



ATMS Central Software

Release Notes

Table of Contents

INTRODUCTION	2
ATMS 2.4 RELEASE	2
ATMS 2.5 RELEASE	3
ATMS 2.6 RELEASE	5
ATMS 2.7 RELEASE	7
ATMS 2.8 RELEASE	9
ATMS 2.9 RELEASE	13
<i>ATMS 2.9.1 Release</i>	<i>16</i>
<i>ATMS 2.9.2 Release</i>	<i>18</i>
ATMS 2.10 RELEASE.....	20
<i>ATMS 2.10.1 Release</i>	<i>23</i>
<i>ATMS 2.10.2 Release</i>	<i>25</i>
<i>ATMS 2.10.3 and ATMS 2.10.4 Release</i>	<i>27</i>
ATMS 2.11 RELEASE.....	29

Introduction

This document provides a brief description of the enhancements included within each new release of the ATMS central software.

ATMS 2.4 Release

The following is a list of updates revisions and enhancements from ATMS2.2.

- Google maps available in Web.now module *
- Railroad pre-emption features
- High-Resolution/Purdue Data Module *
- VIMOC parking integration *
- ATMS database performance improvements
- Improved Purdue Log record inserting performance *
- Add Phase or Overlap selection on Purdue Coordination Diagram report
- Setup Purdue coordination diagram report on ATMS.now client side *
- Export real time controller scan buffer for connected vehicle applications *
- Purdue Log Chart: show the start of green assuming all non-coordinated phases max out *
- Updated Google Maps performance and feature set, including the Google Map editor
- Updated Bing Maps feature set including searching from Map.
- Controller pushpin shows alarm status (different color and flashing) on Bing/Google map.
- Scan Window and server status application (server activity, communication status and admin events) support multiple customer agencies.
- Show controller time difference warning on the controller list view.
- Show controller real time information such as TBC, local counter, pattern etc., on the map.
- Ability to reset admin server from the client.
- 33X Configuration Tool for V65 Controller Types
- CUS168 and CUS169 spread sheet changes in filling in channels for V65 Controller Types
- Ability for controller defined as offline are still being scanned for real time data
- Camera Integration Ocularis*
- BBS integration
- Various template changes/additions
- Master pattern transfer
- TR Master Email on pattern change
- New Splits Report showing Force-off, Max Gap for each cycle
- Wavetronics Integration with Centralized Traffic Responsive Masters*

* Part of an optional module and not included with ATMS by default.

ATMS 2.5 Release

The following is a list of updates revisions and enhancements from ATMS2.4.

- Added an ATMS Configurator Program residing on the server. It is used to configure various ATMS SQL database items, such as controller type list.
- Added ATMS Status Monitor to the Client window for users to easily view and verify if the Communications Server, Administrator, ATMS Web services (XIPC/IIS), Connected Vehicle and Synchro Green are running.
- New Upload Sync feature which allows StreetSync and Laptop Partner controller synchronizations to be selectively copied to the Permanent database and at the same time be archived.
- Added to the controller database Pattern Plus and Split Plus tabs text description labels for user reference. The labels will be displayed on the List view screen under the Pattern and Split Index columns.
- Various database template additions for V76 controllers to match missing or new fields that were added to version 76_13x and higher. Parameters such as TS2 Det Faults, High priority Preemptions 7-12, new preemption parameters, Alternate Phase option parameters, Peer Programming, I/O Logic Peer sourcing, etc. were added.
- Added Version 80.x Controller Type Definitions and associated templates.
- Added setting in Controller Definitions to define the Firmware OS Type for ATC or 2070-1C (Linux) or 2070-1B (OS9) hardware for FTP connections.
- Added new CSV export Report to allow CSV files to be created by the user for volumes or Splits. This file can be readily opened in Excel for customized agency use.
- Added a Purdue Split Monitor report featuring the Purdue split monitor diagram
- Enhanced the Purdue Coordination diagram report, creating a report for all phases and adding a Metrics table. In addition a single diagram and per phase Report mode was added.
- Added the Day Plan Report under the Database Utilities section. This utility allows the user to select multiple controllers and view their day plans side-by-side to assure that intersections are lining up with coordination schedules.
- Migration of reports from Crystal reports to Dev Express reports. In particular Field Alarms, Purdue Reports, and Split reports now use this new report mode and format.
- When defining a new Ethernet type controller, enhanced validation testing has been added. Each controller must have a unique ID, IP address and Port number combination or it will not be defined.
- Scan screen status icon reflects signal in Automatic Flash
- Added Flashing Icons on Map view
- Added Transit signal Icons added to Map view
- Excel Template changes for NYSDOT customized sheets
- Added GIS to Bing Map Icon Conversion Tool in the ATMS Configurator to resize icons as per agency preferences.
- Real-Time status report now available via List view
- On List view, the user can now sort the revision number by numeric order, not alphanumeric order
- Database Compare will now display all tabs with differences
- Various Database Conversion Utility bug fixes and enhancements including using same controller ID in conversion process.

ATMS Central Software Release Notes

- Various ATMS Proxy services enhancements and Bug fixes.
 - Various Bing Map and Google Map enhancements and Bug fixes.
 - Various Admin SQL, XIPC and IIS Enhancements and Bug fixes including new pipeline enhancements to handle queued requests.
 - Various Database Conversion Utility bug fixes and enhancements including using same controller ID in conversion process.
 - Enhanced Error logging for Technical Support personnel to assist customers with issues.
- 1.

- Various Web.now module enhancements and bug fixes.*
- Wavetronics Integration with Centralized Traffic Responsive Masters*
- Integration of Wavetronics Real Time data via FTP from Wavetronics Service Provider*
- Bing User Interface for Wavetronics devices*
- Connected Vehicle Module Interface including Publisher, Provider and Subscriber modules*

* Part of an optional module and not included with ATMS by default.

ATMS 2.6 Release

The following is a list of updates revisions and enhancements from ATMS2.5.

- Added Connected Vehicle Module including all interface screens. This module provides controller status data to remote subscribers *
- Added Parking Module including all interface screens. This web based module interfaces with the Cubic/Trafficware Pod detector system to managed parking spaces in an agency selected lot. *
- Added Center to Center (C2C) integration which establishes a link between two or more ATMS.now Central System for the purposes of exporting Traffic Responsive patterns from one system to enact a trigger event on the other. *
- Added Signal Performance Measures (SPM) data integration with the SPM website hosted by Cubic/Trafficware as a Cloud solution. *
- Integration with LADOT ramp meters via third party software by Delcan *
- Various enhancements and bug fixes in Web.now module. *
- Various Admin, SQL, XIPC and IIS Enhancements and Bug fixes.
- Various Bug fixes with Bing Map controller definitions
- Various ATMS Configurator and licensing enhancements. This includes a way for the user to view which modules are currently licensed by the agency.
- Added feature in Client Login to allow logging via Host name.
- Enhancements to the Comm server Status screen
- Controller ID enhancement to allow programming of ID's up to 65535.
- Added new On Demand Full Status Scan and On Demand GYR Scan ability typically used for serial controllers.
- Enhancements to the High resolution module including new reports and SPM integration. *
- Continued Migration of Crystal Reports to the Dev Express report platform.
- Various bug fixes with specific reports including Split reports.
- Added a new report named CSV Export that will export the entire Local Vol/Occ or Split databases to an Excel or a Text file.
- Diagnostic enhancements to disallow downloading of blank or non-existing (deleted) database files
- Diagnostics enhancements to alert the user if an uploaded database has improper or blank data.
- Selected Details Alarm Screen bug fixes

- Added new alarm infrastructure for Preemptions 7 thru 12 for the Detail pane and the Reports.
- Enhanced screen modifications and bug fixes on the Day Plan Report Utility
- Added a new database Edit categories selection of Controller Menu to display the parameters and data in the same order as it is on the controller.
- Added Various V76 and V65 new and missing parameters to database edit screen
- Added Local and Master V41.x controller types including definitions and editing screens for CTDOT.
- Added the Controller ID # to the name field list when editing multiple databases on the database edit screen
- Added Special database names labels to the database editing and view screens
- Added List view and database template screens sorting enhancements including true numerical sorting on alphanumeric columns.
- Diagnostics to alert the user when a field master controller is deleted that there are subsystem locals assigned to it. This will allow the user to modify the Master Field on the configuration definition of each local.
- Turn Phase/Direction configuration Bug fixes
- Time Space diagram enhancements including anchored time scale and access of historical split data from the Archived Split reports.
- Scan screen enhancements including changing the Online status icon to reflect the same status as from the list view

* Part of an optional module and not included with ATMS by default.

ATMS 2.7 Release

The following is a list of updates, revisions and enhancements from ATMS2.6.

- Blue Toad Integration on Bing Map to show travel time, current speed, historical speed, and speed limit. *
- The user has the ability to define which devices are displayed on the Bing Map at specified zoon levels.
- Connected vehicle module stability improvements *
- Cubic/Trafficware SPM Cloud Service Integration*
- Ability to define presets on Bing Map display
- Ability to define which devices are displayed on the Bing Map at specified zoon levels.
- Continued enhancements to v76 2070 edit database functionality. This includes a new user setting that allows the user to display the edit screens data in the same order as is displayed in the controller.
- Time Space Diagram allows the user to change the offset and save it to the controller database.
- Time Space diagram allows the user to print out the diagram
- Database template modifications to accommodate 5 digit subsystem controllers for versions 76 and 61.
- Continued conversion of reports from Crystal to DevExpress.
- Scan Screen stability improvements.
- Bing Maps stability improvements including scaling of Push-pin icons..
- Implemented camera tour functionality for those agencies that do not have IV&C type cameras in the CCTV module. *
- Reports Module enhancements / issue resolutions including:
 - Resolution of I/O Logic printing issues in database reports.
 - Volume/Occupancy per day / Multi day issue resolution
 - Volume/Occupancy In/Out per Day and Multi day issue resolution
 - Volume/Occupancy by Lane Report issue resolution.
 - Turning Movement Volume Report issue resolution
 - Volume/Occupancy Report issue resolution
 - CSV Export Report Splits data enhancements
 - Turning movement volume graphic report enhancements.

- Edit Database enhancements / issue resolutions including:
 - Column persistence issue resolution.
 - Updates to Overlap B+, Coord Param+, Unit Param, Phase Option Alt Tables.
 - Vehicle Dets and Event Schedule Export data issue resolutions
- Added User specified Reason for doing a download on database download screen
- Column persistence issue resolution in List View
- Conversion tool issue resolution

* Part of an optional module and not included with ATMS by default.

ATMS 2.8 Release

The following table lists updates, revisions and enhancements from ATMS2.7.

#	ATMS 2.8 Features	Comments
	Key Features	
1	ATMS-Synchro Integration	Added a direct connection between ATMS.now and Synchro 10.2 users which enables seamless importing and exporting signal timings from/to either side. Supports v61, v65, v76 and v80 controller software
2	Alarms Dashboard	Added the monitoring and analysis of alarm activations and durations in a new application. A new category in Home module, named Analytics, was added along with a new icon. The Dashboard has the ability to visually display alarm related data concerning the number of activations or duration of alarms. (Please note that Duration was not calculated automatically before in ATMS Field Alarms report)
3	v80 2070 Integration	The complete integration of v80 2070 controller software and its advanced features into ATMS.now. This includes adding all V80 parameters, the parameter naming aligns with the controller, the order of parameters matches the controller and the ATMS.now reports will support the data from new v80 2070 devices.
4	Static/Dynamic Timing Sheets	Added user configurable Timing sheets along with the selection of individual categories, tables, and parameters. Added the ability to save a template with favorite selections per controller type and reuse them at a later time.
5	Peer-to-peer communication status for v80 2070 controllers	The Scan Screen has new tab with Peer-to-peer details
6	90 days Vol/Occ for v80 2070 controllers	V80 controllers will store detector volume/ occupancy data for a minimum of 90 days and ATMS uses this new process to extract that data. It can work with Cubic/Trafficware software on other vendor's processor cards by using FTP, SCP or SCP secure data transfers.
7	Reports Modifications	The TMC reports use correct intervals. The LOS reports are created in Dev Express and show ID and Name. The warning is displayed when thresholds are not set up for the proper Detector Failure Report thresholds. The Headers in the Volume / Occupancy report show volume or occupancy depending on what is selected.
8	Four New Ethernet Status Comm Reports	Daily and multi-day graphs and table reports showing if Ethernet capable devices are responding per user selected threshold.

ATMS Central Software Release Notes

#	ATMS 2.8 Features	Comments
9	Time-Space Diagram Modifications	Creating Time-Space diagrams by selecting controllers of different types is enabled again. Issues with the wrong offset values when the starting time has been changed is now resolved. TS diagrams can now be printed.
10	EDI CMU 2018KClip and CMUip212 support	Integration by launching ECCOM (EDI's software) after user double-clicks a CMU icon on the map.
11	Added subtract detectors concept	Introducing a new group of fields in the Edit Turn Phase Movement Definitions whereas the user will be able to specify detector number whose actuations will be subtracted from some another detector's or set of detectors actuations. Replaces subtract from left/right feature from earlier versions of ATMS
12	Bike and Rail scan elements added to Bing Maps	New scan elements that can be tied to controller channels and show signal indication status.
13	Strong Password enforcement is introduced	When creating new users, password has to satisfy certain criteria: be between 8-15 characters long, have at least one capital letter, at least one number and at least one special character.
14	Detaching allowed	The Details Pane and all its tabs can individually be detached and used as a separate window.
15	A button to revert column order in the List view to default is added	In case the has user rearranged the column order in list view and wants to revert to the default list view settings, only one click on "Reset Column Order" button is necessary.
17	Alpha FXM 2000 UPS (BBS) device is integrated in AMTS	Part of the Alpha Module. The map view and definitions module now uses the updated device type that supports both the existing FXM 1100 type and newly added FXM 2000 type BBS devices.
	Additional Improvements and issues that have been addressed	
18	Low priority Preemption data editing enhancements	Preempt LP shows "TRANS" selection instead of a "3"

ATMS Central Software Release Notes

#	ATMS 2.8 Features	Comments
19	UDP port number for Peer-to-peer shows correctly	UDP port number for Peer-to-peer is now displayed correctly in various database templates.
20	Web.now module enhancements	Always keep camera image (video) on top of the screen in front of ATMS.
21	Coordination Diagnostics bug fixed	Repaired Coordination Diagnostics calculations so that it does not show errors every time it is run
22	Database Lock User feature modifications	Issue resolved where a user was allowed to edit a database when another user was editing it at the same time. Once a database is locked, other users are locked out until the editing is completed by the original user.
23	Communications Failure/ Communications Restore alarm reporting modifications	Eliminated multiple communications restores that were being reported after a failure.
24	V76 controller database template enhancements	DSRC, Host and External Patterns parameters are included in the V76 controller database programming screens.
25	Navigation through Edit Database for v80 2070 controllers by using controller menu numbers	Tabs in ATMS Edit database screen can display numbers that are necessary to be pressed on the controller keyboard to reach a specific menu. Tabs are organized in ascending order.
26	Database Comparison report enhancements	The Database Comparison report has been converted to a Dev Express report
27	Volume / Occupancy per Lane report enhancements	The Volume / Occupancy per Lane report now shows totals and percentages in the summary at the end of the report
28	Report selection menu modifications	Resolved issue such that when the "Reset All" selection is pressed in the Reports selection window, all categories will reset
29	Volume/Occupancy Report resolution enhancements	New aggregation interval of 5 minute has been added for the Volume/Occupancy Report (formerly the resolution interval was 15 minutes.
30	Transit Priority Report Modifications	This report is converted to Dev express. In addition via the selection menu, the user will be able to generate a report not only per controller but also per Flex Group.

ATMS Central Software Release Notes

#	ATMS 2.8 Features	Comments
31	User Login and Transactions report modifications	User Login and Transactions reports have been converted to Dev Express
32	Congestion line mapping enhancements	This includes the ability for the user to change the directions of congestion lines manually. The user can also change the properties, and change the original direction that was automatically assigned by ATMS to whatever the user needs. In addition a real-time dialog box will appear if the user has 2 congestion lines utilizing the same direction.
33	Congestion level threshold validation modifications	Validation of congestion threshold programming. For Example Occupancy has a value range of 0-200, Speed 0-100 and Volume 0 - not limited. Also, there is a validation that does not allow user to enter a larger value for Medium compared with High congestion.
34	Scan Builder for GIS bug fixed.	Users will be able to create and edit scan elements again.
35	Alarm definitions have been updated	Various alarms have been validated with the controller alarms.
36	Windows Authentication log-in	ATMS recognizes the user by his Windows credentials so user does not have to insert username or password to log in to ATMS in that case
37	V61 template modifications	Blank Categories from the v61 template are removed as well as Duplicate references

ATMS 2.9 Release

The following table lists updates, revisions and enhancements from ATMS2.8.

#	ATMS 2.9 Features	Comments
	Key Features	
1	Data segregation per jurisdictions is completely implemented	Jurisdictional associations for data the database tables and data displayed on the client have been implemented. These displays and tables include: Recent Alarms, Alarm History, Current Alarms, Copy database, Upload (Streetsync) Sync, Database Conversion list, Controllers via Bing maps, GIS maps, Alarm Notification, Group, Flex Group, Offline List, Incident Trigger, Scheduler lists (by controller, by flex group, by group) Controller List in reports (both Crystal and DevExpress), and the Saved Criteria for reports now consider jurisdictions, In addition the controller list in SynchroGreen now consider jurisdictions.
2	The Device List has been updated	Via the Definitions module, the device list displays status, device type, latitude / longitude, last date/time of when the device was communicating successfully and the number of successful pings vs number of communications attempts per hour. The list can be sorted per each column.
3	Movement labels added to the Reports->Database-> Timing Sheet ATC v76 report	
4	Server IP addresses will no longer be used in email titles	Instead, customers can configure the email title in the SQL database
5	Reason for download is displayed in the list of archived databases	
6	New Tab for High Res files status added	The original SPM module tab has been replaced by the High-Res tab on the ribbon bar. Inserted the new Icon and this sub tab shows all the signals that are uploaded to the cloud with the last file name and the timestamp that the data was retrieved from the controller. Added High-Res Status action: The High-Res has a new Icon and this sub tab displays the Last file name and the Interval that the signals are uploading from the Purdue service.
7	An updated DevExpress command bar is integrated in the Reports Module	In addition, the command bar stays visible even when user scrolls to the bottom of the report page.

ATMS Central Software Release Notes

#	ATMS 2.9 Features	Comments
	Key Features	
8	New Intersection Layout configuration tool and features have been introduced	A new User Interface (UI) and a new workflow has been introduced. This UI and workflow describes the intersection by creating movement, phase, direction and congestion definitions. The UI's data model supersedes and is completely changed compared to Turn Phase Movement Definitions. This new model has additional data points that are now available. IN addition, a tool has also been built to run the conversion of the existing Turn Phase movement data and Scan Element data for existing customers to this New Intersection Layout format. The updated intersection layout data will be used in various reports, Time-Space diagrams, congestion reports and congestion thresholds, timing sheets and editing database movements. Scan elements will be generated and populated automatically after the Intersection layout is saved. Users can define templates and load them to intersections where the layout has not yet been set. Each lane/movement can be optionally displayed on the map as per the user's preference. New data points will become available to the subscribers using the Connected Vehicle (CV) and the TidalWave modules. A new icon available in the configuration section or via a right click when selecting an intersection in the list view or the map view.
9	All device and event icons are now scalable on Bing Maps	Bing Maps only, Scalability is not available on GIS or Google maps.
10	Excel Export txt file now has unique names for every parameter	The advantage is that once each parameter name is modified, the Excel Export will become resilient to device template modifications since position of a parameter is irrelevant if names are unique (always search the entire range of data). Work will continue on changing the Excel template parameters to the new names.
11	Device type icon size can be modified on the Maps	
12	The Scan element Properties window has been modified with new features.	The sequence and priority fields allow user entry of numbers in addition to moving the slider bar. Additional display data for Arrows, Ped Man, Ped Hand and Detectors symbols has been added to reflect the data defined in the Intersection Layout configuration screen.
13	Additional Scan elements have been created	Bike, No Left Turn, No Right Turn, U-turn, sharp left, sharp right, U-turn + Left turn, Left-Thru-Right, and Left & Right symbols have been added.
14	Pattern Purpose and Pattern Description fields have been added to Edit Database Pattern Plus tab	<p>For Pattern Purpose , a string text selection has been added. This includes: Not Assigned, Free, TOD Coordinated, Traffic Responsive coordinated, SynchroGreen Coordinated and Other.</p> <p>For Pattern Description, a String text selection has been added. This includes: AM Peak, PM Peak, Midday, Off Peak, Traffic Responsive, SynchroGreen Traffic Adaptive, Special Events, Evacuation and Other.</p> <p>Note: Pattern Plus category description changes, "Pattern Name, Pattern Purpose and Pattern Description" are not displayed in StrestSync due to specific database differences.</p>

ATMS Central Software Release Notes

#	ATMS 2.9 Features	Comments
	Additional Improvements and issues that have been addressed	
15	Time-Space Diagram Fixes	After changing the start time of the Time-Space diagram the offset value will not change. The Invalid Link Information error has also been resolved.
16	The Print/Export issue under the "Vehicle Detection" menu has been resolved	
17	The Advanced Schedule tab - printing issue has been resolved	
18	Every other blank row in the exported excel file for reports has been removed	
19	The calculated Red time in the Transit Priority report is reporting accurately	The calculated value is not getting rounded to lower decimal value which was the cause of the inaccurate data.
20	Conflict between User Group and User IDs resolved.	When creating a new User Group from another User Group and using the ID of a User, the User was deleted from the system. There is no warning that ID is already in use so the deletion occurred. This is now resolved.
21	Signal name not truncated anymore on the right side of Edit Database screen	If the user enters a long name under the controller definition, the name was truncated. When the user hovers over the controller name with his mouse, then the complete name of the controller is displayed using the tooltip.
22	Database Comparison report displays entries chronologically	When user modifies the size of one device icon, all devices of that type will be affected at the same time.
23	Fixes in Dynamic timing Sheet	Includes the Day Plan category which was added for the v76 2070 controller type. In addition, the Enable Alarms and Enable Events tabs have been expanded to be easier to read.
24	Data from v61 controllers are now enabled in TidalWave.	
25	Resolved issue with creating the Exchange Folder for the ATMS/Synchro Integration.	The folders will be successfully created and an email will be sent to the user.
26	Number of channels for a v76 controller has been modified	v76 controllers display 24 channels

ATMS 2.9.1 Release

The following table lists updates, revisions and enhancements from ATMS2.9.

#	ATMS 2.9.1 Features	Comments
	Key Features	
1	Scout Controller Type	A v85 Scout controller type has been introduced
2	Scan Screen additions	A Channel as a parameter option in the dropdown is added for Arrow, Ped Crossing (Ped Man or Hand-Do not Walk) and the detector scan elements.
3	Parking Module	A new feature has been added for the ATMS Parking module where user can set up a parking facility to automatically receive updates from pods or to manually declare that the parking facility is open or closed.
	Additional Improvements and issues that have been addressed	
4	Time Space Diagram Enhancements	The speed on the outward facing approach for the first and the last intersection of a corridor does not need to be defined in order to generate Time-Space diagram.
5	Time Space Diagram Enhancements	The errors with generating link and arterial bands in Time-Space diagram when cycle lengths and offsets are changing have been resolved.
6	Volume report Enhancements	Volume related reports have been updated to not show values when no data has been received and to show "0" values only when a received value is zero.
7	V76 Database Template additions	New parameters related to Flashing Yellow Operations have been introduced in the database editor for v76 controller types.
8	ATMS-Synchro Enhancements	The databases of v76 2070 type controller can be exported via Enhanced ATMS-Synchro Integration
9	Database Configuration Enhancements	The Database Configuration dropdown has been expanded to show archived database names in its entirety.

ATMS Central Software Release Notes

10	Reports Module Fixes	The appearance of duplicate entries from Detector failure, volume/occupancy and database comparison reports have been resolved.
11	Field Alarm Report document generation	Field Alarms report generates the document when large majority of alarms are selected manually from the list
12	Synchro Time interval Changes	The correct time intervals for export of volumes to Synchro via UTDF are being used (previously offset by one) and “60 Minute Counts” is added to reflect that ATMS will always export data for 1 hour. If a user selects shorter or longer period of time than 1 hour, the data will be averaged or extrapolated as needed.
13	Connected Vehicle Module Fixes	After editing the subscriber in CV module, a user will be sent back to the list of subscribers and not the main menu.
14	Archive Database Fixes	The issue with loading of Archived databases for controllers has been resolved.
15	Volume/Occupancy report Enhancements	The controller Names are ordered alphabetically in the Volume/Occupancy report.
16	Selected Details Notes Fixes	Notes entered by users will not be repeated multiple times, and in case they are deleted, the system notes will automatically disappear from all clients.

ATMS 2.9.2 Release

The following table lists updates, revisions and enhancements from ATMS2.9. 1.

#	ATMS 2.9.2 Features	Comments
	Key Features	
1	Volume Occupancy Turning Movement reports	The U-turn movement is added to Volume/Occupancy per lane and Turning Movement Count reports/graphs
2	Synchro Exchange Folder Enhancements	The option to add Synchro users to already created Exchange Folder, and the option to delete previously created Exchange folder have been added for Enhanced ATMS-Synchro integration
3	Intersection Layout Enhancements	Intersection Layout supports creation of up to four intersections that can be controlled by a single traffic signal controller
4	Chronomax Interface	A new icon and a new scan screen have been designed for Chronomax devices
5	Bing Map Enhancements	The icon loading process for the Bing map has been optimized to improve performance
6	BlueToad Module	The BlueTOAD module has been modified to consume the updated data feed from TrafficCast
	Additional Improvements and issues that have been addressed	
7	Detail Pane Alarm History	The alarm history will show last 100 alarms regardless of when they were created
8	Overview Pane Field Chooser	The Field Chooser for the controller list is organized in alphabetical order
9	Device Definition Enhancements	Latitude and longitude can be added for a device when a device is created via the "Create Device" in the "Definitions" tab

ATMS Central Software Release Notes

10	Synchro UTDF interface Fixes	Synchro UTDF export for volumes is fixed so it does not use values that are 15 minutes off from selected time interval
11	Volume/Occupancy Per Lane report fixes	The Volume/Occupancy per lane report will show only approaches, movements and lanes that are defined in the intersection layout and not a fixed number of lanes
12	Volume Occupancy report fixes	The Volume reports do not repeat the last collected value for future time intervals
13	Broadcast Message Utility fixes	The issue where Broadcast message is repeated multiple times is resolved
14	Transaction Report	An issue with incorrect timestamps in the Transaction report after the server and data migration has been resolved
15	Archive Database fixes	An issue with incorrect timestamps logged for Archive Database after the server and data migration has been resolved
16	Bing Map enhancements	Right-clicking option on the Bing map as an alternative to the ribbon bar has been reintroduced
17	Selected Details enhancements	The attachment files in ATMS can be deleted by doing a right click and selecting "Delete" beside pressing the Delete button on the keyboard which was previously the only option
18	Selected Details enhancements	Fixed the checkbox in the Notes column in List view so it does clear after searching or filtering the list
19	Field Alarm Report fixes	The Field Alarm report will be successfully generated in the instance where user selects manually multiple consecutive alarms from the list

ATMS 2.10 Release

The following table lists updates, revisions and enhancements from ATMS 2.9. 2

#	ATMS 2.10 Features	Comments
	Key Features and Enhancements	
1	GRIDSMART Integration	GRIDSMART camera is integrated to show fisheye view, device information, and camera status
2	POD Base Station Integration	POD Base station device type is added
3	MMU/CMU Permissive mapping	MMU and CMU permissive mapping in ATMS database editor are presented as a triangular matrix versus a single row as it was the case before
4	Create Definition	The Flex Group selection field is added in Create Definition menus (both in list or map view) so a user can assign a controller to one or multiple Flex Groups at the time of creating the controller.
5	Alarms	Two alarms for Pedestrian Phase extension and Red Clearance extension are added
6	Security	All configuration and utility files in ATMS are encrypted for enhancing the security posture
7	TLS 1.2 Support	The support for Transport Layer Security (TLS) 1.2 is added
8	Intersection Layout	A field for the pocket (bay) for turning lanes and its length is added in the Intersection Layout
9	Intersection Layout	A field is added to declare if a lane is channelized in the Intersection Layout
10	Intersection Layout	Curbside and Downstream detector purposes are added in the Intersection layout (used with Subtract Detector option for calculating turning movement counts for shared lanes)
11	Intersection Layout	The detector purpose interface is modified to be more flexible and support combinations of purposes
12	Intersection Layout	Shared % and Subtract detector menus in the Intersection Layout are modified to be more flexible and support turning movement calculation for mixed lanes where all three movements are allowed (Left-Through-Right)
13	Intersection Layout	Pedestrian Scramble is added as a pedestrian crossing type in the Intersection Layout
14	Tidalwave	Software prerequisites for Tidalwave are provided with ATMS v2.10
15	Reports	The My Report category is added to the report categories so each user can select a subset of reports that are frequently used
16	Reports	The Days of week criterium is added for Split History, Split Timeline and Field Alarms reports
17	Reports	The Continuous or Interval timespan criterium is added for Split History, Split Timeline and Field Alarms reports

ATMS Central Software Release Notes

18	Reports	Added option for a user to choose from which detector types volume or occupancy should be retrieved for Volume/Occupancy per lane report and graph
19	Reports	Volume/Occupancy report, Volume/Occupancy per lane report and Turning Movements report can be generated per Flex Group for multiple controllers
20	Reports	Split history and Split Timeline reports can be created per Flex Group for multiple controllers
21	Reports	Minimum split, maximum split, standard deviation, 50th and 85th percentile values for the split duration are added in the summary table for each controller in Split History report
22	Reports	The time format across all reports is reconciled to show 00-24h (military) format
23	Reports	Two reports for extensions (Pedestrian Phase or Red Clearance extension) are added
24	Reports	The scroll bar is added to the Reports Filter dialog box
25	Reports	All reports have been converted to Dev Express report engine.
26	Alarm Dashboard	A scrollbar is added to the filter list in the Alarms Dashboard
27	Security	ATMS supports the SCP protocol with strong password to retrieve high-resolution or volume/occupancy data for Trafficware controllers with v6 engine board
28	Excel Export	Four Excel Export Templates are provided with updated export data and formulas to not rely on controller parameter positions in spreadsheets (for v65, v76 ATC and v76 2070 software).
29	Alarms / Events	The separation of alarms and events depending on the controller programming is included
30	User Interface Enhancement	The loading speed of tabs in the Edit Database screen is improved
31	User Interface Enhancement	The logic for updating the ATMS components' status (bulbs in the lower right corner of ATMS client) is updated.
32	Database Editor	The new parameter for ethernet link speed for v76 ATC and v76 2070 controller types is added
33	Custom Timing Sheet	The Modified Date field is added to the Dynamic Timing sheet to represent the timestamp when the database was saved
34	Event Definition	Latitude, Longitude, and Altitude can be configured for Accidents and Construction events in the Definition tab.
35	Client Enhancements	Logfile size and number on the ATMS client workstations are limited to prevent filling the hard drive
36	User Guide Access	Instead of attaching the User Guide document for ATMS, a link will be provided to an online location where the newest user guide document will be posted.
37	Details Pane	Selected alarms will update automatically and not only when opened
38	Axis Camera Devices	Axis Media Control 7.20 link is updated and Axis Media Control 7.3.10.1 link is added on the ATMS splash screen

ATMS Central Software Release Notes

	Additional Improvements and issues that have been addressed	
39	Map Scan Elements	Duplicate Scan elements on the map after conversion can be deleted by selecting right-click and Delete
40	Intersection Layout / Turning Movement Counts	When using the Shared % option for calculating Turning Movement Counts for mixed lanes, turning movements will be accurately presented for Left or Right maneuver regardless of the fact if a dedicated left or right turning lane is already present.
41	Scan Screen	Peer-to-peer port numbers are showing correctly
42	Time Space Diagrams	Bug where a band passes through a red bar in Time-Space diagram is resolved
43	Alarms Dashboard	A mechanism for verifying the connectivity between ATMS and Alarms Dashboard is improved so the data inconsistency is prevented
44	Auto Reports	The Split History Auto Report bug when a signal name is used in the filter criteria selection is resolved
45	Custom Timing Sheets	The Expanded option for Dynamic Timing sheet for v76 controllers is enabled
46	Emergency Module	The CAD Incident feed issue is resolved
47	Bing Maps	The issue with permissions to show the Legend in the Bing Map view is resolved

ATMS 2.10.1 Release

The following table lists updates, revisions and enhancements from ATMS 2.10.

#	ATMS 2.10.1 Features	Comments
	Key Features and Enhancements	
1	UPS Module	Renamed Alpha UPS module to become UPS Module
2	UPS Module	Modified the UPS module to support any UPS device that utilizes the NTCIP UPS.mib (RFC 1628), for example Multilink EP2200
3	UPS Module	Included the support for Multilink EP1100 UPS device
4	UPS Module	Added UPS related alarms to Active Alarms Selection menu so colors of the new UPS icon on Bing Map or bulb indication in the Device list can change depending on active alarms
5	UPS Module	Deprecated the Alpha category in the Reports tab. The UPS report has now part of the Device category section
6	UPS Module	Added a new UPS Device tab in the details pane with two sub-tabs: Status and Alarms to display the operational parameters of the UPS device and activated UPS related alarms, respectively
7	UPS Module	Included the UPS related alarms in the Alarms Dashboard – Other Alarms category
8	UPS Module	Created a new tooltip for generic UPS devices which the uses the NTCIP UPS.mib
9	Rail Adaptive Module	Added an adaptive module for Rail. The next four items detail the specific enhancements for this module.
10	Rail Adaptive Module	Receive and process the data feed for the location of trains. Currently, the SunRail AVL data feed is supported
11	Rail Adaptive Module	Added the option for users to define geofences for train to check-in or check-out
12	Rail Adaptive Module	Added new Inbound Train alarms for each direction and Train Threshold Exceeded alarm
13	Rail Adaptive Module	Enabled automatic sending of the External Input message to the SynchroGreen module. Synchro Green interfaces with the Rail Adaptive module so it is informed about the inbound train and can execute the defined modification in signal operations prior to the arrival of the train. As an example, Synchro Green will provide more green time for phases not served during the preemption event

	Additional Improvements	
14	Device Definition	Added the option to assign a device to a controller
15	List view	Incorporated context menu (right-click) in the list view to display all devices assigned to a selected controller and actions available for a selected device
16	Database Edit	Modified the behavior of the edit screen persistence. After the user changes the Category Display option in the Edit Database screen of ATMS, the next time user opens a controller database, it will use the last selected option – Full Name, Name or Controller Menu number.
17	Compare databases	Set up “Show Only Differences” to be selected by default when user performs the database comparison
18	Local Download	Added an “Open Destination” button in the Local Download menu. After downloading to a selected folder, the user can access that folder directly from the ATMS client and find the saved file
19	GRIDSMART Device	Included the access to the Device Manager of GRIDSMART video processor
20	GRIDSMART Device	Added support for HTTPS when communicating with GRIDSMART video processor
21	Scout Database Template	Synchronized the Scout database with the controller database by adding: FYAMinTime FYARedB4Ped related parameters
22	Utilities-Documents	Enabled adding multiple documents to a controller at once
23	Bing Maps	Supports searching the Bing Map for devices by the Unit ID inserted by users
	Additional issues that have been addressed	
24	Reports	Enabled generating Volume for Multiple Day Graph for all approaches
25	Reports	Displaying large values in the Volume per Lane Graph report
26	Connected Vehicle Module	Enabled deleting the Subscriber from the Subscriber list in CV module
27	Database Edit (Scout)	Corrected the labels for Delay and Q-alarm in Scout database to display them separately
28	List View	Implemented reassigning of colors for the alternate rows in lists available in ATMS upon sorting the list

ATMS 2.10.2 Release

The following table lists updates, revisions and enhancements from ATMS 2.10.1.

#	ATMS 2.10.2 Features	Comments
	Key Features and Enhancements	
1	C2C TMDD Module	A new module added to the pallet of ATMS modules
2	C2C TMDD Module	Leveraged the TMDD 3.03d and NTCIP 2306 standards
3	C2C TMDD Module	Supports SOAP over HTTP
4	C2C TMDD Module	<p>Implemented multiple user needs as listed below:</p> <p>2.3.1 Need for Connection Management</p> <ul style="list-style-type: none"> ■ 2.3.1.1 Verify Connection Active ■ 2.3.1.2 Need to Support Requests ■ 2.3.1.3 Need to Support Subscriptions <p>2.3.2 Need to Provide Information on Organizations, Centers and Contacts</p> <p>2.3.5 Need to provide Control of the Devices</p> <ul style="list-style-type: none"> ■ 2.3.5.10 Need to Share Traffic Signal Control and Status ■ 2.3.5.10.1 Need to Share Signal System Inventory ■ 2.3.5.10.3 Need to Share Intersection Status ■ 2.3.5.10.4 Need to Share Intersection Status ■ 2.3.5.10.7 Need to Cancel Traffic Signal Controller Control Requests ■ 2.3.5.10.8 Need to Share Controller Timing Patterns ■ 2.3.5.10.9 Need to Share Controller Schedule

	Additional Improvements and Features	
5	Database Configuration	Added Scout Ethernet v85.1.68+ instead of Scout Serial controller type. This controller type correctly displays the Day Plan values for Scout software 85.1.68 or later.
6	Database Editing and Viewing	Added Coord Hold and Max/Frc parameters to Scout database editor
7	Home List View	Persistence of all list column widths per user
8	Database Upload	Persisting the upload configuration selection (default set in user permissions and properties)
9	Bing Maps	Scan element labels are centered and cannot be mirrored
10	Bing Maps	Enhanced the Bing Map loading time
11	ATMS General	Improved the loading time of the application

ATMS 2.10.3 and ATMS 2.10.4 Release

The following table lists updates, revisions and enhancements from ATMS 2.10.2.

#	ATMS 2.10.23 and ATMS 2.10.4 Features	Comments
	Key Features and Enhancements	
1	General	Added Spanish Language in ATMS 2.10.3
2	AVL TSP Module	Added a new ATMS Module which provides priority service to transit vehicles without relying on the physical equipment at the intersection. The position and other transit vehicle progression related information shall be available via AVL (or similar) devices installed on the vehicles.
3	AVL TSP Module	This module leverages GTFS static and GTFS RT, a common format for public transportation schedules and associated geographic information, to determine whether a priority request shall be downloaded from the central system to the controller. The AVL TSP also utilizes low priority preemption (LPP) requests.
4	AVL TSP Module	<p>Key features include:</p> <ul style="list-style-type: none"> • PolingI to retrieve, consume and interpret GTFS static and GTFS-RT • Plot Routes and Stops on the ATMS map (and add to Legend menu) • Display tooltip for route, stop and vehicle with key attributes • Color coded bus icon on the ATMS map – conditioned upon behind schedule or requesting priority • Add triggering distance (user input) in Intersection Layout to configure LPP setup • Map controller and movement/phase to transit route based on LPP setup in the Intersection Layout • Update vehicle position (on the map) and calculate LPP triggering time • Place LPP calls based on triggering distance and schedule adherence • Add two new trajectory-based reports travel time & speed • Add UI menus to support: <ul style="list-style-type: none"> - Schedules for GTFS static and RT - AVL TSP Priority Rules – based on schedule adherence, per route, vehicle, TOD etc. - Customizable selections for TSP, travel time & speed reports • Add AVL TSP related alarms and error logs

ATMS Central Software Release Notes

	Additional Improvements and Features	
5	Traffic Responsive Module	Enabled Scout, Scout 85.1.68+ and v80 controller types. These controllers can now be selected and processed by the Traffic Responsive Central Master as part of its subsystem.
6	Speed Traps	Added the ability to ingest, process and report speed trap data collected by controllers via the Speed Trap schedule and the Detected Speed report
7	Database	ATC cabinet I/O ABC pin mapping
8	Real-Time	Coord Failure Per Phase (Status and Reset) option
9	Coordination Diagnostics	Coordination Diagnostics enhancements
10	Coordination Diagnostics	Added an exception error for v85.1.68+ controller types
11	Real-Time Conflict Monitor Log Retrieval	ATMS-MMU communication via Conflict/MMU to retrieve logs from MMU
12	Real-Time Time Space Diagram	Manual adjustment of offsets on the Time-Space Diagram for v80 and v85 controller software types
13	Database Conversion	Ability to generate splits reports and the ability to generate volume/occupancy reports by controller post conversion
14	Database Utilities	Delete Documents and Notes via “delete” menu option and update checkbox accordingly
15	Jurisdictions	"Delete Jurisdiction" user warning message
16	Schedule and Report Enhancements	Logging of uploads/downloads initiated via Scheduler, Instant Download (Pattern, Preempt, Special Function), Incident Trigger and manual commands (Phase Call, Ped Call) in the Transactions report
17	Reports Module	Transactions Report has been updated to include information on the type of action and who initiated it

ATMS 2.11 Release

The following table lists updates, revisions and enhancements from ATMS 2.10.4.

#	ATMS 2.11 Features	Comments
	Key Features and Enhancements	
1	General	<p>Integrated new controller type v85.2 and template to accommodate the following enhancements:</p> <p>Integrated Controller database expansion/changes as the number of patterns, splits, actions, day plan schedules etc. was increased in v85.2. Major changes are listed below (with respect to v85.1):</p> <ul style="list-style-type: none"> • Number of patterns and pattern specific items was increased from 48 to 253 along with existing patterns 254 (free running) and 255 (flash) supporting a total of 255 patterns. • Number of schedules was increased from 100 to 128 • Number of day plans was increased from 32 to 64 • Number of events was increased from 20 to 48 • Number of actions was increased from 100 to 255 <p>Please note: In v85.2.x :</p> <ul style="list-style-type: none"> • The selection for a Free Ring operation per pattern was moved to Alt Tables+ as it used to be Pattern+ for v76.16B. (Note: this option does not exist in v85.1x) • The default split number changed to match pattern number • The default pattern number changed to match action number
2	Traffic Responsive	Enabled the Scout v85.2.x controller type to be programed in the central master subsystem to operate in Traffic Responsive Pattern Selection mode

ATMS Central Software Release Notes

3	Database Conversion Utility- Conversion process	Integrated a new conversion utility to support controller database conversions from v61/v65 to v76 and higher, including the newly introduced v85.2. controller type.
4	Database Conversion Utility- Conversion process	<p>The conversion utility supports:</p> <ul style="list-style-type: none"> • One to one conversion of all current database configurations (prm to prm, std to std etc.) and archived databases • Bulk conversion – processes multiple controllers provided their source and destination configuration is the same • Conversion from any database configuration file to a .dat file (Local Download option) • Local Download supports multiple controller selections when exporting .dat formats
5	Database Conversion Utility- Conversion process	The conversion process updates the current definition's database format to the new definition's database format, for all controller database configurations. The same applies to archived databases.
6	Database Conversion Utility- Post Conversion Process	<p>The Upgrade process (post conversion) differentiates two cases: controllers maintaining same controller ID or controllers with the new controller ID. In addition:</p> <ul style="list-style-type: none"> • The Pre-conversion database formats can be accessed via the Databases -> Conversion History options of View, Compare and Pre-Conversion Archives. • The Current or Post-conversion database formats can be accessed. • The Dynamic Timing Sheet, Database options View, Compare, Edit etc. functions are supported in both pre and post conversion formats. • The Database Configuration selection supports the two most recent (favorite) archives. Archive database selection will persist per user.

	Additional Improvements and Features	
7	Reports	For Split History and Split Timeline reports added an UI option for custom phase selection
8	Reports	The Split Timeline report redesigned to match Split History report layout
9	Reports	Recovered the selection of archived splits tables for report filters
10	Reports	Removed the Type Label in the Preemptions Report for preempt "OFF"
11	Reports	Enabled the Controller Pattern selection by Flex Group for the Controller Pattern report
12	Database->Configuration	Enabled the "Save to Template" option in the Intersection Layout when editing existing templates
13	Definitions->Incident Triggers	Recovered the Preemption/Pattern trigger via incident trigger functionality
14	Dynamic Timing Sheet	Recovered the Archive Database printing via the Dynamic Timing Sheet & corrected its timestamp