Firmware/Software Release Note

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MiCOM S1 AGILE RELEASE: 3.2.1

Software Version 3.2.1 - June 2025

Overview

MiCOM S1 Agile 3.2.1 is a new release of the Tool Suite used for all current GE Grid Solutions MiCOM P40 Agile products and other legacy MiCOM protection IED products.

We strongly recommend installing the latest version as soon as possible, as it will include the latest cybersecurity updates as well as function and product updates.

Previous versions settings files are likely to be compatible, but system files from S1 Agile versions 2.1.4 or older will not support the new MiCOM P40 Agile 5th generation relays. A new system will need to be created, to support the new relays in S1 Agile 3.2.1.

New Features

The following enhancements have been added to MiCOM S1 Agile 3.2.1:

- **Communications updates for MiCOM P40 Agile 4th generation 91 software:**

  1. **Support for MiCOM P40 Agile 4th generation new Ethernet boards (U/W/Y):**
     The IED Configurator supports media selection and redundancy configuration for the new Ethernet boards (Hardware order options U/W/Y) available in the latest 91 software versions.

     - A CORTEC change is required for the new Ethernet board options U/W/Y to replace the older R/S/T Ethernet board options. See the CORTEC/order options to check which MiCOM P40 models with 91 software support the new U/W/Y Ethernet boards.

     - Software 9x requires a new minor software release to support the new Ethernet board options U/W/Y. The same minor software release will support both U/W/Y and R/S/T order options (same minor release, two software binaries). Customers ordering 9x software without an Ethernet board option, can use the existing minor 9x software version.

     - S1 Agile supports Settings and PSL conversion between minor software versions of 91 supporting only R/S/T Ethernet boards and later minor software versions of 91 software with support for the old R/S/T plus the new U/W/Y Ethernet boards.

Fixes

- **IED Configurator:** Corrected issue with IED Configurator V3.10 which reports an error for GoCB with an empty dataset after changing the System with a LDName in the IEC 61850 Ed2.0 Model.

- **IED Configurator:** Corrected issue where the latest ICD template is now picked by S1 Agile when an MCL file is created, opened or closed.

- **IED Configurator:** Corrected mismatch of GOOSE Control Block GoCB between IEDC and online model after changing the GoCB name and then "Clear the publisher".

- **IED Configurator:** SPS and DPS in the datatype is shown as SPS/SPC and DPS/DPC. When subscribing to DPC or SPC, after the subscription the datatype in the subscribed parameter is shown as SPC/SPS or DPC/DPS accordingly.

- **IED Configurator:** Supports mustUnderstand property to safely ignore an element which is not understood.

- **IED Configurator:** No longer allows more than one GoCB with the same name.

- **IED Configurator:** When the RCB and GoCB names are updated, the tree view and summary view of the GOOSE publishing and Report Control Blocks now shows the updated names.

- **IED Configurator:** GOOSE Control Block Clear Configuration now correctly clears the configuration.

- **IED Configurator:** Clear Publisher in GOOSE Control Block gcb01 now correctly resets the Multicast MAC Address and Application ID.

- **IED Configurator:** For forbidden special characters in the Report Control Block or GOOSE Control Block names, there is a warning message and the RCB/GoCB name will now be reverted to the previous value. Valid characters are 'A-Z', 'a-z', '0-9' and '_'.

- **IED Configurator:** When selecting the schema version for IEC 61850 Edition 2 and IEC 61850 Edition 2.1 templates, the 2007B schema version corresponding to Edition 2 is now shown first, and the 2007B4 schema for Edition 2.1 is shown second.

- **IED Configurator:** When opening an MCL file the user now only has to select the schema template once to open.

- **IED Configurator:** Corrected GOOSE subscription checks for IEC 61850 Edition 1.

How to Install

Installation requirements:

1. **Operating System:** Verified on Microsoft Windows 10 Professional/Enterprise 64 bits and Windows 11 Enterprise 64 bits.

2. **Pre-Installation:** It is mandatory to uninstall existing "ALSTOM" MiCOM S1 Agile, version 1.3.1 or older, and make sure the files are totally removed from the Installation Folder (...\Alstom Grid\Micom S1 Agile), if any. It is recommended that newer versions are also uninstalled using Windows program uninstall feature before installing this version.

   The SHA-256 checksum for the installer in .exe format is:

   4ef1adde3705852debf4f76604a77f8b16074537c3eb9bbf5afa0b54411b828d

Please calculate the SHA-256 of the installer received by running the Windows command line as an administrator, navigating to the location of the file using the command cd "directory" (for example cd C:\Temp if the installer is downloaded to the C:\Temp folder), then run the following command:

certutil -hashfile "MiCOM S1 Agile 3.2.1 Installer.exe" SHA256

Where MiCOM S1 Agile 3.2.1 Installer.exe is the name of the exe file received.

3. **Post Installation:** Manual restart is necessary to complete the installation. Please install "nmap-7.92-setup.exe" or latest version available from https://nmap.org/download.html#windows to support the Redundant Ethernet Configurator.

This installation:

1. Is to be downloaded to your hard disk for later installation by running the .exe file.

2. Will prompt the user to uninstall previous versions of S1 Agile manually. This is applicable only for S1 Agile v1.3.1 or older.

3. Provides the most convenient means of upgrading from the legacy S1 Studio Tool Suite.

4. Retains all existing MiCOM S1 Studio and older MiCOM S1 Agile systems, or projects. Those systems can't add the latest firmware versions of MiCOM P40 Agile 5th generation relays but are otherwise compatible.

5. Has two modes:

   - Custom Mode: Installs the features and transfers all installed MiCOM S1 Studio and MiCOM S1 Agile data models with the custom installation to the new GE Vernova folder structure (unless the user selects to remove these when prompted during the uninstallation of the previous S1 Agile).

   - Express Mode: Installs all the features with default configuration and retains data models in the ALSTOM folder structure, if S1 Agile v1.3.1 or older version is previously installed. The installation programme can be run again after the express installation to modify data models which will enable a user to transfer existing data models to the new GE Vernova folder structure.

6. Does not require any conversion of existing files.

7. Can be run multiple times.

8. Installation needs to be run by a user with administrator privileges, the tool needs to be run by a user with full administrator privileges.

9. The installation will create files in two main folders, the installation folder which is by default C:\Program Files (x86)\GE\MiCOM S1 Agile and can only be changed in Custom Mode and the database files which are hard coded into C:\ProgramData\GE\MiCOM S1 Agile. If the installation is done in a Virtual Machine the VM will need access to that folder in the main machine or have a virtual equivalent to it.

10. The installation requires an Internet connection if the PC does not have an updated version of Microsoft .Net Framework 3.5 and 4.0. This can't be packaged with S1 Agile. To obtain the files for a PC not allowed connection to the Internet you will need to download the required files from a PC allowed on the Internet and transfer them across, as stated below:

    ➢ On the PC without Internet connection, type About in the Windows search bar and launch the window.

    ➢ Identify the Windows version, for example, Windows 10 Enterprise version 22H2.

    ➢ On the PC with Internet connection, download the official image for the version from the Microsoft site.

➤ From this point you have two options:

A. Using just the cab file that contains .Net Framework (cab file is smaller than full image).

  1. Extract the image using an unzip tool into a temporary folder (for example c:\Temp_Extracted).

  2. Obtain microsoft-windows-netfx3-ondemand-package.cab file from location in "c:\Temp_Extracted\sources\sxs".

  3. Transfer the cab file to the PC without internet connection into a temporary folder (for example "c:\Temp_Folder").

  4. Open a command line as administrator by typing CMD in the Windows search bar, right click and select Run as administrator.

  5. Issue the following command: "DISM/Online/Enable-Feature/FeatureName:NetFx3/ All/LimitAccess/Source:c:\Temp_Folder".

B. Using the full Windows Image.

  1. Transfer and mount windows image on the PC without Internet connection as d:\

  2. Open a command line as administrator by typing CMD in the Windows search bar, right click and select Run as administrator.

  3. Issue the following command: "DISM/Online/Enable-Feature/FeatureName:NetFx3/ All/LimitAccess/Source:d:\sources\sxs".

This should complete the .Net Framework installation. Now the S1 Agile installer should work fully offline.

- **Registering S1 Agile or any applications contained within it to Windows networks:**

In order to perform these operations, the user needs to have admin rights and the ability to manipulate the Windows firewall records.

1. **For Windows XP:**

Click Start, go to All programs -> Accessories -> Command Prompt and right click on it. Select the option Run As… and pick a user with Administrator rights.

Add a rule to allow S1 Agile to Windows networks:

Issue the command:

netsh firewall add allowedprogram mode=ENABLE profile=ALL name=[exception name] program=[program path]

Where exception name is the name used to record the exception in the firewall and program path is the path where Agile.exe is installed, which by default is C:\Program Files\GE\MiCOM S1 Agile\Agile

This procedure can be repeated for any required tools like IED configurator which by default resides in C:\Program Files\GE\MiCOM S1 Agile\IED Configurator or PSL Editor that resides in C:\Program Files\GE\MiCOM S1 Agile\Courier\PSL, etc.

If the user wants to remove S1 Agile from Windows networks:

Issue the command:

netsh firewall delete allowedprogram profile=ALL program=[program path]

Where program path is the path where the application is installed.

2. **For Windows 7 and newer versions:**

In the Windows search bar, type cmd to find the command prompt application.

Before opening it, right click on the Command prompt application and run as administrator.

Add a rule to allow S1 Agile to Windows networks:

Issue the command:

netsh advfirewall firewall add rule action=allow profile=any protocol=any enable=yes direction=in name=[exception name1] program=[program path]

netsh advfirewall firewall add rule action=allow profile=any protocol=any enable=yes direction=out name=[exception name2] program=[program path]

Where exception name1 is the name used to record the inbound exception in the firewall, exception name2 is the name used to record the outbound exception in the firewall and program path is the path where Agile.exe is installed, which by default is C:\Program Files (x86)\GE\MiCOM S1 Agile\Agile

This procedure can be repeated for any required tools like IED configurator which by default resides in C:\Program Files (x86)\GE\MiCOM S1 Agile\IED Configurator or PSL Editor that resides in C:\Program Files (x86)\GE\MiCOM S1 Agile\Courier\PSL, etc.

If the user wants to remove S1 Agile from Windows networks:

Issue the command:

netsh advfirewall firewall delete rule profile=any name=[exception name]

Where exception name is the rule to be removed.

If any of the following standalone tools are on the target computer, it is recommended that they are uninstalled first to avoid potential software conflicts:

- MiCOM ALSTOM Selector
- MiCOM P746 Remote HMI
- MiCOM Topology - Dynamic Synoptic
- P740 File Merger
- User Programmable Curve Tool

It is recommended that the name of Off Page Connectors in PSL files created in versions prior to S1 Agile 3.0 are changed to 16 characters or less before upgrading.

Other Notes

- The commands for Extract all configurations and Extract all records have issues in this release. These issues are planned to be fixed in the next maintenance release. Each file can be extracted individually.

- S&R Modbus no longer works in this version. The Px20 range is no longer supported by GE Vernova, it will be removed in future versions.

- Menu Text files for 5th generation relays need to be created by adding the file to the system using the add existing file option, instead of creating a new file.

Once the browse window opens, locate the matching file in the Program data location where data models are stored.

C:\ProgramData\GE\MiCOM S1 Agile\DataModels\Courier\Menu\Defaults

Then choose the model and then choose the correct file. The format is:

First, you will find the model of the relay

Second, you will find _____

Third, you will find the major software version

Fourth, you will find _

Fifth, you will find a letter that represents the hardware version

Sixth, the language reference

Finally, the starting minor version

For Example:

If the data model for P446 is downloaded here are some options available:

P446_____AB_QUKA.LAN

P446_____AB_QUKB.LAN

P446_____AB_QUKC.LAN

All three files refer to P446, on firmware AB, hardware Q and UK English language.

The first one is for AB_A, the second for AB_B and the last one for AB_C or any newer version after C.

The New file option in the S1 main window does not work correctly. This issue is planned to be fixed in the next maintenance release.

Windows Compatibility:

- MiCOM S1 Agile 3.2.1 is compatible with and verified on Windows 10 Professional and Enterprise and 11 Enterprise (64 bit versions).

- To ensure that S1 Agile displays correctly using Windows 10/11 it is recommended that a "smaller" (100%) DPI screen size and high resolution is used. This setting can be found in the Control Panel under Appearance and Personalization>Display.

- For correct operation, S1 Agile 3.2.1 requires that the Microsoft .NET Framework 3.5 and 4.0 are both installed and enabled on the target machine.

- If S1 Agile is planned to be used on a Virtual Machine environment it is recommended to set the Ethernet interface of the Virtual Machine as Bridged, otherwise communications to the relays via Ethernet may fail.

- If S1 Agile is planned to be used on a Virtual Machine environment it is recommended to allow full access to the C:\Program data folder.

Computer Security Settings:

- MiCOM S1 Agile uses UDP port 111 for Ethernet communication to devices using Portmap service. For the application to connect via Ethernet correctly this port must not be blocked. The connection between S1 and the relays use dynamically allocated ports typically in the range of 1002-1007 for UDP and 49152–65535 for TCP.

  To ensure correct operation, the following security settings are recommended:

- Firewall file exceptions for inbound connections:

  [Program Files]\GE\MiCOM S1 Agile\Agile\Agile.exe
  [Program Files]\GE\MiCOM S1 Agile\Phasor Terminal\Phasor.exe
  [Program Files]\GE\MiCOM S1 Agile\User Programmable Curve Tool\UPCT.exe

For Further Assistance

For questions or further product support, please contact the GE Vernova support team using:

Region	E-mail	Telephone
Global Contact Centre	GA.support@gevernova.com	+44 1785 250070
Central, East Asia, Pacific	GA.supportCEAP@gevernova.com	+65 6749 0777
India	GA.supportIND@gevernova.com	N/A
Middle East, North Africa, Turkey	GA.supportMENAT@gevernova.com	+971 4 375 6950
Europe, Russia, CIS, Sub-Saharan Africa	GA.supportERCIS@gevernova.com	+34 94 4858854
North America	GA.supportNAM@gevernova.com	+1-877-605-6777 (Global toll-free) +1-800-547-8629 (NAM toll-free) +1-678-844-6777 (Direct)
Latin America	GA.supportLAM@gevernova.com	+55 48 2108 0300