

# Mark\* VleS Functional Safety System Release Notes

July 2019



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## Document Updates

Revision	Location	Update
D	<a href="#">ControlST V07.05.00C</a>	Released ControlST V07.05.00C
C	<a href="#">ControlST V07.04.00C</a>	Released ControlST V07.04.00C
B	<a href="#">ControlST V07.03.01C</a>	Maintenance release driven by security updates
A	<a href="#">ControlST V07.03.00C</a>	Released ControlST V07.03.00C

## Related Documents

Document Title	Document #
ToolboxST User Guide for Mark VIeS Functional Safety Systems	GEH-6862
Mark VIeS Functional Safety Systems for General Market Volume I System Guide	GEH-6855_Vol_I
Mark VIeS Functional Safety Systems for General Market Volume II System Guide for General-purpose Applications	GEH-6855_Vol_II
Mark VIeS Control General Market Functional Safety Manual	GEH-6860
Mark VIeS Functional Safety System Equipment in Hazardous Locations (HazLoc) Instruction Guide	GEH-6861
Mark VIeS Functional Safety System Probability of Failure on Demand and Risk Reduction Factor (PFD-RRF) Calculation User Guide	GEH-6854
Sequential Function Chart Application Guide	GEH-6741
PI-based Historian with ControlST Software Suite System Guide	GEH-6744
Proficy-based Historian with ControlST Software Suite System Guide	GEH-6745
Mark VIe and Mark VIeS Virtual Controllers User Guide	GEH-6742
Mark Controllers Shared IONet User Guide	GEH-6812
Mark VIe Controller DCS Block Library	GEI-100679
Mark VIe Controller Standard Block Library	GEI-100682
Mark VIeS Safety Controller Block Library	GEI-100691
ControlST Software Suite Installation and Upgrade Instruction Guide	GEI-100694
Certificate Store Manager Application Guide	GEI-100724
Resource Translation Manager User Guide	GEI-100793
Trender Instruction Guide	GEI-100795
Mark VIe and Mark VIeS Power Distribution Modules (PDM) for Safety Systems Application Guide	GEI-100861

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# Notes

# 1 *Introduction*

The Mark VIeS Functional Safety System contains a set of hardware and software components intended for use in the general market. This software release contains a subset of the ControlST\* Software Suite products that are needed to support general market safety applications.

ControlST is an integrated suite of Windows®-based tools and component firmware for the Mark\* Controls products. The applications span a wide variety of control and safety equipment. The suite is constantly evolving to improve customer experience, network security, expand features, and keep pace with advancements in technology. Refer to [Related Documents](#) for a list of product related documentation.

The following table lists the software components supplied with the Mark VIeS Functional Safety System.

**ControlST Software Components**

Package	Group	Component	Description
Mark VIeS Functional Safety Tools Package		ToolboxST	Application/System configuration tool
		Mark VIeS	Safety control system
		Mark VIeS Virtual Controller	Simulates Mark VIeS control system responses in a software environment
	Mark VIe	Mark VIe	Gateway controller
	Distributed I/O Packs	PPDA	Power distribution system diagnostics
		PSCA	Serial Modbus communication
	Distributed Safety I/O Packs	YAIC	Analog I/O
		YDIA	Discrete contact input
		YDOA	Relay output
		YVIB	Vibration input monitor
YUAA		Universal analog	
GE CMS-SVN Server		CMS Server	Configuration Management System server
Mark VIeS Functional Safety Support Package	Support	ResourceTranslationManager	Provides the ability to display specific applications in selected non-English languages
		Versions	Provides the ability to display installed ControlST component versions
		ControlST Documentation	Provides the ability to locate and view ControlST documentation
		CertificateStoreManager	Provides the ability to manage X509 certificates for use in the ToolboxST application when configuring a secure system
GE Historian Reports		GE Historian Reports	Provides the ability to generate and view configured reports based on historical data
GE WorkstationST <sup>®</sup> Package		WorkstationST Features	Provides an interface for downloading the ToolboxST configuration to a workstation, and ensures that configured WorkstationST <sup>®</sup> features start and stop accordingly. Workstation features include: <ul style="list-style-type: none"> <li>Alarms (Alarm Server, OPC AE Server, Alarm Viewer)</li> <li>Live values (OPC DA Server, OPC UA Server, Modbus<sup>®</sup>)</li> <li>Historians (Recorder, Historian)</li> <li>Time synchronization (Network Time Protocol, NTP)</li> <li>Network Status Monitor</li> <li>HMI configuration</li> </ul>
		WorkstationST Alarm Viewer	Displays and manages live and historical alarm and event information from a computer configured with the WorkstationST application and running the Alarm Server feature
		Trender	Provides the ability to capture and display trend graphs of variables using live or historical data



# 2 V07.05 Release Notes

## 2.1 V07.05 Known Issues

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**Note** Refer to the *ControlST Software Suite Upgrade Instruction Guide (GEI-100694)*, *Appendix B, Known Issues* for additional information when upgrading from previous versions of ControlST to this version.

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### ToolboxST\*

- The ToolboxST application does not prevent the creation of user block definitions with duplicate names. However, this block creation practice is strongly discouraged because in rare cases it causes unpredictable behavior (particularly if the blocks have different content). With ControlST V06.02.00C, the ToolboxST generates warnings when user blocks with duplicate names are encountered to encourage the use of a new feature: Block Library Reference. This feature enables the libraries to reference other libraries. Using Block Library References is the recommended alternative for such use cases.
- Using the Configuration Management System (CMS) requires network connectivity between ToolboxST and the CMS server. The Windows® Firewall will block this connectivity. The default behavior of the Windows Firewall is to notify the user when an application requires access. When the initial attempt after installation is made to connect to the CMS server, the user will be prompted by Windows to allow firewall public and private access by ToolboxST, which allows connectivity to the CMS server.

### ControlST Support for Windows Server 2012 R2, Windows Server 2016 and Windows 10

- OSI PI Historian is not supported.
- WorkstationST Modbus Serial Interface has been validated with ControlST V07.03.00C using Windows 10 and Windows Server 2016. Two USB to Serial Converter products have been tested and qualified for Modbus.
  - ◆ Sabrent USB 2.0 to Serial (9-Pin) DB-9 RS-232 Adapter Cable 6ft Cable [FTDI Chipset] (CB-FTDI)
  - ◆ StarTech.com USB to Serial Adapter – 2 Port – Wall Mount – Din Rail Clips – Industrial – COM Port Retention – FTDI – DB9

## 2.2 V07.05.00C (July 2019)

Release based on ControlST V07.05.00C.

### 2.2.1 Security

There are no security updates included in this release.

## 2.2.2 V07.05.00C Highlights

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### Mark VIe Enhancement

**Application:** Wind

**Description:** Enhanced the Compressed Data Log (CDL) to include a new Protected data class that supports up to 1200 variables for the MinAna, SecRes, and SecAna log types.

**References:**

[ToolboxST\\* User Guide for Mark\\* VIeS Functional Safety Systems \(GEH-6862\)](#)

**Work Items:** 46594

### Mark VIe Enhancements

**Application:** All applications

**Description:** Added the following NVRAM and TOTALIZER enhancements;

- The number of variables that can be saved in non-volatile RAM (NVRAM) has increased from 3067 to 6139 for UCSC-based platforms.
- The number of totalizers supported by the TOTALIZER application block has increased to 128 for all platforms.

**References:**

[ToolboxST\\* User Guide for Mark\\* VIeS Functional Safety Systems \(GEH-6862\)](#)

**Work Items:** 46634, 46636

### Control System Health Enhancement

**Application:** Control Server

**Description:** Control System Health was enhanced to allow remote session monitoring and user-configured diagnostic alarm rationalization.

**References:**

[WorkstationST Control System Health Instruction Guide](#)

**Work Items:** 45314, 45384, 45768

### Probability of Failure on Demand and Risk Reduction Factor Calculator

**Application:** Safety Systems

**Description:** Added a PFD Calculator spreadsheet for Mark VIeS Functional Safety System components.

**References:**

[Probability of Failure on Demand and Risk Reduction Factor \(PFD-RRF\) Calculation User Guide](#)

**Work Items:** 46874

### New Documentation

**Application:** Safety Systems

**Description:** The following list of documents are new in this release.

- Mark VIeS Functional Safety System Probability of Failure on Demand and Risk Reduction Factor (PFD-RRF) Calculation User Guide (GEH-6854)
- Mark VIeS Functional Safety Systems for General Market Volume I System Guide (GEH-6855\_Vol\_I)
- Mark VIeS Functional Safety Systems for General Market Volume II System Guide for General-purpose Applications (GEH-6855\_Vol\_II)
- Mark VIeS Control General Market Functional Safety Manual (GEH-6860)
- Mark VIeS Functional Safety System Equipment in Hazardous Locations (HazLoc) Instruction Guide (GEH-6861)
- ToolboxST User Guide for Mark VIeS Functional Safety Systems (GEH-6862)

## 2.2.3 V07.04.00C Changes

### 2.2.3.1 CMS Server V07.05.00C

Reference	Release Note
46184	Resolved issue that prevented backing up very large CMS repositories.
46332	Resolved issues in CMS server encountered with very large systems.

### 2.2.3.2 GE Historian Reports V07.04.01C

Reference	Release Note
45813	Corrected an issue where the historian reports package still checked for an E: drive before the user was prompted to change the reports and data locations.

### 2.2.3.3 Mark VIe V06.07.00C

Reference	Release Note
46594	<b>NEW!</b> Enhanced the Compressed Data Log (CDL) to include a new Protected data class that supports up to 1200 variables for the MinAna, SecRes, and SecAna log types.
46634	<b>NEW!</b> The number of variables that can be saved in non-volatile RAM (NVRAM) has increased from 3067 to 6139 for UCSC based platforms.
46636	<b>NEW!</b> The number of totalizers supported by the TOTALIZER application block has increased to 128 for all platforms.
45282	In a MarkVIe system using a TMR PCMI with simplex MarkVI I/O cards, it is possible that a PCMI card can reference an incorrect IONET in diagnostic alarms. This issue has been completely resolved.
45382	A controller may unexpectedly reboot if a dynamic bind fails when the EGD server responds to the request with an error. The issue has been completely resolved.
46240	On the UCSCH1C, an issue was fixed where enabling the modbus slave feature and downloading as an online load causes a controller reboot.
46516	In a system using dynamic data recorders (DDRs) it is possible that the controller would reboot upon downloading a DDR if the Post Trigger Samples and Pre-Trigger Samples were improperly set to 0. The issue has been completely corrected.
46815	An issue that was causing some consumed exchanges in a device configured with more than 253 UDH EGD exchanges to become unhealthy has been resolved. The number of configured exchanges is calculated as the number of produced exchanges from the device plus the total number of exchanges configured in all referenced devices, regardless of how many devices contain consumed variables. However, it is not possible to guarantee which exchanges will be unhealthy as it is based on the order the device reads in the configuration files and can change during operation with dynamic binds.
46820	An issue that was causing the Frame Idle to randomly have spikes at 100% has been resolved. The issue occurred when a large amount of application was implemented such that the nominal Frame Idle was below 40%.

## 2.2.3.4 ToolboxST V07.05.00C

Reference	Release Note
45768	<b>NEW!</b> Allow user to edit the Alarm Class for Analog Alarm Definitions defined in the System Editor.
46874	<b>NEW!</b> Added a PFD Calculator spreadsheet for Mark VIeS controllers. For more information, refer to GEH-6854, Mark VIeS Functional Safety System - Probability of Failure on Demand and Risk Reduction Factor (PFD-RRF) Calculation User Guide.
44060	An issue was resolved with the ToolboxST user interface on high or low DPI monitors. Menu items, text, and other UI elements did not scale consistently, leading to overlapping and unreadable content. While the relative scaling is now correct, ToolboxST is not "high DPI aware" and may appear slightly fuzzy on 4k monitors and laptops.
45276	The Trend Recorder "Online" button served no purpose. It has been removed. Use the Record button to start and stop live collection.
45289	Resolved a program failure that could occur when inserting an I/O pack.
45309	A problem was resolved where editing a LiveView would not properly load the referenced variables from data sources into the editor, preventing Go to Definition from working and later resulting in a popup message about missing variables when viewing the LiveView online.
45323	Fixed an issue where variables that contain period characters (.) would sometimes not load correctly.
45339	Importing Modbus Slave information from a tre file no longer requires PointDirection for Input Register or Input (Coil).
45778	An issue was resolved where applying a Modify Data protection role applied to a controller would lock down maintenance functions needed by customers. This primarily applies to Wind customers where service accounts are used to gain access to maintenance functions. Going forward, there is a Protection property on DDR objects and a new "Maintain Component" access right on the Protection property at the Controller level. If "Maintain Component" is not used, ToolboxST behaves identically to prior versions. When set, the associated Roles can Save, Build, Download, change IP addresses, and change I/O pack barcodes and hardware forms.
45781	Trender event viewer now displays alarm reason codes.
45862	Added the ability to define parent alarms from consumed controller variables.
45964	Prevent users opening systems directly in Box Sync folders to resolve application stability issues that could occur when another user deletes files on the Box server.
46015	Resetting "Override Value" to false on an instanced variable now forces the containing entity to be re-instanced.
46211	Coding Practice Report: Added a new check for "VAR_HEALTH Inputs that do Not Support Health". This identifies any variables brought into a VAR_HEALTH block that are intermediary variables that will always be healthy (and thus meaningless on a VAR_HEALTH block), versus EGD referenced variables and some I/O that actually have health.
46233	Resolved issue where user was unable to delete a trace in the trender.
46262	Fixed an issue where trending from a Capture Data Source for a Power Conversion Device that cannot connect to the device could cause the tool to fail.
46329	Corrected an issue where an application error could occur if a read only device in a Shared IONet system is selected after the consumed device in the Shared IONet system has been modified and saved.
46331	Resolved program failure in HMI trender when opening a ControlST trend file and ToolboxST is not installed.

Reference	Release Note
46381	Corrected a problem where the list of available certificates shown on the Certificates / Users association was not including all the trusted certificates.
46391	Fixed an issue in the Detached View for Blockware.
46394	Fixed an application error in the Variable Value Editor.
46450	An issue was resolved where applying a Modify Data protection role applied to a controller would lock down maintenance functions needed by customers. This primarily applies to Wind customers where service accounts are used to gain access to maintenance functions. Going forward, there is a Protection property on DDR objects and a new "Maintain Component" access right on the Protection property at the Controller level. If "Maintain Component" is not used, ToolboxST behaves identically to prior versions. When set, the associated Roles can Save, Build, Download, change IP addresses, and change I/O pack barcodes and hardware forms.
46503	Renaming the root plant area node in the ToolboxST System Information Editor, causes a tool failure.
46618	Corrected the sorting for the pick lists on a variable for Plant Area, EGD Page, HMI Resource, Alarm Class and Alarm Definition Type.
46722	Corrected a problem where a controller build to an equal controller caused a document only change resulting in the alarm server reconnecting to the controller. Exporting and importing diagnostics or editing the DateTimeLastChanged in the system's DiagnosticTranslations.xml file to a non zero value works around the issue.
46748	Corrected a failure when the OPC DA client attempts to browse to a variable name that is longer than approximately 130 characters in length.
46750	Corrected a tool failure when OPC DA client connection errors were reported in the log window, causing the total number of errors reported to exceed a maximum limit.
46756	Fixed an application error that could occur during a Shared I/ONet Component Export.
46762	Trender now shows the variable name in the alias column when no alias has been specified.
46771	Shared IONet: Fixed an issue where user would get "Bad Locator" Errors when importing an I/O Configuration into a consuming controller if at least one of the I/O Packs being consumed was in a Hardware Cabinet in the owning controller.

### 2.2.3.5 WorkstationST V07.05.00C

Reference	Release Note
45314	<b>NEW!</b> Added a way for the Control System Health feature to monitor a virtual machine's active session count and optionally alarm when the count goes to zero.
45384	<b>NEW!</b> Enhanced the diagnostic translation definitions available in the System Information Editor, to allow configuration of alarm rationalization properties.
42099	Corrected a problem where Control System Health diagnostics had the wrong OPC severity when in the Alarmed state.
45276	The Trend Recorder "Online" button served no purpose. It has been removed. Use the Record button to start and stop live collection.
45443	GSM: Handle when a GSM Client sends a single byte at the end of a Periodic Data Request.
46196	Corrected a problem where Control System Health alarms could not be filtered by device name without manually adding additional device names to the filter.

Reference	Release Note
46233	Resolved issue where user was unable to delete a trace in the trender.
46326	Fixed a bug that could lead to stranded diagnostic alarms generated by the Network Monitor and Control System Health features. The bug fix also addresses the potential for stranded Mark VIe and I/O Pack diagnostic alarms in the Alarm Server.
46331	Resolved program failure in HMI trender when opening a ControlST trend file and ToolboxST is not installed.
46343	Upgraded the Unified Automation OPC UA SDK to correct a problem seen with Predix clients performing read and write operations and causing large numbers of threads to be created.
46353	Correcting some crashes of the OPC DA server seen on mis-configured systems that were reported from end users as the OPC DA server using a lot of CPU resource. The logs showed two different crashes, resulting in the OPC DA process stopping and starting in a cycle.
46395	Corrected a failure of the Control System Health and Network Monitor WorkstationST features when thin client devices are configured in a system but have missing network information. This may be caused by saving them with an older version of ToolboxST.
46443	Corrected a CimView hang where the alarm viewer was processing a master symbol table update while a windows user preference change event was also being processed. This was seen 3 or 4 times at one customer site and has not been reported at other sites.
46484	Corrected a failure of the Device Manager Gateway WorkstationST feature occurring at process startup. The issue is a timing issue with the Foundation Field bus connections to controllers.
46738	Corrected an ActiveX Alarm Viewer application error that occurred under abnormal conditions in a lab environment.
46766	Corrected a hang of the WorkstationST status monitor when using the menu item to save all the WorkstationST logs for each WorkstationST in the system.
46785	Corrected a problem where a user preference change event while the alarm symbol alarm list dialog is open can hang CimView. User preference changed events occur for remote desktop changes and changes to the Theme file from the ToolboxST system overview as well as other user changes to the windows desktop.
46919	The sorting of the data and column headers in the output Recorder Maintenance log was not correctly following the configured column sort order.

### 2.2.3.6 YDOA V05.07.00C

Reference	Release Note
46208	<b>NEW!</b> The YDOA now supports the WROH terminal daughter board that can be mounted on a SRLYS2A terminal board. This terminal daughter board adds dual-fused power distribution to all 12 relays.

# 3 V07.04 Release Notes

## 3.1 V07.04 Known Issues

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**Note** Refer to the *ControlST Software Suite Upgrade Instruction Guide (GEI-100694)*, *Appendix B, Known Issues* for additional information when upgrading from previous versions of ControlST to this version.

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### ToolboxST\*

- If you are using a high Dots Per Inch (DPI) (greater than 96 DPI) monitor, such as a 4K monitor, you may experience graphic anomalies that render some applications such as ToolboxST and Trender unusable. A work around for this problem is to set your screen resolution in Windows Settings to a lower resolution and text scaling to 100%.
- The ToolboxST application does not prevent the creation of user block definitions with duplicate names. However, this block creation practice is strongly discouraged because in rare cases it causes unpredictable behavior (particularly if the blocks have different content). With ControlST V06.02.00C, the ToolboxST generates warnings when user blocks with duplicate names are encountered to encourage the use of a new feature: Block Library Reference. This feature enables the libraries to reference other libraries. Using Block Library References is the recommended alternative for such use cases.
- Using the Configuration Management System (CMS) requires network connectivity between ToolboxST and the CMS server. The Windows® Firewall will block this connectivity. The default behavior of the Windows Firewall is to notify the user when an application requires access. When the initial attempt after installation is made to connect to the CMS server, the user will be prompted by Windows to allow firewall public and private access by ToolboxST, which allows connectivity to the CMS server.

### ControlST Support for Windows Server 2012 R2, Windows Server 2016 and Windows 10

- OSI PI Historian is not supported.
- WorkstationST Modbus Serial Interface has been validated with ControlST V07.03.00C using Windows 10 and Windows Server 2016. Two USB to Serial Converter products have been tested and qualified for Modbus.
  - ◆ Sabrent USB 2.0 to Serial (9-Pin) DB-9 RS-232 Adapter Cable 6ft Cable [FTDI Chipset] (CB-FTDI)
  - ◆ StarTech.com USB to Serial Adapter – 2 Port – Wall Mount – Din Rail Clips – Industrial – COM Port Retention – FTDI – DB9

## 3.2 V07.04.00C (December 2018)

Release based on ControlST V07.04.00C.

### 3.2.1 Security

There are no security updates included in this release.

## 3.2.2 V07.04.00C Highlights

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### UCSCH2A Platform Support

**Application:** All applications

**Description:** Initial release. Mark VIe has expanded its capability to support the UCSCH2A controller. New platform UCSCH2A supporting Mark VIe for all redundancies.

**References:**

[Mark VIe and VIeS Controls Volume II System Guide \(GEH-6721 Vol II\)](#)

[ToolboxST User Guide for Mark Controls Platform \(GEH-6703\)](#)

**Work Items:** 44936

### Mark VIe UCSB/UCSC Interoperability

**Application:** All applications that use controller redundancy

**Description:** Initial release. Added controller interoperability support: The UCSBH1A is interoperable with the UCSCH2A. The UCSBH4A is interoperable with the UCSCH2A.

**References:**

[Mark VIe and VIeS Controls Volume II System Guide \(GEH-6721 Vol II\)](#)

[ToolboxST User Guide for Mark Controls Platform \(GEH-6703\)](#)

**Work Items:** 44937

### Trender Enhancements

**Application:** All Applications

**Description:** Added the following enhancements to Trender:

- The ability to save individual chapters as separate trend files has been added to the Trender.
- The ability to jump to individual chapters has been added to the Trender.

**References:**

[Trender Instruction Guide \(GEI-100795\)](#)

**Work Items:** 44397, 44848



### 3.2.3 V07.04.00C Changes

#### 3.2.3.1 GE Historian Reports V07.04.00C

Reference	Release Note
44592	<b>NEW!</b> Modified the Historian Reports install to allow user selection for the data and reports locations which were hard coded to D:\HstData and E:\Site\Reports in previous installer versions.

#### 3.2.3.2 Mark VIe V06.06.00C

Reference	Release Note
44936	<b>NEW!</b> New platform UCSCH2A supporting Mark VIe for all redundancies.
44937	<b>NEW!</b> Added controller interoperability support: The UCSBH1A is interoperable with the UCSCH2A. The UCSBH4A is interoperable with the UCSCH2A.
44104	An issue where the maximum number of voted Booleans check in ToolboxST did not announce when the limit was exceeded has been completely corrected.
44463	An issue was resolved where SFCs with no transitions would keep the controller from booting. This behavior was introduced in Mark VIe V06.01.00C and affected upgrades of empty SFCs from prior versions as well as new empty SFCs.

#### 3.2.3.3 ToolboxST V07.04.00C

Reference	Release Note
44397	<b>NEW!</b> The ability to save individual chapters as separate trend files has been added to the Trender.
44848	<b>NEW!</b> The ability to jump to individual chapters has been added to the Trender.
45057	<b>NEW!</b> Added a WorkstationST Features configuration report to the System Overview. The report allows the data to be saved to clipboard and pasted into Excel. The configuration information is also included into the WorkstationST service log when logs are saved.
15349	PROFIBUS IO Packs can now be dragged to Cimplicity screens. Also, they can now be dragged in and out of Hardware Cabinets. PROFIBUS modules still cannot be copied using drag/drop with the control key. Export/Import is still required for duplicating PPRF packs. If the whole Hardware Cabinet is duplicated by dragging it to the top node and holding the control key, all other IO Packs will be duplicated and the PROFIBUS IO Packs will be skipped. A warning in the log window will indicate this.
42407	An issue was resolved where Blocks with animated shapes sometimes did not get drawn at some zoom levels and scroll positions after making a pin connection.
43541	An issue was resolved where the property grid for a Task or User Block had different properties when it was collapsed versus expanded in the Software tree. For example, the Protection node only showed when expanded. This has been corrected, along with minor inconsistencies in the property editors.
44030	Fixed an error in the Trender COMTRADE data source reader.

Reference	Release Note
44353	Fixed an application error in Trender that could occur when scrolling the horizontal axis.
44406	Fixed an application error that could occur while copying and pasting Alarm Variables.
44415	Fixed an issue in the Trender where the Data Source could not be reliably changed without closing and reopening the Trender.
44429	Fixed an application error that occurred when reading program settings.
44509	Fixed the sorting of non-selected traces in the Trender Trace List View.
44584	Added an export for CMS revision history
44587	Undo checkout at the system level no longer incorrectly leaves added component files or deleted component files missing in the working copy.
44589	Enhanced the Trender with an option to select the number of hours it will continue to create live data and maintain the disk cache for the live values. After the configured maximum hours, the live data begins to be truncated. The default setting is to maintain 72 hours of live data prior to truncating.
44798	Previously, a build error was generated in the WorkstationST Component Editor when the alarm server feature was not enabled, a feature that required alarms was enabled, and the Alarm Server to Use property was left blank. Now, if the Alarm Server to Use property is left blank, the alarm server feature is not enabled, and there is a primary alarm server defined in the system, a build error will not be generated and the features that require alarms will connect to the configured redundant alarm servers.
44883	Fixed a ToolboxST crash when deleting an external device from EGD in certain circumstances.
45025	The Summary view in the Hardware Tab was fixed to show the proper number of networks to match the Network Redundancy. It was always showing 3 IO Nets regardless of the Network Redundancy.
45033	Fixed an application error that could occur during build or download.
45034	Corrected issue when changing the GSDML file to a new version, double the Input and Output points for sub modules would be generated.
45043	Updated the final screen of the Initialize USB Flash Device Wizard to include instructions for both the UCSB and UCSC since both are possible in the configuration due to Interoperability of Controllers.

### 3.2.3.4 WorkstationST V07.04.00C

Reference	Release Note
44397	<b>NEW!</b> The ability to save individual chapters as separate trend files has been added to the Trender.
44848	<b>NEW!</b> The ability to jump to individual chapters has been added to the Trender.
18227	Corrected a problem where redundant Secondary EGD producers always had an unhealthy exchange if they were consuming the primary producer.
44030	Fixed an error in the Trender COMTRADE data source reader.
44353	Fixed an application error in Trender that could occur when scrolling the horizontal axis.
44499	Improved the status indication for the WorkstationST service when starting and attempting to initialize the local cache from controllers that are not on line. The empty files are loaded from controllers and from the EGD configuration server if not available from the controller.
44509	Fixed the sorting of non-selected traces in the Trender Trace List View.

Reference	Release Note
44589	Enhanced the Trender with an option to select the number of hours it will continue to create live data and maintain the disk cache for the live values. After the configured maximum hours, the live data begins to be truncated. The default setting is to maintain 72 hours of live data prior to truncating.
44941	Corrected an issue where EGD status information requests for WorkstationST's with large number of exchanges, only returns a partial list. The EGD tab, statistics sub-tabs show a view of the current state of produced and consumed exchanges. This view was not including all exchanges for WorkstationST configurations with large numbers of exchanges. In the test case the UI showed 88 exchanges for a node that had 123 exchanges.
45278	Corrected a problem where the recorder process failed to stop after a request to stop.

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## **Notes**

# 4 V07.03 Release Notes

## 4.1 V07.03 Known Issues

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**Note** Refer to the *ControlST Software Suite Upgrade Instruction Guide (GEI-100694)*, *Appendix B, Known Issues* for additional information when upgrading from previous versions of ControlST to this version.

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### ToolboxST\*

- If you are using a high Dots Per Inch (DPI) (greater than 96 DPI) monitor, such as a 4K monitor, you may experience graphic anomalies that render some applications such as ToolboxST and Trender unusable. A work around for this problem is to set your screen resolution in Windows Settings to a lower resolution and text scaling to 100%.
- The ToolboxST application does not prevent the creation of user block definitions with duplicate names. However, this block creation practice is strongly discouraged because in rare cases it causes unpredictable behavior (particularly if the blocks have different content). With ControlST V06.02.00C, the ToolboxST generates warnings when user blocks with duplicate names are encountered to encourage the use of a new feature: Block Library Reference. This feature enables the libraries to reference other libraries. Using Block Library References is the recommended alternative for such use cases.
- Using the Configuration Management System (CMS) requires network connectivity between ToolboxST and the CMS server. The Windows® Firewall will block this connectivity. The default behavior of the Windows Firewall is to notify the user when an application requires access. When the initial attempt after installation is made to connect to the CMS server, the user will be prompted by Windows to allow firewall public and private access by ToolboxST, which allows connectivity to the CMS server.
- Certain combinations of operating system, video card, and video drivers have occasional difficulty rendering the graphical user interface. Graphical glitches most often manifest as partially drawn windows, patterns of gibberish on the screen, or system errors that force a computer to reboot. To avoid these issues, keep video drivers up to date. For other workarounds, refer to documentation included on the ControlST installation DVD.

### ControlST Support for Windows Server 2012 R2, Windows Server 2016 and Windows 10

- OSI PI Historian is not supported.
- WorkstationST Modbus Serial Interface has been validated with ControlST V07.03.00C using Windows 10 and Windows Server 2016. Two USB to Serial Converter products have been tested and qualified for Modbus.
  - ◆ Sabrent USB 2.0 to Serial (9-Pin) DB-9 RS-232 Adapter Cable 6ft Cable [FTDI Chipset] (CB-FTDI)
  - ◆ StarTech.com USB to Serial Adapter – 2 Port – Wall Mount – Din Rail Clips – Industrial – COM Port Retention – FTDI – DB9

## 4.2 V07.03.00C (August 2018)

Release based on ControlST V07.03.00C.

## 4.2.1 V07.03.00C Highlights

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### Windows® Server 2016 Compatibility

**Application:** All ControlST applications

**Description:** ControlST V07.03.00C and ControlST V07.02.00C have been tested with Windows Server 2016 (Standard).

**References:**

[ControlST\\* Software Suite Installation and Upgrade \(GEI-100694\)](#)

[ToolboxST User Guide for Mark Controls Platform \(GEH-6703\)](#)

**Work Items:** NA

### Universal Analog I/O SIL YUAA Module

**Application:** UCSC Safety Systems

**Description:** Initial release. The YUAA module provides a reduction of cost per I/O point as compared to traditional analog I/O modules (while maintaining high availability). A three-wire channel is located on a single terminal block section that fits onto a row of the header. Each block section can be independently wired and then inserted, allowing channel by channel commissioning. This enables much faster and more reliable terminations and decreases time to commission / maintain the system. The YUAA module requires ControlST V07.02.00C or later.

**References:**

[Mark Vle and VleS Controls Volume II System Guide \(GEH-6721\\_Vol\\_II\)](#)

[ToolboxST User Guide for Mark Controls Platform \(GEH-6703\)](#)

**Work Items:** 42863

### Mark VleS Function Block Additions

**Application:** Safety Systems

**Description:** Added new function blocks to the Mark VleS.

- DUALSEL\_S2
- CLAMP
- FUNGEN
- INTERP\_V2
- MEDSEL\_S2
- VOTE

**References:**

[Mark\\* VleS Safety Controller Block Library \(GEI-100691\)](#)

**Work Items:** 44148

## 4.2.2 V07.03.00C Changes

### 4.2.2.1 ToolboxST V07.03.00C

Reference	Release Note
37567	<b>NEW!</b> Several more properties of UserBlocks and Tasks now support attribute substitution: Description, Category, Detached Summary File, and Enable.
43615	<b>NEW!</b> A property has been added to program and pin variables called Is Critical. When true, a build error will be generated for the variable if it is not driven (written to) or is not driving an input on a block. This property can be used to help detect incomplete or unintentionally modified trip logic or other critical code. The flag can also be used to filter the global variable report, allowing audits of logic around critical control variables.
38390	Will now put out a warning if the Update Rate does not match for bit-packed Holding Registers with the same address on a PSCA Modbus Master.
38895	An issue was corrected where dragging multiple shapes in an SFC diagram and dropping some of those shapes on a different page could result in an unclickable shape.
41459	In the Where Used window of a Library Container, the Find All button returns matching global variables across all libraries in the container. An issue was resolved where the parent Library, Program, and Task was not identified with a search result, making it difficult to distinguish them from each other.
42643	An issue was resolved where the System Constants Export wizard would fail to connect to a device when S or T is the designated controller.
42644	The System Control Constants and Parameters Import wizard skips any variables from the input CSV file that cannot be modified for various reasons (protection, HMI Resource, etc). Formerly, the results summary merely showed "Import Complete" in green. This has been modified to show yellow and a warning count when parameters are skipped.
42704	Fixed an application issue that occurred when saving the Change Log.
42731	An issue with the I/O Variable and I/O Configuration reports was fixed where the Connected Variable column was not honoring the Display Variable Aliases instead of Variable Names setting. It now shows the Alias for the connected variable when in Alias mode.
43052	An issue was fixed with Compare Device, where performing a compare from an open Controller window would cause incorrect behavior of the open Controller window. For example, attempting to view blockware diagrams after a compare would result in a blank detail view. The issue is corrected, and the Controller window works normally after a compare.
43089	The Coding Practices report has been modified to exclude internal, auto generated variables from SFCs.
43306	When copying and pasting a User Block, SFC Transition, or SFC Action that contains a global variable, the Rename Globals dialog allows you to make unique variable names for each Global. Cancelling this dialog caused ToolboxST to unexpectedly terminate; this has been fixed, and the paste is cancelled as expected.
43376	Fixed an application issue that occurred when viewing live data.
43529	Added the two letter ISO language name to the selection of language's in the ToolboxST system overview to help when selecting the correct language in the CIMPLICITY language mapper file.
43584	An issue was resolved where in rare cases ToolboxST would terminate unexpectedly when trying to view blockware diagrams. Due to a compression glitch, the diagram was corrupted; ToolboxST now recreates the diagram in auto-layout mode. The compression library has also been changed to prevent the problem from occurring going forward.

Reference	Release Note
43606	Fixed an uncommon application error in the Block Diagram Editor.
43836	Fixed a refresh issue where recorder manually created System collections containing WorkstationST variables did not reflect variable changes such as description or other properties until the WorkstationST editor was reopened.
43847	Corrected an unwanted new line character that was at the start of the text for the Control System Health description for a Virtualization Server Hardware reported status. The extra new line character resulted in a warning when importing the diagnostics after having added a language translation.
43909	Fixed an issue with the Shared I/O that could cause an application error if the user cancels a password challenge.
43910	Fixed an error that occurred when opening certain configurations.
44091	An issue was resolved where variable connections to array elements were not displaying the element index when Display Aliases instead of Variable Names was selected in the Workstation Status Monitor User Preferences. For example, if a connection was to alias XYZ element 2, it should have displayed XYZ[2] but was only displaying XYZ.

#### 4.2.2.2 WorkstationST V07.03.00C

Reference	Release Note
42795	<b>NEW!</b> Added support to the WorkstationST OPC UA server for certificate management from a Global Discovery Server.
43342	<b>NEW!</b> Enhanced the WorkstationST feature log viewer to scroll to the bottom (latest), when opened and added a refresh and live update button. Additionally added a warning when enabling the OPC DA server's SDI feature and automatically warn and disable the SDI feature when the HMI feature is enabled.
43385	<b>NEW!</b> Added a new HmiSysScreenPcode.xml file that is published to the master workstation when the System Information is saved. HMI file utility features that are using auto download will now look for this list and if found will use it for the list of screens they are to auto download. This avoids the requirement to rebuild and download each workstation after a new screen is added to the list of screens in the system.
43573	<b>NEW!</b> Added an optional WorkstationST Data Recorder collection setting to cause a continuous live network collection to create a set of monthly maintenance CSV logs. When enabled, the recorder collection will not create and maintain its binary files.
42313	Provided a way for the operator to force the alarm viewer to connect to the secondary and clearly indicate the active state of the connection.
43076	Corrected an issue where the Trender and Alarm Viewer ActiveX controls appear as white boxes if a CIMPLICITY frame hosting them is closed and re-opened before the frame falls out of screen cache. The issue was not seen for overlaying away from the screen hosting the ActiveX control.
43824	The OPC UA feature can continue to run after a workstation is downloaded with the feature turned off. This typically will only happen on larger consumed configurations, such as a wind park.



#### 4.2.2.3 Mark VIe V06.05.00C

Reference	Release Note
39027	A variable configured OPC UA as writable can now also be read.
42004	Given a system where the controller is configured to consume EGD from another device. If the page has at least one Boolean array defined then the controller may fail to load the configuration. The Mark VIe family does not support arrays on EGD, but allows consumption of pages with arrays as long as the array variables themselves are not connected to. This issue has been completely resolved.
43391	The Standard Block Library ARRAY_COMPRESS and ARRAY_COMPRESS_UDI blocks now properly handle the condition where variables connected the INxx pins are scalars.
43587	When a new connection to the controller is abruptly terminated certain interfaces, including SDI and Ethernet Modbus, may to be temporarily unresponsive for a few seconds. This issue has been completely resolved.
44116	In systems with Modbus configured, executing an online download will cause a file descriptor leak. Eventually an online download will fail due to insufficient resources. This issue was introduced in Mark VIe V06.04.00C and has been completely resolved.

#### 4.2.2.4 Mark VIeS V06.01.00C

Reference	Release Note
44148	<b>NEW!</b> Added six new function blocks to the Mark VIeS (DUALSEL_S2, CLAMP, FUNGEN, INTERP_V2, MEDSEL_S2, VOTE)
43448	Given a system where the controller is configured to consume EGD from another device. If the page has at least one Boolean array defined then the controller may fail to load the configuration. The Mark VIe family does not support arrays on EGD, but allows consumption of pages with arrays as long as the array variables themselves are not connected to. This issue has been completely resolved.
43449	Given a system where the controller is configured to consume EGD from another device. If the page has at least one Boolean array defined then the controller may fail to load the configuration. The Mark VIe family does not support arrays on EGD, but allows consumption of pages with arrays as long as the array variables themselves are not connected to. This issue has been completely resolved.
43588	When a new connection to the controller is abruptly terminated certain interfaces, including SDI and Ethernet Modbus, may to be temporarily unresponsive for a few seconds. This issue has been completely resolved.

#### 4.2.2.5 Virtual Mark VIeS V06.03.00C

Reference	Release Note
44094	Given a system where the controller is configured to consume EGD from another device. If the page has at least one Boolean array defined then the controller may fail to load the configuration. The Mark VIe family does not support arrays on EGD, but allows consumption of pages with arrays as long as the array variables themselves are not connected to. This issue has been completely resolved.

#### 4.2.2.6 YUAA V05.05.01C

Reference	Release Note
42863	<b>NEW!</b> Initial release of the Safety Universal Analog I/O Pack.
43900	An issue was fixed where Pulse accumulators and RTDs may fail intermittently on configuration.

## 4.3 ControlST V07.03.01C (September 2018)

This is a maintenance release driven by security updates. Additionally, the WorkstationST OPC UA server now supports alarms and conditions.

### 4.3.1 Security

The following security updates are included in this release.

- Updated the RTS Hypervisor to include security updates from the manufacturer
- Updated the Proficy Common Licensing software and USB drivers

### 4.3.2 ToolboxST V07.03.01C

Reference	Release Note
43917	An issue was resolved where editing an Attribute value while the attribute grid was sorted by value could display incorrect values after editing.
44314	Previously when a control constants/undriven variables report was exported to csv, only a subset of the variables had live values. Now all variables will have live values. (In both cases, the controller must be online to get live values.)
44402	Fixed an issue where the Crash Report tool could close before the issue could be reported.

### 4.3.3 WorkstationST V07.03.01C

Reference	Release Note
44396	<b>NEW!</b> Added support for Alarms and Conditions to the WorkstationST OPC UA server.
44326	There was a failure in stress testing which, in very rare incidents, would cause the Logic Builder ActiveX control to terminate CimView during a script's call to EndInitialize. This bug fix corrects that potential issue.
44356	Added a connection block for OPC DA clients while the OPC DA server is initializing. A by proxy HMI was experiencing unknown variables for initial item adds after a reboot.

### 4.3.4 Mark VIe V06.05.01C

Reference	Release Note
44149	Security update

### 4.3.5 YVIB V05.01.04C

Reference	Release Note
43408	An issue has been fixed regarding a false KeyPhasor speed provided when the shaft rotation speed is below 1RPM.

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## **Notes**

# 5 V07.02.05 Release Notes

## 5.1 V07.02 Known Issues

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**Note** Refer to the *ControlST Software Suite Upgrade Instruction Guide (GEI-100694)*, *Appendix B, Known Issues* for additional information when upgrading from previous versions of ControlST to this version.

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### ToolboxST\*

- The ToolboxST application does not prevent the creation of user block definitions with duplicate names. However, this block creation practice is strongly discouraged because in rare cases it causes unpredictable behavior (particularly if the blocks have different content). With ControlST V06.02.00C, the ToolboxST generates warnings when user blocks with duplicate names are encountered to encourage the use of a new feature: Block Library Reference. This feature enables the libraries to reference other libraries. Using Block Library References is the recommended alternative for such use cases.
- Using the Configuration Management System (CMS) requires network connectivity between ToolboxST and the CMS server. The Windows® Firewall will block this connectivity. The default behavior of the Windows Firewall is to notify the user when an application requires access. When the initial attempt after installation is made to connect to the CMS server, the user will be prompted by Windows to allow firewall public and private access by ToolboxST, which allows connectivity to the CMS server.
- Certain combinations of operating system, video card, and video drivers have occasional difficulty rendering the graphical user interface. Graphical glitches most often manifest as partially drawn windows, patterns of gibberish on the screen, or system errors that force a computer to reboot. To avoid these issues, keep video drivers up to date. For other workarounds, refer to documentation included on the ControlST installation DVD.

### ControlST Support for Windows Server 2012 R2 and Windows 10

- OSI PI Historian is not supported.
- WorkstationST Modbus Serial Interface has been validated with ControlST V07.00.00C using Windows 10. The USB to Serial Converter, Tripp Lite® (model number USA-19HS) has been tested and qualified for Modbus. Creation of an official GE part number is in progress.

## 5.2 V07.02.05C (July 2018)

Initial release.

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## **Notes**





*Public Information*