



RELEASE NOTES

Crestron Fusion®

11.1.5000.0022

Product or Content Description

Notes and Recommendations

The Crestron Fusion® enterprise management platform enables organizations to monitor and manage AV equipment, BMS, room scheduling, lighting, shades, climate, and energy consumption from a single platform. You can deploy Crestron Fusion® as a service hosted and operated by Crestron, on your own on-premises equipment/Virtual machines, or on a CEN-FUSION-SERVER-R330 rackmount server, based on organizational needs.

The monitoring functions of Crestron Fusion® enables facility and IT managers to monitor, manage, and schedule AV presentation, video conferencing and capture resources from one central location. It can track device and room usage to schedule routine maintenance, provide real-time remote technical support, and receive instant alert notifications. Robust reporting features provide data to make more effective purchasing and scheduling decisions.

The smart building integration features of Crestron Fusion® manages and monitors renewable and sustainable energy sources in real-time and displays historical usage data for day, week, month or year. It also provides environmental control, including lighting, shades and climate to intelligently integrate with room scheduling and occupancy levels for greater energy savings. Crestron Fusion® is able to track the building's carbon footprint while enabling facility managers to easily analyze energy consumption.

For assistance with Fusion, please contact Crestron's True Blue Technical Support team by calling 1-888-CRESTRON or by sending an email to the dedicated Crestron Fusion® Support Group (FSG) at fsg@crestron.com.

Software Upgrades

Crestron Fusion® in-place upgrades of the software and database is supported from versions 9.2, 9.3 or 10.x. Upgrading from version 8.5 or earlier will not work. The installer will remove the previous version while upgrading your existing database. All of your existing data will be maintained, except for historical meeting information which will have to be back-filled by a separate process (see below). If your current Crestron Fusion installation precedes version 9.2, an upgrade to 9.3 is required as an intermediate step before upgrading. In addition, if your previous version comprised of three databases (main, log, and report databases), those three databases must be merged into one database. Contact the Fusion Support Group for assistance.

If you are migrating an on-premises installation to a Crestron hosted installation, Contact the Fusion Support Group for assistance.

Directory Structure:

All files that comprise Crestron Fusion® are consolidated into one folder:

C:\Program Files\Crestron\Fusion

Fusion Services Manager and Configuration Manager logs are stored in:

C:\Program Files\Crestron\Fusion\Logs

The Crestron Fusion® Services Manager will create all Crestron Fusion® instances in:

C:\Program Files\Crestron\Fusion\FSM\Instances

Logs for each of the Crestron Fusion® services are stored in:

C:\Program Files\Crestron\Fusion\FSM\Instances\Fusion\Logs

System Requirements and Dependencies

Database Access and Credentials:

Certain levels of database access are required depending on the operations being performed in the database. In general, the account accessing the SQL Server database needs DB_OWNER rights for all runtime operations. This includes (but is not limited to) operations performed within the setup interface for creating, editing, deleting, and moving objects such as nodes, rooms, and assets. Modifying the database schema itself, or changing the authentication model of the application, requires the account accessing the database to be elevated to SYSADMIN rights. The conditions under which SYSADMIN rights are needed are as follows:

- Creating a new database
- Upgrading an existing database
- Changing client authentication between forms and Windows
- Performing a “Force DB Update” operation

Once any of these operations are complete, the account accessing the database can be reverted to DB_OWNER rights only.

V. Hardware & Software Requirements

Component	Minimum	Recommended
Operating System	Windows Server 2008 R2	Windows Server 2012 R2
Processor	Dual Core Intel Xeon 2.8 GHz	Dual Core Intel Xeon 2.8 GHz
Memory	8 GB	16 GB
Hard Drive	250 GB Primary Drive	500 GB Primary Drive, RAID 160 GB OS Drive, SSD
Display Resolution	1024 x 768	1280 x 1024 or higher
Database Server	SQL Server 2008 R2	SQL Server 2012, SQL Server 2014
Browser	IE 10, Firefox, Safari, Chrome	IE 11, Chrome

Additional Software Requirements

Fusion requires the following additional components; please see the full list of required Windows roles and features in the installation guide.

- Servers connecting to Crestron PinPoint will require HTTPS and a secure certificate.
- SMTP Mail Server access for sending email notifications
- Crestron Toolbox is required to support symbol auto-discovery; you can download the latest version from the Crestron website:
http://www.crestron.com/resources/product_and_programming_resources/catalogs_and_brochures/online_catalog/default.asp?jump=1&model=SW-TB

Operational Installation/Upgrade Instructions

Getting Started

Crestron Fusion requires user authentication before launching the application. A login dialog is presented to the user when the client starts (if using forms authentication). For a new installation, the default username is "admin". The default password is "admin" and may be a different password if provisioned by Crestron or a dealer.

NOTE TO ADMINISTRATORS: Change the default admin password immediately to prevent unauthorized access to the software.

Licensing

An unlicensed version of Crestron Fusion® traditionally allowed five symbol connections and 5 Crestron PinPoint users. This has changed in 11.1.5000.

A new install of Crestron Fusion no longer supports any connection without a license. The software requires a license to make any room connection.

When contacting Crestron for a license be sure to send the key code for the client application you wish to install. Call 1 888 CRESTRON to obtain a license.

Version History

Version	Date
• Release 1: Version 11.1.1000.0037	9/1/2017
• Release 2: Version 11.1.2000.0023	11/3/2017
• Release 3: Version 11.1.3000.0025	12/18/2017
• Release 4: Version 11.1.4000.0028	2/6/2018
• Release 5: Version 11.1.5000.0020	3/30/2018

Version 11.1.5000.0020

Version 11.1 R5 (release 5) is the fifth in a series of 11.1 releases. This release is a maintenance release.

Changes since Last Version

New Features

Starting with 11.1.5000, a new install of Crestron Fusion no longer supports any connection without a license. The software requires a license to make any room connection.

Bug fixes

- Modified several reports to show proper message when no data is found
- Modified alignments on several reports
- Modified punctuation on several reports
- Fixed filtering on several reports
- Fixed an issue where IBM Notes operations did not clear the meeting free/busy data
- Improved the default No Show warning message
- Modified the web interface for monitoring and setup for more consistent behavior when displaying objects
- Fixed several problems with object permission behavior between setup and monitoring
- New analog attributes are now added without the default graphic gauge
- Fusion needs to reflect changes in the organizer made from the scheduling provider
- Fixed rebalance button behavior
- Confirmation window added when closing tabs

Known Issues

There are no known issues.

Version 11.1.4000.0028

Version 11.1 R4 (release 4) is the fourth in a series of 11.1 releases. The primary focus of this release is improved booking times, especially across multiple scheduling devices in a room. In addition, the scheduling behaviors for Decline for No Show, End Meeting, and Extend Meeting applications across all supported scheduling providers are improved.

[Decline for No Show Logic](#)

There are three variants to the Decline for No Show (D4NS) application behavior, described below.

[EWS, EWS Managed, Domino Providers](#)

Requires Smart Graphics OOTB and EWS, EWS Managed, or Domino providers:

Single meeting	The meeting is shortened to the time when D4NS was fired; a meeting changed email is sent if configured in Fusion.
Recurring, Strike 1	The instance is shortened.
Recurring, Strike 2	The instance is shortened; a warning email is sent if configured in Fusion.
Recurring, Strike 3 w/ Limited Recurrence	The instance is shortened, and all future instances are removed; a meeting deleted email is sent if configured in Fusion.
Recurring, Strike 3 w/ Endless Recurrence	Depending on the setting of ExchangeDeleteEndlessRecurrence: <ul style="list-style-type: none">• True: the meeting is removed, including <u>past</u> and future instances; a warning email is sent if configured in Fusion.• False: the meeting is left intact; subsequent strikes will be treated as Strike 3.

[Internal Provider](#)

The behavior of the Internal "RoomView" provider is slightly different:

Single meeting	The meeting is shortened to the time when D4NS was fired; a meeting changed email is sent if configured in Fusion.
Recurring, Strike 1	The instance is left intact.
Recurring, Strike 2	The instance is left intact; a warning email is sent if configured in Fusion.
Recurring, Strike 3 w/ Limited or Endless Recurrence	The instance is left intact, but all future instances are removed; a meeting deleted email is sent if configured in Fusion.

[Google, R25, External Providers](#)

All other OOTB and provider combinations:

Single meeting	The meeting is deleted; a meeting deleted email is sent if configured in Fusion.
Recurring, Strike 1	The meeting is left intact.
Recurring, Strike 2	The meeting is left intact; a warning email is sent if configured in Fusion.

Recurring, Strike 3	All instances of the meeting are removing, past, current, and future; a meeting deleted email is sent if configured in Fusion.
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End Meeting Early and Extend Meeting Logic

End Meeting Early (EME) and Extend Meeting (XM) applications are essentially the same operation: a change to the meeting end time, either forward (XM) or backward (EME). Extend Meeting is only available on devices running Smart Graphics version of the scheduling application, whereas Extend Meeting Early is available on older scheduling panels like the TPMC-4SM or TPMC-3SM. Furthermore, XM/EME is only operational for recurring meetings when the provider supports instance manipulation. Currently, these are EWS, EWS Managed, and Domino.

Enhancements:

- Immediate Scheduling – All displays and scheduling devices that are push registered will be updated simultaneously within several seconds from the first updated display to the last updated display
- Added relative date range option to scheduled reports
- In the web client, pressing the enter key will activate the save button in many dialogues
- Added a new API resource named “Alerts” that can retrieve a list of critical status notifications

Security:

- Addressed several issues flagged by VeraCode scan
- Improvements to the Functional Security setup pages
 - Check boxes added
 - Users can no longer remove the super user account from Functional Security policies
- Fixed an issue where the Instant Messages are still visible when a user does not have permission
- Fixed issues with Fusion EM Automation functional security policy
- A link was added for users to return to the login screen after failed login attempts

Bug Fixes:

Domino/IBM Notes:

- Fixed meeting operation behavior for Domino meetings with multiple rooms where the wrong room calendar was getting modified (132906)
- Fixed an issue where Decline for No Show was getting triggered on Ad Hoc Domino meetings (142405)
- Fixed an issue where Domino meetings created in Fusion could not be updated using the Fusion web client (141491)
- Fixed an issue where the Organizer email was missing from Action or Preset meetings created using the Outlook Add-in (136148)
- Added error handling to the External Provider to prevent calendars from being mistakenly cleared on scheduling panels (139709)
- Fixed language translation for the Assets Online report
- Added the ability in the People search to search by email and username

Version 11.1.3000.0025

Version 11.1 R3 (release 3) is the third in a series of 11.1 releases. One new feature is in this release – redesigned scheduled report behavior.

Enhancements:

- Improvements for scheduled reports
 - Manage schedules completely from Fusion web client
 - More scheduling options
 - Specify recurrence start date for scheduled reports
 - Scheduled reports run at server's local date and time instead of UTC
- Improvements to Functional Security
 - Only show groups in the web client that pertain to the current mode of Fusion, either Forms or Windows Integrated.
 - Show the Windows groups the user is a member of in Setup > People
 - In Setup > Security Groups, show the members with name and email address for any user that has logged on at least once
 - Added ability to delete groups even if the group has members
- New Report – **Meeting No Shows** – this report provides an analysis of No Show events including time lost and recovered time.
- Added a search field to Setup > People to search users by username or email address

Bug Fixes:

- Occupancy Data
 - Fixed an issue where scheduling panels generate false occupancy log entries (137526)
 - Fixed an issue where sharing occupancy status across devices in a room would produce multiple occupancy log entries in the attribute log (116816)
- Fixed an issue where some service logs were not limited by the "Logs to Keep" setting
 - Outlook Web Service is an exception and will always retain up to 50 logs
- Adjusted email template formatting
- Adjusted report formatting for some reports
- Fixed a condition where the attribute "Room Occupancy Information" was missing from the asset status tab
- Fixed behavior where some programmed assets always show offline in Fusion (137533).
- Search prompt added to the "Current Values" report attribute drop-down
- Adjusted the default EWS related "All" configuration values (136568)
- Added minor interface modifications on some screens of the web client
- Fixed an issue where devices discovered using symbol discover with outbound connections are not setting the connection direction (137602)
- Fixed an issue where the Fusion EM web client continuously prompts for credentials (136914)
- Fixed a condition where a daily scheduled report was being sent twice (137084)
- Fixed an issue where the Fusion installation fails with SQL server using Hungarian CI AS collation
- Fixed the mechanism to tag Fusion servers as "transcode only" by using the EnableMedia check box

Version 11.1.2000.0023

Version 11.1 R2 (release 2) is the second in a series of 11.1 releases, primarily merging previous patches, addressing issues, and introducing 1 new feature.

Enhancements:

- Added an option to specify a custom SMTP port for notifications
- Added the ability to remove previously configured Active Directory groups
- Include "Partially Online" rooms in the My RoomView – Offline Rooms list
- Increased the limit of attribute email rules from 25 to 50

- Modified the Monitoring web client so that xpanels only load when the eControl tab is selected.
- Brought forward Micros support enhancements from 10.2
- Added row shading to Object Security for legibility
- Improved PinPoint performance.
- Added Installer support for Microsoft Windows Server 2016
- Added password complexity for Forms – see Security below

Reports:

- New- **Online Status History**
- New- **Data Values** – similar to the Data Values (analog | digital | serial) but allows for mixed types on the same report
- New- **Device Usage by Meeting**
- New- **Device Usage Totals** – provides a high level executive summary showing scheduled meetings, device usage, and occupancy
- New- **Meeting No Show** report – time saved and time lost from No Show cancellations
- Data Values * - all reports can now include reserved attributes
- Modified Display Usage (current) to indicate “Offline” rooms
- Fixed a German Language date range issue (135271)

Security:

- Added password complexity rules to Forms based installations. Passwords require a special character, a digit, and 8-32 characters
- Implemented secure cookies (brought forward from 10.3 - 132592)
- Fixed an issue where the a user session is not terminated when the user logs out (121777)
- Fixed an issue where access control for meetings could be circumvented (132585)
- Fixed an issue where improper scripting characters could be entered and transmitted in the Instant Messaging tab (132584)

Data Logging:

- Added a validation method to help prevent the logging of duplicate device usage including occupancy sessions (116198)
- Fixed an issue causing occupancy sessions greater than 1 billion minutes to be logged (125637)

Fusion API:

- Fixed an issue where positive UTC offsets were not accepted
- Fixed an issue where appointments were not returned in JSON
- Added support for extended characters coming into Fusion through the external provider
- Fixed an issue where the RV Meeting ID was not being returned after a room change
- Minor changes to properties and documentation

Bug Fixes:

- Fixed improper attribute forwarding time out condition
- Corrected an issue with inbound and outbound discovery of programmed asset records not receiving the correct values (119091)
- Decline for No Show (D4NS) now correctly trims single meetings instead of removing
- Fixed an issue where meeting messages were not being sent to organizers outside of Fusion
- StartDate and EndDate variables in Email Templates now properly adjust for time zone

Web Client Monitoring

- Fixed an issue where monitoring tabs closed for one user are closed for all other users
- Fixed the Error Alert sort in the Rooms tab
- Fixed an issue where an R25 weekly recurrence is shown incorrectly

Web Client Setup

- Prevent the manual deletion of the default Active Directory administrators group defined in the configuration manager
- Fixed the reversed Object Security settings for eControl and WebCam
- Fixed the ability to scroll to Un-associated objects when tree expansion pushed the node off-screen
- Fixed the paging on the Attributes search results pages
- Fixed an issue where security groups could not be deleted if they ever contained members
- Fixed an issue when editing multiple rooms for managed EWS scheduling where the domain was not saved

Web Client EM

- Fixed an issue where deleting events was not being sent down to the processor
- Fixed an issue where the Event Calendar Time Clock would jump to the current date
- Fixed a translation with Chinese/Korean languages on the Event Calendar

Known Issues:

- DBIC (Database Integrity Checker) – does not work with all combinations of Windows Server and SQL. Combinations that do not work include:
 - Windows Server 2012 with SQL Server 2014

Version 11.1.1000.0037

Version 11.1 R1 (release 1) is the first in a series of releases introducing new features. 11.1 R1 does not include recent patches and reports – these will be included in the upcoming R2 release.

The new features available in 11.1 R1 are the following:

- Security - Audit Trail
- User Interface Updates
 - Assets and Rooms tab UI
 - Bulk operations
- Support for multiple Google calendar accounts

Features:

1. Audit Trail

- Enable or disable the audit trail feature on the Configuration web client.
- The ability to enable or disable the audit feature is restricted to those users with rights to the configuration view.

- The default state for auditing is “enabled”.
- Audit information is stored in the Microsoft Windows event log and includes the following data:
 - User ID
 - Date and time of the event
 - Type of event
 - Origin of request (e.g., originating host’s IP address) for Identification and Authentication events only
 - Name of data object modified or deleted for deletion or modification events only

Auditable Categories:

Auditable Event	Category	Description
User Authentication	Authentication	Audit login, logout events, along with security groups the user belongs.
User Security Changes		User Creation, group membership changes.
Room Security Changes		Changes to what groups can view a room.
Error Alert Cleared	Error Alerts	Audit when a user clears an error alert for a room, log the cleared alert (severity and message).
Device Connections		Audit when a device attempts to connect to Fusion and whether the connection is successful or not
Destructive edits		Audit when a room or node is deleted
Manual actions		Audit when a manual action (such as a broadcast message) is sent from Fusion, including who activated it, what was activated, and which rooms/nodes it was sent to

Note: Audit Trail for logins – When Fusion is active directory integrated logins will not appear in the audit trail as Windows logins are handled by the operating system outside of Fusion.

2. Bulk Operations

In all UI screens where multiple selections can be made by selecting check boxes (bulk assignment):

- Users can select one selection, then Shift + Click a different selection, and all options between them will be selected
- When options are selected and the user selects somewhere other than a checkbox, the previous selections will remain checked instead of becoming unchecked

3. Assets and Rooms Tabs

The Assets tab supports the configuration of attribute views like the Rooms tab.

- The user can rearrange the attribute columns of the Rooms and Assets tabs using drag and drop.
- The user can adjust the size of attribute columns.

4. Multiple Google Accounts

Fusion now supports multiple Google calendar accounts on a single instance. Contact FSG at fsg@crestron.com for assistance with configuring this feature.

Enhancements:

- Added drivers for the following network connected devices:
 - TSW-560V3
 - TSW-760V3
 - TSW-1060V3
 - TSW-552V3.xml
 - TSW-1052V3.xml
 - TS-1542-CV3
 - TS-1542V3
 - Crestron_RL_300
 - DGE-100V3.xml
- Reports- Added a new report “**Data Values (Current)**” – compare the current values of several user selected attributes on one report
- Added SQL SP enhancements for improved scheduling performance
- Removed a limitation on the number of EWS notification listeners to additionally improve scheduling performance in some cases

Bug Fixes:

- Fixed an issue where non alpha-numeric characters were removed with editing multiple rooms for scheduling

Version 11.0.5.15

Version 11.0.5.15 is a maintenance release that addresses several web interface issues and improves stability.

Version 11.0.4.42

1. Fusion 11.0.4 RV and EM licenses now contain room counts which are enforced. Upgrading previous versions of fusion to 11.0.4 will cause RV and EM unlimited licenses to be converted to valid 5 room licenses with an expiry of 12/31/9999. Customers will need new license keys for RV and EM after upgrading to 11.0.4 from any earlier release version.
2. After performing inbound discovery of a device, it will be placed in the “Discovered Objects” node. It will also be placed in the “Group will not be loaded” server group. Moving the room into another node will not bring the room online. The user must move the room into another group such as the “Default Group”, or another active group.

3. Inbound discovery (Device-to-Fusion registration) can be performed by an on-premises Crestron Fusion Cloud server. The only restriction on discovery is that one cannot have an outbound (Fusion-to-Device) connection with a hosted Crestron Fusion server in the cloud.
4. SSL v3 will no longer be supported in Fusion 11.0.4. This is in line with industry practice which has deprecated SSL v3 because it is highly vulnerable to man-in-the-middle attacks via the POODLE vulnerability. It has been disabled entirely in all major browsers.

Crestron Fusion Cloud 11.0.4 and later supports TLS 1.0, 1.1, and 1.2.

This means that starting with 11.0.4, 2-Series processors will no longer be able to connect to Fusion with SSL on.

Any 2-Series control system will continue to be able to connect to Fusion with SSL turned off.

Enhancements:

- Added a new method for handling incoming newly registered devices. Inbound devices (Device-to-Fusion) are added to the “Discovered Objects” folder; discovered rooms are initially added to “Group that will not be loaded” to prevent Fusion from connecting automatically
- Added support for Check-in to/from an external provider (110280)
- Reports - Added a filter to the Rooms Online report to enable filtering by online/offline/partial online states
- Reports - Added a report for online status for Assets
- Reports – Added a feature to show or hide deleted meetings from the room utilization and meetings by room reports. (Deleted meetings are denoted by a (X) in meeting subject)
- Reports – added the ability to identify meetings created using PinPoint
- Reports- Added a new report “Booking and Occupancy”
- API – added support for retrieving data from Custom Fields when using asset queries
- API – added support retrieving attribute values from a programmed Asset definition
- Backfill -Changed the behavior of backfill so that when backfill threads are set to zero the system will stop created backfill jobs.
- Backfill – changed the default values for Backfill – Populate Backfill Interval = 90 and Number of Backfill Threads = 0
- Licensing - Added support for limiting room loading based on licensing counts
- Licensing – Added support for using expiration dates for both RV and EM licenses
- Added support for SSH and username/password authentication for outbound (Fusion-to-Device) symbol discovery
- Added support for the CEN-AVF-HUB
- Added support for DM-DGE-200-C. A new driver was added for this to Touch panel asset type.

Bug Fixes:

Web Client

- Fixed an issue where ampersand characters “&” are removed from an e-Control URL and webcam URL
- Fixed an issue where ampersand characters “&” are removed from password fields for scheduling providers
- Fixed an issue where the room or asset grid is empty upon first logging into Fusion

- Fixed a few instances of inaccurate paging on results
- Fixed an intermittent issue where the time zone default on a new meeting was not being set
- Fixed several issues regarding missing buttons on certain dialogues
- Fixed an issue where European formatted dates are displayed with the US format
- Fixed an issue where the link field was not saved when saving actions

Scheduling:

- Fixed an issue with Managed EWS where the requested body of a meeting was not returned
- Fixed an issue when using the Managed EWS provider where the organizer's email address appears as "no_one@nowhere.org."
- Google service provider is now FIPS compliant
- Fixed an issue where Google calendars would deny access after an hour
- Fixed an issue where EWS Managed AD does not handle bad SMTP redirects and causes an infinite loop in the schedule service
- Fixed an issue with the schedule availability check that could result in a double booking
- R25 – fixed an issue regarding weekly recurrence showing incorrectly
- R25 – fixed an issue with room templates using R25 where the verify button was missing
- Fixed support for TLS 1.2, deprecated support for SSL v3

Reports:

- Fixed an issue on the display usage report where only the first page of a multi-page report is displayed.
- Minor fixes to various reports

Version 11.0.2.84

Enhancements:

- Security - Added protection against Cross-site Request Forgery (CSRF) attacks
- Security - Added provisions to further secure passwords and other data in the browser
- Added support for R25 "Blackout", "Setup", and "Takedown" bookings
- Added new TPMC-4SM driver (model v2.2.0+ OOTB, driverID TPMC_4SM_V3) to support room occupancy info
- Crestron Fusion database modifications added to make Crestron Fusion collation independent
- PinPoint - added support for federated environments in PinPoint deployments where the directory service is on-premises
- PinPoint - added two switches to the All Config parameters
 - CEMASuppressNonReservableRooms – if set to TRUE, the search for rooms will only return EWS, EWS Managed, Google, and Non-Bookable rooms. All other rooms will be excluded from the search
 - CEMASuppressOccupancyFilter – if set to TRUE, rooms that are currently occupied will be included in the search

Bug Fixes:

- Fixed an issue where a scheduling panel in push mode does not reflect a deleted appointment
- Fixed an issue where Crestron Fusion does not properly indicate an SSL connection.

- Fixed an issue where touchpanels and other devices are not able to maintain a connection to a Crestron Fusion Cloud server
- Fixed an issue where duplicate backfill jobs are created in a multiple server environment
- Reports – fixed various formatting issues
- Fixed the link to the Insite help page
- Fixed an issue where the rooms grid would not populate when first logging in to the web client
- Addressed several web client interface anomalies

Version 11.0.1.60

New Features:

- **Crestron Fusion® Cloud:** initial release and rebranding

Configuration Manager

- “Use Specified Account” is now the default option on the first page of the installer for setting service credentials. If Local System is selected, only SQL authentication will be allowed for the database connection
- “Test Connection” button now tests both Administrator and runtime credentials
- “Verbose” option added to show all messages from FSM
- Installer progress bar now shows percent complete relative to the total number of database update steps

Web Client

- General: UI updated with more contemporary theme, improved responsiveness – clear the browser cache if you have upgraded from a previous Fusion release
- General: Crestron Connected driver for Display asset added to device drivers
- General: reduced the number of Alert emails sent and eliminated alerts on program attributes when the symbol goes offline
- Monitoring: 1MB limit on document upload has been extended to 50MB
- Monitoring: Uploaded document file types exclusions are now limited to BAT, EXE, COM, JS; files allowed for upload/download have been extended, supported types now include: TXT, DOC, DOCX, XLS, XLSX, HTML, PDF, ZIP, MP3, MP4, BMP, JPG
- Monitoring: web client remembers last tab selected from a previous session, tabs can be reordered by drag-drop or closed; a user can configure/reconfigure which tabs are displayed via their Profile
- Monitoring My RoomView tab: UI improved with collapsible sections, added Offline Rooms category; clicking on a critical alert opens the Room Details; clicking on a the help request or critical alert icon in the navigation/Header Tab jumps to My RoomView tab
- Setup: email template has been enhanced to show the asset name in the email; use the dropdown to insert asset name

Bug Fixes:

- Fixed: in the Configuration Manager, the database server port number will now populate when another instance of the application is loaded
- Fixed: during Apply in the Configuration Manager, the Fusion Services Manager (FSM) error “user isn’t of sys admin type” will no longer occur if the database installer identity was correctly specified with this privilege

- Fixed: the installation process will successfully complete when installed on an IIS Web Site other than Default
- Fixed: in Google Calendar, support added for time zone name change from "America/Buenos_Aries" to "America/Argentina/Buenos_Aires"
- Fixed: end early button now works on meetings in Google Calendar
- Fixed: user name no longer substituted with Default Organizer on room scheduling panels connected to a Google Calendar resource
- Fixed: on a room with an EWS:Managed schedule, if it was configured with a bad resource address or an Exchange server issue is preventing the calendar from being retrieved, schedule requests from the Monitoring client will now display an error and scheduling panels will no longer fail silently with an empty schedule and will generate a critical alert
- Fixed: Impersonation with an EWS:Managed provider is now being performed when EwsUseImpersonation set to True
- Fixed: Online Status entry for Assets with a Connection Type of None will now be displayed as blank
- Fixed: for Inbound connections, a false Partial Online is no longer recorded on a room having two or more Assets that are reporting Online
- Fixed: Crestron PinPoint room can now be determined when a meeting is created in Apple iOS or OS/X, or under other circumstances where the user has no permission to view the room calendar
- Fixed: Deleting an Asset driver when the driver is in use by another asset is no longer allowed
- Fixed: if you edit a room and change its server group to "Group will not be loaded" any devices in the room will now be disconnected
- Fixed: a processor re-discovered via the Symbol Discovery process, the room will no longer move out of its existing node in the tree to the context of discovery. Similarly for inbound device discovery, the room no longer moves to the Root Node.
- Fixed: the filename no longer disappears the first time the user presses Upload when adding a document in the Monitoring web client

Upgrade/Configuration Notes:

- When using the Microsoft Exchange EWS (non-Managed) provider:
 - The version of Exchange server should be specified in the All Configuration setting EwsDefaultVersion e.g. as Exchange2010_SP2.
 - The Microsoft Exchange EWS (non-Managed) provider is no longer supported with Microsoft Office 365. Migrate existing rooms on an upgraded server to Microsoft Exchange EWS: Managed.
 - The All Config property EWSUseOldAD is no longer supported.
- When using the Microsoft Exchange EWS: Managed provider with Microsoft Office 365:
 - Autodiscovery is required and the server endpoint is not configurable – Crestron Fusion uses Microsoft standard autodiscovery. Use the Microsoft Remote Connectivity Analyzer <https://testconnectivity.microsoft.com/> and select Outlook Autodiscover to inspect timeouts and delays in the discovery infrastructure in order to optimize performance
 - There is no service account in Cloud Edition installations. As such, each room must be configured with the UPN identity of a user ID that can manipulate the resource calendar. Your Exchange Administrator has the necessary PowerShell scripts and access to configure Impersonation for the above identity.
 - Crestron Fusion must be configured for Impersonation; the All Config variable EwsUseImpersonation must be added (bit) and set to True.

- When using the Microsoft Exchange EWS: Managed provider with Microsoft Exchange Server
 - If using more than 20 rooms, it is recommended to configure Exchange for Impersonation. The service account that can manipulate the resource calendars must be configured for the rooms. Your Exchange Administrator has the necessary PowerShell scripts and access to configure Impersonation for the above identity.
 - Crestron Fusion must be configured for Impersonation; the All Config variable EwsUseImpersonation must be added (bit) and set to True.
- When installing Crestron Fusion on-premises and using the Crestron PinPoint app from the public App Store, the All Configuration setting CEMAAllowedAppsOnPrem should be set to AppStore or AppStore|Enterprise

IV. Known Issues

Installation

- Installer is not detecting that the binaries supporting the installation of roles that are not present on the server are removed. If the customer reduced the footprint of their server image, the install will fail silently and leave Fusion in an inoperable state.
- Two installers may not be actively running against the same database at the same time.
- The Fusion 10 installer will create a separate “Crestron->Fusion” program group on the Start menu separate from other Crestron installed software.
- After completing install, if an HTTP 500 error is observed when browsing to the web interface, run the following command with Administrator privileges:
C:\Windows\Microsoft.NET\Framework64\v4.0.30319\aspnet_regiis.exe -i
- During a fresh installation, the Allconfig setting "FloorplanDebugMode" is set to TRUE by default whereas it should be FALSE.
- In a new installation, the application instance must have been started and stopped once before any license can be applied.
- In a multi-server environment, the anonymous access required by MSMQ may not get applied correctly to the second server. Pressing the APPLY button in the configuration manager again will set the permission correctly.

Configuration

- The SQL Disks feature will not reset file locations to their default values if the user creates a new database.
- The configuration manager may throw an exception instead of alerting the user when there is another user session of the configuration manager currently running.
- Configuration Manager - Welcome Page / Fusion Services Window – the Router Service name appears as "CRVRouterService" instead of the friendly name “Router Service”

- Runtime Credentials authentication type radio button is unselected after APPLY and returning to the database configuration screen.
- After Apply, database update messages may exceed 100% complete.

Database

- The database name cannot include a hyphen character ("-").
- The database connection must be specified with a fully qualified domain name, an IP address cannot be used.
- An existing 9.3 or earlier database cannot be upgraded while replication is enabled. Replication is enabled for installs that include a separate log and reporting database. This configuration is no longer supported. Installs that only include a separate log database do not involve replication. Disable replication before proceeding with the upgrade. See Section II above regarding software upgrades.

Administration

- Setting Connection Direction to None for an Outbound asset does not disconnect/prevent the asset from being started. Workaround: set Connection Type to None.
- In Setup, when moving a room from one node to another node that are flagged as different buildings for Crestron PinPoint, the warning "Beacons associated with this room will be deleted" is generated even if there are no beacons defined on the room.
- Configuring security on the processor is not compatible with autodiscovery in all circumstances. Workaround: enable security after discovery.
- Impersonation support via the EWS:Managed provider requires the All Config variable **EwsUseImpersonation** must be added (bit) and set to True.
- The driver update function will not update the Model if changed in the new driver.
- Nodes are not listed in the server groupings and the number of rooms per server doesn't match the group number.
- The server group tree will not automatically update when a new server is added.
- Configuration - Server Uptime always shows at least 8 hours even after server restart.
- Empty security group cannot be deleted if it previously contained a deleted person.
- Fusion API: the server will ignore API_Room.Persons on Room PUT
- In Configuration web client, the pagination controls on server rooms list may become disabled

Monitoring & Asset Management

- When Connection Type on an Asset is changed from having a connection to none, the status in the Monitoring UI is shown as offline
- Rooms and Assets in Group will not be loaded may show as Online in Monitoring if that was their prior state before the Server Group was changed
- When logged out, Fusion returns a blank screen from a bookmarked URL with a particular WC page (eg. setup or monitoring) and does not log the user into the requested page
- In FireFox, when there are no active alerts the user is improperly navigated to My RoomView tab upon starting the Monitoring web client.
- Selecting a currency other than USD in Setup still shows the "\$" sign when the historical energy chart is displaying cost.
- Special characters (<>) are removed from input fields in the user interface.
- Attribute values related to broadcast message not appearing correctly in the Monitoring web client: in the status tab of the asset, broadcast message enabled will show a red x and broadcast message type will show a shaded color bar

- The Reset button in the Capture tab may show as “undefined” when it is the default tab.

Capture

- The approval link from the capture email notification will not allow unauthenticated users. The user must log into Fusion in order to approve capture content for distribution.

Room Automation

- Energy management: Time clock control does not support dd-mm-yyyy format.
- Energy management: For accurate calculation of sunrise/sunset, you must have the Time Zone and Geographic Coordinates defined at the node/room

Scheduling

- In Google Calendar provider, if you edit time, date or meeting name on a multi-room meeting in the Monitoring web client, only the first room - the one used to book the meeting - shows the updated info
- For recurring meetings on the RoomView internal calendar, multiple ‘check-in failed’ emails may be generated if the Check-In function is enabled on a scheduling panel.
- Meetings that have actions associated should be booked 30 minutes in advance of the meeting start time.
- A panel that supports push must be configured for polling mode when combined with another panel/device that only supports poll in the same room.
- A recurring meeting with no end date made in Lotus Domino does not show all the future instances in the web interface.
- Recurring meetings created from the Crestron Fusion® web client must be deleted and recreated in order to change parameters such as the date, time, or recurrence pattern of the meeting.
- The “Check Email” configuration option should be disabled for Lotus Notes installations.
- Editing a meeting in the Crestron Fusion® web client that was created from Lotus Notes will delete and re-create the meeting on the calendar. This may cause the meeting to momentarily disappear from the calendar.
- Fusion may not always detect a double-booked room when a meeting is added to a room's calendar through Microsoft Outlook and a second meeting is added for the same time to the same calendar through Fusion.
- A recurring appointment using Exchange EWS that is updated to extend the number of occurrences may display at an incorrect time after DST transitions when viewed from a Web Client in a time zone with different DST transition dates.
- A meeting scheduled by a Web Client user in a time zone that differs from that of the room or rooms in the meeting may not be correctly scheduled over a Daylight Savings transition if one time zone supports DST while the other does not.
- In order to retrieve older meeting data, a backfill job must be manually created with a start date that reflects the timeframe of meeting data to gather.
- A recurring meeting that includes multiple rooms where the rooms span multiple time zones may not reflect the correct time for instances of the meeting that occur after a daylight savings time change.
- Creating a recurring meeting in an area that doesn't participate in Daylight Savings can cause some occurrences of that meeting to display a start and end time one hour earlier than specified.

Reporting

- Scheduled reports will always run on weekends, even if not selected.
- The second page in the Display Usage by Device report is blank.
- Cannot print Device Usage report in FireFox under certain circumstances.
- Instant Messaging report when displayed, the inner frame scrollbar is not accessible, causing the displayed content to be cut off, and the content in the exported PDF file is not formatted correctly
- Permissions on tasks for scheduled reports must be set from the Windows task scheduler after the scheduled task is created.

Licensing

- The application instance must be run once before the application is licensed. Follow the steps below:
 1. Complete the install without licensing
 2. Run the instance
 3. Stop the instance
 4. License the application
- Entering a PinPoint license will cause the Monitoring and Energy Management licensed on dates to change to match the PinPoint license date.

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