ABB

Integrated Engineering Tool

IET600 Version 5.3 Feature Pack 5

IET600 Version 5.3 FP5
Release Note

Dear Reader,
We are pleased to announce the release of IET600 Version 5.3 FP5.

IET600 is allowing system engineers and integrators to define and configure the complete substation automation system according to IEC 61850 in-turn ensures data consistency throughout the substations' lifecycle.

IET600 - Introduction
Integrated Engineering Tool IET600 provides a simple, flexible and consistent approach to substation automation system engineering. It enables engineers to design and configure the system-wide IEC 61850 communication dataflow between IEDs by featuring powerful graphical interfaces to design the substation topology and the physical communication infrastructure. The complete system is documented in an IEC 61850 standard-compliant and reusable SCD file, allowing an efficient and consistent multi-vendor system integration.

IET600's combination of powerful engineering editors and built-in IEC 61850 intelligence allows engineers to easily and effectively integrate protection and control IEDs into a multi-vendor SA system. IET600 performs consistency checks, which reduces the amount of errors not only during the initial system engineering, but also subsequently during the integration, testing and commissioning phase.

Combined with the configuration of alarm and event signals for ABB's MicroSCADA Pro platform, IET600 ensures data consistency throughout the lifecycle of the substation automation system. The intuitive user interface allows engineers to effectively navigate through large amounts of data, to find exactly what they need.

Ordering and delivery information
The IET600 can be ordered from Substation Automation Products, Västerås, Sweden.
The delivery includes a case with the software, manual and installation guide on CD and the USB hardware license key.

IET600 Version5.3 FP5 requires a USB hardware license key to function during start-up and runtime of the tool.

For users of PCM600 Engineering Pro Version 2.4 or IET600 5.2 an upgrade license to IET600 Version 5.3 is available. For more information please contact ABB Substation Automation Products, Västerås, Sweden (sa-t.sales@se.abb.com).

Life cycle statement
IET600 Version 5.3 FP5 is a standalone product and replaces all former versions.
Bug-fix and feature pack releases of IET600 Version 5.3 are available via internet download with the built-in "check for updates" function – they run with the same license key.

IET600 automatically migrates engineered projects and data created with earlier versions of IET600, to the latest version and therefore ensures full backwards compatibility.

Documentation
Following documentation can be found on the product CD
• 1MRK500115-UEN IET600 installation guide
• 1MRK500114-UEN IET600 user manual
• 1MRK500116-GEN IET600 Release Note

Technical requirements on environment

The minimum hardware requirements are:
- 300 MB of free hard disk space
- Dual-core processor
- 3 GB RAM
- 2.5 GB page file size

The recommended hardware requirements for medium to big projects are:
- 300 MB of free hard disk space
- 64 bit operating system
- Quad-core processor
- ≥8 GB RAM
- SSD recommended for system drive

The following operating systems are supported:
- Windows 7 (64- and 32-bit)
- Windows 8.1 (64- and 32-bit)
- Windows 10
- Windows Server 2008 R2 SP1 (64-bit)
- Windows Server 2012 R2 (64-bit)
- Windows Server 2016 (64-bit)

IET600 works best when using 100% text size in the Windows Operating System Display settings.

Installation

IET600 needs some additional software components (these are contained in the IET Prerequisites package) delivered on the CD:
- Windows Installer 4.5
- NET Framework 4.7.1
- SQL Server 2014 Express SP2

The IET600 Prerequisites must be installed once before the first time the installation of IET600. The installation of IET600 Version 5.3 gets started by running the installation program ("ABB IET600 Setup.exe"). For more details please read the IET600 installation guide.

Kind regards
Michael Obrist
Global Product Manager, Grid Automation Products

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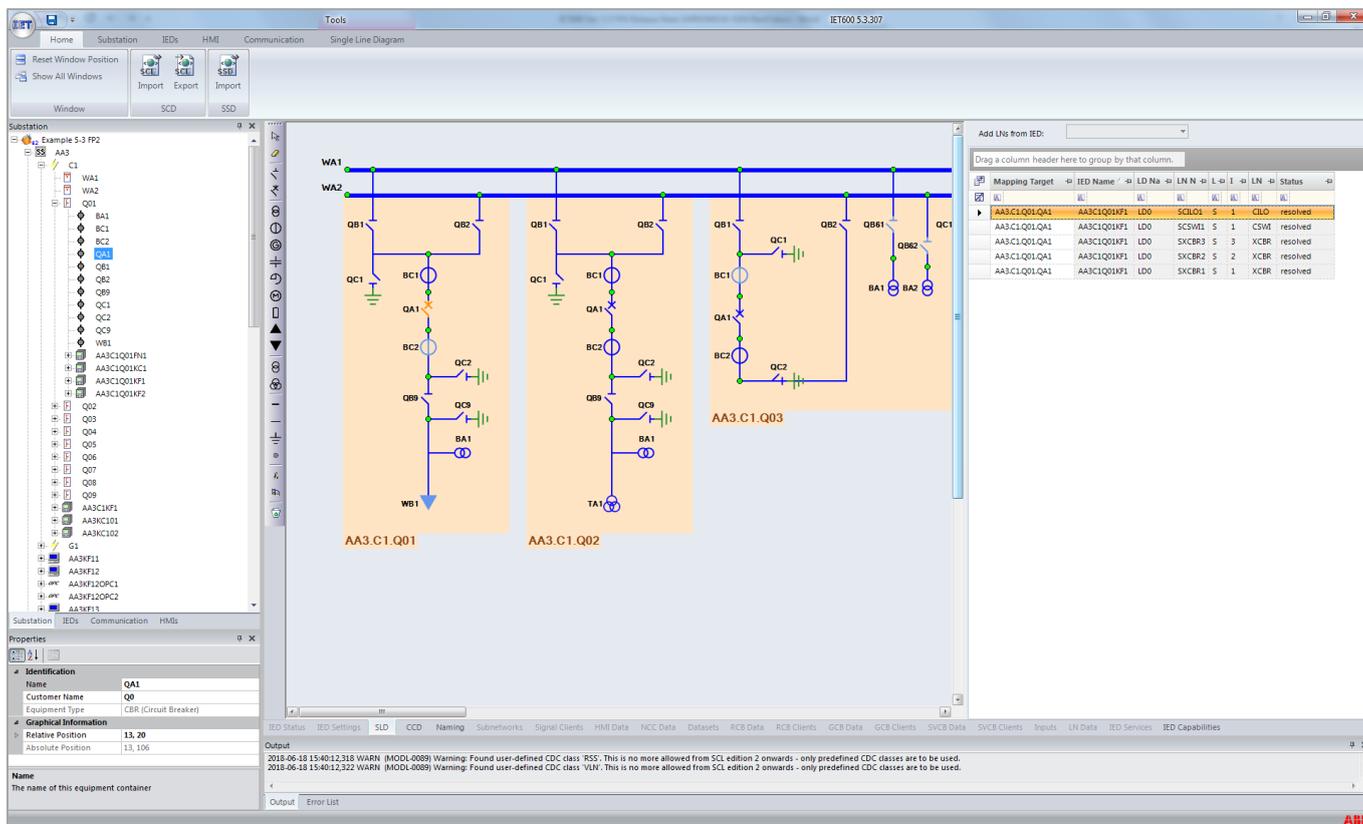
All releases and included changes since IET600 Version 5.3 (September 2013)

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Bug-fix release IET600 Version 5.3.505.2 (October 2019)

General
The DataSet content is no longer lost after IED update
Exporting customer signal list does not crash IET
Improved robustness for SSD file import into IET600 (some SSD files caused the single line diagram to crash)
The HMI rule variable dialog can be closed without update
HMI data consistency check is improved
Added new IED Capability for Sampled Values Client

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Bug-fix release IET600 Version 5.3.505.1 (September 2019)

General
After IED update, the relation between existing Datasets and Control blocks is no longer lost
After updating a Goose client IED with an icd/cid file, a client access point does not disappear from the GCB Client Editor
Added an option to remove Control Block permanently (not just recycle)
HMI Text Rule Variable Editor shows a Warning message if changes have not been applied.
Added information in IET output window for adding/removing HSB HMI
Added warning when exporting Status Texts with a custom file name
OPC model was not updated if a subnetwork is removed from the connected access point
No warning about DX attribute for SNMP signals while consistency check
MappedTo value is no longer modified after IN Rule update
Wrong warning about empty DR directory is removed

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Feature pack release IET600 Version 5.3 FP5 (5.3.505, July 2019)
This release replaces the former IET600 5.3.x versions.

New and enhanced features
Creation of new HMI signals from imported Signal List
Improved the IEC61850 excel signal list to show dataflow configuration
Compare MicroSCADA configuration files against IET project (HMI signals)

General fixes and improvements
Record comments on project changes
Allow to remove the revision history on project
Allow changing OPC SCL model and don't update it automatically
Show the AP inside the RCB Data editor, if RCB is connected to a client
Analyze the SCL files before import/export and provide user with a choice how to proceed
Update Time Server settings to support selection of multiple Protocols
Add option to display/filter only possible GCB Clients
Add configurable variables like LN Rule, OI Rule, etc.
Provide check for duplicated MAC addresses on GCBs
Provide dummy attribute for extra information which will be included inside the Signal List
Grid column width is stored for all editors

Bug fix for a null reference exception when copy/paste of bay

Bug fix for SNMP signals with different protocol type in the Signal List

Performance improvements in IED Status Tab (specifically when big projects are loaded)

IEC 61850 related fixes and improvements

Support for multiple LPHDs within one LD

MicroSCADA SYS600 related fixes and improvements

Bug fix with reverting Status Text (Customer)

Add MicroSCADA attributes to Signal Client editor column chooser

OA & OB addresses are calculated also for database points with SS=3

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Feature pack release IET600 Version 5.3 FP4 (5.3.406, June 2018)
This release replaces the former IET600 5.3.x versions.

New and enhanced features

A new Analyzer for User guidance to resolve engineering issues

An RTU560 device can be configured to include the IED Role

Customer Signal Texts can contain Rules to calculate the resulting text

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General fixes and improvements

Corrected various small bugs

Performance improvements

IEC 61850 related fixes and improvements

Correct a bug causing increment of the Control Block "confRev" for unchanged Datasets after an update of IED SCL model

Corrected various small bugs

MicroSCADA SYS600 related fixes and improvements

Correctd a bug inside the Copy procedure of NCC configuration (Signal Clients and NCC Data editors) for Group signals

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Bug-fix release IET600 Version5.3.307.4 (January 2018)

General

Update of the Gemalto HASP driver to version 7.60 due to cyber security vulnerabilities found in previous versions.

Corrected a bug in the ABB SNMP OPC Servers and Clients initialization.

Extended ABB SNMP OPC signals to support more OID configurations.

General SNMP related improvements and fixes.

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Bug-fix release IET600 Version5.3.307.2 (September 2017)

General

Signal Handling options for COM500 engineering have been updated according to the MicroSCADA 9.4 FP2

Improvements in MicroSCADA SNMP OPC Server handling.

Limitation: Only one SNMP OPC Server per HMI can be configured and the SNMP Server can be connected to only one Subnetwork.

Empty IED Primary Role handled correctly during MIET export file creation

Improved DNP3.0 protocol handling for MicroSCADA Gateway engineering (e.g. same Addresses for different data types are allowed)

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Bug-fix release IET600 Version 5.3.307.1 (June 2017)

General

Values entered Inside the NCC Data editor were not saved in the project.

Editor cannot handle properly undo of string values inside non string columns

Moving OPC Connected Access Point from one Subnetwork to another freezes the Communication tree.

Update IED(s) Dialog cannot select any IED for update, if multiple IEDs are loader from SCD or CID file.

Signal Handling Editor inside NCC Data editor presents wrong options for NCC Commands.

Sorting of Rows inside the Editor grids is lost after context change inside the navigation trees.

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Feature pack release IET600 Version 5.3 FP3 (5.3.307, May 2017)
This release replaces the former IET600 5.3.x versions.

New and enhanced features

User defined setting profiles can now be stored and loaded for each grid based editor (e.g. HMI Data Editor) in the tool.

Database upgrade to SQL Server 2014 SP2 aligned with PCM600.

Support of IEC61850 external references (ExtRefs) for GOOSE and Sampled Values.

Technology and driver updates for full support of Windows 10.

CID / IID files export for multiple IEDs on Project, Voltage or Substation level.

General fixes and improvements

Performance improvements of IET600 editors for better handling of large scale projects.

IET600 checks now for new available software updates during program start and informs the user accordingly.

Several improvements in Customer Signal List export for handling of large scale projects.

The consistency check of GCBs and SVCBs did not exclude the deleted CBs -> fixed.

NV attribute could not be edited inside the HMI Data editor -> fixed.

Back indications on commands did show the group address in signal list export -> fixed.

Command counter for MicroScada commands were always 0 during sasmsc export -> fixed.

IEC 61850 related fixes and improvements

Update to latest tissues for IEC61850 Ed2.1 compliance (Tissue 1444 and 1445)

Added new rules for function and sub-functions (SFN_x, SFN_C_x, EQSFN_x, EQSFN_C_x) used inside the rule based MicroScada.

Validation of maximum frame length for GOOSE Datasets which can be handled by communication stack in IEDs.

MicroSCADA SYS600 related fixes and improvements

Added support for configuration of MicroScada SNMP OPC Gateway in IET600 (available with next MicroSCADA Hotfix)

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Bug-fix release IET600 Version 5.3.209.2 (June 2016)

General
Engineering efficiency improvements in Customer Signal List export for supporting large scale SA projects.
Exception occurred in IET600 Project Manager when deleting an IET600 project in case the corresponding file folder was already
Width and Height were swapped when resizing a Rectangle in CCD editor
IEC 61850 related fixes
Dynamic attributes were showing default values inside the LN data editor
Improved user guidance and small improvement in SCD export dialog
ExtRefs with "@" IEDName were not handled correctly by IET600 Input Editor
MicroSCADA SYS600 related fixes
Offset calculation in NCC Data Editor took too long for large scale engineering projects
All command group members were under one outlining in Customer Signal list export, even if they belong to different bays
HMI mapping could not be removed for certain signals in signal client editor
Change of Subnetwork Name was not properly propagated to LN attribute in HMI editor
UN attribute for pure SNMP devices is now calculated correctly from the AP's UN

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Feature pack release IET600 Version 5.3 FP2 (5.3.209, February 2016)
This release replace the former IET600 5.3.x versions.

New and enhanced features
This version of IET600 has been conformance tested by an independent UCA certified IEC 61850 conformance test laboratory.
In mixed IEC 61850 Ed.1/Ed.2 Systems, partial SCD files containing only IEC 61850 Ed.1 or Ed.2 IEDs can be exported.
IEC 61850 Log Control Block (LCB) configuration is available.
General fixes and improvements
Navigation Trees show icons consistent with IED role (missing IED role is indicated as question mark).
The last export/import path is now saved for different types of files.
Power transformer could not always be connected inside SLD.
Tool performance has been optimized when opening certain editors.
IEC 61850 related fixes and improvements
Trigger Option GI is now visible in RCB Editor.
IEC 61850 flags for Router and Clock will be set for an IED with a corresponding role.
Handling of IEDs with versions different than the project (or wrong versions according to IEC 61850) was improved, a user is warned on import and can take corrective action.
IEC 61850 consistency check includes check for missing OSI addresses (should be provided by IED, but is often missing).
Transformers are accepted on Station Level also, to be IEC 61850 compliant.
Several errors regarding Array handling in IEC 61850 corrected (Dataset Configuration).
MicroSCADA SYS600 related fixes and improvements
MicroSCADA HL and LD attributes are implemented as bit masks in HMI data editor.
COM500 Event Channel handling was incorrect when e.g. importing LOF files.
Translated signal texts are imported to the correct customer language instead of the current language.

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Bug-fix release IET600 Version 5.3.112.2 (November 2015)

IEC 61850 related fixes
Import of ICD files with just small differences in Data Type Templates could lead to exceptions or incomplete   import
Default RTU560 IEC 61850 IED capabilities allowed the engineering of non-functional   configuration
Datasets could not be created on LNs other than LLN0.
RCB clients could be mapped with "Configure Empty" from "RCB Clients" in spite of Client LN protection (e.g for foreign IEDs in SED
Exception in Single Line Diagram Editor when importing an IEC 61850 SCD   file with user-defined equipment
Updating an IED removed the GCB and SVCB client mapping to access point under some   conditions
MicroSCADA SYS600 related fixes
HMI Rules throw exception if an "&" character is used
It was not possible to add a signal of a stand-alone IED to an existing indication group
Incorrect behavior of Radio Buttons to select direct and mirroring signals in certain situations

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Bug-fix release IET600 Version 5.3.112.1 (July 2015)

IEC 61850 related fixes
Deleted GCBs and SVCBs were not removed correctly which could lead to dangling addresses in the communication section.
Duplicate or dangling GCB address in communication section are not cleaned up when importing an SCD file containing such
On IEDs with ServerAt Access Points, sometimes GCB Clients were configured on the wrong Access Point.
When deleting GCBs or removing Datasets from GCBs, Clients are not   removed
When using 4 XCBRs to model a circuit breaker, the numbering was not adapted to existing mappings which could lead to wrong "Mapped To"
MicroSCADA SYS600 related fixes
LOF export did not export anything when no errors and warnings were   detected
RX attribute can exceed 63 characters when automatically calculated which causes truncation and warning on MIET import in
When importing XREF files, the COM500 Event Channels were created on the wrong level (IED instead of   HMI/Gateway)
The formula for OI/Station-dependent text for BNCCx_GRP_AS is not the same as for BNCCx_GRP
NCC Command Group Creation fails when CSWI indexes >9 exist
Missing Enums for OPC Servers in SCD file after export
Integer/Float HMI attributes >10'000'000 are exported as exponential value 1E+07 in LOF file which creates an error on import into
when importing translated signal texts, they were imported not into the language defined in the file, but into the current   project
Improvements
IED Capabilities for RTU5xx Client and Server added.

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Feature pack release IET600 Version 5.3 FP1 (5.3.112, March 2015)
This release replaced the former IET600 5.3.x versions.

New interface for increased MicroSCADA SYS600/C engineering efficiency*
New single exchange format containing all relevant information and data for configuration and update of a MicroSCADA database
Disturbance settings are now fully handled in IET600 (replacement of CET functionality)
Revised Customer Signal List (Excel export)
Allows customization of exported data and representation to accommodate customer's requirements
Extensive filtering, grouping and sorting features for to control export of data
Customized templates can be stored and re-used in other projects
Re-export of data without losing the customized formatting supported
IEC61850 improvements and extensions
SSD file import support for selected sections of a Substation Specification Description file
Extensions for recursive Sub-function and Sub-equipment handling
IED Services are now shown in a new system wide overview
MicroSCADA SYS600/C Mirroring improvements for better handling of internal and grouped   signals
Loosen naming restrictions in IEC 61850 substation section (support for 800xA system integration)
Improvements for end customer support
License keys and relevant system information can be provided to support line Improved logging   operations
IEC 61850 engineering
Handling of ConfDataset.MaxAttributes for Ed.1 IEDs is resolved: for ABB Ed.1 IEDs Attributes will be counted, in all other cases, entries will be
General
Improved usability - it is now possible to change to another tab from a context menu of the tabs rather than using the arrows on the right side to scroll

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Bug-fix release IET600 Version 5.3.22.1 (August 2014)

IEC 61850 engineering
Importing an SCD file did sometimes not set the project version correctly
Importing an ICD/IID file with an incorrect namespace version could cause the project version to be set to this illegal version as well. This caused a later SCD export to fail without error message -> new error message guides the user what needs to be done.
When creating default clients in the RCB Client editor automatically, an RTU5xx was still be configured as its own default client; this was not visible

MicroSCADA SYS600 engineering
Copy/Paste of a bay with HMI and NCC client data duplicated uplink signals
Station-dependent Names and LNs did not update from formula in certain situations (e.g. copying Bays in certain situations, importing ICD files in certain situations)
Command signals send to HMI cannot be mirrored
NCC commands did not convert to Single or Double Binary commands after changing the corresponding flag in Signal Handling Type
after migration of and old project, drag'n'dropping an HMI to the "Gateways" node did not always work

General
Filter in some editors did not work anymore

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Bug-fix release IET600 Version 5.3.22 (February 2014)

Communication
SNMP was missing as a choice for Subnetwork protocols
Provide Plug Type "Other" for unspecified plug types

IEC 61850 engineering
Some vendors do not model GCB clients but use additional ExtRef information -> added this information in all cases to improve

MicroSCADA SYS600 engineering
consistency check for UN = 0 did create unnecessary warnings in some situations

IEC 61850 engineering related
In some situations the DynAssociation.Max service was not correctly evaluated, which could lead to RptEnabled.Max set to a value lower than the number of RCB Clients
Modifying a Dataset did sometimes not increase the configRev value of its Control Block
SCD import did not merge private sections on SCL root element
Certain DOIs and DAIs were removed on SCD re-export

MicroSCADA SYS600 specific
Number of OPC servers per MicroSCADA was limited to 4 instead of 8

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