



GenWatch3[®]
GW_Connect
Software Version 2.12
Module Book

GenWatch₃

600-2.12.0-MM.1
1/8/2016

Trademarks

The following are registered trademarks of Motorola: ASTRO®.

Any other brand or product names are trademarks or registered trademarks of their respective holders.

The Genesis Group Trademark Information

GenWatch3® is a registered trademark of GenCore Candeco, LTD., a subsidiary of Burks GenCore Co., Inc. D.B.A. The Genesis Group and Phil Burks.

Copyright

Copyright © 2016; Burks GenCore Co., Inc. D.B.A. The Genesis Group and Phil Burks. All rights are reserved. No part of this publication or the associated program may be reproduced, transmitted, transcribed, in whole or in part, in any form or by any means, whether it is mechanical, magnetic, optical, electronic, manual or otherwise, without the prior written consent of Burks GenCore Co., Inc. D.B.A:

The Genesis Group and Phil Burks
5800 Eagles Nest Blvd
Tyler, Texas 75703.

Includes technology licensed from Motorola.

Disclaimer

The GenWatch3 User's Manual is printed in the U.S.A. Burks GenCore Co., Inc. D.B.A. The Genesis Group and Phil Burks believe that the information included in this manual is correct; however, Burks GenCore Co., Inc. D.B.A. The Genesis Group and Phil Burks reserves the right to alter, revise and make periodic changes to the manual and its contents. Burks GenCore Co., Inc. D.B.A. The Genesis Group does not assume responsibility to notify any person of such revisions or changes. While we have taken strides to carefully examine our software and documentation and believe that it is reliable, the Genesis Group and Phil Burks assume no responsibility for the use of the manual, or GenWatch3 software, nor for any patent infringements or other rights of third parties who may use the manual or the GenWatch3 software. Burks GenCore Co., Inc. D.B.A. The Genesis Group and Phil Burks make no representations or warranties with respect to the contents or fitness for a particular purpose beyond the cost of the software paid by the end-user.

The software contains valuable trade secrets and proprietary information. Unauthorized use of the manual or software can result in civil damages and criminal prosecution. As an end user, you agree to abide by and heed these statements.

License

Title to the media on which the program is recorded and to the documentation in support of the product is transferred to you, but title to the program, and all subsequent copies of the program, despite the form or media in or on license is not a sale of the original or any subsequent copy. You assume responsibility for the selection of the program to achieve your intended results, and for the installation, use, and results obtained from the program.

Refer to the GenWatch3 Manual Overview for your full license. All license information contained on pages 4-7 (Book 600-2.12.0-AA.1) are to be considered as contained herein.

Support

Customer satisfaction is our number one priority at Genesis. We are here to provide you with the best software possible, and we want to know when you have any questions, concerns or problems with GenWatch3 so that we can make it a better product for everyone.

Refer to the *Troubleshooting & Support* section of the GenWatch3 Manual Shell (Book 600-2.12.0-AA.1) for complete support and contact information.

Document History

Revision	Description	Author
2.0.5	Initial Release	JAW
2.0.6	Updated screenshots	CLB
2.0.6.6	Revisions for Release	TDW
2.0.6.11	Added AMNP Connection	KIH
2.2	Revision before release	CWF
2.3	Revisions Before Release	CWF
2.4	Revisions Before Release	CWF
2.5	Revisions Before Release	CWF
2.5	Added APM section	JAW
2.5	Added Connection Status section; minor edits	REB
2.5	Clarified CADI Manage Zone Controllers section	WRK
2.5	Updated CADI Connection w/ ID Formats	WRK
2.6	Revisions Before Release	CWF
2.7	Updated CADI Connection	WRK
2.7	Revisions Before Release	JAW
2.8	Revisions Before Release	WRK
2.9	Revisions Before Release	REB
2.9	Clarified raw data path.	REB
2.10	Revisions Before Release	WRK
2.10	Added PMI version description	JAW
2.11	Converted to Docx format	CWF
2.11	Added descriptions of connection types	WES
2.12	Revisions Before Release	JAW

Table of Contents

<i>Trademarks</i>	3
<i>The Genesis Group Trademark Information</i>	3
<i>Copyright</i>	3
<i>Disclaimer</i>	3
<i>License</i>	3
<i>Support</i>	3
DOCUMENT HISTORY	4
TABLE OF CONTENTS	5
ABOUT THIS MANUAL	7
GOALS	7
WHO SHOULD READ THIS MANUAL?	7
HOW THIS MANUAL IS ORGANIZED	7
CHAPTER 1 OVERVIEW	9
WHAT IS GW_CONNECT?	9
CONNECTION STATUS.....	10
CHAPTER 2 SNMP CONNECTIONS	11
SNMP VALUES AND TRAPS.....	11
GET	11
SNMP CONNECTION OVERVIEW	12
<i>SNMP License</i>	12
<i>SNMP Connection Properties</i>	12
ADDING AN SNMP CONNECTION	12
UPDATING AN SNMP CONNECTION	13
DELETING AN SNMP CONNECTION	13
CUSTOM SNMP VALUES.....	13
CHAPTER 3 AMNP CONNECTIONS	15
AMNP CONNECTION OVERVIEW	15
<i>AMNP License</i>	15
<i>AMNP Connection Properties</i>	16
ADDING AN AMNP CONNECTION	17
UPDATING AN AMNP CONNECTION.....	17
DELETING AN AMNP CONNECTION	17
CHAPTER 4 APM CONNECTIONS	19
APM CONNECTION OVERVIEW	19
<i>APM License</i>	19
<i>APM Connection Properties</i>	20
ADDING AN APM CONNECTION	20
UPDATING AN APM CONNECTION.....	21
DELETING AN APM CONNECTION	21
APM CHANNEL OVERRIDES.....	21
<i>Adding an APM Frequency Override</i>	22
<i>Deleting an APM Frequency Override</i>	22
<i>Editing an APM Frequency Override</i>	22
CHAPTER 5 HPD CONNECTIONS	23

HPD CONNECTION OVERVIEW	23
<i>HPD License</i>	23
<i>HPD Connection Properties</i>	24
ADDING AN HPD CONNECTION	24
UPDATING AN HPD CONNECTION	25
DELETING AN HPD CONNECTION	25
CHAPTER 6 CADI CONNECTIONS.....	27
CADI CONNECTION OVERVIEW	27
<i>CADI License</i>	27
<i>CADI Connection Properties</i>	27
Manage Zone Controllers.....	28
ADDING A CADI CONNECTION	29
UPDATING A CADI CONNECTION.....	29
DELETING A CADI CONNECTION	29
DELETING A ZONE CONTROLLER.....	29
CHAPTER 7 PMI CONNECTIONS.....	31
PMI CONNECTION OVERVIEW.....	31
<i>What is PMI?</i>	31
<i>PMI License</i>	31
<i>PMI Connection Properties</i>	32
<i>PMI Compatibility</i>	32
<i>Initial Load</i>	33
ADDING A PMI CONNECTION	33
UPDATING A PMI CONNECTION	33
DELETING A PMI CONNECTION	33
CHAPTER 8 RAW DATA FILES.....	35
<i>Information on Raw Data Files</i>	35
Changing the Raw Data File Directory	36

Goals

This manual describes the role and function of the GW_Connect module in the GenWatch3 solution.

Who Should Read This Manual?



This manual is written for the intended audience of mid-level computer network users and novice to mid-level PC users.

How This Manual Is Organized

This manual is organized as follows:

- **Overview:** Provides an overview of the GW_Connect module.
- **SNMP Connections:** Describes how to create and manage SNMP (Simple Network Management Protocol) connections. See this section for a description of SNMP.
- **AMNP Connections:** Describes how to create and manage AMNP (Accounting and Management Network Protocol) connections. See this section for a description of AMNP.
- **APM Connections:** Describes how to create and manage connections to an Advanced Power Management server.
- **HPD Connections:** Describes how to create and manage connections to GenGET's High Performance Data (HPD) data sources.
- **CADI Connections:** Describes how to create and manage connections to Computer-Aided Dispatch Consoles.
- **PMI Connections:** Describes how to create and manage connections to ASTRO 25 Provisioning Managers.
- **Raw Data Files:** Describes where raw data files – used by support personnel – are saved and how to change the raw data directory.

This manual contains the following images, used to indicate that a segment of text requires special attention:

-  **Additional Information:** Additional information is used to indicate shortcuts or tips.
-  **Warning:** Warnings are used to indicate possible problem areas, such as a risk of data loss or incorrect/unexpected functionality.

This chapter provides an overview of the GW_Connect module and its function within the GenWatch3 solution.

This chapter contains the following sections:

- **What Is GW_Connect?:** Describes the role and function of the GW_Connect module.
- **GW_Connect Features:** Describes the features of the GW_Connect GUI (graphical user interface).

What is GW_Connect?

GW_Connect is a module that allows you to set up connections to the following GenWatch3 data sources:

- **SNMP: Simple Network Management Protocol** is a protocol that allows network objects, both software and hardware, to deliver SNMP traps and expose SNMP values. Refer to the *SNMP Connection* section of this manual for more information on SNMP traps and values.
- **AMNP: Accounting and Management Network Protocol** allows management of network elements on P25 systems. Refer to the *AMNP Connections* section of this manual for more information.
- **APM: Advanced Power Management** is a product by RFI that allows you to monitor various power levels of connected repeaters. Refer to the *APM Connections* section of this manual for more information.
- **HPD: High Performance Data** is a system by Motorola to enable rapid information delivery on ASTRO 25 networks. Refer to the *HPD Connections* section of this manual for more information.
- **CADI: Computer-Aided Dispatch Interface** allows filtering, relaying and processing of data from CAD consoles. Refer to the *CADI Connections* section of this manual for more information.
- **PMI: Provisioning Manager Interface** is the connection between GenWatch3 and an ASTRO 25 Zone Core. Refer to the *PMI Connections* section of this manual for more information.

GW_Connect connections translate their proprietary data into GenWatch3 packets and send these packets to GenWatch3 for processing. Some connections are bidirectional. This means that they receive and send data to their connection.

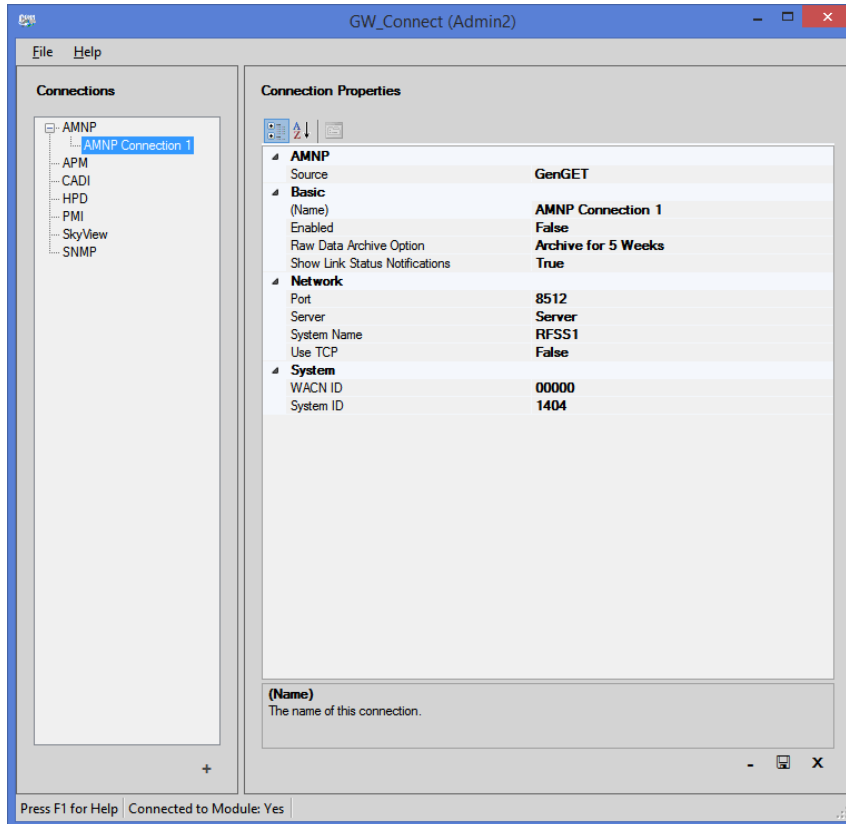





Figure 1.1 – GW_Connect GUI

Connection Status

Each connection shown in the **Connections** list, on the left side of the GW_Connect GUI, represents a connection to a data source. The status of each connection is represented by a radio icon that appears in the Windows system tray (the bottom right of your desktop). The icon has the following statuses:

- : Connection status unknown or encountering an error (white)
- : Connection to a data source is periodically receiving data (green). The time interval varies by connection type.
- : Connection has not received data from its data source for a period of time (red). The amount of time varies by connection type.



The Alert connection status icon for AMNP connections will show green (receiving data) when connected to the AMNP source, even if the source is not sending data.

This chapter describes SNMP (Simple Network Management Protocol) and how it is used in GenWatch3.

This chapter contains the following sections:

- **SNMP Values and Traps:** Defines SNMP values and SNMP traps.
- **GET:** Describes the Global Enterprise Tool product and its role in the GenWatch3 SNMP solution.
- **SNMP Connection Overview:** Describes the SNMP connection licensing and SNMP connection properties.
- **Adding an SNMP Connection:** Describes the process of adding an SNMP connection.
- **Updating an SNMP Connection:** Describes the process of updating an SNMP connection.
- **Deleting an SNMP Connection:** Describes the process of deleting an SNMP Connection.

SNMP Values and Traps

SNMP values are values that are exposed by SNMP devices. The SNMP Manager allows you to setup a time-based, recurring query on one or more SNMP values. The SNMP Manager gathers the query results and delivers these SNMP values in a single SNMP message. An example of an SNMP value is a USB hub reporting a value of *Available Ports*.

SNMP traps (also known as SNMP notifications) are SNMP packets that originate from an SNMP device when a threshold or condition is met within the device. SNMP traps may contain one or more SNMP values. SNMP traps may contain SNMP values that are not otherwise exposed.

GET

Global Enterprise Tool is a software product offered by Genesis that allows you to:

- Setup time-based, recurring queries on SNMP values. The GET SNMP Manager then broadcasts these values in a single SNMP message.
- Allows one or more GET clients (such as the SNMP GW_Connect) to connect and receive SNMP messages and traps.
- SNMP message forwarding to GET clients.
- SNMP trap forwarding to GET clients.

Please refer to the GET documentation for more information on the GET product.

SNMP Connection Overview

SNMP License

The GenWatch3 license determines the number of SNMP connections allowed in GW_Connect. To view the number of SNMP connections in your license:

1. Click the **View License** button on GW_LaunchPad.
2. Expand the **Modules** node.
3. Expand the **GW_Connect** node.
4. Expand the **Restrictions** node.
5. See the **SNMP.Connections** value.

SNMP Connection Properties

The SNMP connection includes the following properties:

- **(Name):** Alias of this connection.
- **Enabled:** Indicates if this connection is enabled.
 - *True:* Connection is enabled.
 - *False:* Connection is not enabled.
- **Raw Data Archive Option:** The GW_Connect module can log all raw data received from a connection. This option determines how long this data is stored. Options include:
 - *Do Not Archive:* Do not log raw data.
 - *Archive for 1 Week:* Keep raw data for one week.
 - *Archive for 2 Weeks:* Keep raw data for two weeks.
 - *Archive for 5 Weeks:* Keep raw data for five weeks.
- **Show Link Status Notifications:** Indicates whether the user will receive GUI notifications when the connection's link status goes up or down.
- **Filter Pipe Name:** Name of the filter pipe used by the GET product.
- **Source IP Address:** IP address of the machine hosting the GET product.
- **Port:** Port of the machine hosting the GET product.

Adding an SNMP Connection

To add a new SNMP connection, follow the steps below:

1. Click on the **SNMP** node in the **Connection** list: This will enable the **Add Connection...** button.
2. Click the **Add Connection...** button: This will show the *Connection Properties* with default SNMP properties.
3. Enter the SNMP connection properties and click the **Update** button: This will add the SNMP connection.



Name must be alphanumeric to pass validation.

Updating an SNMP Connection

To update an existing SNMP connection, follow the steps below:

1. Click on the SNMP connection you wish to update: This will show the properties of the selected connection.
2. Change the desired SNMP connection properties and click the **Update** button: This will update the SNMP connection.

Deleting an SNMP Connection

To delete an existing SNMP connection, follow the steps below:

1. Click on the SNMP connection you wish to delete: This will show the properties of the selected connection.
2. Click the **Delete** button: This will delete the selected SNMP connection.

Custom SNMP Values

SNMP values are the result of polling a value exposed via standard SNMP practices (See SNMP Values and Traps section above). Each network has a wide variety of pollable SNMP values. By default, these polled values are shown in GenWatch3 as an OID with a value. GenWatch3 provides a way to assign an alias and a value type to these polled values. To add custom entries to these tables, please contact Genesis Support.

This chapter describes AMNP (Accounting and Management Network Protocol) and how it is used in GenWatch3.

This chapter contains the following sections:

- **AMNP Connection Overview:** Describes the AMNP connection licensing and AMNP connection properties.
- **Adding an AMNP Connection:** Describes the process of adding an AMNP connection.
- **Updating an AMNP Connection:** Describes the process of updating an AMNP connection.
- **Deleting an AMNP Connection:** Describes the process of deleting an AMNP Connection.

AMNP Connection Overview

AMNP License

The GenWatch3 license determines the number of AMNP connections allowed in GW_Connect. To view the number of AMNP connections in your license:

1. Click the **View License** button on GW_LaunchPad.
2. Expand the **Modules** node.
3. Expand the **GW_Connect** node.
4. Expand the **Restrictions** node.
5. See the **AMNP.Connections** value.

AMNP Connection Properties

The AMNP connection includes the following properties:

- **(Name):** Alias of this connection.
- **Enabled:** Indicates if this connection is enabled.
 - *True:* Connection is enabled.
 - *False:* Connection is not enabled.
- **Pipe Name:** GenGET
- **Port:** The TCP/UDP port used by this connection.
- **Raw Data Archive Option:** The GW_Connect module can log all raw data received from a connection. This option determines how long this data is stored. Options include:
 - *Do Not Archive:* Do not log raw data.
 - *Archive for 1 Week:* Keep raw data for one week.
 - *Archive for 2 Weeks:* Keep raw data for two weeks.
 - *Archive for 5 Weeks:* Keep raw data for five weeks.
- **Server:** The GenGET computer name.
- **Source:** Determines the connection type.
- **Use TCP:** Controls the AMS connection method.
 - **True:** TCP Connection.
 - **False:** UDP Connection.
- **System ID:** The system associated with this connection.
- **WACN ID:** The WACN associated with this connection.

Adding an AMNP Connection

To add a new AMNP connection, follow the steps below:

1. Click on the **AMNP** node in the **Connection** list: This will enable the **Add Connection...** button.
2. Click the **Add Connection...** button: This will show the *Connection Properties* with default AMNP properties.
3. Enter the AMNP connection properties and click the **Update** button: This will add the AMNP connection.



Name must be alphanumeric to pass validation.

Updating an AMNP Connection

To update an existing AMNP connection, follow the steps below:

1. Click on the AMNP connection you wish to update: This will show the properties of the selected connection.
2. Change the desired AMNP connection properties and click the **Update** button: This will update the AMNP connection.

Deleting an AMNP Connection

To delete an existing AMNP connection, follow the steps below:

1. Click on the AMNP connection you wish to delete: This will show the properties of the selected connection.
2. Click the **Delete** button: This will delete the selected AMNP connection.

This chapter describes the APM (Advanced Power Management) by RFI and how it is used in GenWatch3.

This chapter contains the following sections:

- **APM Connection Overview:** Describes the APM connection licensing and APM connection properties.
- **Adding an APM Connection:** Describes the process of adding an APM connection.
- **Updating an APM Connection:** Describes the process of updating an APM connection.
- **Deleting an APM Connection:** Describes the process of deleting an APM Connection.

APM Connection Overview

An APM connection is a connection to a GET APM Reader or 2SQL. The GET APM Reader or 2SQL receives APM UDP Traffic packets from an APM device, archives them (in the case of the GET APM 2SQL) and forwards them on to the APM connection.

APM License

The GenWatch3 license determines the number of APM connections allowed in GW_Connect. To view the number of APM connections in your license:

1. Click the **View License** button on GW_LaunchPad.
2. Expand the **Modules** node.
3. Expand the **GW_Connect** node.
4. Expand the **Restrictions** node.
5. See the **APM.Connections** value.

APM Connection Properties

The APM connection includes the following properties:

- **(Name):** Alias of this connection.
- **Enabled:** Indicates if this connection is enabled.
 - *True:* Connection is enabled.
 - *False:* Connection is not enabled.
- **GET APM Host Name:** IP Address or DNS name of the machine hosting the GET APM 2SQL or Reader.
- **GET APM Pipe Name:** Pipe Name on the machine hosting the GET APM 2SQL or Reader.
- **Raw Data Archive Option:** The GW_Connect module can log all raw data received from a connection. This option determines how long this data is stored. Options include:
 - *Do Not Archive:* Do not log raw data.
 - *Archive for 1 Week:* Keep raw data for one week.
 - *Archive for 2 Weeks:* Keep raw data for two weeks.
 - *Archive for 5 Weeks:* Keep raw data for five weeks.
- **Show Link Status Notification:** Indicates if you will receive a GenWatch3 GUI Notification when the link transitions from up to down or down to up.
- **Connection Timeout (sec):** The number of seconds to allow after the last packet is received before considering the connection to be down.
- **WACN ID:** The WACN ID for the channels on this APM.
- **System ID:** The system ID for the channels on this APM.
- **RFSS ID:** The RFSS ID for the channels on this APM.
- **Site ID:** The site ID for the channels on this APM.
- **Subsite ID:** The subsite ID for the channels on this APM.

Adding an APM Connection

To add a new APM connection, follow the steps below:

1. Click on the **APM** node in the **Connection** list: This will enable the **Add Connection...** button.
2. Click the **Add Connection...** button: This will show the *Connection Properties* with default APM properties.
3. Enter the APM connection properties and click the **Update** button: This will add the APM connection.



Name must be alphanumeric to pass validation.

Updating an APM Connection

To update an existing APM connection, follow the steps below:

1. Click on the APM connection you wish to update: This will show the properties of the selected connection.
2. Change the desired APM connection properties and click the **Update** button: This will update the APM connection.

Deleting an APM Connection

To delete an existing APM connection, follow the steps below:

1. Click on the APM connection you wish to delete: This will show the properties of the selected connection.
2. Click the **Delete** button: This will delete the selected APM connection.





APM Channel Overrides

In some cases, a single APM device is setup to monitor frequencies on multiple sites. The APM Frequency Override feature allows you to assign a WACN, System, RFSS, Site and Subsite to specific frequencies, overriding the WACN, System, RFSS, Site and Subsite selected in the APM Connection Properties.





APM Channel Override options include:

- **Frequency:** The frequency to override.
- **WACN ID:** The WACN ID to report when APM activity is received on this frequency.
- **System ID:** The System ID to report when APM activity is received on this frequency.
- **RFSS ID:** The RFSS ID to report when APM activity is received on this frequency.
- **Site ID:** The Site ID to report when APM activity is received on this frequency.
- **Subsite ID:** The Subsite ID to report when APM activity is received on this frequency.
- **TX RSSI Mode:** Indicates that this frequency is a TX frequency that may be reported at an RX frequency in APM RSSI packets. Checking this option will prevent notifications that APM is reporting activity on frequencies that do not exist in the Alias database.





Adding an APM Frequency Override

1. Click on the Frequency Override button ()
2. Click on the Add... button ().
3. Enter the APM Channel Override Options.
4. Click the OK button.
5. Click the Save button () on the APM Frequency Override screen.
6. Click the Save button () on the GW_Connect screen.

Deleting an APM Frequency Override

1. Click on the Frequency Override button ()
2. Select (click on) the frequency to delete in the APM Frequency Overrides list.
3. Click the Delete button ()
4. Click the Save button () on the APM Frequency Override screen.
5. Click the Save button () on the GW_Connect screen.

Editing an APM Frequency Override

1. Click on the Frequency Override button ()
2. Select (click on) the frequency to edit in the APM Frequency Overrides list.
3. Click the Edit... button ()
4. Edit the APM Channel Override Options.
5. Click the Save button () on the APM Frequency Override screen.
6. Click the Save button () on the GW_Connect screen.

This chapter describes how GenWatch3 allows connections to GenGET's High Performance Data (HPD) data sources and how they are used in GenWatch3.

This chapter contains the following sections:

- **HPD Connection Overview:** Describes the HPD connection licensing and HPD connection properties.
- **Adding an HPD Connection:** Describes the process of adding an HPD connection.
- **Updating an HPD Connection:** Describes the process of updating an HPD connection.
- **Deleting an HPD Connection:** Describes the process of deleting an HPD Connection.

HPD Connection Overview

HPD License

The GenWatch3 license determines the number of HPD connections allowed in GW_Connect. To view the number of HPD connections in your license:

1. Click the **View License** button on GW_LaunchPad.
2. Expand the **Modules** node.
3. Expand the **GW_Connect** node.
4. Expand the **Restrictions** node.
5. See the **HPD.Connections** value.

HPD Connection Properties

The HPD connection includes the following properties:

- **(Name):** Alias of this connection.
- **Enabled:** Indicates if this connection is enabled.
 - *True:* Connection is enabled.
 - *False:* Connection is not enabled.
- **Raw Data Archive Option:** The GW_Connect module can log all raw data received from a connection. This option determines how long this data is stored. Options include:
 - *Do Not Archive:* Do not log raw data.
 - *Archive for 1 Week:* Keep raw data for one week.
 - *Archive for 2 Weeks:* Keep raw data for two weeks.
 - *Archive for 5 Weeks:* Keep raw data for five weeks.
- **Show Link Status Notification:** Indicates if you will receive a GenWatch3 GUI Notification when the link transitions from up to down or down to up.
- **Server:** IP address of the primary GenGET HPD connection.
- **System Name:** Pipe name of the primary GenGET HPD connection.
- **Port:** Port of the primary GenGET HPD connection.

Adding an HPD Connection

To add a new HPD connection, follow the steps below:

1. Click on the **HPD** node in the **Connection** list: This will enable the **Add Connection...** button.
2. Click the **Add Connection...** button: This will show the *Connection Properties* with default HPD properties.
3. Enter the HPD connection properties and click the **Update** button: This will add the HPD connection.



Name must be alphanumeric to pass validation.

Updating an HPD Connection

To update an existing HPD connection, follow the steps below:

1. Click on the HPD connection you wish to update: This will show the properties of the selected connection.
2. Change the desired HPD connection properties and click the **Update** button: This will update the HPD connection.

Deleting an HPD Connection

To delete an existing HPD connection, follow the steps below:

1. Click on the HPD connection you wish to delete: This will show the properties of the selected connection.
2. Click the **Delete** button: This will delete the selected HPD connection.

This chapter describes CADI (Accounting and Management Network Protocol) and how it is used in GenWatch3.

This chapter contains the following sections:

- **CADI Connection Overview:** Describes the CADI connection licensing and CADI connection properties.
- **Adding a CADI Connection:** Describes the process of adding a CADI connection.
- **Updating a CADI Connection:** Describes the process of updating a CADI connection.
- **Deleting a CADI Connection:** Describes the process of deleting a CADI Connection.

CADI Connection Overview

CADI License

The GenWatch3 license determines the number of CADI connections allowed in GW_Connect. To view the number of CADI connections in your license:

1. Click the **View License** button on GW_LaunchPad.
2. Expand the **Modules** node.
3. Expand the **GW_Connect** node.
4. Expand the **Restrictions** node.
5. See the **CADI.Connections** value.

CADI Connection Properties

The CADI connection includes the following properties:

- **(Name):** Alias of this connection.
- **Enabled:** Indicates if this connection is enabled.
 - *True:* Connection is enabled.
 - *False:* Connection is not enabled.
- **Logging Option:** The GW_Connect module can log all raw data received from a connection. This option determines how long this data is stored. Options include:
 - *ArchiveForOneWeek:* Keep raw data for one week.
 - *ArchiveForTwoWeeks:* Keep raw data for two weeks.
 - *ArchiveForFiveWeeks:* Keep raw data for five weeks.
- **Show Link Status Notification:** Indicates if you will receive a GenWatch3 GUI Notification when the link transitions from up to down or down to up.

- **Event Receiver Port:** The port the CADI connection provides to the port mapper for negotiating communication between the CADI connection and the CADI host.
- **WACN ID:** The WACN associated with this connection.
- **System ID:** The system associated with this connection.

Manage Zone Controllers

A CADI connection can have multiple zone controllers associated with it. For interzone trunking capable systems, it is only necessary to have a connection to the zone configured to control the talkgroups belonging to your security group.



In a multi-zone system that is not interzone trunking capable, a CADI connection will be needed for each zone controller that you wish to issue commands to.

The properties for these zone controllers are as follows:

- **Zone ID:** The ID of the zone controller (must be unique).
- **Hostname/IP Address:** The hostname or IP Address of the zone controller.
- **Port:** The port to connect to on the zone controller.
- **Program Number:** the number that Portmapper uses to identify the CADI on the zone controller.
- **Program Version:** Selection of the RPC version.
- **Username:** Used to authenticate to the zone controller.
- **Password:** Used to authenticate to the zone controller.
- **Encrypted:** Specify if the credentials are encrypted or not.
- **Unit ID Format:** Select the format that the Zone Controller expects for Unit IDs.
 - **Numeric**
 - **7xxxxx**
- **Talkgroup ID Format:** Select the format that the Zone Controller expects for Talkgroup IDs.
 - **Numeric**
 - **8xxxxx**
 - **8xxxxxxx**



Each zone controller of a CADI connection must have unique Zone ID. Attempting to add multiple Zone controllers with the same zone will result in a validation failure.

Adding a CADI Connection

To add a new CADI connection, follow the steps below:

1. Click on the **CADI** node in the **Connection** list: This will enable the **Add Connection...** button.
2. Click the **Add Connection...** button: This will show the *Connection Properties* with default CADI properties.
3. Enter the CADI connection properties.
4. Add Zone Controllers as desired and click the **Update** button on the *Manage Zone Controllers* form.
5. Click the **Update** button on the CADI Connection: This will add the CADI connection and associated zone controller(s).



Name must be alphanumeric to pass validation.

Updating a CADI Connection

To update an existing CADI connection, follow the steps below:

1. Click on the CADI connection you wish to update: This will show the properties of the selected connection.
2. Change the desired CADI connection properties.
3. Edit/Add Zone Controllers as desired and click the **Update** button on the *Manage Zone Controllers* form
4. Click the **Update** button on the CADI Connection: This will update the CADI connection.

Deleting a CADI Connection

To delete an existing CADI connection, follow the steps below:

1. Click on the CADI connection you wish to delete: This will show the properties of the selected connection.
2. Click the **Delete** button: This will delete the selected CADI connection.

Deleting a Zone Controller

To delete an existing Zone Controller associated with a CADI connection, follow the steps below:

1. Click on the CADI connection you wish to delete the Zone Controller(s) from and click on the *Manage Zone Controllers* button: this will bring up the *Manage Zone Controllers* form.
2. Select the Zone Controller you wish to remove and click the **Delete** button: This will delete the selected Zone Controller.

This chapter describes the PMI (Provisioning Manager Interface) by Motorola and how it is used in GenWatch3.

This chapter contains the following sections:

- **PMI Connection Overview:** Describes the PMI connection licensing and PMI connection properties.
- **Adding a PMI Connection:** Describes the process of adding a PMI connection.
- **Updating a PMI Connection:** Describes the process of updating a PMI connection.
- **Deleting a PMI Connection:** Describes the process of deleting a PMI Connection.

PMI Connection Overview

What is PMI?

PMI is the interface for the Motorola ASTRO 25. This interface allows application providers to easily add the ability to provision on ASTRO 25 with a single point of entry without risk to the integrity of the process.

If the PMI connection and the Trio module are included in your license requests to add, update and delete resources (radios) in Trio, are propagated down to the PMI interface. See the Trio manual for more information on its interaction with PMI.

If the PMI connection and the GenIIB module with the PMI feature are included in your license, third parties can use the GenIIB interface to perform Get, GetList, Add, Update and Delete operations on the “provisionable” PMI resources (such as groups, radios, channels, etc.). See the GenIIB manual and its appendices for more information on the GenIIB interface for PMI.

PMI License

The GenWatch3 license determines the number of PMI connections allowed in GW_Connect. To view the number of PMI connections in your license:

1. Click the **View License** button on GW_LaunchPad.
2. Expand the **Modules** node.
3. Expand the **GW_Connect** node.
4. Expand the **Restrictions** node.
5. See the **PMI.Connections** value.

PMI Connection Properties

The PMI connection includes the following properties:

- **(Name):** Alias of this connection.
- **Enabled:** Indicates if this connection is enabled.
 - *True:* Connection is enabled.
 - *False:* Connection is not enabled.
- **Raw Data Archive Option:** The GW_Connect module can log all raw data received from a connection. This option determines how long this data is stored. Options include:
 - *Do Not Archive:* Do not log raw data.
 - *Archive for 1 Week:* Keep raw data for one week.
 - *Archive for 2 Weeks:* Keep raw data for two weeks.
 - *Archive for 5 Weeks:* Keep raw data for five weeks.
- **Show Link Status Notification:** Indicates if you will receive a GenWatch3 GUI Notification when the link transitions from up to down or down to up.
- **Pmi Server:** Name of the computer hosting the PMI server.
- **Version:** Version of the PMI server. See PMI Compatibility section below for supported versions.
- **Verbose Logging:** Indicates if a detailed log of PMI traffic packets should be logged.
 - *True:* Verbose logging is enabled.
 - *False:* Verbose logging is not enabled.
- **User Name:** User name used to connect with the PMI server.
- **Password:** Password used to connect with the PMI server.
- **WACN ID:** The WACN ID for the resources managed by this PMI connection.
- **System ID:** The System ID for the resources managed by this PMI connection.
- **UNC Password:** Password used during distribution (notifying the PMI server that its database has changed)
- **UNC User Name:** User name used during distribution (notifying the PMI server that its database has changed)

PMI Compatibility

This version of GenWatch3 supports only the following version of PMI:

- 0200



Version selection is performed automatically. The PMI connection will attempt a connection with each known version, starting with the newest, until the PMI verifies the correct version. The Administrator user will receive a GUI Notification when the version is automatically changed.

Initial Load

Each time the host service is started or the PMI connection is updated, the PMI module requests a list of resource on the PMI server. The more resources of a given type (such as talkgroups or IVD radios), the more time this initial load requires. These resources are retrieved in chunks of 100. Each chunk requires about ½ second to receive. Each chunk beyond the first requires ½ second, plus an addition ¼ of a second. These delays add up quickly. A list of 125,000 IVD Radios requires almost 1.5 hours to load where the last chunk of 100 takes almost 9 seconds to receive from the PMI server.

Adding a PMI Connection

To add a new PMI connection, follow the steps below:

1. Click on the **PMI** node in the **Connection** list: This will enable the **Add Connection...** button.
2. Click the **Add Connection...** button: This will show the *Connection Properties* with default PMI properties.
3. Enter the PMI connection properties and click the **Update** button: This will add the PMI connection.



Name must be alphanumeric to pass validation.

Updating a PMI Connection

To update an existing PMI connection, follow the steps below:

1. Click on the PMI connection you wish to update: This will show the properties of the selected connection.
2. Change the desired PMI connection properties and click the **Update** button: This will update the PMI connection.

Deleting a PMI Connection

To delete an existing PMI connection, follow the steps below:

1. Click on the PMI connection you wish to delete: This will show the properties of the selected connection.
2. Click the **Delete** button: This will delete the selected PMI connection.

Information on Raw Data Files

GenWatch3 stores raw data files on your GenWatch3 computer. Genesis and Motorola support personnel use these files to help diagnose control channel decode issues you may have with GenWatch3.

By default, GenWatch3 will keep five weeks (approximately 2 GB) worth of raw data files. You may wish to conserve hard drive space by choosing to only keep one week's worth of raw data files. We suggest you keep the full five weeks, just in case it takes you awhile to notice a control channel decode issue.

These raw data files are stored in the following directory:

ProgramData\Genesis\GenWatch3\RawData\<Connection Type>

Depending on the connection type, one or more additional subfolders may be used to partition the raw data by the system hierarchy. Folders after the *<Connection Type>* folder will follow this order: *<WACN ID>\<System ID>\<Zone ID>\<Site ID>\<Subsite ID>*.

For example, in the default GenWatch3 installation directory, if the WACN ID is BEE00, the System ID is 1404, the Zone ID is 1 and the Site ID is 10, the GenWatch3 raw data directory is:

C:\ProgramData\Genesis\GenWatch3\RawData\<Connection Type>\BEE00\1404\1\10

The files in this directory are in the following format:

GW3_<year><month><day>_<hour>.RAW

The raw data file for the 3:00 p.m. hour on 10/12/2010 would be:

GW3_20101012_15.RAW




In the above directory paths, *<Connection Type>* should be replaced with the name of the connection type (e.g., *AMNP* or *SNMP*.)

Changing the Raw Data File Directory

Changing the GenWatch3 raw data directory is usually a bad idea. Support personnel will find it convenient if these files are always in the same place. However, if you have a small partition (small disk space) on drive C, you may wish to move this archive operation to another drive. To change the raw data file directory, take the following steps:

1. Browse to the GenWatch3 installation directory. By default this folder is *C:\ProgramData\Genesis\GenWatch3*.
2. Double-click on the following file: *GenWatch3.config*: This may result in a dialog asking you to choose an application to use to open this file. In this case, choose Microsoft Notepad.



```
GenWatch3.config - Notepad
File Edit Format View Help
<Settings>
  <ServerName>WILBUR</ServerName>
  <GW3ServerName>WILBUR</GW3ServerName>
  <RawDataFilePath>C:\ProgramData\Genesis\GenWatch3\RawData</RawDataFilePath>
  <ThrottleRate>200</ThrottleRate>
  <LicensePath>C:\Genesis\GenWatch3</LicensePath>
  <MaxDatabaseSize>9000</MaxDatabaseSize>
</Settings>
```

Figure 8.1 – GenWatch3.config File

3. Change the value in the `<RawDataFilePath></RawDataFilePath>` tag to the desired raw data file path. (i.e. *E:\RawData* or *D:\RawData*). Make sure the path you choose is a valid hard drive, not a CD-ROM or DVD drive)
4. Click **File**→**Save** to save your changes.
5. GenWatch3 may take up to one hour to recognize this change.
6. If you wish to expedite this change, you can do so by updating an existing SNMP or AMNP connection in the GW_Connect GUI. (i.e. selecting a connection in the GW_Connect GUI's **Connections** List and clicking the **Update** button)



Warning: Make sure you only change the `RawDataFilePath` tag. Changing *GenWatch3.config* tags in other areas can cause your computer to become unstable or even unusable. When in doubt, ask for assistance from your IT department or Genesis support.