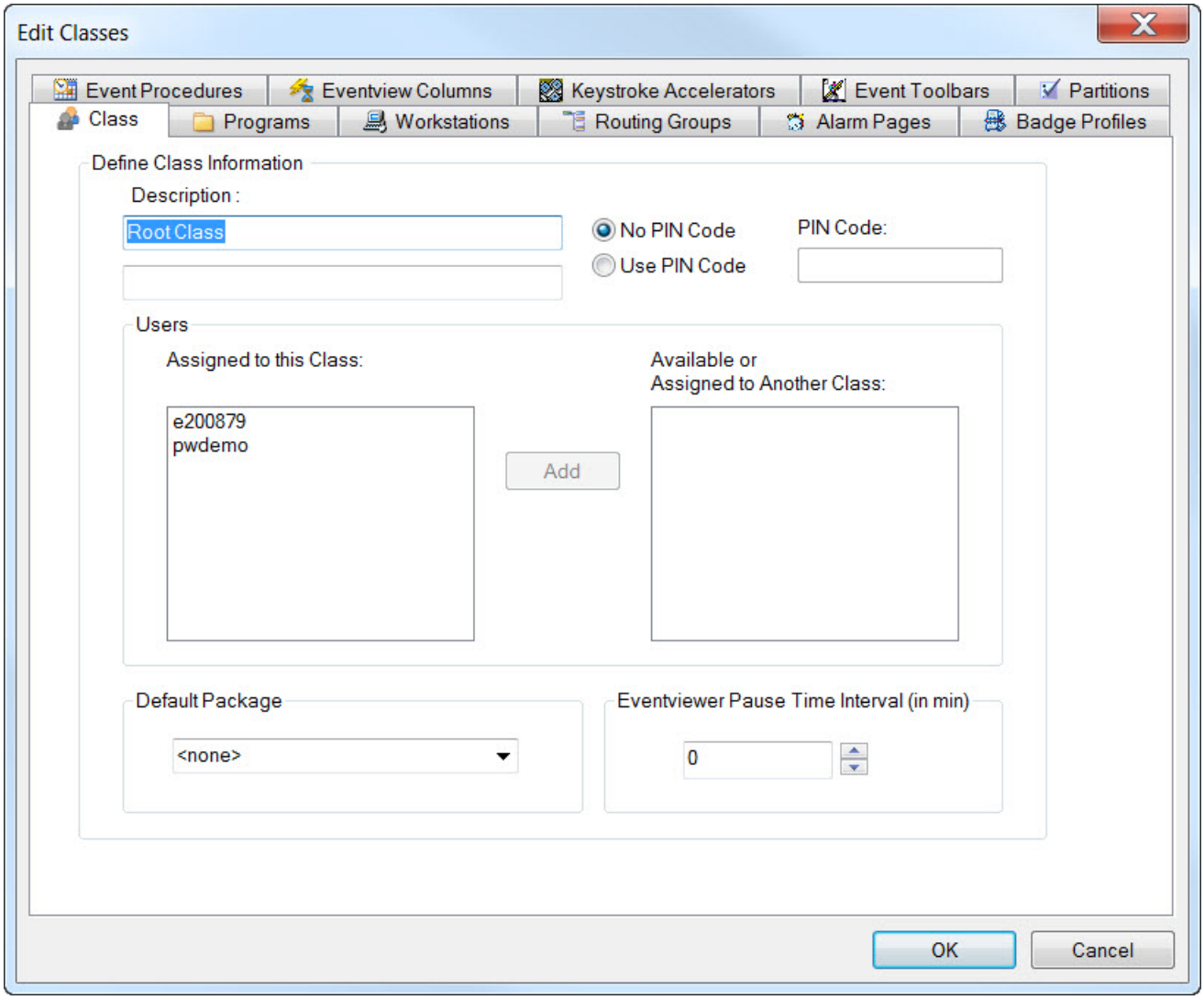
21. Click **OK** to accept the edited Badge Photo BLOB Type.
22. In the Pro-Watch BLOB Types window, right-click the **Badge Signature BLOB Type** and select **Properties**.

23. De-select the File System Storage checkbox to enable the BLOB to be stored in the database:



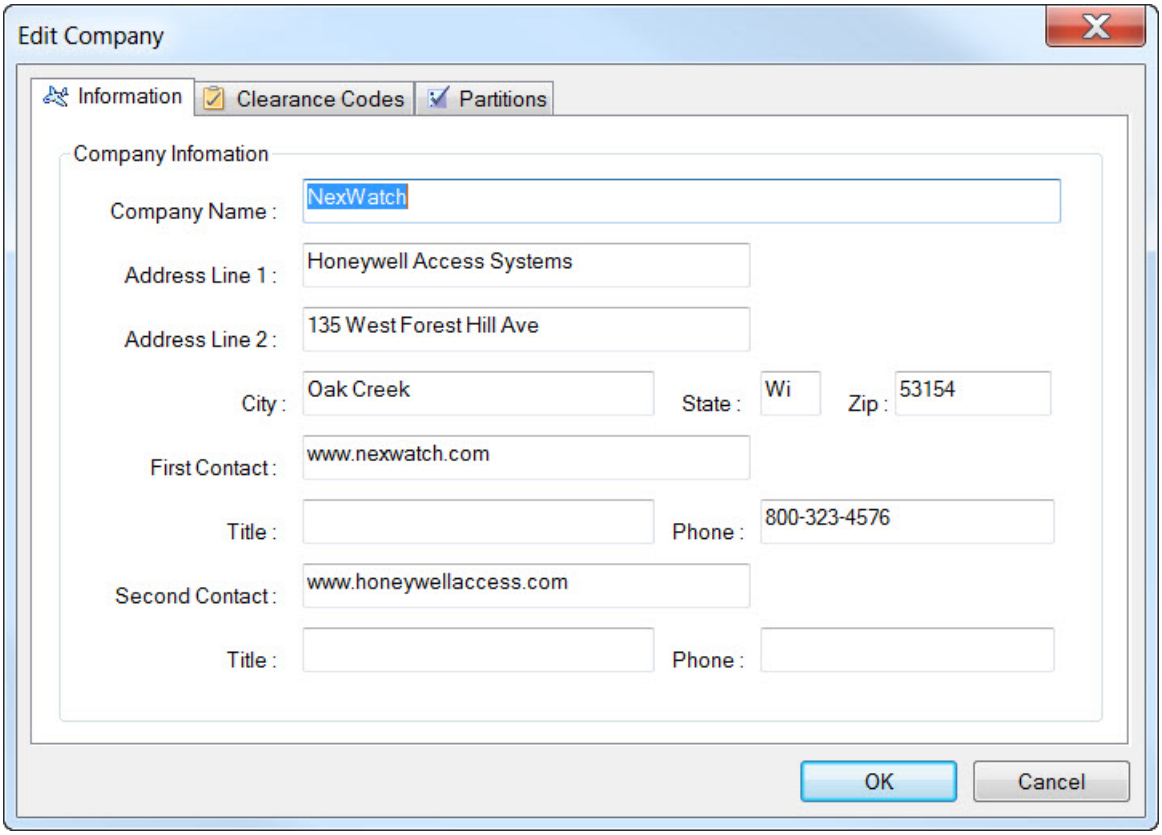
24. Click **OK** to accept the edited Badge Signature BLOB Type.
25. From the Database Configuration tree, select **Database Configuration > Classes**.

26. Right-click the default **Root Class** class, and select **Properties** to display the Edit Classes dialog box:



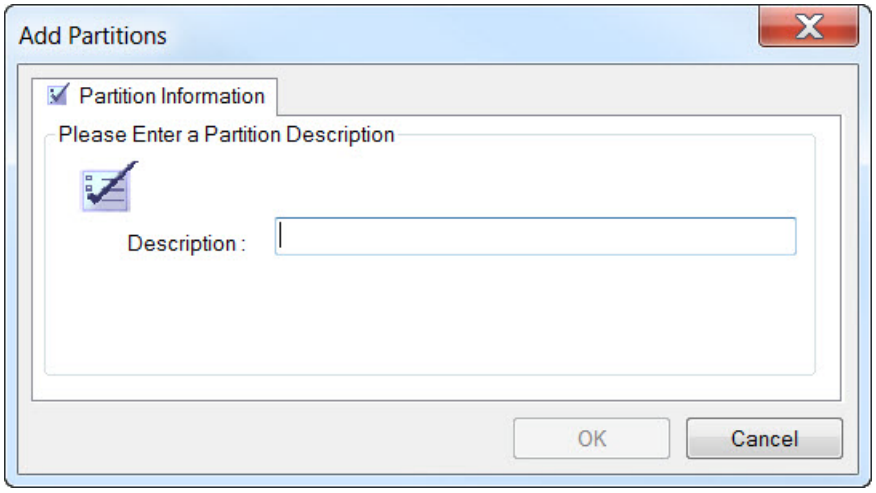
27. In the Description field, enter a unique description.
28. Click **OK** to accept the edited class.
29. At the Database Configuration screen, select **Database Configuration > Companies** to display the currently defined Companies.

30. Right-click the default **NexWatch Company**, and select **Properties** to display the **Edit Companies** dialog box:



31. In the Company Information fields, enter the information that is unique to the Region.
32. Click **OK** to accept the Company information.
33. At the Database Configuration screen, select **Database Configuration > Partitions** to display the currently defined Partitions.

34. Right-click in the open space and select **New Partitions**. The Add Partitions dialog box appears:



35. In the Description field, enter a unique description for the Partition that will be used for this Region.
36. Click **OK** to accept the new Partition. You are now finished configuring this Region in Pro-Watch Database Configuration.
37. Exit Pro-Watch on this workstation.
38. Configure all of the remaining Regional server workstations in your enterprise with the same procedure just completed for the first workstation. After completing the resource task on each Region, exit Pro-Watch. It is strongly recommended that you back up each database before adding the Region to the enterprise.

Caution: SQLSERVER Agent service must be running on each machine under a domain account with administrative privileges into each machine used as a region, specifically the regional SQL servers and the regional replication shares. SQLSERVERAGENT should be set to run automatically on startup.

2.3.9 Adding the Enterprise Server

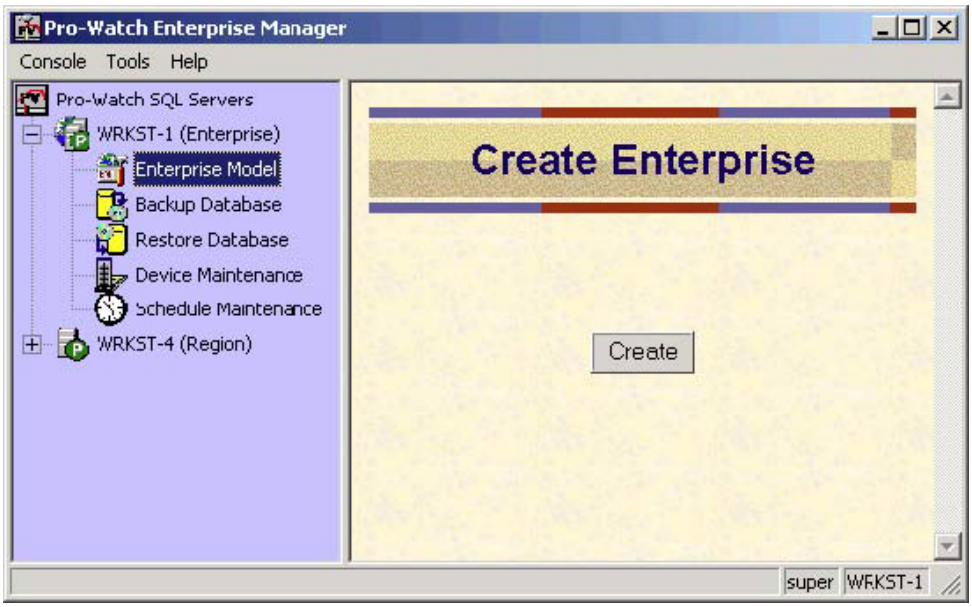
On the Enterprise server, open Pro-Watch Enterprise Manager (PWEM).

The Pro-Watch Enterprise Manager (PWEM) utility drives the setup process, and it assumes that the default Pro-Watch database is installed on the Enterprise server. The PWEM utility runs on the Enterprise server to set up the regions, and it requires that the Pro-Watch service on the Regional server be stopped.

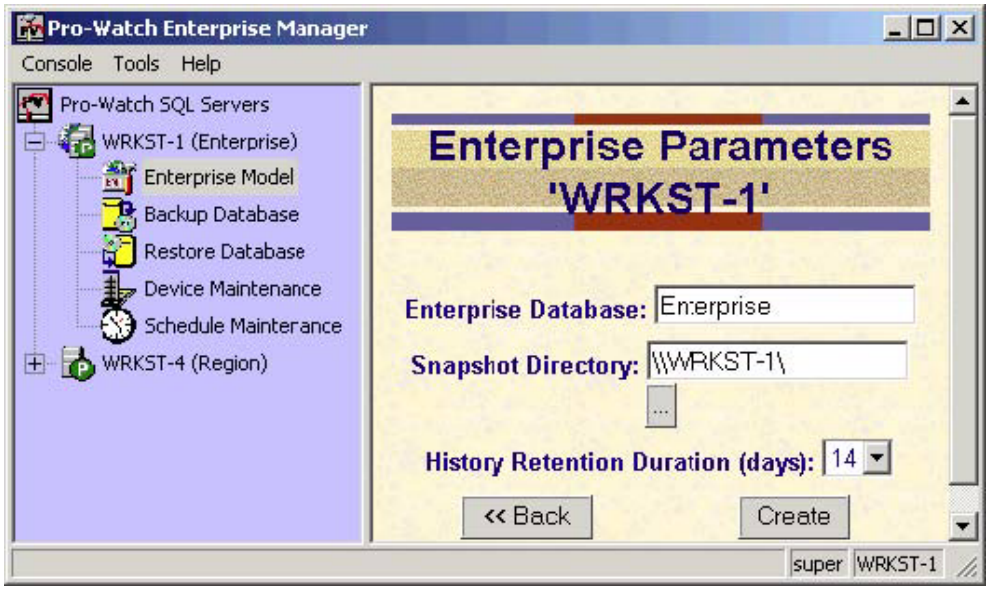
Note: Be sure to stop the Pro-Watch service on the Regional server before completing the following procedures.

1. After saving this workstation, you should immediately run Pro-Watch Enterprise Manager (PWEM) to integrate the server with the Enterprise system.
2. Click **OK**. The Replication Manager program starts and the Regional server Parameters screen appears.

3. Expand the Enterprise server tree directory and select **Enterprise Model.** The Pro-Watch Create Enterprise screen appears.

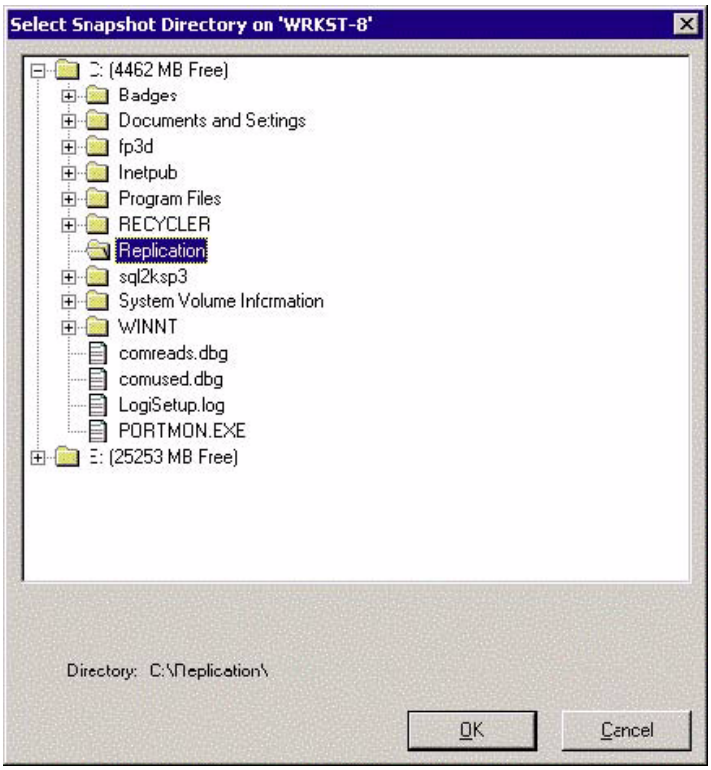


4. Click **Create** to display the Enterprise Parameters screen.

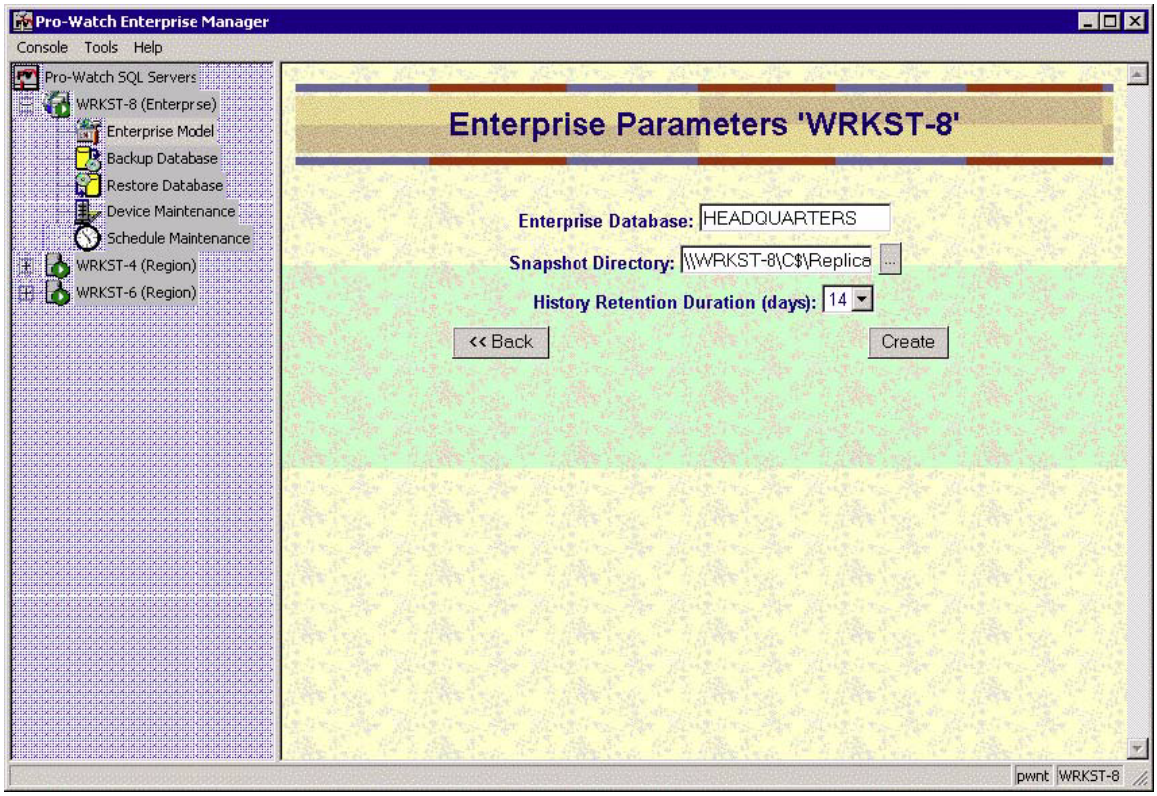


5. In the Enterprise Database field, enter the name of your enterprise database. This database stores all replicated data from across the enterprise.
6. Click the ellipse next to the Snapshot Directory field, and navigate to the replication folder you created on the Enterprise server (see "Creating the Replication Folder " on page 7). In lieu of navigating to the snapshot directory, you may enter the location of the snapshot directory folder. This must be entered in UNC (Uniform Naming Convention) format.

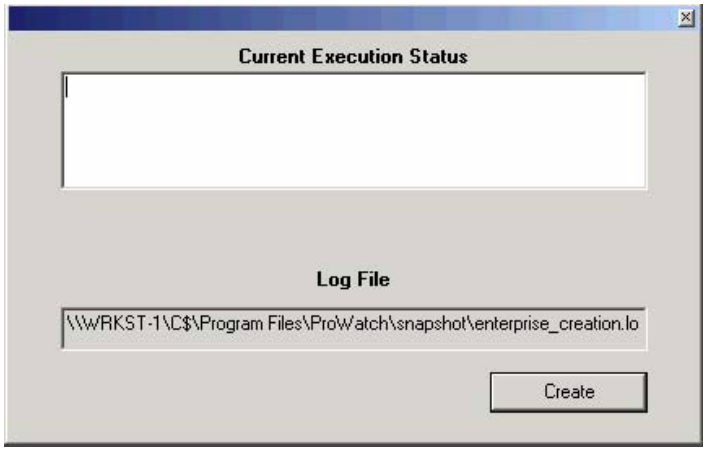
7. Select the replication folder.



8. Click **OK** to display the updated Enterprise Parameters dialog box. Note that the C$ in the path to the replication folder indicates the folder can only be accessed by users with administrator privileges.

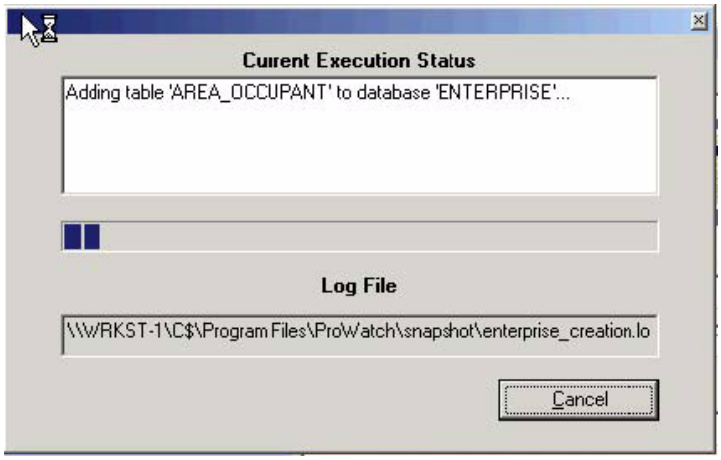


9. In the History Retention Duration field, leave the default value of 14. The history retention duration specifies the number of days to store meta data files related to the Enterprise database replication. The scheduled database backup cycle duration must be less than the retention duration in order to avoid losing meta data for a restore operation.
10. Click **Create**. The Current Execution Status dialog box appears.

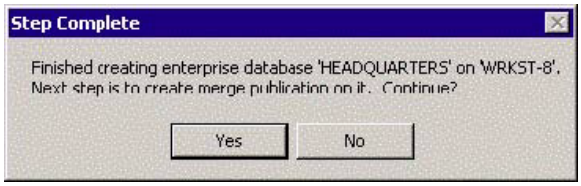


Note: Throughout this Enterprise procedure, a series of message boxes will appear to state the next step and ask if you want to continue. These steps in the procedure prepare the database for SQL Server replication. At each of these message boxes, click **Yes** to continue.

11. Click **Create**. The current execution status of the enterprise appears in the Current Execution Status box.



The following message box appears when the Enterprise server database is finished:



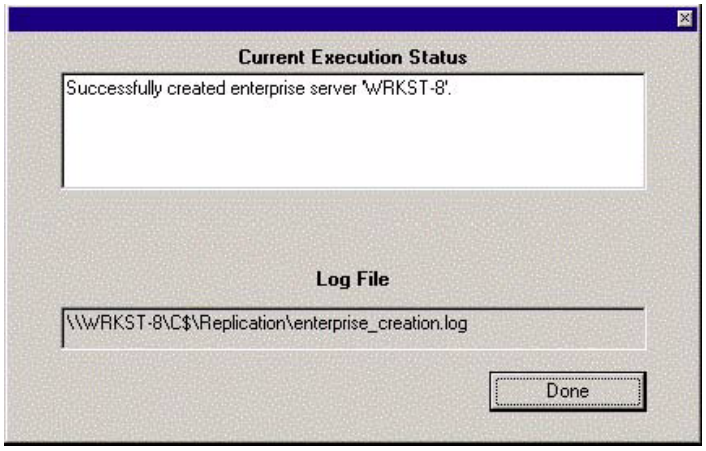
Note: See "The Enterprise Collection Database " on page 34 for details about the creation of the Enterprise server database.

12. Click **Yes** to begin creating the merge publication. Enabling the Enterprise server for SQL replication merge publishing creates a distribution database named PWBadge_Distribution. The Enterprise server is set to be its own distributor and subscriber. The data retention period

is set to 24 hours for the distribution database replication data. Windows-integrated security is set to be the method for access to SQL server.

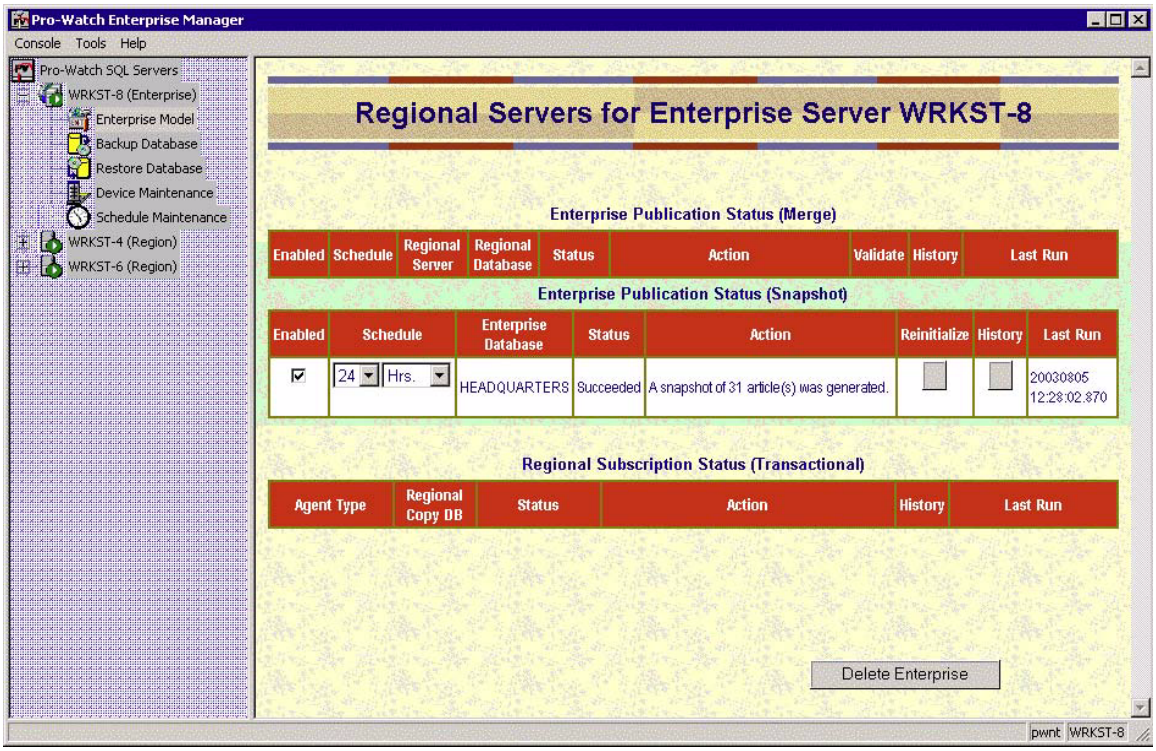
Note: See "The Merge Publication on the Badging Tables " on page 35 for details about the creation of the Enterprise server database.

After a few minutes, the following execution status box appears:



The setup process terminates when the snapshot process finishes. The enterprise log file is named enterprise_creation.log, and it is found in the directory specified during the setup.

e. Click **Done** to complete the Enterprise server creation process. The following screen appears:



2.3.10 Server Setup Notes

2.3.10.1 *The Enterprise Collection Database*

The Enterprise collection database is named with the name provided during the setup, and it is created using the default Pro-Watch database as the template. The collection database is given the following default Pro-Watch database elements:

- Default database users and roles.
- All user-defined data types.
- Objects listed in the default Pro-Watch database table TABLES_REPL, as follows:

REPL_STATUS column	Action for Object Named in TABNAME Column
1	Create table for transactional replication.
2	Create table for merge replication.
3	Create stored procedure.

Two tables in the Enterprise collection database, however, are not exact copies of the default Pro-Watch database: the BADGE_V table is created with only an ID varbinary (18) and timestamp column, and the BADGE_FIELDS table is populated with the rows from the default Pro-Watch database whose USERDEFINED values are set to 0. Therefore, the Enterprise server begins with none of the 31 user-defined badging fields that normally exist in the default database.

Also, tables having a value of 1 in the REPL_STATUS column are created with an additional column. This column is REGION_ID; it has a varbinary (18) data type. The REGION_ID column is added to the primary key for each table, and it is used to determine the region of origin for the data in the row and to keep the row unique. The REGION_ID column is populated with the workstation ID of the Regional server that is the source of the data.

The collection database contains two tables that do not exist in the default Pro-Watch database: the ENTERPRISE_CO_CLEAR table and the ENTERPRISE_HI_QUEUE table. The ENTERPRISE_CO_CLEAR table, in conjunction with the ENTERPRISE_DN trigger created on the BADGE_C table, tracks changes made to a card's company assignment at a region. The ENTERPRISE_CO_CLEAR table then collects these changes for propagation to the other regions.

Since companies are merged, and therefore common, across regions, and clearance codes are assigned to those companies by individual regions, other regions must be alerted when a card's company assignment changes. A trigger name ENTERPRISE_DN on table BADGE_C created by the execution of the CREATE_ENTERPRISE_TRIGGER stored procedure generates this alert by placing a row in the ENTERPRISE_DN_CO_CLEAR table for each card whose company assignment has been modified. One row per card is added to the table for each region participating in the enterprise.

The ENTERPRISE_CO_CLEAR table works in conjunction with the ENTERPRISE_CO_CLEAR_UPDATE stored procedure and the BADGE_C trigger to ensure that the cards with the modified companies get their modified access downloaded to the panels at each

region. The ENTERPRISE_CO_CLEAR_UPDATE stored procedure processes the rows in the two tables by updating each region's card/company assignment. The ENTERPRISE_HI_QUEUE table is used to perform the card access downloads when the region synchronizes with the enterprise.

All of the default database's badging report views are scripted and created in the enterprise collection database by the UPDATE_BADGE_VIEWS stored procedure. Also, the UPDATE_ENTERPRISE_BADGE_VIEWS stored procedure (a new version of UPDATE_BADGE_VIEWS) creates views on the badging tables that have had new REGION_ID columns added.

2.3.10.2 *The Merge Publication on the Badging Tables*

After all of the objects are created in the enterprise database, Pro-Watch prompts the user to create the merge publication on the badging tables having a value of 2 in the REPL_STATUS column. The user also creates a merge publication named PW_Badging and names the Enterprise server. The badging tables are added as published articles.

The snapshot data for the merge publication is placed in a location specified during the setup. A subdirectory named altsnapshot is created below this directory, and it is used by the SQL Server to create a compressed copy of the snapshot. If bandwidth is limited, the operator can use this compressed copy to physically move the snapshot to a remote location and pull a subscription to the merge publication on the enterprise. Note that the snapshot data is a copy of the data in the published table; its purpose is to ensure that the subscriber table and publisher table begin with the same data values.

The setup process sets the snapshot to delete rows in the subscriber table before posting its data into the table. This eliminates primary key conflicts that may occur between the snapshot data and any existing data in the subscriber table. Before the snapshot is posted in the table, however, the regional data must be brought in from the subscriber by the setup process. The snapshot deletes subscriber data, not by configuring it to delete all rows, but using a row delete filter clause of "1=1." The filter clause allows the deletion to occur without actually truncating the table.

The merge publication sets all articles, except the BADGE_C and BADGE_V tables, to determine data conflicts occurring over an entire row instead of a single column. For example, if the Enterprise server has one column in a row that has been updated, and a region has another column of the same row that has been separately updated, a data conflict occurs. In this case, the subscriber change is rolled back and the enterprise change prevails.

This rule keeps the data in a row consistent when updates from different regions are received. The BADGE_C table is exempt from this rule, because the LAST_ACC and LAST_READER columns get updated with the last access information from readers in the field. This information changes frequently, depending on where the cardholder is and where he goes, and the updates can potentially roll back other changes to card information (such as expiration date and status changes) that are more important. The BADGE_V table contains personal and other non-access-related information that pertains to badge holders; therefore, changes to different fields on the same record should not be construed as a conflict.

The merge publication adds a column named rowguid to each published table by SQL Server. Its data type is uniqueidentifier with a default value of newid(). The function of uniqueidentifier is to generate a unique value in order to keep track of the current shared version of the row data.

2.3.11 Adding the Regional Servers

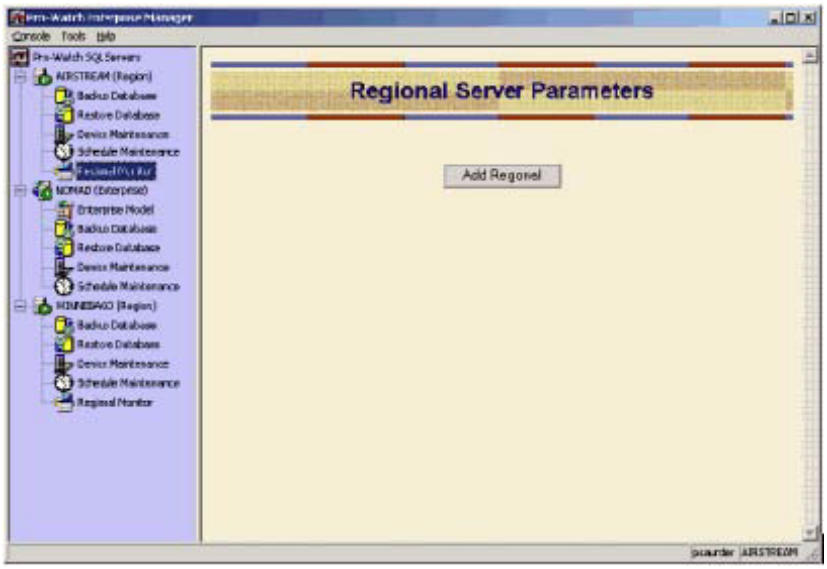
The Pro-Watch Enterprise Manager (PWEM) utility drives the regional setup process, and it assumes that the default Pro-Watch database is installed on the Enterprise server.

Notes:

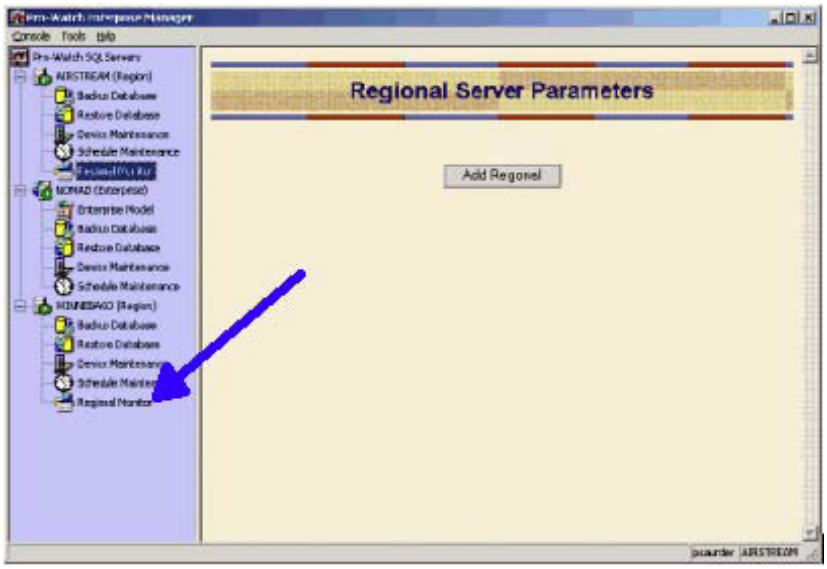
- **Before you add regional servers**, you must run the `varbintohexstr.sql` script against the Enterprise database. The `varbintohexstr.sql` script is included on the Pro-Watch installation CD.
- The Badge_V table in each Pro-Watch system contains personal badge holder data. However, the data field names are customer-created and probably vary. For example, one customer might name a field “business_unit,” and another customer might name the same field “department.” It is recommended that you develop a standard naming convention for Badge_V fields that will be used across the enterprise.

The PWEM utility runs on the Enterprise server to set up the regions.

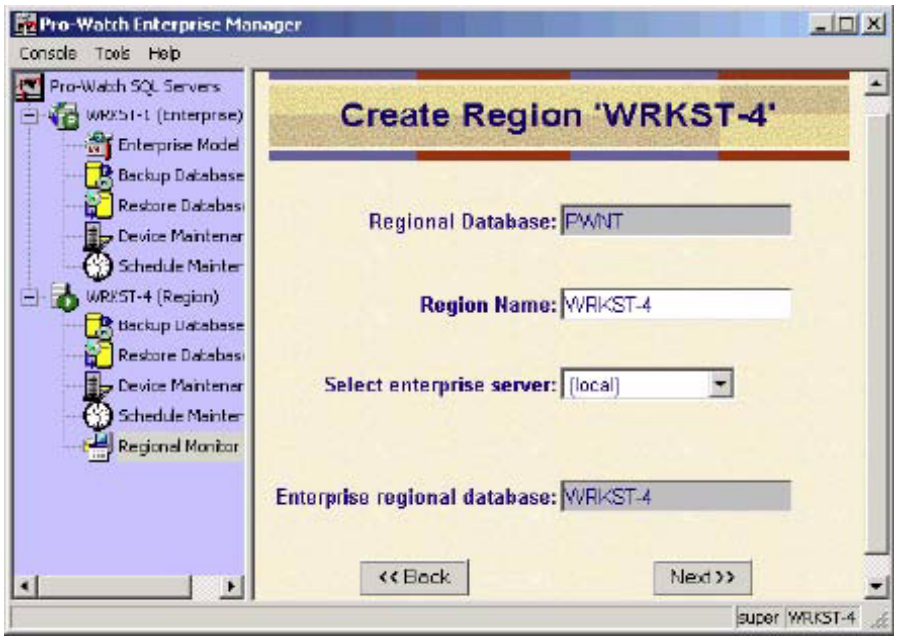
1. From the Enterprise server, run Pro-Watch Enterprise Manager.Click **OK**. The Replication Manager program starts and the Regional server Parameters screen appears.



2. Click to highlight **Regional Monitor** in the workstation tree in the left pane (see the arrow below), and click **Add Regional**.



The Create Region screen appears with additional fields for this workstation:

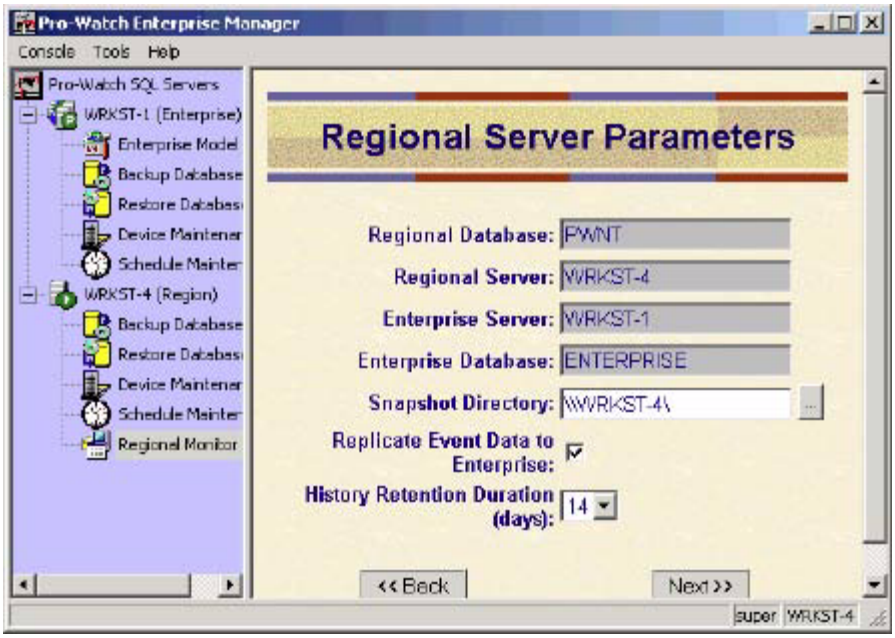


3. Use the following field descriptions to complete the Create Region dialog box:

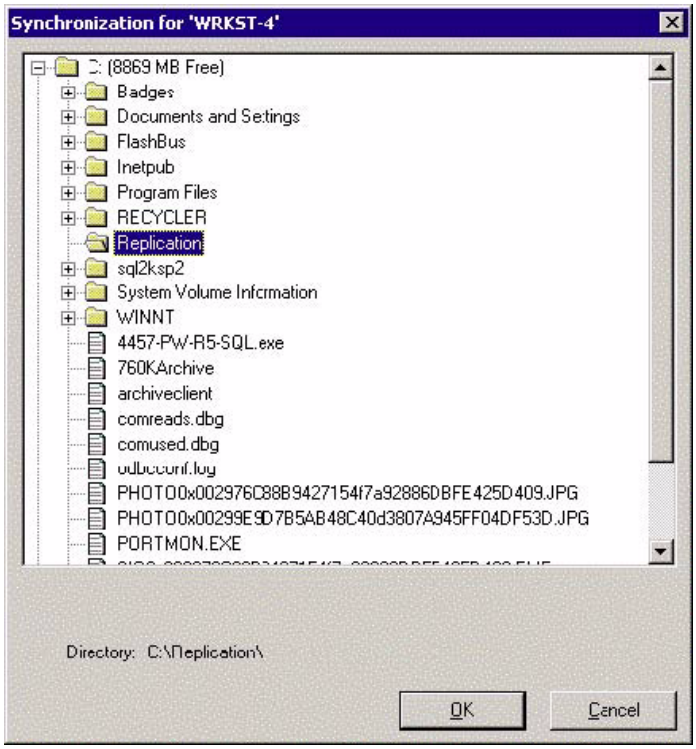
Field	Description
Regional Database	Do **not** change this value. The database in every Pro-Watch standalone and Regional server is named PWNT.
Region Name	Enter the name by which the Regional server will be known. This name is usually the same as the workstation name that you created in the section "Adding an Enterprise Server Workstation ". Consider using the server's location (e.g., CHICAGO) or controlling entity (MFG-EAST) for the region name.
Select Enterprise server	Select the Enterprise server from the dropdown list. Note that the Enterprise server will not appear on this list if you are using the Enterprise server itself as the configuring PC. If the Enterprise server is the configuring PC, select **Other** and **Not** (local) from the dropdown box. A new window appears and allows you to enter the Enterprise server name.
Enter Enterprise server Name	Enter the Enterprise server's name in this field only if you were not able to select the Enterprise server in the Select Enterprise server field. The entry is case-insensitive.
Enterprise Regional Database	This value automatically appears; it is system-derived from the Region name you entered earlier.

4. Click **Next** to display the Regional server Parameters dialog box.

4.3.54.3.5

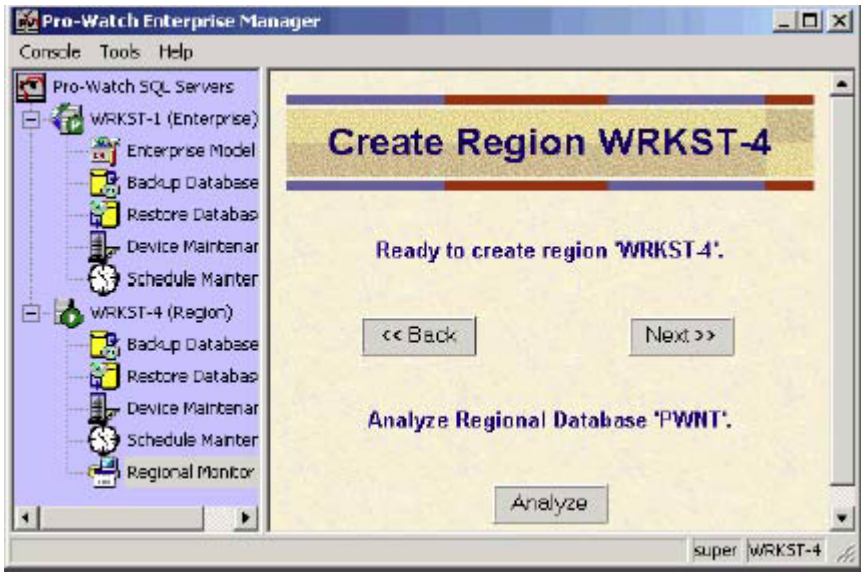


5. Click the ellipse icon next to the Snapshot Directory field and navigate to the replication network share folder you created (see "Creating the Replication Folder " on page 7).



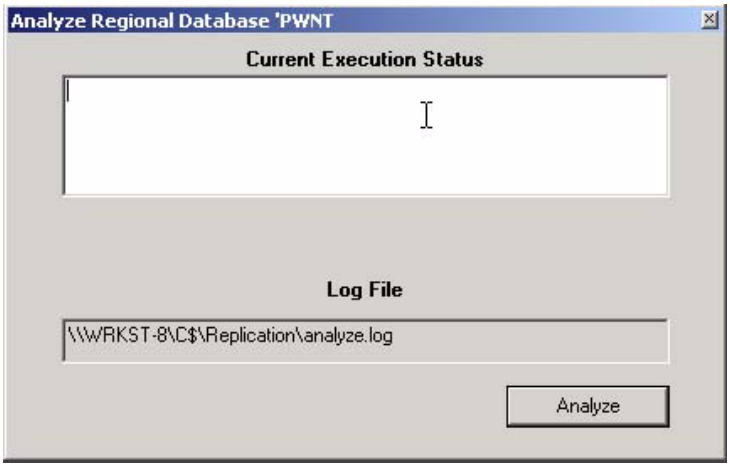
6. Select the "Replication" folder and click **OK** to set the Snapshot Directory path to the correct folder. In lieu of navigating to the snapshot directory, you may enter the location of the snapshot directory folder. This must be entered using the UNC (Uniform Naming Convention) format.

7. Select the Replicate Event Data to Enterprise check box if you want to:
   - Push hardware data from region to enterprise.
   - Move Badge/card, hardware, and event information from the region to an intermediate database created on the Enterprise server. The hardware and event data then moves from the intermediate database into the enterprise database itself. The intermediate database provides a way of reporting on regional-specific data on the enterprise, thus offloading the work from the Regional server. The badge/card data cannot move directly from the region to the enterprise, because it is already being merged and moving the same data transactionally would create an endless loop of changes propagating through the architecture.
8. In the History Retention Duration field, enter the number of days the metadata files related to the Regional copy database replication. Use the same value as configured for the Enterprise server (14). Note that this value must be greater than the scheduled Backup cycle value.
9. Click **Next** to display the Create Region dialog box. This box confirms that it will create the Region, and it verifies the Region's name.

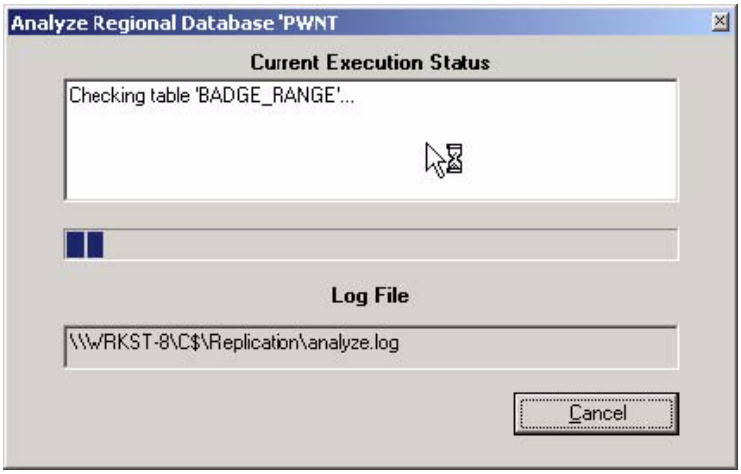


10. It is recommended (but not required) that you click **Analyze** before clicking **Next**. The Analyze function compares the database schema of the Enterprise database to the "joining" Region's database. If discrepancies are detected, they are copied to a log file, and you will receive a message. Every discrepancy must be corrected before proceeding with the Regional server

creation procedure. If you click **Analyze**, the following status box identifies the location of the discrepancy file (analyze.log).



11. Click **Analyze** again to proceed with the Analyze function. The following status box keeps you updated with the Analyze results:



The analyze function performs several comparisons and operations. Some tables in the Regional and Enterprise databases are compared for matching primary key values.

The BLOB_TYPES tables in the Region and Enterprise servers are compared to ensure that matching rows have their STOREINDB and SYSTEM fields set the same. The STOREINDB dictates where the blob image is stored (database or file system), while the SYSTEM attribute is used by Pro-Watch to treat the blob type as one that cannot be deleted by a user. We recommend that the images that are stored in the file system location in the PATH value in the BLOB_TYPES table should be accessible from all regions or the image will not be visible in Pro-Watch from all the regions.

The BADGE_FIELDS table is searched for rows referring to BLOB Types. If a match is found on COLUMN_NAME, then the value for BLOB_TYPES is examined. If the BLOB_TYPE values for the regional and enterprise databases are different, you must choose between two options. You can choose to update the regional BADGE_FIELDS row with the BLOB_TYPE value from the enterprise database. This option removes the linkage between any regional badge profile that uses that BADGE_FIELD to display an image and the BLOB_TYPE that represents the image. Also, the

BLOB_TYPE value is overwritten in the matching row in the BADGE_V table with the enterprise value, and the GUID_CHANGE_LOG table is given a new row to track the change. The image will not be displayed. The second option is to preserve the regional BADGE_FIELD value of BLOB_TYPE by selecting new COLUMN_NAME and DISPLAY_NAME values for the BADGE_FIELD row. A new column is added to the regional BADGE_V table; the column corresponds to the new row in BADGE_FIELDS. The BADGE_PROF_PF table's FIELDID value(s) that correspond to the old BADGE_V column are updated with the new BADGE_V COLUMN_NAME value(s), thus preserving the linkage between profile and BLOB type.

BADGE_V table columns in the enterprise and regional databases are compared. When BADGE_V columns exist in the regional, but not the enterprise, database, they are added to the enterprise BADGE_V table by the special stored procedure sp_repladdcolumns. Since the BADGE_V table is the only table with a variable schema, the new regional columns must be added to the table to receive the regional data.

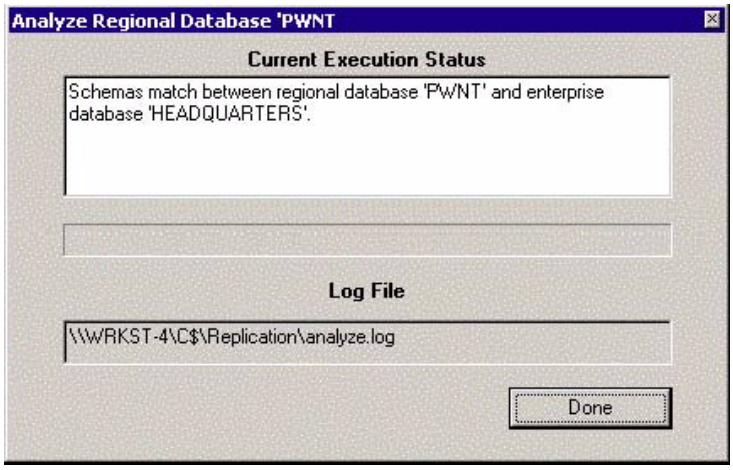
The WORKST tables in the regional and enterprise databases are compared. When workstation IDs are the same in each database but the corresponding workstation names are not, the workstation name in the enterprise database is assigned to the workstation in the regional database. Conversely, when workstation names are the same in each database but their corresponding workstation IDs are not, the ID in the enterprise database is assigned to the workstation in the regional database. The GUID_CHANGE_LOG table is given a new row to track the change.

Badge profile IDs in the regional and enterprise BADGE_PROFILE tables are compared. When profile IDs match in the two databases, you are prompted to either preserve or overwrite the regional badge profile with the enterprise profile. If you choose to preserve, then you must enter data for the new regional badge profile. With the new data and a new varbinary ID generated by the PWEM setup utility, the new profile is written to the BADGE_PROF, BADGE_PROF_P, and BADGE_PROF_PF regional tables. The GUID_CHANGE_LOG table is given a new row to track the change.

Badge Types in the regional and enterprise BADGE_TYP tables are compared. When Badge Type IDs match in the two databases, you are prompted to either preserve or overwrite the regional Badge Type with the enterprise profile. If you choose to preserve, then you must enter data for the new regional Badge Type. With this data and a new varbinary ID generated by the PWEM setup utility, the new Badge Type is created. The GUID_CHANGE_LOG table is given a new row to track the change.

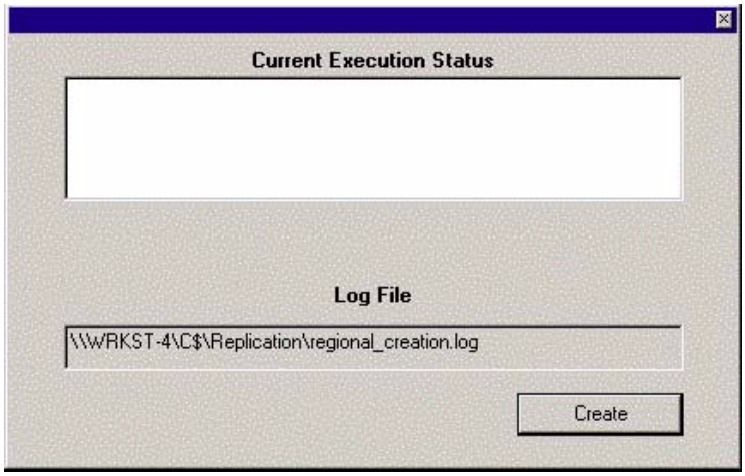
IDs and STAT_COD values are compared in the regional and enterprise BADGE_STATUS tables. If the IDs match in the two databases but the STAT_COD character values differ, a new varbinary ID is generated for the regional ID, and this new ID replaces the old ID throughout the database to preserve the different STAT_COD character. The GUID_CHANGE_LOG table is given a row to track the change. If the regional and enterprise STAT_COD characters are the same, then the regional row is deleted.

If the schemas match, the following status message appears:



If the schemas do not match, the system tells you a mismatch exists. In this case, the region is not added, and the regional creation log (located in the path at the bottom of the screen) is updated to list the problems that occurred.

12. Click **Done**. The Create Region screen re-appears.
13. Click **Next** to begin building the Regional server and database. The following execution status box appears and identifies the location of the server creation log:



The server building occurs in five phases, as described in the following sections.

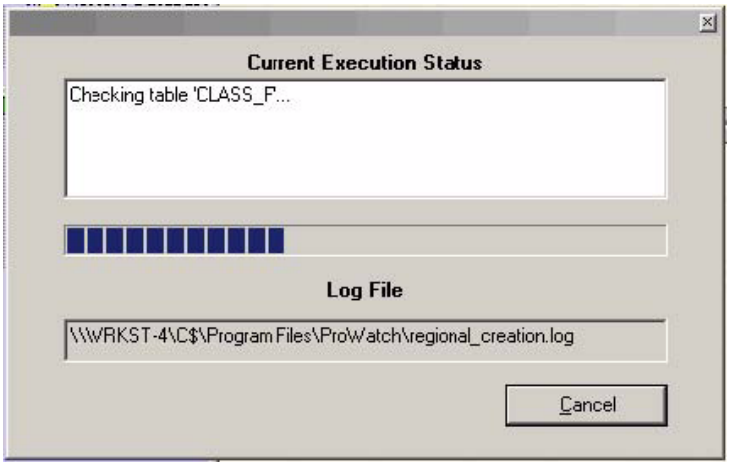
2.3.12 Regional Server Creation, Phase 1

Click **Create** at the Current Execution Status box to proceed with the building of the Regional server. The events of phase 1 of Regional server creation occur in the following sequence:

1. Any Replication software or replication files remaining on the Regional server are removed.

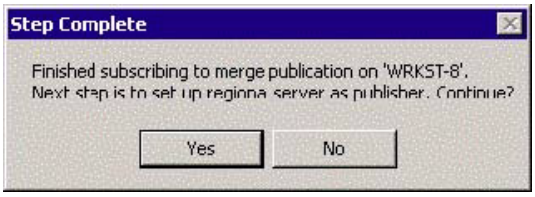
2. All data in existing Badging tables that also exist on the Enterprise server is removed from the Region. This must be accomplished before the Regional subscription to the Enterprise Badging tables can be initialized.

3. The program takes a snapshot of the Enterprise Badging publication and downloads it to the Regional server. This process also synchronizes the schema and data of the two sets of Badging tables. Note that this step takes a substantial amount of time. The following status box appears and provides the real time status of the procedure:



The Current Execution Status field displays the procedure's current status, and the Log File field indicates the log file path.

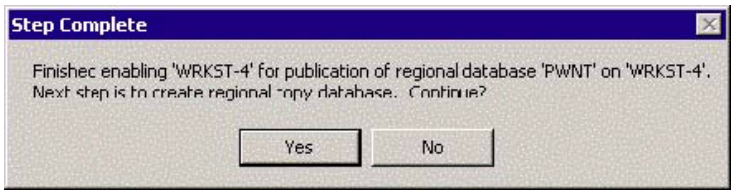
4. The Badging database is installed on the Regional server, and phase 1 of the process is complete when the following dialog box appears:



Click **Yes** to continue to phase 2 of the Regional server procedure.

2.3.13 Regional Server Creation, Phase 2

Phases 2 through 5 configure the Event portion of the Regional database. This phase configures the Regional server as a publisher and creates a distribution database named PW-distribution. The Pro-Watch database on the Regional server is enabled for transactional publication. No status box appears during this process. When the procedure finishes, the following dialog box appears:



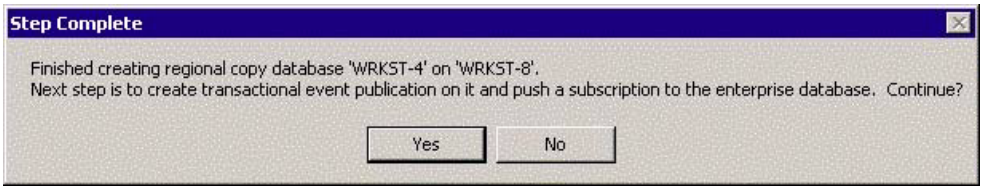
This message indicates the completion of phase 2 of the procedure and the next step (phase 3) in the Regional server procedure. Click **Yes** to begin phase 3.

2.3.14 Regional Server Creation, Phase 3

Phase 3 requires no further action by the installer. Phase 3 creates another new database on the Enterprise server for the Regional Copy database. This database contains tables defined in the TABLES_REPL table on the Pro-Watch Client Pro-Watch databases for both Badging and event publications. It also contains any report views and stored procedures from TABLES_REPL.

Notes:

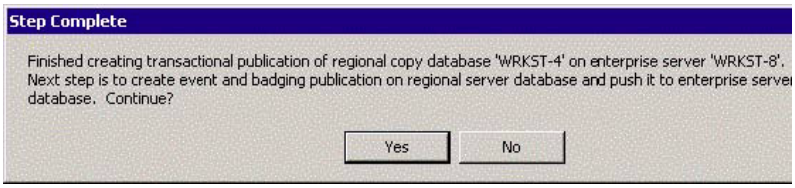
- All TIMESTAMP data types in the Badging tables created in the Regional Copy database are converted to a BINARY(8) type.
- The ROWGUID columns are modified to remove the “uniqueidentifier” constraint. When the procedure finishes, the following dialog box appears:



Click **Yes** to begin phase 4 of the Regional server procedure.

2.3.15 Regional Server Creation, Phase 4

Phase 4 requires no action by the installer. Phase 4 enables the Regional copy database on the Enterprise server for transactional publication. The procedure creates a preliminary publication of the database with empty Event tables only. A snapshot is taken of this publication, and a subscription to the publication is pushed to the Collection database on the Enterprise server. The procedure initializes the subscription with the content of the snapshot. When the procedure finishes, the following dialog box appears:

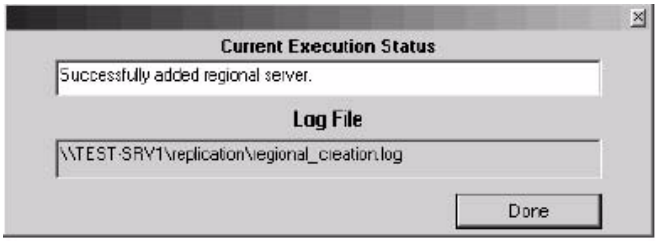


Click **Yes** to begin phase 5 of the Regional server procedure.

2.3.16 Regional Server Creation, Phase 5

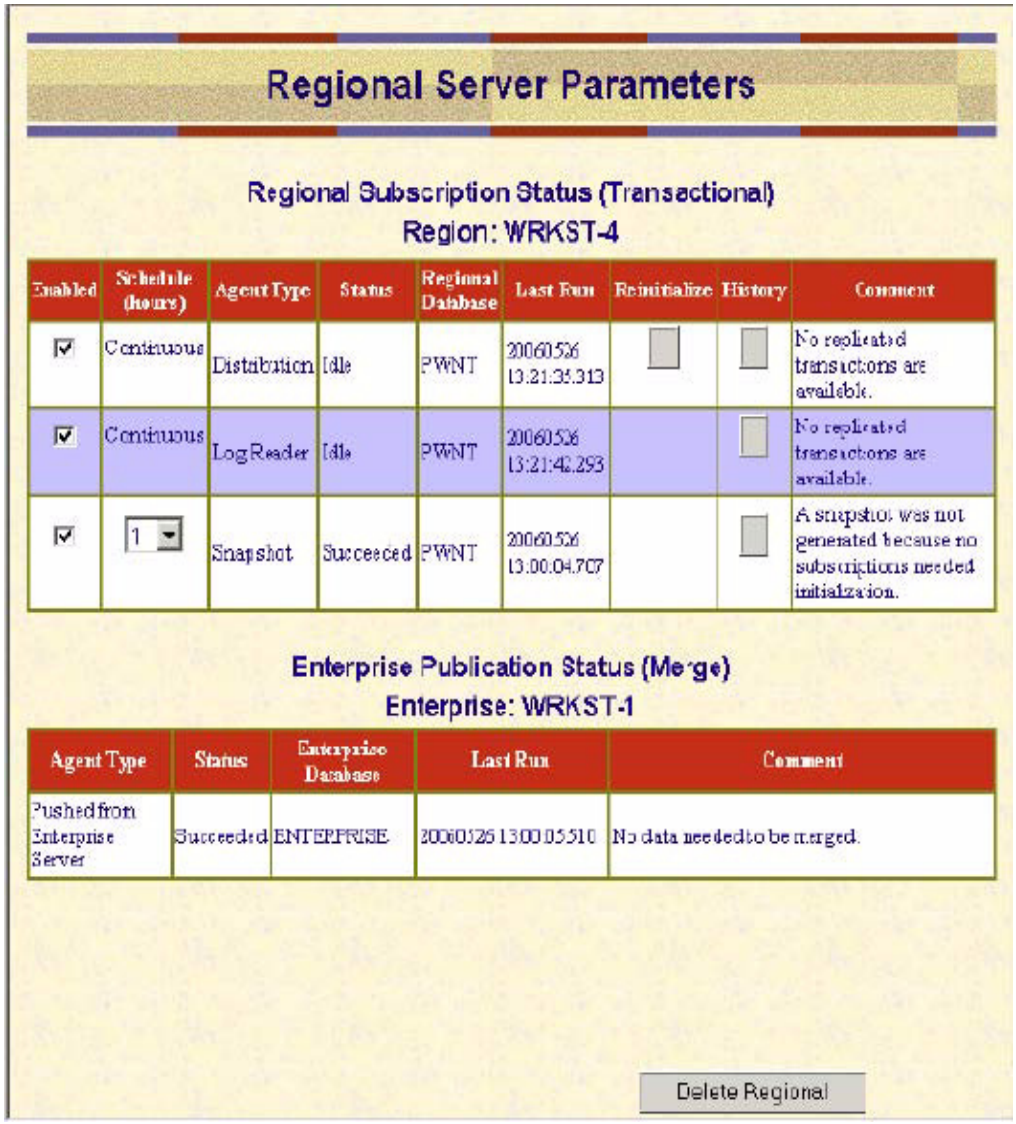
Phase 5 requires no action by the installer. Phase 5 enables the Regional Pro-Watch database to publish Transactional logs. The procedure creates a publication at the Region that consists of both Badging and Transactional tables. The Enterprise server compares Enterprise and Regional Event tables, and any duplications that are discovered are deleted from the Enterprise Collection tables.

A snapshot is then taken at the Regional server for this new, combined publication, and it is pushed to the Regional Copy database on the Enterprise server. The Enterprise server then updates the Collection database. The subscription then initializes with the snapshot publication. This process may require a significant period of time, depending upon the file size and the communication variables. After a few minutes, the following message box informs you that the process is complete.



The Current Execution Status field displays the procedure's current status, and the Log File field indicates the log file path.

Click **Done** when the status field indicates that the server has been successfully added. The following screen appears to provide the status of both the Enterprise and Regional servers. You can monitor and manage the server performance for the entire Enterprise system from this screen.



To add additional regions, repeat the steps described above for adding a region to the enterprise system. Each Regional server monitors its event data and pushes any changes to its regional copy database on the enterprise. This occurs automatically after configuration.

After all regions have been added to the enterprise system, you can manipulate data on each region. You should not manipulate the data on the Enterprise server Pro-Watch database, as the data on the Enterprise server default Pro-Watch database is not replicated.

2.4 Deleting a Region or Enterprise

2.4.1 To Delete a Region

1. Open Pro-Watch Enterprise Manager (PWEM) on the Enterprise server, and select and expand the directory of the Region you wish to delete.
2. Select **Regional Monitor** and click **Delete Regional** from within the PWEM window. The Current Execution Status window appears.
3. Click **Delete**. A message box appears asking you for confirmation to delete the Region. Click **OK**.
4. As the Region is removed from the Enterprise system, a series of message boxes appears. Click **OK** to remove the Regional copy database from the Enterprise server. PWEM prompts you to confirm your desire to delete the Regional data.

   Note: If this database is not removed, it must be deleted prior to re-adding the Region to the enterprise.
5. Click **OK** if you wish to remove this Region's data from the enterprise database. The Current Execution Status screen confirms deletion of the Region.
6. Click **OK**.

2.4.2 To Delete the Enterprise

Note: All Regions must be deleted from the Enterprise system before you can delete the Enterprise server.

1. Open Pro-Watch Enterprise Manager (PWEM) on the Enterprise server, and select and expand the Enterprise server directory. Select **Enterprise Monitor**.
2. Click **Delete Enterprise** from the PWEM window. PWEM prompts you to confirm your desire to delete the Enterprise data.
3. Click **OK** if you wish to remove the enterprise's data from the Enterprise database. The Current Execution Status screen confirms deletion of the Enterprise.
4. Click **OK**.

You may re-add a Region or an Enterprise to the Enterprise system. Follow the steps described in Adding the Regional Servers, page 2-35 or Adding the Enterprise Server , page 2-28. If a Region was previously a member of the Enterprise system, matching Badge Statuses, Badge Types, BLOB types, and Badge Profiles will generate prompts asking whether or not to overwrite Regional values with Enterprise values. If you select **NO**, then you will be prompted to enter new descriptions for the Regional values so they can be distinguished from the Enterprise values. If any Regional event/hardware data match Enterprise event data, that data is overwritten without confirmation.

Warning: Do not change the badge schema before re-adding a Region. If you do change the badge schema before re-adding a Region, the schema check for the region will fail.

2.4.3 To Delete a Regional Server on SQL 2012 Enterprise

1. Press the **Delete** button on the **Pro-watch Enterprise Manager** for the regional server.
2. Using a tool like **SQL Management Studio**, log into the regional server you deleted.

3. In the object explorer, go to the replication tree view. Under the "**Subscription**" subdirectory, delete any subscription if found.
4. Go back to the replication tree view. Right click and select "**Disable Replication**".
5. Log into the **Enterprise Server**.
6. Go back to the replication tree view. Under the "**Subscription**" subdirectory, delete any subscription that has the name of the regional server that you've just deleted.
7. Under the "**Publication**" directory, click "+" and expand the sub-directory tree to view the subscriptions. Delete the subscription with the name of the regional server that you've just deleted.
8. Under the "**Database**" directory, right-click on the database that has the name of the regional server you've just deleted. From the pop-up menu, select **Delete.**

2.4.4 To Delete an Enterprise Server on SQL 2012 Enterprise

1. Delete all the regional servers on the enterprise server.
2. Press the **Delete** button on the **Pro-watch Enterprise Manager**.
3. Using a tool like **SQL Management Studio**, log into the enterprise server.
4. In the object explorer, go to the replication tree view. Under the "**Subscription**" subdirectory, delete any subscription if found.
5. Go back to the replication tree view. Right click and select "**Disable Replication**".
6. Under the "**Database**" directory, right-click on the enterprise database. From the pop-up menu, select **Delete.**

Operation

3

In this chapter...

3.1 Overview

This chapter explains how to perform common Pro-Watch Enterprise operations, such as badging, reporting, and monitoring alarms and events.

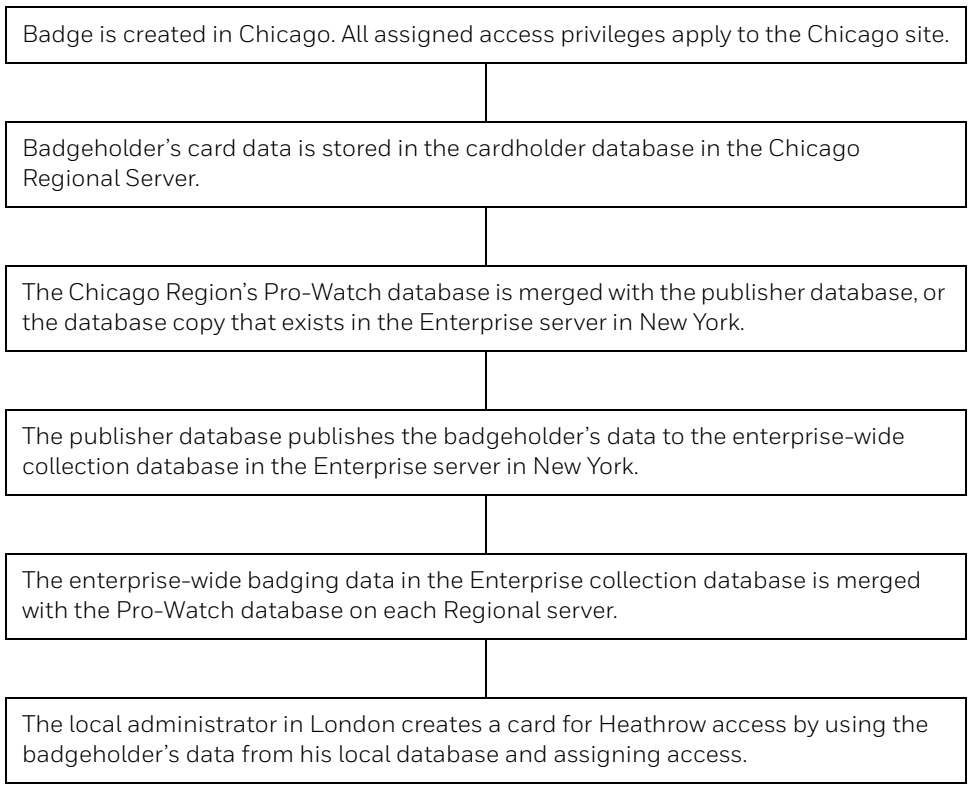
3.2 Enterprise Badging

In the Pro-Watch Enterprise system, each cardholder carries a single set of badging data that is available to any other regional site in the enterprise. Pro-Watch Badge Profiles, Badge Statuses, Badge Types, BLOBs, Companies, and Partitions, for example, are replicated and published to every Region. Therefore, a badging operator does not re-create the entire badge for a visiting employee. In the Pro-Watch Enterprise system, access rights are still assigned only by the local operator. Local control over access is preserved. Therefore, an employee traveling to another region need only be assigned access rights at the new region by that region's administrator. All other badging data for the employee is already available to the operator from his local Pro-Watch badging interface.

As explained in Chapter 1, Pro-Watch Enterprise uses Structured Query Language (SQL) merge replication to collect the badging data in the Enterprise server database and push back the collected badging data to each Regional server. This assures that each Region throughout the enterprise has the same set of badging data.

Example

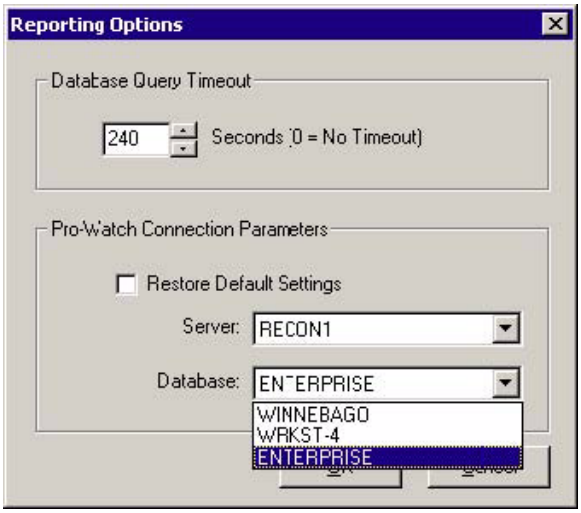
An airline pilot is badged for access to Chicago's O'Hare airport. He flies to London and is easily issued a badge for Heathrow airport because the same cardholder data created in Chicago is also available to London. The Enterprise server resides in New York.



3.3 Enterprise Reporting

Pro-Watch Enterprise enables you to produce a report from any Regional server with data that represents either a single selected Region or the entire Enterprise.

The application interface for pointing to either a Regional or Enterprise database is the Pro-Watch Reporting Options dialog box (**Reports > Console > Reporting Options** from the Pro-Watch main screen):



To select the source server and database for a report:

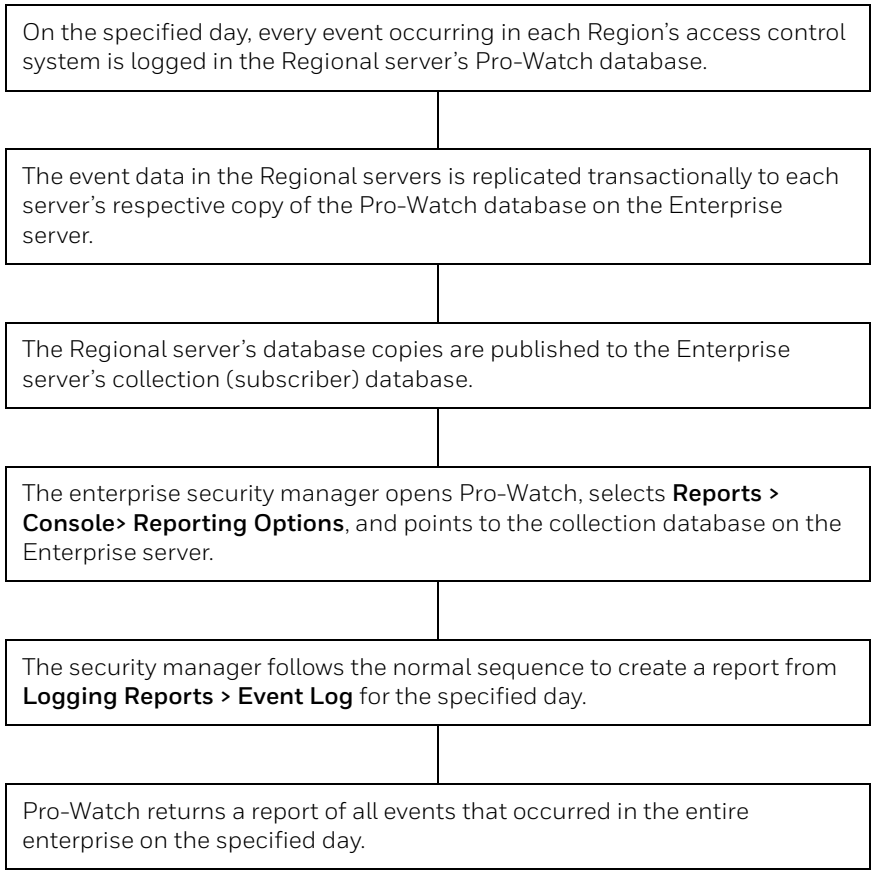
1. Open the **Report Module**.
2. Select **Console** > **Reporting Options** from the menu bar to display the **Reporting Options** dialog box.
3. From the Server drop-down list, select the server that owns the database from which you want to produce the report.
4. From the Database drop-down list, select the database.

   Note: To restore the default settings within the reporting options dialog box, select the **Restore Default Settings** check box.
5. Click **OK**. The Reports application is now pointed to the database from which you want to generate a report.

Example

The enterprise's security manager wants a report of all events that occurred in all Regions within the Pro-Watch Enterprise system on a specific day.

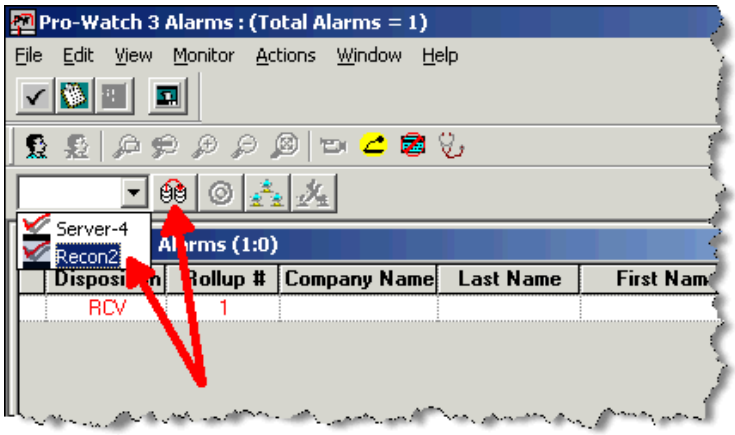
On the specified day, every event occurring in each Region's access control system is logged in the Regional server's Pro-Watch database.



3.4 Enterprise Alarm Monitoring

Pro-Watch Enterprise enables an operator to monitor the alarms of any Region in the enterprise. Each Regional server operator is able to switch to the Pro-Watch database of every other Regional server in the enterprise, view the target server's Alarm Monitor, and perform usual administrative tasks. These tasks include acknowledging and clearing alarms, and performing hardware actions such as Lockdown, Lock, and Pulse.

The Regional server operator uses the Pro-Watch main screen drop-down box and Change Database icon to point to another Regional server's database:



To switch to another region's Alarm Monitor:

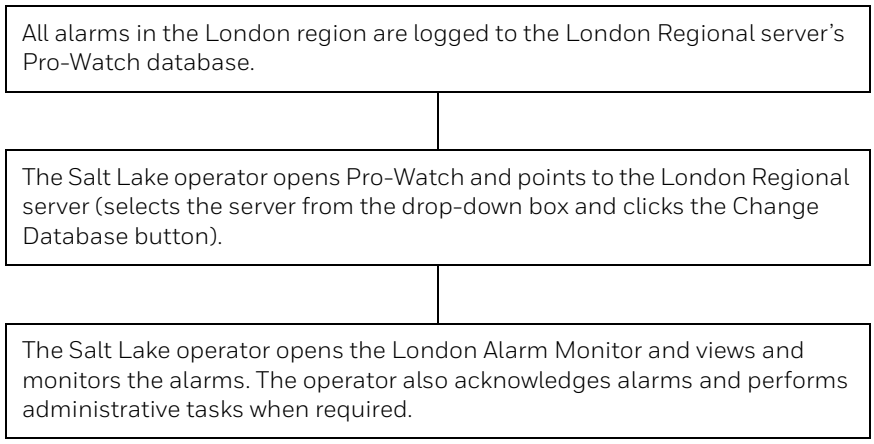
1. Select that region from the drop-down list.
2. Click the Change Database icon ( ). When the connection to the region is made, a message box confirms connection success. To disconnect from that region, click the Change Database icon. Once you disconnect, a message box confirms the disconnection.

Note: When connecting to another region within Alarm Monitor, your region is still pointing to its own database; therefore, you may not control another region's resources and hardware. You must configure the core Pro-Watch database entities, such as routing groups and classes, before you can view alarms. See the *Pro-Watch Software Suite Guide* for more information about database configuration.

Example

The Regional server operator in Salt Lake has been asked to monitor the alarms in the London region during off hours.

All alarms in the London region are logged to the London Regional server's Pro-Watch database.



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