

R&S® QuickStep

Release Notes

Software Version 5.0.4

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1526.6988.02 | Version 01 | R&S® QuickStep

The software makes use of several valuable open source software packages. For information, see the "Open Source Acknowledgment" provided with the product.

The following abbreviations are used throughout this document: R&S®

R&S QuickStep

Information on the Current Version and History

PAD-TM: 3574-3288-02/03/00/C/1/1/EN

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1 Information on the Current Version and History

1.1 Version 5.0.4 Release

CAUTION

QuickStep 5.0 is a major release step compared to QuickStep 4.x. This requires some adjustments in the code of version 4 customer blocks.

Please see the Compatibility Information for release 5.0.3 for details.

It is strongly recommended to back-up all your blocks and projects before updating to QuickStep 5.0.4 from a QuickStep 4.x version!

No adjustments are required to update from QuickStep 5.0.2 / 5.0.3 to QuickStep 5.0.4

Firmware package contents

Contents
RSQuickStepSetup_5.0.4.exe
RSQuickStepFloatingLicenseServer_5.0.4.exe
ATSDRV_5.0.4_Positioner.zip

New Functionality

n.a.

Modified Functionality

n.a.

Improvements

Improvements
Update to R&S License Server 1.24.0

Known Issues

Id	Known-Issues
CBTQS-699	Global variables (\$G) which are used as iterator in control statements in the Testplan Editor cannot be modified in the test procedure.
CBTQS-700	During the first installation of QuickStep on a PC, an unexpected reboot might occur.
CBTQS-121	Execution of Forum scripts can be disturbed by Windows User-Access-Control mechanisms, if the Forum installation directory is protected with special access rights. Contact your IT-department to dissolve access restrictions (e.g. run QS as administrator).
CBTQS-20	Access to VISA-Constants like VI_SUCCESS requires an additional, manually added include of visa.h in C++ user blocks.

Id	Known-Issues
CBTQS-15	Logs of extension blocks are listed with RepNo/TestStepId/LoopId set to 0/0/0 if the block, which is extended (and calls the Init() function first), is not called in a test procedure at all. Place any block function of the base block in the procedure to ensure proper logging.
CBTQS-14	References to \$P parameters, which are used in a single-line-sweep, cannot be used as input for string-type parameters of block-functions.
CBTQS-124	Developer Licenses are always occupied for 3 days initially. A change to 7 days only takes effect when opening the QuickStep GUI 12 hours later (renewal latency).
CBTQS-113	Report Block creates "assembly not found" error messages when a test-plan with report elements is started from the command line. The test still executes correctly.
CBTQS-114	GUI tabs are not visible sometimes because they e.g. were moved to a second display which is not available anymore. Use the Reset Window Layout button in the Settings menu to reset all windows into the main GUI frame.
CBTQS-112	Abort does not work when a block is in a dead-lock state. Use Kill instead in this case
CBTQS-143	Project Settings, access control: an update might be required after tpl loading to access all test procedures; a refresh might be required to show all entries in the Project Settings dialogue
CBTQS-49	The API function SetEmulationMode() does not work for Visa<Std>Open() API calls. The GUI flags for activating/deactivating the emulation mode are working as expected.
CBTQS-40	It is not recommended to open two or more QuickStep-OTA GUIs at the same time to avoid unclear control of the QuickStep engine during test execution.
CBTQS-28	It is not possible to load more than one Matlab DLL in a testplan.
CBTQS-41	The Windows OS might require internet access to install dongle drivers.
CBTQS-42	The LoadLibrary call in Matlab requires a compatible compiler installed, which can be found at " https://de.mathworks.com/support/compilers.html "
CBTQS-43	Matlab and Forum scripts do not yet support the emulation mode.
CBTQS-44	Log messages shall be reduced to a minimum to receive optimal performance, for example in production systems.
CBTQS-461	Graphical Debugger: Breakpoints cannot be added or removed during test execution. The Procedure pane in the debugger cannot be moved during test execution.
CBTQS-306	Search Visa-Instruments: The resource name for GPIB and USB instruments is shown in the list instead of the instrument name. Device discovery does not work for R&S NRP-Z power sensors.
CBTQS-13	Conditions: References to a Test Plan Parameter, which is modified in a single-line sweep, cannot be used in Conditions. Replace the single-line sweep with a Test Plan "Sweep Value" sweep which generates several test steps.
CBTQS-45	Forum scripts: commands with the structure "AnyString".write(), "AnyString".read() are interpreted as VISA commands and thus non-VISA commands in a script with this structure will not work. Remove these items from the automatically generated Instrument list in the QuickStep header of the Forum script.
CBTQS-27	R&S Forum script startup and shutdown takes about 700 ms for each block function. Will be improved with a future R&S Forum release.
CBTQS-46	The TPR Debugging option "Append OPC.." and "Split and append.." for SCPI commands shall not be used in conjunction with block functions that execute a binary data read out. This may lead to corrupt data or hang-ups.

1.2 Version 5.0.3 Release

CAUTION

QuickStep 5.0 is a major release step compared to QuickStep 4.x. This requires some adjustments in the code of version 4 customer blocks.

Please see the Compatibility Information for release 5.0.2 for details.

It is strongly recommended to back-up all your blocks and projects before updating to QuickStep 5.0.3 from a QuickStep 4.x version!

No adjustments are required to update from QuickStep 5.0.2 to QuickStep 5.0.3.

Firmware package contents

Contents
RSQuickStepSetup_5.0.3.exe
RSQuickStepFloatingLicenseServer_5.0.3.exe
ATSDRV_5.0.3_Positioner.zip

New Functionality

n.a.

Modified Functionality

n.a.

Improvements

Improvements
R&S QuickStep RemoteLXIConnection: port 5900 is added to the connection information automatically to fix the <i>Show Instrument Screen</i> block function of the Visualization block.
Developer Training: Fixed a typo in chapter 1.4.2, Debugging by Setting Debug Properties; the process <i>QuickStepBlockSurrogateE.exe</i> has to be set to <i>Do not Debug</i> .
QuickReference: API functions related to Device Parameters were listed under "Block Parameters". Renamed to "Device Parameters".
Block Development Tool, Symbol Editor: Indicator of the maximum allowed image size added.
Fixed a bug with respect to Device Parameters used in blocks with two VISA connections.
Fixed a bug affecting Device Parameters of type <i>byte</i> .
The Spectrogram in the Visualization Block can now be used also with x-axis increments ≤ 1 .
Remote Desktop Connection tool also works with Windows 10 based instruments.

Known Issues

Id	Known-Issues
CBTQS-699	Global variables (\$G) which are used as iterator in control statements in the Testplan Editor cannot be modified in the test procedure.
CBTQS-700	During the first installation of QuickStep on a PC, an unexpected reboot might occur.

Id	Known-Issues
CBTQS-121	Execution of Forum scripts can be disturbed by Windows User-Access-Control mechanisms, if the Forum installation directory is protected with special access rights. Contact your IT-department to dissolve access restrictions (e.g. run QS as administrator).
CBTQS-20	Access to VISA-Constants like VI_SUCCESS requires an additional, manually added include of visa.h in C++ user blocks.
CBTQS-15	Logs of extension blocks are listed with RepNo/TestStepId/LoopId set to 0/0/0 if the block, which is extended (and calls the Init() function first), is not called in a test procedure at all. Place any block function of the base block in the procedure to ensure proper logging.
CBTQS-14	References to \$P parameters, which are used in a single-line-sweep, cannot be used as input for string-type parameters of block-functions.
CBTQS-124	Developer Licenses are always occupied for 3 days initially. A change to 7 days only takes effect when opening the QuickStep GUI 12 hours later (renewal latency).
CBTQS-113	Report Block creates "assembly not found" error messages when a test-plan with report elements is started from the command line. The test still executes correctly.
CBTQS-114	GUI tabs are not visible sometimes because they e.g. were moved to a second display which is not available anymore. Use the Reset Window Layout button in the Settings menu to reset all windows into the main GUI frame.
CBTQS-112	Abort does not work when a block is in a dead-lock state. Use Kill instead in this case
CBTQS-143	Project Settings, access control: an update might be required after tpl loading to access all test procedures; a refresh might be required to show all entries in the Project Settings dialogue
CBTQS-49	The API function SetEmulationMode() does not work for Visa<Std>Open() API calls. The GUI flags for activating/deactivating the emulation mode are working as expected.
CBTQS-40	It is not recommended to open two or more QuickStep-OTA GUIs at the same time to avoid unclear control of the QuickStep engine during test execution.
CBTQS-28	It is not possible to load more than one Matlab DLL in a testplan.
CBTQS-41	The Windows OS might require internet access to install dongle drivers.
CBTQS-42	The LoadLibrary call in Matlab requires a compatible compiler installed, which can be found at " https://de.mathworks.com/support/compilers.html "
CBTQS-43	Matlab and Forum scripts do not yet support the emulation mode.
CBTQS-44	Log messages shall be reduced to a minimum to receive optimal performance, for example in production systems.
CBTQS-461	Graphical Debugger: Breakpoints cannot be added or removed during test execution. The Procedure pane in the debugger cannot be moved during test execution.
CBTQS-306	Search Visa-Instruments: The resource name for GPIB and USB instruments is shown in the list instead of the instrument name. Device discovery does not work for R&S NRP-Z power sensors.
CBTQS-13	Conditions: References to a Test Plan Parameter, which is modified in a single-line sweep, cannot be used in Conditions. Replace the single-line sweep with a Test Plan "Sweep Value" sweep which generates several test steps.
CBTQS-45	Forum scripts: commands with the structure "AnyString".write(), "AnyString".read() are interpreted as VISA commands and thus non-VISA commands in a script with this structure will not work. Remove these items from the automatically generated Instrument list in the QuickStep header of the Forum script.
CBTQS-27	R&S Forum script startup and shutdown takes about 700 ms for each block function. Will be improved with a future R&S Forum release.
CBTQS-46	The TPR Debugging option "Append OPC.." and "Split and append.." for SCPI commands shall not be used in conjunction with block functions that execute a binary data read out. This may lead to corrupt data or hang-ups.

1.3 Version 5.0.2 Release

CAUTION

QuickStep version 5.0.2 is a major release offering a lot of new features. This requires some adjustments in the code of existing customer blocks.

Please see the Compatibility Information below for further details.

It is strongly recommended to back-up all your blocks and projects before updating to QuickStep 5.0.2!

Compatibility information:

- a) Required code-update of existing user blocks:
Please see the detailed code-update information at the end of this chapter. After the update of the code, the blocks will not work with older versions of QuickStep anymore!
- b) Debugging requires slightly different settings: please see the Developer Training Manual

Firmware package contents

Contents

RSQuickStepSetup_5.0.2.exe
RSQuickStepFloatingLicenseServer_5.0.2.exe
ATSDRV_5.0.2_Positioner.zip

New Functionality

Functions

When loading 32bit blocks a message is shown in the Log Viewer.
Support for Floating Licenses as default. License-Occupation is optional.
Largely extended command line interface to remotely control QuickStep. Type "C:\Program Files\Rohde-Schwarz\QuickStep\Framework>QuickStepEnigne.exe --h" in the command line for further details.
UtilityBase: VisaControl() can be used to send commands to several VISA-Resources at once
UtilityBase: New Timer block function TimerCurrentValue() to get the lap-time of a timer while keeping the timer running; new StringSplit() block function; new VisaSetAttributes() block function;

Modified Functionality

Functions

Updated documentation: User Manual, Developer Training; User Training, Quick Reference, several block help pdf files
Windows Start-Menu entry of QuickStep optimized for Windows 10.
ATSCAL: The OTA-SignalGenerator\CopyFile blockfunction is obsolete (Windows 10 incompatible) and was replaced by the WaveformCopy blockfunction. Fixed a bug in the MartriceToTrace() blockfunction creating a not QuickStep-conform file header.
VISA-API (e.g. VisaStdQuery, VisaQuery): improvements, corrections and extensions of the VISA API especially with respect to Read/Write of binary data. Harmonizing the C++ and C# interface. Adjustments in existing user code are required.

Functions

Consistent autocoding of usings in C# and C++ blocks simplifies the usage of namespaces to call QuickStep API functions.

Installer: updated License Server version to 1.12

Testplan Editor: Improved right-click menu operation when creating new teststeps

Report Block: TraceToChart shows units on the axis automatically

RfGeneratorBase: WaveformLoad() blockfunctions has a "Force Load Waveform" flag to force sending the command :BB:ARB:WAV:SEL even if the waveform name did not change; WaveformCopy() block function rework; improved description and tooltip of WaveformCopy() and WaveformLoad() block functions; :POW:OFFS block function modified to be usable with path mapping;

The API functions SequencerBreak() and SequencerContinue() are not supported any longer. Sequencer Abort() is fully functional.

Improvements

Improvements

Improved behavior of the auto-type-detection of test-project variables/constants.

Improved auto-sizing of block functions with a long name in the Testprocedure Editor.

NRQ6_PowerSensor block: Out-Parameter in SysteError() block function added

Fixed a bug in C# block code-generation missing the out parameter in the return calls.

Fixed a bug creating a GUI warning when entering text in some ENUM-type parameter fields e.g. of the Report block.

Visualization Block: Fixed a problem with Windows 10 auto-sizing of Pop-Up windows on primary displays. User information is provided to fix problems on secondary displays.

Fixed a bug regarding the ForceScpi parameter in the Init() block functions; ForceScpi was always true; Add SetForceCommand(Data->ForceSpi) in the Init function of existing user blocks to enable the functionality;

Installer: Prerequisites check fails if Forum 3.3.3. is installed

RS_Script block: fixed coloring; extended comments on Reset function

Visualization Example bug fix

GUI: strings containing ";;" are read correctly

RS_OscilloscopeBase: SaveTrace writes x-Axis also in ASCII mode

Report Block: Fixed a bug regarding the automatic replacement of "*" in a file-path; help document extended and available from help button;

Deleting a block-instance with block-functions having \$G or \$P references does not lead to an error anymore.

All base-blocks: unused block functions without implemented code are hidden in the GUI

Timer API functions: improved for higher accuracy

Avoiding of some "Unordered map" errors in conjunction with Visa, Traces, Timers; improved error messages are provided;

Special characters in a testplan name do not lead to test abort anymore.

Debugger Window: the execution time of block functions is shown inside the block to avoid unintentional resizing/rerouting

Block Development Tool: bug-fix related to wrong brackets in the auto-generated code under certain circumstances

Limits: Unintentional deleting of limits is suppressed to avoid errors on limit-check.

Disabling of blocks works also if conditions are used in affected block-functions

Known Issues

Id	Known-Issues
CBTQS-3280	Execution of Forum scripts can be disturbed by Windows User-Access-Control mechanisms, if the Forum installation directory is protected with special access rights. Contact your IT-department to dissolve access restrictions.
CBTQS-3258	Access to VISA-Constants like VI_SUCCESS requires an additional, manually added include of visa.h in C++ user blocks.
CBTQS-3279	Logs of extension blocks are listed with RepNo/TestStepId/LoopId set to 0/0/0 if the block, which is extended (and calls the Init() function first), is not called in a test procedure at all. Place any block function of the base block in the procedure to ensure proper logging.
CBTQS-3278	References to \$P parameters, which are used in a single-line-sweep, cannot be used as input for string-type parameters of block-functions.
CBTQS-3277	Developer Licenses are always occupied for 3 days initially. A change to 7 days only takes effect when opening the QuickStep GUI 12 hours later (renewal latency).
CBTQS-3035	Report Block creates "assembly not found" error messages when a test-plan with report elements is started from the command line. The test still executes correctly.
CBTQS-3066	GUI tabs are not visible sometimes because they e.g. were moved to a second display which is not available anymore. Use the Reset Window Layout button in the Settings menu to reset all windows into the main GUI frame.
CBTQS-3052	Abort does not work when a block is in a dead-lock state. Use Kill instead in this case
CBTQS-3051	Project Settings, access control: an update might be required after tpl loading to access all test procedures; a refresh might be required to show all entries in the Project Settings dialogue
CBTQS-3188	The API function SetEmulationMode() does not work for Visa<Std>Open() API calls. The GUI flags for activating/deactivating the emulation mode are working as expected.
CBTQS-3203	It is not recommended to open two or more QuickStep-OTA GUIs at the same time to avoid unclear control of the QuickStep engine during test execution.
CBTQS-3214	It is not possible to load more than one Matlab DLL in a testplan.
CBTQS-3202	The Windows OS might require internet access to install dongle drivers.
CBTQS-3157	The LoadLibrary call in Matlab requires a compatible compiler installed, which can be found at " https://de.mathworks.com/support/compilers.html "
CBTQS-3158	Matlab and Forum scripts do not yet support the emulation mode.
CBTQS-3199	Log messages shall be reduced to a minimum to receive optimal performance, for example in production systems.
CBTQS-1708	Graphical Debugger: Breakpoints cannot be added or removed during test execution. The Procedure pane in the debugger cannot be moved during test execution.
CBTQS-1726	Search Visa-Instruments: The resource name for GPIB and USB instruments is shown in the list instead of the instrument name. Device discovery does not work for R&S NRP-Z power sensors.
CBTQS-1725	Conditions: References to a Test Plan Parameter, which is modified in a single-line sweep, cannot be used in Conditions. Replace the single-line sweep with a Test Plan "Sweep Value" sweep which generates several test steps.
CBTQS-3165	Forum scripts: commands with the structure "AnyString".write(), "AnyString".read() are interpreted as VISA commands and thus non-VISA commands in a script with this structure will not work. Remove these items from the automatically generated Instrument list in the QuickStep header of the Forum script.
CBTQS-3216	R&S Forum script startup and shutdown takes about 700 ms for each block function. Will be improved with a future R&S Forum release.
CBTQS-3168	The TPR Debugging option "Append OPC.." and "Split and append.." for SCPI commands shall not be used in conjunction with block functions that execute a binary data read out. This may lead to corrupt data or hang-ups.
CBTQS-3051	Dependent on the previously used R&S QS Version it may become necessary to "Refresh" the Access Control's Project Settings to get unrestricted access to all Test Procedures.

User-Code Update Information:

QuickStep version 5.0.2 is a major release offering a lot of new features. This requires some adjustments in the code of existing customer blocks.

CAUTION

The required modifications are not backwards compatible to older versions of QuickStep!

It is strongly recommended to back-up all your blocks and projects before updating to QuickStep 5.0.2!

Update of C# Blocks:

I. Mandatory Changes

- In the main `B_BlockToMigrateCs.cs` file replace all the parameters of the constructor of the block by a single structure `bInfos`:

```
1 reference
public B_BlockToMigrateCs(string id, string blockName, RS_Common.eLogLevel LogLevel, In
    : base(id, blockName, LogLevel, callbackInterface, ExecutionMode)
{
    // Instantiate Block worker class
    Worker = new B_BlockToMigrateCsWorker(this);
}
```

→

```
public B_BlockToMigrateCs(BlockInstanceDLLInfo bInfos)
    : base(bInfos)
{
    ...
}
```

- Update the `usings` in the main `B_BlockToMigrateCs.cs` file

```
using System;
using RS_Common;
```

→

```
using System;
using RohdeSchwarz.QuickStep.Abstraction.Enumerations;
using RohdeSchwarz.QuickStep.Common;
using RohdeSchwarz.QuickStep.Common.Exception;
using RohdeSchwarz.QuickStep.Common.Structs;
using RohdeSchwarz.QuickStep.Visa; // for blocks using visa
```

- Update the `usings` in the `B_BlockToMigrateCsWorker.cs` file

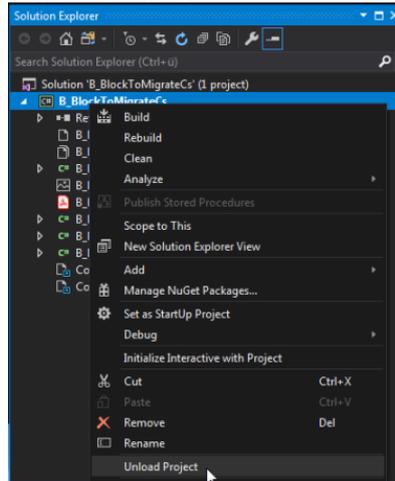
```
using System;
using RS_Common;
```

→

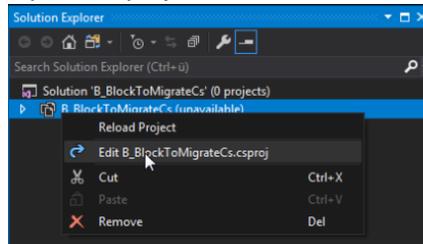
```
using System;
using RohdeSchwarz.QuickStep.Abstraction.Enumerations;
using RohdeSchwarz.QuickStep.Common;
using RohdeSchwarz.QuickStep.Common.Exception;
using RohdeSchwarz.QuickStep.Common.Structs;
using RohdeSchwarz.QuickStep.Visa; // for blocks using visa
```

- Adjustments in the project file:

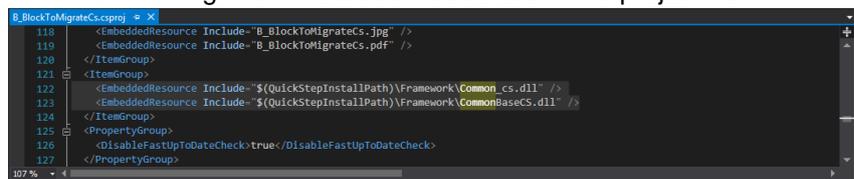
- Unload the project



- Open the project file

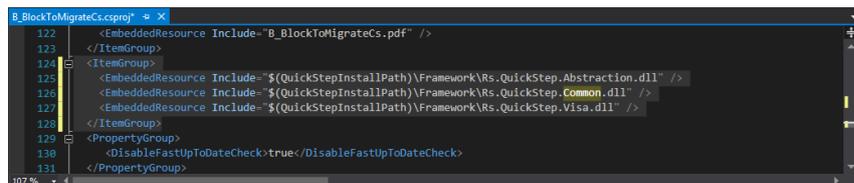


- Find the following two Embedded Resources in the project file

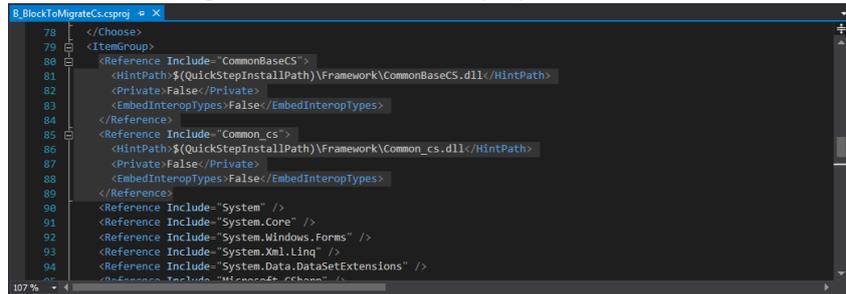


and replace them with the following three Embedded Resources:

```
<ItemGroup>
<EmbeddedResource Include="$(QuickStepInstallPath)\Framework\Rs.QuickStep.Abstraction.dll" />
<EmbeddedResource Include="$(QuickStepInstallPath)\Framework\Rs.QuickStep.Common.dll" />
<EmbeddedResource Include="$(QuickStepInstallPath)\Framework\Rs.QuickStep.Visa.dll" />
</ItemGroup>
```



- Find the following two references in the project file



```

78 </Choose>
79 <ItemGroup>
80 <Reference Include="CommonBaseCS">
81 <HintPath>$(QuickStepInstallPath)\Framework\CommonBaseCS.dll</HintPath>
82 <Private>False</Private>
83 <EmbedInteropTypes>False</EmbedInteropTypes>
84 </Reference>
85 <Reference Include="Common_cs">
86 <HintPath>$(QuickStepInstallPath)\Framework\Common_cs.dll</HintPath>
87 <Private>False</Private>
88 <EmbedInteropTypes>False</EmbedInteropTypes>
89 </Reference>
90 <Reference Include="System" />
91 <Reference Include="System.Core" />
92 <Reference Include="System.Windows.Forms" />
93 <Reference Include="System.Xml.Linq" />
94 <Reference Include="System.Data.DataSetExtensions" />

```

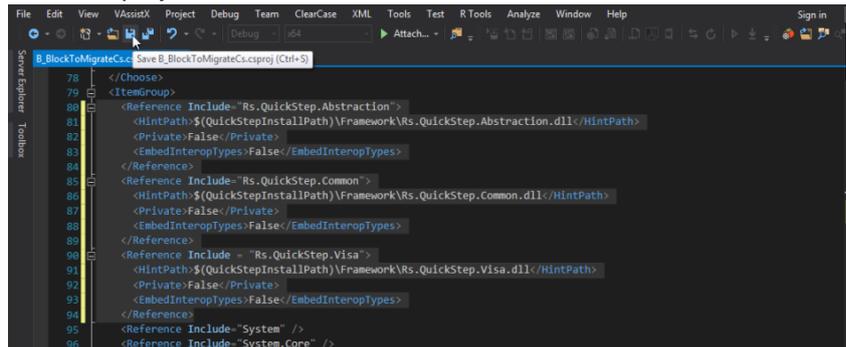
and replace them with the following three references:

```

<Reference Include="Rs.QuickStep.Abstraction">
  <HintPath>$(QuickStepInstallPath)\Framework\Rs.QuickStep.Abstraction.dll</HintPath>
  <Private>False</Private>
  <EmbedInteropTypes>False</EmbedInteropTypes>
</Reference>
<Reference Include="Rs.QuickStep.Common">
  <HintPath>$(QuickStepInstallPath)\Framework\Rs.QuickStep.Common.dll</HintPath>
  <Private>False</Private>
  <EmbedInteropTypes>False</EmbedInteropTypes>
</Reference>
<Reference Include="Rs.QuickStep.Visa">
  <HintPath>$(QuickStepInstallPath)\Framework\Rs.QuickStep.Visa.dll</HintPath>
  <Private>False</Private>
  <EmbedInteropTypes>False</EmbedInteropTypes>
</Reference>

```

- Save the project file

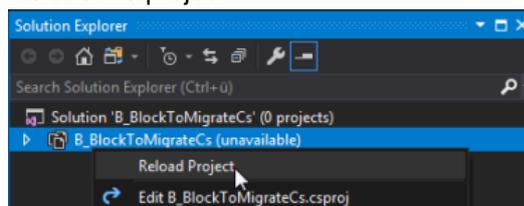


```

78 </Choose>
79 <ItemGroup>
80 <Reference Include="Rs.QuickStep.Abstraction">
81 <HintPath>$(QuickStepInstallPath)\Framework\Rs.QuickStep.Abstraction.dll</HintPath>
82 <Private>False</Private>
83 <EmbedInteropTypes>False</EmbedInteropTypes>
84 </Reference>
85 <Reference Include="Rs.QuickStep.Common">
86 <HintPath>$(QuickStepInstallPath)\Framework\Rs.QuickStep.Common.dll</HintPath>
87 <Private>False</Private>
88 <EmbedInteropTypes>False</EmbedInteropTypes>
89 </Reference>
90 <Reference Include="Rs.QuickStep.Visa">
91 <HintPath>$(QuickStepInstallPath)\Framework\Rs.QuickStep.Visa.dll</HintPath>
92 <Private>False</Private>
93 <EmbedInteropTypes>False</EmbedInteropTypes>
94 </Reference>
95 <Reference Include="System" />
96 <Reference Include="System.Core" />

```

- Reload the project



- Remove all occurrences of "RS_Common." (e.g. by search and replace)


```

SendLogConsole(RS_Common.eLogLevel.WARN, "Emulation Mode for block " +
→
SendLogConsole(eLogLevel.WARN, "Emulation Mode for block " +

```

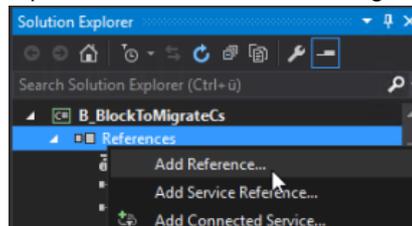
II. Visual Studio 2015 Users Only

If an error message about a missing *netstandard* reference occurs,

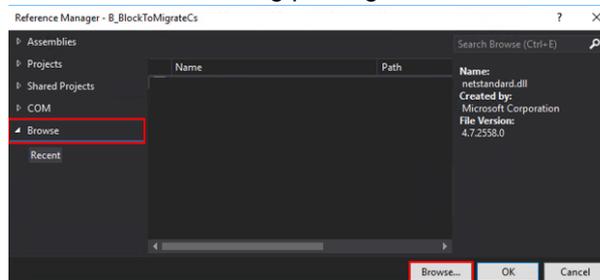
Description
The type 'Object' is defined in an assembly that is not referenced. You must add a reference to assembly 'netstandard, Version=2.0.

set the reference as explained below:

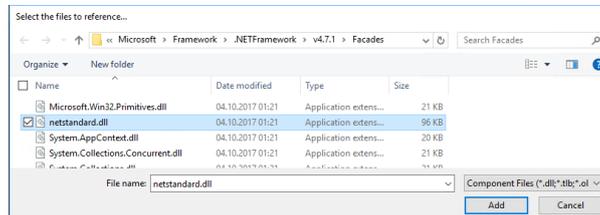
- Open the *Add Reference* dialog:



- Browse to the following package:

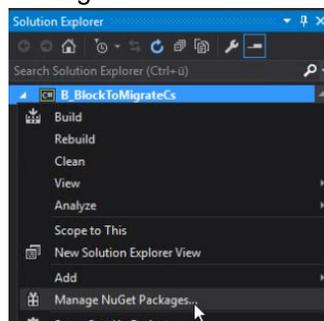


C:\Program Files (x86)\Reference
Assemblies\Microsoft\Framework\.NETFramework\v4.7.1\Facades\netstandard.dll



Add it to the references.

- An ALTERNATIVE way to add the resource is to use the NuGet Packages manager



III. Changes in the API Functions

Depending on the API functions which were used in a specific user block, some further adjustments might be needed due to changes in the QuickStep API:

- Remove direct `RS_QuickStep.Runtime` calls
Calling API functions via the `RS_QuickStep.Runtime` or `Runtime` namespace is not supported anymore.
These function calls can be fixed by simply removing the namespaces e.g.:

```
int MyDcSupplyInitTimer = RS_QuickStep.Runtime.CreateTimer();
```


→

```
int MyDcSupplyInitTimer = CreateTimer();
```
- VISA-API changes
Most of the VISA-API functions work identical to previous QuickStep versions. For additional details please see the Developer Training Manual or Quick-Reference.
There are two considerable changes in C#, which must be taken into account.

- `Visa<Std>ReadUntilBufferEmpty()`

These two API functions are obsolete and have to be replaced with `VisaStdRead()`, using `Constants.UNKNOWNSIZE` as parameter

```
VisaStdRead(ref ReadStr, Constants.UNKNOWNSIZE);
```

- `Visa<Std>ReadBinary()`

These two API functions have an improved signature, which is now in line with all other VISA-functions: The return value carries the status of the VISA call. The pointer to the read-data is returned as parameter similar to all other VISA calls:

```
status |= VisaStdReadBinary(ref sizeData, ref binaryDataPtr);
```

- Others:

`Visa<Std>WriteBinary()` was added as new API function - no migration is required for this function. The VISA-API was aligned between C++ and C# with the majority of the changes on the C++ side.

- In case further compile errors occur, the following detailed list of namespace modifications can be used for look-up:

Namespaces and Usings

Generally, the old namespace declarations (`using`) can be replaced directly with the new namespace declarations. To use some functionality, which is located in separate assemblies now (e.g. Zmq, Visa) and additional using has to be included

Old (usings to remove)	New (usings to add)
<code>using RS_Common;</code> <code>using Common_cs;</code>	<code>using RohdeSchwarz.QuickStep.Abstraction;</code> <code>using RohdeSchwarz.QuickStep.Common;</code>
<i>Visa used in block</i>	<code>using RohdeSchwarz.QuickStep.Visa;</code>
<i>Zmq used in block</i>	<code>using RohdeSchwarz.QuickStep.Zmq;</code>

Enumerations

All the enumerations listed below reside now in the included namespace
 RohdeSchwarz.QuickStep.Abstraction.Enumerations.

Old	New	Required using declaration
RS_Comon.eLogLevel	eLogLevel	using RohdeSchwarz.QuickStep.Abstraction.Enumerations.
RS_Common.eLogColor	eLogColor	using RohdeSchwarz.QuickStep.Abstraction.Enumerations.
RS_Common.eResultFileType	eResultFileType	using RohdeSchwarz.QuickStep.Abstraction.Enumerations.
RS_Common.eScpiDebugLevel	eScpiDebugLevel	using RohdeSchwarz.QuickStep.Abstraction.Enumerations.
RS_Common.eResultDestination	eResultDestination	using RohdeSchwarz.QuickStep.Abstraction.Enumerations.
RS_Common.eQuickStepPath	eQuickStepPath	using RohdeSchwarz.QuickStep.Abstraction.Enumerations.
RS_Common.eLogType	eLogType	using RohdeSchwarz.QuickStep.Abstraction.Enumerations.
RS_Common.Phase	Phase	using RohdeSchwarz.QuickStep.Abstraction.Enumerations.
RS_Common.ProgressTime	ProgressTime	using RohdeSchwarz.QuickStep.Abstraction.Enumerations.
RS_Common.DATATYPE	DATATYPE	using RohdeSchwarz.QuickStep.Abstraction.Enumerations.
RS_Common.TestLevel	TestLevel	using RohdeSchwarz.QuickStep.Abstraction.Enumerations.
RS_Common.EDebugState	EDebugState	using RohdeSchwarz.QuickStep.Abstraction.Enumerations.
RS_Common.ExecTime	ExecTime	using RohdeSchwarz.QuickStep.Abstraction.Enumerations.

Structures

Structure	Old using	New using
BlockInstanceDllInfo	using RS_Common;	using RohdeSchwarz.QuickStep.Common;
ReplyCheckBlockType	using RS_Common;	using RohdeSchwarz.QuickStep.Common.Structs;
ReplyCatchType	using RS_Common;	using RohdeSchwarz.QuickStep.Common.Structs;
ReplyDeleteUserBlockType	using RS_Common;	using RohdeSchwarz.QuickStep.Common.Structs;

Static Classes (only for GUI blocks)

The static class `ThreadInvoker` is now just called `Invoker`

Old	New	Required using declaration
ThreadInvoker	Invoker	using RohdeSchwarz.QuickStep.Common.Thread;
Instance.InitDispatcher();	Instance.InitDispatcher(null);	using RohdeSchwarz.QuickStep.Common.Thread;

Constants

Old	New	Required using declaration
RS_Common.Library.{const}	Constants.{const}	using RohdeSchwarz.QuickStep.Zmq;
RS_Common.VisaStatusConstants.{const}	VisaStatusConstants.{const}	using RohdeSchwarz.QuickStep.Visa;
RS_Common.Constants.{const}	Constants.{const}	using RohdeSchwarz.QuickStep.Common;
RS_Common.PredefinedAttributes.{const}	PredefinedAttributes.{const}	using RohdeSchwarz.QuickStep.Test;

Update of C++ Blocks:

Note: The modifications related to instantiate the *Worker* using a unique-pointer are optional and marked with (*). Using unique-pointers removes the requirement to explicitly delete the *Worker* in the destructor or in the `catch()` function. The unique-pointer *Worker* automatically exists as long as the block exists.

I. Mandatory Changes

- Main *.h file:

Replace the constructor line as follows:

```
// Constructor
B_BlockToMigrateCpp(std::string Id, std::string BlockName, RS_Common::eLogLevel LogLevel);
```

→

```
// Constructor
B_BlockToMigrateCpp(BlockInstanceDLLInfo bInfos);
```

(*) Apply a unique-pointer in the worker definition:

```
private:
    B_BlockToMigrateCppWorker* Worker;
```

→

```
private:
    std::unique_ptr<B_BlockToMigrate5CppWorker> Worker;
```

Additionally execute the following search and replace operations only in the main *.h file:

Search	Replace by
virtual Reply	Reply
virtual RS_ActivityBlock::Reply	Reply

- Main *.cpp file:

Replace all the parameters in the constructor of the block by a single structure

```
B_BlockToMigrateCpp::B_BlockToMigrateCpp(std::string id, std::string blockName, RS_Common::eLogLevel LogLevel) : B
// Instantiate Block worker class
Worker = new B_BlockToMigrateCppWorker(this);
```

→

```
B_BlockToMigrateCpp::B_BlockToMigrateCpp(BlockInstanceDLLInfo bInfos)
: B_BlockToMigrateCppDefinition(bInfos)
```

(*) Modify the instantiation of the worker as follows:

```
// Initialize Worker member
Worker = std::make_unique<B_BlockToMigrateCppWorker>(this);
```

(*) In the destructor remove the explicit delete of the worker and add “= default”

```
B_BlockToMigrateCpp::~B_BlockToMigrateCpp(void)
{
    // Release the worker
    if (Worker != nullptr)
    {
        delete Worker;
        Worker = nullptr;
    }
}
```



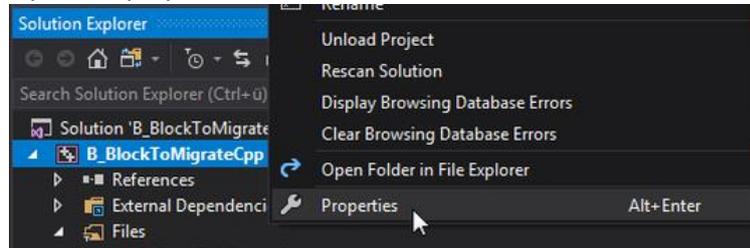
```
B_BlockToMigrateCpp::~B_BlockToMigrateCpp(void) = default;
// -----
```

- For all files in the block project execute the following search and replace operations. Please follow the order given in the table :

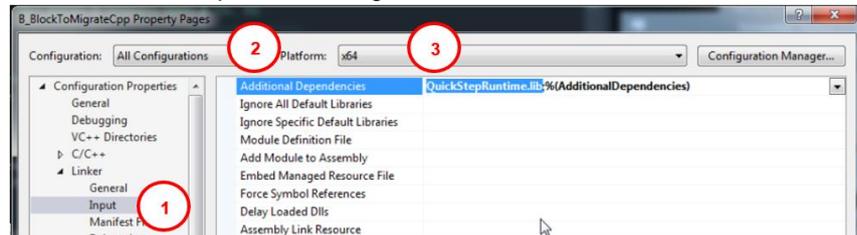
Search	Replace by
RS_Common::	//nothing => remove
RS_QuickStepRuntime::	//nothing => remove
RS_ActivityBlock::Reply	Reply
SendLogConsole(RS_LogLevel::	SendLogConsole(eLogLevel::
BlockException	RohdeSchwarz::QuickStep::Common: :BlockException
RS_ResultFileType::TIMING	eResultFileType::TIMING
RS_ResultFileType::RESULT	eResultFileType::RESULT
snprintf	snprintf

- Adjustments in the Project Properties

- Open the properties of the block



- Select Linker=>Input; All Configurations; Platform x64

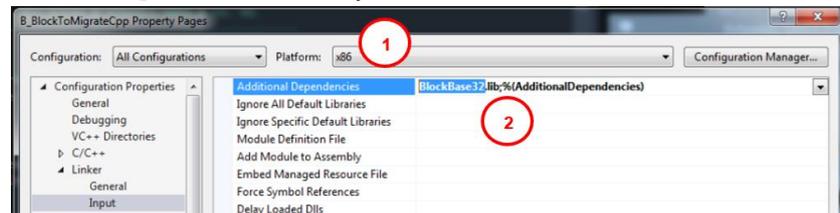


- Replace QuickStepRuntime.lib by BlockBase.lib



Click *Apply* to save the settings.

- Switch to the Platform x86 (if applicable) and replace QuickStepRuntime.lib by BlockBase32.lib



Click *Apply* to save the settings.

II. Changes in the API Functions Creating a Compiler Errors

- Calling API functions via the RS_QuickStepRuntime namespace is not supported anymore. Most of the function calls can be fixed by simply removing the RS_QuickStepRuntime:: Namespace.

Make sure all occurrences of RS_QuickStepRuntime:: were removed by executing the Search/Replace activities listed in the table above, e.g.:

```
RS_QuickStepRuntime::StopTimer(BlockToMigrateCppInitTimer);  
→  
StopTimer(BlockToMigrateCppInitTimer);
```

In case any VISA calls were made through the RS_QuickStepRuntime:: interface (e.g. RS_QuickStepRuntime::VisaWriteConn()), replace those with the corresponding direct calls of the VisaWrite(), VisaRead(), ...

- VISA-API changes

Some modifications in the VISA related API functions were necessary to streamline the split between ASCII und BINARY data transfer using VisaWrite() and VisaRead() and to align the programming interface between C# and C++. For additional details please see the Developer Training Manual or Quick-Reference.

- Modified type of readStr parameter

The parameter which is getting the received data (typ. readStr) was changed for Visa<STD>Read(), Visa<STD>Query(), Visa<STD>GetSavedErrors() and Visa<STD>GetResource(), from char* to std::string.

Got to all code lines with one of the above VISA-API functions and adjust the type for the return-parameter:

```
char readStr[DEFAULTBUFSIZE];  
Block->VisaStdRead(readStr);  
→
```

```
std::string readStr;
Block->VisaStdRead(readStr);
```

If this variable is used afterwards, for example in a `SendLogConsole()` call, a conversion from type `string` to type `char*` is required:

```
SendAsyncLogResult(eResultFileType::RESULT, Data->resultHeader, Data->resultUnit, readStr);
```

→

```
SendAsyncLogResult(eResultFileType::RESULT, Data->resultHeader, Data->resultUnit, RS_B_CommonPublic::ToCharPtr(readStr));
```

Alternatively to `RS_B_CommonPublic::ToCharPtr(readStr)` also `readStr.c_str()` can be used.

- `Visa<Std>ReadUntilBufferEmpty()`

These two API functions are obsolete and have to be replaced with `VisaStdRead()`, using `UNKNOWN_SIZE` as parameter

```
VisaStdRead(readStr, UNKNOWN_SIZE);
```

- `Visa<Std>ReadBinary()`

This API function has an improved signature, which is now in line with all other VISA-functions: The return value carries the status of the VISA call. The pointer to the read-data is returned as parameter similar to all other VISA calls. Example usage of `Visa<Std>ReadBinary()` to save IQ data from an RTO oscilloscope:

```
//Switch RTO oscilloscope to binary format
Block->VisaStdWrite("FORM:DATA REAL, 32");
Block->VisaStdWriteAndWaitTillDone("TRAC:IQ:DATA:FORM IQP", 5000, false);
//execute measurement and request data
Block->VisaStdWriteAndWaitTillDone("RUNSingle", 5000, false);
Block->VisaStdWrite("CHAN1:IQ:DATA?");
//get the binary data from the device
char* binaryDataPtr = nullptr;
state = Block->VisaStdReadBinary(&sizeData, binaryDataPtr);
//actualize status
ViStatus status = (ViStatus)state;
// write data to file
FILE* pFile;
pFile = fopen(Filename, "wb");
fwrite(binaryDataPtr, 1, sizeData, pFile);
fclose(pFile);
//delete the used arrays to avoid memory leaks
if (binaryDataPtr != nullptr){
    delete[] binaryDataPtr;
}
```

- In case further compile errors occur, the following detailed list of namespace modifications can be used for look-up:

Namespaces and Usings

Old (using's to remove)	New (using's)
RS_QuickStepRuntime::	remove in customer code
RS_ActivityBlock::	remove in customer code; replaced by an automatically coded <i>using</i> in the generated code using namespace RohdeSchwarz::QuickStep::Common::Internal;

Enumerations

All the enumerations listed below reside now in the included namespace

RohdeSchwarz::QuickStep::Abstraction::Enumerations::

Old	New
RS_Common/RS_QuickStepRuntime::eLogLevel::	eLogLevel::
RS_Common/RS_QuickStepRuntime::eLogColor::	eLogColor::
RS_Common/RS_QuickStepRuntime::eResultFileType::	eResultFileType::
RS_Common/RS_QuickStepRuntime::eScpiDebugLevel::	eScpiDebugLevel::
RS_Common/RS_QuickStepRuntime::eResultDestination::	eResultDestination::
RS_Common/RS_QuickStepRuntime::eQuickStepPath::	eQuickStepPath::
RS_Common/RS_QuickStepRuntime::eLogType::	eLogType::
RS_Common/RS_QuickStepRuntime::Phase::	Phase::
RS_Common/RS_QuickStepRuntime::ProgressTime::	ProgressTime::
RS_Common/RS_QuickStepRuntime::DATATYPE::	DATATYPE::
RS_Common/RS_QuickStepRuntime::TestLevel::	TestLevel::
RS_Common/RS_QuickStepRuntime::EDebugState::	EDebugState::
RS_Common/RS_QuickStepRuntime::ExecTime::	ExecTime::
RS_Common/RS_QuickStepRuntime::RuntimeFunctionType::	RuntimeFunctionType::

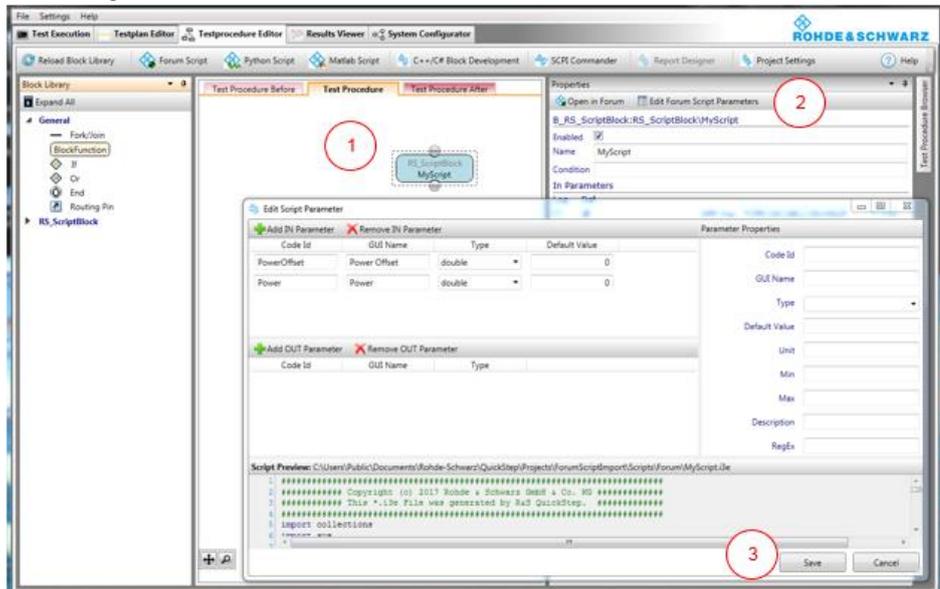
III. Possible Errors Appearing during Runtime

Due to some modified data-types (e.g. `char*` to `std::string` in `VisaRead`) some errors might only appear during execution in runtime. Check the errors and modify the code as required keeping the API-modifications mentioned above in mind.

Update of Forum Scripts:

One line of the automatically generated code needs to be adjusted in existing *Forum*-scripts. This can be done in 2 different ways:

- Using the automatic code-generation
Open the *Edit Forum Script Parameter* dialog for the script block-function and save it again without manual modifications:

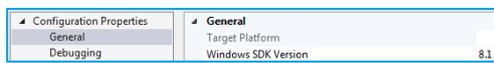


- ALTERNATIVELY adjust the following line manually in the script

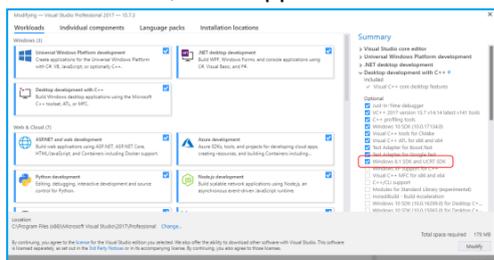
```
#---This section will be executed if the script is running from Forum--
if ExecutionMode == ExecutionModeEnum.Forum:
    print('-----Forum Execution Mode-----')
#-----End-Forum-Execution-----
→
#---This section will be executed if the script is running from Forum--
if isExecutionModeQuickStep == False:
    print('-----Forum Execution Mode-----')
```

Windows 7 users:

Ensure to have the Windows SDK version set to 8.1 in C++ project properties.



If not installed, add support of Windows 8.1 SDK in VisualStudio 2017:



1.4 Version 04.99 beta

Firmware package contents

Contents
RSQuickStepSetup_04.99.exe
ATSDRV_04.99_Positioner.zip

New Functionality

Functions
Blocks with multiple VISA connections: the connection ID is shown for SCPI commands in the Execution Protocol so that the commands can be allocated to the different VISA channels
Test Procedure Editor: all related block functions are greyed out if a block is disabled; multi-selection is supported for enabling/disabling block instances (right-click menu)
Support for R&S SMW K544 and R&S FSW K544 Frequency Response Correction
UtilityBase: New CheckValue() and CsvWrite() Blockfunktion

Modified Functionality

Functions
Block Development Tool: Support of obsolete Visual Studio Versions 2010, 2012 and 2013 was resigned. Existing Blocks created with these older Visual Studio versions can be loaded into newer versions without modifications.
Block Development Tool: Information pop-up window on failed license extension replaced by log window output
Debugger Window: procedures look identical to the procedures in the Test Procedure Editor (Coloring of blocks routing);
RFFEBase block: Added SendCommand() block functions which can be used to directly control the Scout
PowerSupplyBase: ASLR type connections are not generally blocked anymore for HMP2x2x DC supplies
RF_SignalAnalyzer Base: Added "Wait for Boot-Up" parameter in the Init() function (typically used to wait for the R&S VSE boot up)
Blocks&Connectivity: Blocksize is fixed independent from block-name length an ports
RF_Generator_Base Block/Copy_Waveform: description updated; set trigger mode to retrigger removed from code; waveform names containing "CW" are not interpreted as CW any more (string.contains() changed to string.isequal()); target folder is created automatically on generator side;
RFGeneratorBase, Waveform Copy: Default path changed from the *.tpl file location to the current DUT folder to provide identical path handling in all blocks; replace relative paths ".\relativePath" with "..\..\relativePath" to get the same behavior as previously;
Positioner Block: Soft-Limits are taken into account now
Blocks&Connectivity: unused parameter "IP-address" removed from block properties
All instrument base blocks: the PrintIdentity() block function additionally checks *OPT?

Improvements

Improvements
SysConfigLibrary is reloaded even if the GUI is already started
SCPI Commander: selected commands can be transferred to a parameter without error
Examples, Visualization: Fixed a bug in the trace path definition
Scripting blocks: improved stability when loading faulty scripts
ATS_CAL: entering very large angle-values (bigger than int21) does not lead to an error anymore
Test Project Browser: better guidance for drop-in of Sequences into if...else statements
PowerSensorBase block: Fixed the Reset functionality for NRPZ-type power sensors

Improvements
Add Help-Documents to PowerSensorBase, PowerSupplyBase, OspBase blocks
Base blocks: Display ON/OFF in all applicable blocks
RS_Oscilloscope base: removed the *RST command from the FFTSetup() block function
Fixed a bug in the VisaOpen() API function which caused the timeout to be set to 0.
RS_Positioner Block: Improved position check against Hard- and Soft-limits
RF_Generator_Base Block: Waveform Name is reset if *RST or *PRE is sent in CommonCommands() or in WriteScpi(); Timeout for Reset increased to 5sec;
Test Procedure Editor: displaced connectors of OR element after "Resize to Grid" fixed
Block Development Tool, Block Symbol: Resizing limit for images depending on real image size.
Enable/Disable of Block Instances is visualized by greying out all related block functions
RF_GeneratorBase, LoadWaveform: Timeout increased to support large waveforms; Log-Output added
ATSCAL: The azimuth rotation direction was changed for the F200 and F220 positioner
RfAnalyserBase Block: Improved functionality of the TransferFile() block function
Updated User/Developer Training documents.

Known Issues

Id	Known-Issues
B2428	Project Settings, access control: an update might be required after tpl loading to access all test procedures; a refresh might be required to show all entries in the Project Settings dialogue
R454813	The API function SetEmulationMode() does not take any effect. The GUI flags for activating/deactivating the emulation mode are working as expected.
R432770	It is not recommended to open two or more QuickStep-OTA GUIs at the same time to avoid unclear control of the QuickStep engine during test execution.
R426285	It is not possible to load more than one Matlab DLL in a testplan.
R432772	The Windows OS might require internet access to install dongle drivers.
R432775	The LoadLibrary call in Matlab requires a compatible compiler installed, which can be found at " https://de.mathworks.com/support/compilers.html "
R432778	Matlab and Forum scripts do not yet support the emulation mode.
R432781	Log messages shall be reduced to a minimum to receive optimal performance, for example in production systems.
B1983	Graphical Debugger: Breakpoints cannot be added or removed during test execution. The Procedure pane in the debugger cannot be moved during test execution.
B1851	Search Visa-Instruments: The resource name for GPIB and USB instruments is shown in the list instead of the instrument name. Device discovery does not work for R&S NRP-Z power sensors.
B1790	Conditions: References to a Test Plan Parameter, which is modified in a single-line sweep, cannot be used in Conditions. Replace the single-line sweep with a Test Plan "Sweep Value" sweep which generates several test steps.
R426228	Forum scripts: commands with the structure "AnyString".write(), "AnyString".read() are interpreted as VISA commands and thus non-VISA commands in a script with this structure will not work. Remove these items from the automatically generated Instrument list in the QuickStep header of the Forum script.
R426225	R&S Forum script startup and shutdown takes about 700 ms for each Block Function. Will be improved with a future R&S Forum release.
R426223	The TPR Debugging option "Append OPC.." and "Split and append.." for SCPI commands shall not be used in conjunction with block functions that execute a binary data read out. This may lead to corrupt data or hang-ups.
CBTQS-3051	Dependent on the previously used R&S QS Version it may become necessary to "Refresh" the Access Control's Project Settings to get unrestricted access to all Test Procedures.

1.5 Version 04.74 beta

Firmware package contents

Contents
RSQuickStepSetup_04.74.exe
ATSDRV_04.74_Positioner.zip

New Functionality

Functions
RS_Script block: Reset() block function to restart the scripting environments (Matlab, Forum, Python); this can be used to control the lifetime of variables.
Test Procedure Editor: Blockfunctions are automatically connected with the previous one if they are dragged from the library directly onto an unconnected block function
\$P variables show a tooltip also in the test plan editor window
Test Procedure Editor: The blocks of older test plans, which are loaded the first time, are automatically colored

Modified Functionality

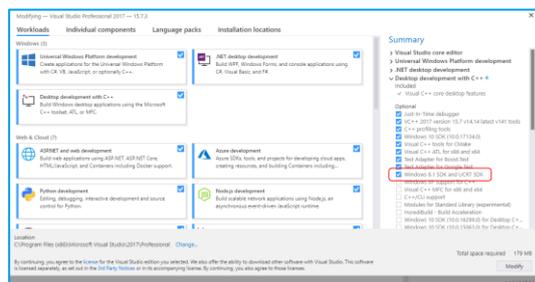
Functions
Optimized resizing of block functions (Resize to Grid).

Improvements

Improvements
Speed up of project loading time and update time
Report Block: AddResults() works now with Hex Format

Compatibility information Windows 10:

Target Platform Version in C++ project properties has to be adapted when using Windows10 in combination with VisualStudio 2017. Change setting from 8.1 to the current version 10.0.xxxx.y . Alternatively install support of Windows 8.1 SDK in VisualStudio 2017:



Known Issues

Id	Known-Issues
R508171	RfGeneratorBase.WaveformCopy: the target directory \var\user\GeneratorFiles\Waveforms must be created manually on the signal generator.
B2428	Project Settings, access control: an update might be required after tpl loading to access all test procedures; a refresh might be required to show all entries in the Project Settings dialogue
R454813	The API function SetEmulationMode() does not take any effect. The GUI flags for activating/deactivating the emulation mode are working as expected.
R432770	It is not recommended to open two or more QuickStep-OTA GUIs at the same time to avoid unclear control of the QuickStep engine during test execution.
R426285	It is not possible to load more than one Matlab DLL in a testplan.
R432772	The Windows OS might require internet access to install dongle drivers.
R432775	The LoadLibrary call in Matlab requires a compatible compiler installed, which can be found at " https://de.mathworks.com/support/compilers.html "
R432778	Matlab and Forum scripts do not yet support the emulation mode.
R432781	Log messages shall be reduced to a minimum to receive optimal performance, for example in production systems.
B1983	Graphical Debugger: Breakpoints cannot be added or removed during test execution. The Procedure pane in the debugger cannot be moved during test execution.
B1851	Search Visa-Instruments: The resource name for GPIB and USB instruments is shown in the list instead of the instrument name. Device discovery does not work for R&S NRP-Z power sensors.
B1790	Conditions: References to a Test Plan Parameter, which is modified in a single-line sweep, cannot be used in Conditions. Replace the single-line sweep with a Test Plan "Sweep Value" sweep which generates several test steps.
R426228	Forum scripts: commands with the structure "AnyString".write(), "AnyString".read() are interpreted as VISA commands and thus non-VISA commands in a script with this structure will not work. Remove these items from the automatically generated Instrument list in the QuickStep header of the Forum script.
R426225	R&S Forum script startup and shutdown takes about 700 ms for each Block Function. Will be improved with a future R&S Forum release.
R426223	The TPR Debugging option "Append OPC.." and "Split and append.." for SCPI commands shall not be used in conjunction with block functions that execute a binary data read out. This may lead to corrupt data or hang-ups.

1.6 Version 04.73 beta

Firmware package contents

Contents
RSQuickStepSetup_04.73.exe
ATSDRV_04.73_Positioner.zip

New Functionality

Functions
Blocks&Connectivity: Possibility to change a complete block instance by right-click menu.
User Access Control: Access to single Test Procedures can be controlled
Test Procedure Editor: Added 'Enabled' property for block instances in 'Blocks & Connectivity' in order to enable/disable the block instance for test procedure execution (all related block functions are disabled even though this is not visible in the test procedures).
Test Procedure Editor: Graphical auto-alignment of block functions. Use "Resize to Grid" right-click menu entry before aligning block functions.
Test Procedure Editor: Individual coloring of block instances; block functions with a condition are highlighted with a blue frame instead of a full blue coloring;
RS_UTILITYBase: new block function TraceSetValue() to replace single values inside a trace file

Modified Functionality

Functions
SCPI write/read/query block functions consolidated for all existing base blocks and in the template used for new blocks. Emulation mode reply added as parameter for read&query.
Base blocks: block functions which create result-log additionally have Out_Parameters

Improvements

Improvements
Python scripting: improved functionality and speed up (reuse of existing python instances); additional support for Python 2.7;
Examples: reworked, aligned and color coding of blocks
User Training: Added chapter 3.11 covering Python scripting and several Tips&Tricks
LicenseCheck: more flexible concerning KMAT; remove check of license count for StationShare licenses
Fixed R426281: Visualization Block, 3D plot: wrong x-axis scaling if the History Buffer is set to <->0
Block Development Tool: PNG files are supported for symbols as well
\$P parameters: comments are saved now in the test plan and also shown as tool tip in the test plan editor
\$P parameters can be used in the SetProjectVariable block function also when set in a single-line-sweep.

Known Issues

Id	Known-Issues
B2428	Project Settings, access control: an update might be required after tpl loading to access all test procedures; a refresh might be required to show all entries in the Project Settings dialogue
R456781	Target Platform Version in C++ project properties has to be adapted when using Windows10 in combination with VisualStudio2017. Change setting from 8.1 to the current version 10.0.xxxx.y
R454813	The API function SetEmulationMode() does not take any effect. The GUI flags for activating/deactivating the emulation mode are working as expected.
R432770	It is not recommended to open two or more QuickStep-OTA GUIs at the same time to avoid unclear control of the QuickStep engine during test execution.
R426285	It is not possible to load more than one Matlab DLL in a testplan.
R432772	The Windows OS might require internet access to install dongle drivers.
R432775	The LoadLibrary call in Matlab requires a compatible compiler installed, which can be found at " https://de.mathworks.com/support/compilers.html "
R432778	Matlab and Forum scripts do not yet support the emulation mode.
R432781	Log messages shall be reduced to a minimum to receive optimal performance, for example in production systems.
B1983	Graphical Debugger: Breakpoints cannot be added or removed during test execution. The Procedure pane in the debugger cannot be moved during test execution.
B1851	Search Visa-Instruments: The resource name for GPIB and USB instruments is shown in the list instead of the instrument name. Device discovery does not work for R&S NRP-Z power sensors.
B1790	Conditions: References to a Test Plan Parameter, which is modified in a single-line sweep, cannot be used in Conditions. Replace the single-line sweep with a Test Plan "Sweep Value" sweep which generates several test steps.
R426228	Forum scripts: commands with the structure "AnyString".write(), "AnyString".read() are interpreted as VISA commands and thus non-VISA commands in a script with this structure will not work. Remove these items from the automatically generated Instrument list in the QuickStep header of the Forum script.
R426225	R&S Forum script startup and shutdown takes about 700 ms for each Block Function. Will be improved with a future R&S Forum release.
R426223	The TPR Debugging option "Append OPC.." and "Split and append.." for SCPI commands shall not be used in conjunction with block functions that execute a binary data read out. This may lead to corrupt data or hang-ups.

1.7 Version 04.70 beta

Firmware package contents

Contents
RSQuickStepSetup_04.70.exe
ATSDRV_04.70_Positioner.zip

New Functionality

Functions
RS_RfSignalAnalyserBase: new block function to transfer files from the PC to the analyzer hard disk
RS_APT_SignalGenerator block: new WaveformCopy() block function replaces the obsolete CopyFiles() block function
GUI: possibility to change the order of \$P, \$G and \$T variables
RS_UtilityBase: new block function CSVRead() to read columns from csv files with offset; new block function TraceConcatenate() allows to combine columns from several trace files;
RS_Mathematics Block: the MathExpression() block function also supports vectors and strings now which allows e.g. to create complex QuickStep arrays in one Expression.
Busy indicator while preprocessing a testplan for execution.

Modified Functionality

Functions
Base Blocks: GUI names of all read/write/query SCPI block functions modified to SCPI read, SCPI write, SCPI query to assure easy access in alphabetic order
Support of obsolete \$PRC, \$TPR, \$MAP, \$GPR removed
RS_Visualization block: changed default path for AddTraceToCurve() and AddTraceToSpectrogram() block functions from the *tpl path to the current DUT-result folder
RS_UtilityBase: Visa Control: Up to 5 SCPI commands can be sent in one single block function

Improvements

Improvements
Result Viewer: Speed up loading of big amounts of data, especially of ATSCAL matrix files
C++ Development: fixed a bug in the WaitDebugOnce() block function
RS_OscilloscopeBlock: added block functions to setup FFT channel and save FFT trace
Base blocks, Catch() and Close() block functions were improved to produce less warning/error logs
The GUI also turns red if a the test-plan cannot be loaded because of missing System-Configurator items
Utility Base, TraceCreate: Fixed memory leak
Updated User Training: e.g. new graphic explaining the parameter mapping in chapter 4.4.1 and two new chapters 12.6 and 12.7 in Tipps&Tricks; formatting/style update;
Performance improvement while loading, closing and saving a testplan.
Fixed a bug leading to a GUI crash in case of missing PATH variable in either user or system environment (R466605)

Known Issues

Id	Known-Issues
R456781	Target Platform Version in C++ project properties has to be adapted when using Windows10 in combination with VisualStudio2017. Change setting from 8.1 to the current version 10.0.xxxxx.y
R454813	The API function SetEmulationMode() does not take any effect. The GUI flags for activating/deactivating the emulation mode are working as expected.
R426281	Visualization Block, 3D plot: the x-axis scaling is not correct if the History Buffer is set to a value <>0
R432770	It is not recommended to open two or more QuickStep-OTA GUIs at the same time to avoid unclear control of the QuickStep engine during test execution.
R426285	It is not possible to load more than one Matlab DLL in a testplan.
R432772	The Windows OS might require internet access to install dongle drivers.
R432775	The LoadLibrary call in Matlab requires a compatible compiler installed, which can be found at " https://de.mathworks.com/support/compilers.html "
R432778	Matlab and Forum scripts do not yet support the emulation mode.
R432781	Log messages shall be reduced to a minimum to receive optimal performance, for example in production systems.
B1983	Graphical Debugger: Breakpoints cannot be added or removed during test execution. The Procedure pane in the debugger cannot be moved during test execution.
B1851	Search Visa-Instruments: The resource name for GPIB and USB instruments is shown in the list instead of the instrument name. Device discovery does not work for R&S NRP-Z power sensors.
B1790	Conditions: References to a Test Plan Parameter, which is modified in a single-line sweep, cannot be used in Conditions. Replace the single-line sweep with a Test Plan "Sweep Value" sweep which generates several test steps.
R426228	Forum scripts: commands with the structure "AnyString".write(), "AnyString".read() are interpreted as VISA commands and thus non-VISA commands in a script with this structure will not work. Remove these items from the automatically generated Instrument list in the QuickStep header of the Forum script.
R426225	R&S Forum script startup and shutdown takes about 700 ms for each Block Function. Will be improved with a future R&S Forum release.
R426223	The TPR Debugging option "Append OPC.." and "Split and append.." for SCPI commands shall not be used in conjunction with block functions that execute a binary data read out. This may lead to corrupt data or hang-ups.

1.8 Version 04.68 beta

Firmware package contents

Contents
RSQuickStepSetup_04.68.exe
ATSDRV_04.68_Positioner.zip

New Functionality

Functions
Busy indicator while loading a testplan.
Automatic configuration of R&S internal license servers.

Modified Functionality

Functions
Improved catch method of all delivered blocks: Visa connection check before close.
New block functions added for several base blocks, e.g. transducer file handling for the RS_AnalyzerBase block; Transducer_Correction.tpl added in the SignalAnalyzer example;
Improvement of some existing block functions in delivered base blocks, e.g. path handling.

Improvements

Improvements
Report generation: fixed sporadically failures during report generation where an empty pdf file is created (R430903, R428489)
Report generation: improved performance.
Emulation mode support for all examples.
Fixed parameter handling in block B_RS_CallExeDll.

Known Issues

Id	Known-Issues
R456781	Target Platform Version in C++ project properties has to be adapted when using Windows10 in combination with VisualStudio2017. Change setting from 8.1 to the current version 10.0.xxxxx.y
R454813	The API function SetEmulationMode() does not take any effect. The GUI flags for activating/deactivating the emulation mode are working as expected.
R426281	Visualization Block, 3D plot: the x-axis scaling is not correct if the History Buffer is set to a value <>0
R432770	It is not recommended to open two or more QuickStep-OTA GUIs at the same time to avoid unclear control of the QuickStep engine during test execution.
R426285	It is not possible to load more than one Matlab DLL in a testplan.
R432772	The Windows OS might require internet access to install dongle drivers.
R432775	The LoadLibrary call in Matlab requires a compatible compiler installed, which can be found at " https://de.mathworks.com/support/compilers.html "
R432778	Matlab and Forum scripts do not yet support the emulation mode.
R432781	Log messages shall be reduced to a minimum to receive optimal performance, for example in production systems.
B1983	Graphical Debugger: Breakpoints cannot be added or removed during test execution. The Procedure pane in the debugger cannot be moved during test execution.
B1851	Search Visa-Instruments: The resource name for GPIB and USB instruments is shown in the list instead of the instrument name. Device discovery does not work for R&S NRP-Z power sensors.
B1790	Conditions: References to a Test Plan Parameter, which is modified in a single-line sweep, cannot be used in Conditions. Replace the single-line sweep with a Test Plan "Sweep Value" sweep which generates several test steps.
R426228	Forum scripts: commands with the structure "AnyString".write(), "AnyString".read() are interpreted as VISA commands and thus non-VISA commands in a script with this structure will not work. Remove these items from the automatically generated Instrument list in the QuickStep header of the Forum script.
R426225	R&S Forum script startup and shutdown takes about 700 ms for each Block Function. Will be improved with a future R&S Forum release.
R426223	The TPR Debugging option "Append OPC.." and "Split and append.." for SCPI commands shall not be used in conjunction with block functions that execute a binary data read out. This may lead to corrupt data or hang-ups.

1.9 Version 04.67 beta

Firmware package contents

Contents
RSQuickStepSetup_04.67.exe
ATSDRV_04.67_Positioner.zip

New Functionality

Functions
Test Project Browser: New Expand/Collaps button; same button design applied in complete GUI
RfSignalAnalyzerBase: Several new Blockfunctions to support Transducer tables
Positioner Standalone Block: Example code and executable added to zip file
Examples: support of NRQ6 example
GUI: Context menu to enable/disable emulation mode of selected blocks
ATSCAL: help button available directly in the ATSCAL GUI

Modified Functionality

Functions
UtilityBaseBlock: ShowImage; added parameter to select between different pop-up types
UtilityBaseBlock: VisaControl; multiple SCPI commands can be sent at once
CheckBlock: return string is activated and is sent to the console
Updated report generation framework
SaveTrace blockfunctions of base blocks: added In/Out parameters for improved usability
UtilityBase, ShowMessageBox: by default the reply of the message box is not logged anymore; use the LOG check-block to enable the logging again

Improvements

Improvements
Report generation: fixed sporadically failures during report generation (no pdf)
Example projects: improved emulation mode support
Baseblocks: improved support of emulation mode for the CommonCommands blockfunctions
B_RS_CallExeDll block: fixed a bug in the CallExe blockfunction
\$G usage in RF_Path type variables: fixed a bug which removed whitespaces from \$G's (R456135)
SignalAnalyzerBase: fixed memory leak in SaveTrace blockfunction
ResultViewer: Traces; format string e.g. ".3lf" is taken into account by the GUI (R434484)
GUI: fixed a but with missing PATH variable when a new Windows user is created
ResultViewer: sorting does work again for double type columns (R457710)
Added help pdf's to RS_RfSignalAnalyzerBase and RS_OscilloscopeBase
Debugger: fixed a bug with ENUMs not shown correctly during debug (R454571)
Improved training documents.
Fixed a bug in the installer caused by a numbering issue of redistributable packages in Windows 10

Known Issues

Id	Known-Issues
R456781	Target Platform Version in C++ project properties has to be adapted when using Windows10 in combination with VisualStudio2017. Change setting from 8.1 to the current version 10.0.xxxxx.y
R454813	The API function SetEmulationMode() does not take any effect. The GUI flags for activating/deactivating the emulation mode are working as expected.
R426281	Visualization Block, 3D plot: the x-axis scaling is not correct if the History Buffer is set to a value <>0
R432770	It is not recommended to open two or more QuickStep-OTA GUIs at the same time to avoid unclear control of the QuickStep engine during test execution.
R426285	It is not possible to load more than one Matlab DLL in a testplan.
R432772	The Windows OS might require internet access to install dongle drivers.
R432775	The LoadLibrary call in Matlab requires a compatible compiler installed, which can be found at "https://de.mathworks.com/support/compilers.html"
R432778	Matlab and Forum scripts do not yet support the emulation mode.
R432781	Log messages shall be reduced to a minimum to receive optimal performance, for example in production systems.
B1983	Graphical Debugger: Breakpoints cannot be added or removed during test execution. The Procedure pane in the debugger cannot be moved during test execution.
B1851	Search Visa-Instruments: The resource name for GPIB and USB instruments is shown in the list instead of the instrument name. Device discovery does not work for R&S NRP-Z power sensors.
B1790	Conditions: References to a Test Plan Parameter, which is modified in a single-line sweep, cannot be used in Conditions. Replace the single-line sweep with a Test Plan "Sweep Value" sweep which generates several test steps.
R426228	Forum scripts: commands with the structure "AnyString".write(), "AnyString".read() are interpreted as VISA commands and thus non-VISA commands in a script with this structure will not work. Remove these items from the automatically generated Instrument list in the QuickStep header of the Forum script.
R426225	R&S Forum script startup and shutdown takes about 700 ms for each Block Function. Will be improved with a future R&S Forum release.
R426223	The TPR Debugging option "Append OPC.." and "Split and append.." for SCPI commands shall not be used in conjunction with block functions that execute a binary data read out. This may lead to corrupt data or hang-ups.

1.10 Version 04.65 beta

Firmware package contents

Contents
RSQuickStepSetup_04.65.exe
ATSDRV_04.65_Positioner.zip

New Functionality

Functions
RS_Utility_Base: several new block functions e.g. a message box with user entry
Test Procedure Browser: The test procedures can be reordered
ATS-CAL: new flag "Radar Test" added to system configurator. Only applicable for a customer specific solution.
Support for Python-Script blocks (Python 3 upwards) available in beta phase. This is in addition to the already available Forum-Scripting blocks.

Modified Functionality

Functions
The API-function SendAsyncLogTrace() does have an optional parameter to save the traces without appending the repetitionNo/teststepId/loopId to the name
The API function VisaWrite() is not limited to a size of 1024 characters anymore.
The save trace block-functions of the RS_SignalAnalyzerBase block was updated and provides additional In- and Out-parameters. The accuracy of the binary transfer data was improved.
Improved documentation for the standalone positioner dll including GUI example.
Result Viewer: Filters for the columns are not selectable until a first click into the result table

Improvements

Improvements
Several improvement regarding the handling of \$G, \$T, \$P parameters in the GUI: e.g. the comments are not cleared anymore when changing the parameter type (R448164)
Result Viewer: Number of digits to show provided e.g. in the API function SendLogResultDouble() is taken into account by the GUI (R434484)
VisaWrite API-function: limitation to 1024 characters was removed
Copy & Paste of block functions between two Test Procedure Editors does work again
Fixed a bug in the API function VisaWriteAndWaitTillDone() occurring in combination with VISA-Success-Codes > 0.

Known Issues

Id	Known-Issues
R456781	Target Platform Version in C++ project properties has to be adapted when using Windows10 in combination with VisualStudio2017. Change setting from 8.1 to the current version 10.0.xxxxx.y
R454813	The API function SetEmulationMode() does not take any effect. The GUI flags for activating/deactivating the emulation mode are working as expected.
R426281	Visualization Block, 3D plot: the x-axis scaling is not correct if the History Buffer is set to a value <>0
R432770	It is not recommended to open two or more QuickStep-OTA GUIs at the same time to avoid unclear control of the QuickStep engine during test execution.
R426285	It is not possible to load more than one Matlab DLL in a testplan.
R432772	The Windows OS might require internet access to install dongle drivers.
R432775	The LoadLibrary call in Matlab requires a compatible compiler installed, which can be found at "https://de.mathworks.com/support/compilers.html"
R432778	Matlab and Forum scripts do not yet support the emulation mode.
R432781	Log messages shall be reduced to a minimum to receive optimal performance, for example in production systems.
B1983	Graphical Debugger: Breakpoints cannot be added or removed during test execution. The Procedure pane in the debugger cannot be moved during test execution.
B1851	Search Visa-Instruments: The resource name for GPIB and USB instruments is shown in the list instead of the instrument name. Device discovery does not work for R&S NRP-Z power sensors.
B1790	Conditions: References to a Test Plan Parameter, which is modified in a single-line sweep, cannot be used in Conditions. Replace the single-line sweep with a Test Plan "Sweep Value" sweep which generates several test steps.
R426228	Forum scripts: commands with the structure "AnyString".write(), "AnyString".read() are interpreted as VISA commands and thus non-VISA commands in a script with this structure will not work. Remove these items from the automatically generated Instrument list in the QuickStep header of the Forum script.
R426225	R&S Forum script startup and shutdown takes about 700 ms for each Block Function. Will be improved with a future R&S Forum release.
R426223	The TPR Debugging option "Append OPC.." and "Split and append.." for SCPI commands shall not be used in conjunction with block functions that execute a binary data read out. This may lead to corrupt data or hang-ups.

1.11 Version 04.61 Release

Please consider the compatibility information of Version 04.60!

Firmware package contents

Contents
RSQuickStepSetup_04.61.exe
ATSDRV_04.61_Positioner.zip

Improvements

Improvements
Performance improvements in the GUI (load/save/update/resolve) (R448974)

Known Issues

Id	Known-Issues
R426281	Visualization Block, 3D plot: the x-axis scaling is not correct if the History Buffer is set to a value <=0
R432770	It is not possible to open two or more QuickStep-OTA GUIs at the same time.
R426285	It is not possible to load more than one Matlab DLL in a testplan.
R432772	The Windows OS might require internet access to install dongle drivers.
R432775	The LoadLibrary call in Matlab requires a compatible compiler installed, which can be found at "https://de.mathworks.com/support/compilers.html"
R432778	Matlab and Forum scripts do not yet support the emulation mode.
R432781	Log messages shall be reduced to a minimum to receive optimal performance, for example in production systems.
B1983	Graphical Debugger: Breakpoints cannot be added or removed during test execution. The Procedure pane in the debugger cannot be moved during test execution.
B1851	Search Visa-Instruments: The resource name for GPIB and USB instruments is shown in the list instead of the instrument name. Device discovery does not work for R&S NRP-Z power sensors.
B1790	Conditions: References to a Test Plan Parameter, which is modified in a single-line sweep, cannot be used in Conditions. Replace the single-line sweep with a Test Plan "Sweep Value" sweep which generates several test steps.
R426228	Forum scripts: commands with the structure "AnyString".write(), "AnyString".read() are interpreted as VISA commands and thus non-VISA commands in a script with this structure will not work. Remove these items from the automatically generated Instrument list in the QuickStep header of the Forum script.
R426225	R&S Forum script startup and shutdown takes about 700 ms for each Block Function. Will be improved with a future R&S Forum release.
R426223	The TPR Debugging option "Append OPC.." and "Split and append.." for SCPI commands shall not be used in conjunction with block functions that execute a binary data read out. This may lead to corrupt data or hang-ups.

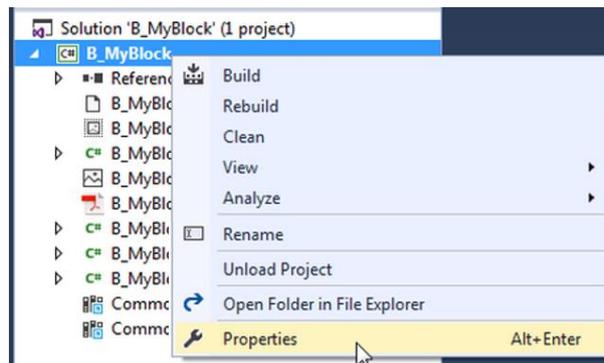
1.12 Version 04.60 Release

Compatibility information:

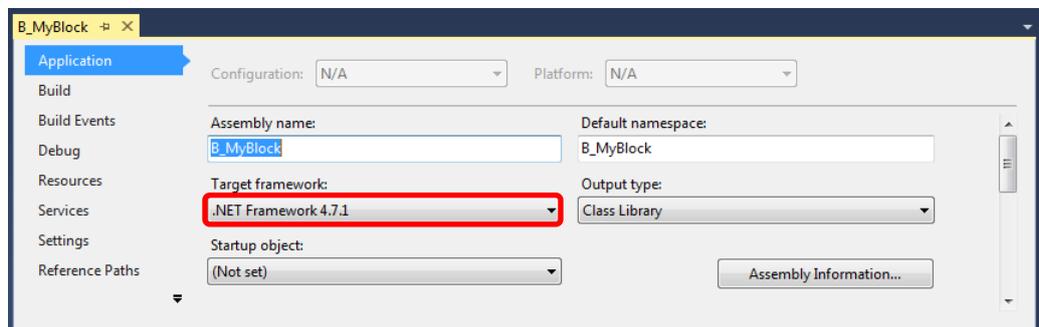
All user blocks created with older versions of QuickStep have to be rebuilt in VisualStudio after installation of this new QuickStep release!

Additionally the .NET version of C# user blocks created with older versions of QuickStep has to be adjusted to a newer version before re-building them:

- open the Visual Studio project of your user blocks
- right click on the project and open the *Properties* tab



- Set the *Target Framework* to .NET Framework 4.7.1



- save the modification and build your user block

Firmware package contents

Contents

RSQuickStepSetup_04.60.exe
ATSDRV_04.60_Positioner.zip

New Functionality

Functions
The API-function SendAsyncLogTrace() offers an optional parameter to organize traces in subfolders.
New API- function: GetProcedureName()
GUI: For all parameter fields the data type is shown in the tooltip automatically (in addition to the tooltip provided by the block developer in the Block Development Tool)
Block Development Tool: block projects can be opened directly via the "Open Project" button. "Create" resp. "Save&Export" has to be executed first to update the project!
For each block a *.pdf-file can be provided, which is shown when clicking on the "?" button in the Blocks&Connectivity tab. Just replace the default *.pdf file located in the block folder with your own.
Copy&Paste does work between two QuickStep GUI's now for items in Blocks&Connectivity, Test Procedures and System Configurator.
UtilityBase block: three new block functions for handling traces; Trace-Create, Trace-Combine, Trace-to-Array
ATSCAL: support for manual positioner added
Beta-version of License Occupation is available.

Modified Functionality

Functions
Required .NET version upgraded from 4.6.2 to 4.7.1; will be installed automatically
Project Settings: the access control includes the Test Procedure Editor
ATS-CAL: Added "ActiveDUT" button; Set this flag to TRUE for VNA-TRP measurements with active DUTS (radiated power not controlled by the VNA like e.g. when measuring passive antennas) to improve accuracy.
ATS-CAL: Added the "RadarTest" button. Keep this button on false.
VisaReadBinary() can be used now also with VISA-SOCKET type connections. The implementation will make sure that the complete message is read, even if random termination characters appear in the binary stream. Tested with R&S Visa and NI Visa.
The "For...Each" statement in the Test Project Browser can be used with strings in addition to numbers.
If an error occurs on test-plan load, the QuickStep window header turns red now to indicate the fail state.
QuickStep message box redesign and hour-glass to indicate busy status.

Improvements

Improvements
Fixed a bug appearing with very long Block names.
Copy Reference: Fixed a bug which removed trailing whitespaces from reference names.
Matlab DLLs: Added an example in the UserTraining on how to create and use a Matlab DLL; added support for Matlab 2018a;
Removed warning if a DNS name is entered in VISA-Resource parameters instead of full VISA string.
Open connections are detected on Save or Update in the Blocks&Connectivity, Test Procedures and System Configurator. The user can decide if they should be removed automatically.
The Visualization Block supports the window positioning and scaling also for different sized displays.

Improvements

Fixed a bug in the column selection of the result viewer (M464)

Control Statements in the Test Project Browser without a Sequence inside do not lead to a test abort any longer. Empty control statements are not executed.

An hour-glass is shown when test project variables are resolved to indicate the busy state.

Known Issues

Id	Known-Issues
R426281	Visualization Block, 3D plot: the x-axis scaling is not correct if the History Buffer is set to a value <0
R432770	It is not possible to open two or more QuickStep-OTA GUIs at the same time.
R426285	It is not possible to load more than one Matlab DLL in a testplan.
R432772	The Windows OS might require internet access to install dongle drivers.
R432775	The LoadLibrary call in Matlab requires a compatible compiler installed, which can be found at " https://de.mathworks.com/support/compilers.html "
R432778	Matlab and Forum scripts do not yet support the emulation mode.
R432781	Log messages shall be reduced to a minimum to receive optimal performance, for example in production systems.
B1983	Graphical Debugger: Breakpoints cannot be added or removed during test execution. The Procedure pane in the debugger cannot be moved during test execution.
B1851	Search Visa-Instruments: The resource name for GPIB and USB instruments is shown in the list instead of the instrument name. Device discovery does not work for R&S NRP-Z power sensors.
B1790	Conditions: References to a Test Plan Parameter, which is modified in a single-line sweep, cannot be used in Conditions. Replace the single-line sweep with a Test Plan "Sweep Value" sweep which generates several test steps.
R426228	Forum scripts: commands with the structure "AnyString".write(), "AnyString".read() are interpreted as VISA commands and thus non-VISA commands in a script with this structure will not work. Remove these items from the automatically generated Instrument list in the QuickStep header of the Forum script.
R426225	R&S Forum script startup and shutdown takes about 700 ms for each Block Function. Will be improved with a future R&S Forum release.
R426223	The TPR Debugging option "Append OPC.." and "Split and append.." for SCPI commands shall not be used in conjunction with block functions that execute a binary data read out. This may lead to corrupt data or hang-ups.

1.13 Version 04.51 Release

Firmware package contents

Contents
RSQuickStepSetup_04.51.exe
ATSDRV_04.51_Positioner.zip

New Functionality

Functions
A warning is created now on testplan start if a block dll with the same name is found in the installation directory and the user directory. The dll in the user directory will be used preferential.
Additional file formats can directly be opened from the result viewer: *.doc, *.docx, *.xls, *.xlsx
System Configurator: if a frequency point is not found in a *.csv file, the "frequency not found" warning now includes the frequency and filename information.

Modified Functionality

Functions
ATS-CAL: Default login changed from Developer to Operator
RS_Utility_Base block: Parameter "Input" moved up to the first position, no functional change
DUT Handling block: Tooltips improved and extended
B_RS_Mathematics block, MathExpression: "Decimal Places" parameter is now applied on the result logging and additionally for rounding the Out_Parameter. The number of digits for Out-Parameters cannot be defined directly.

Improvements

Improvements
ATS-CAL: fixed a bug which required to execute calibration and measurement in one single test flow when the VNA setup is used.
ATS-CAL: Speed up of measurements with the ATS-CCP1 positioner (~50%). The improvement is also included in the standalone driver.
ATS-CAL: User manual extended and updated
ATS-CAL: TRP calculation accuracy improved by taking into account multiple measurements at elevation 0 deg
New Documentation for the Positioner driver dll (M472)
QuickStep User- and Developer- Training documents extended and updated
Fixed a bug with Forum Scripting: handing over of parameter also works now with only one parameter in a scripting block function (M466)
Removed an improper warning in single-lines sweeps: double-type data is supported (M491)
Improved recognition of the Dongle if it is plugged in when the QS GUI is already open (M456)
VISA-Resource type parameters: fixed a bug in the VISA configuration GUI which appended new timeout information instead of replacing it (M488)
Drop-down menus for \$P, \$G, \$T parameters stay visible even if the width of the columns is removed (M468)
\$G references used in If-statements and IN/OUT parameters in the test procedure are consistently found in the resolve list now (M474, M495)
Last Line in Log Viewer "Execution Environment and Sequencer closed." is now visible without scrolling (M477)
Incorrect warning "Only \$G reference is allowed" removed in the Test Project Parameters list for \$G used as iterators in For-Loops (M469)
Fixed a bug in the Matlab example creating a runtime error message.

Improvements

Creating a \$G directly in a double[] parameter field of a Matlab script block is now possible without an error (M496)

Fixed a bug in the graphical debugger. The yellow border indicating the next block function is now reset between test runs.

Known Issues

Id	Known-Issues
B2232	Resolving References in the Test Project Parameters can be slow for big test plans. No indication (e.g. hourglass) is provided during this time.
M492	Visualization Block, 3D plot: the x-axis scaling is not correct if the History Buffer is set to a value <>0
M446	Menu items for the beta-version of License Occupation are visible but not functional.
M447	It is not possible to open two or more QuickStep-OTA GUIs at the same time.
M448	It is not possible to load more than one Matlab DLL in a testplan.
M449	The Windows OS might require internet access to install dongle drivers.
M450	The LoadLibrary call in Matlab requires a compatible compiler installed, which can be found at " https://de.mathworks.com/support/compilers.html "
M451	Socket communication is not recommended. Some instruments have stability issues.
M452	Matlab and Forum scripts do not yet support the emulation mode.
M453	The Matlab block is limited to call one single Matlab generated DLL.
M454	Log messages shall be reduced to a minimum to receive optimal performance, for example in production systems.
B1983	Graphical Debugger: Breakpoints cannot be added or removed during test execution. The Procedure pane in the debugger cannot be moved during test execution.
B1851	Search Visa Instruments: The resource name for GPIB and USB instruments is shown in the list instead of the instrument name. Device discovery does not work for R&S NRP-Z power sensors.
B1790	Conditions: References to a Test Plan Parameter, which is modified in a single-line sweep, cannot be used in Conditions. Replace the single-line sweep with a Test Plan "Sweep Value" sweep which generates several test steps.
M392	Forum scripts: commands with the structure "AnyString".write(), "AnyString".read() are interpreted as VISA commands and thus non-VISA commands in a script with this structure will not work. Remove these items from the automatically generated Instrument list in the QuickStep header of the Forum script.
M395	R&S Forum script startup and shutdown takes about 700 ms for each Block Function. Will be improved with a future R&S Forum release.
M396	The TPR Debugging option "Append OPC.." and "Split and append.." for SCPI commands shall not be used in conjunction with block functions that execute a binary data read out. This may lead to corrupt data or hang-ups.
M398	Import & Export of test procedures within the Test Procedure Editor is temporarily removed for this release.

1.14 Version 04.50 Release

Firmware package contents

Contents
RSQuickStepSetup_04.50.exe
ATSDRV_04.50_Positioner.zip

New Functionality

Functions
The new QS-ATSCAL option is provided for 3D antenna pattern test.
LogViewer and Debugger window were removed from the Test Plan Editor tab and arranged in a new tab named Test Execution.
Test Procedure Editor: Right-Click menu to change the block-instance of block functions and enable/disable all selected block functions.
Standalone driver for ATS-CCP1 positioner.

Modified Functionality

Functions
Log Viewer Autoscroll button temporarily disabled/hidden.
New License Server Version 1.8.1 included in installer incorporating License Manager functionality
Improved LogViewer with higher performance and additional filtering and grouping function.
Single-Line Sweeps are also supported for string-type parameters (if string can be converted to double).
Testplan Editor: Conditions on groups area available.
Global variables: double[] arrays are not initialized with a "0" any longer

Improvements

Improvements
Debugger window has new color to easily distinguish from Test Procedure Editor
Visualization Block: Polar Plot can be used with negative values
Resolved issues with user access control during installation
Log Window optimization for many log messages (GUI freeze problem)
The "Log" checkbox for BlockFunction parameters is now independent from the log level.
Matlab Block: "GetComplex" just worked a single time.
The Testproject export function does not copy the UtilityBase.dll any more.
VisaWrite/VisaQuery logging output reworked.
Reporting: Trace to chart and trace to table now accept incomplete files.
A disabled script BlockFunction does not lead to an error any more if the script is not available.
Import of a project overwrites existing data.

Known Issues

Id	Known-Issues
M446	Menu items for the beta-version of License Occupation are visible but not functional.
M447	It is not possible to open two or more QuickStep-OTA GUIs at the same time.
M448	It is not possible to load more than one Matlab DLL in a testplan.

Id	Known-Issues
M449	The Windows OS might require internet access to install dongle drivers.
M450	The LoadLibrary call in Matlab requires a compatible compiler installed, which can be found at " https://de.mathworks.com/support/compilers.html "
M451	Socket communication is not recommended. Some instruments have stability issues.
M452	Matlab and Forum scripts do not yet support the emulation mode.
M453	The Matlab block is limited to call one single Matlab generated DLL.
M454	Log messages shall be reduced to a minimum to receive optimal performance, for example in production systems.
B1983	Graphical Debugger: Breakpoints cannot be added or removed during test execution. The Procedure pane in the debugger cannot be moved during test execution.
B1851	Search Visa Instruments: The resource name for GPIB and USB instruments is shown in the list instead of the instrument name. Device discovery does not work for R&S NRP-Z power sensors.
B1790	Conditions: References to a Test Plan Parameter, which is modified in a single-line sweep, cannot be used in Conditions. Replace the single-line sweep with a Test Plan "Sweep Value" sweep which generates several test steps.
M392	Forum scripts: commands with the structure "AnyString".write(), "AnyString".read() are interpreted as VISA commands and thus non-VISA commands in a script with this structure will not work. Remove these items from the automatically generated Instrument list in the QuickStep header of the Forum script.
M395	R&S Forum script startup and shutdown takes about 700 ms for each Block Function. Will be improved with a future R&S Forum release.
M396	The TPR Debugging option "Append OPC.." and "Split and append.." for SCPI commands shall not be used in conjunction with block functions that execute a binary data read out. This may lead to corrupt data or hang-ups.
M398	Import & Export of test procedures within the Test Procedure Editor is temporarily removed for this release.

1.15 Version 04.13 beta

Firmware package contents

Contents

RSQuickStepSetup_04.13.exe

New Functionality

Functions

Grid can be switched ON/OFF in Test Procedure Editor

Basic emulation mode added to delivered VNA block.

Comment field and multi-selection available for Test Project Parameters/Variables

Shortcut keys available in each view of the GUI: F5 (Single run), F6 (Continuous run), F10 (break), F11 (Abort), SHIFT+F10 (Continue)

New separate tab (Test Execution) for Log Viewer and Debugger window

Support for 32bit C++ blocks

The type of \$G variables can be chosen explicitly if required. Automatic selection is default mode.

For-loops in Test Project Browser can be defined as bidirectional (alternating up and down sweep)

Block Development: C++ blocks can be created now in 32bit or 64bit

Utility Base: New block functions to trim \$G variables and to Log variables and to Start/Stop timers

The Matlab block additionally incorporates the functionality of the 'CallMatlabFunction' block function of the CallExeDll block.

Support of several Matlab versions.

Test Procedure Editor: A search function has been added to the drop down menu for selecting the block function. Start typing reduces the list in the drop down menu accordingly.

API functions to access the Matlab command line directly from within a block

Search and Copy/Paste available in the Log Viewer and the Execution Protocol

Initial support for standalone usage of block dlls, i.e. direct call of block functions from another assembly (block as driver).

Copy&Paste of references also available for Test Project Parameters

Modified Functionality

Functions

CallMatlabFunction moved to separate Matlab block

Test Procedure Editor and System Configurator: remove x/y position display while moving blocks

Forum version 3.3.0 is supported additionally to version 3.2.0

Parameter entry: Strings are pasted on selected cursor position now instead of replacing the entire entry

PowerSupplyBase: added channel 3&4 support for HPM20xx power supplies

Updated and extended training documents

Improvements

Improvements

Fixed a bug in VisaReadBinary API function.

Fixed several issues in the Matlab support.

Visualization Block: Polar plot does support negative values

Control Statements in Test Project Browser: Copy&Paste includes sub-nodes

Improvements
Emulation Mode: newly created blocks create a warning by default, that the emulation mode is not implemented yet if the emulation mode flag is set to true (can be removed once the functionality is implemented by the block developer)
Result Viewer: Units are shown again correctly in the table header and diagram
Blocks&Connectivity: Missing scroll bar in properties window was added
A warning will be generated if a string is copied into a parameter field that is too long for the selected parameter type.
Visualization Block: Reset Chart now also works with Spectrograms
Fixed a bug where test procedures starting with a control statement lead to a dead-lock situation.
Fixed a bug where the first logging messages where not shown in the LogViewer.
Improved messages in the LogViewer regarding required QuickStep licenses.

Known Issues

Id	Known-Issues
B1983	Graphical Debugger: Breakpoints cannot be added or removed during test execution. The Procedure pane in the debugger cannot be moved during test execution
B1859	Temporarily deactivation of individual configuration of LogViewer and Debugger window visibility in each tab of the QuickStep GUI. The feature will be reactivated in future releases.
B1855	Report Block: Sub reports and Styles are dependent on the Windows localization (e.g. inch/cm conversion warnings). This may require adaptations of reporting Block Functions settings.
B1851	Search Visa Instruments: The resource name for GPIB and USB instruments is shown in the list instead of the instrument name. Device discovery does not work for R&S NRP-Z power sensors.
B1790	Conditions: References to a Test Plan Parameter, which is modified in a single-line sweep, cannot be used in Conditions. Replace the single-line sweep with a Test Plan "Sweep Value" sweep which generates several test steps.
M411	The "Show Report Preview" sometimes does not show any content and the error message "Controls created on one thread cannot be parented to a control on a different thread." is shown. Currently no work around available.
M392	Forum scripts: commands with the structure "AnyString".write(), "AnyString".read() are interpreted as VISA commands and thus non-VISA commands in a script with this structure will not work. Remove these items from the automatically generated Instrument list in the QuickStep header of the Forum script.
M395	R&S Forum script startup and shutdown takes about 700 ms for each Block Function. Will be improved with a future R&S Forum release.
M396	The TPR Debugging option "Append OPC.." and "Split and append.." for SCPI commands shall not be used in conjunction with block functions that execute a binary data read out. This may lead to corrupt data or hang-ups.
M398	Import & Export of test procedures within the Test Procedure Editor is temporarily removed for this release.
M400	The provided Base Blocks within the Block Library of the Test Procedure Editor are verified with a limited set of documented R&S instrument types. Some functions may not work with other instrument types.
M403	When using extension blocks, the SCPI commands sent by the extension block might be listed under the name of the extended block in the execution protocol within the Results Viewer – or vice versa.

1.16 Version 04.11 beta

Firmware package contents

Contents

RSQuickStepSetup_04.11.exe

New Functionality

Functions

Emulation Mode: can be used to emulate blocks e.g. if the required hardware is not available; especially supports but is not limited to VISA emulation; the PowerSensorBase block includes this functionality as a first example

New specific Matlab block providing access to the Matlab command line

Result Viewer Diagram: Marker and Lines can be enabled also for more than 2500 datapoints (might take some time for high amount of data)

Modified Functionality

Functions

Automatic Type Conversion: Warnings about possible data loss are optimized

\$G references are also displayed in the horizontal testplan view

The name of the Testplan Control Statements can now be modified by the user; the names are auto-incremented by appending 1, 2,3 ...

Improvements

Improvements

The help menu now includes a reference to the QuickStep Command Reference

Fixed a bug in Matlab scripting which resets 0 arrays to 0 doubles on opening Edit Script Parameter dialog

"Check Connection" in VISA configuration drop-down: the termination character can be provided for SOCKET connections; this term. character is only applied for the Check Connection activity

Debugger: the procedure pain can be moved again after starting the test plan

Several fixes around generation, resolving and displaying references

Fixed a bug which created issues on resolving variables having names which start with the same characters

Known Issues

Id	Known-Issues
B1983	Graphical Debugger: Breakpoints cannot be added or removed during test execution. The Procedure pane in the debugger cannot be moved during test execution
B1859	Temporarily deactivation of individual configuration of LogViewer and Debugger window visibility in each tab of the QuickStep GUI. The feature will be reactivated in future releases.
B1855	Report Block: Sub reports and Styles are dependent on the Windows localization (e.g. inch/cm conversion warnings). This may require adaptations of reporting Block Functions settings.
B1851	Search Visa Instruments: The resource name for GPIB and USB instruments is shown in the list instead of the instrument name. Device discovery does not work for R&S NRP-Z power sensors.
B1790	Conditions: References to a Test Plan Parameter, which is modified in a single-line sweep, cannot be used in Conditions. Replace the single-line sweep with a Test Plan "Sweep Value" sweep which generates several test steps.
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M396	The TPR Debugging option "Append OPC.." and "Split and append.." for SCPI commands shall not be used in conjunction with block functions that execute a binary data read out. This may lead to corrupt data or hang-ups.
M398	Import & Export of test procedures within the Test Procedure Editor is temporarily removed for this release.
M400	The provided Base Blocks within the Block Library of the Test Procedure Editor are verified with a limited set of documented R&S instrument types. Some functions may not work with other instrument types.
M403	When using extension blocks, the SCPI commands sent by the extension block might be listed under the name of the extended block in the execution protocol within the Results Viewer – or vice versa.

Compatibility information:

It is not directly possible to go back to a previous version of QuickStep after upgrading to version 4.11 due to changes in the GUI layout.

To downgrade to 4.10 or previous versions please uninstall version 4.11 and additionally remove the content of the directory (create a backup before removing)

C:\Users\\AppData\Local\IsolatedStorage

before installing the target QuickStep version.

1.17 Version 04.10 beta

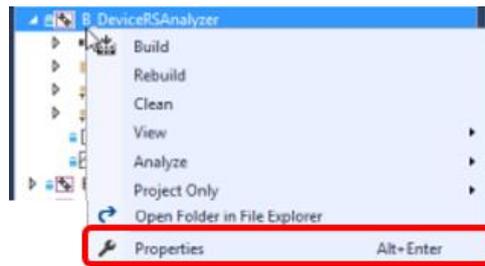
The QuickStep installer was modified and now includes all prerequisites which are required. No separate installation of prerequisites is required anymore.

The file type of the installer changed from *.msi to *.exe.

Compatibility information:

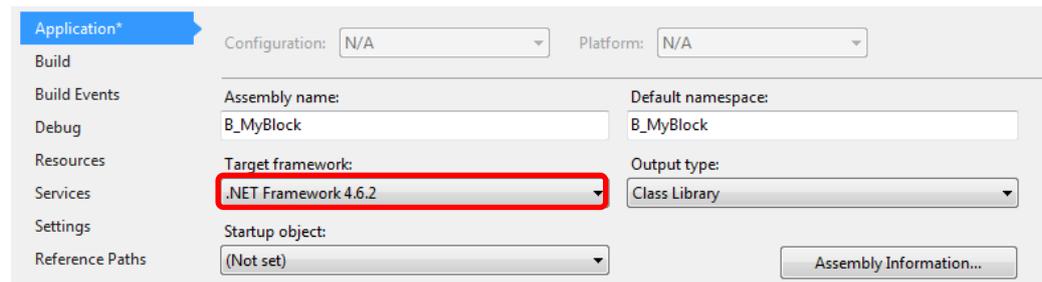
The .NET version of C# user blocks has to be adjusted to a newer version:

- open the Visual Studio project of your user blocks



- right click on the project and open the Properties tab

- Set the Target Framework to .NET Framework 4.6.2



- build your user block

Firmware package contents

Contents

RSQuickStepSetup_04.10.exe

New Functionality

Functions

Block Development Tool: New blocks can be created based on provided block templates

New Examples:

- Matlab scripting
- Application GUIs (as block templates)

Block Development Tool: New blocks can be created by copying an existing block and providing a new name

Test Project Variables are created automatically if a non-existing "\$G.name" is entered as parameter. The same applies for \$T and \$M references.

All parameter fields do support UNICODE characters.

The Block Development Tool does support Visual Studio 2017

Dynamic control statements are now supported in the Testplan Editor.

Functions

QuickStep GUI: the position of the sub-windows of the GUI is stored; the default window layout can be restored via a menu-entry.

Modified Functionality

Functions

Visualization Block: only warning on missing data instead of abort of test

Some of the GUI-Icons were updated.

VISA-Alias list: fixed a bug, where a wrong VISA drop down menu was shown after opening a project; when clicking on the VISA button next to a VISA-parameter entry field, the correct values for a given \$V reference are now resolved; \$T, \$P and \$M references now also show the VISA resource lists, in case they are referenced by a VISA-Resource type parameter;

Test Procedure: The original name of the block is shown in the properties window in addition to the name of the block-instance.

Test Project Variables and Parameters: both types of variables (Constant/Parameter and Variable) are listed in one common table Test-Project-Parameters

The default LoopId was changed from 0 to 1.

Modified block functions:

- RS_UtilityBase\GetPathLoss: output parameter added for the loss value
- RS_UtilityBase\LogVariable: new blockfunction
- RS_PowerSensorBase\SaveTrace: output parameter added for the trace array

Visualization Block: Arrays can now be displayed in charts in the same way as traces

PowerSensorBase Block: average traces are provided as Out-Parameters in the Trace:Data block function

Improvements

Improvements

Fixed a bug in Matlab scripting wich replaced 0-Matrizes by a 0-double value.

Test Project Variables and Parameters: the tooltip now shows a complete and comprehensive list of all referencing conditions and parameters;

An "Import Project" button is now available directly in the start-up window.

Test Procedure Editor: "Set Reference" dialog is now also available in "Main Procedure Before/After"

Semicolons in the descriptions of Four-Script parameters do not cause any problems anymore

Export of projects: *.suo files, which created access control warnings during import, are not exported anymore

RS_Visualization block: closing and reopening of chart windows during test (via block functions) is now possible for all chart types

The problem with serial VISA connections (ASRL) in combination with FORUM was fixed.

Updated training documents.

Matlab and Forum scripting: A version of SendLogConsole() was added which supports the definition of text colors

Known Issues

Id	Known-Issues
B1983	Graphical Debugger: Breakpoints cannot be added or removed during test execution. The Procedure pane in the debugger cannot be moved during test execution
B1859	Temporarily deactivation of individual configuration of LogViewer and Debugger window visibility in each tab of the QuickStep GUI. The feature will be reactivated in future releases.
B1855	Report Block: Sub reports and Styles are dependent on the Windows localization (e.g. inch/cm conversion warnings). This may require adaptations of reporting Block Functions settings.
B1851	Search Visa Instruments: The resource name for GPIB and USB instruments is shown in the list instead of the instrument name. Device discovery does not work for R&S NRP-Z power sensors.
B1790	Conditions: References to a Test Plan Parameter, which is modified in a single-line sweep, cannot be used in Conditions. Replace the single-line sweep with a Test Plan "Sweep Value" sweep which generates several test steps.
M411	The "Show Report Preview" sometimes does not show any content and the error message "Controls created on one thread cannot be parented to a control on a different thread." is shown. Currently no work around available.
M392	Forum scripts: commands with the structure "AnyString".write(), "AnyString".read() are interpreted as VISA commands and thus non-VISA commands in a script with this structure will not work. Remove these items from the automatically generated Instrument list in the QuickStep header of the Forum script.
M395	R&S Forum script startup and shutdown takes about 700 ms for each Block Function. Will be improved with a future R&S Forum release.
M396	The TPR Debugging option "Append OPC.." and "Split and append.." for SCPI commands shall not be used in conjunction with block functions that execute a binary data read out. This may lead to corrupt data or hang-ups.
M398	Import & Export of test procedures within the Test Procedure Editor is temporarily removed for this release.
M400	The provided Base Blocks within the Block Library of the Test Procedure Editor are verified with a limited set of documented R&S instrument types. Some functions may not work with other instrument types.
M403	When using extension blocks, the SCPI commands sent by the extension block might be listed under the name of the extended block in the execution protocol within the Results Viewer – or vice versa.

1.18 Version 04.05 Release

Firmware package contents

Contents
RSQuickStepSetup_04.05.msi
RSQuickStep_04.05_Prerequisites.zip

New Functionality

Functions
n.a.

Modified Functionality

Functions
n.a.

Improvements

Improvements
.Net 4.7 support
Result references in BlockFunction conditions are not evaluated any more if the BlockFunction is not executed due to a skip-condition

Known Issues

Id	Known-Issues
M441	Forum scripting: serial connections are not supported (VISA resource type ASLR)
M442	Forum scripting: if a comma "," is used in the description of a parameter, the script is corrupted and cannot be used in QuickStep anymore; open the script in an editor and remove the ","
M443	Project export/import: During import there might be errors displayed about *.suo files; these errors can be ignored
B1859	Temporarily deactivation of individual configuration of LogViewer and Debugger window visibility in each tab of the QuickStep GUI. The feature will be reactivated in future releases.
B1855	Report Block: Sub reports and Styles are dependent on the Windows localization (e.g. inch/cm conversion warnings). This may require adaptations of reporting Block Functions settings.
B1854	The list of VISA-Alias shown in the drop-down menu of VISA-type parameters might not be correct. Please press the "Update Test Project" button within the Test Plan Editor.
B1853	When clicking on the VISA button next to a VISA-parameter entry field, the VISA-GUI might show incorrect content. This content can be overwritten and does not affect the test.
B1851	Search Visa Instruments: The resource name for GPIB and USB instruments is shown in the list instead of the instrument name. Device discovery does not work for R&S NRP-Z power sensors.
B1790	Conditions: References to a Test Plan Parameter, which is modified in a single-line sweep, cannot be used in Conditions. Replace the single-line sweep with a Test Plan "Sweep Value" sweep which generates several test steps.
M411	The "Show Report Preview" sometimes does not show any content and the error message "Controls created on one thread cannot be parented to a control on a different thread." is shown. Currently no work around available.
M392	Forum scripts: commands with the structure "AnyString".write(), "AnyString".read() are interpreted as VISA commands and thus non-VISA commands in a script with this structure will not work. Remove these items from the automatically generated Instrument list in the QuickStep header of the Forum script.
M395	R&S Forum script startup and shutdown takes about 700 ms for each Block Function. Will be improved with a future R&S Forum release.
M396	The TPR Debugging option "Append OPC.." and "Split and append.." for SCPI commands shall not be used in conjunction with block functions that execute a binary data read out. This may lead to corrupt data or hang-ups.
M398	Import & Export of test procedures within the Test Procedure Editor is temporarily removed for this release.
M400	The provided Base Blocks within the Block Library of the Test Procedure Editor are verified with a limited set of documented R&S instrument types. Some functions may not work with other instrument types.
M403	When using extension blocks, the SCPI commands sent by the extension block might be listed under the name of the extended block in the execution protocol within the Results Viewer – or vice versa.

1.19 Version 04.02 beta

Firmware package contents

Contents
RSQuickStepSetup_04.02.msi
RSQuickStep_04.02_Prerequisites.zip

New Functionality

Functions
n.a.

Modified Functionality

Functions
n.a.

Improvements

Improvements
Reporting Block: solved special character problem while loading style sheets for html

Known Issues

Id	Known-Issues
M441	Forum scripting: serial connections are not supported (VISA resource type ASLR)
M442	Forum scripting: if a comma "," is used in the description of a parameter, the script is corrupted and cannot be used in QuickStep anymore; open the script in an editor and remove the ","
M443	Project export/import: During import there might be errors displayed about *.suo files; these errors can be ignored
B1859	Temporarily deactivation of individual configuration of LogViewer and Debugger window visibility in each tab of the QuickStep GUI. The feature will be reactivated in future releases.
B1855	Report Block: Sub reports and Styles are dependent on the Windows localization (e.g. inch/cm conversion warnings). This may require adaptations of reporting Block Functions settings.
B1854	The list of VISA-Alias shown in the drop-down menu of VISA-type parameters might not be correct. Please press the "Update Test Project" button within the Test Plan Editor.
B1853	When clicking on the VISA button next to a VISA-parameter entry field, the VISA-GUI might show incorrect content. This content can be overwritten and does not affect the test.
B1851	Search Visa Instruments: The resource name for GPIB and USB instruments is shown in the list instead of the instrument name. Device discovery does not work for R&S NRP-Z power sensors.
B1790	Conditions: References to a Test Plan Parameter, which is modified in a single-line sweep, cannot be used in Conditions. Replace the single-line sweep with a Test Plan "Sweep Value" sweep which generates several test steps.
M411	The "Show Report Preview" sometimes does not show any content and the error message "Controls created on one thread cannot be parented to a control on a different thread." is shown. Currently no work around available.
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M403	When using extension blocks, the SCPI commands sent by the extension block might be listed under the name of the extended block in the execution protocol within the Results Viewer – or vice versa.

1.20 Version 04.01 beta

Firmware package contents

Contents

RSQuickStepSetup_04.01.msi
RSQuickStep_04.01_Prerequisites.zip

New Functionality

Functions

Reporting Block: it is now possible to create both pdf and html reports in parallel

Modified Functionality

Functions

QuickStep demo mode: the demo mode of QuickStep is now additionally limited to 30 seconds of test execution time
--

VISA SOCKET type connections: instead of automatically appending the default termination character "\n" to each write-string for VISA-SOCKET connections, now the same termination character is used as for VISA-SOCKET read operations; this termination character is determined by the VISA attributes VI_ATTR_TERMCHAR and VI_ATTR_TERMCHAR_EN;
--

Improvements

Improvements

User Training document: fixed an error in chapter 3, System Configurator; a block which is not delivered with QuickStep anymore is replaced by another one
--

Known Issues

Id	Known-Issues
M441	Forum scripting: serial connections are not supported (VISA resource type ASLR)
M442	Forum scripting: if a comma "," is used in the description of a parameter, the script is corrupted and cannot be used in QuickStep anymore; open the script in an editor and remove the ","
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B1859	Temporarily deactivation of individual configuration of LogViewer and Debugger window visibility in each tab of the QuickStep GUI. The feature will be reactivated in future releases.
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B1854	The list of VISA-Alias shown in the drop-down menu of VISA-type parameters might not be correct. Please press the "Update Test Project" button within the Test Plan Editor.
B1853	When clicking on the VISA button next to a VISA-parameter entry field, the VISA-GUI might show incorrect content. This content can be overwritten and does not affect the test.
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M403	When using extension blocks, the SCPI commands sent by the extension block might be listed under the name of the extended block in the execution protocol within the Results Viewer – or vice versa.

1.21 Version 04.00 Release

Compatibility information:

- 1) This is the first **64bit** version of QuickStep! User Blocks created with older versions require some modifications! Please see description at the end of this chapter.
- 2) Due to required modifications of the QuickStep limit testing, existing assignments of limits to test results will be lost after the update. Please reassign the limits again in your projects.
- 3) The Forum script header is extended for "Out-Parameter" support. Please delete the QuickStep headers in previously imported scripts and import the scripts again.
- 4) In case Visual Studio 2010 is used for block development (C++ support only), please download the "Microsoft Windows SDK for Windows 7" and ".NET Framework 4" from the Microsoft website and change the "Platform Toolset" in the Visual Studio Project Properties to "Windows7.1SDK".
- 4) In case Visual Studio 2012 should be used for block development, it is necessary to additionally install the "Microsoft .NET Framework 4.5.1 Developer Pack (KB2861696)". Please download the appropriate package from the Microsoft website and install it to your development PC.

Firmware package contents

Contents

RSQuickStepSetup_04.00.msi
RSQuickStep_04.00_Prerequisites.zip

New Functionality

Functions

New functionality to search for R&S instruments in the VISA Instruments window ("device discovery").
Basic User Management for project specific access control with password protection.
A routing pin is now available in the Test Procedure editor, which allows to manually adjust the routing of connection lines.
Control Statements in the Test Procedure editor for loops and decisions.
Control Statements in the Test Plan editor for loops and decisions.
OUT-Parameters for Block functions can be used in combination with Test Project Variables e.g. as input for following block functions.
References on Results can now be created with "Copy Reference" function in the result viewer.
Test Project Variables ("Globals") which are read- and writeable during test execution.
Out-Parameter within Forum scripts.
MATLAB scripts can be used within test procedures - like Forum/Python scripts.
Parameters can be automatically logged in the result log.
Generic Block Functions for executing DLL functions and executables.
Overview quick reference document with most common QuickStep API functions for developers.
Result references within dynamic conditions of Block Functions.
Extension of data types for "byte" and dynamic arrays of basic data types.
"Instrument_Show_Screen" Block Function for providing the R&S instrument graphical user interfaces during test execution.

Functions

Short cuts for direct execution of test projects can be generated on the Windows Desktop.

Modified Functionality

Functions

Support of specific color setting for SendLogConsole() API function.

The column separator in all standard log-files changed from ";" to TAB to avoid unintended columns in result strings.

Result entries can be manually added for the Limit-Test definition if they are not automatically detected.

References within conditions require Brackets (...) e.g. (\$R.<Result><this><this>).

Hitting "ABORT" twice during test execution terminates the test immediately and the catch() block functions are called.

Improved return codes for execution of Test Plans from the command line.

Extended functionality of the visualization block: histogram, 3D plot, oscilloscope view.

Removed unused Block Function parameter property "String Format" from the Block Development Tool.

Replacement of Calculation Block with RS_Mathematics Block, which offers extended functionalities (sin, cos, expression, random number).

Maximum string length limitation of SendLogResult(String) removed.

Updated Manuals, Trainings and Examples.

Improvements

Improvements

Reworked and extended examples; outdated ET-DPT example removed.

Loop-Id of each Test Step is shown in the LogViewer.

Reworked and improved error messages including a warnings- and errors- summary at the end of the test execution.

The RS_DUT_Handling block uses default parameters and provides the user entries as Out-Parameters.

Support of R&S HMP20xx power supplies added in RS_PowerSupplyBase Block.

Additional API-Function for Traces: AddTraceColumnFromDataVector() for doubles and integer vectors.

Image files (bmp, jpg, jpeg, png) are directly displayed within the Results Viewer window.

Improved and structured Log Viewer output for the log-level VERBOSE.

Copy&Paste&Delete of more than one element within the Test Procedure Editor; improvement of the auto-increment of Block Function names.

Support of multiple dynamic (unknown length) arrays for Block Function parameters.

Upgraded to a 64 bit application in order to overcome memory size limitations.

Improved and extended debug output in the log viewer for the log-level VERBOSE.

Improved functionality/usability of the QuickStep SCPI Commander

Improved and extended functionality/usability of the Visualization Block.

Block descriptions and details are shown for System-Configurator blocks

Support of Floating point numbers input with "." or "," as decimal separator in the Test Procedure Editor.

Support of Breakpoints in the execution phases Testrun_Before and Testrun_After within the QuickStep Debugger

Improved context sensitivity of the "Set Reference" dialogue .

Headers of trace files are now visible in the trace view of the Result Viewer

Improved and dynamic auto scaling within the Test Procedure Editor

Data visualization within the Results Viewer considers the data filter settings.

Improvement of drag-and-drop of groups within the Test Project Browser.

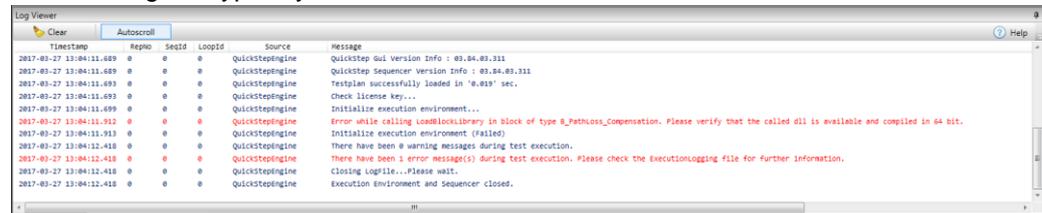
Several minor bug fixes and API extensions.

Known Issues

Id	Known-Issues
B1859	Temporarily deactivation of individual configuration of LogViewer and Debugger window visibility in each tab of the QuickStep GUI. The feature will be reactivated in future releases.
B1855	Report Block: Sub reports and Styles are dependent on the Windows localization (e.g. inch/cm conversion warnings). This may require adaptations of reporting Block Functions settings.
B1854	The list of VISA-Alias shown in the drop-down menu of VISA-type parameters might not be correct. Please press the "Update Test Project" button within the Test Plan Editor.
B1853	When clicking on the VISA button next to a VISA-parameter entry field, the VISA-GUI might show incorrect content. This content can be overwritten and does not affect the test.
B1851	Search Visa Instruments: The resource name for GPIB and USB instruments is shown in the list instead of the instrument name. Device discovery does not work for R&S NRP-Z power sensors.
B1790	Conditions: References to a Test Plan Parameter, which is modified in a single-line sweep, cannot be used in Conditions. Replace the single-line sweep with a Test Plan "Sweep Value" sweep which generates several test steps.
M411	The "Show Report Preview" sometimes does not show any content and the error message "Controls created on one thread cannot be parented to a control on a different thread." is shown. Currently no work around available.
M392	Forum scripts: commands with the structure "AnyString".write(), "AnyString".read() are interpreted as VISA commands and thus non-VISA commands in a script with this structure will not work. Remove these items from the automatically generated Instrument list in the QuickStep header of the Forum script.
M395	R&S Forum script startup and shutdown takes about 700 ms for each Block Function. Will be improved with a future R&S Forum release.
M396	The TPR Debugging option "Append OPC.." and "Split and append.." for SCPI commands shall not be used in conjunction with block functions that execute a binary data read out. This may lead to corrupt data or hang-ups.
M398	Import & Export of test procedures within the Test Procedure Editor is temporarily removed for this release.
M400	The provided Base Blocks within the Block Library of the Test Procedure Editor are verified with a limited set of documented R&S instrument types. Some functions may not work with other instrument types.
M403	When using extension blocks, the SCPI commands sent by the extension block might be listed under the name of the extended block in the execution protocol within the Results Viewer – or vice versa.

Update of existing User-Blocks to 64 bit

If user blocks are not suitable for the 64bit versions of QuickStep, error messages like the following are typically shown:



Complete the following steps to upgrade the user blocks:

- **Edit the project file of the User-Block:**
 - Open the project file (*.csproj or *.vcxproj) of the user block in a standard editor e.g. Notepad++
 - find the two PropertyGroups for the x86 configurations:

```

24 <PropertyGroup>
25 <QuickStepUserBlockLibraryPath>$(MSBuild::GetRegistryValueFromView('HKEY_LOCAL_MACHINE\Software\QuickStep\$(QuickStepVersion)', 'UserBlockLibraryRoot', null, RegistryViewKind.Binary))
26 </PropertyGroup>
27 <PropertyGroup Condition="'$(Configuration)|$(Platform)' == 'Debug|x86'">
28 <DebugSymbols>true</DebugSymbols>
29 <OutputPath>$(QuickStepUserBlockLibraryPath)\</OutputPath>
30 <DefineConstants>UNITTESTS;(UnitTestDisabled);DEBUG;TRACE</DefineConstants>
31 <DebugType>full</DebugType>
32 <PlatformTarget>x86</PlatformTarget>
33 <ErrorReport>prompt</ErrorReport>
34 <CodeAnalysisRuleSet>MinimumRecommendedRules.ruleset</CodeAnalysisRuleSet>
35 <Prefer32Bit>>false</Prefer32Bit>
36 </PropertyGroup>
37 <PropertyGroup Condition="'$(Configuration)|$(Platform)' == 'Release|x86'">
38 <OutputPath>$(QuickStepUserBlockLibraryPath)\</OutputPath>
39 <DefineConstants>UNITTESTS;(UnitTestDisabled);TRACE</DefineConstants>
40 <Optimize>>false</Optimize>
41 <DebugType>none</DebugType>
42 <PlatformTarget>x86</PlatformTarget>
43 <ErrorReport>prompt</ErrorReport>
44 <CodeAnalysisRuleSet>MinimumRecommendedRules.ruleset</CodeAnalysisRuleSet>
45 <Prefer32Bit>>false</Prefer32Bit>
46 </PropertyGroup>
47 </PropertyGroup>

```

- Copy&Paste these two properties groups and replace "x86" by "x64" (four occurrences):

```

24 <PropertyGroup>
25   <QuickStepUserBlockLibraryPath>$( [MSBuild]::GetRegistryValueFromView('HKEY_LOCAL_MACHINE\Software\Schwarz\QuickStep\$(QuickStepVersion)', 'UserBlockLibraryRoot', null, RegistryView.Registry32) )
26 </PropertyGroup>
27 <PropertyGroup Condition="'$(Configuration)|$(Platform)' == 'Debug|x86'">
28   <DebugSymbols>>true</DebugSymbols>
29   <OutputPath>$(QuickStepUserBlockLibraryPath)</OutputPath>
30   <DefineConstants>UNITTEST$(UnitTestDisabled);DEBUG;TRACE</DefineConstants>
31   <DebugType>full</DebugType>
32   <PlatformTarget>x86</PlatformTarget>
33   <ErrorReport>prompt</ErrorReport>
34   <CodeAnalysisRuleSet>MinimumRecommendedRules.ruleset</CodeAnalysisRuleSet>
35   <Prefer32Bit>>false</Prefer32Bit>
36 </PropertyGroup>
37 <PropertyGroup Condition="'$(Configuration)|$(Platform)' == 'Release|x86'">
38   <OutputPath>$(QuickStepUserBlockLibraryPath)</OutputPath>
39   <DefineConstants>UNITTEST$(UnitTestDisabled);TRACE</DefineConstants>
40   <Optimize>>false</Optimize>
41   <DebugType>none</DebugType>
42   <PlatformTarget>x86</PlatformTarget>
43   <ErrorReport>prompt</ErrorReport>
44   <CodeAnalysisRuleSet>MinimumRecommendedRules.ruleset</CodeAnalysisRuleSet>
45   <Prefer32Bit>>false</Prefer32Bit>
46 </PropertyGroup>
47 <PropertyGroup Condition="'$(Configuration)|$(Platform)' == 'Debug|x64'">
48   <DebugSymbols>>true</DebugSymbols>
49   <OutputPath>$(QuickStepUserBlockLibraryPath)</OutputPath>
50   <DefineConstants>UNITTEST$(UnitTestDisabled);DEBUG;TRACE</DefineConstants>
51   <DebugType>full</DebugType>
52   <PlatformTarget>x64</PlatformTarget>
53   <ErrorReport>prompt</ErrorReport>
54   <CodeAnalysisRuleSet>MinimumRecommendedRules.ruleset</CodeAnalysisRuleSet>
55   <Prefer32Bit>>false</Prefer32Bit>
56 </PropertyGroup>
57 <PropertyGroup Condition="'$(Configuration)|$(Platform)' == 'Release|x64'">
58   <OutputPath>$(QuickStepUserBlockLibraryPath)</OutputPath>
59   <DefineConstants>UNITTEST$(UnitTestDisabled);TRACE</DefineConstants>
60   <Optimize>>false</Optimize>
61   <DebugType>none</DebugType>
62   <PlatformTarget>x64</PlatformTarget>
63   <ErrorReport>prompt</ErrorReport>
64   <CodeAnalysisRuleSet>MinimumRecommendedRules.ruleset</CodeAnalysisRuleSet>
65   <Prefer32Bit>>false</Prefer32Bit>
66 </PropertyGroup>
67 </PropertyGroup>

```

- Remove the node `<Prefer32Bit>>false</Prefer32Bit>` from the 64bit PropertyGroups (2 occurrences):

```

47 <PropertyGroup Condition="'$(Configuration)|$(Platform)' == 'Debug|x64'">
48   <DebugSymbols>>true</DebugSymbols>
49   <OutputPath>$(QuickStepUserBlockLibraryPath)</OutputPath>
50   <DefineConstants>UNITTEST$(UnitTestDisabled);DEBUG;TRACE</DefineConstants>
51   <DebugType>full</DebugType>
52   <PlatformTarget>x64</PlatformTarget>
53   <ErrorReport>prompt</ErrorReport>
54   <CodeAnalysisRuleSet>MinimumRecommendedRules.ruleset</CodeAnalysisRuleSet>
55 </PropertyGroup>
56 <PropertyGroup Condition="'$(Configuration)|$(Platform)' == 'Release|x64'">
57   <OutputPath>$(QuickStepUserBlockLibraryPath)</OutputPath>
58   <DefineConstants>UNITTEST$(UnitTestDisabled);TRACE</DefineConstants>
59   <Optimize>>false</Optimize>
60   <DebugType>none</DebugType>
61   <PlatformTarget>x64</PlatformTarget>
62   <ErrorReport>prompt</ErrorReport>
63   <CodeAnalysisRuleSet>MinimumRecommendedRules.ruleset</CodeAnalysisRuleSet>
64 </PropertyGroup>
65 </PropertyGroup>

```

- save the project file

- Only for C++ blocks:

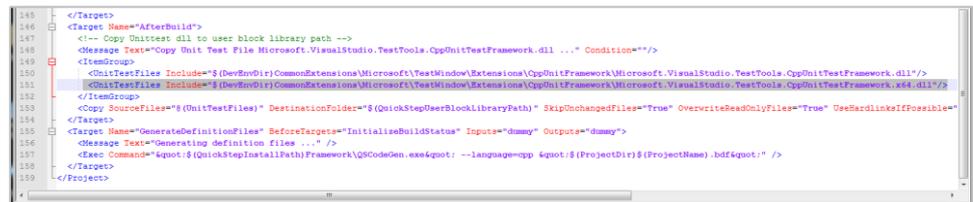
- Add the following line

```
<UnitTestFiles
```

```
Include="$ (DevEnvDir) CommonExtensions\Microsoft\TestWindow\Extensions\CppUnitFramework\Microsoft.VisualStudio.TestTools.CppUnitTestFramework.x64.dll"/>
```

at the end of the project file, directly below the already existing line:

```
<UnitTestFiles Include=" ... CppUnitTestFramework.dll"/>
```

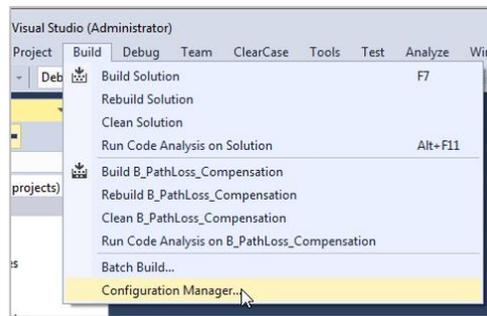


- save the project file

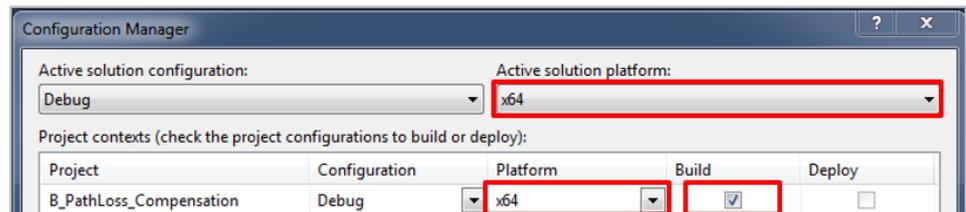
- [Adjust the 64bit Solution Platform for the User Block Project:](#)

- open the user block solution/project in Visual Studio

- open the Configuration Manager of Visual Studio

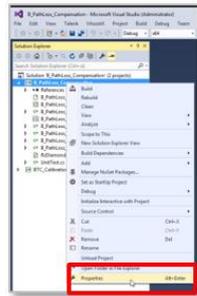


- Choose x64 as active solution platform and change the Platform to x64; also check the Build check-mark

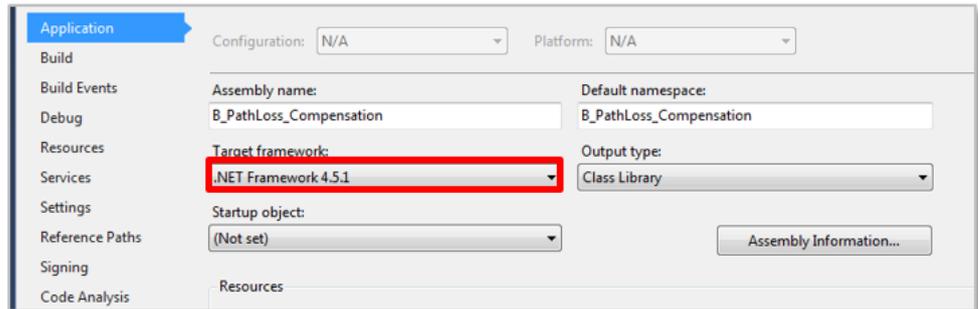


- [Adjust the .NET Framework version](#)

- Open the project properties via the right click menu in Visual Studio

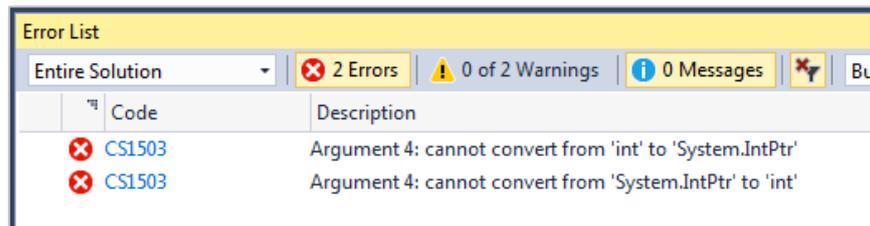


- in the Application tab select .NET Framework 4.5.1



Build the project

- 2 errors are typically displayed



- double click on the first error to go to the specific code

- replace the “int” declaration for the callbackInterface by “IntPtr”

```
public B_PathLoss_Compensation(string Id, string BlockName, RS_Common.eLogLevel LogLevel, int callbackInterface)
    : base(Id, BlockName, LogLevel, callbackInterface)
{
    Worker = null;
}
```

Modify to:

```
public B_PathLoss_Compensation(string Id, string BlockName, RS_Common.eLogLevel LogLevel, IntPtr callbackInterface)
    : base(Id, BlockName, LogLevel, callbackInterface)
{
    Worker = null;
}
```

- build the project; one error should remain

- double click on the error to go to the specific code

- replace the “Int32” declaration for the callbackinterface by “IntPtr”

```
public void CreateBlock(String BlockId, String BlockName, Int32 LogLevel, IntPtr callbackInterface)
{
    // Create Block member
    Block = new B_PathLoss_Compensation(BlockId, BlockName, (RS_Common.eLogLevel)LogLevel, callbackInterface);
}
```

Modify to:

```
public void CreateBlock(String BlockId, String BlockName, Int32 LogLevel, IntPtr callbackInterface)
{
    // Create Block member
    Block = new B_PathLoss_Compensation(BlockId, BlockName, (RS_Common.eLogLevel)LogLevel, callbackInterface);
}
```

- Make sure the block build without errors (clean and rebuild recommended)

In case the API function AbortExecution() was used in user blocks, please replace it with the API function BlockException(). See Developer-Training, chapter 3.9 "Error Handling"

If user block require additional third party dlls, make sure that also these dlls are adjusted to the 64bit environment accordingly.

1.22 Version 03.71 beta

Remark: New functionality and improvements already available in version 3.70 beta are not listed again under this version. Please see the following chapter.

Firmware package contents

Contents
RSQuickStepSetup_03.71.msi
RSQuickStep_03.71_Prerequisites.zip

New Functionality

Functions
n.a.

Modified Functionality

Functions
Path of the SCPI Commander command library has changed. Instrument CHM files need to be added again.

Improvements

Improvements
Results created in the execution phase DUT-Loop-After are now also written into the corresponding result log file.
The SCPI Commander is now also usable also with low-res screens/beamers. The search function now finds all commands containing the search string. Instrument command libraries can be removed by user.
The Reporting Block function support sub-reports. Tables allow user defined row width. The provided styles were renamed in order to avoid conflicts with user defined styles. A documentation and examples are available on the QuickStep homepage: http://blog.rsint.net/quickstep/portfolio-item/examples/

Known Issues

Id	Known-Issues
M411	The "Show Report Preview" sometimes does not show any content and the error message "Controls created on one thread cannot be parented to a control on a different thread." is shown.
B1650	A decision symbol is available in the test procedure editor, but it is not supported yet by the QuickStep framework
M407	Set Reference dialog: The drop-down menu for the Block Function Instance Name does show all possible block functions. Please correct the created reference string manually if required.
M391	User Block DLLs created with older QuickStep versions might cause an SEH exception of QuickStep when tests are executed. Please remove old Block DLLs from the folder Users\Public\Documents\Rohde-Schwarz\QuickStep\UserBlocks\BlockLibrary and rebuild the Blocks with QuickStep 3.60.
M392	Forum scripts: commands with the structure "AnyString".write(), "AnyString".read() are interpreted as VISA commands and thus non-VISA commands in a script with this structure will not work. Remove these items from the automatically generated Instrument list in the QuickStep header of the script.
M340	Arguments for Forum/python scripts must not be empty, otherwise the script cannot be executed. Parameters of the type char[] must not contain semicolons.
M394	Sometimes open a Forum/python script in Forum with the "Open in Forum" button has a unexpected long load time. "File not found" errors might occur which can be ignored.

Id	Known-Issues
M395	Forum support is in beta state. Script startup and shutdown times will be significantly improved in future releases.
M396	The Debugging option for SCPI commands which append an *OPC, cannot be used in conjunction with block functions that execute a binary data read out.
M397	Creating circular dependencies between BlockFunctions in the Test Procedure Editor leads to a lock-up situation and the procedure execution will be stopped. Press "Kill" to abort the execution and remove circular dependencies in the procedure.
M398	Import & Export of test procedures within the Test Procedure Editor is temporarily removed for this release.
M328	Copy&Paste and delete does not work in all views if multiple items are selected.
M400	The provided Base Blocks within the Block Library of the Test Procedure Editor are verified with a limited set of documented instrument types. Some functions may not work with other instrument types
M403	When using extension blocks, the SCPI commands sent by the extension block might be listed under the name of the extended block in the execution protocol – or vice versa

1.23 Version 03.70 beta

Firmware package contents

Contents
RSQuickStepSetup_03.70.msi
RSQuickStep_03.70_Prerequisites.zip

New Functionality

Functions
First version of the new "R&S SCPI Commander" tool available in the test procedure editor. This tool supports finding the correct SCPI commands for R&S instruments.
First version of the new RS_Visualization block for dynamically displaying data and traces during test execution.
First version of the new graphical debugger is now available: <ul style="list-style-type: none"> • Set breakpoints at block functions in the test procedure • Preview of the parameter values for the next block function to execute • Modifying of parameter values for block functions during debug • Timing analyzer for the block function execution times
First version of the new RS_Report block is available to dynamically define the report generation as part of the test procedure. A preview of report elements during test execution is possible.
Import and Export functionality added in the "File" menu to easily share complete projects and the related blocks via zip-file.
B_RS_UtilityBase Block: added block function to display a pop-up window with user definable picture; GethPathLoss() block function added
For each test step a Description field is available now to store step specific comments
Newly generated "Instrument Blocks with VISA" now also contain auto-coded block functions SCPI Write/Read/Query and WriteTillDone. Also the code to call VISAClose() is automatically generated in the Catch() block-functions.
A Set-Reference context menu is now available in the GUI to support the entry of any type of references in parameter fields.

Modified Functionality

Functions
Training and User manuals updated
Reworked the possibilities to use references. Please see training manual.
Test procedure editor: the main procedure is now graphically split in a "Main Procedure Before" and a "Main Procedure After" section in the Test Procedure Browser. Functionality did not change.
VISA completion codes > 0 are now returned with the original value (not forced to 0 anymore). Make sure to check the VISA status with an expression STATUS >= VI_SUCCESS and not with an expression STATUS == VI_SUCCESS especially when using SOCKET connections (VI_SUCCESS_TERM_CHAR).
LogViewer: LogLevel SYSTEM added for system messages; only LogLevel ALWAYS should be used for user blocks in the future;
TestPlan Editor: Disabled test-steps are greyed out as well as parameters of disabled block-functions; the values can still be edited
Result File Browser: the result files and folders are now sorted in the identical way all the time
TPR-Options: The "Enable Check-Block" option is set to false by default now for new projects
The "SendLogConsole()" functions are also available in a version supporting std::strings for newly created blocks.
Result Viewer histogram: if "-" is selected, the histogram of the values in the selected column is shown
The "Predifined" check-box is set to true by default now for all parameters in the Test Procedure Editor.

Functions

When pressing the Abort button, the execution phases DUT_after, Procedure_after and Testrun_after are now executed before shutting down the test.

The initialization of the Worker files was moved from the Init() block function to the constructor of the block. Therefore calling the Init() function is not a prerequisite to use the Workers anymore.

Improvements

Improvements

PowerSensor BaseBlock: The type of the parameter "VISA resource" was changed; now the usual features for using VISA aliases are available for this parameter as well

Training Manuals: fixed a bug which corrupted the line-feed of the text when copy and paste was used to transfer code from the manual to Visual Studio

Result Viewer Diagram for Traces: combo-box to select y-axis is visible again

Result Viewer Diagram: coloring of points and legend now does match even for big amounts of data

Result Viewer Diagram for Traces: Units are shown again in the diagram

Testplan Editor: empty test groups do not lead to an abort of the execution anymore

Testplan Editor, Test Project Parameters: the minimum size of the ID column was increased, so it is always visible

Forum scripting: having a scripting block in the test procedure without using it (no or only deactivated scripting block functions) does not lead to a test abortion anymore

B_RS_PowerSensorBase Block: Support for NRPM3 sensor added; FETCH? and TRAC:DATA? block-function improvements; FetchWithPathloss() block-function added/corrected; block function to set Aperture time now supports values < 10msec;

Block Development Tool: bug-fixes in the initialization of array-parameters

Test Procedure Editor: fixed a bug, where the block-functions were positioned outside of the visible window area

Project directory: The folders "MipiFiles", "ETTables" and "DPDTables" are not generated automatically anymore for each new project

The "CHECK" button is available directly in the VISA drop-down menu of each parameter of the type VISA-resource

Log Viewer: the sorting of the log messages according to their creation time has been significantly improved; the execution log is 100% sorted according to the creation time of the messages;

Shortcuts are available now for "Save Test Project" and "Save Test Project As"

Fixed a bug causing crashes when undocking the result viewer and unpinning the diagram

Fixed a bug causing failures when a Device-Parameter name is identical to the block-function name.

Newly created VISA aliases are available now in the VISA drop-down menus without prior click on "Update Test Project" in the Testplan Editor.

References of disabled block functions are now fully ignored.

Several minor bug fixes

Known Issues

Id	Known-Issues
B1650	A decision symbol is available in the test procedure editor, but it is not supported yet by the QuickStep framework
M407	Set Reference dialog: The drop-down menu for the Block Function Instance Name does show all possible block functions. Please correct the created reference string manually if required.
M391	User Block DLLs created with older QuickStep versions might cause an SEH exception of QuickStep when tests are executed. Please remove old Block DLLs from the folder Users\Public\Documents\Rohde-Schwarz\QuickStep\UserBlocks\BlockLibrary and rebuild the Blocks with QuickStep 3.60.
M392	Forum scripts: commands with the structure "AnyString".write(), "AnyString".read() are interpreted as VISA commands and thus non-VISA commands in a script with this structure

Id	Known-Issues
	will not work. Remove these items from the automatically generated Instrument list in the QuickStep header of the script.
M340	Arguments for Forum/python scripts must not be empty, otherwise the script cannot be executed. Parameters of the type char[] must not contain semicolons.
M394	Sometimes open a Forum/python script in Forum with the "Open in Forum" button has a unexpected long load time. "File not found" errors might occur which can be ignored.
M395	Forum support is in beta state. Script startup and shutdown times will be significantly improved in future released.
M396	The Debugging option for SCPI commands which append an *OPC, cannot be used in conjunction with block functions that execute a binary data read out.
M397	Creating circular dependencies between BlockFunctions in the Test Procedure Editor leads to a lock-up situation and the procedure execution will be stopped. Press "Kill" to abort the execution and remove circular dependencies in the procedure.
M398	Import & Export of test procedures within the Test Procedure Editor is temporarily removed for this release.
M328	Copy&Paste and delete does not work in all views if multiple items are selected.
M400	The provided Base Blocks within the Block Library of the Test Procedure Editor are verified with a limited set of documented instrument types. Some functions may not work with other instrument types
M403	When using extension blocks, the SCPI commands sent by the extension block might be listed under the name of the extended block in the execution protocol – or vice versa

1.24 Version 03.50 Release

Important note!

An update of the license server is required for this QuickStep version (compared to QuickStep version 3.20). Make sure to have the RsLicenseServer version 1.5.6 installed or run the update from the prerequisites package.

For migration of user blocks which were created with version previous to 3.20, please refer to the migration steps described in the release notes for version 3.20.

Forum script BlockFunctions which were used in TestProcedures created with are highlighted in red after migration from 3.42 to a higher version. Please re-select the script.

Firmware package contents

Contents

RSQuickStepSetup_03.50.msi
RSQuickStep_03.50_Prerequisites.zip

New Functionality

Functions

For parameters of the type "VISA resource" a drop down menu is offered additionally which shows all configured VISA instruments. An appropriate reference will be added on selection. Alternatively the VISA resource can be configured by a configuration dialog directly associated with the parameter field.

Modified Functionality

Functions

The Forum script block now uses the parameter type "VISA resource" instead of strings.

Improvements

Improvements

Forum Scripting:

- Calling of Forum/python scripts has not worked if there were escape sequences within the path to the script. This issue is solved.
- Duplicated parameter names in Forum scripts are now highlighted in the "Edit Script Parameter" dialog
- New Forum script dialog recognizes existing scripts within the new script dialog
- File deployment for Forum script start improved. Various improvements of the Forum Script Editor
- New Forum scripts are now saved with the *.i3e ending
- Script block with two scripts with the same name but different endings (py/i3e) does not error out anymore

A change of the SystemConfiguration within the TestPlan Editor actualizes the TestPlan table

All executables are now signed

The installer checks the license server version

The version license server 1.5.6 is added to the prerequisites

The width of the parameter text fields now adjusts with the window size.

Known Issues

Known-Issues

User Block DLLs created with pre 3.40 QuickStep version might cause an SEH exception of QuickStep when tests are executed. Please remove old Block DLLs from the folder Users\Public\Documents\Rohde-Schwarz\QuickStep\UserBlocks\BlockLibrary and rebuild the Blocks with QuickStep 3.50.

Forum scripts: commands with the structure "AnyString".write(), "AnyString".read() are interpreted as VISA commands and thus non-VISA commands in a script with this structure will not work. Remove these items from the automatically generated Instrument list in the QuickStep header of the script.

Arguments for Forum/python scripts must not be empty, otherwise the script cannot be executed. Parameters of the type char[] must not contain semicolons.

Sometimes open a Forum/python script in Forum with the "Open in Forum" button has a unexpected long load time. "File not found" errors might occur which can be ignored.

Forum support is in beta state. Script startup and shutdown times will be significantly improved in future released.

The Debugging option for SCPI commands which append an *OPC, cannot be used in conjunction with block functions that execute a binary data read out.

An update of the trace-diagram view takes several seconds for very long traces. Viewing the trace files directly in the standard-diagram view can be used as workaround.

Result Viewer diagrams: When disabling the drawing of lines, empty diagrams are displayed if more than 2500 data-points are selected. Enable the drawing of lines in the right-click menu of the diagram to view the data.

Result Viewer diagrams: the diagram update can become slow if the data is grouped by a parameter, which creates a very long legend (lots of data groups)

Creating circular dependencies between BlockFunctions in the Test Procedure Editor leads to a lock-up situation and the procedure execution will be stopped. Press "Kill" to abort the execution and remove circular dependencies in the procedure.

Import & Export of test procedures within the Test Procedure Editor is temporarily removed for this release.

Copy&Paste and delete does not work in all views if multiple items are selected.

The provided Base Blocks within the Block Library of the Test Procedure Editor are verified with a limited set of documented instrument types. Some functions may not work with other instrument types

1.25 Version 03.40 beta

Important note!

An update of the license server is required for this QuickStep version. Make sure to have the RsLicenseServer version 1.5.6 installed or run the update from the prerequisites package.

For migration of user blocks which were created with version previous to 3.20, please refer to the migration steps described in the release notes for version 3.20.

Firmware package contents

Contents
RSQuickStepSetup_03.40.msi
RSQuickStep_03.40_Prerequisites.zip

New Functionality

Functions
QuickStep allows to configure block functions which execute R&S Forum (Python style) scripts directly in the Test Procedure Editor. Block Development is not required for this scripting functions. Please see the training manual and examples for further information.
QuickStep copies several files to the Forum installation folder when QuickStep is started the first time. This might invoke a Windows User Access Control dialog. Please confirm the access.
Also make sure that no FORUM and Python processes are active during this initial QuickStep usage.
Alias names for VISA instruments can be specified in the System Configurator. These VISA resources can be referenced as \$V.Aliasname.

Modified Functionality

Functions
Column "Type" removed from the Log Viewer window and added in the Execution Protocol (replacing the "Source" column).
All examples using traces were optimized with respect to execution speed for saving traces (e.g. ET-DPD example, saving AMAM and AMPM clouds). Binary transfer format is supported.
New "Instruments Blocks with VISA" are generated with only one VISA resource parameter in the Init block function (VISA API field is removed). VISA resource strings can entered manually (including the API extension) or can be referenced via \$V.Aliasname to the Alias list in the System Configurator.
In a future release the entry of VISA resources will be further improved by drop-down menus.

Improvements

Improvements
Known-issues related to the License Server were fixed.
Bug-fixes in some Block Functions of the B_RS_PowerSensorBase block when used with the NRPZ type sensors.
Bug-fixes in some Block Functions of the B_RS_PowerGeneratorBase block.

Known Issues

Known-Issues
Forum support is in beta state. Script startup and shutdown times will be significantly improved in future released.
VisaSaveErrroQueue() and VisaGetSavedErrors() does not work in C# blocks.

Known-Issues

The Debugging option for SCPI commands which append an *OPC, cannot be used in conjunction with block functions that execute a binary data read out.

An update of the trace-diagram view takes several seconds for very long traces. Viewing the trace files directly in the standard-diagram view can be used as workaround.

Result Viewer diagrams: When disabling the drawing of lines, empty diagrams are displayed if more than 2500 data-points are selected. Enable the drawing of lines in the right-click menu of the diagram to view the data.

Result Viewer diagrams: the diagram update can become slow if the data is grouped by a parameter, which creates a very long legend (lots of data groups)

Creating circular dependencies between BlockFunctions in the Test Procedure Editor leads to a lock-up situation and the procedure execution will be stopped. Press "Kill" to abort the execution and remove circular dependencies in the procedure.

Blocks newly created with the Block Development Tool are not automatically detected within a running QuickStep GUI. Use the "Reload BlockLibrary" button to explicitly update the library in the system configurator.

Changes of existing Blocks with the Block Development Tool sets the exclamation mark in the UPDATE button within the Test Plan Editor. The "UPDATE" button within the Test Plan Editor updates the Block Library of the System Configurator, the "Reload Block Library" updates the Block Library within the Test Procedure Editor.

After GUI restart, new and updated Blocks are detected automatically.

Import & Export of test procedures within the Test Procedure Editor is temporarily removed for this release.

Copy&Paste and delete does not work in all views if multiple items are selected.

The provided Base Blocks within the Block Library of the Test Procedure Editor are verified with a limited set of documented instrument types. Some functions may not work with other instrument types

The usability of the Parameter Mapping will be optimized within the next release of QuickStep.

1.26 Version 03.20 beta

Important note!

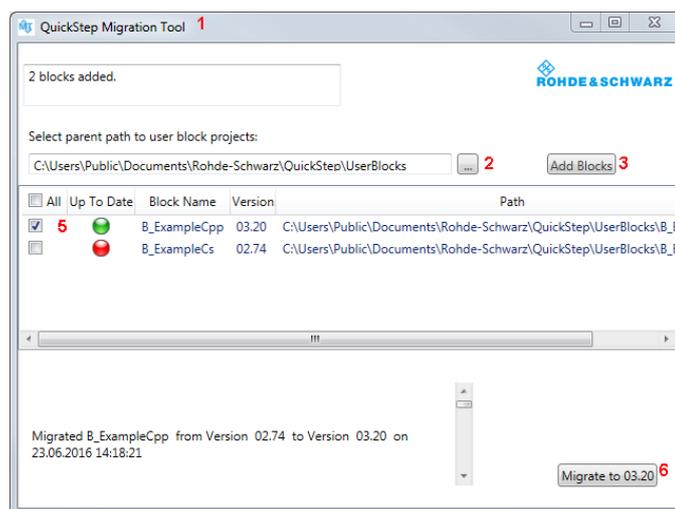
During realization of the new and improved functionality for R&S QuickStep it was necessary to extend the R&S QuickStep internal interfaces for the interaction with user blocks. This affords the adaptation of self-created user blocks which have been created prior to version 03.20. The necessary adaptations do not affect any user code but only the generated parts of a user block.

To assist the developer of user blocks a QuickStepMigrationTool is provided which automatically migrates blocks from a previous version of R&S QuickStep to version 03.20. During the migration process a zip file for each migrated block is created which contains the original files of the user block for a potential recovery. After successful migration, including the newly build of a block, these files may be deleted.

Additionally, a detailed logfile (Migration.log) will be written to each block directory which contains detailed migration information.

In order to migrate existing user blocks perform following steps:

- After installation of R&S QuickStep start the QuickStepMigrationTool (e.g. by selecting in the start menu).
- Select the folder in which the user blocks are stored (only necessary if user blocks are not in the default location).
- Click button 'Add blocks' to add blocks to list.
- Repeat step 2 and 3 if there are user blocks in different directories.
- Select the blocks which shall be migrated.
- Click 'Migrate to 03.20'.
- After migration, build the migrated blocks within Visual Studio again.



Firmware package contents

Contents

RSQuickStepSetup_03.20.msi
RSQuickStep_03.20_Prerequisites.zip

New Functionality

Functions

Support for Visual Studio 2010 (C++ only)
Support for static arrays of binary, integer, boolean and double as block-function parameter type in the Block Development Tool.
System Configurator: auto-detect of parameter types (e.g. enumerators) of mapped parameters
The Block Development Tool can be started via a button directly from the Test Procedure Editor ("C++/C# Block Development").
Result diagrams: the drawing of lines between data points can be switched off using the right-click menu of the diagram.
Parameters of the type "RF-path" now additionally allow to directly enter a double-value for the path-loss, not only a path name.
A DUT counter is shown in the progress bar during continuous test execution.
Added VisaReadUntilBufferEmpty() and VisaStdReadUntilBufferEmpty() as wrapper functions to read bigger data sets from an instrument.
\$MAP parameters, which are not assigned to a specific symbol in the system configuration, are shown as general properties of the system in the System Configurator
Support for the new Block-type "System Configurator Block with Pathloss" in the Block Development Tool; this allows to create System Configurator Blocks optionally with or without the standard path-loss parameter set.
The Block Development Tool offers a check-box to determine, if the symbol of a block should be visible in the system configurator or not.
Basic block for RTO-Oscilloscope

Modified Functionality

Functions

The keywords for references changed from \$MAP, \$PRC, \$RES, \$TPR to \$M, \$P, \$R, \$T. Obsolete keywords are still supported for compatibility reasons.
The latest results folder is now shown on top of the list in the Result File Browser.
ET-DPD application example: AM-first / PM-first selectable by testplan parameter; K18 capture bandwidth selectable by testplan parameter; support for LTE 1.4/3/15MHz; EUTRA-ACLR2 measurement
Optimized result viewer for traces: traces can be viewed by clicking on a trace result (trace diagram view) or by opening the trace file directly (normal diagram view)
The selection of the active system was moved to the main menu bar of the Testplan Editor (away from the Mapping Table Editor)
Test Procedure Editor: Block Functions are listed in alphabetical order in the library now
Only execution phases, where at least one block-function is placed in the procedure editor, are shown in the Test Project Browser

Improvements

Improvements

Minor bug fixes
System-Configurator: Symbols can be used independently of the blocks in the Blocks&Connectivity tab
Updated Training- and User-Manual
Extended support for references. See Training/User manual

Known Issues

Known-Issues

An update of the trace-diagram view takes several seconds for very long traces. Viewing the trace files directly in the standard-diagram view can be used as workaround.

Result Viewer diagrams: When disabling the drawing of lines, empty diagrams are displayed if more than 2500 data-points are selected. Enable the drawing of lines in the right-click menu of the diagram to view the data.

Result Viewer diagrams: the diagram update can become slow if the data is grouped by a parameter, which creates a very long legend (lots of data groups)

License server: The license check may fail if no network is attached to the computer running the license server - even if the dongle has been attached. Make sure the interface is activated by any network connection via LAN or WLAN. No "real" connection e.g. to the internet is required.

License server: The R&S License Service Monitor has a black symbol if the service is not running. This might lead to an invisible icon if the tray background color is dark/black.

License server: The R&S License Service might not detect the License Dongle immediately when it is removed and plugged in again. Click on the License Service icon in the toolbar (under hidden icons) and select "Restart" in the context menu to force the detection of the License Dongle.

Creating circular dependencies between BlockFunctions in the Test Procedure Editor leads to a lock-up situation and the procedure execution will be stopped. Press "Kill" to abort the execution and remove circular dependencies in the procedure.

Blocks newly created with the Block Development Tool are not automatically detected within a running QuickStep GUI. Use the "Reload BlockLibrary" button to explicitly update the library in the system configurator.

Changes of existing Blocks with the Block Development Tool sets the exclamation mark in the UPDATE button within the Test Plan Editor. The "UPDATE" button within the Test Plan Editor updates the Block Library of the System Configurator, the "Reload Block Library" updates the Block Library within the Test Procedure Editor.

After GUI restart, new and updated Blocks are detected automatically.

A new project always contains the additional directories "Gen Files" (with "DPD Tables" and "ET Tables") and "MIPI Files". Both directories might not be required and can be deleted.

Import & Export of test procedures within the Test Procedure Editor is temporarily removed for this release.

Copy&Paste and delete does not work in all views if multiple items are selected.

The provided Base Blocks within the Block Library of the Test Procedure Editor are verified with a limited set of documented instrument types. Some functions may not work with other instrument types

The usability of the Parameter Mapping will be optimized within the next release of QuickStep.

1.27 Version 03.00 Release

Firmware package contents

Contents
RSQuickStepSetup_03.00.msi
RSQuickStep_03.00_Prerequisites.zip

New Functionality

Functions
New execution phases: DUT_Before and DUT_After
Support of the result type "trace". Traces are (multidimensional) arrays like gain over frequency, SnP files or AMAM data. A basic result viewer for traces added.
The order of the Parameters and Block Functions can now be modified in the Block Development Tool using up/down buttons.
A "catch()" block-function is automatically created for all blocks which is called by the sequencer during an unexpected system shutdown.
Brief Description and Details are shown in the Properties area of each BlockFunction in the Test Procedure Editor. Brief is also provided as Tooltip in the Test Procedure Editor. The equivalent functionality is also available for blocks. All fields are defined and maintained in the Block Development Tool.
Set of Blocks with basic functionality for Power Supplies, Power Meters, VSGs, VSAs, VNAs for creation of simple test procedures.

Modified Functionality

Functions
Revised execution phase model especially for the use case with multiple procedures in one test plan (DUT loop, global Testrun Before&After, global Blocks&Connectivity).
Revised Test Project Browser structure to reflect revised phases and access to all test plan parameters and test project parameters.
Revised block to parameter mapping functionality for usage of System Configurator for system specific parameters.
Result file folders: testplan-name is included in the folder-name, subfolders for each DUT is added.

Improvements

Improvements
SCPI debug functionality (logging to execution log, automatically appending *OPC? And/or SYST:ERR?) is now controlled by a own test project option "SCPI Commands" under the Debugging options and thus decoupled from the log level selection.
Minor bug fixes
Reduced starting time of test sequencer – especially for large test plans.

Known Issues

Known-Issues
License server: The license check may fail if no network is attached to the computer running the license server - even if the dongle has been attached. Make sure the interface is activated by any network connection via LAN or WLAN. No "real" connection e.g. to the internet is required.
License server: The R&S License Service Monitor has a black symbol if the service is not running. This might lead to an invisible icon if the tray background color is dark/black.
License server: The R&S License Service might not detect the License Dongle immediately when it is removed and plugged in again. Click on the License Service icon in the toolbar (under hidden icons) and select "Restart" in the context menu to force the detection of the License Dongle.

Known-Issues

User Blocks created with QuickStep 2.60 need an adjustment in the Visual Studio project file to compile successfully.

In the *.vcxproj file of each block find the following line (at the very end of the file):

```
<Exec Command="&quot;$(QuickStepInstallPath)Framework\XMLDefGen2.exe&quot;  
&quot;$(ProjectDir)$(ProjectName).bdf&quot;" />
```

and replace it with:

```
<Exec Command="&quot;$(QuickStepInstallPath)Framework\QSCCodeGen.exe&quot; --  
language=cpp &quot;$(ProjectDir)$(ProjectName).bdf&quot;" />
```

For C# Blocks no adjustment is needed.

Creating circular dependencies between BlockFunctions in the Test Procedure Editor leads to a lock-up situation and the procedure execution will be stopped. Press "Kill" to abort the execution and remove circular dependencies in the procedure.

Blocks newly created with the Block Development Tool are not automatically detected by a within a running QuickStep GUI.

Changes of existing Blocks with the Block Development Tool sets the exclamation mark in the UPDATE button within the Test Plan Editor.

The "UPDATE" button within the Test Plan Editor updates the Block Library of the System Configurator, the "Reload Block Library" updates the Block Library within the Test Procedure Editor.

On GUI restart new and updated Blocks are detected.

Due to the asynchronous nature of the log messages, the order of messages shown in the Log Viewer can differ from the real execution order. Refer to the Execution Protocol in the results folder to see all messages in the correct order.

A new project always contains the additional directories "Gen Files" (with "DPD Tables" and "ET Tables") and "MIPI Files". Both directories might not be required and can be deleted.

Import & Export of test procedures within the Test Procedure Editor is temporarily removed for this release.

Copy&Paste and delete does not work in all views if multiple items are selected.

The provided Base Blocks within the Block Library of the Test Procedure Editor are verified with a limited set of documented instrument types. Some functions may not work with other instrument types

The usability of the Parameter Mapping will be optimized within the next release of QuickStep.

In future releases new Blocks will not automatically generate new symbols within the device library of the System Configurator. Symbols will be created in an independent step. To avoid effort for adaption of test plans please use the devices which are provided with QuickStep for diagrams within the System Configurator.

1.28 Version 02.80 beta

Firmware package contents

Contents
RSQuickStepSetup_02.80.msi
RSQuickStep_02.80_Prerequisites.zip

New Functionality

Functions
Support of different Visual Studio versions in the Block Development Tool: 2010 (limited: no Unit-Test Framework, C++ only), 2012, 2013, 2015
Single-Line sweeps: Possibility to define nested loops within one line in the testplan by using a start/stop/step/priority syntax per parameter. Right-click in the test plan line and select "Single-Line Sweep" in the context menu. A new column "Loop-Id" is provided in the result files to allow an unambiguous assignment of results to test steps.
Utility Block included for standard functionality (sending/receiving VISA messages, delay, message boxes)

Modified Functionality

Functions
The API functions VisaStdOperationComplete(), VisaStdOperationCompleteFinite(), VisaOperationComplete() and VisaOperationCompleteFinite() were removed. The functionality is included in the new API functions VisaStdWriteAndWaitTillDone() and VisaWriteAndWaitTillDone().
Modified logic for the assignment of TestStepNo, TestStepId and Loop-ID in the result files to support single-line sweeps.
The CheckBlock() BlockFunction is called for each block, even if the Init() function of the corresponding block is not part of any test procedure.

Improvements

Improvements
Uninstall under Windows 10 now works in "Programs and Features" as expected.
Minor bug fixes.

Known Issues

Known-Issues
The license check may fail if no network is attached to the computer running the license server - even if the dongle has been attached. Make sure the interface is activated by any connection via LAN or WLAN. No "real" connection e.g. to the internet is required.
User Blocks created with QuickStep 2.60 need an adjustment in the Visual Studio project file to compile successfully. In the *.vcxproj file of each block find the following line (at the very end of the file): <code><Exec Command="&quot;\$(QuickStepInstallPath)Framework\XMLDefGen2.exe&quot; &quot;\$(ProjectDir)\$(ProjectName).bdf&quot;" /></code> and replace it with: <code><Exec Command="&quot;\$(QuickStepInstallPath)Framework\QSCodeGen.exe&quot; --language=cpp &quot;\$(ProjectDir)\$(ProjectName).bdf&quot;" /></code>
For C# Blocks no adjustment is needed.
For C# blocks the error messages are not as specific as for C++ blocks yet. Most errors state "SEH exception in block BlockName" only.

Known-Issues

The R&S License Service Monitor has a black symbol if the service is not running. This might lead to an invisible icon if the tray background color is dark/black.

The R&S License Service might not detect the License Dongle immediately when it is removed or plugged in. Click on the License Service icon in the toolbar (under hidden icons) and select "Restart" in the context menu to force the detection of the License Dongle.

Startup of the Block Development Tool might be slow (~ 5 sec) due to delayed License Recognition.

Creating circular dependencies between BlockFunctions in the Test Procedure Editor leads to a lock-up situation and the procedure execution will be stopped. Press "Kill" to abort the execution and remove circular dependencies in the procedure.

If the log-level is set to DEBUG_PRINT, all SCPI commands are sent separately and a "SYST:ERR?" check is added automatically after each command. If several SCPI commands are sent in one line separated by a semicolon only, the long form of the SCPI commands has to be used e.g.

```
SendSCPI (Command1; :Commandtree2:Command2)
```

In DEBUG_PRINT the Command1 and Command2 are sent in separated commands and thus the full form of the Command2 is needed in this log-level.

Blocks newly created with the Block Development Tool are not automatically detected by a running QuickStep GUI. On GUI restart new blocks are detected. Modifications of existing Blocks are automatically detected also while the GUI is running and the exclamation mark is set in the UPDATE button within the Test Plan Editor.

The "UPDATE" button within the Test Plan Editor or the "Reload Block Library" button can be pressed in order to force the update of the Block-library.

Due to the asynchronous nature of the log messages, the order of messages shown in the Log Viewer can differ from the real execution order. Refer to the Execution Protocol in the results folder to see all messages in the correct order.

1.29 Version 02.71 beta

This beta version fixes a problem with the C# support in version 02.70 beta. Please execute the following steps to resolve issues with already existing C# blocks:

- Update to Version 02.71 beta
- Remove the files `Common_cs.dll` and `BlockWrapperCs.dll` from the user block directory
`... \Public \Documents \Rohde-Schwarz \QuickStep \UserBlocks \BlockLibrary`
- Rebuild your C# user blocks

Firmware package contents

Contents

RSQuickStepSetup_02.71.msi
RSQuickStep_02.71_Prerequisites.zip

New Functionality

Functions

n.a.

Modified Functionality

Functions

n.a.

Improvements

Improvements

Fixed Bug which prevented C# blocks to execute in the QuickStep GUI:
--

Known Issues

Known-Issues

User Blocks created with QuickStep 2.60 need an adjustment in the Visual Studio project file to compile successfully.

In the *.vcxproj file of each block find the following line (at the very end of the file):

```
<Exec Command="&quot;$(QuickStepInstallPath)Framework\XMLDefGen2.exe&quot;
&quot;$(ProjectDir)$(ProjectName).bdf&quot;" />
```

and replace it with:

```
<Exec Command="&quot;$(QuickStepInstallPath)Framework\QSCodeGen.exe&quot; --
language=cpp &quot;$(ProjectDir)$(ProjectName).bdf&quot;" />
```

For C# Blocks no adjustment is needed.

For C# blocks the error messages are not as specific as for C++ blocks yet. Most errors state "SEH exception in block BlockName" only.

The R&S License Service Monitor has a black symbol if the service is not running. This might lead to an invisible icon if the tray background color is dark/black.

The R&S License Service might not detect the License Dongle immediately when it is removed or plugged in. Click on the License Service icon in the toolbar (under hidden icons) and select "Restart" in the context menu to force the detection of the License Dongle.

Startup of the Block Development Tool might be slow (~ 5 sec) due to delayed License Recognition.

Known-Issues

The license check may fail if no network is attached to the computer running the license server even if the dongle has been attached.

Creating circular dependencies between BlockFunctions in the Test Procedure Editor leads to a lock-up situation and the procedure execution will be stopped. Press "Kill" to abort the execution and remove circular dependencies in the procedure.

If the log-level is set to DEBUG_PRINT, all SCPI commands are sent separately and a "SYST:ERR?" check is added automatically after each command. If several SCPI commands are sent in one line separated by a semicolon only, the long form of the SCPI commands has to be used e.g. `SendSCPI (Command1; :Commandtree2:Command2)`

In DEBUG_PRINT the Command1 and Command2 are sent in separated commands and thus the full form of the Command2 is needed in this log-level.

Blocks newly created with the Block Development Tool are not automatically detected by a running QuickStep GUI. On GUI restart new blocks are detected. Modifications of existing Blocks are automatically detected also while the GUI is running and the exclamation mark is set in the UPDATE button within the Test Plan Editor.

The "UPDATE" button within the Test Plan Editor or the "Reload Block Library" button can be pressed in order to force the update of the Block-library.

Due to the asynchronous nature of the log messages, the order of messages shown in the Log Viewer can differ from the real execution order. Refer to the Execution Protocol in the results folder to see all messages in the correct order.

Under Windows 10 the uninstall function in "Programs and Features" fails. Start the QuickStep installer again and select "uninstall".

It is mandatory to use MS Visual Studio 2012. A migration of the generated Visual Studio project to other Visual Studio versions is not supported. Support for other Visual Studio version will be added in the next release.

1.30 Version 02.70 beta

Firmware package contents

Contents
RSQuickStepSetup_02.70.msi
RSQuickStep_02.70_Prerequisites.zip

New Functionality

Functions
Full support of C-Sharp Blocks and C-Sharp Block Development
Diagram, Histogram and other windows can be un-docked from GUI window
"Reload BlockLibrary" button in the Test Procedure Editor
The VISA code for Init(), PrintIdentity() and Close() can be automatically created for Instrument Blocks in the Block Development Tool (choose "Instrument Block with VISA" as block type).

Modified Functionality

Functions
The "PortID" parameter was removed from all BlockFunction calls: old: ReplyInitTypePtr B_DeviceRSAnalyzer::Init(std::string PortId, InitTypePtr &Data) new: ReplyInitTypePtr B_DeviceRSAnalyzer::Init(InitTypePtr &Data)
Existing user blocks have to be adjusted
Advance notice: The execution phases "Repetition Before" and "Repetition After" will be replaced in the next release by "DUT Before" and "DUT After"
Execution log: Timestamps replace by more accurate total and delta timing information.

Improvements

Improvements
Tested with R&S-VISA
Improved accuracy of the timing information in the execution log
If multiple instrument blocks are using the same physical device, i.e. VISA connection, the number of blocks connected is tracked. Only the call of the Close() function from the LAST connected block will really close the VISA connection.
The CheckBlock() functionality can be used also in blocks which extend other blocks (and thus share the same VISA connection).
Minor bug fixes
New training for development of VISA instrument blocks
Update of the provided examples, VISA example added
Brief and detailed description for all provided blocks added
Documentation of QuickStep API functions extended

Known Issues

Known-Issues
User Blocks created with QuickStep 2.60 need an adjustment in the Visual Studio project file to compile successfully. In the *.vcxproj file of each block find the following line (at the very end of the file): <Exec Command="&quot;\$(QuickStepInstallPath)Framework\XMLDefGen2.exe&quot; &quot;\$(ProjectDir)\$(ProjectName).bdf&quot;," /> and replace it with:

Known-Issues

`<Exec Command=""$(QuickStepInstallPath)Framework\QSCodeGen.exe" -- language=cpp "$(ProjectDir)$(ProjectName).bdf"" />`

For C# Blocks no adjustment is needed.

For C# blocks the error messages are not as specific as for C++ blocks yet. Most errors state "SEH exception in block BlockName" only.

The R&S License Service Monitor has a black symbol if the service is not running. This might lead to an invisible icon if the tray background color is dark/black.

The R&S License Service might not detect the License Dongle immediately when it is removed or plugged in. Click on the License Service icon in the toolbar (under hidden icons) and select "Restart" in the context menu to force the detection of the License Dongle.

Startup of the Block Development Tool might be slow (~ 5 sec) due to delayed License Recognition.

The license check may fail if no network is attached to the computer running the license server even if the dongle has been attached.

Creating circular dependencies between BlockFunctions in the Test Procedure Editor leads to a lock-up situation and the procedure execution will be stopped. Press "Kill" to abort the execution and remove circular dependencies in the procedure.

If the log-level is set to DEBUG_PRINT, all SCPI commands are sent separately and a "SYST:ERR?" check is added automatically after each command. If several SCPI commands are sent in one line separated by a semicolon only, the long form of the SCPI commands has to be used e.g.

```
SendSCPI (Command1 ; :Commandtree2 :Command2)
```

In DEBUG_PRINT the Command1 and Command2 are sent in separated commands and thus the full form of the Command2 is needed in this log-level.

Blocks newly created with the Block Development Tool are not automatically detected by a running QuickStep GUI. On GUI restart new blocks are detected. Modifications of existing Blocks are automatically detected also while the GUI is running and the exclamation mark is set in the UPDATE button within the Test Plan Editor.

The "UPDATE" button within the Test Plan Editor or the "Reload Block Library" button can be pressed in order to force the update of the Block-library.

Due to the asynchronous nature of the log messages, the order of messages shown in the Log Viewer can differ from the real execution order. Refer to the Execution Protocol in the results folder to see all messages in the correct order.

Under Windows 10 the uninstall function in "Programs and Features" fails. Start the QuickStep installer again and select "uninstall".

It is mandatory to use MS Visual Studio 2012. A migration of the generated Visual Studio project to other Visual Studio versions is not supported. Support for other Visual Studio version will be added in the next release.

1.31 Version 02.60 Release

Firmware package contents

Contents
RSQuickStepSetup_02.60.msi
RSQuickStep_02.60_Prerequisites.zip

New Functionality

Functions
n.a.

Modified Functionality

Functions
n.a.

Improvements

Improvements
Minor bug fixes
Correction of typing errors

Known Issues

Known-Issues
The R&S License Service Monitor has a black symbol if the service is not running. This might lead to an invisible icon if the tray background color is dark/black.
The R&S License Service might not detect the License Dongle immediately when it is removed or plugged in. Click on the License Service icon in the toolbar (under hidden icons) and select "Restart" in the context menu to force the detection of the License Dongle.
Startup of the Block Development Tool might be slow (~ 5 sec) due to delayed License Recognition.
The license check may fail if no network is attached to the computer running the license server even if the dongle has been attached.
Creating circular dependencies between BlockFunctions in the Test Procedure Editor leads to a lock-up situation and the procedure execution will be stopped. Press "Kill" to abort the execution and remove circular dependencies in the procedure.
If the log-level is set to DEBUG_PRINT, all SCPI commands are sent separately and a "SYST:ERR?" check is added automatically after each command. If several SCPI commands are sent in one line separated by a semicolon only, the long form of the SCPI commands has to be used e.g. SendSCPI (Command1; :Commandtree2:Command2)
In DEBUG_PRINT the Command1 and Command2 are sent in separated commands and thus the full form of the Command2 is needed in this log-level.
New created Blocks with the Block Development Tool are not automatically detected. Modifications of existing Blocks are automatically detected and the exclamation mark is set in the UPDATE button within the Test Plan Editor.
The "UPDATE" button within the Test Plan Editor need to be pressed in both cases in order to force the update of the Block-library of the Test Procedure Editor before the Block Functions might be used.
Due to the asynchronous nature of the log messages, the order of messages shown in the Log Viewer can differ from the real execution order. Refer to the Execution Protocol in the results folder to see all messages in the correct order.
Under Windows 10 the uninstall function in "Programs and Features" fails. Start the QuickStep installer again and select "uninstall".
It is mandatory to use MS Visual Studio 2012. A migration of the generated Visual Studio project to other Visual Studio versions is not supported.

Known-Issues

If instrument-blocks delivered by R&S are extended by user instrument-blocks (sharing the same VISA connection), the CheckBlock() function of the extending block should not be used. Otherwise communication errors might occur during the CheckBlock execution phase.

If multiple instrument blocks are using the same physical device, i.e. VISA connection, the first call of the Close() function will close the VISA connection. I.e. the other instrument blocks using this device have no access to the VISA device any more. Force a certain execution order or do not use SCPI commands in the Close() function to avoid this.

After installation a reboot is requested in order to ensure the correct setting of the system PATH environment variable in any case.

1.32 Version 02.50 Release

Firmware package contents

Contents
RSQuickStepSetup_02.50.msi
RSQuickStep_02.50_Prerequisites.zip

New Functionality

Functions
Initial version of R&S QuickStep

Modified Functionality

Functions
Initial version of R&S QuickStep

Improvements

Improvements
Initial version of R&S QuickStep

Known Issues

Known-Issues
The R&S License Service Monitor has a black symbol if the service is not running. This might lead to an invisible icon if the background color is dark/black.
The R&S License Service might not detect the License Dongle immediately when it is removed or plugged in. Click on the License Service icon in the toolbar (under hidden icons) and select "Restart" in the context menu to force the detection of the License Dongle.
Startup of the Block Development Tool might be slow (~ 5 sec) due to delayed License Recognition.
Creating circular dependencies between BlockFunctions in the Test Procedure Editor leads to a lock-up situation and the procedure execution will be stopped. Press "Kill" to abort the execution and remove circular dependencies in the procedure.
When the log-level is set to DEBUG_PRINT, all SCPI commands are sent separately and a "SYST:ERR?" check is added automatically after each command. If several SCPI commands are sent in one line separated by a semicolon only, the long form of the SCPI commands has to be used e.g. SendSCPI (Command1; :Commandtree2:Command2)
In DEBUG_PRINT the Command1 and Command2 are sent in separated commands and thus the full form of the Command2 is needed in this log-level.
Quickstep detects all available blocks when the GUI is opened. Modifications of existing Blocks are automatically detected and the exclamation mark is set in the UPDATE buttons. To force the update of the Block-library, e.g. when completely new Blocks are created, use the UPDATE button.
Due to the asynchronous nature of the log messages, the order of messages shown in the Log Viewer can differ from the real execution order. Refer to the Execution Protocol in the results folder to see all messages in the correct order.
Under Windows 10 "uninstall" in Programs and Features is not usable. Use the start-menu or start the installer again and select "uninstall".
When instrument-blocks delivered by R&S are extended by user instrument-blocks (sharing the same VISA connection), the CheckBlock() function of the extending block should not be used. Otherwise communication errors might occur during the CheckBlock execution phase.
It is mandatory to use MS Visual Studio 2012. A migration of the generated Visual Studio project to other Visual Studio versions is not supported.

2 Modifications to the Documentation

The QuickStep "UserManual" and the QuickStep Training Manuals, the online help and the "QuickStep_GettingStarted" document were extended and updated.

Manuals for the standalone positioner driver and for the OTA test application are available.

3 Firmware Update

The provided examples and block functions are verified with the following instrument firmware versions:

Device	Firmware Version
R&S® FPS	1.50
R&S® SGT	3.20.347.24
R&S® FSW	4.21
R&S® SMW	4.60.092.24

3.1 Validity Information

If necessary, list here the material and model numbers the firmware is referring to

Device	Order Number
n.a.	n.a.

3.2 Update Information

Please see chapter 1, "Information on the Current Version and History" for version specific information.

3.3 Updating the Firmware

It is recommended to uninstall previous versions of QuickStep before installing a new version.

Existing user blocks should be built after upgrading QuickStep to update the DLLs.

Although the user directories are not deleted during uninstall, backing up the data before the update is best practice.

4 Customer Support

Technical support – where and when you need it

For quick, expert help with any Rohde & Schwarz equipment, contact one of our Customer Support Centers. A team of highly qualified engineers provides telephone support and will work with you to find a solution to your query on any aspect of the operation, programming or applications of Rohde & Schwarz equipment.

Up-to-date information and upgrades

To keep your instrument up-to-date and to be informed about new application notes related to your instrument, please send an e-mail to the Customer Support Center stating your instrument and your wish. We will take care that you will get the right information.

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