

ORION

v2.8.0 Release Notes





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Text Conventions

The following table describes the text conventions used in this manual.

Convention	Description
Options dialog box	Text formatted in bold and the Arial font indicates text that is part of the ORION user interface. For example, “ Options dialog box” indicates Options is the title of a dialog box. The phrase “dialog box” is not shown in Arial bold because it is not part of the user interface.
File > Open	References like this indicate the order in which items are selected. For example, “ File > Open ” indicates that you should select Open after selecting File .
<i>Settings.xml</i>	Italicized text indicates a path, folder, file name, or file extension.
Command	Text formatted in a monospace font indicates commands, code, or scripts.
	This graphic signals a note that contains information that is helpful but not necessary to the operation of the software.
	This graphic signals a warning that contains information that if not followed may result in unexpected results, data loss, or a serious system problem.

ORION 2.8.0 Changes

The following new features, changes, and fixes have been added to ORION v2.8.0.

New Features

MDA

For detailed information, refer to “Simplified Action Group Synchronization” in the *ORION Measurement Definition Application User’s Guide*.

- Added a feature to automatically synchronize action groups to the latest ones in the **Common** section of the **Action Groups Library** when loading a configuration file (.ornx).

Changes

Actions

For detailed information, refer to action descriptions in the *ORION Reference Guide*.

- For the following action, options have been changed:

Previous Action	Replaced by	Description
SetInMap 1_2	SetInMap 2_0	Simplified the action to store and write ECU maps without requiring function selection.

- Improved OnlineDoE 2_0 action in the following points:
 - Improved the x-axis label **Number of training points** in the **ActionPlot** window to display both the remaining and total number of test points to be measured.
 - Added support for ASCMO Ver. 5.17.
- Enhanced the Calculate action to support expressions with two or more equal signs “=”.
- Enhanced the Condition, WaitCondition, MultiSwitch, Calculate, CalculateParallel, and ConditionParallel actions to allow setting the global parameter ControlMode for certain options.



Log Analyzer

For detailed information, refer to the sections in the *ORION Log Analyzer User's Guide* listed at the end of each sentence.

- Improved the y-axis values in the **Timeline** window when a plot is zoomed out along the y-axis.
- Enhanced the **Timeline** window to allow switching the vertical positions of plots. Refer to “Timeline Window”.
- Improved the **Search** dialog box to display the number of messages matching the search criteria. Refer to “Search Dialog Box”.

User Action Designer

For detailed information, refer to “Option Types” in the *ORION Programmer's Guide*.

- Added the **Control Mode Parameter** as a selectable parameter type for options of the **Channel Selection** and **Channel Table** types.
- Enhanced the **Combo Box** type options to allow Unicode input.

ORION Installer

- Updated Python version from 3.13 to 3.14.2.
- Removed iView from the installer and its components list.
- Installs Offline Server without legacy features.

Fixes

MDA

The following issues have been fixed:

- A **Map** or **Signal** type channel could be incorrectly allowed to be set as **Set_ReqChannelName** by dragging and dropping it from the **Channel Library**.
- Calculation formulas with complex syntax would fail to be imported.
- When the maximum number of actions (2000) was reached in a sequence, copying and pasting comments or borders displayed a message and prevented placement.

MA

The following issues have been fixed:

- After executing the SetTestpointStatus action in **Step** execution, the test could not be started using the **Start** button.
- When a test results file (*.results*) was loaded, the information in the **Message** column on the **Test Plans** window was not displayed.
- When a NaN error or command error occurred, values were not sent to the channel set in **ErrorStatus** of the global parameter **Set Parameter (Tx)**.



- NaN errors were not detected when ASAP3 was selected in the **Invalid Value** setting on the **Interface Overview** tab.
- When two devices with different settings were added consecutively, the settings of the added devices became identical.
- When a command error occurred during **End** sequence execution, the disconnection process from the target was not performed.

Actions

The following issue has been fixed:

- During execution of the OnlineDoE 2_0 action, the *.ini* file with older version settings could not be updated correctly.

Log Analyzer

The following issues have been fixed:

- When verifying the execution results of a sequence containing multiple ControllerTuning actions, while a tab other than the **Single Step Evaluation** tab was displayed in the **Controller View** window, switching the ControllerTuning action by **Execution Time** did not update the results shown in the **Single Step Evaluation** tab.
- Issues with the **Log Messages** window:
 - When System Information messages were hidden, selecting an action on the **Test Point Sequence** window did not focus on the corresponding log messages.
 - When the action name contained parentheses “()” or a trailing space, selecting the action on the **Test Point Sequence** window did not focus on the corresponding log messages.
 - During execution of parallel actions, the text color of messages indicating the status of actions became incorrect.
- During MA execution, after parameters were set on a plot in the **Timeline** window by dragging and dropping from the **Select Parameters** dialog box via an action on the **Test Point Sequence** window, the configured parameter information was cleared when reloading logs using the **Open Current Log** command.

User Action Designer

The following issue has been fixed:

- After creating a new action category and assigning, saving, and registering it for a user action, deleting the created action category caused the user action to be assigned an incorrect action category.



ORION Component Versions

The following table lists the versions of components in ORION 2.8.0:

Component	Version	Notes
ORION2 MDA	2.8.0	2.8.0.***** Where “*****” is a build version.
ORION2 Measurement Application	2.8.0	2.8.0 Build ** ** ***** ** ** ** Where “***” is a placeholder for the build date and time.
ORION2 Log Analyzer	2.8.0	2.8.0 Build ** ** ***** ** ** ** Where “***” is a placeholder for the build date and time.
ORION2 User Action Designer	2.8.0	2.8.0 Build ** ** ***** ** ** ** Where “***” is a placeholder for the build date and time.
ORION2 Engine & Python	2.8.0	2.8.0 Engine Build ** ** ***** ** ** ** Where “***” is a placeholder for the build date and time.
ORION2 Log Collection Tool	2.8.0	2.8.0.***** is displayed on the title bar. Where “*****” is a build version.
ORION2 Auto Updater	2.5.1	2.5.1.***** is displayed on the title bar. Where “*****” is a build version.
ORION2 Workspace	2.8.0	-
ORION2 Offline Server	2.8.0	-
ORION2 Sim Package	2.8.0	-
Sentinel Runtime	10.14.838.60002	-
ORION2 Log Analyzer for ORION 1.x log files	1.3.13	Not contained in the integrated ORION installer.

- The **Version** column lists the version shown in the **Programs and Features** of the Windows **Control Panel**.
- The **Notes** column lists the version shown in the **Help > About** dialog box of the application.

ORION 2.7.1 Changes

The following fixes have been added to ORION v2.7.1.

Fixes

MDA

The following issues have been fixed:

- In the reference window, when loading a configuration file (.orn) created in v1.x, the action groups were not displayed.
- The options for each property of newly created parameters were not displayed correctly in the **Parameters Library** window.
- Issue with error checking for the sequence.
 - The MDA now shows a warning message when the **Target Property** option of the SetConstant action is set to **Set_Value**, and the **Value** specified in the **Set Parameter** option is out of the allowed **Min / Max** range for that parameter.
 - Changed the message displayed when a sequence exceeds the maximum number of actions (2000).
 - Clicking the message displayed when the **Start** block was not connected opened an invalid dialog.

MA

The following issues have been fixed:

- When different adjustment types were set to the same parameter in the MDA **Test Plans** window, that parameter appeared multiple times on both the x and y axes in the MA **Global Measuring Points** window.
- When reading measurements with the same channel name from multiple ECUs during iLinkRT3 communication, only the measurements from the first ECU were retrieved.
- Cannot load a configuration file that contains a number of actions close to the maximum limit (2000).



Actions

The following issues have been fixed:

- In the SetStepwise or Ramp actions, the parameter would move one step toward the demand value when a parallel action limit violation occurred during stabilization.
- In the SetStepwise or Ramp actions, when a limit violation occurred during stabilization, the settings intended to remove the limit violation at the next measurement point was modified incorrectly.
- In the SetStepwise action, an unnecessary pause occurred at the end of the action.

Log Analyzer

The following issues have been fixed:

- Selecting **Default** in the **Layout** menu were not load the default layout.
- When loading a log file in the **Multi Test Points** window, the previous property information was not cleared.

ORION Instraller

The following issue has been fixed:

- The MATLAB path configuration was incorrect.



ORION Component Versions

The following table lists the versions of components in ORION 2.7.1:

Component	Version	Notes
ORION2 MDA	2.7.1	2.7.1.***** Where “*****” is a build version.
ORION2 Measurement Application	2.7.1	2.7.1 Build ** ** ***** ** ** ** Where “***” is a placeholder for the build date and time.
ORION2 Log Analyzer	2.7.1	2.7.1 Build ** ** ***** ** ** ** Where “***” is a placeholder for the build date and time.
ORION2 User Action Designer	2.7.1	2.7.1 Build ** ** ***** ** ** ** Where “***” is a placeholder for the build date and time.
ORION2 Engine & Python	2.7.1	2.7.1 Engine Build ** ** ***** ** ** ** Where “***” is a placeholder for the build date and time.
ORION2 Log Collection Tool	2.6.1	2.6.1.***** is displayed on the title bar. Where “*****” is a build version.
ORION2 Auto Updater	2.5.1	2.5.1.***** is displayed on the title bar. Where “*****” is a build version.
ORION2 Workspace	2.7.1	-
ORION2 Offline Server	2.7.1	-
ORION2 Sim Package	2.7.1	-
iView	3.3	3.3.0.2635 is the version of the installer exe.
Sentinel Runtime	10.14.838.60002	-
ORION2 Log Analyzer for ORION 1.x log files	1.3.13	Not contained in the integrated ORION installer.

- The **Version** column lists the version shown in the **Programs and Features** of the Windows **Control Panel**.
- The **Notes** column lists the version shown in the **Help > About** dialog box of the application.

ORION 2.7.0 Changes

The following new features, changes, and fixes have been added to ORION v2.7.0.

New Features

MDA

For detailed information, refer to “Synchronizing Action Groups” in the *ORION Measurement Definition Application User’s Guide*.

- Added a feature to synchronize action groups on the **Action Groups** workspace with those in the **Action Groups Library**.

MA

For detailed information, refer to “Get properties” in the *ORION Reference Guide*.

- Added **MinMaxDifference**, **STD**, and **COV** to the online calculation (**Get_Calculation** property) that can be applied to feedback values.

Actions

The following action has been added to the MDA **Actions Library**. Refer to action descriptions in the *ORION Reference Guide* for detailed information.

Action	Action Category	Description
OnlineDoE 2_0	Miscellaneous Actions	Integrates ETAS ASCMO as Online DoE test plan in a test sequence. NOTES: The following are the differences from the OnlineDoE 1_0 action: - Measured parameters can be used in test plan calculation to skip test points with predicted limit violation. - You can configure detailed settings of the boundary model for test plan calculation.



Changes

MDA

For detailed information, refer to the sections in the *ORION Measurement Definition Application User's Guide* listed at the end of each sentence.

- The maximum number of actions that can be added has been changed to 2000 actions in total across all sequences, which was 500 in each of the sequences (**Initialize**, **Main**, **Stop**, and **End**) before. Refer to “Type of Sequences”.
- Improved functionality of the **Calculation Formulas** workspace. Refer to “Configuring Calculation Formulas”.
 - You can now enter complex formulas on multiple lines.
 - Added a feature to check for errors in the formula.
- Changed the help file format from CHM to HTML.

MA

- Changed the parameters displayed on the **X** and **Y** axes of the **Global Measuring Points** window to those of the first test point (X: Dyno parameter, Y: Engine parameter) when loading a configuration file (.ornx).
- Improved to check the formula when loading a configuration file (.ornx).
- Changed the help file format from CHM to HTML.

Actions

For detailed information, refer to action descriptions in the *ORION Reference Guide*.

- For the following actions, options have been changed:

Previous Action	Replaced by	Description
ControllerTuning 1_0	ControllerTuning 1_1	Added the Standard PI and PID Control normalized [0 1] to the Controller Type option.
Copy 1_1	Copy 1_2	Added the SystemValue0 to SystemValue9 properties to the Source Parameter Property option.
Set 2_1	Set 2_2	Added the SystemValue0 to SystemValue9 properties to the Source Property option.

- Changed the GUI of dialog boxes for the SetPropertyValueGUI and MessageBox actions.
- In the StartCombustionControl action, enabled to change the set rate range for the **Spark Timing** parameter while the parallel action is running, by assigning maps or formulas to the parameter properties used in the rate range formulas.
- In the SetStepwise action, changed the **Start at Maximum Step Width** option to be hidden when the **Disable Variable Step Width** option is selected.



Log Analyzer

For detailed information, refer to “Controller View Window” in the *ORION Log Analyzer User’s Guide*.

- Improved functionality of the **Controller View** window.
 - In the **Action Tuning** tab, supported the **Standard PI and PID Control normalized [0 1]** of the **Controller Type** option in the ControllerTuning action.
 - Added timeout processing to the recalculate function.
- Changed the help file format from CHM to HTML.

ORION Installer

- Improved the ORION installer to be launched even when an application that has the same name with the MDA but not an ORION component is running.
- Updated Python version from 3.12 to 3.13. Refer to “Python User Action Requirements” in the *ORION Programmer’s Guide*.

ORION Simulators

- Improved to enable using the simulator even when **iLinkRT3** is selected in the **Interface Type** option of the MA **Interface Overview** tab.

Fixes

MDA

The following issue has been fixed:

- An unnecessary warning message of the SetOperatingPoint action was displayed when saving a configuration file (.ornx).

MA

The following issue has been fixed:

- If a **Stop** sequence contained an OnlineDoE action, it was possible to operate the MA while running the **Stop** sequence.



Actions

The following issues have been fixed:

- In the SetStepwise action:
 - The step duration was incorrect when a limit violation (**MinError** or **MaxError**) still occurred even after a severe limit violation (**Min2Error** or **Max2Error**) had been removed.
 - After removing a limit violation, the action re-approached the target before the step duration had elapsed.
 - Depending on the property value settings, the step width when a limit violation occurred was incorrect with the following settings: The **Start Maximum Step** option selected, the **Disable Variable Step Width** option not selected, and the **Limit Violation Step Width** option set to **Set_DeltaLowMax|HighMax decreasing to Set_DeltaLow|HighMax**.
- In the ControllerTuning action, a timeout error occurred when parameters remained in the hidden option settings.
- In the Ramp actions, depending on the property value settings, the step width when a limit violation occurred was incorrect with the following settings: The **Start Maximum Step** option selected and the **Limit Violation Step Width** option set to **Set_DeltaLowMax|HighMax decreasing to Set_DeltaLow|HighMax**.



ORION Component Versions

The following table lists the versions of components in ORION 2.7.0:

Component	Version	Notes
ORION2 MDA	2.7.0	2.7.0.***** Where “*****” is a build version.
ORION2 Measurement Application	2.7.0	2.7.0 Build ** ** ***** ** ** ** Where “***” is a placeholder for the build date and time.
ORION2 Log Analyzer	2.7.0	2.7.0 Build ** ** ***** ** ** ** Where “***” is a placeholder for the build date and time.
ORION2 User Action Designer	2.7.0	2.7.0 Build ** ** ***** ** ** ** Where “***” is a placeholder for the build date and time.
ORION2 Engine & Python	2.7.0	2.7.0 Engine Build ** ** ***** ** ** ** Where “***” is a placeholder for the build date and time.
ORION2 Log Collection Tool	2.6.1	2.6.1.***** is displayed on the title bar. Where “*****” is a build version.
ORION2 Auto Updater	2.5.1	2.5.1.***** is displayed on the title bar. Where “*****” is a build version.
ORION2 Workspace	2.7.0	-
ORION2 Offline Server	2.7.0	-
ORION2 Sim Package	2.7.0	-
iView	3.3	3.3.0.2635 is the version of the installer exe.
Sentinel Runtime	10.14.838.60002	-
ORION2 Log Analyzer for ORION 1.x log files	1.3.13	Not contained in the integrated ORION installer.

- The **Version** column lists the version shown in the **Programs and Features** of the Windows **Control Panel**.
- The **Notes** column lists the version shown in the **Help > About** dialog box of the application.

ORION 2.6.1 Changes

The following new features, changes, and fixes have been added to ORION v2.6.1.

Changes

MDA

- Improved the logic for displaying warning messages when saving a configuration file (.ornx) that has complex formulas set in the Calculate actions.

MA

For detailed information, refer to the sections in the *ORION Measurement Application Operator's Guide* listed at the end of each sentence.

- Added the **Packet Counter** to the **Status Flags** window to show the communication status and improved the messages displayed during connection processing. Refer to “Status Flags Window”.
- Improved the **Global Measuring Points** window to update according to the range of the test points when a new test point is added in the OnlineDoE action.
- Improved functionality of the **Options** dialog box. Refer to “Option Dialog Box”.
 - Removed the unnecessary property (SetRequestValue) on the **Log Properties** tab.
 - Removed the **DAQ Multicast** setting when **Interface Type** is **iLinkRT3** on the **Interface Overview** tab.
 - Removed the **Client IP Address** setting when **Interface Type** is **iLinkRT3** on the **Interface Overview** tab.

Actions

Refer to action descriptions in the *ORION Reference Guide* for detailed information.

- Improved functionality to update set values when executing the SetOperatingPoint action used to determine the OnlineDoE action, even if a limit violation occurs without reaching the target value.
- Improved the checks for the Calculate and ConditionParallel actions when loading a configuration file (.ornx) in the MDA. If a complex formula is set in the options, no warning message will be displayed if the formula is valid.



Fixes

MDA

The following issues have been fixed:

- Creating an action group in a certain way could result in settings that cannot be loaded in MA.
- An *.ornx* file that caused an exception error when loaded in MA was created when multiple levels of action groups were included.

MA

The following issues have been fixed:

- A load error occurred when loading an *.ornx* file containing an action group sequentially connected within another action group.
- Projects with names set to only a part of “ORIONData” were not displayed in the **Select Project Folder** list.
- The MA is forced to end when a scheduled configuration file (*.ornx*) is deleted while running in **Multi Config Mode**.
- When loading a *.bc* file in **Multi Config Mode**, *.ornx* files that did not exist in the *.bc* file were excluded without notification and then registered to the list.
- The timing of sending IncaCMD was incorrect when **Change Data Set** was selected in **Multi Config Mode**.
- The MA would stop running when the CAN device settings were incorrect.
- Changes to the **Scale** of the **Sequence Viewer** were not applied to the view of action groups.

Actions

The following issues have been fixed:

- In the IgnitionCmd action, the action connected to the **Warning** port was not executed when a status timeout occurred.



ORION Component Versions

The following table lists the versions of components in ORION 2.6.1:

Component	Version	Notes
ORION2 MDA	2.6.1	2.6.1.***** Where “*****” is a build version.
ORION2 Measurement Application	2.6.1	2.6.1 Build ** ** ***** ** ** ** Where “***” is a placeholder for the build date and time.
ORION2 Log Analyzer	2.6.1	2.6.1 Build ** ** ***** ** ** ** Where “***” is a placeholder for the build date and time.
ORION2 User Action Designer	2.6.1	2.6.1 Build ** ** ***** ** ** ** Where “***” is a placeholder for the build date and time.
ORION2 Engine & Python	2.6.1	2.6.1 Engine Build ** ** ***** ** ** ** Where “***” is a placeholder for the build date and time.
ORION2 Log Collection Tool	2.6.1	2.6.1.***** is displayed on the title bar. Where “*****” is a build version.
ORION2 Auto Updater	2.5.1	2.5.1.***** is displayed on the title bar. Where “*****” is a build version.
ORION2 Workspace	2.6.1	-
ORION2 Offline Server	2.6.1	-
ORION2 Sim Package	2.6.1	-
iView	3.3	3.3.0.2635 is the version of the installer exe.
Sentinel Runtime	8.53.17703.60001	-
ORION2 Log Analyzer for ORION 1.x log files	1.3.13	Not contained in the integrated ORION installer.

- The **Version** column lists the version shown in the **Programs and Features** of the Windows **Control Panel**.
- The **Notes** column lists the version shown in the **Help > About** dialog box of the application.

ORION 2.6.0 Changes

The following new features, changes, and fixes have been added to ORION v2.6.0.

New Features

MDA

For detailed information, refer to the sections in the *ORION Measurement Definition Application User's Guide* listed at the end of each sentence.

- Added a feature to create a test plan from ECU map axes. Refer to “Creating Test Plans from ECU Map Axes”.
- Added a **Map Offset** to the **Set_Type** of the **Set** parameter used for ECU map offset processing. After selecting the **Map Offset**, the **Get_ChannelName**, **Get_Device**, **Get_Type** and **Get_Calculation** properties become disabled. Refer to “Specifying ECU Map Offset”, and “Parameter Property Descriptions” in the *ORION Reference Guide* for detailed information.

MA

For detailed information, refer to the “ECU Map Offset Function” in the *ORION Reference Guide*.

- Added a feature that enables actions to perform whole ECU map offset processing by using a parameter with **Map Offset** set to the **Set_Type** property.

Actions

The following actions have been added to the MDA **Actions Library**. Refer to each action descriptions in the *ORION Reference Guide* for detailed information on actions.

Action	Action Category	Description
IgnitionCmd	Test Cell Actions	Instructs the test cell system to switch ignition of the engine ON or OFF. A corresponding new IGCmd Execute Service command must be supported by the test cell system.
InitSetValue	Calibration Tool Actions	Initializes the Set_Value of a map parameter based on ECU map interpolation.
OnlineDoE	Miscellaneous Actions	Integrates ETAS ASCMO as Online DoE test plan in a test sequence.



Changes

MDA

For detailed information, refer to the sections in the *ORION Measurement Definition Application User's Guide* listed at the end of each sentence.

- Improved the **Get_Calculation** property to be disabled when **Virtual** is selected for the **Get_Device** property on the Parameters window. Refer to “Assigning Channels to Parameters”, and “Get Properties” in the *ORION Reference Guide*.
- When replacing an action on the **Sequences** window, both action types before and after the replacement are now displayed in the message.

MA

For detailed information, refer to the sections in the *ORION Measurement Application Operator's Guide* listed at the end of each sentence.

- Improved the message of completing an action load displayed when loading a configuration file (.ornx).
- Improved to be able to connect to the ORION engine simulator even when **Mode** is set to **online** on the **Common Options** tab of the **Options** dialog box.
- A new Kvaser adapter has been added to the interface type. Refer to “CAN Tab”.
- Improved the display on the **Action Plot** window for Set, SetConstant, and SetMapOffset actions by changing symbols used to indicate the direction of parameters increasing or decreasing to make them easier to see. Refer to “Action Plot Window” of action descriptions in the *ORION Reference Guide*.
- Removed **Enable Actions Debugging** command from the **Engine** menu. Refer to “MA Menus”.

Actions

For detailed information, refer to action descriptions in the *ORION Reference Guide*.

- For the following actions, options have been changed:

Previous Action	Replaced by	Description
EBenchCmd 1_1	EBenchCmd 1_2	Added the Pause command, which enables instructing the emissions bench to pause, to the Command option.
SetInMap 1_1	SetInMap 1_2	Added the Write 1D Maps to the Command option.

- Improved the optimal value calculation function for RapidParameterSweep action by using a transient model. The action stores calculation results in model coefficient data and graphical images.
- When loading a configuration file (.ornx) in the MA, improved to start the sequence if the **Set_Type** property is **Map** and the **Get_ChannelName** property is blank for a parameter. The InitSetValue action added in v2.6.0 enabled to set safe initial values, so changed the error to a warning message in the check on loading the .ornx file.



Log Analyzer

For detailed information, refer to “Window Menu”, “Displaying or Hiding Timeline Windows” and “Displaying or Hiding Multi Testpoints Windows” in the *ORION Log Analyzer User’s Guide*.

- Changed the **Timeline** and **Multi Testpoint** command on the **Window** menu not to add a new window, and improved to switch between displaying and hiding a window by selecting the window numbered name.

ORION Installer

- Updated Python version from 3.11 to 3.12. Refer to “Python User Action Requirements” in the *ORION Programmer’s Guide*.

Fixes

MDA

The following issues have been fixed:

- Icons might not displayed correctly on the **Action Groups Library** window.
- Pressing F1 on the **Comment Size** dialog box of the **Sequences** window would not jump to the corresponding page on the help window.
- When entering properties such as **Get_FBValue** and **Set_Value** on the **Calculation Formulas** window, the input assistance feature could not be used.
- When checking a sequence containing a blank formula in the **Calculation Formulas** window, no errors were detected.
- Pasting a string that contained control character, such as line breaks, would set characters not allowed to enter.

MA

The following issues have been fixed:

- Loading incorrect settings of certain unconnected actions resulted in a Python error.
- The **Start** block in the **Action Groups** window was not in the same position as placed in the MDA.
- When connecting the devices with the interface type set to different bit rates for ValueCan and Peak respectively, no errors occurred and the connection was not disconnected.
- For interface type Peak, the interrupt setting of CAN interface is now removed since it is not required.

Log Analyzer

The following issues have been fixed:

- Although selecting **Default** in the **Layout** menu, the layout did not change to the default.
- Many spaces or ellipses might be displayed in the **Message** column of the **Test Point Statistics** window.
- If the same action was executed multiple times in a loop, selecting any action in the **Test Point Sequence** window moved to the first action in the **Log Messages** window.



- Even after canceling on the **Configure Axes** dialog box of the **Multi Testpoints** window, when the **Configure Axes** dialog box was opened again, the previous changes were maintained.
- When opening an invalid plot's configuration settings file (*.conf*), the Log Analyzer did not stop loading the file and graphs became blank.

User Action Designer

The following issues have been fixed:

- In **Create new Version**, if an action version that already existed was entered, the action for that version would be deleted.
- Changing the **Choose Parameters** dialog box, a **Channel Selection** option type, did not add a "*" to the action name tab to indicate the change.
- Actions that contained **Channel Table** type options could not be opened.

ORION Installer

The following issue has been fixed:

- The MA, Log Analyzer, and UAD could not be started. (This issue only occurred in v2.5.1.)



ORION Component Versions

The following table lists the versions of components in ORION 2.6.0:

Component	Version	Notes
ORION2 MDA	2.6.0	2.5.0.***** Where “*****” is a build version.
ORION2 Measurement Application	2.6.0	2.5.0 Build ** ** ***** ** ** ** Where “***” is a placeholder for the build date and time.
ORION2 Log Analyzer	2.6.0	2.5.0 Build ** ** ***** ** ** ** Where “***” is a placeholder for the build date and time.
ORION2 User Action Designer	2.6.0	2.5.0 Build ** ** ***** ** ** ** Where “***” is a placeholder for the build date and time.
ORION2 Engine & Python	2.6.0	2.5.0 Engine Build ** ** ***** ** ** ** Where “***” is a placeholder for the build date and time.
ORION2 Log Collection Tool	2.6.0	2.5.0.***** is displayed on the title bar. Where “*****” is a build version.
ORION2 Auto Updater	2.5.1	2.5.1.***** is displayed on the title bar. Where “*****” is a build version.
ORION2 Workspace	2.6.0	-
ORION2 Offline Server	2.6.0	-
ORION2 Sim Package	2.5.0	-
iView	3.3	3.3.0.2635 is the version of the installer exe.
Sentinel Runtime	8.53.17703.60001	-
ORION2 Log Analyzer for ORION 1.x log files	1.3.13	Not contained in the integrated ORION installer.

- The **Version** column lists the version shown in the **Programs and Features** of the Windows **Control Panel**.
- The **Notes** column lists the version shown in the **Help > About** dialog box of the application.

ORION 2.5.1 Changes

The following new features, changes, and fixes have been added to ORION v2.5.1.

Changes

MDA

For detailed information, refer to the sections in the *ORION Measurement Definition Application User's Guide* listed at the end of each sentence.

- With the new **Do not use ThrottleParameter** checkbox on the **Common Parameters** tab of the **Global Parameter** window, ORION can be used in testing environments where no Throttle parameter exists and the WOT check functionality is not needed (e.g. e-motor test cell). Refer to “Common Parameters Settings”.

MA

For detailed information, refer to the sections in the *ORION Measurement Application Operator's Guide* listed at the end of each sentence.

- The new **Keep Action Plot tab** command on the **View** menu lets you select whether or not to automatically switch between action plot tabs of the **Action Plot** window. Refer to “View Menu” and “Action Plot Window”.

Actions

Refer to action descriptions in the *ORION Reference Guide* for detailed information.

- In the ControllerTuning action, improved the message when a loading error occurs due to incorrect settings.

Fixes

MDA

The following issues have been fixed:

- If you set a value that exceeds the number of decimal points that can be displayed in a numeric field of the **Channel Table** type option of an action, for example, the **Limits Group** option of the CheckLimitsParallel action, an inconsistency occurred between the internal value and the displayed value.
- An exception error occurred when **Delete Parameter** is executed with no parameters selected in the **Test Plans** window.
- In the **Test Plans** window, using the **Copy to Down** command for the ControlMode column, the selected cells were not filled with selected value.
- The MDA freezes when renaming an action group tab.

MA

The following issues have been fixed:

- After running a test by the **Step** button and ending it with the SequenceStop action, when restarting the test by the **Start** button, it was executed in **Step** mode.
- When changing the **Synchronize Sequence with action plots** option on the **Common Options** tab, a notify message was not displayed.
- The MA Crash Report could not collect certain files.

Actions

The following issues have been fixed:

- The Measure action did not store the averaged values of the parameters in the **MeanMeasurementResult** property.
- In the ASAP3Recorder, SetInMap, or SetMapOffset action, a sequence was forced to end when a command or timeout error occurs with the ASAP3 command.
- The Timer action was shown unnecessary warning message when a sequence starts.
- The conflict function of parallel actions did not work properly, and then the parallel actions were executed.
- If multiple levels of limits violations occur simultaneously when monitoring limit parameters in some Set actions, the same limit level was shown for different levels, in the message.
- In the HEcmd action, the SwitchHeMode Execute Service command was sent when Intercooler2 **Control Mode** is set to **No Control**.
- In the SetIndirect action, a warning message was not displayed when **DirectSetParameter** has reached **Min** / **Max** when the action does not retry finding a limit.
- The Measure action did not end with a warning when the **Set_DemandValue** of **Measurement Duration Parameter** is NaN.
- In the SetStepwise action, an incorrect step width was shown in the message when executing the final step.



- If a parallel action limit violation occurs while the SetOperatingPoint action is running, and after the limit violation was removed, this action ended normally even the demand value of a parameter is out of **Min / Max** range.
- In the SetOperatingPoint action, the axis values of the plots in the **Action Plot** window were not displayed correctly.

Log Analyzer

The following issues have been fixed:

- A complete message was shown even if the export data is canceled in the **Export data** dialog box at saving.
- The following issues have been fixed in the **Multi TestPoints** window:
 - Legend on the window did not update after changing parameters or properties in the **Parameter Viewer - Configuration** dialog box.
 - The view of the plot on an auto-scale was incorrect.
- The following issues have been fixed in the **Log Messages** window:
 - The color of messages of the action that ended with a warning did not become orange.
 - The highlight and color of message were shown incorrectly when changing the message levels.
 - The right-click menu on the window was not displayed correctly.



ORION Component Versions

The following table lists the versions of components in ORION 2.5.1:

Component	Version	Notes
ORION2 MDA	2.5.1	2.5.1.***** Where “*****” is a build version.
ORION2 Measurement Application	2.5.1	2.5.1 Build ** ** ***** ** ** ** Where “***” is a placeholder for the build date and time.
ORION2 Log Analyzer	2.5.1	2.5.1 Build ** ** ***** ** ** ** Where “***” is a placeholder for the build date and time.
ORION2 User Action Designer	2.5.1	2.5.1 Build ** ** ***** ** ** ** Where “***” is a placeholder for the build date and time.
ORION2 Engine & Python	2.5.1	2.5.1 Engine Build ** ** ***** ** ** ** Where “***” is a placeholder for the build date and time.
ORION2 Log Collection Tool	2.5.0	2.5.0.***** is displayed on the title bar. Where “*****” is a build version.
ORION2 Auto Updater	2.5.1	2.5.1.***** is displayed on the title bar. Where “*****” is a build version.
ORION2 Workspace	2.5.1	-
ORION2 Offline Server	2.5.1	-
ORION2 Sim Package	2.5.0	-
iView	3.3	3.3.0.2635 is the version of the installer exe.
Sentinel Runtime	8.53.17703.60001	-
ORION2 Log Analyzer for ORION 1.x log files	1.3.13	Not contained in the integrated ORION installer.

- The **Version** column lists the version shown in the **Programs and Features** of the Windows **Control Panel**.
- The **Notes** column lists the version shown in the **Help > About** dialog box of the application.

ORION 2.5.0 Changes

The following new features, changes, and fixes have been added to ORION v2.5.0.

New Features

MDA

For detailed information, refer to the sections in the *ORION Measurement Definition Application User's Guide* listed at the end of each sentence.

- Added a feature to register individual action group to the **Action Groups Library**. Refer to “Using the Action Groups Library”.
- Added a feature to change the **Result** column in the **Test Plans** window. Refer to “Resetting or Skipping Test Points”.
- The **Get_Type** properties of the **Operating Point** and **Set** parameters have been added to the **Parameter Properties** tab in the **Options** dialog box as the properties that you can select to show or hide in the **Parameters** window. Refer to “Configuring MDA Options”.

MA

For detailed information, refer to the sections in the *ORION Measurement Application Operator's Guide* listed at the end of each sentence.

- Added a feature to skip test points and reset test results while a sequence is running. Refer to “Test Plans Window”.
- The following new options have been added to common options in the **Options** dialog box:
 - Selecting the **Save results in a separate folder** option, the MA stores the test result files in a separate results folder below the project folder.
 - Selecting the **Check CAN receive signal when connecting** option, the MA checks the received CAN signal values when connecting to the target device.
- Added a feature to connect a model created in MATLAB/Simulink to ORION. With this connection, you can run your Simulink models for any kind of advanced calculation or simulation in an ORION test sequence. Refer to “Connecting a Simulink Model to ORION” in the *ORION Programmer's Guide*.



Actions

The following actions have been added to the MDA **Actions Library**. Refer to each action descriptions in the *ORION Reference Guide* for detailed information on actions.

Action	Action Category	Description
ControllerTuning	Set Actions	Evaluates optimal gain values for PI and PID controllers from step tests.
RapidParameterSweep	Set Actions	Rapidly changes Set values to execute a parameter sweep in the range of setting limits and other monitored parameter limits.
RoadLoadCycle	Set Actions	Runs a driving cycle based on actual data recorded from an on-road vehicle with the help of two .csv files: speed/load traces and a 2D throttle map.
CalculateParallel	Parallel Actions	In parallel to other actions, continuously calculates property values with a freely defined formula.
ConditionParallel	Parallel Actions	In parallel to other actions, continuously compares parameter properties and branches the sequence according to the result.
RunExternalFile	Miscellaneous Actions	Executes a specified external file.
SimulinkControl	Miscellaneous Actions	Instructs MATLAB/Simulink to start or stop a model, which communicates with ORION MA.

Log Analyzer

For detailed information, refer to “Controller View Window” in the *ORION Log Analyzer User’s Guide*.

- The new **Controller View** window shows the controller tuning data evaluated by the ControllerTuning action and can recalculate the results using those data.

ORION Installer

For detailed information, refer to “Requirements for Connecting Simulink Model to ORION” and “Installing ORION” in the *ORION Getting Started Guide*.

- Added the MATLAB/Simulink support (**ORION2 Sim Package**) to the ORION installer.

Changes

MDA

For detailed information, refer to the sections in the *ORION Measurement Definition Application User’s Guide* listed at the end of each sentence.

- Error checking and code completion for formula option settings (e.g. Calculate action) is added to checking for the sequence.
- When inserting an action into a connecting line in the **Sequences** window or **Action Groups** window, improved any actions below the inserted position to automatically move down. Refer to “Inserting Actions in Sequences”.



- Improved to display the Control Mode **No.** at the front of **ControlMode** items displayed in the **Test Plans** window. Refer to “Configuring Test Plans” and “Control Mode Settings”.

MA

For detailed information, refer to the sections in the *ORION Measurement Application Operator's Guide* listed at the end of each sentence.

- Improved the **TimeLine** window and **TimeLine - Configuration** dialog box. Refer to “Timeline Window”.
- The MA now shows the test results (**Measured**) in the **Result** columns on the **Initialize**, **Stop** and **End** tabs in the **Test Plans** window. Refer to “Test Plans Window”.
- To make it easier to find the position of a window, the title bar of displayed window is now highlighted in red when you mouse over the window name on the **View** menu.

Actions

Refer to action descriptions in the *ORION Reference Guide* for detailed information.

Previous Action	Replaced by	Description
StoreValuesForReset 1_1	StoreValuesForReset 1_2	• Changed the Hold Selected Parameter Values option name to Initialize by Copy Feedback to Set Value. • Added the Always Store Feedback Values option.
MessageBox 2_0	MessageBox 2_1	Added the Make a Sound option to make a sound when executing an action.
SetPropertyValueGUI 1_0	SetPropertyValueGUI 1_1	
Calculate 2_0	Calculate 2_1	Improved the input function in the Formula option: • Abbreviated form (Input, Output) of parameter part of the formula can be used now. • By entering letters, input candidates will be shown.

Log Analyzer

For detailed information, refer to the sections in the *ORION Log Analyzer User's Guide* listed at the end of each sentence.

- You can now move the time-axis of plots on the **Multi Testpoints** window to the left or right direction by Ctrl key + Shift key + mouse wheel. Refer to “Moving the Time-Axis to Left or Right Direction”.
- Improved to save the layouts of **Timeline** windows and **Multi Testpoints** windows. Refer to “Timeline Window” and “Multi Testpoints Window”.

User Action Designer

For detailed information, refer to “Option Types” in the *ORION Programmer's Guide*.

- Added **Formula Value** as an option type for user actions.



ORION Installer

- Updated Python version from 3.10 to 3.11. Refer to “Python User Action Requirements” in the *ORION Programmer’s Guide*.
- Updated the HASP driver.

Fixes

MDA

The following issues have been fixed:

- The list order of the **ControlMode** column in the **Test Plans** window was not sorted correctly when adding or deleting a ControlMode in the **Global Parameters** window.
- Some *.a2l* files were not imported in the **Channels Library** window.

MA

The following issues have been fixed:

- In the **Multi Config Mode** dialog box, the batch processing could not start when the *.ornx* files, in which a load error has occurred, were deleted by the **Clear All** button.
- The size of the **Status Flags** and **Interface Monitor** windows was automatically changed when the MA connects to the target device.
- The warning message is displayed in the **Log Messages** window when the MA connects to the target device even if the CAN interface is not used.
- The MA could not be started when the last layout could not be restored.
- A load error occurred when an action group contains an action that uses the **Device Status** option type.
- The value of the **SystemControlRequest** property was changed to 0 unintentionally when you click the **Stop** button while running a sequence in step mode.
- If a NaN error occurred when executing an action that ends immediately, it might be detected after executing the next action.

Actions

The following issues have been fixed:

- The function to detect a NaNError for the status channel to instruct measurement of the BoundaryFinder action and the status channel specified in the SendExecuteService action, was fixed.
- A NaNError was detected incorrectly when multiple parameters were set in the option.
- In the HEcmd action, NaNErrors of all status channels action were detected. (Fixed to detect NaNErrors only for status channels used.)
- In the Ramp and SetStepwise actions, the action ended with an error when the property value was wrong. (Fixed to end with a warning.)
- In the BoundaryFinder, Ramp and SetStepwise actions, the action ended with an unexpected error and the test stopped when the **Set_Value** was NaN. (Fixed to end with a warning.)



- In the Optimize action, the step width became the maximum width when a limit violation occurred after reaching to the optimal value.
- In the Optimize action, the action ended whether or not removing the limit violation when the action moved to the optimal value after a limit violation occurred while searching in the opposite direction from the calculated optimal value.
- In the SetStepwise and Ramp actions, sometimes the action would move one step even if it was not necessary to step.
- In the CheckLimitsParallel action, the action immediately ended with an error without waiting for the time set in the **Ignore Time in sec** option when a limit violation occurred at the start of the action.
- In the CheckLimitsParallel action, an action connected to the **Limit Violation** port was not executed even if a limit violation occurred.

Log Analyzer

The following issue has been fixed:

- The **End** sequence was always displayed in the **Multi Testpoints** window even if it is not selected.

User Action Designer

The following issue has been fixed:

- When an option name set in the **Visibility Rule** was changed, the option name before change was also displayed in its drop-down list.

ORION Simulators

The following issue in the customizable simulator have been fixed:

- A value greater than the **Max** value could set to the **Min** value on the slider bar.
- The MA freezes when ending the customizable simulator after a channel is added and another simulator is selected by the **Load** button.
- Some status channels were not changed when the ContinuousMeasureStart, ContinuousMeasureStop and HEcmd actions are executed.



ORION Component Versions

The following table lists the versions of components in ORION 2.5.0:

Component	Version	Notes
ORION2 MDA	2.5.0	2.5.0.***** Where “*****” is a build version.
ORION2 Measurement Application	2.5.0	2.5.0 Build ** ** ***** ** ** ** Where “***” is a placeholder for the build date and time.
ORION2 Log Analyzer	2.5.0	2.5.0 Build ** ** ***** ** ** ** Where “***” is a placeholder for the build date and time.
ORION2 User Action Designer	2.5.0	2.5.0 Build ** ** ***** ** ** ** Where “***” is a placeholder for the build date and time.
ORION2 Engine & Python	2.5.0	2.5.0 Engine Build ** ** ***** ** ** ** Where “***” is a placeholder for the build date and time.
ORION2 Log Collection Tool	2.5.0	2.5.0.***** is displayed on the title bar. Where “*****” is a build version.
ORION2 Auto Updater	2.5.0	2.5.0.***** is displayed on the title bar. Where “*****” is a build version.
ORION2 Workspace	2.5.0	-
ORION2 Offline Server	2.5.0	-
ORION2 Sim Package	2.5.0	-
iView	3.3	3.3.0.2635 is the version of the installer exe.
Sentinel Runtime	8.53.17703.60001	-
ORION2 Log Analyzer for ORION 1.x log files	1.3.13	Not contained in the integrated ORION installer.

- The **Version** column lists the version shown in the **Programs and Features** of the Windows **Control Panel**.
- The **Notes** column lists the version shown in the **Help > About** dialog box of the application.

ORION 2.4.1 Changes

The following new features, changes, and fixes have been added to ORION v2.4.1.

Changes

MDA

For detailed information, refer to the sections in the *ORION Measurement Definition Application User's Guide* listed at the end of each sentence.

- Added and improved checking for the sequence in the following cases. Refer to “Identifying Errors in a Test”.
 - Shows a warning message when **Parameter** is selected for the **Get_Type** of the **Operating Point** and **Measurement** parameters.
 - Shows an error message when the option settings are incorrect in the StartCombustionControl, StartAFRControl, and StartPIControl actions.
 - Improved the messages when saving a configuration file in the StopParallelControl, WaitCondition, ASAP3Recorder, ContinuousMeasureStop, and SwitchParameter actions.
- While editing a configuration file, if test plan results have been updated in the MA, you can now save the file with these results in the MDA. Refer to “File Menu”.
- Removed the maximum input limit of the **WOTSource** property on the **Common Parameters** tab in the **Global Parameters** window.
- Removed the **Apply** button on the **Add Parameter** dialog box in the **Test Plans** window. Refer to “Adding Parameters to Test Plans”.

MA

For detailed information, refer to the sections in the *ORION Measurement Application Operator's Guide* listed at the end of each sentence.

- Increased the maximum number of configuration files, from 20 to 50, that can be loaded in batch mode. Refer to “Multi Config Mode Dialog Box”.



Actions

Refer to action descriptions in the *ORION Reference Guide* for detailed information.

- Increased the maximum input limit of characters, from 771 to 1023, in the **Message** option in SetPropertyValueGUI action.

Log Analyzer

For detailed information, refer to the sections in the *ORION Log Analyzer User's Guide* listed at the end of each sentence.

- You can now move the time-axis of plots on the **Timeline** window to the left or right direction by Ctrl key + Shift key + mouse wheel. Refer to “Moving the Time-Axis to Left or Right Direction”.
- You can also load a log folder by dragging and dropping it to the **Timeline** or **Multi Tespoints** window. Refer to “Loading Log Files of Finished Test”.

User Action Designer

For detailed information, refer to the *ORION Programmer's Guide* listed at the end of each sentence.

- **Supported Benches** settings are now only available when **Action Category** is **Test Cell Actions**. Refer to “Setting Supported Benches and Supported Interfaces”.

Fixes

MDA

The following issues have been fixed:

- The **Step Duration** options settings were not reflected when replacing actions.
- The IncaRecorder action was shown unnecessary warning message.
- The connecting line could disappear when **Undo** and **Redo** operations were done in the whole sequence view.
- The settings on the **Test Cell** and **Calibration Tool** tabs of the **Global Parameters** window were not shown correctly in the following cases:
 - When importing a configuration file (.orn) created in v1.x.
 - When loading a configuration file (.orn) created in v1.x.
- The MDA could not insert an action from the **Action Library** to a connecting line.

MA

The following issue has been fixed:

- Forward slashes were shown on the action names in the **Set Start Action** list of the **Sequence Viewer** window.



Actions

The following issues have been fixed:

- Message and parameter names were cut off in the dialog box shown when executing the SetPropertyValueGUI action.
- In the SetIndirect action, when the demand value was reached after it was exceeded twice, the action ended with a warning instead of normal end.
- The SetIndirect action and Optimize action did not end immediately when simultaneous **LimitsUp** and **LimitsDown** violations occurred.
- An error occurred in the ChangeControlMode action when the MA loads a configuration file.
- A load error occurred when loading a configuration file with incorrect settings in the StartParallelControl action and MultiSwitch action.
- The StartParallelControl_ErrorCheck action was forced to end, and a parallel action tolerance error did not detect correctly when the action was executed next time.
- The following windows were not shown correctly:
 - **Parallel Action Status** window in the StartCombustionControl and StartPControl actions.
 - **Action Plot** window in the StepResponse action.
 - **Parallel Action Status** window in simple mode when a parallel action limit violation occurred in the StartCombustionControl, StartAFRControl, StartPControl, and StartParallelControl actions.

Log Analyzer

The following issues have been fixed:

- **Initialize** sequence was always shown in the **Multi Testpoints** window.
- In the **Configure Axes** dialog box, changed the name of scale axes to **Min, Max**.
- When adding a new **Timeline** window, the number of plots to be displayed was incorrect.
- Help window was not closed when closing the Log Analyzer.



ORION Component Versions

The following table lists the versions of components in ORION 2.4.1:

Component	Version	Notes
ORION2 MDA	2.4.1	2.4.1.***** Where “*****” is a build version.
ORION2 Measurement Application	2.4.1	2.4.1 Build ** ** ***** ** ** ** Where “***” is a placeholder for the build date and time.
ORION2 Log Analyzer	2.4.1	2.4.1 Build ** ** ***** ** ** ** Where “***” is a placeholder for the build date and time.
ORION2 User Action Designer	2.4.1	2.4.1 Build ** ** ***** ** ** ** Where “***” is a placeholder for the build date and time.
ORION2 Engine & Python	2.4.1	2.4.1 Engine Build ** ** ***** ** ** ** Where “***” is a placeholder for the build date and time.
ORION2 Log Collection Tool	2.4.0	2.4.0.***** is displayed on the title bar. Where “*****” is a build version.
ORION2 Auto Updater	2.3.0	2.3.0.***** is displayed on the title bar. Where “*****” is a build version.
ORION2 Workspace	2.4.1	-
ORION2 Offline Server	2.4.1	-
iView	3.3	3.3.0.2635 is the version of the installer exe.
Sentinel Runtime	8.53.17703.60001	-
ORION2 Log Analyzer for ORION 1.x log files	1.3.13	Not contained in the integrated ORION installer.

- The **Version** column lists the version shown in the **Programs and Features** of the Windows **Control Panel**.
- The **Notes** column lists the version shown in the **Help > About** dialog box of the application.

ORION 2.4.0 Changes

The following new features, changes, and fixes have been added to ORION v2.4.0.

New Features

MDA

For detailed information, refer to the sections in the *ORION Measurement Definition Application User's Guide* listed at the end of each sentence.

- Now the MDA only shows the available actions in **Test Cell Actions** and **Calibration Tool Actions** in the **Actions Library**, by selecting the bench systems and connection interfaces in the Options dialog box. If a sequence contains an action that is not available for the selected bench systems, the MDA displays an error message when saving the .ornx file. Refer to “Configuring MDA Options”.
- The following features have been added to the **Sequences** and **Action Groups** windows:
 - Whole view of a sequence is shown on the new **Sequence** tab at the right area of the windows. Refer to “Sequences Window” and “Action Groups Window”.
 - You can now insert an action into the connecting line between the actions. Refer to “Inserting Actions in Sequences”.
 - The **Insert Action** on the context menu of a selected action allows you to insert an action before the selected action.
 - You can also insert an action by pressing the Ctrl key and dropping it on the connecting line.
 - You can now replace an action by pressing the Ctrl key and dropping another action on it, keeping the connecting line. Refer to “Replacing Actions in Sequences”.
 - When deleting an action (action group) that is connected to other actions, the connecting line between the previous and next actions is maintained. Refer to “Deleting Actions” and “Deleting Action Groups”.
 - The new **Branch port side settings** option on the **Common** tab allows you to select whether to place the branch ports on the left side or right side of the action block. Refer to “Branch Port Side Settings” in the *ORION Reference Guide*.
- You can now assign a map or formula to the **Get_ChannelName** of the **Set** and **Measurement** parameters in the **Parameters** or **Parameters Library** window, allowing to set a calculated value to the **Get_FBValue**. Refer to “Assigning Channels to Parameters”, “Assigning Maps”, and “Assigning Calculation Formulas”.
- The new ECU settings in the **Calibration Tool Settings** of the **Global Parameters** window allows to connect to multiple ECU devices. Refer to “Calibration Tool Settings”.



- An action group can be placed within another action group now. Refer to “Adding and Configuring Action Groups”.
- When opening an *.ornx* file that contains deprecated actions, the MDA now lists these actions in the **Deprecated Actions** section in the **Tree** window. Refer to “Identifying Deprecated Actions”.
- By setting a channel name in the new **TestPointNumber** in **SetParameter(Tx)** on the **Test Cell** tab of the **Global Parameters** window, the currently running test point number will be automatically transferred to the test cell system for data logging. Refer to “Manually Specifying Test Cell System Settings”.

MA

For detailed information, refer to the sections in the *ORION Measurement Application Operator's Guide* listed at the end of each sentence.

- The following features have been added to the **Options** dialog box:
 - You can communicate with the iLinkRT v3.0 interface, by selecting the new **iLinkRT3** interface type on the **Interface Overview** tab. Refer to “Interface Overview Tab”.
 - The new **Show simplified Parallel Status** option on the **Common Options** tab lets you select whether to display the simplified view or standard view of the parallel action status in the **Parallel Action Status** window. Refer to “Common Options Tab” and “Parallel Action Status Window”.

Actions

The following actions have been added to the MDA **Actions Library**. Refer to each action descriptions in the *ORION Reference Guide* for detailed information on actions.

Action	Action Category	Description
WaitCondition	Get Actions	Waits until a condition becomes true or if it is interrupted by a limit violation or an error value.
SendExecuteService	Test Cell Actions	Sends an Execute Service command to the test cell system.
iLinkRT3Recorder	Calibration Tool Actions	Instructs the calibration tool to start or stop the INCA recorder when using an iLinkRT v3.0 connection.
CheckValueUpdateParallel	Parallel Actions	In parallel to other actions, checks the feedback values are updating continuously.
SetPropertyValueGUI	Miscellaneous Actions	Changes parameter property values to any input values.

Log Analyzer

For detailed information, refer to the sections in the *ORION Log Analyzer User's Guide* listed at the end of each sentence.

- The **Layout** menu allows you to load and save layouts, and also return to the default layout. Refer to “Layout Menu”.
- You can now open a MA log folder by dragging and dropping it on the main window. Refer to “Loading Log Files of Finished Test”.
- Now the view of the plots in the **Timeline** window can be changed by the following operations. Refer to “Zooming in / out the view of plot area”.
 - Zoom in or zoom out the x axis by Ctrl key + mouse wheel.
 - Zoom in or zoom out the y axis by Shift key + mouse wheel.



User Action Designer

For detailed information, refer to “Setting Supported Benches and Supported Interfaces” in the *ORION Programmer’s Guide*.

- If your user action only supports certain test cell systems or connection interfaces, the new **Supported Benches** and **Supported Interfaces** options allow to show available actions on the MDA **Action Library**.

Changes

MDA

For detailed information, refer to the sections in the *ORION Measurement Definition Application User’s Guide* listed at the end of each sentence.

- When opening an *.ornx* file that contains old actions, the MDA now shows a message saying that the old actions were updated to new actions in the **System Messages** window. Refer to “Test Files”.
- To make it easier to replace actions, the **Do not copy option settings** option has been added to the **Replace Actions** dialog box. Refer to “Replacing Actions in Sequences”.

MA

For detailed information, refer to the sections in the *ORION Measurement Application Operator’s Guide* listed at the end of each sentence.

- The new **Get_Type_str** and **Set_Type_str** properties that can be selected in the **Parameter Viewer** window allow to display the **Parameter** and **Signal** types as characters instead of numbers.
- You can now set a value with more than 5 digits to the **Y-Min** and **Y-Max** in the **Configure Axes** dialog box of the **TimeLine** window.
- A sequence end message is now shown on the status bar at the bottom of the main window when the sequence ends. Refer to “MA Main Window Components”.

Actions

- The MA now automatically logs all parameter properties that are used by each action.
- The following actions have been changed. Refer to each action descriptions in the *ORION Reference Guide* for detailed information on actions.

Previous Action	Replaced by	Description
BoundaryFinder 1_2	BoundaryFinder 2_0	Removed the MaxLoop port.
setACSICMD 1_1	setACSICMD 2_0	
Condition 1_2	Condition 2_0	
ifNewOperatingPoint 1_1	ifNewOperatingPoint 2_0	
MultiSwitch 1_1	MultiSwitch 2_0	
CheckLimitsParallel 1_0	CheckLimitsParallel 2_0	

Previous Action	Replaced by	Description
TransientCycle 1_1	TransientCycle 2_0	- Improved to run a transient cycle at 100 Hz rate, without limit monitoring, by selecting the new Set parameters without limit checking in the Command option. - Added a feature to check the .csv file before starting the sequence. - Removed the MaxLoop port.
Wait 1_1	Wait 1_2	You can now select a map or formula in the Wait Time in sec option, besides entering a constant value.
HEcmd 1_0	HEcmd 1_1	- The Standby and Warmup modes of heat exchanger have been added to the Select Mode option. - The following lubricating oil temperature control targets have been added to the Oil Temp Control Target option: DeviceOutletWaterTemperature, EngOilTemperature, EngInlet, EngOutlet, External.
ScheduleRun 1_0	ScheduleRun 1_1	- Increased the maximum schedule number in the Mode number value option from 10 to 100. - Also, increased the maximum schedule number when using test plan settings (Set_DemandValue) from 10 to 100.
Goto 1_0	Goto 2_0	Removed the MaxLoop port.
ifError 1_0	ifError 2_0	Removed the StopParallelAction option.
ifFullLoad 1_0	ifFullLoad 2_0	
StartParallelControl_Error Check 1_1	StartParallelControl_Error Check 2_0	
MessageBox 1_0	MessageBox 2_0	- By selecting the new Warning Dialog for Right Button option and clicking the right button in the MessageBox dialog box, you can now confirm whether or not to branch the sequence to the RightButton port. - Removed the MaxLoop port.
Timer 1_0	Timer 1_1	- Now after waiting the remaining time, branches the sequence by selecting the Wait Remaining Time in the Command option. The action waits until the elapsed time, since the reset, exceeds the time limit. - By the new Timer Variable source in the Time Limit Source option, the action can store the reset time to a variable selected in the Timer Variable option. - You can now select a map or formula in the Time Limit Value in sec option, besides entering a constant value.
StartAFRControl 1_0	StartAFRControl 2_0	By the new Controlled Parameter Set_Value (Set Target by other action) in the Target Value Source option, the Set_Value of the Set parameter selected in the Controlled Parameter can be used as a target value. Set_Value is set by other action in parallel.

Previous Action	Replaced by	Description
StartParallelControl 2_1	StartParallelControl 2_2	You can now select a map or formula in the Controller Gain option, besides entering a constant value.
StartParallelTimer 1_0	StartParallelTimer 1_1	By the new Timer Variable source in the Time Limit Source option, the action can store the current time when it starts, to a variable selected in the Timer Variable option.
StartPControl 1_0	StartPControl 1_1	- By the new Set_Value (Set Target by other action) in the Target Value Source option, the Set_Value of the Set parameter selected in the Controlled Parameter can be used as a target value. Set_Value is set by other action in parallel. - You can now select a map or formula in the P Gain of Main Controller and I Gain of Main Controller options, besides entering a constant value.
StopParallelControl 1_1	StopParallelControl 1_2	- Now this action can stops one parallel action started by the following actions: - StartParallelTimer action, by specifying the new Timer Variable option. - CheckValueUpdateParallel action, by specifying the new CheckValueUpdate_ID option.
Calculate 1_1	Calculate 2_0	- Mathematical functions of math module and Numpy module can be used in the Formula option now. - Removed the MaxLoop port.

- The following action categories were changed:

Action	Previous Category	Replaced by
ASAP3Recorder 1_2	Others (category removed)	Calibration Tool Actions (new category)
IncaRecorder 1_1	Test Cell Actions	

Log Analyzer

For detailed information, refer to the sections in the *ORION Log Analyzer User's Guide* listed at the end of each sentence.

- The main menu has been changed to the same structure as the MA and MDA menus. Refer to “Log Analyzer Menus”.
- When exporting data, you can now select a test point to be exported from a select dialog box. Refer to “Exporting Data for a Single Test Point”.
- To improve the performance of the Log Analyzer, you can now add up to 10 Timeline windows or **Mult Testpoints** windows. Refer to “Adding Timeline Windows” and “Adding Multi Testpoints Windows”.
- Improved buttons and titles of dialog boxes to be proper and common appearances. Refer to “Options Dialog Box”, “Parameter Viewer - Configuration Dialog Box” and “Define Axes Dialog Box”.
- The performance of parsing large log files has been improved by reading data on demand.



User Action Designer

For detailed information, refer to “Adding Options and Limits” in the *ORION Programmer’s Guide*.

- Allowed to show or hide an option on the **Limit** tab by setting of an option on the **Option** tab in the **Visibility Rule** checkbox or combo box.
- You can set multiple values of the combo boxes to the **Controlling Value**, increasing the selections to show or hide options.

Licensing

For detailed information, refer to “Using the License Utility” in the *ORION Getting Started Guide*.

- Added restrictions on the use of ORION according to the ORION versions, to the license dongles.

ORION Installer

- Updated Python version from 3.8 to 3.10.

Fixes

MDA

The following issues have been fixed:

- An exception error occurred when bottom actions were continuously changed in the **Action Groups** window.
- Aligning an action did not work properly and a message was shown, when the **Start** block is placed on the left side of the action. Now the **Start** block is placed slightly to the right when creating an action group or creating a new action group.
- If there are many bend points in a connecting line between the actions, the MDA did not respond when the connecting line was moved.

MA

The following issues have been fixed:

- When an action within an action group ended with a Warning, the currently running test point has ended, and then the next test point has started.
- In the **TimeLine - Configuration** dialog box, if you click **OK** with no properties selected, and then open the **Configure Axes** dialog box, it was shown incorrectly. Now **Get_FBValue** is automatically added if no property is selected.
- Invalid values were transmitted via the CAN interface when using a *.dbc* file that contains a signal defined with **ByteOrder** = **Motorola** and **Length[Bit]** is less than 8 bits.
- The MA could not search the control modes when more than 10 control modes were configured on the **Common Parameters** tab in the MDA **Global Parameters** window.
- Repeatedly starting and stopping a sequence increased the memory consumption of the MA.
- When a parallel action stops with a persistent error, it ended abnormally in the next test plan.



Actions

The following issues have been fixed:

- The ifError action did not check the status of a previous parallel action.
- The abs function could not be used in the **Formula** option of the Calculate action.
- When the Measure action is running and it is interrupted by clicking the **Stop** or **Skip Action** button, the reset procedure (**MeanMeasurementStart_Status** = 0) is now sent.
- Some actions did not execute the action connected to the **Warning** or **Error** port that was added on the **Common** tab of the MDA.
- When the SetOperatingPoint action was running and a limit violation error of a parallel action occurred, invalid values were sent to the **Engine** demand value.
- When a limit violation error could not be removed while the SetOperatingPoint action was running, an action connected to the **PersistentError** port was executed without returning to the action start position.

Log Analyzer

The following issue has been fixed:

- **Log Messages** window was not shown in the main window.
- When the **Show Time in Log Messages** option in the **Options** dialog box was not selected, the last executed test point did not display in the **Timeline** window.



ORION Component Versions

The following table lists the versions of components in ORION 2.4.0:

Component	Version	Notes
ORION2 MDA	2.4.0	2.4.0.***** Where “*****” is a build version.
ORION2 Measurement Application	2.4.0	2.4.0 Build ** ** ***** ** ** ** Where “***” is a placeholder for the build date and time.
ORION2 Log Analyzer	2.4.0	2.4.0 Build ** ** ***** ** ** ** Where “***” is a placeholder for the build date and time.
ORION2 User Action Designer	2.4.0	2.4.0 Build ** ** ***** ** ** ** Where “***” is a placeholder for the build date and time.
ORION2 Engine & Python	2.4.0	2.4.0 Engine Build ** ** ***** ** ** ** Where “***” is a placeholder for the build date and time.
ORION2 Log Collection Tool	2.4.0	2.4.0.***** is displayed on the title bar. Where “*****” is a build version.
ORION2 Auto Updater	2.3.0	2.3.0.***** is displayed on the title bar. Where “*****” is a build version.
ORION2 Workspace	2.4.0	-
ORION2 Offline Server	2.4.0	-
iView	3.3	3.3.0.2635 is the version of the installer exe.
Sentinel Runtime	8.53.17703.60001	-
ORION2 Log Analyzer for ORION 1.x log files	1.3.13	Not contained in the integrated ORION installer.

- The **Version** column lists the version shown in the **Programs and Features** of the Windows **Control Panel**.
- The **Notes** column lists the version shown in the **Help > About** dialog box of the application.

ORION 2.3.3 Changes

The following new features, changes, and fixes have been added to ORION v2.3.3.

Changes

Actions

The following action has been changed. Refer to action descriptions in the *ORION Reference Guide* for detailed information.

Previous Action	Replaced by	Description
StartCombustionControl 1_0	StartCombustionControl 1_1	- Added the Knock Indicator Percentile option to specify a percentile that is used for Knock Indicator calculations. - Improved not to get noise by knock control at low engine load.

Fixes

MA

The following issue has been fixed:

- When sending a control request value specified by the **Grant ORION Access (OFF)** setting to the **Set_ReqChannelName** channel using an ASAP3 HS connection, a NaN value is rarely sent.



ORION Component Versions

The following table lists the versions of components in ORION 2.3.3:

Component	Version	Notes
ORION2 MDA	2.3.3	2.3.3.***** Where “*****” is a build version.
ORION2 Measurement Application	2.3.3	2.3.3 Build ** ** ***** ** ** ** Where “***” is a placeholder for the build date and time.
ORION2 Log Analyzer	2.3.3	2.3.3 Build ** ** ***** ** ** ** Where “***” is a placeholder for the build date and time.
ORION2 User Action Designer	2.3.3	2.3.3 Build ** ** ***** ** ** ** Where “***” is a placeholder for the build date and time.
ORION2 Engine & Python	2.3.3	2.3.3 Engine Build ** ** ***** ** ** ** Where “***” is a placeholder for the build date and time.
ORION2 Log Collection Tool	2.3.0	2.3.0.***** is displayed on the title bar. Where “*****” is a build version.
ORION2 Auto Updater	2.3.0	2.3.0.***** is displayed on the title bar. Where “*****” is a build version.
ORION2 Workspace	2.3.3	-
ORION2 Offline Server	2.3.3	-
iView	3.3	3.3.0.2635 is the version of the installer exe.
Sentinel Runtime	8.11.42480.60000	-
ORION2 Log Analyzer for ORION 1.x log files	1.3.13	Not contained in the integrated ORION installer.

- The **Version** column lists the version shown in the **Programs and Features** of the Windows **Control Panel**.
- The **Notes** column lists the version shown in the **Help > About** dialog box of the application.

ORION 2.3.2 Changes

The following new features, changes, and fixes have been added to ORION v2.3.2.

Changes

MDA

For detailed information, refer to the sections in the *ORION Measurement Definition Application User's Guide* listed at the end of each sentence.

- Added checking for the sequence in the following cases. Refer to “Identifying Errors in a Test”.
 - Shows an error message when a parameter selected for the Limits option has **Min = MinWarning** or **Max = MaxWarning** in StartAFRControl, StartCombustionControl, and StartPIControl actions.
 - Shows an error message when a map or formula is assigned in a parameter selected for the **CA50 Combustion Position** option of the StartCombustionControl action.
 - Shows a warning message when a **Step Duration** option is selected and the minimum value of a map or formula is less than or equal to 0.
- In the **Sequences** window, the **Enter Comment** dialog box now shows the number of characters you have entered. Refer to “Adding Sequence Comments”.
- Before saving an existing configuration file (.ornx), the MDA makes a backup of the file. Refer to “File Menu”.

MA

For detailed information, refer to the sections in the *ORION Measurement Application Operator's Guide* listed at the end of each sentence.

- When loading an .ornx file of previous ORION versions, it is updated to the current version. A backup of the original file is automatically created. Refer to “File Menu”.
- Improved buttons and titles of dialog boxes to be proper and common appearances.
- The **Log Messages** window now shows a message when the MA disconnects from a device. Refer to “Log Messages window”.



Actions

The following actions have been changed. Refer to action descriptions in the *ORION Reference Guide* for detailed information.

Previous Action	Replaced by	Description
ASAP3Recorder 1_1	ASAP3Recorder 1_2	Added the RecordingType option to select the record type of DEFINE RECORDER PARAMETERS command.
BoundaryFinder 1_1	BoundaryFinder 1_2	Converted old State Machine actions to new actions created with Python. Action behaviors are not changed.
Optimize 1_1	Optimize 1_2	
SetIndirect 1_1	SetIndirect 1_2	
TransientCycle 1_0	TransientCycle 1_1	

ORION Installer

For detailed information, refer to “Installing ORION” in the *ORION Getting Started Guide*.

- A message that instructs to restart your computer is shown at the end of the installation.

Fixes

MDA

The following issues have been fixed:

- While showing only favorite actions in the **Actions Library**, filtering and adding favorites does not properly display the **Actions Library**.
- In the **Options** dialog box, changed the **Action Library** tab name to **Actions** and made the contents easier to understand.
- Although changing **No.** of the **Control Modes** in the **Common Parameters** tab of the **Global Parameters** window, it is not reflected to the **ControlMode** in the **Test Plans** window.
- When adding or deleting test point rows in the **Test Plans** window, the viewing area jumps to the first test point row.
- In the **Create dbc file** dialog box of the **Parameters** window, importing a *.dbc* file that contains a signal defined with **ByteOrder** = **Motorola** does not properly display **StartBit**.

MA

The following issue has been fixed:

- When communicating with CAN interface, using a *.dbc* file that contains a signal defined with **ValueType** = **Signed** or **Unsigned**, **ByteOrder** = **Motorola** does not transmit properly.



Log Analyzer

The following issue has been fixed:

- When loading log files that have run the **Initialize** sequence, the data of the **Main** sequence has a delay in a **Timeline** window.

ORION Component Versions

The following table lists the versions of components in ORION 2.3.2:

Component	Version	Notes
ORION2 MDA	2.3.2	2.3.2.***** Where “*****” is a build version.
ORION2 Measurement Application	2.3.2	2.3.2 Build ** _ ** _**** _** _** _** Where “***” is a placeholder for the build date and time.
ORION2 Log Analyzer	2.3.2	2.3.2 Build ** _** _**** _** _** _** Where “***” is a placeholder for the build date and time.
ORION2 User Action Designer	2.3.2	2.3.2 Build ** _** _**** _** _** _** Where “***” is a placeholder for the build date and time.
ORION2 Engine & Python	2.3.2	2.3.2 Engine Build ** _** _**** _** _** _** Where “***” is a placeholder for the build date and time.
ORION2 Log Collection Tool	2.3.0	2.3.0.***** is displayed on the title bar. Where “*****” is a build version.
ORION2 Auto Updater	2.3.0	2.3.0.***** is displayed on the title bar. Where “*****” is a build version.
ORION2 Workspace	2.3.2	-
ORION2 Offline Server	2.3.2	-
iView	3.3	3.3.0.2635 is the version of the installer exe.
Sentinel Runtime	8.11.42480.60000	-
ORION2 Log Analyzer for ORION 1.x log files	1.3.13	Not contained in the integrated ORION installer.

- The **Version** column lists the version shown in the **Programs and Features** of the Windows **Control Panel**.
- The **Notes** column lists the version shown in the **Help > About** dialog box of the application.

ORION 2.3.1 Changes

The following issues have been fixed in ORION v2.3.1.

Fixes

MDA

The following issue has been fixed:

- An action assigned a map or formula is not properly displayed or cannot operate in the following cases:
 - When loading an *.ornx* file that uses the action in an action group.
 - When copying the action in a **Reference** window or in another MDA, and then paste it to the editing **Sequence** window.

MA

The following issues have been fixed:

- The running sequence stops when there is no corresponding StopParallelControl action in the sequence.
- The MA of v2.3.0 cannot load an *.ornx* file created in v2.2.1 with the following settings:
 - A map is assigned to **Controlled Parameter Target** option of StartParallelControl 2_0 action.
 - A map is assigned to **Step Duration in sec** option of SetStepwise 2_0 action.
- Cannot load an *.ornx* file with the same map assigned to options, which are available to select maps, in different actions.
- In action groups, maps or formulas do not work properly when assigned to actions such as StartParallelControl 2_1 and Set 2_1.

Log Analyzer

The following issues have been fixed:

- If there is no data to plot at the start time, the plotted data has a delay in **Timeline** windows and the **Multi Testpoints** window.
- The **Multi Testpoints** window is not properly shown if the previously specified test points do not exist in the loaded log files.



ORION Component Versions

The following table lists the versions of components in ORION 2.3.1:

Component	Version	Notes
ORION2 MDA	2.3.1	2.3.1.***** Where “*****” is a build version.
ORION2 Measurement Application	2.3.1	2.3.1 Build ** ** ***** ** ** ** Where “***” is a placeholder for the build date and time.
ORION2 Log Analyzer	2.3.1	2.3.1 Build ** ** ***** ** ** ** Where “***” is a placeholder for the build date and time.
ORION2 User Action Designer	2.3.1	2.3.1 Build ** ** ***** ** ** ** Where “***” is a placeholder for the build date and time.
ORION2 Engine & Python	2.3.1	2.3.1 Engine Build ** ** ***** ** ** ** Where “***” is a placeholder for the build date and time.
ORION2 Log Collection Tool	2.3.0	2.3.0.***** is displayed on the title bar. Where “*****” is a build version.
ORION2 Auto Updater	2.3.0	2.3.0.***** is displayed on the title bar. Where “*****” is a build version.
ORION2 Workspace	2.3.1	-
ORION2 Offline Server	2.3.1	-
iView	3.3	3.3.0.2635 is the version of the installer exe.
Sentinel Runtime	8.11.42480.60000	-
ORION2 Log Analyzer for ORION 1.x log files	1.3.13	Not contained in the integrated ORION installer.

- The **Version** column lists the version shown in the **Programs and Features** of the Windows **Control Panel**.
- The **Notes** column lists the version shown in the **Help > About** dialog box of the application.

ORION 2.3.0 Changes

The following new features, changes, and fixes have been added to ORION v2.3.0.

New Features

MDA

For detailed information, refer to the sections in the *ORION Measurement Definition Application User's Guide* listed at the end of each sentence.

- A favorite feature has been added to the **Actions Library** window so that only frequently used actions can be displayed. Refer to “Configuring and Viewing Favorites Actions”.
- Some actions display an image of the action behavior on the right area of the **Actions Library** window. Refer to “Actions Library Window”.
- Added the bottom action feature to the **Action Groups** window so that the bottom ports of multiple actions can also be connected in the **Sequences** window. Refer to “Adding and Configuring Action Groups”.
- The branch ports for unconnected actions in action groups now are not shown on the action group block. Refer to “Action Group Exit Ports”.
- You can now select the default setting for options determining step duration: use **Step Duration** option settings or calculate from **Get_TSynch** properties on **Action Library** tab in the **Options** dialog box. Refer to “Configuring MDA Options”.

MA

For detailed information, refer to the sections in the *ORION Measurement Application Operator's Guide* listed at the end of each sentence.

- Configured shortcut keys for menus and control buttons. Refer to “MA Menus” and “Control Buttons”.
- The **Start Customizable Simulation** command on the **Simulator** menu starts a generic simulator UI, that allows to load different simulation files. These simulation files are customizable. Refer to “Simulator Menu”.
- Changing the ECU data set while running multiple test sequences in **Multi Config Mode** is now supported. An Execute Service *IncaCMD* is sent so that the Calibration Tool can measure with different data sets of the ECU. Refer to “Multi Config Mode Dialog Box” .



Actions

The following actions have been added to the MDA **Actions Library**. Refer to each action descriptions in the *ORION Reference Guide* for detailed information on actions.

Action	Action Category	Description
StepResponse 1_0	Set Actions	This action runs a step response and calculates response characteristics such as time constants and steady-state deviations.
ChangeCombustionControl 1_0	Parallel Actions	This action changes the controller performance mode of the StartCombustionControl action.
StartAFRControl 1_0	Parallel Actions	This parallel action controls AFR or Lambda to a target value, and controls exhaust temperature when it is high.
StartCombustionControl 1_0	Parallel Actions	This parallel action rapidly controls CA50 to a target value with integrated Kalman filter by changing Spark Timing with additional control of engine knocking and other critical limits.
StartPControl 1_0	Parallel Actions	This parallel action is a PI controller for a measured parameter with two optional PI controllers for LimitsUp and LimitsDown parameters.

Changes

MDA

For detailed information, refer to the sections in the *ORION Measurement Definition Application User's Guide* listed at the end of each sentence.

- In the **Test Plans** window, if there are more copied lines than the selected cells or rows in the test plan, the missing lines can be added automatically. Refer to “Copying and Pasting Test Points”.
- Increased the maximum number of action groups that can be created by **Create action group with different options** from 10 to 100. Refer to “Creating Action Groups with Different Options”.
- Added **Rename Device** and **Delete Device** buttons on the **Common Parameters** tab of the **Global Parameters** window. Refer to “Common Parameters Settings”.
- In the **Test Plans** window, the **ControlMode** field of the added test point rows is set to the same control mode of the selected upper test point row. Refer to “Adding Test Point Rows to the Main Test Plan”.
- Added a feature to restrict the minimum and maximum values to the **Calculation Formulas** window. Refer to “Adding Formulas”.
- In the **Parameters Library** window, you can now add all parameters of a parameter type or a parameter file. Refer to “Adding Parameters from the Parameters Library”.
- In the **Choose Parameters** dialog box on the **Options** tab, you can also select the parameters from the Parameters Library. Refer to “Assigning Parameters to Actions”.
- In the **Channels Library** window, you can delete all channels from a channel file or from a channel type. Refer to “Deleting Channels from the Channels Library”.
- Improved the messages displayed in the **System Messages** window when loading an .orn file.
- The MDA now checks for errors in the sequence for user actions.



- Enabled to move to the **Parameters** window or **Test Plans** window from a parameter displayed in the option field of the action. Refer to “Viewing Parameters in the Parameters or Test Plans Window”.

MA

For detailed information, refer to the sections in the *ORION Measurement Application Operator's Guide* listed at the end of each sentence.

- Now comment blocks and frames are displayed in the **Sequence Viewer** window. Refer to “Sequence Viewer”.
- Improved functionality of the **Options** dialog box. Refer to “Options Dialog Box”.
 - Removed the **RX** and **TX** settings on the **Calibration Tool** and **Test Cell** tabs.
 - Removed the **wdog_channel_in** setting on the **CAN** tab.
- MA can connect with the device if **Calibration Tool** on the **Interface Overview** tab of the **Options** dialog box is active, even if there are no parameters for which **Set_Device** and **Get_Device** are set to **Calibration Tool** in the configuration file.

Actions

Refer to each action descriptions in the *ORION Reference Guide* for detailed information on actions.

- The following actions have been changed:

Previous Action	Replaced by	Description
BoundaryFinder 1_0	BoundaryFinder 1_1	The way how the step duration of actions is defined has been simplified by adding the Step Duration options (Step Duration in sec or Step Duration Up in sec / Step Duration Down in sec).
Copy 1_0	Copy 1_1	
Optimize 1_0	Optimize 1_1	
Ramp 1_0	Ramp 1_1	
Reset 1_0	Reset 1_1	
Set 2_0	Set 2_1	
SetConstant 1_0	SetConstant 1_1	
SetIndirect 1_0	SetIndirect 1_1	
SeStepwise 2_0	SeStepwise 2_1	
StartParallelControl 2_0	StartParallelControl 2_1	
StartParallelControl_ErrorCheck 1_0	StartParallelControl_ErrorCheck 1_1	
Copy 1_0	Copy 1_1	Reduced action execution duration by adding Get_FBValue_averaged and Get_FBValue_snapshot items instead of the Get_FBValue property in the property selection options.
Set 2_0	Set 2_1	
SetConstant 1_0	SetConstant 1_1	
SetInMap 1_0	SetInMap 1_1	
SetMapOffset 1_0	SetMapOffset 1_1	
Condition 1_1	Condition 1_2	
MultiSwitch 1_0	MultiSwitch 1_1	

Previous Action	Replaced by	Description
IncaRecorder 1_0	IncaRecorder 1_1	File name, path for file storage and file format can be defined by action now.
CheckParamSetting 1_0	CheckParamSetting 1_1	Removed deprecated tolerance check feature, and specialized for adjusting parameter properties using a user interface.

Log Analyzer

For detailed information, refer to the sections in the *ORION Log Analyzer User's Guide* listed at the end of each sentence.

- Improved the **Parameter Viewer - Configuration** dialog box. Refer to “Parameter Viewer – Configuration Dialog Box”.
 - The plot settings of left and right axis are displayed in one view for improved usability.
 - Automatically select the **Get_FBValue** property.
- Log files of same test sequence or with same parameters can be compared more easily now. When reading a new log file, the **Timeline** window restores the previous plot settings. Refer to “Loading Log Files of Finished Test”.

User Action Designer

For detailed information, refer to the *ORION Programmer's Guide* listed at the end of each sentence.

- Added **Step Duration** as an option type for user actions. Refer to “Option Types”.
- Added calculation formula setting to **Map Selection** option. Refer to “Option Types”.

ORION Installer

- Updated Python version to 3.8.

Fixes

MDA

The following issues have been fixed:

- The ScheduleRun and ASAP3Recorder actions show unnecessary options when reading a file.
- When a value in a cell is selected on the **Parameters** and **Map** windows, it is not copied with Ctrl+C.
- If you set the file selection option (**CSV Input File** option for the Transient Cycle action) and then click another option, the MDA freezes.
- Improved error checking for the sequence. The MDA now shows an error or warning message in the following cases:
 - A map has an invalid value for the parameter property.
 - More than 20 same channels are set in **Set_ReqChannelName**.
 - More than 20 same channels are set in **Set_ChannelName** of the same **Set_Device**.



- The channel name set in **Set_ChannelName** and **Get_ChannelName** is set in **Set_ReqChanneName**.
- When pasting an action that includes the Channel Table option, for example, the **Stability Parameters** option of the Stabilize action, if there are different case sensitive parameters with the same name in the paste destination, it will not be pasted correctly. (Fixed in Patch 4 of v2.2.1)

MA

The following issues have been fixed:

- If the axis parameter is not set in the map, the log file cannot be loaded by the LogAnalyzer. (Fixed in Patch 1 of v2.2.1)
- If the Reset action has a parameter with **Set_RequestChannelName** and a parameter without it, the MA freezes. (Fixed in Patch 3 of v2.2.1)
- Since the legend cannot be seen when the number of setting properties of the **Timeline** window is large, the maximum property is limited to 5.

Actions

The following issues have been fixed:

- If a boundary error occurs when the start and end values are the same, a command error will occur and the SetOperatingPoint action will not end. (Fixed in Patch 2 of v2.2.1)
- The Reset action ends normally when a command error occurs in the PUT LOOKUP TABLE command.

User Action Designer

The following issue has been fixed:

- Multiple UADs start.

Auto Updater

The following issue has been fixed:

- The AutoUpdater copied from the server cannot be deleted when the error flag is cleared with an account other than the user account where the error occurred.



ORION Component Versions

The following table lists the versions of components in ORION 2.3.0:

Component	Version	Notes
ORION2 MDA	2.3.0	2.3.0.***** Where “*****” is a build version.
ORION2 Measurement Application	2.3.0	2.3.0 Build ** _ ** _***** _** _** _** Where “***” is a placeholder for the build date and time.
ORION2 Log Analyzer	2.3.0	2.3.0 Build ** _ ** _***** _** _** _** Where “***” is a placeholder for the build date and time.
ORION2 User Action Designer	2.3.0	2.3.0 Build ** _ ** _***** _** _** _** Where “***” is a placeholder for the build date and time.
ORION2 Engine & Python	2.3.0	-
ORION2 Log Collection Tool	2.3.0	2.3.0.***** is displayed on the title bar. Where “*****” is a build version.
ORION2 Auto Updater	2.3.0	2.3.0.***** is displayed on the title bar. Where “*****” is a build version.
ORION2 Workspace	2.3.0	-
ORION2 Offline Server	2.3.0	-
iView	3.3	3.3.0.2635 is the version of the installer exe.
Sentinel Runtime	8.11.42480.60000	-
ORION2 Log Analyzer for ORION 1.x log files	1.3.13	Not contained in the integrated ORION installer.

- The **Version** column lists the version shown in the **Programs and Features** of the Windows **Control Panel**.
- The **Notes** column lists the version shown in the **Help > About** dialog box of the application.

ORION 2.2.1 Changes

The following new features, changes, and fixes have been added to ORION v2.2.1.

New Features

MDA

- A 100% scale button has been added to the **Sequences** and **Action Groups** windows to change the sequence view. Refer to “Sequences Window” in the *ORION Measurement Definition Application User’s Guide*.
- You can now jump to the action descriptions on the help window by right-clicking on the action and selecting **Help** in the **Sequence**, **Action Groups** or **Action Library** window.

MA

- The setting of the **Initial value for SetDemand Values** on the **Common Options** tab in the **Options** dialog box will also be applied for the **UserValue01** to **UserValue10** properties.

User Action Designer

- The UAD now shows all user’s projects in the UAD tree view.
- Added error check functionality to UAD when saving action option definition to a file.

Changes

MDA

- When converting an *.orn* file that contains a start parallel action with no stop parallel action, to an *.ornx* file, the MDA now shows a message that the behavior differs between the ORION v1.x and v2.x.
- Improved the operability when you add an action group to the **Sequences** window from the **Action Groups Library** window.
- Improved error checking for the sequence. The MDA now shows an error message in the following cases:
 - A sequence contains an action group with no actions.



- An action group has more than 21 branch ports.
- Added **Result** column to the **Test Plans** window. When editing the test plan of the measured *.ornx* file, the MDA will reset the **Result** column for the changed test points. Refer to “Test Plans Window” in the *ORION Measurement Definition Application User’s Guide*.

MA

For detailed information, refer to the sections in the *ORION Measurement Application Operator’s Guide* listed at the end of each sentence.

- Unified the size of the control buttons so that the size are not changed when you click them. Refer to “Control Buttons”.
- Improved view and functionality of the **Sequence Viewer**. Refer to “Sequence Viewer”.
 - Changed the tab names to “**Initialize**”, “**Main**”, “**Stop**” and “**End**”.
 - Now only action group name is shown on the action group block (removed “Main_Sequence” characters).
 - Improved the display of the long names of the action and action group blocks.
 - The same tabs as the sequence area are now on the action group area, showing only the action groups of the selected sequence tab.
 - Double-clicking an action group block on the sequence area, the corresponding action group is now shown on the action group area.
 - You can now specify a scale percentage, to zoom in or out the sequence view.
 - Used same colors for action group blocks in the MA and MDA.

ORION Simulators

- Changed the ORION Simulators’ server to new server with improved logging.

ORION Installer

- Updated the HASP driver.

Fixes

MDA

The following issue has been fixed:

- When changing a view of the **Parameters** window, the position of the selected cell is changed.

MA

The following issues have been fixed:

- An error occurred when loading an *.ornx* file that contains an action group with no actions.
- When loading a measured *.ornx* file, a notify dialog is not displayed.



- A load error occurred when loading an *.ornx* file that contains an action with no parameters configured in an unconnected action group.
- When editing the **Test Plans** window, the MA moves to an unexpected cell.

UAD

The following issues have been fixed:

- Improved Drag&Drop behavior and positioning of items, especially for long list of items.
- Fixed several issues of items not being updated correctly.
- Fixed deleting of items.
- Fixed column width definition of table options.
- Creating a new action automatically, opens this newly created file.

ORION Component Versions

The following table lists the versions of components in ORION 2.2.1:

Component	Version	Notes
ORION2 MDA	2.2.1	2.2.1.**** Where “****” is a build version.
ORION2 Measurement Application	2.2.1	2.2.1 Build ** _ ** _ **** _ ** _ ** _ ** Where “****” is a placeholder for the build date and time.
ORION2 Log Analyzer	2.2.1	2.2.1 Build ** _ ** _ **** _ ** _ ** _ ** Where “****” is a placeholder for the build date and time.
ORION2 User Action Designer	2.2.1	2.2.1 Build ID:***** Where “*****” is a placeholder for the build date.
ORION2 Engine & Python	2.2.1	-
ORION2 Log Collection Tool	2.2.0	2.2.1.**** is displayed on the title bar. Where “****” is a build version.
ORION2 Auto Updater	2.2.0	2.2.0.**** is displayed on the title bar. Where “****” is a build version.
ORION2 Workspace	2.2.1	-
ORION2 Offline Server	2.2.1	-
iView	3.3	3.3.0.2635 is the version of the installer exe.
Sentinel Runtime	8.11.42480.60000	-
ORION2 Log Analyzer for ORION 1.x log files	1.3.13	Not contained in the integrated ORION installer.

- The **Version** column lists the version shown in the **Programs and Features** of the Windows **Control Panel**.
- The **Notes** column lists the version shown in the **Help > About** dialog box of the application.

ORION 2.2.0 Changes

The following new features, changes, and fixes have been added to ORION v2.2.0.

New Features

MDA

For detailed information, refer to the sections in the *ORION Measurement Definition Application User's Guide* listed at the end of each sentence.

- You can now send values using the CAN device interface, by selecting CAN in the **Set_Device** property for the **Set** and **Operating Point** parameters in the **Parameters** window.
- Added functionality to assign a calculation formula to the parameter properties. Refer to “Assigning Calculation Formulas”.
- You can create a test plan of grid points in the **Main** test plan. Refer to “Creating Test Plans Automatically”.
- Opening up to two MDAs at one time is supported. Refer to “Starting the MDA”.
- Added functionality to exchange rows and columns of parameters and properties in the **Parameters** window. Refer to “Exchanging Rows and Columns in Parameters Workspace”.
- Now you can add a user-defined action category in the MDA **Actions Library** by registering a user action with an action category added in the UAD. Refer to “User Action Categories”.
- Cloning maps are now available in the **Maps** window. Refer to “Cloning Maps”.

MA

For detailed information, refer to the sections in the *ORION Measurement Application Operator's Guide* listed at the end of each sentence.

- The following options have been added to common options on the **Options** dialog box:
 - The new **Initial value for SetDemand Values** option allows you to select an initial value of the **Set_DemandValue** for the parameters that are not in the test plan.
 - Selecting the new **Ignore unused Parameters** option, the unused parameters of a test configuration are not available in the MA and not used for interface connect.
- The new **Edit Mode** command on the Engine menu allows you to change the parameter properties in the **Parameter Viewer** or **Test Plans** window in the MA. Refer to “Edit Mode”.



Actions

The following action has been added to the MDA **Actions Library**. Refer to action descriptions in the *ORION Reference Guide* for details.

Action	Action Category	Description
ChangeLimitGroup 1_0	Test Cell Actions	Instructs the test cell system, which uses iTest-LA, to change a limit group.

Log Analyzer

For detailed information, refer to the sections in the *ORION Log Analyzer User's Guide* listed at the end of each sentence.

- The new **Multi Testpoints** window shows the values of the multiple test points. You can use it to view a rough overview of the test parameters and properties. Refer to “Multi Testpoints Window”.
- The Log Analyzer now shows the execution time in the **Log Messages** window. You can select to show or hide this time in the **Preferences** dialog box. Refer to “Log Messages Window” and “Preferences Dialog Box”.
- Added functionality to export the whole test data. Refer to “Exporting Data of the Whole Test”.

User Action Designer

For detailed information, refer to the *ORION Programmer's Guide*.

- The UADC (User Action Development Center) application have been changed to the UAD (User Action Designer) application that is specialized in creating libraries.
- You can use any Python development tool for coding and debugging Python user actions.
- The following option types are now available for creating user actions:
 - A **Device Status** option allows you to add a standard status channel to be used in a standard Execute Service command. You can also create a user-defined status channel for a user-defined Execute Service command.
 - A **Map Selection** option allows you to enter a fixed value or select a map.

Changes

MDA

For detailed information, refer to the sections in the *ORION Measurement Definition Application User's Guide* listed at the end of each sentence.

- When you saves a configuration file under a new name (.ornx), the MDA creates a test results file (.results) with the same name of .ornx file. Refer to “File Menu”.
- Improved flexibility to connecting actions on the **Sequence Viewer**. Refer to “Changing the Position of Connecting Lines”.
- Implemented a help view for the old actions.



MA

For detailed information, refer to the sections in the *ORION Measurement Application Operator's Guide* listed at the end of each sentence.

- The action groups in the **Sequence Viewer** are now shown on the separate window. Refer to “Sequence Viewer”.
- The design of the **Sequence Viewer** has been improved.
- The following settings have been added to **Multi Control Mode** dialog box:
 - The **Batch Options** button opens a dialog box to specify the time over which the MA waits after disconnecting from devices before loading the next configuration file.
 - The **Test Configs** button loads and checks all the configuration files in the file list.
 - The **Save** and **Load** buttons saves the configuration files to a .bc file, and loads an existing .bc file to run in batch mode.
- You can now configure the IP address and port number for **Online** and **Action Development** modes. Refer to “CalibrationTool and TestCell Tabs”.
- A new ValueCan adapter has been added to the interface type. Refer to “CAN Tab”.
- In the **Test Plans** window, the position of the **Result** field was changed to first column to make it easier to view the status of the test without scrolling. Refer to “Test Plans Window”.
- A classic layout has been added to the MA main window, accessed by **Layout > Standard Layouts**.
- The **Help** command on the **Help** menu launches the MA Help window.
- The **Status Action Display** window has been added to show the values of the parameters configured in the DisplayStatus action. Refer to “Status Action Display Window”.
- If the feedback value of **Set** parameters is less than **Min** or greater than **Max**, the MA now shows a message and disconnects the communication. Refer to “How to Load, Connect, and Run a Test”.

Actions

Refer to each action descriptions in the *ORION Reference Guide* for detailed information on actions.

- The following actions have been merged and replaced by new actions with changed functionality. The deprecated actions (with *) are described in the *ORION Old Actions Reference Guide*.

Merged and Deprecated Action	Replaced by	Description
SetStepwise 1_0 * py_SetStepwise 1_0 *	SetStepwise 2_0	Changes Set values to demand values in steps, monitors limit status, and waits for stabilization time after reaching the target.
CheckParameterLimits 1_0 * py_CheckLimits 1_0 *	CheckLimits 2_0	Checks limits and exits through the branch port if a limit violation occurs.
Measure 1_0 py_Measure 1_1	Measure 1_1	Instructs the test cell system to execute a mean measurement.
py_EngineStart 1_0 py_EngStart 1_0 *	EngineStart 1_1	Instructs the test cell system to start the engine.
SetOperatingPoint 1_0 * py_SetOperatingPoint 1_0 *	SetOperatingPoint 2_0	Instructs the test cell system to change the speed/load.

Merged and Deprecated Action	Replaced by	Description
StartParallelControl 1_0 * py_ParallelControl 1_0 *	StartParallelControl 2_0	Starts a parallel control action.
StopParallelControl 1_0 py_StopParallelControl 1_0 StopAllParallel 1_0 StopParallelTimer 1_0	StopParallelControl 1_1	Stops parallel actions.

- The following actions have been changed:

Previous Action	Replaced by	Description
ForLoop 1_0	ForLoop 1_1	Added the Number of Loops , Loops , Max Loops Parameter , and Store Current Loop Count options.
py_ifNewOperatingPoint 1_0	ifNewOperatingPoint 1_1	Changed internal process to compare conditions. Removed “py_” from the action name.
py_Calculate 1_0	Calculate 1_1	When Set_Value is set to a parameter selected in Output Parameter , this parameter is processed as DirectSetParameter . Removed “py_” from the action name.
py_DisplayStatus 1_0	DisplayStatus 1_0	The parameter values are now shown on the Status Action Display window. Removed “py_” from the action name.
py_ResetECUErrors 1_1	ResetECUErrors 1_1	Removed “py_” from the action name.
py_SwitchParameter _1_1	SwitchParameter _1_1	
py_CheckOptimizeModel 1_0	CheckOptimizeModel 1_0	
py_CheckParamSetting 1_0	CheckParamSetting 1_0	
py_CheckValueUpdate 1_1	CheckValueUpdate 1_1	
py_Wait 1_1	Wait 1_1	
py_EngineStop 1_0	EngineStop 1_0	
py_Hecmd 1_0	Hecmd 1_0	
py_ParticleCounterCmd 1_1	ParticleCounterCmd 1_1	
py_ScheduleRun 1_0	ScheduleRun 1_0	
py_setACSICMD 1_1	setACSICMD 1_1	
py_SmokeCmd 1_1	SmokeCmd 1_1	
py_SnapShotMeasure 1_0	SnapShotMeasure 1_0	
py_SootCmd 1_1	SootCmd 1_1	
py_Condition 1_1	Condition 1_1	
py_MultiSwitch 1_0	MultiSwitch 1_0	
py_CheckLimitsParallel 1_0	CheckLimitsParallel 1_0	
py_SetParallel 1_0	SetParallel 1_0	
py_ASAP3Recorder 1_1	ASAP3Recorder 1_1	



Log Analyzer

For detailed information, refer to the sections in the *ORION Log Analyzer User's Guide* listed at the end of each sentence.

- You can now configure parameters specifying a parameter axis (right/left) on the **Timeline** window. Refer to “Parameter Viewer - Configuration Dialog Box”.

Log Collection Tool

- If a transfer folder is not configured, the Log Collection Tool does not reside on the PC when the PC starts up.
- The transfer process decision while starting the MA has been changed, due to the change of the MA process name,

Auto Updater

- The update start process decision while starting the MA has been changed, due to the change of the MA process name.

Fixes

MDA

The following issue has been fixed:

- When pasting an action in which a parameter is already configured from the **Actions Library**, the parameter with the different type is configured.

MA

The following issues have been fixed:

- When the MA runs the SetStepwise action in which a same channel is configured to different parameters, the RAM value is not changed.
- You can now use **Action Plot** window in the common user actions.
- The **Start** or **Step** button is enabled even if the MA communication is not established.
- When the *ORIONconfig.xml* file is incorrect, the MA is not executed.



ORION Component Versions

The following table lists the versions of components in ORION 2.2.0:

Component	Version	Notes
ORION2 MDA	2.2.0	2.2.0.**** Where “****” is a build version.
ORION2 Measurement Application	2.2.0	2.2.0 Build ** ** **** ** ** ** Where “**” is a placeholder for the build date and time.
ORION2 Log Analyzer	2.2.0	2.2.0 Build ** ** **** ** ** ** Where “**” is a placeholder for the build date and time.
ORION2 User Action Designer	2.2.0	2.2.0 Build ID:***** Where “*****” is a placeholder for the build date.
ORION2 Engine & Python	2.2.0	-
ORION2 Log Collection Tool	2.2.0	2.2.0.**** is displayed on the title bar. Where “****” is a build version.
ORION2 Auto Updater	2.2.0	2.2.0.**** is displayed on the title bar. Where “****” is a build version.
ORION2 Workspace	2.2.0	-
ORION2 Offline Server	2.2.0	-
iView	3.3	3.3.0.2635 is the version of the installer exe.
Sentinel Runtime	7.60.11073.60000	-
ORION2 Log Analyzer for ORION 1.x log files	1.3.13	Not contained in the integrated ORION installer.

- The **Version** column lists the version shown in the **Programs and Features** of the Windows **Control Panel**.
- The **Notes** column lists the version shown in the **Help > About** dialog box of the application.

ORION 2.1.1 Changes

The following new features, changes, and fixes have been added to ORION v2.1.1.

New Features

MDA

- Now the following file names, including the extensions, are limited to 80 characters:
 - Configuration files (.ornx)
 - Project files (.ornxproj)
 - Parameter files (.xml) of the **Parameters Library**
 - **Sequences Library** files (.ornx)
 - **Action Groups Library** files (.ornx)

Actions

Refer to each action descriptions in the *ORION Reference Guide* for detailed information on actions.

- The following actions have been added to the MDA **Actions Library**:

Action	Action Category	Description
Ramp 1_0	Set Actions	Ramps Set values to demand values, waits for stabilization time after reaching the demand value, and monitors limit status.
SetInMap 1_0		Stores ECU maps or writes parameter property values to a single grid point of ECU maps.
SetMapOffset 1_0		Offsets ECU maps by constant values or parameter property values.
IncaRecorder 1_0	Test Cell Actions	Instructs the test cell system to start or stop the INCA recorder.

Log Analyzer

- You can select messages levels to show on the **Log Messages** window context menu.
- By pressing the F5 key, the latest log files of the current test can be loaded.



Changes

MDA

- When created, a new project takes over the option settings of the **DefaultProject**.
- When loading a configuration file, the MDA automatically replaces the old actions to the latest actions.
- A context menu is shown when right-clicking on the **Tree** window.
- Improved the messages displayed in the **System Messages** window.
- You can now easily connect action blocks and action group blocks in the **Sequences** window and the **Action Groups** window.
- Improved the behavior in the **Choose Parameters** dialog box:
 - Changed the **Parameters** and **Parameters Groups** lists to the alphabetical order.
 - Double-clicking a parameter in the list is now the same operation as clicking the > or < button.

MA

For detailed information, refer to the sections in the *ORION Measurement Application Operator's Guide* listed at the end of each sentence.

- Improved the control buttons function:
 - The **Step** button is now available while the **Pause** button is pressed.
 - After executing an action in **Step** mode and restarting the test by the **Start** button, the **Pause** and **Step** buttons become available.
 - While executing an action in **Step** mode, now the **Pause** button is available.
- In the **Test Plans** window, the row color of test points marked to be skipped are changed to light grey for visibility. Refer to “Test Plans Window”.
- The MA now shows an error message when you try to load a configuration file that generated errors in the MDA. Refer to “How to Load, Connect, and Run a Test”.

Actions

Refer to each action descriptions in the *ORION Reference Guide* for detailed information on actions.

- The following actions have been changed:

Previous Action	Replaced by	Description
py_ResetECUErr 1_0	py_ResetECUErr 1_1	Changed the minimum number of selectable parameters in the Error Reset Parameter option from 0 to 1.
py_SwitchParameter 1_0	py_SwitchParameter 1_1	Changed the minimum number of selectable parameters in the Switch Parameters option from 0 to 1.
py_CheckValueUpdate 1_0	py_CheckValueUpdate 1_1	Changed the minimum number of selectable parameters in the Check Parameters option from 0 to 1.
py_Wait 1_0	py_Wait 1_1	Changed the minimum number of selectable parameters in the Wait Time Parameter option from 0 to 1.

Previous Action	Replaced by	Description
Stabilize 1_0	Stabilize 1_1	Changed the minimum value of Tolerance field in the Stability Parameters option from -999999 to 0.
EBenchCmd 1_0	EBenchCmd 1_1	- Added the Use Test Plan Switch option. - Changed the Test Plan EBenchCmd Switch option name to Test Plan Switch Parameter. - Changed to show the Purge Duration [sec] only when Purge is selected in the Command option.
OpacCmd 1_0	OpacCmd 1_1	- Added the Use Test Plan Switch option. - Changed the Confirm mode before ending action option name to Check Status Channel. - Changed the Test Plan OpacCmd Switch option name to Test Plan Switch Parameter.
py_Measure 1_0	py_Measure 1_1	Changed the minimum number of selectable parameters in the Measurement Duration Parameter option from 0 to 1.
py_ParticleCounterCmd 1_0	py_ParticleCounterCmd 1_1	Added the Check Status Channel option.
py_setACSICMD 1_0	py_setACSICMD 1_1	Changed the minimum number of selectable parameters in the add ACSICMD as Measurement option from 0 to 1.
py_SmokeCmd 1_0	py_SmokeCmd 1_1	Added the Check Status Channel option.
py_SootCmd 1_0	py_SootCmd 1_1	- Added the Check Status Channel option. - Added Pause to the Command option.
py_Condition 1_0	py_Condition 1_1	Changed the minimum number of selectable parameters in the Parameter 1 and Parameter 2 options from 0 to 1.

Fixes

MDA

The following issues have been fixed:

- When incorporating a stand-alone window into the main window by double-clicking on the title bar, the incorporated window became invisible.
- The MDA did not end normally if a combo box type option of an action was changed immediately after starting the MDA.
- Option names of action groups could not be blank.
- The **Add New Parameter** dialog box displayed values with seven or more digits after the decimal point when automatically calculating property values.
- An unexpected error occurred when adding a parameter that was specified “Name” in the **Parameter Name** field of the **Add New Parameter** dialog box.
- In the **Common Parameters** tab of the **Global Parameters** window:
 - An unexpected error occurred when deleting the **ThrottleParameter** value and left it blank.
 - Even though undoing the **Delete Control Mode** operation, the **ControlMode** value in the **Test Plans** window did not revert.



- After importing control modes, the imported control modes were not shown in the list of the **ControlMode** field of the **Test Plans** window.
- In the **Compare Parameters** tab that shows comparison results, an unexpected error occurred when double-clicking a row that the matching item in the workspace had been deleted.
- In the **Parameters** of **Reference1** window, pressing Ctrl+X (for cutting), Ctrl+V (for pasting), and the Delete key were available.
- A value with seven or more digits after the decimal point was able to enter in the **Parameters Library** window, and the MDA added the value to the **Parameters** window as it was.
- When adding a parameter to the **Parameters Library**, the MDA overwrote a parameter in other parameter type that has the same name, and added extra parameter properties.

Actions

The following issues have been fixed:

Previous Action	Replaced by	Fixed Issue
py_EngineStart 1_0	py_EngineStart 1_0	Added command error handling.
py_EngineStop 1_0	py_EngineStop 1_0	Added command error handling.
py_setACSICMD 1_0	py_setACSICMD 1_1	• Added command error handling. • Changed to confirm that the parameter specified in the add ACSICMD as Measurement option returns to 0 from the demand value.
py_ASAP3Recorder 1_0	py_ASAP3Recorder 1_1	Fixed not to show the Timeout [sec] option.



ORION Component Versions

The following table lists the versions of components in ORION 2.1.1:

Component	Version	Notes
ORION2 MDA	2.1.1	2.1.1.**** Where “****” is a build version.
ORION2 Measurement Application	2.1.1	2.1.1 Build ** ** **** ** ** ** Where “**” is a placeholder for the build date and time.
ORION2 Log Analyzer	2.1.1	2.1.1 Build ** ** **** ** ** ** Where “**” is a placeholder for the build date and time.
ORION2 UADC	2.1.1	2.1.1 Build ID:***** Where “*****” is a placeholder for the build date.
ORION2 Engine & Python	2.1.1	-
ORION2 Log Collection Tool	2.1.1	2.1.1.**** is displayed on the title bar. Where “****” is a build version.
ORION2 Auto Updater	2.1.0	2.1.0.**** is displayed on the title bar. Where “****” is a build version.
ORION2 Workspace	2.1.1	-
ORION2 Offline Server	2.1.1	-
iView	3.3	3.3.0.2635 is the version of the installer exe.
Sentinel Runtime	7.60.11073.60000	-
ORION2 Log Analyzer for ORION 1.x log files	1.3.13	Not contained in the integrated ORION installer.

- The **Version** column lists the version shown in the **Programs and Features** of the Windows **Control Panel**.
- The **Notes** column lists the version shown in the **Help > About** dialog box of the application.

ORION 2.1.0 Changes

The following new features, changes, and fixes have been added to ORION v2.1.0.

New Features

MDA

For detailed information, refer to the sections in the *ORION Measurement Definition Application User's Guide* or the *ORION Reference Guide*.

- Now the MDA is a 64-bit application.
- You can add an optional device tab, selecting from **Calibration Tool** or **CAN** type, to the **Global Parameters** window. One **CAN** tab is newly added as a feature.
- You can create an action group with different settings in options.
- A **Warning** and **Error** ports can be added to actions by selecting on a **Common** tab of each action.
- You can recalculate property values by right-clicking and selecting the **Automatic Calculation of properties** on the **Parameters** window.
- When loading an *.orn* configuration file created in v1.x, the MDA automatically replaces the old actions to v2.x actions and converts the file to a new *.ornx* file format.
- The MDA can now create a configuration file based on the template by loading an *.ornt* file, which can be prepared by changing the extension of a v2.x configuration file (*.ornx*) to *.ornt*.

MA

For detailed information, refer to the sections in the *ORION Measurement Definition Application User's Guide*.

- When parameters used in actions detect NaN errors, the MA executes **Stop** or **End** sequence depending on the MDA **Common Parameters** settings.
- New action plots are added to the following device actions:
EBenchCmd, OpacCmd, py_ParticleCounterCmd, Purge, py_SmokeCmd, py_SootCmd, StartParallelControl_ErrorCheck and StartParallelTimer
- Test point **Result** and **Message** in the **Test Plans** window can be defined and set by the SetTestPointStatus action in the sequence.
- The following settings have been added to interface configurations on the **Options** dialog box:



- A list box to switch interface types (e.g. ASAP3HS and ASAP3).
- A check box to make individual interfaces active or inactive.
- A CAN tab to configure CAN device interface.
- A list box to switch between **online** and **Action Development** modes when connecting to devices.

Actions

- All actions in the library are updated. The MDA automatically replaces the old actions to v2.x actions when loading an .orn file created in v1.x. Refer to each action descriptions and “MDA File Conversion” in the *ORION Reference Guide* for detailed information on actions and v1.x actions to be converted.
- The following actions have been added to the MDA **Actions Library**:

Action	Action Category	Description
Copy	Set Actions	Copies a Source Parameter Property value to a Target Parameter Property .
Set		Writes a Source Property value to a Target Property .
SetConstant		Writes a constant value to a Target Property for each parameter selected.
SetTestPointStatus		Can set a test point result and a message in the test plan.
TransientCycle		Runs a transient cycle for speed, load, and ECU parameters from traces defined in a .csv file.
py_EngineStart	Test Cell Actions	Instructs the test cell system to start/stop the engine when using the PUMA Open interface.
py_EngineStop		
py_setACSICMD		Triggers the execution of user-defined branches in PUMA Open BSQ.
py_ScheduleRun		Instructs the test cell system to start or stop a scheduled running.
ForLoop	Other	Creates loops with an internal loop counter.

- The following actions have been removed from the MDA **Actions Library**:

Action	Action Category	Description
SetConstantValue_b	Set Actions	Be automatically replaced to v2.x actions when loading an .orn file created in v1.x.
py_OneStep_e		
ASAPMeasure	Test Cell Actions	
ASAPPurge		
ASAPSetOperatingPoint		
StartMfileUserParallel	Parallel Actions	There is no action to replace these old actions when loading an .orn file created in v1.x.
StopMfileUserParallel		
StartUserParallel		
StopUserParallel		
Increment	Miscellaneous Actions	Be automatically replaced to v2.x actions when loading an .orn file created in v1.x.
SetPropertyValue_a		



- The version of each v2.x action can distinguish by Arabic numerals at the end of the action name (e.g. Copy 1_0), which is shown on the MDA **Actions Library** and the **Action Type** field in the **Sequences** window.
- The v1.x **<Sample>** actions are now **<Standard>** actions.

Changes

MDA

- The following parameter properties are removed from a parameter:
Set_Mode, Set_MinDelta, Check_***, BaseMap_***, Get_StsChannelName

UADC

- Now available to work with all project folders in the same view of the **PyDev Package Explorer** window.
- Supports .ornx file format.
- Provides OR basic functions as compatibility layer for ORION v1.x user actions.
- Simplified user action registration to the MDA **Actions Library**.
 - Defines the action type in .pac file
 - Defines the action version in .pac file
- Mainly supports to create and register Python user action.

Log Collection Tool

Mainly changed to only transport log files.

- Made to be resident and added transfer function at shutdown.
- Added the manual transfer function on the setting window.
- Added a connection confirmation function.
- Separated the manual log collection function from the MA Crash Report.

Abolished and Merged Apps

- Added:

Action	Description
MA Crash Report	Collects the files necessary to report the problem and create a .zip file that can be sent to A&D for assistance.



- Merged:

Action	Description
Log Collection Tool Log Transfer	Merged to the Log Collection Tool.
Orion Batch Processing	Merged to the MA.

- Abolished:

Action	Description
MA Enhanced Runtime (+Linux)	ORION v2.0 and later supports MA for Windows PC only.
Log Display Tool	Log Display Tool and Test Result Display are removed.
User Action Development Kits	Components for creating M-file and Simulink user actions are removed.

Fixes

MDA

The following issues have been fixed:

- When entering a value less than 0.0001 in a cell of the **Parameters**, **Test Plans**, and **Maps** windows, the cell becomes blank.
- A configuration file (*.orn*) that contains problem with maps cannot load properly. Now the MDA automatically fixes the file and shows a message on the **System Messages** window.



ORION Component Versions

The following table lists the versions of components in ORION 2.1.0:

Component	Version	Notes
ORION2 MDA	2.1.0	2.1.0.**** Where “****” is a build version.
ORION2 Measurement Application	2.1.0	2.1.0 Build ** _** _**** _** _** _** Where “***” is a placeholder for the build date and time.
ORION2 Log Analyzer	2.1.0	2.1.0 Build ** _** _**** _** _** _** Where “***” is a placeholder for the build date and time.
ORION2 UADC	2.1.0	2.1.0 Build ID:***** Where “*****” is a placeholder for the build date.
ORION2 Engine & Python	2.1.0	-
ORION2 Log Collection Tool	2.1.0	2.1.0.**** is displayed on the title bar. Where “****” is a build version.
ORION2 Auto Updater	2.1.0	2.1.0.**** is displayed on the title bar. Where “****” is a build version.
ORION2 Workspace	2.1.0	-
ORION2 Offline Server	2.1.0	-
iView	3.3	3.3.0.2635 is the version of the installer exe.
Sentinel Runtime	7.60.11073.60000	-
ORION2 Log Analyzer for ORION 1.x log files	1.3.13	Not contained in the integrated ORION installer.

- The **Version** column lists the version shown in the **Programs and Features** of the Windows **Control Panel**.
- The **Notes** column lists the version shown in the **Help > About** dialog box of the application.

ORION 2.0.1 Changes

New MA

The new MA has been added to the ORION components with the following features.

- Now the MA is a 64-bit application.
- Designed to run at 200Hz system performance.
- New UI design with multi-window concept (move/dock/undock sub-windows).
- Saves and restores customized windows layouts.
- Shows all types of sequences (Initial, Main, Stop, End).
- Shows all types of test plans (Initial, Main, Stop, End).
- Performs a sequence logic check when loading a test.
- You can start or stop a sequence at a selected action for debugging.
- You can skip actions in the sequence for debugging.
- Displays filtered log messages for actions, parallel actions, and system.
- You can select output levels for log messages.
- New action plots with improved visualization.
- Shows all parameter properties in Time Line plot.
- Faster loading of a configuration file.
- Faster execution of test sequences (no pause between actions or test plan lines).
- Additional CAN interface to connect, for example, combustion analyzer system.
- Simplified parameters configuration with less properties (e.g., removed Check properties).
- You can select parameter properties to be stored in log files.
- Stores calculated parameter properties of maps or formulas, and also demand values, to the log file for later display in the LogAnalyzer.
- Uses the new *.ornx* file format in the MA. (The MDA will support this configuration format in the next version.)
- Stores test point results in a separate file. (Removed the confirming message for the modified configuration file opened in the MDA.)
- Improved Python action development API (object-oriented).
- Provides access to all parts of the test configuration (e.g., test plan) for Python user action development.



MDA Changes

The following changes have been made to the MDA.

- You can add CAN interface, for example, combustion analyzer system to connect with the MA.
- Simplified parameters configuration with less properties (e.g., removed Check properties).