

Chronicle

INSTALLATION INSTRUCTIONS



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Document Management

Document Title: Chronicle Installation Instructions

Revision History

Version Number	Date	Summary of Changes
1.0	May 2011	Document first edition
2.0	March 2012	Features Update for Chronicle 1.5
2.1	September 2012	Features Update for Chronicle 1.6
2.2	April 2013	Update for Chronicle 1.8
3.0	November 2013	Document style update, contact details update
3.1	March 2014	Updated for Chronicle 1.9
3.2	February 2016	Updated for Chronicle 1.11
3.3	July 2017	Updated for Chronicle 2.1
3.4	February 2020	Updated for Chronicle 2.5, removed dongle references

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Overview

This document explains the procedure to implement trending within a Magellan project. This guide should be used in conjunction with the ATOM Installation Instructions which is available on the [Innotech website](#).

Chronicle Implementation

The following document has been developed to assist in the configuration of Trending implementation in Chronicle Manager/Server.

For Release Versions:

Chronicle v2.5 or later

Requirements:

- Appropriate Hardware (Innotech or 3rd party)
- Software as shown in Table 1 below

Supported Operating Systems

- Windows® 10 64-bit
- Windows® Server 2012 R2
- Windows® Server 2016
- Windows® Server 2019



Windows 10 builds are supported for approximately 18 months after release. It is recommended that you should upgrade your operating system if using an unsupported build.

Table 1: Software Table

Logo	Software	Description
	iComm	Connects the Hardware to the software.
	Chronicle Server	Reads values from iComm and sends them to the SQL Server.
	Chronicle Manager	This is used to program the Chronicle Server and also contains a monitoring tool.
	SQL Server 2016/ SQL Server Express 2016	Handles SQL traffic and stores the values from Chronicle Server into the SQL Database. The SQL Server also allows calculations and querying of the database.
	SQL Server Database	This is the actual SQL Database. The SQL Server handles all traffic.
 	Magellan / Magellan Server	Either of these are used to run the ATOM project.



Chronicle supports SQLServer Express 2016 with a maximum of 4 GB of data (10GB with optional software licence).

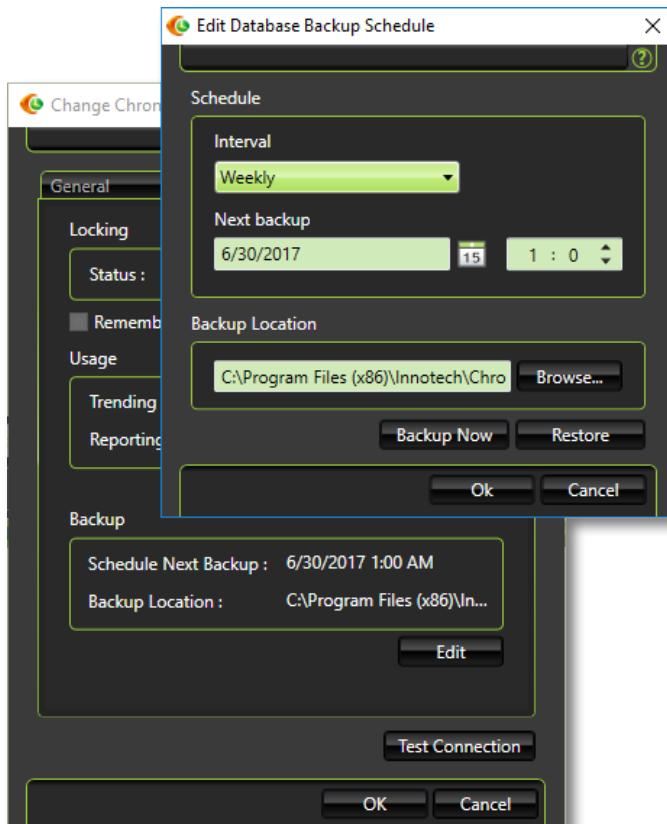
Important Upgrade Information for Chronicle v2.1 or later

IMPORTANT

- **Chronicle can only be upgraded from version 1.11.**
- The latest version of iSEA is installed during the installation of Chronicle Server. After the installation has completed, the iSEA Virtual Points window needs to be opened and the existing Virtual Points configuration saved by clicking OK.
- **BEFORE PROCEEDING WITH THE INSTALLATION, backup your existing database.**

If you are upgrading to Chronicle 2.1 from an earlier version, it is recommended that you install the new version of Chronicle over your existing installation. During the upgrade installation, Chronicle 2.1 will migrate your existing database to the new version.

Database Backup



1. Click Edit in the Backup section of the Server settings Advanced tab to create a database Backup.
2. Change the Database location if required.
3. Once you are happy with all backup settings, click **Backup Now** and make sure that the database is saved without error.
4. Click OK when done.

To avoid data loss, ensure that a copy of the backup is copied to another computer at regular intervals, as only the latest backup will be retained by Chronicle Server.

Figure 1: Database Backup Window



The backup location can only be a local drive. For example, on any Hard drive on the local computer or an External USB Plugged directly into the computer. This location CANNOT be a network drive.

IMPORTANT

To avoid backup restoration problems, **DO NOT** rename the backup files located in the Backup Location. If necessary, copy the backup files to another location before renaming.



It is considered good practice that post-installation all the site settings are checked.

System Architecture

Figure 2 below shows a pictorial representation of how Chronicle interacts with other Innotech Software. All software and hardware communicates through iComm.

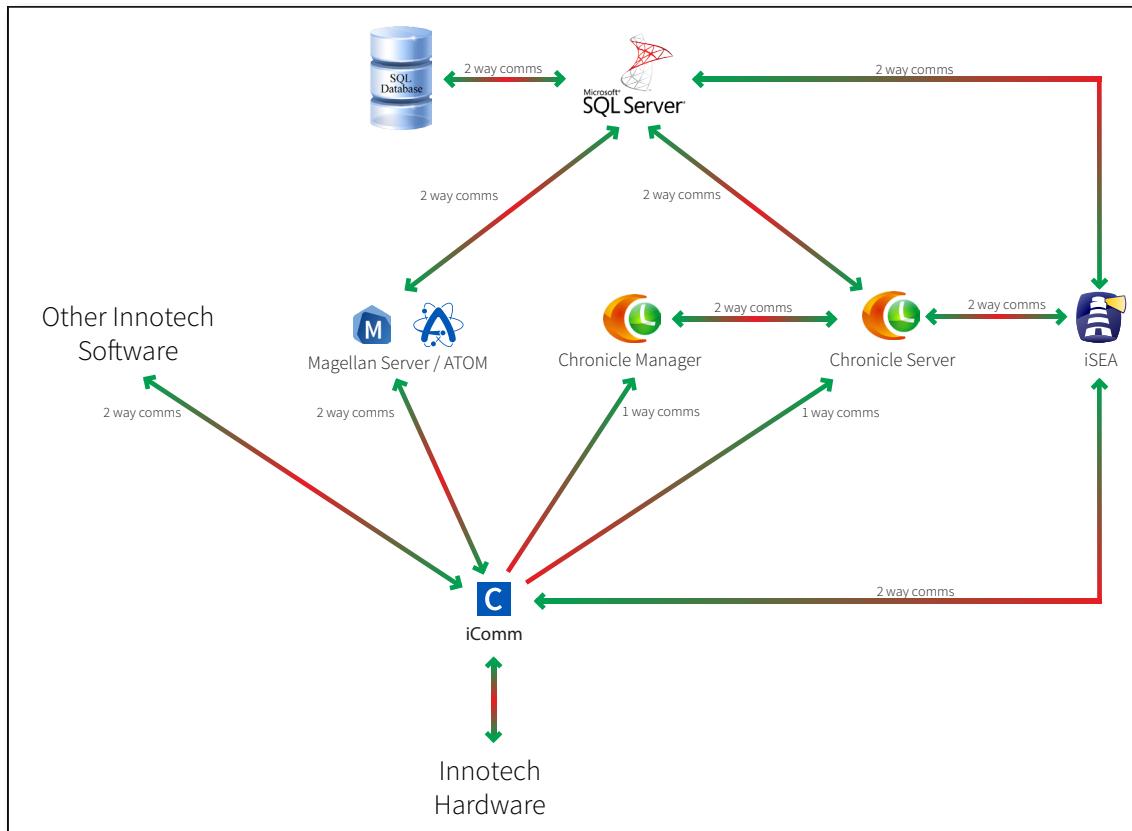


Figure 2: Software Architecture

Setup Process

To ensure that Chronicle Trending Setup is completed correctly, follow the procedures in this document.

1. **Setup the Networks.** Use the network design document so you know all I/O Server connections, Devices and Addresses. (Ensure all hardware is powered and communicating with iComm prior to proceeding)
2. **Install the software:**
 - a. Chronicle Server (This installer will install iSEA and SQL Server)
 - b. Chronicle Manager
 - c. Magellan Builder/Bundle (Only Required for initial Setup, then remove the dongle)
 - d. Innotech Magellan or Magellan Server (Magellan Server requires a software licence)



The Chronicle Server installation file contains all the software for the installation of Chronicle Server and its prerequisites. The user must have Administrator rights to install the software.

After Chronicle Server has been installed, you can check the Windows Services to see if the **Chronicle Server** and **SQL Server (SQLEXPRESS)** services are running. See below for instructions on viewing the services. You can also view if the services are running in iSEA's status window. Refer to the iSEA Installation Instructions.

Windows 10 & Windows Server 2012 Services

1. At the Start or Desktop screen, right click the Windows icon on the taskbar.
2. Click Computer Management.
3. Expand the Services and Applications item and click Services to view the running services.

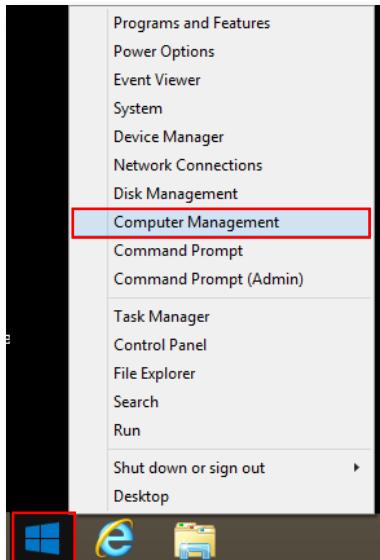


Figure 3: Windows 10 - Start Menu

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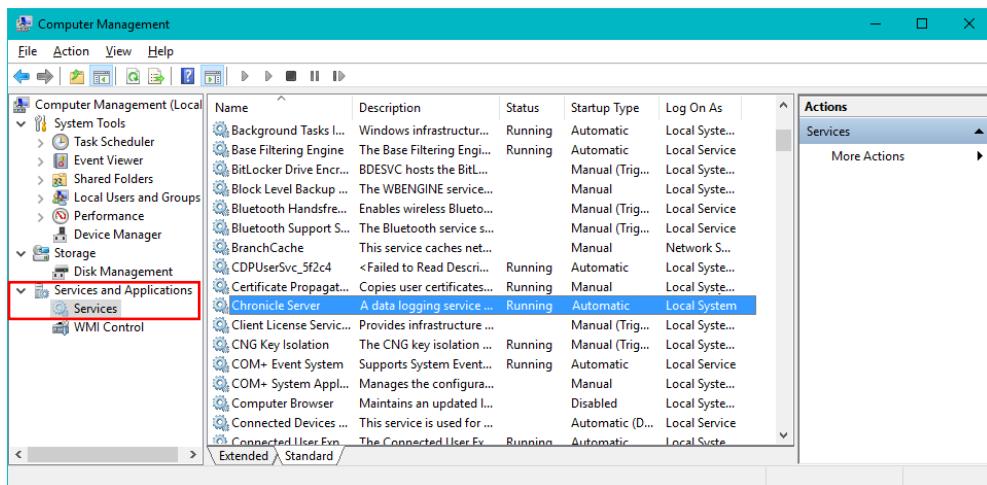


Figure 4: Windows 10 - Computer Management Services Screen

Open the iComm window to view the connections. Ensure all devices are connected.

- i** If the iComm window is minimised, double click the iComm icon (shown at right) in the system tray. **C**
- i** If the device is disconnected, Click "Rebuild" in the device's extended details. If after rebuilding it is still disconnected, check the connections and settings of the device to determine the problem.

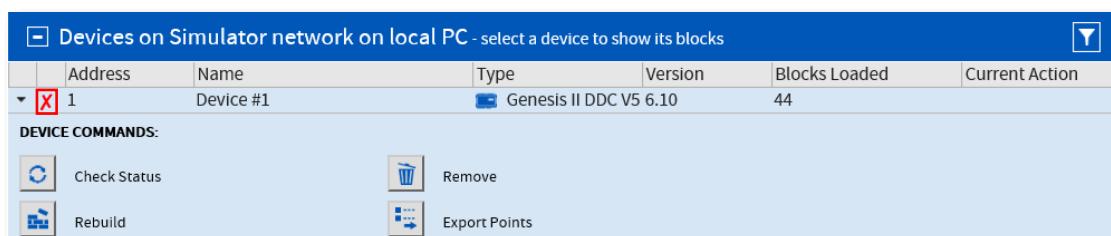
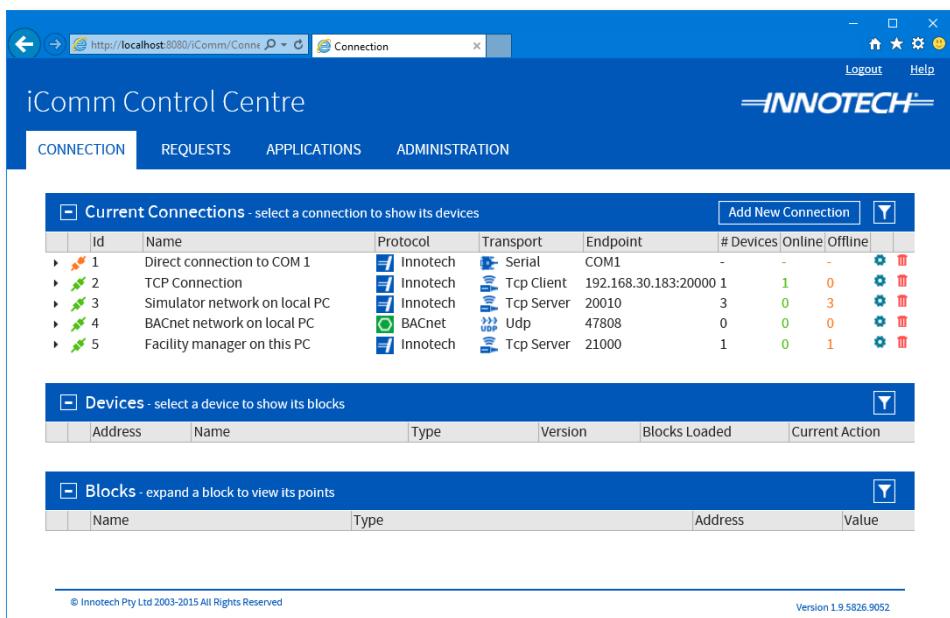


Figure 5: iComm Disconnected Device

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The iComm window below, shows connections already setup and connected.



The screenshot shows the iComm Control Centre interface. At the top, there are tabs for CONNECTION, REQUESTS, APPLICATIONS, and ADMINISTRATION. The CONNECTION tab is selected, displaying a table of current connections:

	Id	Name	Protocol	Transport	Endpoint	# Devices	Online	Offline
1	1	Direct connection to COM 1	Innotech	Serial	COM1	-	-	-
2	2	TCP Connection	Innotech	Tcp Client	192.168.30.183:20000	1	0	1
3	3	Simulator network on local PC	Innotech	Tcp Server	20010	3	0	3
4	4	BACnet network on local PC	BACnet	Udp	47808	0	0	0
5	5	Facility manager on this PC	Innotech	Tcp Server	21000	1	0	1

Below the connections table are two more sections: 'Devices' and 'Blocks', each with their own tables.

Figure 6: iComm Screen



Connections that are not required should be removed from iComm. Click the Bin icon at the end of the row to delete.

Chronicle Manager

After installing Chronicle Manager, launch the application to open the Chronicle Manager window, as shown in Figure 7.

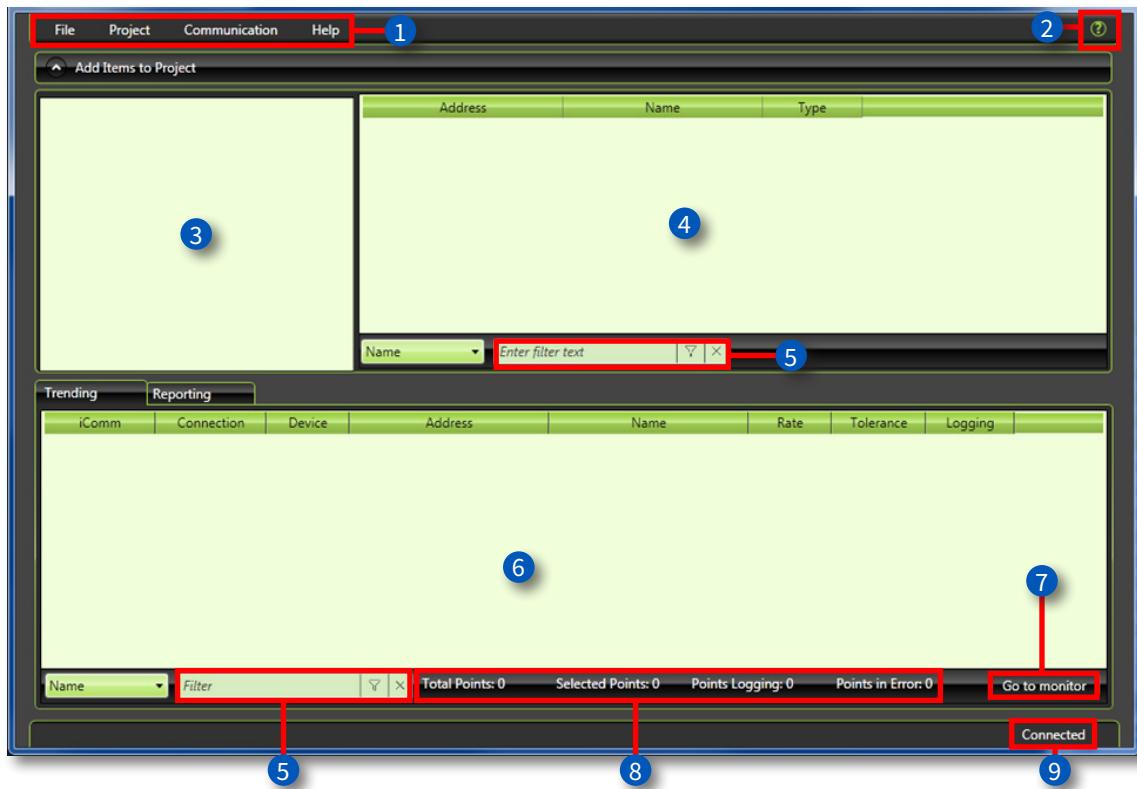


Figure 7: Chronicle Manager Window

Table 2: Chronicle Manager Index

Index	Item	Description
1	Menu Bar	Allows access to the Project Saving and Loading, Communication Settings and Chronicle Help.
2	Quick Help	This button may be used to access the Help associated with Chronicle software. Pressing F1 will also display the help screen.
3	iComm Server & Device Window	This window displays the list of devices and iComm servers that have been created/imported.
4	Device Points Window	Lists the Points imported from a selected device.
5	Point Filters	Allows for the searching of the list of points in the Device points window or Trending / Reporting points window.
6	Trending & Reporting Points Window	Lists the points being logged as Trending or Reporting points. Lists properties associated with each point.
7	Monitor / Configuration	This button is used to switch between Configuration and Monitor Mode. Monitor Mode allows for the viewing of real-time point values. Configuration Mode allows for the editing of point properties.
8	Points Statistics	Lists the statistics associated with points being logged in Trending or Reporting. This indicates any points in error and can be used to determine if there are any problems associated with the points being logged.
9	Application Status	Indicates whether or not Chronicle Manager is connected to the Chronicle Server.

Chronicle Communications Settings

The Communications Settings sets the location of the computer running Chronicle Server. This can be a remote computer on the LAN or the same computer running Chronicle Manager. Edit the Comms Settings by selecting **Comms Settings** from the **Communication menu** within Chronicle Manager.

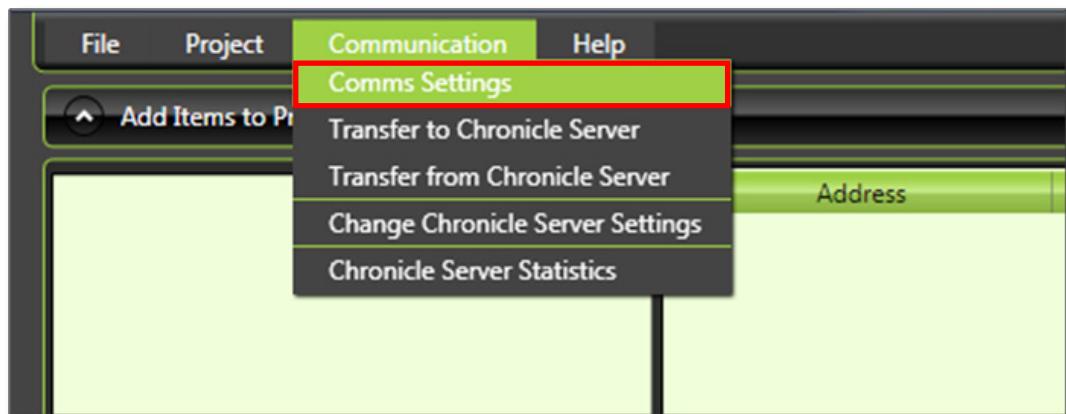


Figure 8: Communication Menu - Select "Comms Settings"

When you click on Comms Settings, the window in Figure 9 appears.

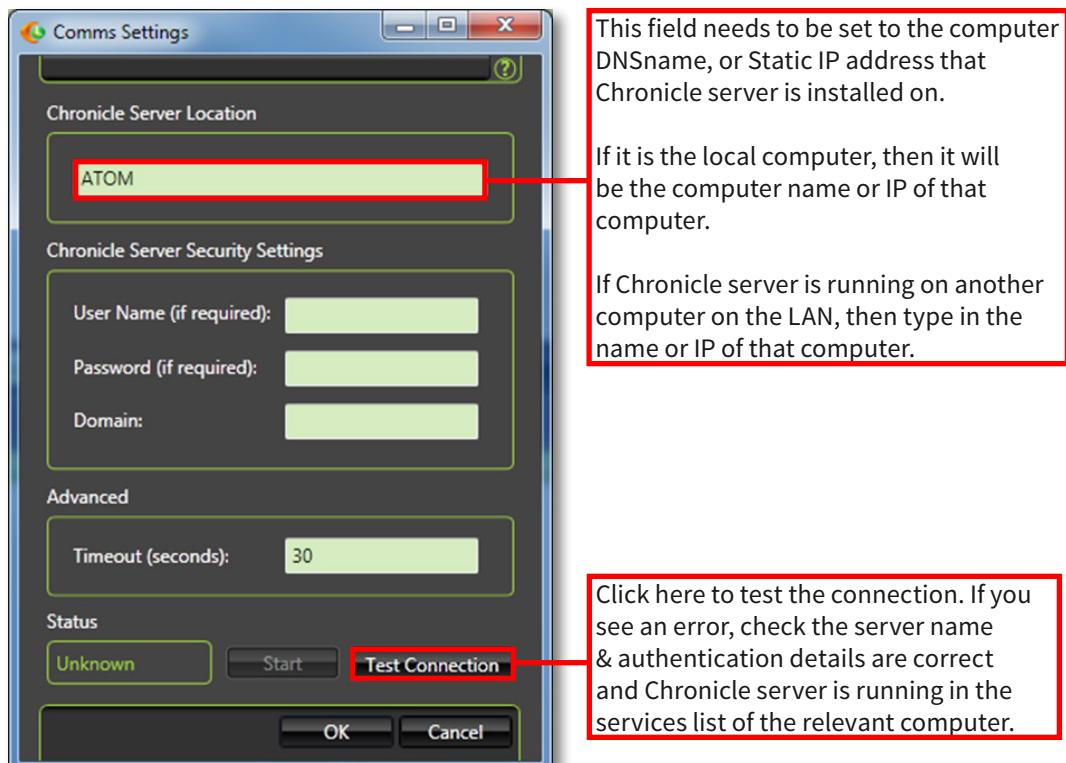


Figure 9: Comms Settings Window

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Upon a successful connection the Success dialogue is displayed, as shown in Figure 10.

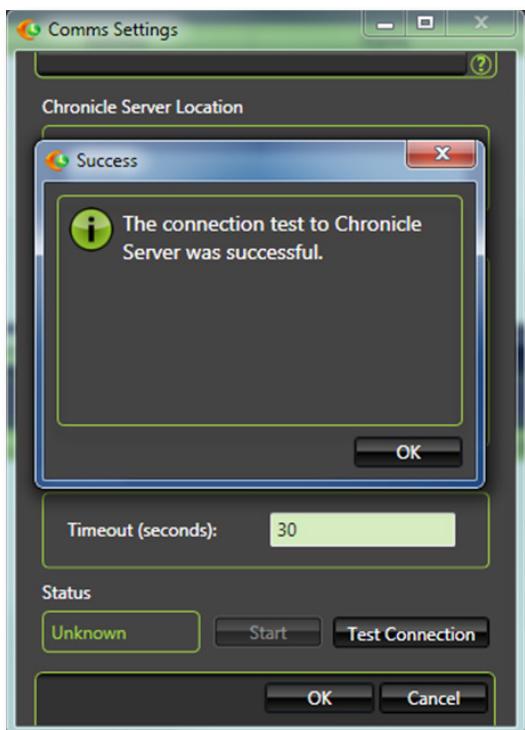


Figure 10: Connection Test Success Window

If an error message is shown, ensure that the name of the Chronicle Server computer is correct and use iSEA or the [Windows Services](#) screen to confirm that the service is running.

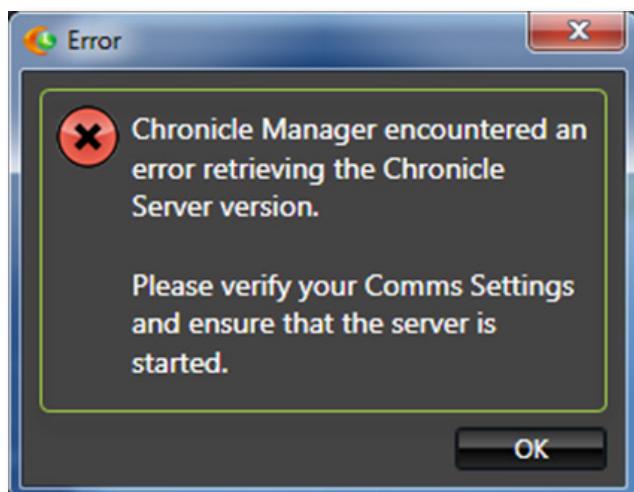


Figure 11: Connection Test Failure Window

Setting the location of the SQL Server

This option sets the location of the computer running SQL Server. This can be the local computer or a remote computer on the LAN.

Select **Change Chronicle Server Settings** from the **Communication menu** to edit the SQL Server settings.

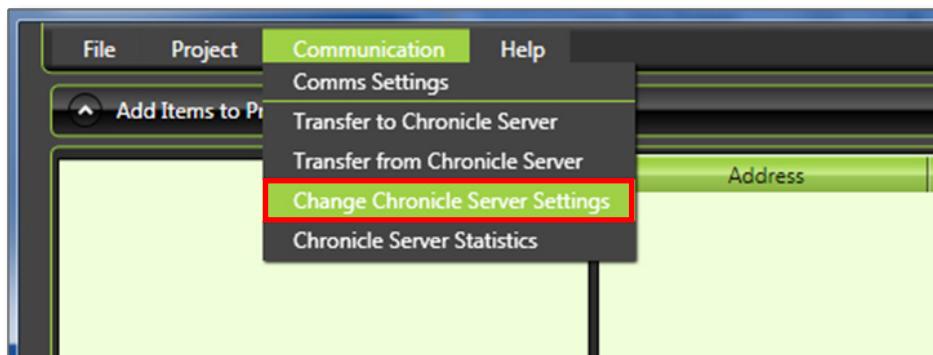


Figure 12: Communication Menu - Select "Change Chronicle Server Settings"

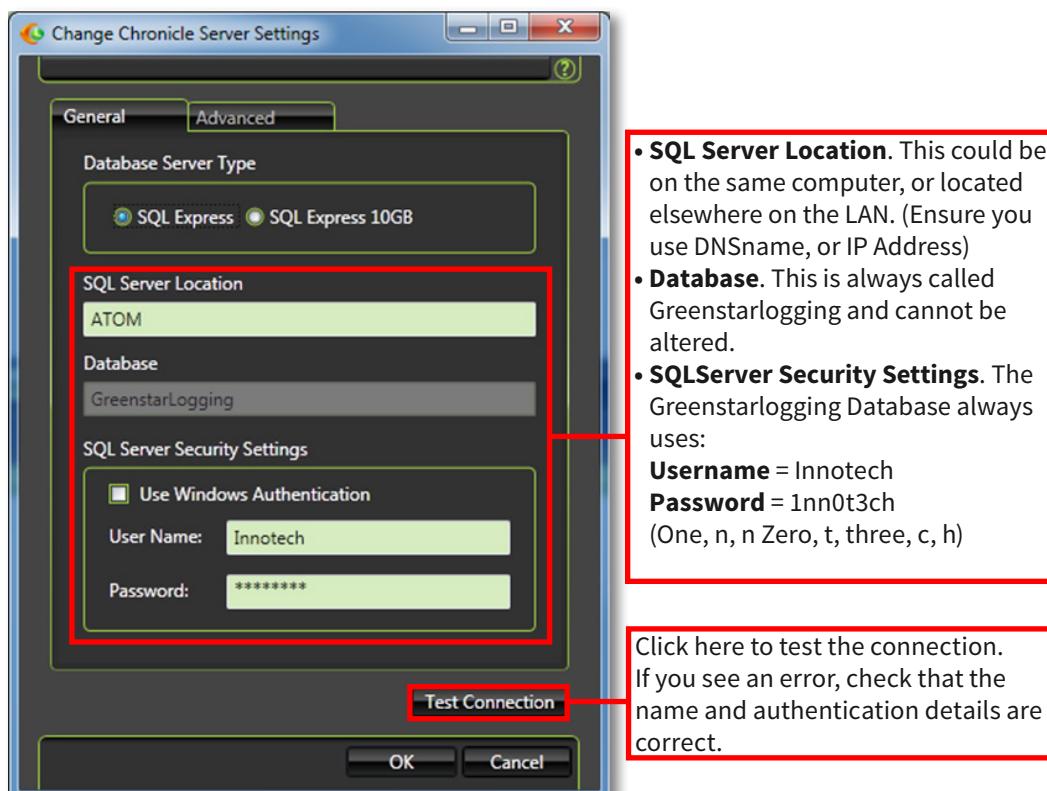


Figure 13: Change Chronicle Server Settings Window



IMPORTANT

- Ensure that you have Administrator rights for your User logon account in Windows. Without administrator rights, access to the required folders may be restricted.
- The SQL Database should never be renamed. Problems will occur if the database is renamed.
- The SQL Server Location address must also be used in the ATOM or Magellan trending project. For example, if the DNS Name ATOM is used, then this must also be used in the database settings in the Magellan / ATOM project.

Testing the connection

Click on the Test Connection Button in the Server Settings window. If the settings are correct you should see the success popup as shown in Figure 14.

If the settings are not correct, the error popup appears as shown in Figure 15. Check all parameters in the settings screens and retest the connection. If the database connection still fails, contact Innotech for assistance (See the last page of this document for contact details).

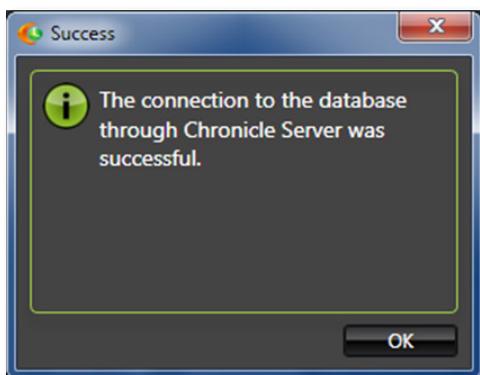


Figure 14: Database Connection Success Window

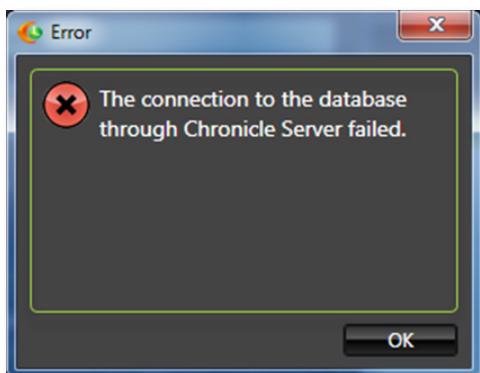


Figure 15: Database Connection Failure Window

Creating the project

With the above steps completed, we can now begin to build the project.

1. Right click in the blank portion of the Server & Device window and select Create iComm server. You can also select Create an iComm Server, from the Project menu item in Manager.



Refer to the [Chronicle Manager](#) section to identify the individual Chronicle Manager windows.

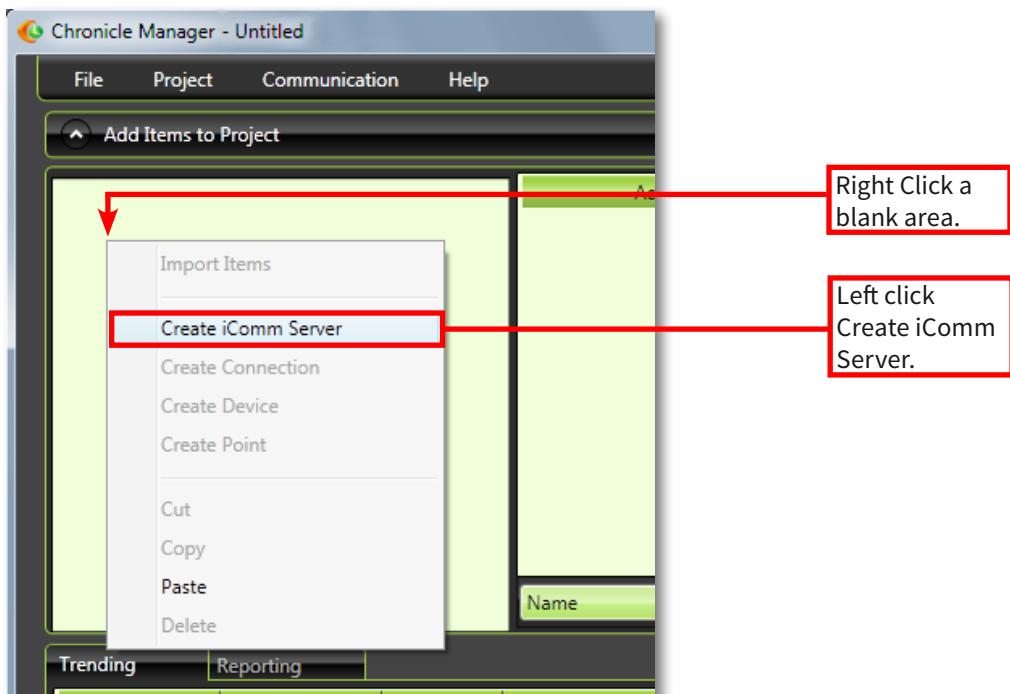


Figure 16: Click "Create iComm Server" in the context menu

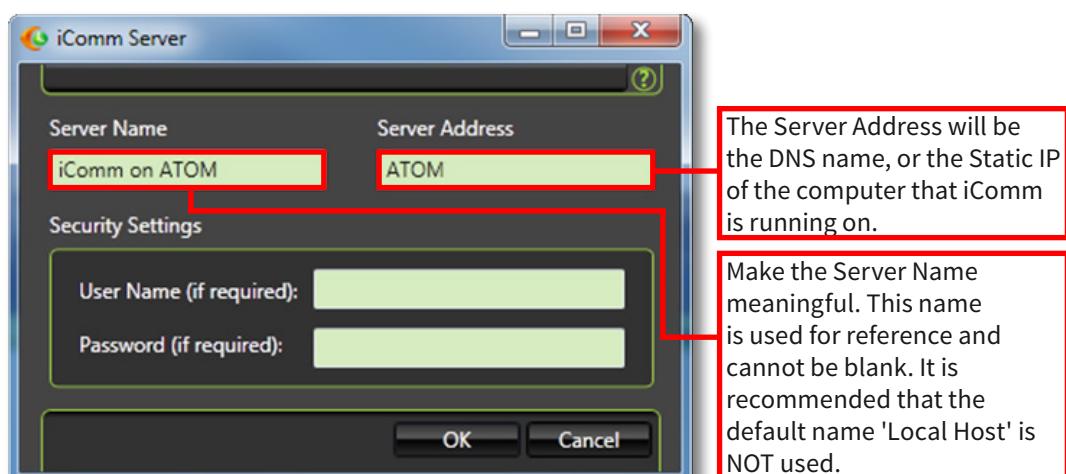


Figure 17: iComm Server Window



IMPORTANT

The Server Address must also be used in the ATOM or Magellan trending project. For example, if the DNS Name ATOM is used, then this must also be used in the database settings in the Magellan / ATOM project.

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2. Right click on the iComm Server and select Import Items from the menu.

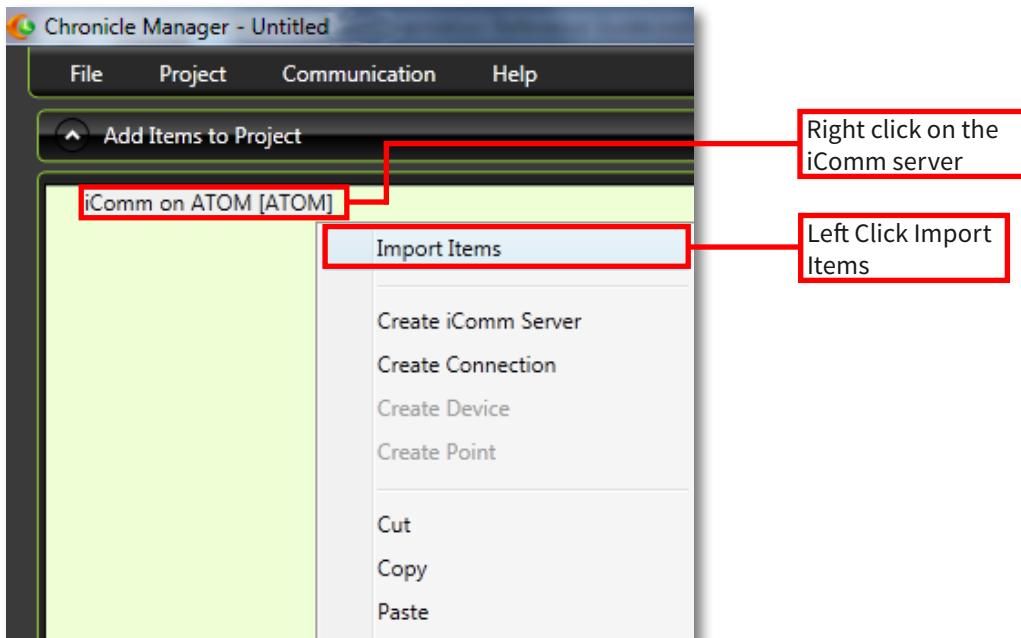


Figure 18: iComm Server Context Menu

3. In the Import Items window, Select Import items from network.

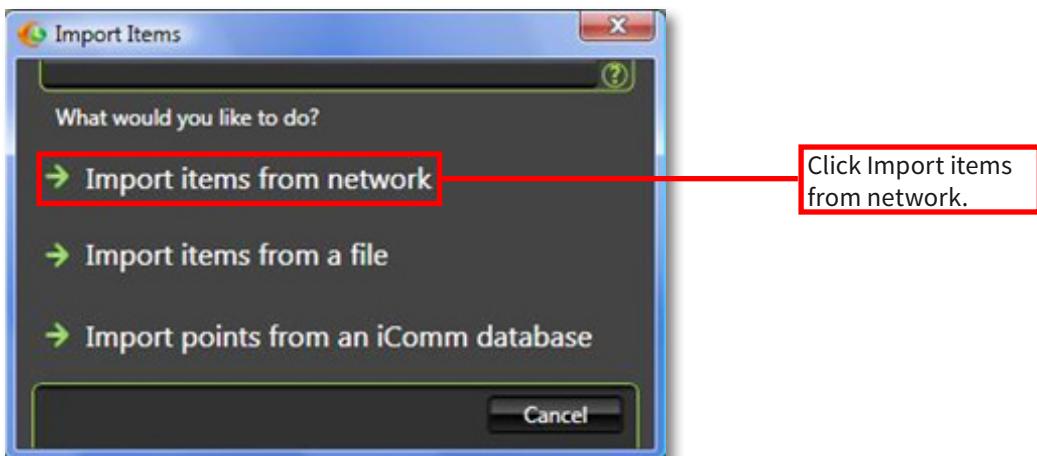


Figure 19: Import Items Window

During the Import process, all iComm connections will be added to the Item panel. This includes Facility Manager, Simulators, BACnet and serial/USB. It is important to ensure that iComm only contains any required connections. Any unused imported connections can be easily removed prior to project transfer to Chronicle Server.



Note that you have the option of importing items from a file (Config), or from an existing iComm database.

Chronicle Installation Instructions

Chronicle Manager will search the network and provide you some feedback and if any errors were encountered.

Press OK to continue.



Any connections not required after the import, can be easily removed within Chronicle Manager.

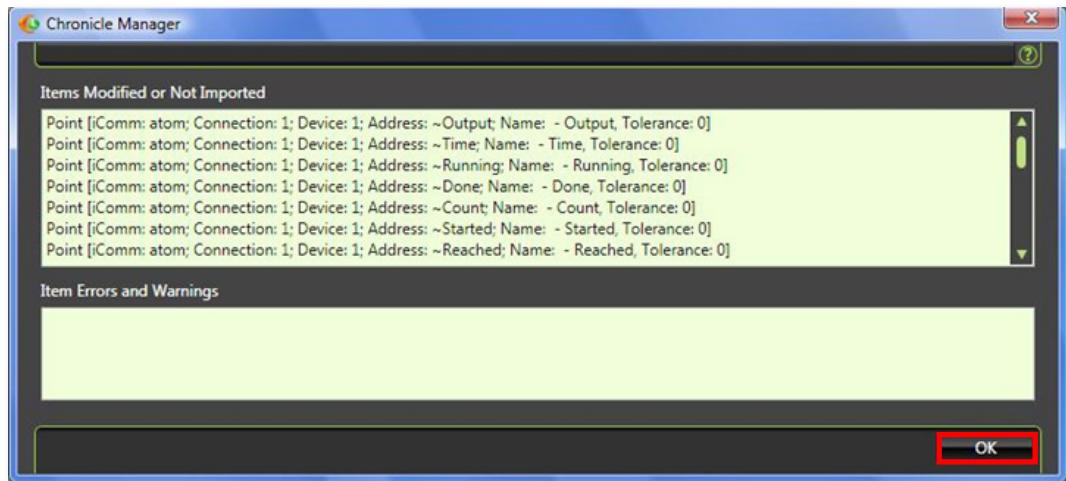


Figure 20: Item Information Panel

Chronicle Installation Instructions

4. After a successful import, a Tree view of your network will be displayed underneath your iComm server. If you highlight a device, it will then list all available points to the right, ready to filter and select for logging.

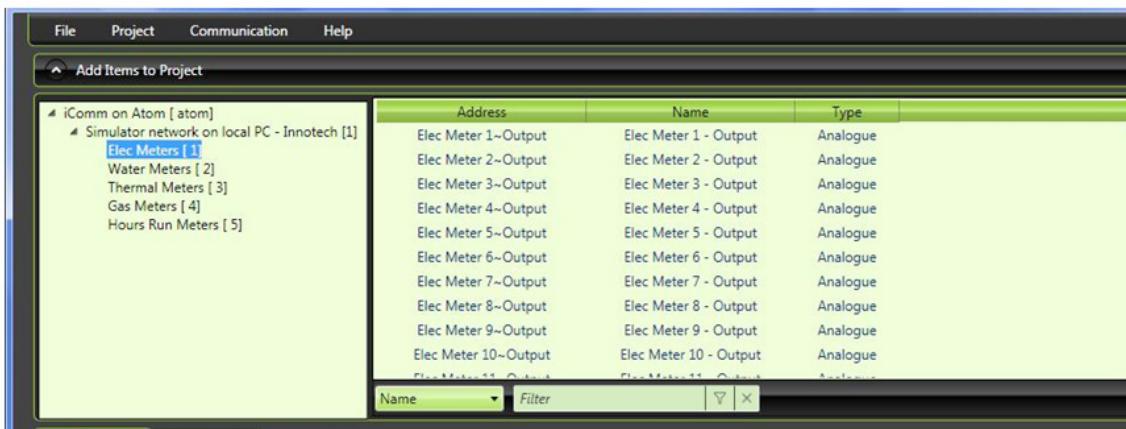


Figure 21: Chronicle Manager Window with Points

Once the Import process has completed, the Chronicle Manager window updates with the imported devices and points.

Trending and Reporting Panels

- Trending points are used in the Magellan Trend Frames and purge over time.
- Reporting points are used in the ATOM project. These points are also purged, however you can determine if there is sufficient space available to ensure there is no loss of data.

You have the ability to use the filters to locate or isolate any points in the list. This can speed up the selection process and help ensure you select all the required points.

Data storage works on a “first in, first out” scenario, and once the designated space is used, the oldest data will be replaced with the newest to give a “sliding window” effect.

Adding Trend Points in Chronicle

Select the Trending Points Tab, select and drag the points to the Trending pane. Typically, these are items such as temperatures, volts, current. This is non-critical information used in the Trend Frame in Magellan. Note that the Trending points also have various properties that can be edited.

Take into account when setting up your Point logs, that rate and tolerance are factors which may save database usage over time; for example: Digital points may be set using a Tolerance instead of a Rate. This will only log when the point changes state which may be far less frequent than any rate set, it will also be more accurate.

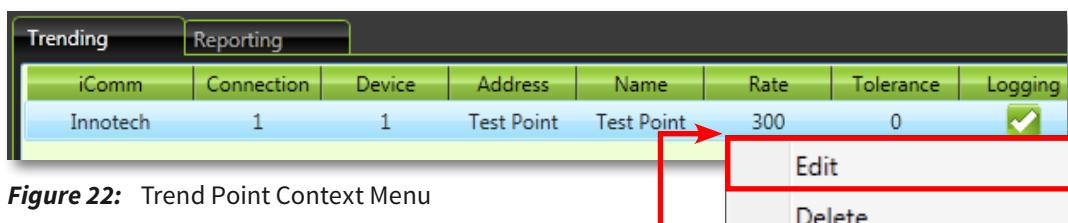


Figure 22: Trend Point Context Menu

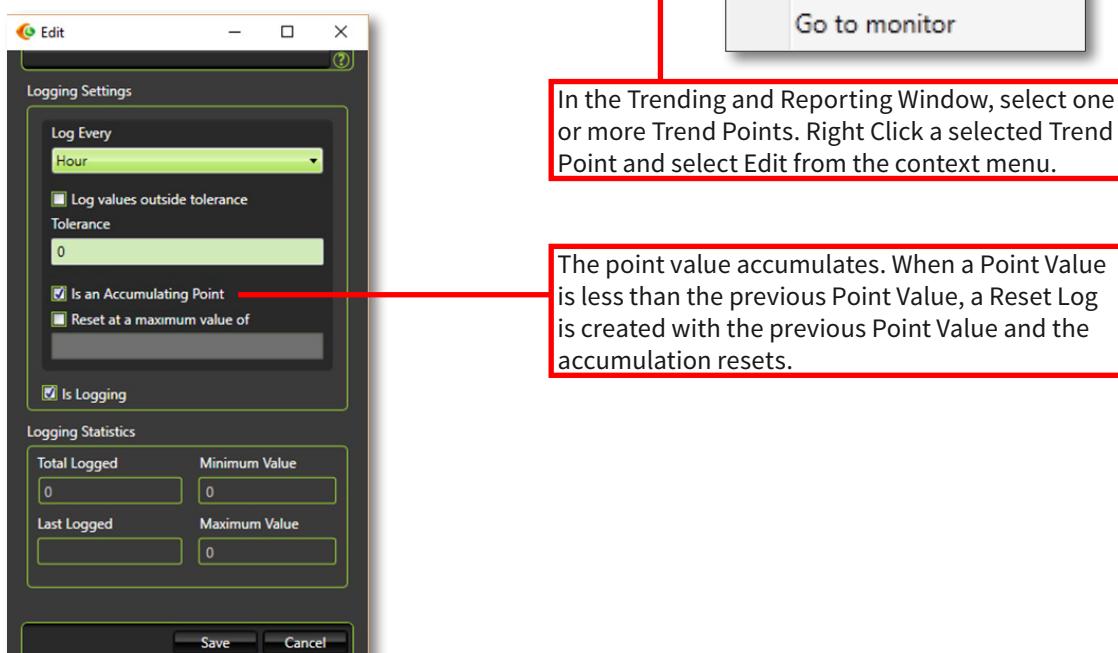


Figure 23: Edit Trend Point Window



IMPORTANT

Hours Run Meters: Please note, an Hours Run point that is designed using an ON/OFF scenario (e.g. a wall mounted push button), requires special consideration when added as a Reporting Point. These types of meters must use a tolerance of 0.5 which will log values outside this tolerance upon activation (values returned from the point generally read 1 - ON or 0 - OFF).

The tolerance field is ignored when set to zero (default setting), in this case the Reporting Point will be logged at the interval specified in the Rate field, regardless of if it has changed in value or not. Trending Points will continue to use tolerance as per before, that is, they will not log if they haven't changed by a value greater than the tolerance.

Chronicle Manager Monitor mode

After successfully transferring the project to Chronicle Server, you have the option to monitor the project using Chronicle Manager's **Monitor Mode** function.

Monitor mode allows you to monitor live data values of the points added to the Trending or Reporting tabs. This is a useful commissioning tool to ensure that data values are correct and reading from iComm.

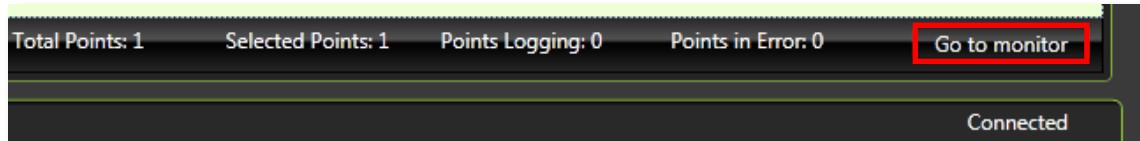


Figure 24: Go to Monitor Button



After clicking the Go to Monitor button, it will change to Go to Config as shown below in Figure 25.

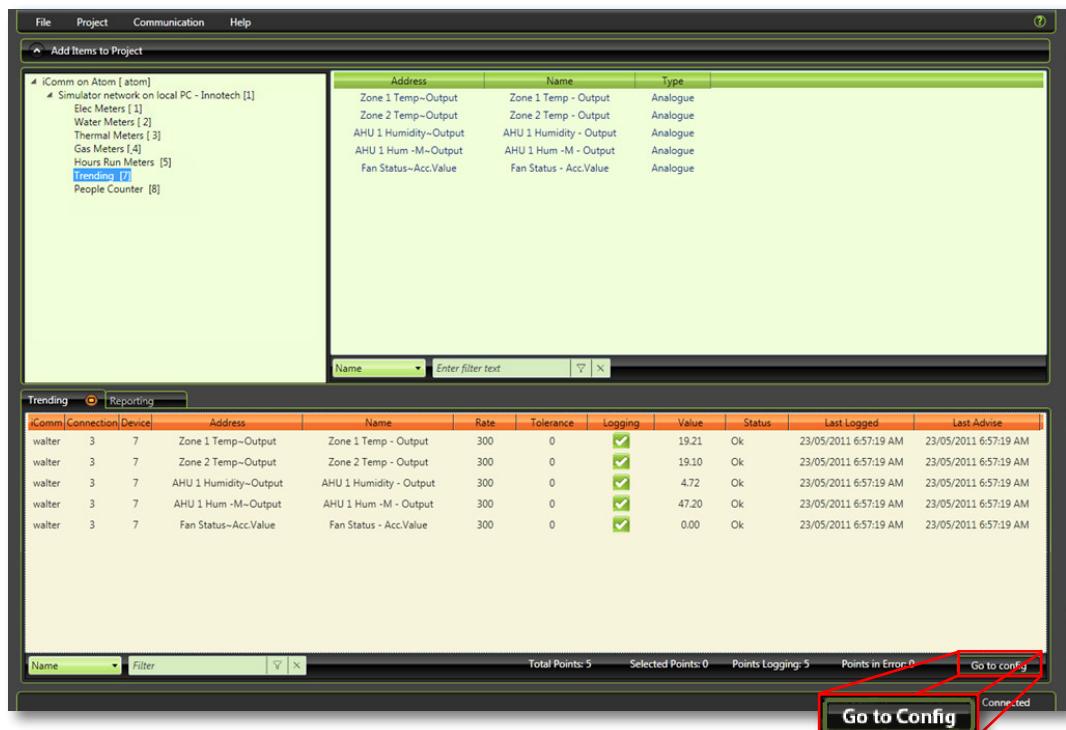


Figure 25: Chronicle Manager Window



While in Monitor mode, no project modifications are possible, you must "Go to Config" before you can make further alterations. When monitoring in either Tab, you will notice the Orange Circle on the Tab and orange headings to indicate you are in Monitor mode.

SQL Trending points and Magellan

To utilise the SQL database trending points in Magellan, a few items require setting. Once the points have been added to the Trending Tab in Chronicle Manager and transferred to Chronicle Server, we need to advise Magellan to use the SQL database points.

- Once the Magellan project is open in Magellan Builder, the database settings need to be configured as shown in Figure 26.

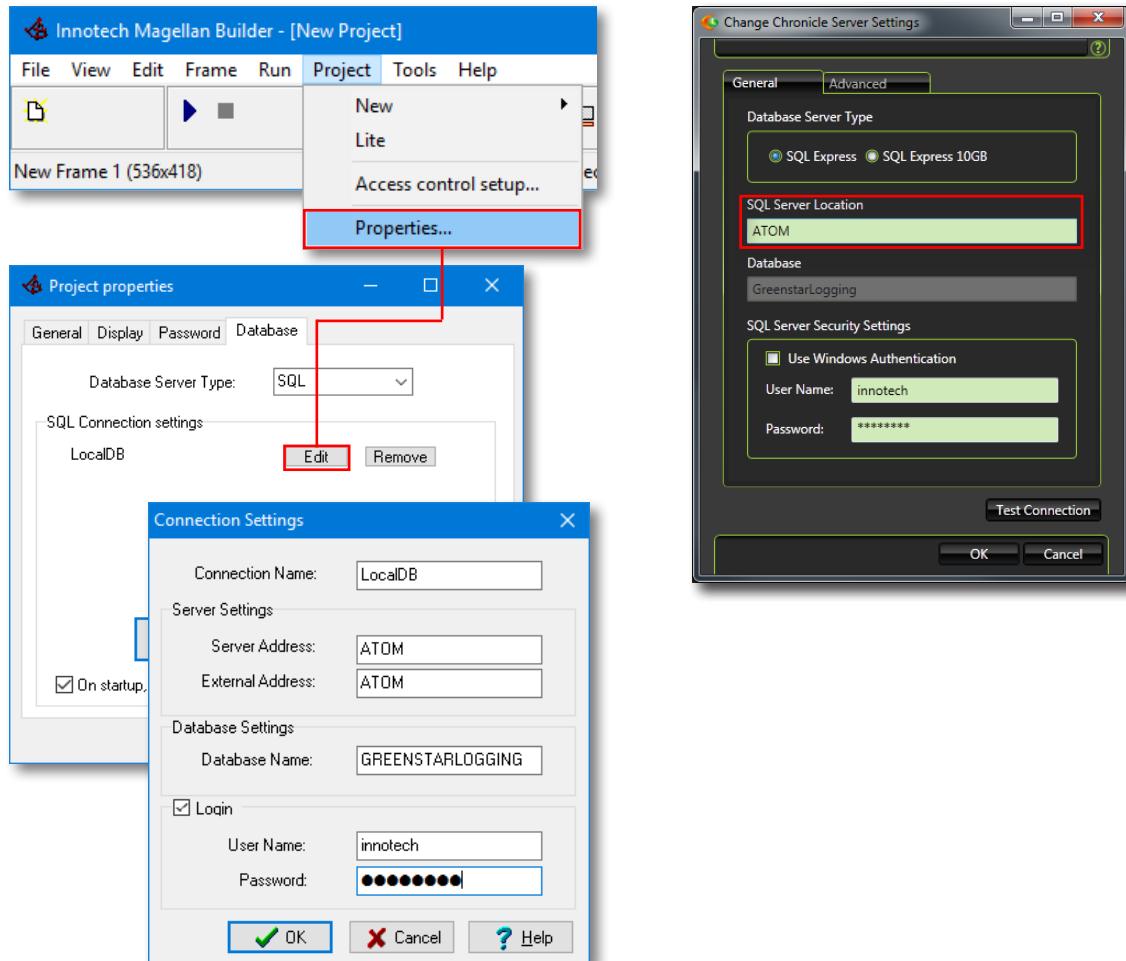


Figure 26: SQL Connection Settings



IMPORTANT

The Database server settings must match in Magellan and Chronicle. The DNS name or IP address must be identical, mixing DNS and IP address will cause project issues.

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2. In Magellan Point manager, double click on the iComm Server connection and enter the Host Computer Name.



IMPORTANT

The Host Computer name will be the same as the Server Address name in Chronicle. The DNS name or IP address must be identical, mixing DNS and IP address will cause project issues.

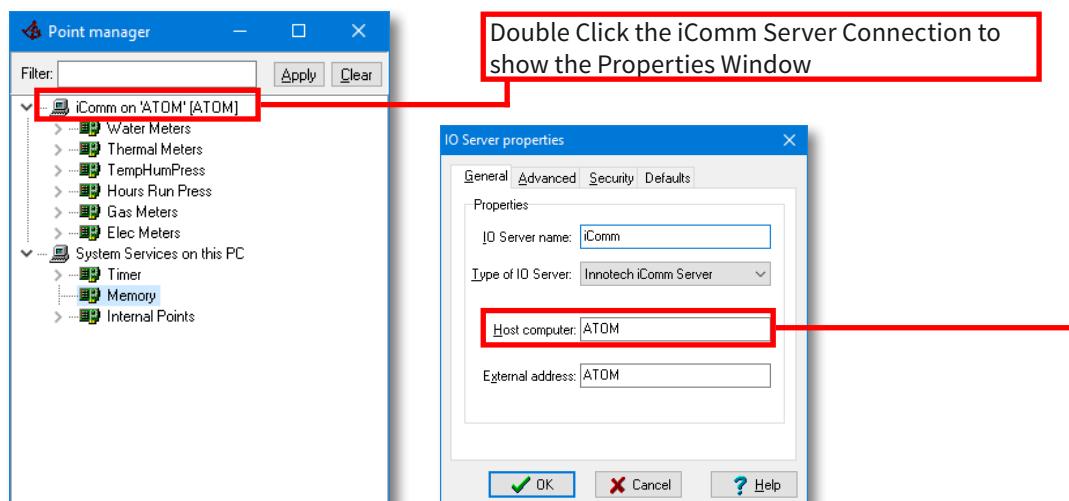


Figure 27: IO Server Properties Window

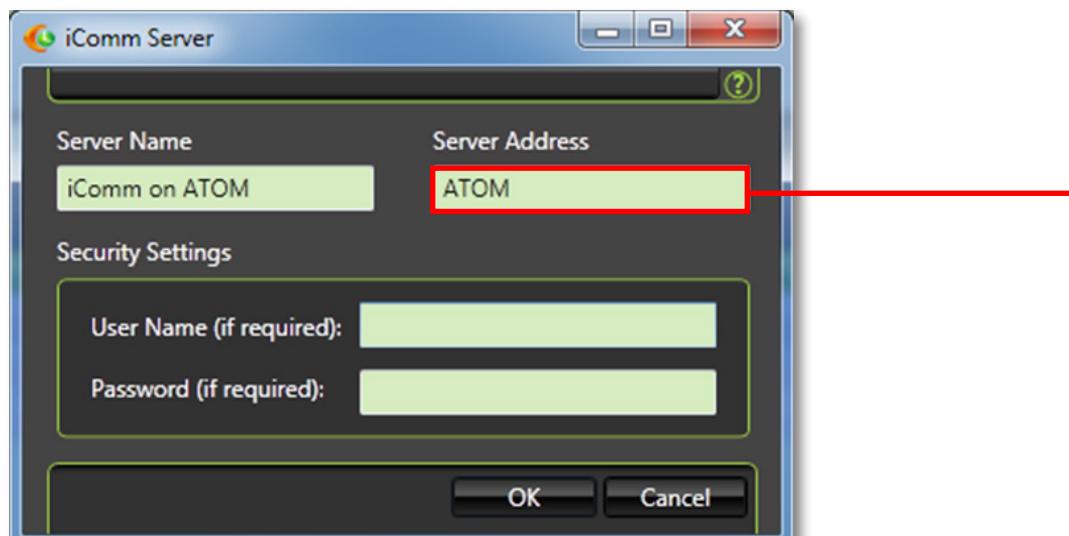


Figure 28: iComm Server Properties Window in Chronicle Manager

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In Magellan Frame manager, open the Trend Frame. Select the Trend Object and open the properties dialogue.

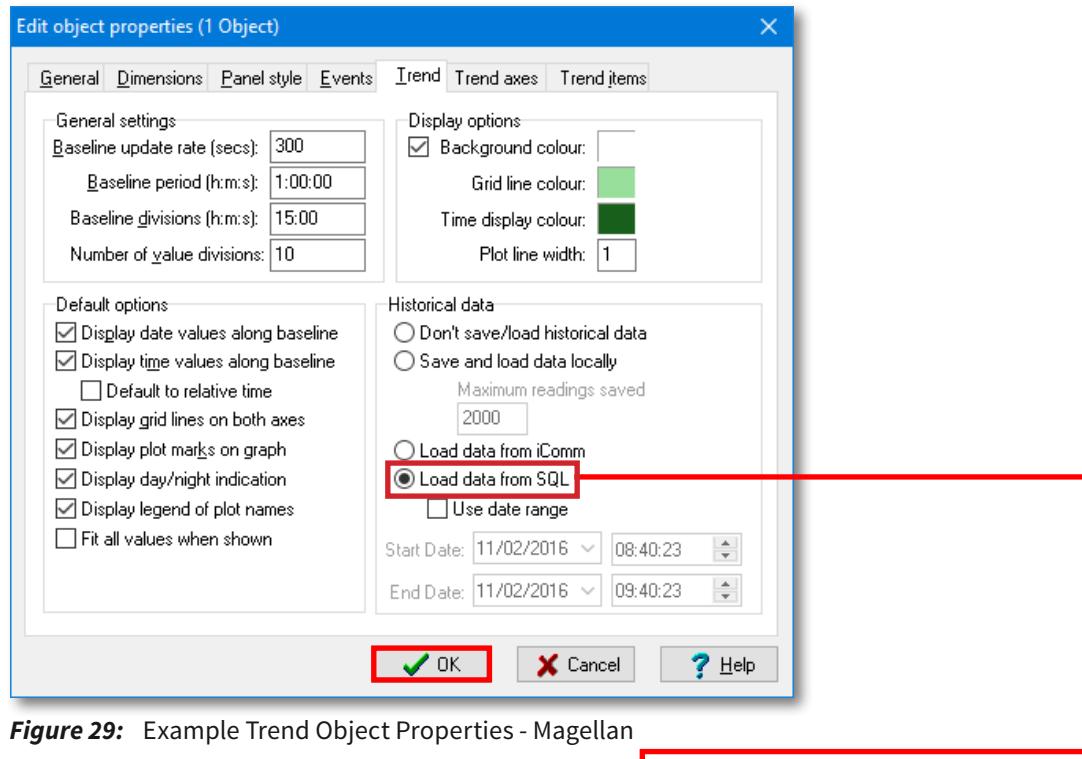


Figure 29: Example Trend Object Properties - Magellan

In the properties window, make sure that the “**Load data from SQL**” radio button is checked. This loads the point log data from the SQL database via Chronicle Server.

Click OK to save the changes.



All “actual points” must also be added in the Trend Items tab.

Chronicle Print Report

Chronicle Manager provides the ability to print a report for the Reporting and Trending points. From the File menu, select Print. If a points filter is used, only the filtered points will be printed.

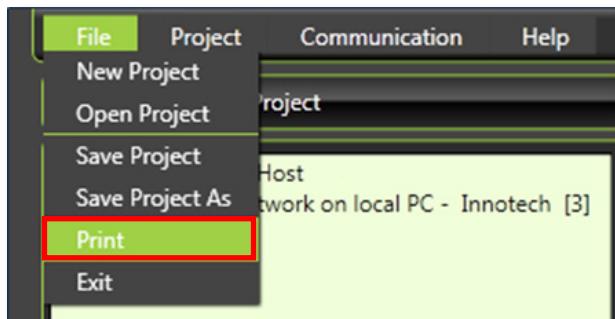


Figure 30: File Menu

In the print report window shown below, select the Print all Trending or Print all Reporting radio button. Click the Print Preview button to view the report or click Print to print the report to your selected printer. Figure 32 shows a sample report print preview.

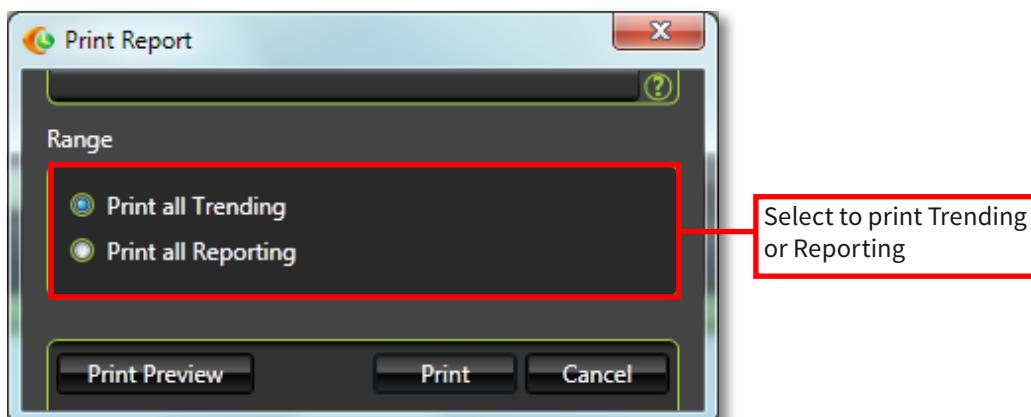
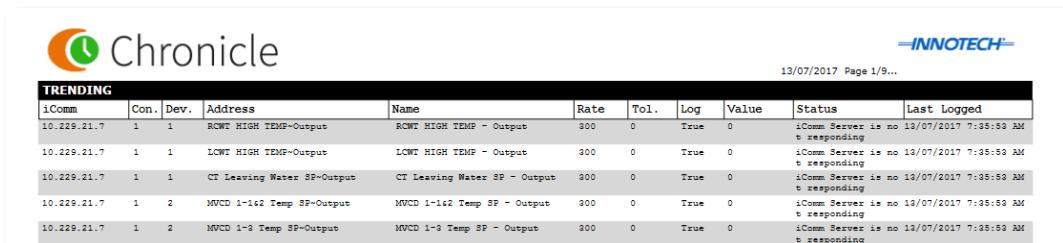


Figure 31: Print Report Window



TRENDING											INNOTECH	
iComm	Con.	Dev.	Address	Name	Rate	Tol.	Log	Value	Status	Last Logged		
10.229.21.7	1	1	RCWT HIGH TEMP~Output	RCWT HIGH TEMP - Output	300	0	True	0	iComm Server is no 13/07/2017 7:35:53 AM t responding			
10.229.21.7	1	1	LCWT HIGH TEMP~Output	LCWT HIGH TEMP - Output	300	0	True	0	iComm Server is no 13/07/2017 7:35:53 AM t responding			
10.229.21.7	1	1	CT Leaving Water SP~Output	CT Leaving Water SP - Output	300	0	True	0	iComm Server is no 13/07/2017 7:35:53 AM t responding			
10.229.21.7	1	2	MVCD 1-112 Temp SP~Output	MVCD 1-112 Temp SP - Output	300	0	True	0	iComm Server is no 13/07/2017 7:35:53 AM t responding			
10.229.21.7	1	2	MVCD 1-3 Temp SP~Output	MVCD 1-3 Temp SP - Output	300	0	True	0	iComm Server is no 13/07/2017 7:35:53 AM t responding			

Figure 32: Sample Trending Print Report

Chronicle Advanced Settings

Several advanced settings are available in Chronicle. In the Communication Menu, select Change Chronicle Server Settings. In the Server Settings window (Figure 34), select the Advanced tab.

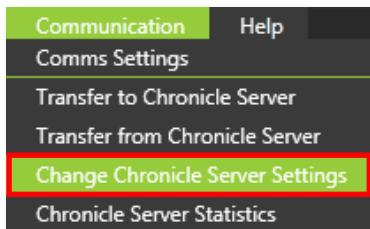


Figure 33: Communication Menu

The Advanced tab in Figure 34 presents you with 3 different configurable options. Locking the Chronicle Server with a password, adjusting the amount of the allotted Database size to either Reporting or Trending and setting up the automatic backup time and location for the SQL Database.

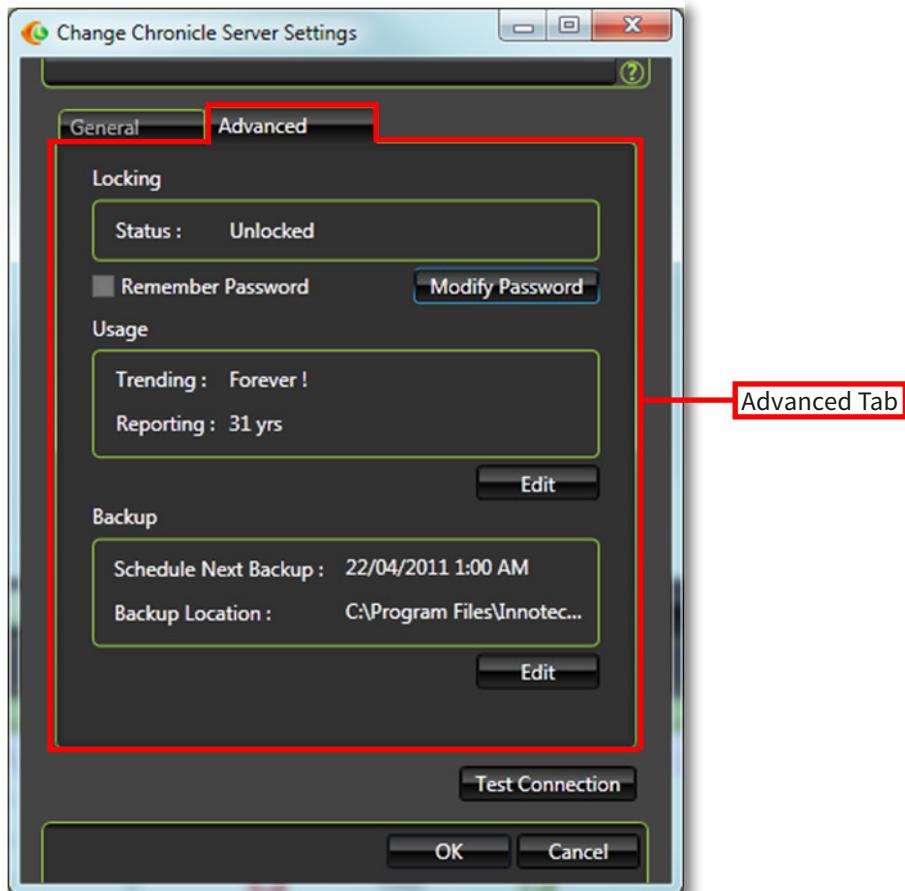


Figure 34: Change Chronicle Server Settings Window

Modifying the SQL Server Password

Click Modify Password in the Advanced tab to edit the password.

First time users will be able to enter a new password straight away. A “greyed out” old password also indicates that there is currently no password set.

Set a password and then add it to a Master file for safe record keeping. Once the password is set, it will need to be re-entered each time you wish to make ANY changes to the Chronicle Server configuration.

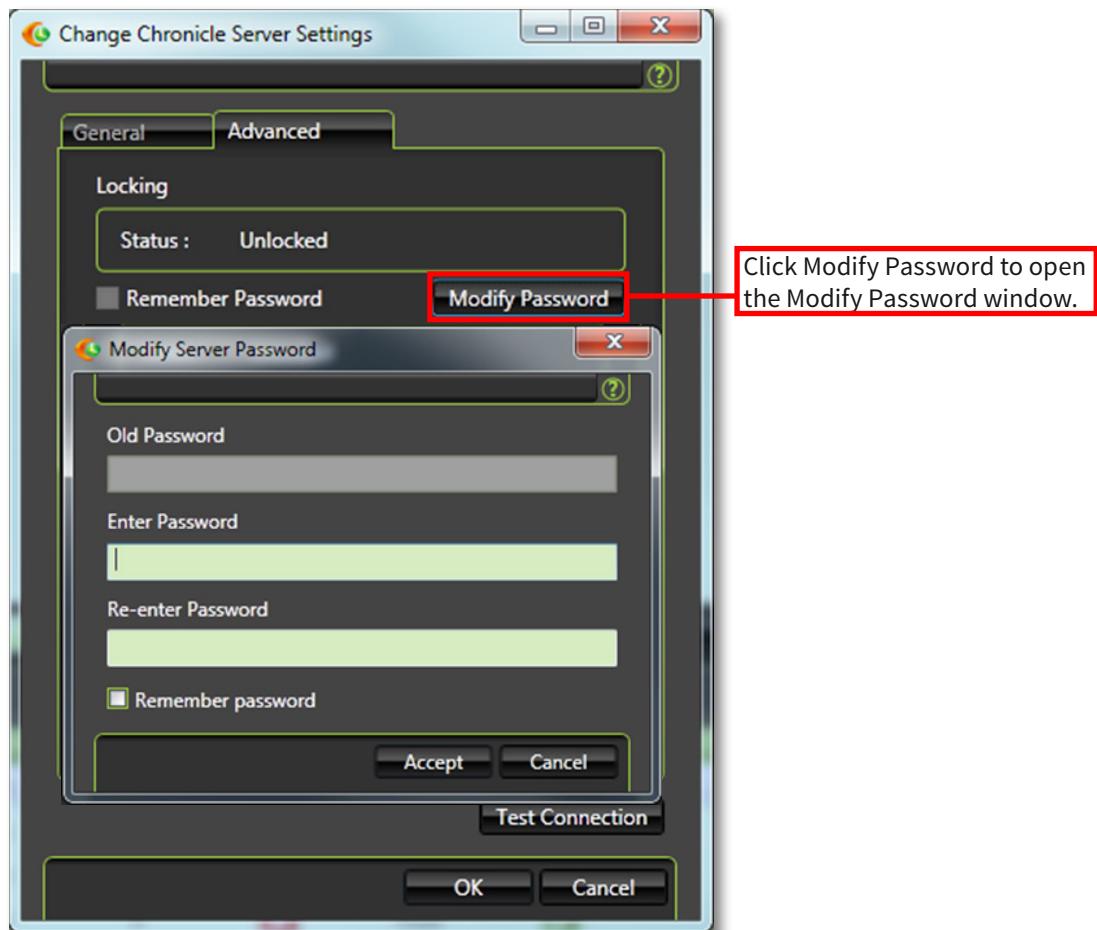


Figure 35: Modify Server Password Window



IMPORTANT

It is imperative that you DO NOT lose this Chronicle Server password.

If you lose your password, you will need to contact Innotech in order to unlock the server.

Modifying the Database Reporting/Trending space allocation

Click Edit in the Usage section of the Server settings Advanced tab to edit the Server Database usage.

You may adjust the amount of storage dedicated to Trending and Reporting. (Reporting is the Priority) Adjust as required and press OK to save the settings. Keep in mind that Trend data should only really be kept for as long as a Service contractor/Building Manager may need to view any historic data to perform any troubleshooting.

Trend Data then works on a “first in, first out” scenario, and once the designated space for Trending is used, the oldest data will be replaced with the newest to give a “sliding window” effect. With clever management, this will reserve the majority of the database for Reporting which will then allow the maximum amount of Historic Data to be saved.

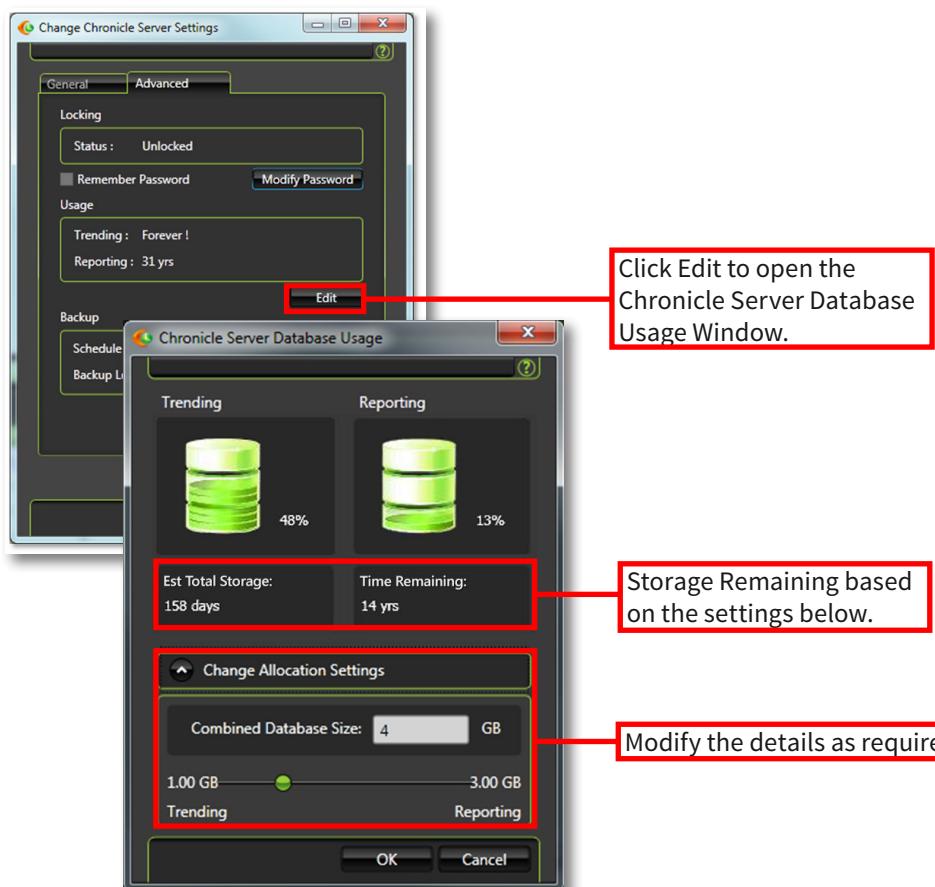


Figure 36: Chronicle Server Database Usage Window



The amount of storage allocated to logged data is limited to 4GB. The allocated storage increases to 10GB if a Chronicle software licence has been acquired. The 10GB option is limited to a maximum allocation of 4GB for reporting. If the database is downgraded, Chronicle will retain Reporting point data up to a maximum of 3.96GB.



IMPORTANT

When allocating the database usage, you should note that large Trending allocations will drastically reduce the performance of applications which use the database (Trends, ATOM etc). In most cases, 90 days (3 months) Trending allocation should be adequate without degrading performance.

Setting up the Automatic Database Backup function

Click Edit in the Backup section of the Server settings Advanced tab to edit the Database Backup Schedule.

As the options show, you are able to set the interval, the date of next backup, the time of backup (in 24 hour time) and also the backup location.

Once you are happy with all backup settings, click “backup now” and make sure that the database is saved without error.

To avoid data loss, ensure that a copy of the backup is copied to another computer at regular intervals, as only the latest backup will be retained by Chronicle Server.

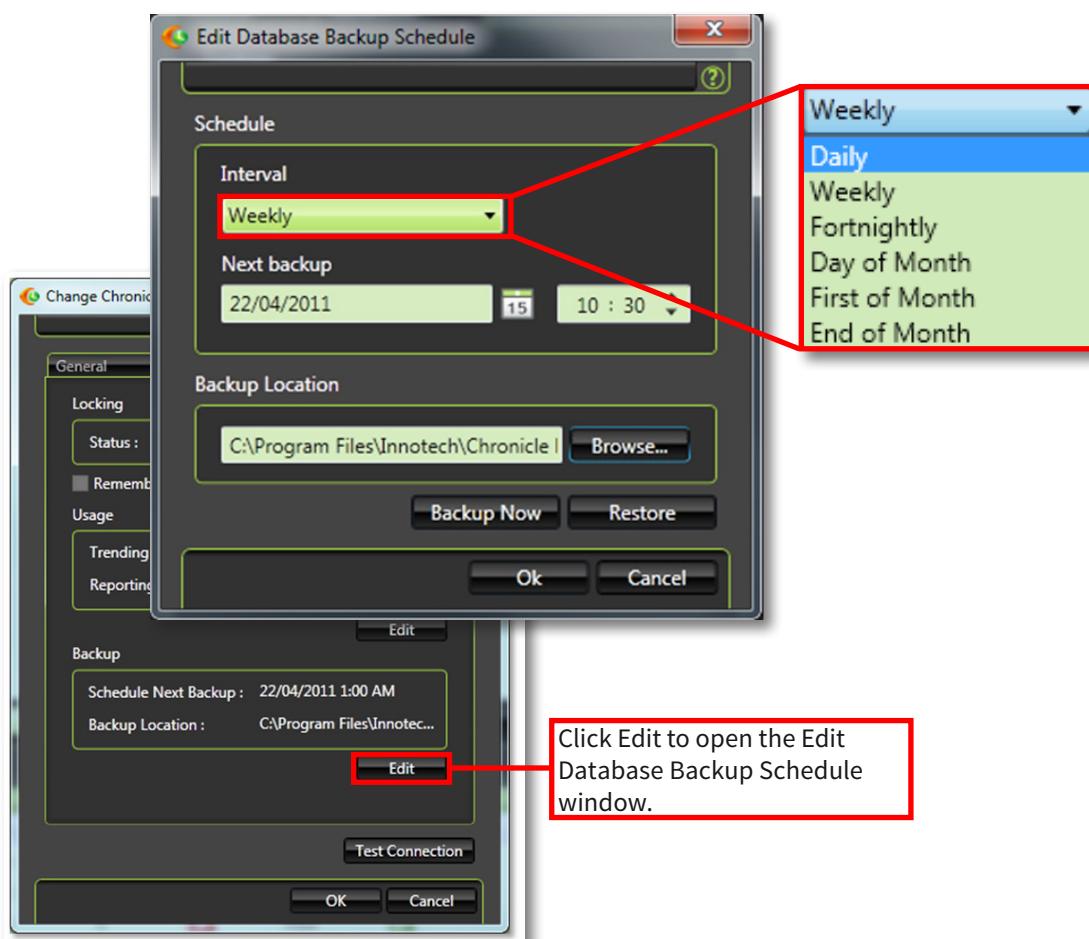


Figure 37: Database Backup Schedule Window



The backup location can only be a local drive. For example, on any Hard drive on the local computer or an External USB Plugged directly into the computer. This location **CANNOT** be a network drive.



IMPORTANT

To avoid backup restoration problems, **DO NOT** rename the backup files located in the Backup Location. If necessary, copy the backup files to another location before renaming.

Important Troubleshooting Notes

Database Schema Upgrade

During installation you will be prompted to update the database schema (if a database exists). Updating the schema could take some time (20 minutes or more) depending on the speed of your computer, available RAM and the size of your database.

If your computer appears to not be responding, **do not restart** your computer. If you restart your computer, the upgrading process will need to start over.

After the Schema upgrade, SQL Server may still be working in the background. In the Chronicle Manager Communication Menu, select "Transfer from Chronicle Server". If the database upgrade operation is still in progress, you will see the error on the right. Click OK and wait for the process to complete. If the error does not show after subsequent transfer attempts, the process is complete.

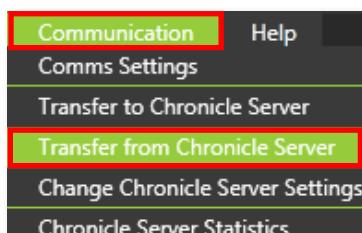


Figure 38: Communication Menu - Transfer from Chronicle Server

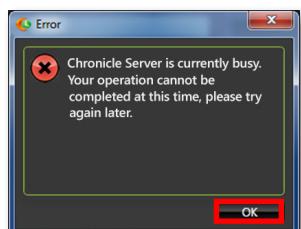


Figure 39: Server Busy Error

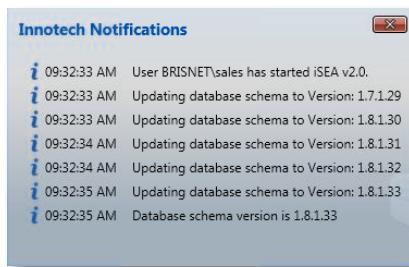


Figure 40: Database Schema Update Complete

Chronicle Installation Instructions

**IMPORTANT**

The latest version of iSEA is installed during the installation of Chronicle Manager. After the installation has completed, the iSEA Virtual Points window needs to be opened and the existing Virtual Points configuration saved by clicking OK.

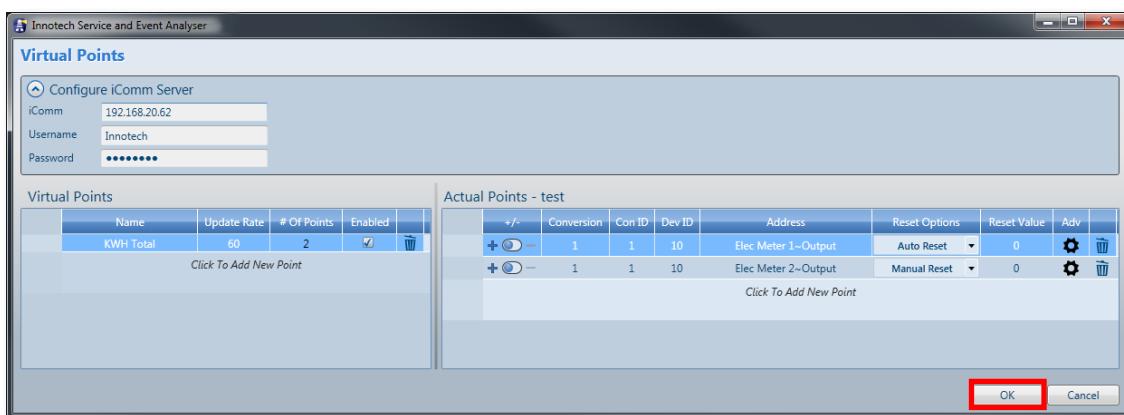


Figure 41: iSEA Virtual Points Window



It is considered good practice that post-installation all the site settings are checked.

Innotech Support

Innotech provides technical information on the Web to assist you with using its products. At www.innotech.com, you can find technical manuals, user instructions, and data sheets for all our products.

For direct product support or product information, contact your local distributor, or an Innotech representative.

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