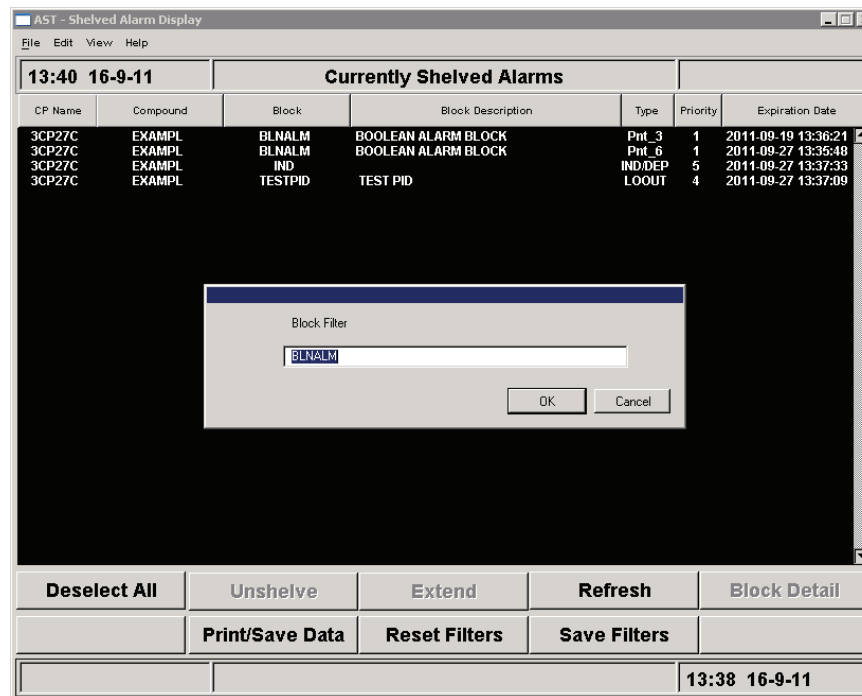


Alarm Shelving Tool Software



Alarm Shelving Tool software permits the shelving (inhibiting) of I/A Series alarms for a fixed period of time.

OVERVIEW

The Alarm Shelving Tool (AST) product permits the operator to select an alarm from the alarming applications (I/A Series® Current Alarm Display (CAD) or the Foxboro Control Software (FCS) InTouch Application's Alarm Panel) and request that it be shelved (inhibited) for a fixed period of time after which normal operation is restored. Alarm shelving information is maintained in a special collection of I/A Series control blocks called an Alarm Shelf.

AST supports role and rule base access to its functionality.

PRODUCT FEATURES

The Alarm Shelving Tool product is based on a client/server architecture and supports the concept of an AST domain. An AST domain is a concept used to associate control stations and workstations with a single instance of the AST Configurator.

The Alarm Shelving Tool product consists of configuration tools, displays, and Alarm Shelves which facilitate real time alarm shelving.

AST Configurator

The AST Engineer role can use the AST Configurator to configure and deploy the AST domain, as shown in Figure 1.

The AST domain configuration includes identifying those control stations for which alarms can be shelved, as well as rules for alarm shelving based on AST roles.

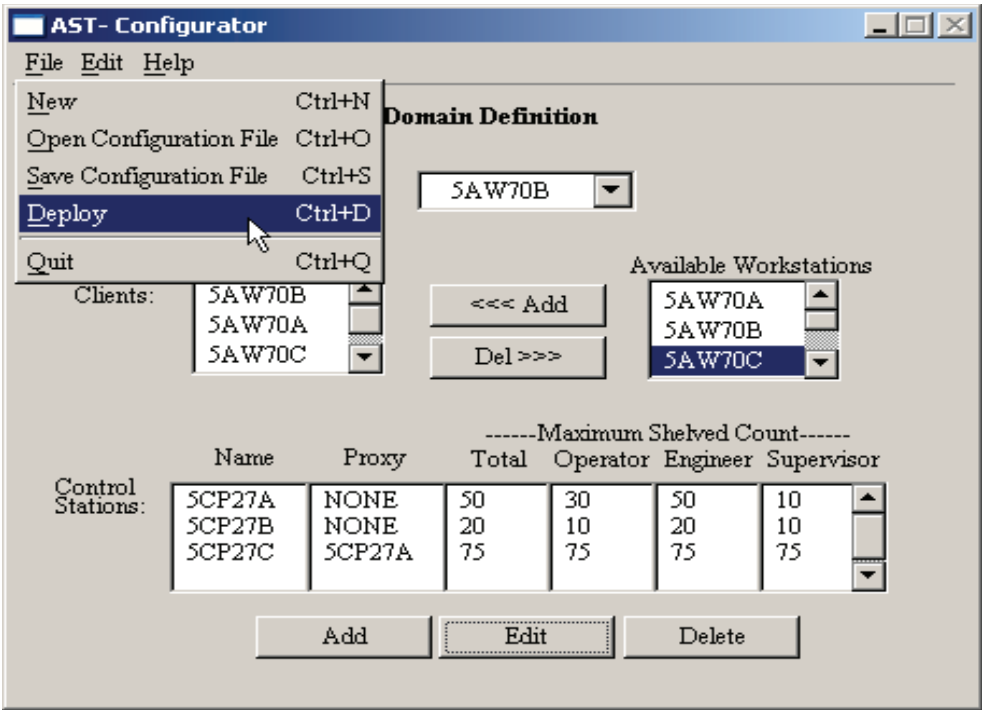


Figure 1. AST Configurator

Control Station Add/Edit

The Control Station Add/Edit dialog box (shown in Figure 2) defines the total number of alarms that can

be shelved per control station and defines the number of alarms that can be shelved per AST role.

The screenshot shows a Windows-style dialog box titled "Alarm Shelving Tool - Control Station Add/Edit". It has a "File" menu on the left. The main area contains the following fields and controls:

- Control Station:** A dropdown menu with "3CP27C" selected.
- Proxy:** A dropdown menu with "NONE" selected.
- Galaxy Information (if required):** A bordered box containing three input fields:
 - Galaxy Node:** "3AW70C"
 - Galaxy Name:** "APPGAL"
 - User Name:** "mparks"
- Total Shelved Alarm Count for Control Station:** An input field with the value "7".
- Maximum Shelved Alarms for Operator Role:** An input field with the value "7".
- Maximum Shelved Alarms for Engineer Role:** An input field with the value "7".
- Maximum Shelved Alarms for Supervisor Role:** An input field with the value "7".
- Buttons:** "OK" and "Cancel" buttons at the bottom right.

Figure 2. Control Station Add/Edit

Role Definitions

AST Roles (Operator, Supervisor, and Engineer) are defined from the Role Definition window, as shown in Figure 3.

For each AST Role the following information is defined:

- ▶ Access level assignment
- ▶ The maximum time an alarm can be shelved
- ▶ The default time an alarm can be shelved
- ▶ The highest alarm priority allowed to be shelved.

AST-Configurator

File Edit Help

Role Definition

Role Name: OPERATOR

Associated I/A Access Level: 10

Maximum Shelf Time : 12 Hours

Default Shelf Time: 0 Hours

Highest Priority Alarm Allowed to be Shelved: 1

Figure 3. Role Definitions

Shelving Rule Definitions

Shelving rules are used along with AST Roles to determine if a shelving request should be honored. There are two rule sets: Inclusion Rules and Exclusion Rules. There are separate rule sets for each AST Role (Operator, Supervisor, and Engineer).

Exclusion Rules

AST Exclusion Rules, as shown in Figure 4, determine if a combination of Compound:Block and Alarm type may not be shelved.

CP Name	Compound	Block Type	Alarm Type
SCP27B	SHELVE5CP27B:*	*	*
SCP27B	EXAMPL:TESTAIN	AIN	*

Figure 4. Exclusion Rules

Inclusion Rules

AST Inclusion Rules, as shown in Figure 5, determine if a combination of Compound:Block and Alarm type may be shelved.

AST- Configurator

File Edit Help

Inclusion Rule Definition

Role Name: OPERATOR

CP Name	Compound:Block	Block Type	Alarm Type
*	***	*	*

Add Edit Delete Load from File

Figure 5. Inclusion Rules

The Alarm Shelf consists of:

Permission to shelf is granted based on the AST role and the rules and limits configured for that role. Information related to the shelving request is then stored in the selected alarm's corresponding Alarm Shelf.

Figure 6. Single Shelving Alarm Window - CAD

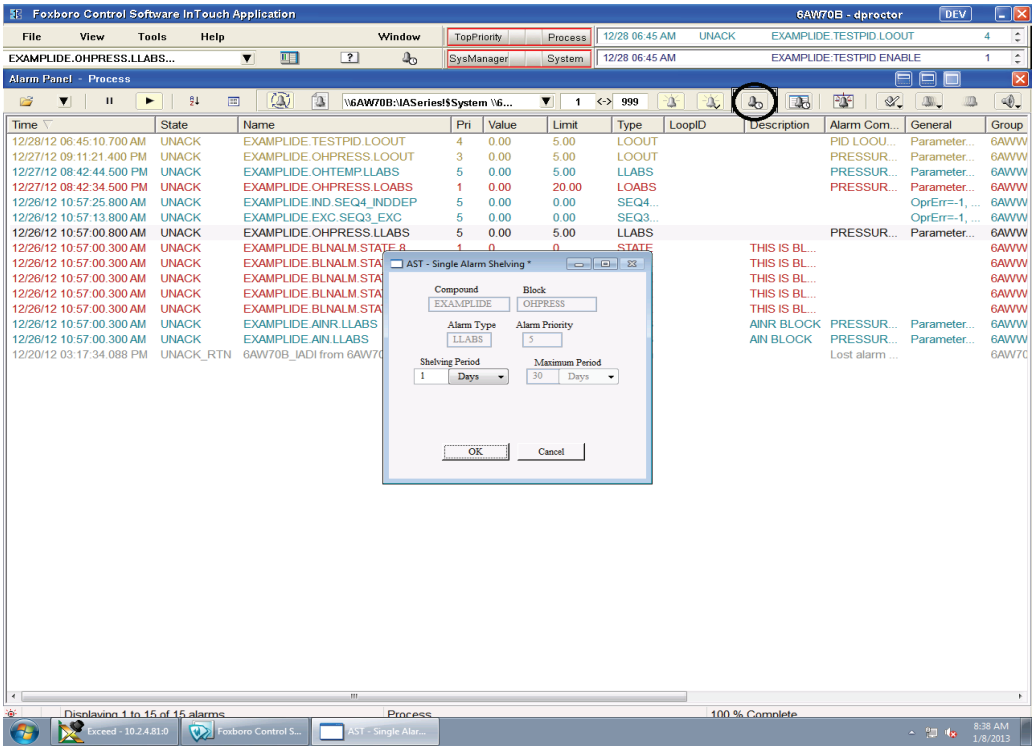


Figure 7. Single Shelving Alarm Window - FCS InTouch Application

Running a Custom Script

It is possible to customize the Single Alarm Shelving window to run a custom script rather than shelving the alarm selected, as shown in Figure 8.

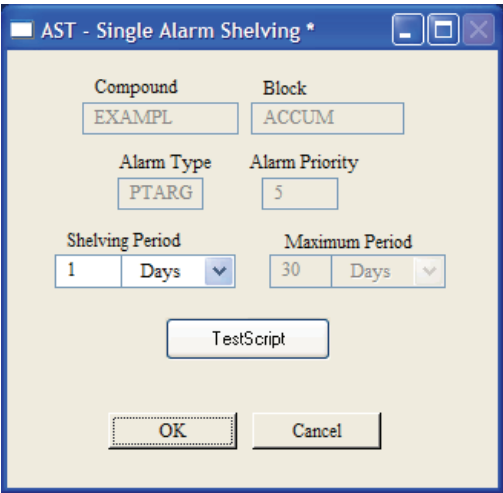


Figure 8. Alarm Shelving with Custom Script

AIM*Historian Logging

The Alarm Shelving Tool product includes an optional feature to request and record User ID and Reason that an alarm is shelved or unshelved to the message Historian.

When logging is enabled the AIMLogging dialog box appears during Single Alarm Shelving, Block Alarm Shelving, and when extending or unshelving an alarm from the Shelved Alarm Display, as shown in Figure 9.

The AIM*Historian Logging feature has the following options for enhanced customization:

- ▶ Force the entry of the User ID and Reason fields from the AIMLogging dialog box
- ▶ Create predefined User IDs to be selected from the AIMLogging dialog box
- ▶ Create predefined reasons to be selected from the AIMLogging dialog box.

When AIMLogging is enabled it also forces User ID and Reason information to be provided during command-line shelving/unshelving operations.

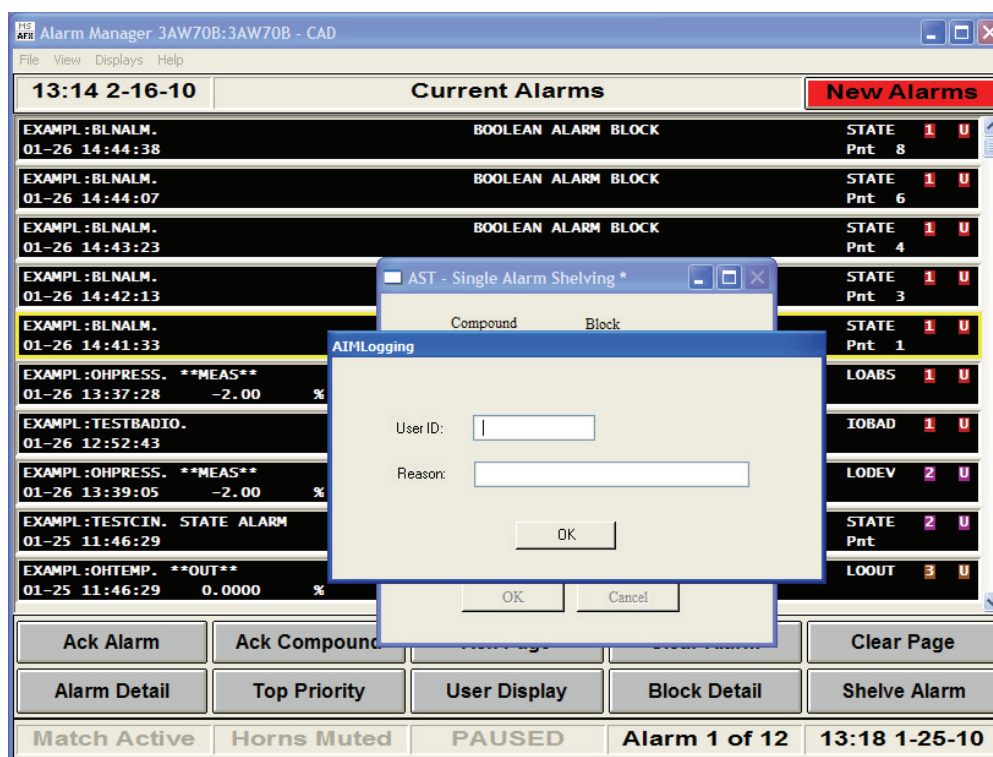


Figure 9. AIM* Logging Pop-up Box

The login messages sent are standard I/A Series OAJ messages and can be handled by both the AIM*Historian and FCS InTouch Alarm Logger. Additionally, it is possible to display the optional information for those alarms that are currently shelved, at the Shelved Alarm Display. Hovering over the gray buttons to the left of a shelved alarm (as shown in Figure 10) will display who shelved the alarm and the reason why the alarm was shelved.

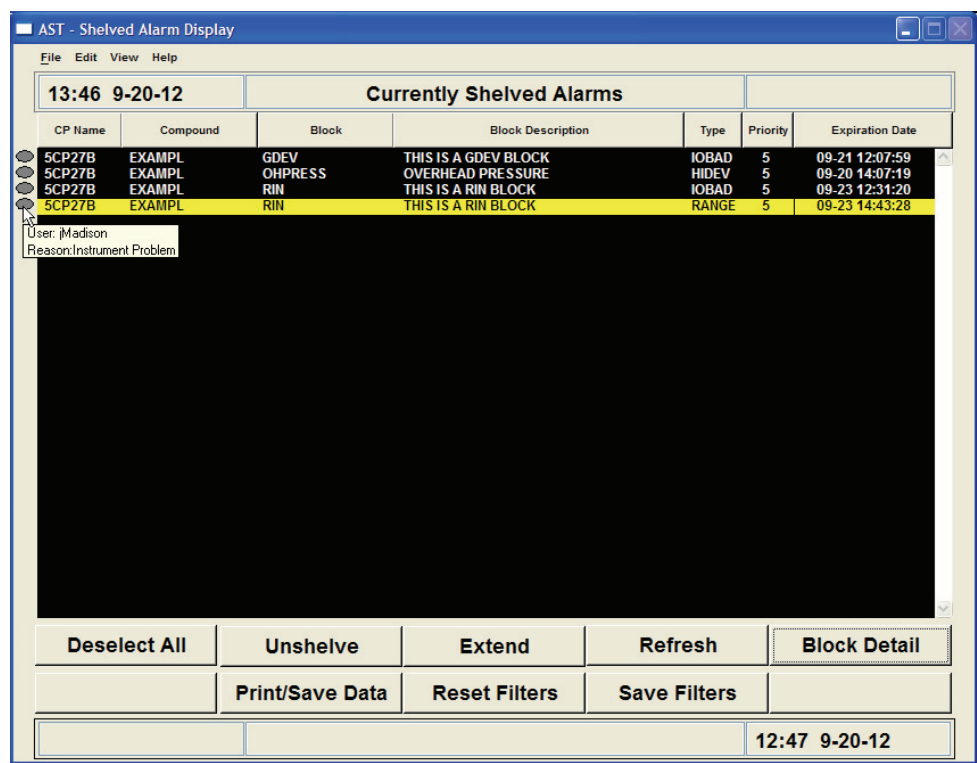


Figure 10. Currently Shelved Alarms Display with Logging Information

Block Alarm Shelving

Shelving or unshelving of current or anticipated alarms can be initiated from I/A Series process graphics or from the FCS InTouch Application. The default Block Shelving display is shown in Figure 11.

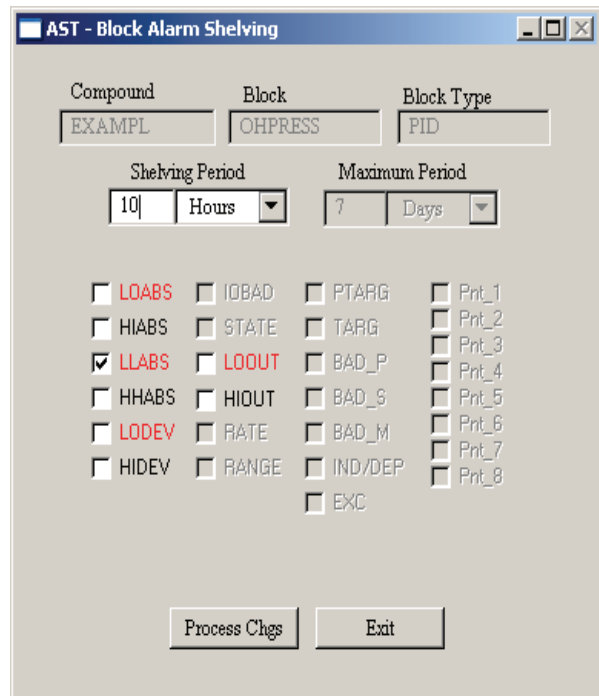


Figure 11. Block Alarm Shelving

The Block Alarm Shelving display can be configured to run a custom script as shown in Figure 12.

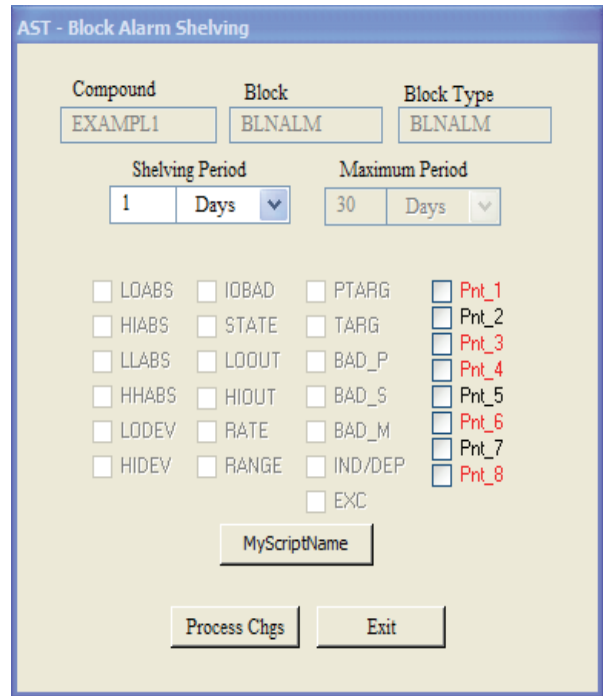


Figure 12. Block Alarm Shelving with Custom Script Option

Tag Search Shelving

The Tag Search Shelving feature, shown in Figure 13, allows the ability to search among all compound:blocks on the I/A Series control network for potential shelving/unshelving targets, without regard to their CP host.

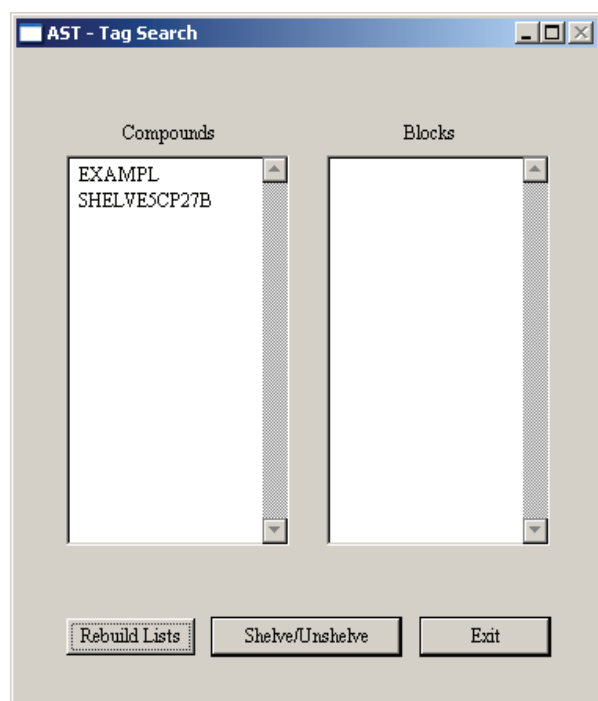


Figure 13. Tag Search Shelving

Shelved Alarm Printing

From the Currently Shelved Alarm Display the alarm shelving information currently visible can be printed or saved to a file.

The alarm information found on this display can be filtered by selecting any of the data column headers (CP Name, Compound, Block, Alarm Type, Alarm Priority, and Expiration Date).



Figure 14. Currently Shelved Alarm Display

Summary Statistics Display

Available from any AST Client workstation, the Summary Statistics Display, shown in Figure 15, provides a view of the current count of shelved alarm

and the configured limits per control station and AST Role configuration.

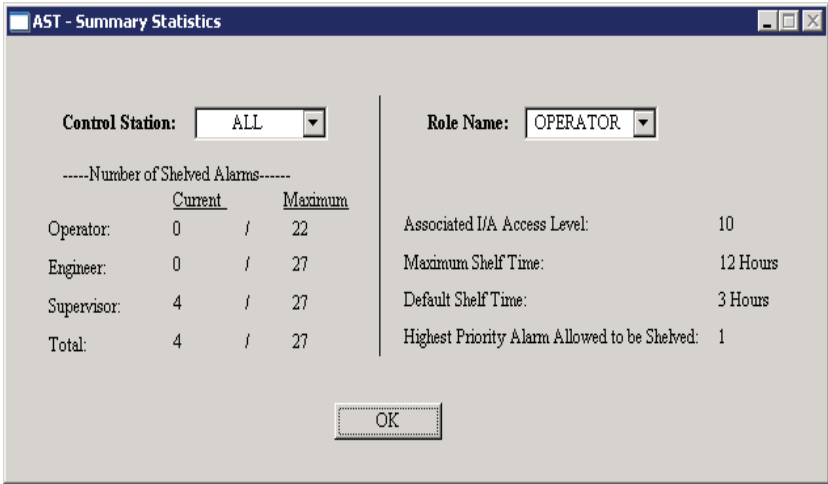


Figure 15. Summary Statistics Display

Command Line Shelving/Unshelving

AST provides the ability to shelve current or anticipated alarms from an AST Client workstation by running a command line shelving script.

It is also possible to unshelve current shelved alarms from an AST Client workstation by running a command line unshelving script.

REQUIREMENTS

- ▶ A control station that supports block types required for the Alarm Shelf and that has enough space to hold the Alarm Shelf.
- ▶ The following I/A Series software versions are supported.
 - v8.2 - v8.4.x Standard
 - v8.5 -v8.8 Standard
 - v8.5 - v8.8 Security Enhanced with default domain group policies.
- ▶ Foxboro Control Software v4.0.2 or greater is needed to support FCS InTouch Application alarm shelving.

NOTE

When using security enhanced I/A Series software please be aware that changing the Invensys provided default domain group policies or improperly using McAfee® ePolicy Orchestrator (ePO) firewall can adversely affect the proper operation of the Alarm Shelving Tool. Modifying Active Directory Group Policies is considered an advanced action and should only be undertaken by qualified personnel. Use of any firewall, including the Invensys authorized McAfee ePO firewall could also adversely affect the functionality of the Alarm Shelving Tool if not configured properly. Care should be taken to closely follow instructions provided by the following documents: *Security Enhancements User's Guide for I/A Series Workstations (Windows 7 or Windows Server 2008 Operating Systems)*, *Security Enhancements User's Guide (B0700DX)* and *McAfee ePolicy Orchestrator 4.0, Host Intrusion Prevention 7.0, and Device Control 2.2 (Installation and Configuration Guide for I/A Series Systems) (B0700EB)*.

LIMITATIONS

- ▶ AST does not support I/A Series bridge nodes.
- ▶ Each AST Domain must be comprised of I/A Series workstations and servers that have the same level of security.

ORDERING INFORMATION

The Alarm Shelving Tool (AST) is sold based on the number of control stations. A control station is a station that runs I/A Series control blocks. For existing systems and/or plants, simply count the number of lines in the /etc/cplns file on each CSA host.

- ▶ Q0303AB - AST Config. 1, 5 CSs
- ▶ Q0303AC - AST Config. 2, 15 CSs
- ▶ Q0303AD - AST Config. 3, 25 CSs
- ▶ Q0303AL - AST Config. 4, 50 CSs
- ▶ Q0303AM - AST Config. 5, 100 CSs
- ▶ Q0303AN - AST Config. 6, 150 CSs
- ▶ Q0303AP - AST Config. 7, 200 CSs
- ▶ Q0303BA - Upgrade AST Config. 1, 5 CSs
- ▶ Q0303BB - Upgrade AST Config. 2, 15 CSs
- ▶ Q0303BC - Upgrade AST Config. 3, 25 CSs
- ▶ Q0303BD - Upgrade AST Config. 4, 50 CSs
- ▶ Q0303BE - Upgrade AST Config. 5, 100 CSs
- ▶ Q0303BF - Upgrade AST Config. 6, 150 CSs
- ▶ Q0303BG - Upgrade AST Config. 7, 200 CSs

