Honeywell

Experion PKS
GUS Remote Displays User's Guide

EPDOC-XX49-en-431A
February 2015

Release 431

Honeywell

Document	Release	Issue	Date
EPDOC-XX49-en-431A	431	0	February 2015

Disclaimer

Contents

1 About This Document

This document describes how to install and configure GUS Remote Displays server and client. It also describes how to view the status of GUS Remote Displays.

Revision history

Revision	Date	Description
A	December 2013	Initial release of document.

2 References

The following list identifies all documents that may be sources of reference for material discussed in this publication.

Document Title	Doc ID
Native Window User's Guide	EPDOC-XX74-en-430A
Configuration Utility User's Guide	EPDOC-XX14-en-430A
Windows Domain and Workgroup Implementation Guide	EPDOC-X148-en-430A
Integrated Experion-TPS User's Guide	EPDOC-XX66-en-430A

3 Introduction

3.1 Overview

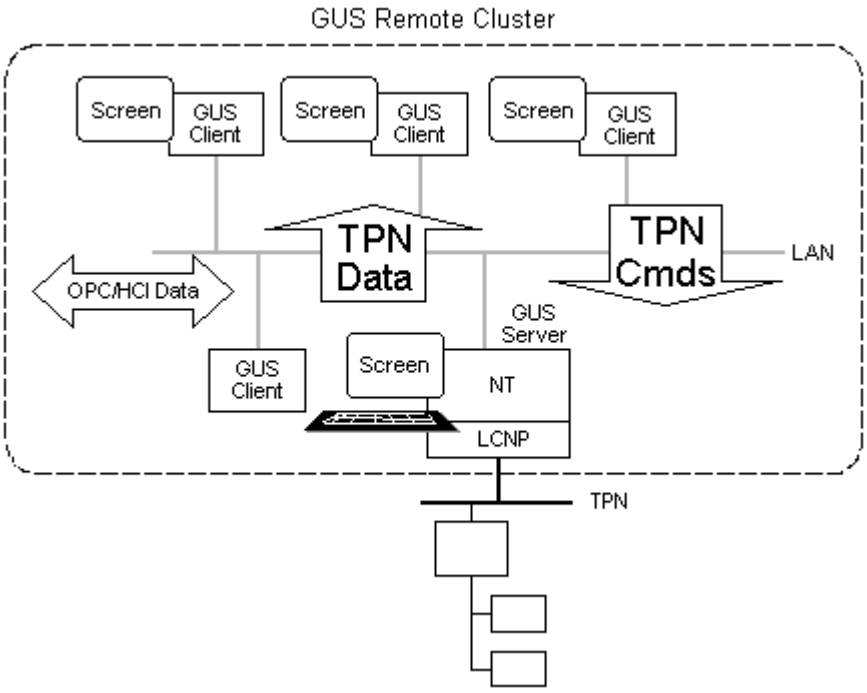
3.1.1 Terms and acronyms

Term	Definition
Experion Station - TPS	Experion Station - TPS (ES-T) is an operator node in the Experion system that has an LCNP board that is executing Universal Station (US) personality. For the purpose of this document, the node is capable of executing both GUS Server and GUS Client functions.
ES-C	Experion Console Station
ES-CE	Experion Station - Console Extension. For the purpose of this document, the ES-CE node executes the GUS Client, and the ES-T performs the function of the GUS Server.
GUS Client (GC)	A computer connected to a single GUS Server through a communication link and capable of hosting the Client components that is required to achieve Remote Displays.
GUS Faceplate	An OCX representing one “slot” of the GUS Group Display.
GUS Remote Cluster	The set of computers consisting of a single GUS Server and its associated GUS Clients. In an Experion system, this consists of a single ES-T node and its associated ES-CE nodes.
GUS Server (GS)	A computer connected to the TPN through an LCNP. The LCNP executes the Universal Personality. In TPS, a GUS Server can be connected to up to four GUS Clients. In Experion, a GUS Server can be connected to up to three GUS Remote Clients (the server node includes a client as part of the GUS display package).
IKB/OEP	Acronyms for the Integrated Keyboard (IKB) and Operator Entry Panel (OEP).
TPN Access Levels	TPN Security accommodates the following levels of access to the TPN Data Owners. These are called TPN Access levels. The levels are: • Engineer • Supervisor • Operator • View

3.1.2 General description

The Global User Station (GUS) Remote Displays package provides remote access to TPN data from up to three remote GUS clients in an Experion system, through a single GUS Server (host). The set of computers consisting of a single GUS server and its associated GUS clients is called a GUS Remote Cluster. Displays are run in the GUS clients. An Experion system must include the TPS options to support the GUS Remote Display functionality.

In an Experion system, the GUS server node supports a maximum of three remote GUS clients, and the server node includes a GUS client as part of the server functionality.



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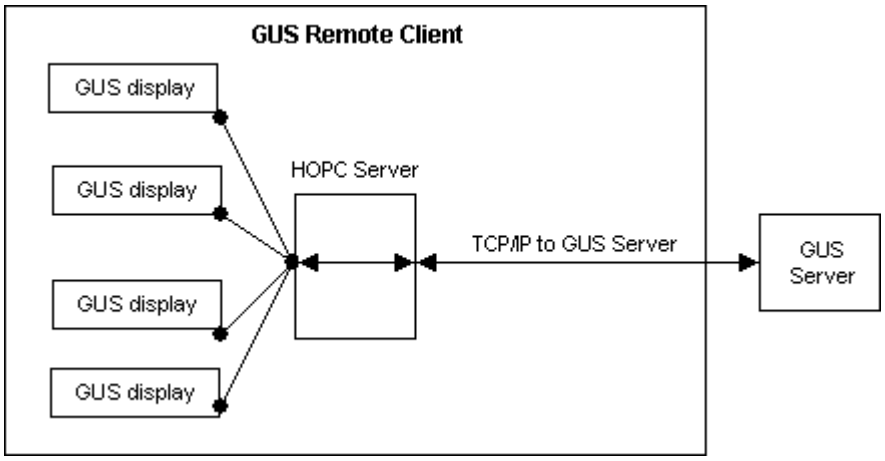
3.1.3 GUS displays

GUS display functionality for GUS Remote Clients makes it possible to run more than one GUS display at the same time. The following figure illustrates how four GUS displays on a GUS Remote Client, through the HOPC Server, can connect to a GUS server.



Attention

The Multiple Displays package is required to run more than one GUS display on a GUS Remote Client. Without this software, you will only be able to run one GUS display on each Remote Client.

3.1.4 Invoking GUS displays

There are several ways to run a GUS display.

1. You can invoke a GUS display using the RUNPIC.EXE application.
2. You can invoke a GUS display using script.
3. If you have installed the GUS Display Builder software, you can use Display Builder commands to invoke a GUS display.
4. On an Experion node, you can invoke a GUS display from the Experion Station command prompt or from HMIWeb displays.

3.1.5 Area Data Base

In an Experion system, behavior is as follows:

- The ES-T and all ES-CE computers in the cluster follow the same GUS Display Search path.
- The ES-T and all ES-CE computers in the cluster see the same TPN group definitions.
- Native Window uses the same button configuration (N/A for GUS displays on ES-CE nodes).
- The ES-T and all ES-CE computers in the cluster see the same alarm list (through Experion Alarm Summary).

3.1.6 Security

Computers in a GUS Remote Cluster operate independently with respect to the TPN security level (keylock). Changing the security at one computer *does not* change it at other computers in the same GUS Remote Cluster.

To control access to GUS Servers, during the installation and configuration procedure you should physically secure the network connecting GUS Servers to a GUS Client by using the switches and TCP/IP address filtering capabilities available in the network infrastructure. When you configure a GUS Server, you can specify which GUS Clients will be able to connect to the GUS Server by selecting the “Enable Clients” from the List radio button. Refer to “Enabling a specific Client” on page 32 section in this document.

3.2 GUS Remote Cluster Functionality

3.2.1 GUS Display and Window functionalities

The following table describes the range of GUS Display and Window functionalities for a GUS Client and a GUS Server within a GUS Remote Cluster.

Function	Description
SafeView	SafeView executes on any computer in the GRC.
GUS Displays	In a TPS system, the GUS Server supports up to four GUS Clients (one of which can be located on the GUS Server). Each GUS Client is capable of executing GUS runtime and builder displays. The Multiple GUS Displays option is available. In an Experion system, the ES-T supports up to three ES-CE nodes. The ES-T and each ES-CE node are capable of executing GUS runtime and builder displays. The Multiple GUS Displays option is available.
GUS Group Display	Each GUS Client can execute only one GUS Group Display.
Faceplate Application	Each GUS Client can support only one Faceplate Application.
GUS Faceplate OCX	Each GUS Client can support up to four GUS Faceplate OCXs.
GUS Trend OCX	Each GUS Client can support up to five GUS Trend OCXs.
Native Window Display	The Native Window can be placed on any computer in the GRC. GUS Server supports a single Native Window connection. Interactions between GUS runtime displays and Native Window are supported only on an ES-T node
(TPN) File Transfer	Available only on the GUS Server.
Integrated Keyboard (IKB) and Operator Entry Keyboard (OEP)	Generally, on the ES-T nodes, IKB/OEP can be controlled by both Experion and TPS software. On the ES-CE nodes, the IKB/OEP is under Experion control.
Emulated Bernoulli Drives	Available only on the GUS Server.
TPN Security	TPN Security level is determined locally for each GUS Client/ ES-T /ES-CE.
HCI Servers	In an Experion system, not certified to run on any computer in the GRC.

4 System Requirements

4.1 Hardware Requirements

Hardware requirements are defined by the Experion nodes.

4.1.1 Networking

A large number of commercially available network media can be utilized to connect GUS Clients to GUS servers. For remote operations, minimum 10 Base T network is required.

GUS Remote Displays do not require that the computers in GUS Remote Cluster belong to a common TPS domain. It is recommended that the TPS domain be configured, as it provides a platform for common operator security policies and data files replication mechanisms, among others.

For an Experion system, all LCN-connected Experion nodes should belong to the network domain. Experion Workstation Security packages must be installed on all nodes. Users at the ES-CE nodes should belong to the appropriate local user groups that have been defined by the Experion Workstation Security package at the host ES-T node.

GUS Remote Displays do not require that the computers in GUS Remote Cluster belong to a common Windows domain. However, in order to configure user permissions to validate the initial selection and keylock changes, the Windows users of GUS Client must be visible at the GUS Server PC. That requires that minimally one-way trust must exist between Windows domains that contain GUS Server and GUS Client PCs (the GUS Server's PC domain is trusting the domain of the GUS Client PC).

GUS Client selects GUS Server by host name or directly by IP address. If a host name is used, the DNS (Domain Name System) or Hosts file must be configured to resolve the server host name.

4.2 Software Requirements (Experion systems)

4.2.1 GUS Server (ES-T)

- Experion Station - Console
- GUS Displays Runtime
- GUS Display Builder (optional)
- GUS Multiple Displays (optional)

4.2.2 GUS Client (ES-CE)

- Experion Station - Flex
- GUS Remote Displays Client
- Experion Remote Native Window (optional)
- GUS Display Builder (optional)
- GUS Multiple Displays (optional)

Attention

Other third party software can be installed if the following are true:

- It has been qualified by Honeywell to operate with the above GUS display software.
- It accesses TPN data only through the GUS display scripting engine or HCI.

5 Installation and Configuration

5.1 Required Documentation

Windows Domain Implementation Reference

- *System Configuration Utility User's Guide*
- *Integrated Experion-TPS User's Guide*

5.2 Installing a GUS Remote Displays Server (Experion System)

5.2.1 Installing a GUS Remote Displays Server Procedure

Perform these steps to install and configure the GUS Remote Displays Client on an ES-T's GUS Remote Displays Server.

1. Insert the EXP APP media DVD in the ES-T's DVD drive and install the GUS Displays Runtime package using the licensed package installer.
2. Enable remote clients using the GUS Remote Displays server configuration page.
3. Restart the computer.

5.3 Installing a GUS Remote Displays Client (Experion System)

5.3.1 Installing a GUS Remote Displays Client Prerequisites

GUS software installs on top of the Experion Station Console Extension. Additionally, the following Common Components packages are required:

Attention

The remote user Windows account must be a member of one of the local user groups that were created by the Workstation Security package on the ES-T computer. For example, an operator who logs on the remote computer must belong to the Local Operators group on the ES-T computer. This association comes naturally if ES-T and ES-CE computers belong to the same domain, and operator accounts are members of the global groups that were created by the Experion High Security domain package.

5.3.2 Installing a GUS Remote Displays Client Procedure

1. Install the Experion Station Console Extension software.
2. Verify that the ES-T is running with remote GUS clients enabled.
3. Install GUS Remote Displays Client package using the licensed package installer.
4. Enter and select the name of the ES-T node as the current GUS Server on the GUS Remote Displays Client configuration page and enable connection to the GUS Server. See “ “Configuring a GUS Remote Displays Client” on page 27.”
5. Log off and log on (Windows login).

5.4 Troubleshooting

5.4.1 Troubleshooting GUS Remote Display problems

Perform these steps to troubleshoot problems with the GUS Remote Displays Server or GUS Remote Displays Client.

1. Follow the recommendations on the GUS Remote Displays Status display
2. Check the Windows Event Viewer log messages, considering the sources:
   - GusLxsClient (messages from the GUS Remote Displays Client)
   - GusRemoteLxs (GUS Remote Displays Server messages)
   - Buttonsvc (GUS Remote Displays Client - Button Service messages)
   - Lcnfilesvc (GUS Remote Displays Server messages)
   - Associated sources: LcnDataServer (hopcsrvr), tdcaserver (interface to lcnp).
3. Verify your network setup. In particular, check the following:

   ping *server_name* or ping *server_ipaddress* (The IP address of the GUS Server may be used when configuring Remote GUS Client.)

   netstat -a (Slowness may indicate network or domain name server failure.)

5.5 Network Load

5.5.1 Recommended actions if network is saturated

The operation of Remote GUS Displays Server and Remote GUS Displays Clients introduces a load on the computer network. The magnitude of the load depends on the number and characteristics of invoked GUS displays (such as the number of parameters and frequency of scanning).

It is recommended that you measure this additional load, and if it appears to be significant, or if the existing traffic is close to saturating the network, use switches to isolate GUS Remote Displays PCs.

5.6 Configuring a GUS Remote Displays Client

5.6.1 Getting Started

The configuration (connection) of a GUS Remote Displays Client is done using the GUS Remote Displays Client page of the standard Honeywell TPS Configuration Utility.

5.6.2 Page overview

The GUS Remote Displays Client Page:

- Allows the GUS Client to connect to a specific GUS Server, and
- Configures GUS Servers by computer host name or IP Address.

The configuration page for GUS Remote Displays Client can be viewed after the GUS Remote Displays Client package has been installed on the node.

5.6.3 Accessing the GUS Remote Displays Client Page

1 Invoke the **TPS Configuration Utility**.

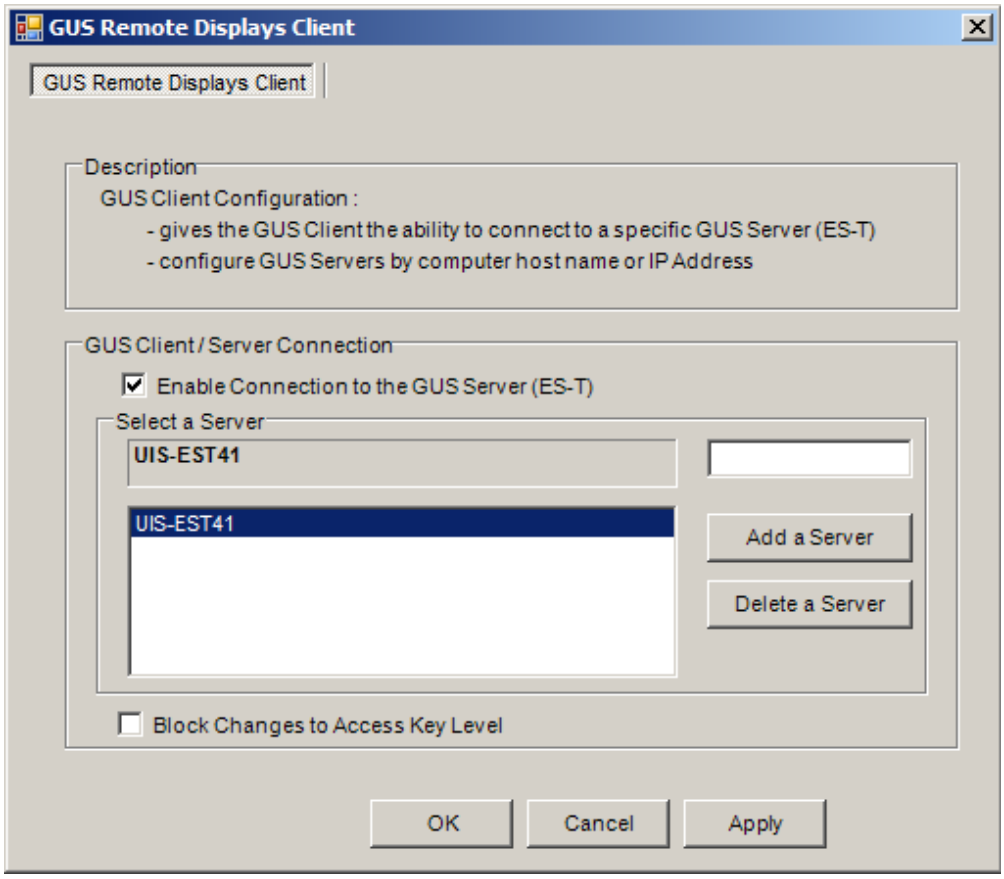
For instructions to invoke the TPS Configuration Utility, refer to the section Starting the TPS Configuration Utility in the *TPS System Configuration Utility User's Guide*. On Experion TPS nodes, the configuration utility is under. Start **Menu** > **All Programs** > **Honeywell Experion PKS** > **System Management** > **Configuration Utility**.

2 Select the following:

Configure > GUS Remote Displays Client

RESULT: The following GUS Remote Displays Client page will be displayed.

The GUS Remote Displays Client Page for Experion Systems is shown in the following figure. On the ES-T's Remote Displays Server, the local GUS Client is always enabled and connected to the local host.



5.6.4 Permission to change the client configuration

Permission to change configuration of a GUS Remote Displays Client is granted by the ACL on the following three Windows Registry keys (write access):

\HKEY_LOCAL_MACHINE\Software\Honeywell\Remote Displays

\HKEY_LOCAL_MACHINE\Software\Honeywell\Remote Displays \Configuration

\HKEY_LOCAL_MACHINE\Software\Honeywell\Remote Displays \Configuration\Host List

By default, members of the Product Administrators group can configure a GUS Remote Displays Client. Members of the Product Administrators group can assign these permissions to other users by use of the REGEDT tool, if it is required.

5.6.5 GUS Client / Server connection options

Check the **Enable Connection to the GUS Server** box to connect GUS Client components to a GUS Server. The default setting is unchecked.

If the setting is unchecked, GUS Display Builder will automatically start in the “off-line” mode. This is useful to allow editing of GUS displays while disconnected from the GUS Server.

In Experion systems, the local GUS Client is always enabled and connected to the local host.

5.6.6 Selecting a Remote GUS Server

1 Add GUS Server(s) to a list.

2 Select (highlight) GUS Server on the list.

3 Commit the change by clicking either the **OK** or **Apply** button.
Committed changes will take affect *after* the next login.

5.6.7 Adding a GUS Server to the List

Use the following procedure or the **Browse** procedure to add an available server for the client.

1 Enter the server's computer hostname or IP Address in the text box.

2 Click the **Add a Server** button. The computer hostname or IP Address will appear in the server list.

3 Commit the change by clicking either the **OK** or **Apply** button.

5.6.8 Deleting a Server from the List

Use the following procedure to delete an available server for the client.

1 Select an entry in the available server list.

2 Click the **Delete a Server** button. The computer will be deleted from the available server list.

3 Commit the change by clicking either the **OK** or **Apply** button.
Following deletion of the server, (re)select **GUS Server** for this GUS Client.

5.7 Configuring a GUS Remote Displays Server

5.7.1 How to get started

The configuration (connection) of a GUS Remote Displays Server is done using the GUS Remote Displays Server page of the standard Honeywell TPS Configuration Utility.

The GUS Remote Displays Server Page controls remote GUS Client connections to the GUS Server. The configuration page for a GUS Remote Displays Server can be viewed after the the GUS Displays Runtime package (Experion) has been installed on the server node.

5.7.2 Accessing the GUS Remote Displays Server page

1 Invoke the TPS Configuration Utility.

For instructions to invoke the TPS Configuration Utility, refer to the section Starting the TPS Configuration Utility in the *TPS System Configuration Utility User's Guide*. On Experion TPS nodes, the configuration utility is under.

2 Select the following from the Configuration Utility:

Configure > GUS Remote Displays Server

RESULT: The GUS Remote Displays Server page will be displayed.

5.7.3 Permission to change the server configuration

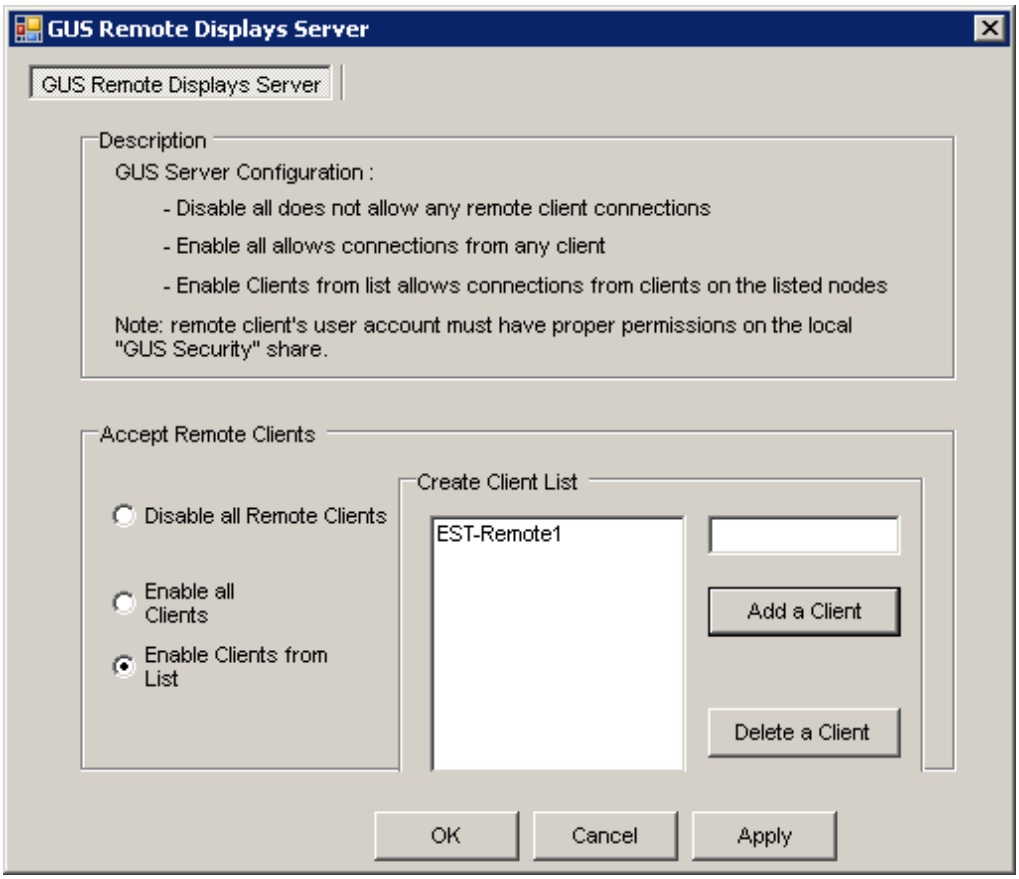
The permission to change configuration of GUS Remote Displays Server is granted by ACL on the following two Windows Registry keys (write access):

\HKEY_LOCAL_MACHINE\Software\Honeywell\Remote Displays \Configuration

\HKEY_LOCAL_MACHINE\Software\Honeywell\Remote Displays \Configuration\Client List

By default, members of the Product Administrators group can configure the GUS Remote Displays Client. Members of Product Administrators group can assign these permissions to other users by use of the REGEDT tool if it is required.

The GUS Remote Displays Server Configuration Page is shown in the following figure. This display is the same for both TPS and Experion systems.



Tip
Installation on an Experion node creates the “Gus Security” share and assigns the default access permissions to the members of the local user groups that have been created by the Workstation Security package.

5.7.4 Accept Remote Clients option group

Attention
On Experion TPS nodes, you must reboot the node if you make any changes to any options in this group.

5.7.5 Disabling All the Clients

Select the **Disable all Clients** radio button to disallow all remote GUS Clients from connecting to the GUS Server. The default setting is unchecked. In an Experion system, the ES-T node executes the standard GUS runtime if this option is selected. Commit the change by clicking the **Apply** button.

Attention
Any remote clients that were connected before the Disable All Clients option is applied will be disconnected immediately.

5.7.6 Enabling All the Clients

Select the **Enable all Clients** radio button to allow all GUS Clients to connect to the GUS Server. The default setting is checked. In an Experion system, if any remote client is enabled, the ES-T will activate remote GUS displays components. If remote GUS displays are enabled, then GUS Multiple Displays option on the ES-T

node will follow the rules of GUS remote displays clients, limiting the number of GUS display processes at this note to a maximum of five.

Changing the Accept Remote Clients selection must be followed by a reboot of the ES-T node, which is prompted after the selection of **OK** or **Apply**.

5.7.7 Enabling a specific Client

Select the **Enable Clients from List** radio button to specify which specific GUS Clients can connect to the GUS Server. The default setting is unchecked. Use the following procedure to specify GUS Clients.

Attention

- The local computer host name must be included on the list in order to accept connection from the local GUS Client.
- Any clients that have been removed from the list and were connected before the changes were applied will be disconnected immediately.

5.7.8 Adding a Client to the List

Use the following procedure or the **Browse** procedure to add a client.

1 Enter the client's computer name in the text box. (See attention below)

Attention
The GUS Client Computer IP address cannot be used.

2 Click the **Add a Client** button. The computer name will appear in the client list.

3 Commit the change by clicking either the **OK** or **Apply** button.

5.7.9 Deleting a Client from the List

Use this procedure to delete a client.

1 Select an entry in the client list.

2 Click the **Delete a Client** button. The computer will be deleted from the available server list.

3 Commit the change by clicking either the **OK** or the **Apply** button.

5.8 GPB Process Pool Size

5.8.1 GPB Process Pool Size Overview

The GPB (GUS Picture Builder) Process Pool is a dynamic list of the GPB processes that are currently running. It is used to provide efficient display call up by eliminating the need to start a new GPB process when a new display is invoked.

The Process Pool Setting, in conjunction with the SafeView screen configuration, determines the number of concurrent GUS displays that can be supported on a GUS Remote Displays Client. The number of concurrent GUS displays also depends on whether or not the Multiple Displays package is installed.

The following two tables show the relationship between the number of process pool entries and the maximum number of concurrent displays for systems with and without the Multiple Displays package installed.

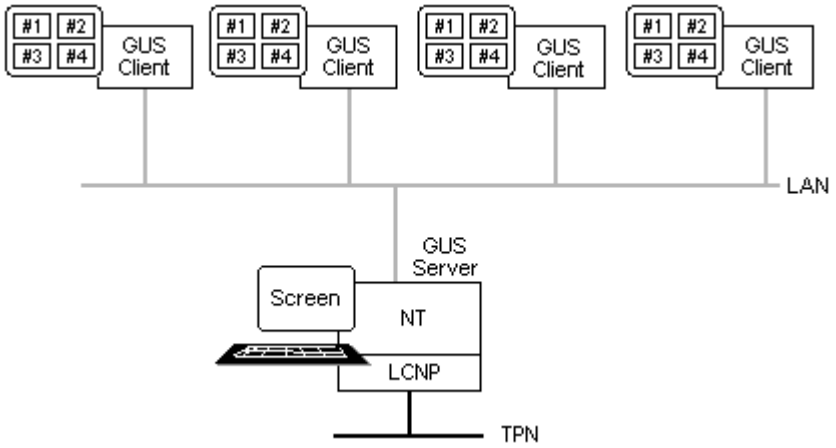
5.8.2 Systems with multiple displays

The following table shows the relationship between the number of process pool entries and the maximum number of concurrent displays for a system with the Multiple Displays package installed.

Platform	Minimum/Maximum Number of GPB Processes in the Process Pool	Default Number of GPB Processes in the Process Pool	Maximum Number of Concurrent Displays
GUS Remote Displays Client	2/5	5	4

The following figure shows four GUS remote clients (including local ES-T GUS client) with

- each client set up with five processes in the Process Pool, and
- each screen constrained by SafeView to manage four displays.



Attention

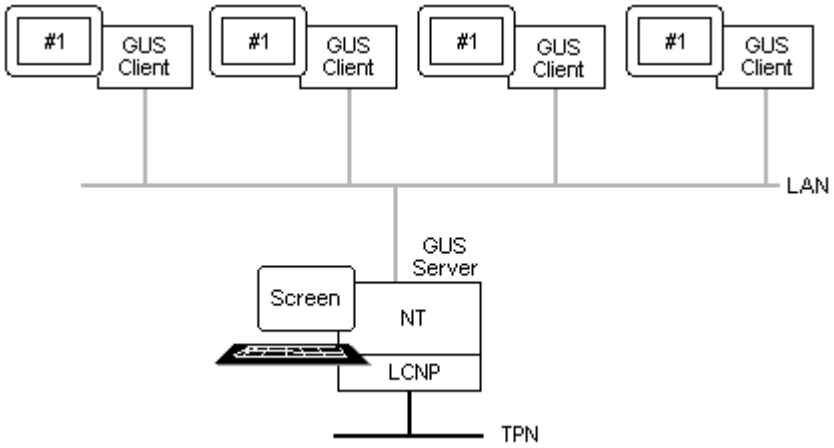
Multiple display replacement on GUS remote clients may be delayed because GPB processes are forced to disconnect from and connect to the HOPC Server.

5.8.3 Systems without multiple displays

The following table shows the relationship between the number of process pool entries and the recommended number of displays for a system without Multiple Displays.

Platform	Minimum/Maximum Number of GPB Processes in the Process Pool	Default Number of GPB Processes in the Process Pool	Number of Concurrent Displays
GUS Remote Displays Client	Not configurable	2	1

The following figure shows 4 GUS remote clients (including local ES-T GUS client) with each client set up with 2 processes in the Process Pool.



5.8.4 Configuring GUS displays for runtime

For details on the configuration procedure, refer to section Configuring GUS Displays for Runtime in the *TPS System Configuration Utility User's Guide*.

6 GUS Remote Displays Status

6.1 GUS Remote Displays Status Overview

6.1.1 Viewing current status

The current operating status of GUS Remote Displays on a GUS is displayed by the

- GUS Remote Displays Status Icon

The status of GUS Remote Displays is displayed in the GUS Remote Displays Status window, which is comprised of three different pages. Using this window, you can

- View GUS Client Status
- View GUS Server Status

GUS Remote Displays events are captured in the Windows Event Log

6.2 GUS Remote Displays Status Icon

6.2.1 How to interpret status icon

The current operating status of GUS Remote Displays on a GUS is displayed by the color of the GUS Remote Displays Status icon. This icon is located in the status tray on the right side of the Windows status bar that normally resides at the bottom of your PC screen. Three different statuses that can be delayed:

- OK
- Non-fatal Error
- Fatal Error

6.2.2 OK Status

When the GUS Remote Displays Status is OK, the icon is a steady green color.

6.2.3 Non-fatal error status

When the GUS Remote Displays Status has non-fatal errors, the color of the icon is a steady green color, with a yellow background. Usually, this status indicates trouble in button service.

6.2.4 Fatal error status

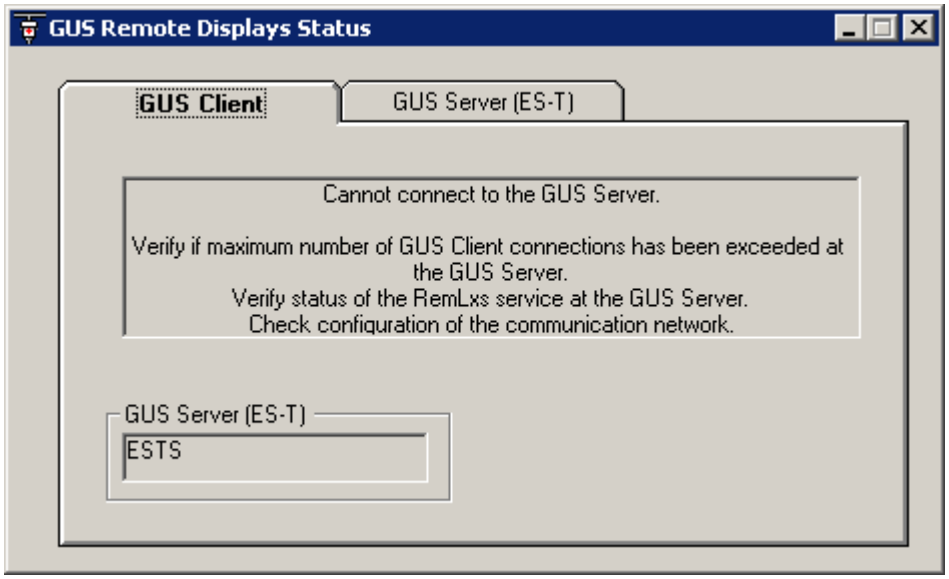
When the GUS Remote Displays Status has fatal errors, the color of the icon blinks, between a red and gray color.

6.3 View GUS Client Status

6.3.1 Procedure to view GUS Client status using GUS Remote Displays icon

1 Left-click the GUS Remote Displays Status icon .
The GUS Remote Displays Status window appears.

2 Click the GUS Client tab. The GUS Client page is displayed.



6.3.2 GUS Clinet Status messages

The two types of GUS Client status messages are configuration and run-time or connection messages. Each message explains the status of the GUS Client and tells you what to do to try and solve any existing problem.

Example - GUS Client configuration message:

GUS Client is disabled and cannot connect to the remote server. Run the TPS configuration program to enable the GUS Client.

Example - GUS Client run-time message:

GUS Client is connected to the GUS Server but the Native Window needs to be loaded.

6.4 View GUS Server Status

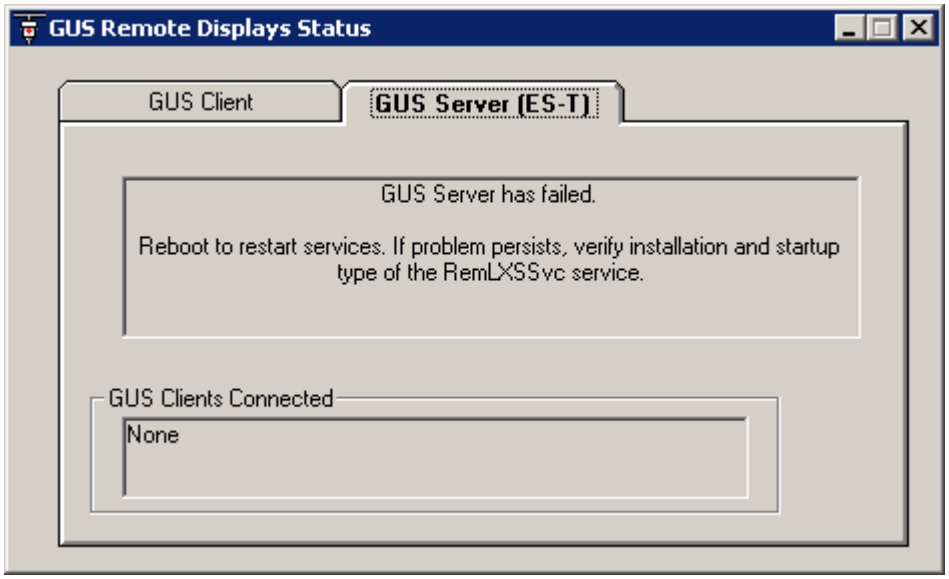
Prerequisites

The GUS Server page shown below can only be displayed on a GUS that has the GUS Remote Displays Server installed.

6.4.1 Procedure to view GUS Server status using GUS Remote Displays icon

1 Left-click the GUS Remote Displays Status icon .
The GUS Remote Displays Status window appears.

2 Click the **GUS Server** tab. The GUS Server page is displayed.



6.4.2 GUS Server Status Messages

A number of different status messages can be displayed. Each message explains the status of the GUS Server and lists the clients that are currently connected to that server.

An example of a GUS Server status message is as follows: GUS Server is running.

6.5 Windows Event Log

6.5.1 Viewing GUS Remote Displays Client initialization and connection failures

GUS Remote Display initialization and connection events are recorded in the Windows Event Log. Some typical entries include the following:

- GUS Remote Displays. Client initialization has failed because of configuration error on the client. Error value is
- GUS Remote Displays. Client connected to GUS Server serverhostname.
- GUS Remote Displays. Client lost connection to the GUS Server *serverhostname*.

7 GUS Display Functions

7.1 GUS Display Functions Overview

7.1.1 How status of GUS Display Functions is displayed

There are three ways that Display functions can work when they are executed from a GUS within a GUS Remote Cluster:

- Functions that work normally
- Functions that work but require additional actions.
- Functions that are not available

7.2 Functions That Work Normally

7.2.1 Description - Functions That Work Normally

Most of the GUS Display functions that can be initiated from a GUS Client in a GUS Remote Cluster work normally, the same as they do when they are initiated from a GUS node. Examples of some of these functions are as follows:

7.2.2 List of Functions

- Executing a left button click on an object scripted with the OnLButtonClick subroutine
- Clicking the SP button on a GUS Faceplate
- Building a new GUS Display (Remote Engineering)
- Calling up another GUS Display
- Calling up a GUS Group Display
- Changing a Parameter Value
- Calling up a GUS Faceplate
- Changing a Parameter Value using a GUS Faceplate

Tip
This is not a complete list of all the functions that operate identically.

7.3 Functions That Work, But Require Additional Actions

7.3.1 Procedure to invoke a Native Window from a GUS Client

Prerequisites

- GUS Server name has been configured.
- Native Window Client has been installed at the GUS Client.
- GUS Server Native Window has been configured to accept remote connections.

Invoke a Native Window from a GUS Client Procedure

1. Select the Start button and then select **Programs** > **Honeywell TPS** > **Native Window**. The Native Window is displayed.
2. Proceed as follows if the standard Native Window error message is displayed due to the Native Window already being displayed on a GUS Client connected to this GUS Server:
3. Determine which GUS Client is currently displaying the Native Window and ask the operator at that GUS to close the Native Window.
4. Repeat step 1 above to invoke the Native Window.

Procedure to perform an Area Change

1. Notify all the operators currently working on the GUS Clients in the GUS Remote Cluster (by a telephone call for example) to close all their GUS Displays in preparation for an Area Change.
2. Perform the Area Change. A new GUS Picture search path and new key definitions are sent to all the GUS Clients in the GUS Remote Cluster.
3. Notify all the operators who were working on the GUS Clients in the GUS Remote Cluster that the Area Change has been completed and they can now resume operations.

Attention
When a GUS Client connects to the GUS Server, the area definitions are sent automatically to the GUS Client.

7.4 Functions That Are Not Available

7.4.1 Functions That Are Not Available Overview

There are also a number of GUS Display functions that do not work when they are executed from a GUS within a GUS Remote Cluster. These functions are as follows:

- Invoking a Native Window Schematic from a GUS Display
- Invoking a GUS Display from a Native Window
- Invoking a Cross-screen Display
- PMK Raise/Lower

Attention
All of these functions work on ES-T nodes, even if hosting remote GUS clients.

7.4.2 Invoking a Native Window schematic from a GUS Display

An object in a GUS Display can be scripted to invoke a Native Window schematic through either the InvokeDisplay statement or an Actor. If you execute this script (by clicking the object, for example), the schematic will not appear. Instead, the error dialog defined in the script error handler will be displayed.

7.4.3 Invoking a GUS Display from a Native Window

If you select the SCHEM key in a running Native Window and enter the name of a valid GUS Display, the display will not appear. Instead, the standard “Schematic Not Found” error message will be displayed.

7.4.4 Invoking a Cross-screen Display

An object in a GUS Display can be scripted to invoke a cross-screen display using a TDC actor. If you execute this script (by clicking the object, for example), the function will not be executed and a script error handler will be displayed.

7.4.5 PMK Raise/Lower Functions

The Raise/Lower and Fast Raise/Fast Lower functions that are normally available through the PMK scripting object are *not* available on GUS Remote Displays. If you execute this function, a script error handler will be displayed.

8 Recovering From Hardware Problems

8.1 Hardware Failures

There are four types of hardware failures that can occur:

- GUS Server failure
- GUS Client failure
- Communications link failure
- GUS Server component failure

8.2 Possible Failure Scenarios

8.2.1 GUS Server or Communications Link failure - Initial Conditions

- GUS Server running
- GUS Client(s) running
- GUS Display(s) running on the GUS Client
- Native Window running on the GUS Client

8.2.2 GUS Server or Communications Link failure - Failure Indication

	Failure Indication
1	GUS Server (or Communications Link) fails.
2	The communication software detects the failure and causes the GUS Remote Status icon to turn red and begin blinking, indicating a fatal error.
3	The GUS Display runtime software detects the failure and returns a “Communication Error” to all scripts.
4	The process values on the GUS Display are replaced by the appropriate error indications (for example, a process value is replaced by a “???”).
5	The GUS Faceplate, Alarm, and Message OCXs detect the failure and display the appropriate error indications (for example, a process value is replaced by a large, red “X”).

8.2.3 GUS Server or Communications Link Failure - Recommended Action

1. Double-click Right-click the GUS Remote Displays Status icon.
   The GUS Remote Displays Status window appears.
2. Review the failure information displayed and take appropriate action.
3. Restart the failed GUS Server by executing the following steps, if required:
   a. Restart the GUS Server by rebooting the GUS station using the standard procedure.
      At the GUS Server, the GUS Remote Displays Status window appears, with the GUS Server page displaying a message asking you to load the Native Window.
   b. At the GUS Server (or from any PC using the Remote Native Window), invoke the Native Window.
   c. At the GUS Server, (or from any PC using the Remote Native Window), load the LCNP personality.
4. Restart each GUS Client in the GUS Remote Cluster by executing the following steps:
   a. Log off.
   b. Log back on
5. Reload and rerun the GUS Displays on each GUS Client in the GUS Remote Cluster.

8.2.4 GUS Server Component Failure - Initial Conditions

- GUS Server running
- GUS Client running
- GUS Display(s) running on the GUS Client
- Native Window running on the GUS Client

8.2.5 GUS Server Component failure - Recommended Action

1. Right-click the **GUS Remote Displays Status** icon.
   RESULT: The GUS Remote Displays Status window appears.
2. Review the failure information displayed and take appropriate action.
3. If the GUS Server has failed, restart it by executing the following steps:
   a. Restart the GUS Server by rebooting the GUS station using the standard procedure.
      At the GUS Server, the GUS Remote Displays Status Window appears, with the GUS Server page displaying a message asking you to load the Native Window.
   b. At the GUS Server (or from any PC using the Remote Native Window), invoke the Native Window.
   c. At the GUS Server, (or from any PC using the Remote Native Window), load the LCNP personality.
4. If a GUS Server has failed, execute the following steps on each GUS Client:
   a. Log off.
   b. Log back on
   c. Rerun the GUS Displays

8.2.6 GUS Client Failure - Initial Conditions

- GUS Server running
- GUS Client running
- GUS Display(s) running on the GUS Client.

8.2.7 GUS Client Failure - Failure Indication

	Failure Indication
1	GUS Client fails

8.2.8 GUS Client failure - Recommended Action

1. Restart the failed GUS Client by executing the following steps:
   a. Log off.
   b. Log back on
2. Rerun the GUS Displays.

9 Notices

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9.1 Documentation feedback

You can find the most up-to-date documents on the Honeywell Process Solutions support website at:

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If you have comments about Honeywell Process Solutions documentation, send your feedback to:

hpsdocs@honeywell.com

Use this email address to provide feedback, or to report errors and omissions in the documentation. For immediate help with a technical problem, contact your local Honeywell Process Solutions Customer Contact Center (CCC) or Honeywell Technical Assistance Center (TAC) listed in the “Support and other contacts” section of this document.

9.2 How to report a security vulnerability

For the purpose of submission, a security vulnerability is defined as a software defect or weakness that can be exploited to reduce the operational or security capabilities of the software.

Honeywell investigates all reports of security vulnerabilities affecting Honeywell products and services.

To report a potential security vulnerability against any Honeywell product, please follow the instructions at:

https://honeywell.com/pages/vulnerabilityreporting.aspx

Submit the requested information to Honeywell using one of the following methods:

- Send an email to security@honeywell.com.

  or

- Contact your local Honeywell Process Solutions Customer Contact Center (CCC) or Honeywell Technical Assistance Center (TAC) listed in the “Support and other contacts” section of this document.

9.3 Support

For support, contact your local Honeywell Process Solutions Customer Contact Center (CCC). To find your local CCC visit the website, https://www.honeywellprocess.com/en-US/contact-us/customer-support-contacts/Pages/default.aspx.

9.4 Training classes

Honeywell holds technical training classes on Experion PKS. These classes are taught by experts in the field of process control systems. For more information about these classes, contact your Honeywell representative, or see http://www.automationcollege.com.