



Pro-Watch™ Software Suite Release 5.0

Enterprise Configuration Guide

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Overview



1

In this chapter...

[Overview](#)

[Planning an Enterprise System](#)

1.1 Overview

Pro-Watch Enterprise system is key to synchronizing the databases of different regions running the same or different versions of Pro-Watch.

The new Enterprise will work in any environment, including:

- Cloud
- On-Premise
- Cloud/On-Premise Hybrid

There are significant differences between the old Enterprise platform and the new one introduced with Pro-Watch 4.5 release.

1.2 Synchronization Methodology

Pro-Watch Enterprise uses a SQL feature called **Change Tracking**, which allows an application to pull only the changed data since the last pull. Benefits of using change tracking include reduced development time, no need for schema creation and modification, built-in tracking table cleanup, and reduced overhead.

Enterprise Setup

2

In this chapter...

- Planning an Enterprise System
- Potential for Duplicate Logical Records
- Potential for Duplicate Badgeholder Records
- Timing Database Updates
- Unique Logical Sites
- Adding a Regional Server
- Event Monitoring and Control
- Remote Monitoring
- Authentication and Security
- Different Domain Accounts
- SQL Server Encryption

2.1 Planning an Enterprise System

Pro-Watch Enterprise system designs vary from enterprise to enterprise, depending upon the enterprise's 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.

2.2 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.

2.3 Potential for Duplicate Badgeholder Records

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.

2.4 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.

2.5 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.

2.6 Adding a Regional Server

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.

2.7 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.

2.8 Remote Monitoring

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.

2.9 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.

2.10 Different Domain Accounts

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.

2.11 SQL Server Encryption

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.

Terminology and Prerequisites

3

In this chapter...

- Overview
- Minimum Synchable Schema Set
- Table Groups and Tables
- Two Types of Synching
- Deletion on Enterprise
- Snapshots
- Pre-requisites
- Precautions

3.1 Overview

Enterprise supports different schemas and a **"minimum synchable set."**

3.2 Minimum Synchable Schema Set

In the old Enterprise, if the Regions were running different versions of Pro-Watch, the Enterprise would not run due to **different database schemas** with different tables and columns. The new Enterprise works even if the regions have different schemas.

Note: The Enterprise server database needs to have a **"minimum synchable schema set which are present in all regions databases"**.

3.3 Table Groups and Tables

Pro-Watch provides logical grouping of tables participating in Synch between Enterprise and Regions. By default there are two table groups in Pro-Watch

1. Audit and Events Log

This contains the Pro-Watch DB tables required for synching Events, Alarms, Audit log etc.

Type 1: Audit and Events Log

"EV_LOG_DISP

"EV_LOG

"EXT_EVLOG

"AUDIT_LOG

"EV_LOG_RESP

2. Badging

This contains the Pro-Watch DB tables required for synching Badging related data.

Type 2: Badging

"COMPANY_UDEF_COLUMNS

"CLEAR_AUX

"CLEAR

"COMPANY

"PARTI_m

"BADGE

"BADGE_TYP

"NOTE

"BLOBS_LDOCS

"BADGE_C_AUX

"BADGE_STATUS

```
"WRKST
"BADGE_C
"BADGE_V
"BLOBS
"BADGE_CC
"BLOBS_OVR
"BADGE_RANGE
"BLOB_TYPES
"COMPANYC
"PARTI
"BLOBS_BIO
"HOLIDAY
"
```

3.4 Two Types of Synching

Synching is one of the most important functions of the Enterprise. There are two types of synching:

1. **PULL [Type 1]. Pull the DB changes from the Region to the Enterprise. This is also known as "Transaction Replication."**

Note: In the default PW installation, the tables categorized under Table Group "Audit and Events Log" are treated as Type 1 - Pull Only Synch

2. **PULL-PUSH [Type 2]. Pull the DB change first from the Region to the Enterprise, and then from the Enterprise to all the other Regions. This is also known as "Merge Replication."**

Note: In the default PW installation, the tables categorized under Table Group "Badging are treated as Type 2 - Pull and Push Synch

3.5 Deletion on Enterprise

"Deletion on Enterprise" feature is turned off by default.

The actual behavior of this feature depends on the kind of synching configured.

1. **PULL Synching and Deletion**

If there is a delete in a Region, it will not be not automatically deleted on the Enterprise.

2. **PULL-PUSH Synching and Deletion**

If there is a delete in a Region, it will be deleted on the Enterprise.

3.6 Snapshots

With the old Enterprise mode prior to PW 4.4, the user had to take Snapshots of all tables whereas with the new 4.5 version snapshots of all the tables are not mandatory. In Enterprise 4.5, you can cherry-pick tables for Snapshots, if you need a Snapshot at all. See Snapshots, page 2-7.

3.7 Pre-requisites

3.7.1 Updating and Setting up 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.

3.7.2 Prerequisites and Technical Specifications

- **OS:** Windows Server 2012 R2 or above
- **SQL :** SQL 2012 Standard/Enterprise or above.
- **RAM:** 32-64 GB recommended.

Note: The specifications are subject to changes due to market conditions, software updates, manufacturing changes, and other variables outside of our control. Honeywell recommends for planning based on system growth and expansion, operating system updates and upgrades, database engine updates and upgrades, end user system expansion, historical data retention requirements, and archive data storage requirements. Please consult with Honeywell as applicable for assistance.

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

- **Pro-Watch Enterprise Edition, Release 4.5 Complete Installation**

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

The machine used to configure the Enterprise Server 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 machine used to configure the Enterprise Server, 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: Warning: A strong working knowledge of networking and Microsoft SQL Database management is critical to the success of your enterprise.

- Use SQL 2012 or above only - with all latest updates from Microsoft.
- Identify the Regions' Pro-Watch databases that to be synchronized with Enterprise.
- Note down the list of Pro-Watch DB tables to be synchronized.
 - All tables used to synch must have primary keys. Microsoft SQL Change Tracking feature needs primary keys as a prerequisite.

- ProWatch 4.5 by default has default Table Groups defined. In cases of customizations, we should logically split the tables to be synched to 2 categories. Type 1 and Type 2.
 - **Type 1:** Synchs changes from Region to Enterprise DB only. [Unidirectional] Ex: Events
 - **Type 2:** Synchs changes from Region to Enterprise and vice versa [Bidirectional] Ex: Badges
- Have an Enterprise DB created with all required tables to Synch with Regions.
- Ensure that the columns present inside each table of Enterprise database are also present in all region Pro-Watch database tables. i.e All columns present in Enterprise table must be subset/equal of columns in all region databases.
- All custom fields those to be synchronized with Enterprise Server DB must be added in Enterprise and Region databases explicitly. [So, do not use dbo.BADGE_FIELDS table for synching across Regions]
- Add all regions and Enterprise workstations to all regions and Enterprise Pro-Watch databases.

3.8 Precautions



- Always/wherever relevant take safe backup of databases [Enterprise and Regions] throughout the deployment of this application. It is better to keep PWEnterpriseSync Service down during such big operations.
- The Enterprise server must NOT be treated as a region server also and hence all Badging related operations or any kind of data/hardware additions must be carried out at region's Pro-Watch, not directly on Enterprise.
- All the changes made to a table will be retained in the change table for the given retention period only, which will be replicated by synch service. If PWEnterpriseSync Service was not running or if the synch was not functioning due to any reasons beyond the retention period time, then those changes will be removed from SQL Change Tracking Table List and will not be synched with other regions at all.
- Do not use HSDK_CHNAGELIST for synching.
- Do not use BADGE_C_LASTACC for snapshot.
- Do not use SAGEM_DOWNLOAD for snapshot.
- Do not use different HID Mobile Credentials accounts with Regions. All must use same HID account and card pool only.
- After PW installation If you have deleted some of the default entries and customized the Table_Groups and TableGroupMaster tables, then running ProWatch upgrade patch again for any reason will add those default entries again. This must be corrected using scripts with support from Honeywell engineer.
- After the enterprise started working, always plan bulk changes and bulk operations on DB only for holidays since it will result in huge data transactions and slowness.

- During the synch, the participating table might get locked by SQL which in turn can result in showing slowness during UI navigation, report generation etc. Similarly the PWEnterpriseSync Service also could face delay and slowness if those tables are locked by other operations.

3.8.1 Precautions Specific to Release 4.5:



- PW Web UI and Web Services installation is on Default website in IIS. It is recommended not to use any other applications under this default website directory to avoid conflicts and dependencies.
- After Enterprise and Region services configuration and before starting the PWEnterpriseSync Service for first time the PW UIs like Michell or Advance Badging have to be restarted at least once, this will ensure that change tracking version numbers have started updating properly, individually in each region and enterprise DB.
- After every IIS reset, the PWEnterpriseSync Service application has to be started manually from IIS and launching the URL of PWEnterpriseSync Service application must show as 'service is running'.
- When performing snapshot, IIS has to be restarted first before starting Synch service. Resetting IIS will impact any other applications running in IIS. Plan the activities accordingly.
- During the snapshot with region DB, the PWEnterpriseSync Service URL would not show anything but as page loading. Depending upon the size of region DB and performance, this might take long time.
- Check synching status and error logs periodically to ensure proper functioning of the application since there is no alert mechanism for the synch application. The system does not issue an automatic alert when the PWEnterpriseSync Service goes down. You must check the logs of PWEnterpriseSync Service often for any errors in synching since there is no automatic error reporting mechanism.
- The time stamps synch between regions and the Enterprise DB will not be converted or will not have the origin time-zone information.
- Regions modification/deletion is not supported from UI. Contact Honeywell for support on this.
- The synch is a database-to-database function. Thus, any external procedure which is invoked from Pro-Watch UI during the same operations will not be executed or handled by the synch service.

For example, during Custom badge field addition from UI, apart from BADGE_FIELDS table entry it also invokes an entry to Badge_V table which will not be happening when BADGE_FIELD table get synched with other region database.

Similarly synching BLOBS_BIO would Synch the biometric credentials across regions, however downloading of them to the local hardware panels must be handled separately since they won't be downloaded automatically. Approaches like writing procedure to initiate download entry to SAGEM_DOWNLOAD could be followed.

- Card update (enable or disable) operation from one region will not initiate download to panels in the other regions. The updating operation will allow one extra access/host grant in the other regions.

- There is no information available for differentiating data objects from different regions. Until this gets implemented, users may assign appropriate names to such objects to differentiate them.
- When the users perform bulk operations on databases (Archive, Purge, etc.) or performing snapshots, the PWEnterpriseSync Service may consume more RAM memory and CPU than usual. Recommendation is to start the region synch services one by one after the snapshot completed with any specific region.
- After the Enterprise is setup and working, if you are restoring any old backup to Region; then
 - First stop the Synch service.
 - After restoring backup and before making any snapshot, ensure that you launch Pro-Watch UI and see everything normal in region.
 - Then start the PWEnterpriseSync Service and perform snapshot if required.
- If the SQL service memory consumption is not coming down automatically after every snapshot process completion, it is better to restart the SQL service or the machine itself when next immediate opportunity comes to avoid slowness in systems. After the reboot ensure to launch the PWEnterpriseSync Service explicitly and get it running for Synch to happen further.

Terminology and Prerequisites

Precautions

Configuring Enterprise

4

In this chapter...

- [Overview](#)
- [High-Level Procedure Summary](#)
- [Enterprise Server Configuration](#)
- [Setting up Enterprise Synchronization](#)
- [Snapshots](#)

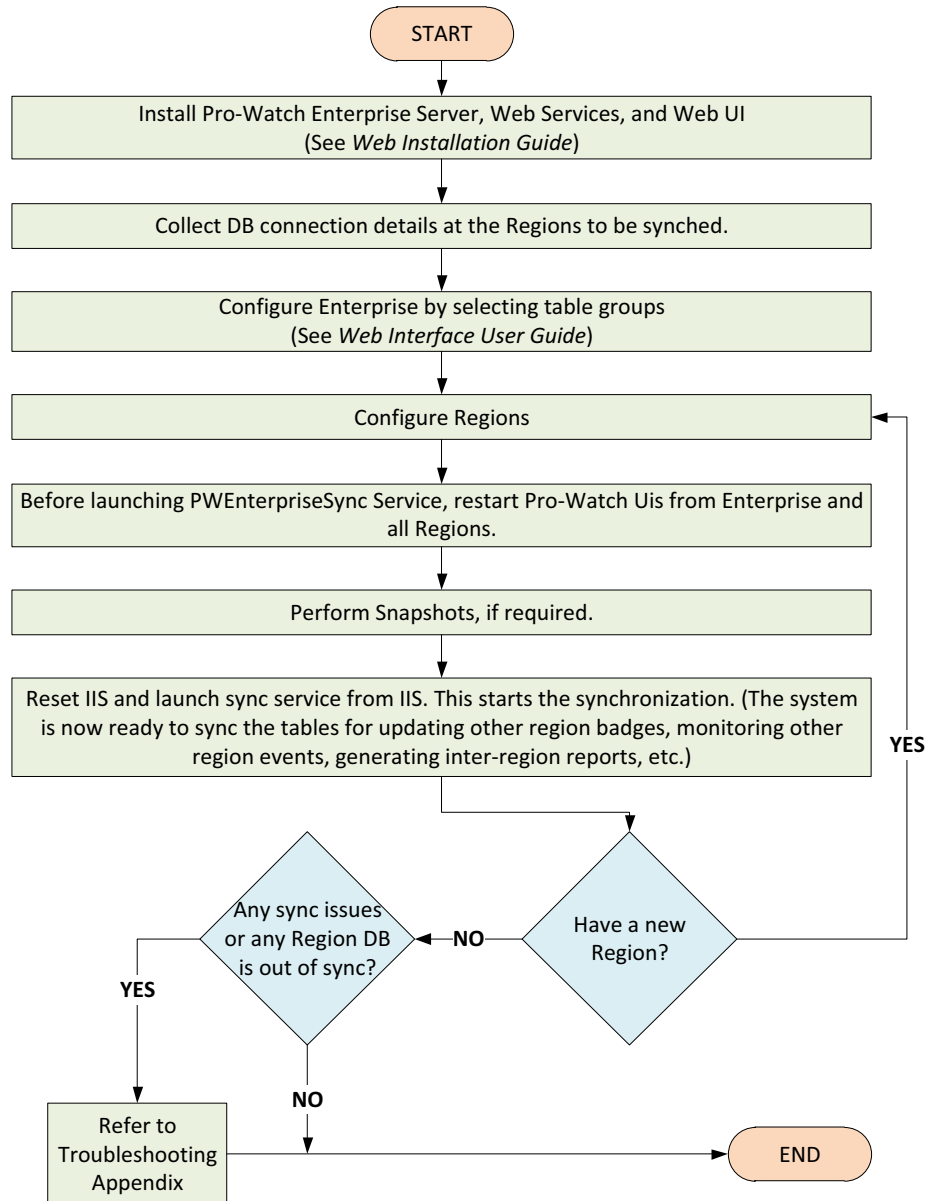
4.1 Overview

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.

4.2 High-Level Procedure Summary

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



4.3 Enterprise Server Configuration

Pro-Watch Enterprise database is created automatically when you install with "Complete" option when installing Pro-Watch 4.5. A dedicated PW complete installation is required to be installed for Enterprise along with Web Services and Web UI.



Caution: This Enterprise server must NOT be treated as a region server. Hence, all Badging related operations or any kind of data/hardware additions must be carried out at region's Pro-Watch, not directly on Enterprise.

For example, if the plan is to install Enterprise on the headquarters location, there have to be two installations of Pro-Watch. One with Enterprise license serving dedicatedly for Enterprise Synch and for fetching Enterprise level Reports; And the second one with Corporate license serving all badging and local region specific operations.

4.4 Setting up Enterprise Synchronization

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.

Install Synch frame work on Enterprise server where the Synch services are going to run. Apply Enterprise License on Pro-Watch.

4.4.1 Configuration Steps

1. Install **Microsoft Synch** framework.
2. Install **Pro-Watch Enterprise (Complete), Web Services and Web UI**.
3. Update **EV_LOG** index properties. Remove 'Unique'. After installing the database, clear the **Unique** check-box on **Cluster** Index of the **EV_log** table on Pro-Watch Enterprise database.
4. Configure the Enterprise Server and Regions via Pro-Watch Web UI.
5. Reset IIS and Start the PWEnterpriseSync Service application from IIS.

4.5 Snapshots

Taking a snapshot of the DB is another important function of the Enterprise. If you are adding a new Region, you'd need to perform a new snapshot with another region which has everything synced good.

To take a snapshot, enter the value "1" into the Snapshot column of the Meta Data table.

4.5.1 Taking Snapshots [Region DB to Enterprise DB]

1. Identify the Workstation ID for the region that you are going to perform Snapshot.
2. Identify the tables to be used in snapshot.
3. Stop the Synch service.
4. In PWENT_META_DATA of Enterprise Database, set the Snapshot value as 1 for those tables against the WrkstID of the specific region.
5. Reset IIS and launch the PWEnterpriseSync Service application url.

Note: After completing the snapshot process, the value "Snapshot" in PWENT_META_DATA table will be turned to zero which is the indication that snapshot process has been completed.

Note: After the snapshot completed with specific region, those data will be propagated to all regions too.

Synch Status Checking

5

In this chapter...

[Steps](#)

5.1 Steps

1. Refer to UI for Synch status and Fault.
 - The status must be online for Enterprise and Regions.
 - The last Synch time against each Region should be accurate and show the most recent time of Synch correctly. If the last Synch time is not correct, check the logs.
 - The fault count must be zero.
2. Refer to PWENT_Results table in the Enterprise server Pro-Watch DB.
 - They all must be showing SUCCESS result in column x for each table participating in sync.
 - Check the error logs for exception with the failed table name. If there is an error, check for the type of Error. Refer to the matching issue in the Troubleshooting Appendix.
3. Refer to Error logs generated in
C:\ProgramFiles(x86)\Honeywell\UnifiedSecurityPlatform\EnterpriseSyncService\Information

Ideally there must not be any errors reported. If you find any errors in log, search those specific errors in the troubleshooting section for resolution tips

Troubleshooting Tips



A

In this appendix ...

[Troubleshooting Tips](#)

[A-2](#)

A.1 Troubleshooting Tips

Table 1: Trouble shooting Tips and Workarounds

	Symptom	Causes and Workaround
1	Error when giving NEXT after providing server connection parameters during Enterprise or Region configuration	<p>Reason 1 : Connection between Enterprise service and Enterprise/Region DB is not occurring) Workaround: Use network connectivity check tools/SQL management studio to ensure that DB connectivity is intact. Also ensure that the user has the permission to access the DB.</p> <p>Reason 2: Wrkst ID for the Enterprise or Region workstation in ProWatch is different in WRKST table and CTRL table.</p> <hr/> <p>Workaround:</p> <ul style="list-style-type: none"> • Within the Enterprise PW DB, the wrkst ID of enterprise workstation must be same in WRKST and CTRL tables. Similarly within the local region DB, the wrkst ID of region workstation must be the same in WRKST and CTRL tables.
2	Error when saving Enterprise or Region configuration	<p>Reason 1: PWENT_META_DATA is containing same tables already.</p> <hr/> <p>Workaround:</p> <ul style="list-style-type: none"> • Check the PWENT_META_DATA table before saving the Enterprise/Region in Web UI and ensure that there are no entries left already for that Region in either PWENT_META_DATA of Enterprise DB or respective region DB.
3	Null error while attempting to save Enterprise/region	<p>Workaround:</p> <ul style="list-style-type: none"> • Check the app pool identity set for WebAAPI. The user has to be valid admin user of Prowatch

Table 1: Trouble shooting Tips and Workarounds (continued)

4	Enterprise / Region status is shown as offline in WebUI	<p>Reason 1: PWEnterpriseSync Service may not be running</p> <hr/> <p>Workaround:</p> <ul style="list-style-type: none"> Reset IIS and launch the PWEnterpriseSync Service application to ensure it is running. The url should show the page as PWEnterpriseSync Service is running. <p>Reason 2: Connection between PWEnterpriseSync Service and Enterprise/Region DB is broken)</p> <hr/> <p>Workaround:</p> <ul style="list-style-type: none"> Use network connectivity check tools/SQL management studio to ensure that DB connectivity is intact. Also ensure that the user has the permission to access the DB.
5	<p>Error in log file: Execution Timeout Expired. The timeout period elapsed prior to completion of the operation or the server is not responding. ---> System.ComponentModel.Win32Exception: The wait operation timed out --- End of inner exception stack trace --- at System.Data.SqlClient.SqlConnection.OnError(SqlException exception, Boolean.</p>	<p>Workaround:</p> <ul style="list-style-type: none"> Increase the time out in the WebUI configuration.

Table 1: Trouble shooting Tips and Workarounds (continued)

6	<p>Error in log file: SQL Server change tracking has cleaned up tracking information for table table_Name. To recover from this error, the client must reinitialize its local database and try to synchronize again.</p>	<p>Workaround:</p> <ul style="list-style-type: none"> • (a). Reset the IIS services and try to launch the PWEnterpriseSync Service Url once. • (b) If error still persists update the anc_sent and anc_receieved to 0 in the PWENT_METADATA table of both Enterprise and Region, reset the IIS services and try to launch the PWEnterpriseSync Service Url once.
7	<p>Error in log file: System.Data.SqlClient.SqlException (0x80131904): A network-related or instance-specific error occurred while establishing a connection to SQL Server. The server was not found or was not accessible. Verify that the instance name is correct and that SQL Server is configured to allow remote connections. (provider: Named Pipes Provider, error: 40 - Could not open a connection to SQL Server).</p>	<p>Reason: The Sql server is down. Network /Db connectivity issue may have occured.</p> <hr/> <p>Workaround:</p> <ul style="list-style-type: none"> • Check the DB connectivity and users permissions
8	<p>Error in log file: System.OutOfMemoryException: Exception of type System.OutOfMemoryException' was thrown.</p>	<p>Workaround:</p> <ul style="list-style-type: none"> • In IIS, goto the SyncService application, open Application Settings. Check for 'recordstobeprocessed' and 'MaxDegreeOfParallelism' adjust the values based on the system configuration. Try with lower values, for example if value is 15000 & 16 try with 10000 & 16, 10000 & 8, 5000&16 etc.
9	<p>Error in log file: Error occurred during pre-login handshake</p>	<p>Workaround:</p> <ul style="list-style-type: none"> • Ensure that SQL server Agent service is running.

Table 1: Trouble shooting Tips and Workarounds (continued)

10	Error in log file : “Not obtained the value for command parameter at RID on command conflict update command”	Reason : anc_received / anc_sent between the enterprise and concerned region is not matching. <ul style="list-style-type: none">Reset anc_received / anc_sent of concerned servers. Contact Honeywell Support Team.
11	After DB restore, the records for Badge_V (or any one table of type 2) is not syncing. Continuous errors were present and rollback	Reason: After database restore the min_valid_version and the current version become older. Anc_received has already processed. <ul style="list-style-type: none">Launch UI and ensure DB restoring was successful before starting Synch service.Also, reset anc_received / anc_sent of concerned servers.
12	After DB restore the records were not inserted. Error like “Cannot enumerate changes for the table”	Reason: After database restore the min_valid_version and current version become older. Anc_received has already processed. <ul style="list-style-type: none">Launch UI and ensure DB restoring was successful before starting Synch service.Also, reset anc_received / anc_sent of concerned servers
13	One of Badge tables were not snapshotting with a timeout as well as rollback. DoPullSync Function - Failed to execute the command 'InsertCommand' for table 'dbo.BADGE_C'; the transaction was rolled back. Ensure that the command syntax is correct.	Reason 1: Trigger enabled creating a deadlock. <ul style="list-style-type: none">Disable triggers in Enterprise and Region DBs (except source region of snapshot) before starting snapshot. Reason 2: Too many changeable entries. <ul style="list-style-type: none">Set the retention period as one or two days (as preferred) for change table based on the Synch interval. Other Things to Check: <ul style="list-style-type: none">Increase timeout value in cfg file.Check for any huge DB operation like purging or backups and time it appropriatelyEnsure that system is having enough memory on the enterprise server to handle large loads.

Table 1: Trouble shooting Tips and Workarounds (continued)

14	Records were not getting inserted or the application crashes	Reason: Configuration has a wrong database name or a wrong connection string either for the Enterprise server or for the Regional server.
15	Application starts and crashes	Reason: Configuration has a wrong database name or a wrong connection string either for the Enterprise server or for the Regional server. <ul style="list-style-type: none">• Reconfigure the Enterprise and Regional servers.
16	Sync not happening (or) Service is not starting (or) PWEnterpriseSync Service crashing soon after starting	Check if workstation ID is defined and is correct and check if unnecessary spaces are causing the issue. <ul style="list-style-type: none">• Ensure that all table names present in region DB PWNT_META_DATA table are present in Enterprise DB PWNT_META_DATA table.• The columns of tables specified in PWNT_META_DATA table in the Enterprise DB must be a subset of those tables in Region DB.
17	During Synch of Ev_log table error 'Invalid column Evt_Dat' is thrown	<ul style="list-style-type: none">• Open ev_log table > Indexes > EV_LOG_I6 right click on properties uncheck Unique checkbox
18	Error in log file: TimerTick - Object reference error	<ul style="list-style-type: none">• The PWNT_RESULTS table is probably missing in Enterprise or Region servers.
19	Error in log file: "Cannot Enumerate region"	<ul style="list-style-type: none">• Check PWNT_META_DATA table and ensure that PWENT_WRKST_ID values are correct.
20	Error in log file: "Timeout Expired"	<ul style="list-style-type: none">• Check if there are or were any large operations taking place on SQL database. Check the SQL service memory consumption and system performance.

Table 1: Trouble shooting Tips and Workarounds (continued)

21	Error in log file: "Exception at check and set values"	<ul style="list-style-type: none">• Check SQL connectivity, SQL user access permission and connection string used during the configuration.
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