SCL Manager 4.7.0
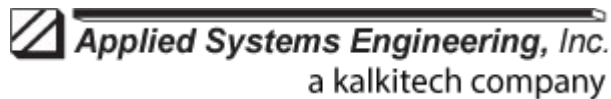## Release Notes
Version 4.7.0
Build 24
September 23, 2016

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Introduction

This release notes cover release information of the SCL Manager configuration utility. The release notes contain the following sections:

- Features of SCL Manager 4.7.0.

- Environment - Hardware and software requirements.

- Installation and configuration information.

- Known restrictions and limitations

- Release details of previous versions.

- Documentation.

- Global Support.

Documentation Conventions

The documentation conventions followed in the document are as follows:

	Denotes date of release
	Denotes newly added features
	Denotes bugs fixed

Application Version History

The following table gives the application version history.

Version Name	Date	Details
3.0.0	July 20, 2007	Primary Version
3.1.0	November 21, 2007	Bug Corrections
3.2.0	December 10, 2007	More graphical features
3.3.0 (intermediate release)	January 23, 2008	User friendly configuration
3.4.0	February 07, 2008	DataSet and Multiple Data Object (DO) instance addition
3.5.0	March 07, 2008	Private data management and Extensible Markup Language (XML) editor
3.6.0	May 07, 2008	Enhanced graphical feature interface and the bug corrections
3.6.2	June 05, 2008	Compact version and outline view for Single Line Drawing (SLD) drawing
3.6.3	July 10, 2008	Bug fixes
4.0.0	December 15, 2008	Major version with engineering workspace
4.0.1	May 22, 2009	Minor version with datatype template changes
4.0.2	June 10, 2009	Minor version with SLD drawing improvement and exporting external file compatablility.
4.0.3	July 31, 2009	Added Dongle based license.
4.1.0	February 10 ,2011	Major version with handling of three project types – Substation,Hydro,DER Plant
4.1.1	February 23 ,2011	Bug fixes
4.1.2	March 8,2011	Fixed bugs : now evaluation version of SCLManager supported.
4.1.3	May 16 , 2011	Supports IEC 61850 edition 2 specification in addition to the edition 1.
4.2.0	June 3 ,2011	Supports Simulation of scd/icd files in IED Simulator
4.3.0	April 9,2012	Major version with handling of three project types – Wind Power Plant, System (Generic). Bug fixes and Windows 64bit compatibility
4.4.0	October 3,2012	Supports two modes for evaluation version , one with limited IED and unlimited features and other with unlimited IED and limited features.Also Included some bug fixes related to wind power plant project.
4.5.0	August 30,2013	Document generation with substation details,IED details and network diagram . Added Network Diagram

Version Name	Date	Details
		drawing feature. Added SCL validation using SCL schema 1.6 & 3.1
4.5.0 (Build a1015)	November 7,2013	Fixed creating multiple instance issue for edition 2. Fixed issue in logical node type editing.
4.5.0 (Build a1016)	December 9,2013	Simulate options launches new IED Smart. Quick fix on loading previous project file (4.4.0)
4.6.0 (Build 1031)	March 6,2015	Tab based IED configuration,Service settings based validation for IED configuration.
4.7.0(Build 22)	August 22,2016	Added Merging of SCD,SLD & IED files. Implemented Sentinel Licensing
4.7.0(Build 23)	September 22,2016	Modified About window. Evaluation licensing modified. Evaluation license will be considered as NO license and can be used with restricted features.
4.7.0(Build 24)	September 23,2016	Modified About window.

Environments

This section specifies the hardware and software requirements to run SCL Manager.

Hardware Requirements

The hardware requirements are stated as follows.

Requirement	Description	
	Required	**Recommended**
System Memory (RAM)	512 MB	1 GB
CPU	Pentium 4, I Giga Hertz (G HZ) processor	
Free Disk Space	200 MB	
Graphics Card	128 MB	

Table 1: Hardware Requirements

Software Requirements

The software requirements are stated as follows.

Requirement	Description	
	Required	**Recommended**
Operating System	Windows XP, Windows 7 32bit / 64bit , Windows 8, Windows 10	Windows 7
Dotnet Framework	.NET Framework 3.5 or higher	
Relational Database	SQL (Structured Query Language) Express Database Server 2005 or higher	

Table 2: Software Requirements

Installation and Configuration Information

For installation, and configuration information specific to this product, refer to the SCL Manager User Manual.

Known Restrictions and Limitations

The following are the known restrictions and limitations:

- The information exchange models in IEC61850 edition 2 is implemented using the functional constraints of IEC61850 edition 1

- The XSD schema 3.0 has been modified to support cdcs DOO,SCA,RST .

- "DCP" CDC will be mapped to "SPC" CDC

- "SCH" CDC will be mapped to "SCA" CDC

- "Currency" Data type will be mapped to "Visible String 64"

- Enumerations are common for both SCL versions

Features of SCL Manager 4.7.0 Build 24

September 23, 2016

- Updated About window.

Features of SCL Manager 4.7.0 Build 23

September 22, 2016

- Updated About window.

- Modified evaluation licensing.

Features of SCL Manager 4.7.0 Build 22

August 22, 2016

- SCL Manager interaction with System Configuration Tools.

- Easy Identification of Lns linked to SLD Objects.

- Linked SLD functions to IED.

- View services spported by IED

- SSD ReImport/Merge with selective accept of differences

- Mapping ClientLN from Reports

- IED Name mapping from GOOSE/SV

- Automatic signal mapping from to ExtRef from Control blocks

- Restricts operations wrt Services and Engineering Rights

- Valkind handling

- ICD/IID Reimport with selective accept of differences

- SED Reimport/Merging with selective accept of differences

- Implemented Sentinel Licensing

Features of SCL Manager 4.6.0 Build 1031

March 5, 2015

- Tab based view for IED Configuration and Service configuration.

- Imposing restrictions based on service settings while configuring IED.

- Auto insertion of connection node in SLD while connecting two entities.

- x y coordinates handling for SLD

- Array (ix) handling for harmonics and other array data in FCDA element (only Edition2.0) and DAI,SDI elements.

- IED data model comparison.

Features of SCL Manager 4.5.0 Build a1016

December 9, 2013

- Simulate option should launch latest IED Smart instead of IED Simulator.

- Quick fix on loading old project file

Features of SCL Manager 4.5.0 Build a1015

November 7, 2013

- Fixed issue of creating multiple instances of DO in logical node type for edition 2.0

- Fixed issue in logical node type editing. When adding multiple IEDs to project data was taking from first IED added.

Features of SCL Manager 4.5.0

August 30, 2013

- Improved document generation with substation details , IED details and network diagram.

- Supports network diagram drawing with HMI, Protocol gateway, Router , Switch etc

- Added SCL validation using SCL schema version1.6 and 3.1 .

Release Details of Previous Versions

SCL Manager Version 4.4.0

- Supports two evaluation mode for SCL Manager. Mode 1 should have a limitation in number of IEDs to be added in the workspace while it provides unlimited features(Save and Export option are available in this mode). Mode 2 should have limited features and there wont be any limitation in the number of IEDs to be added in workspace.

- Some of the tags in the xml of 61850Details Edition1 and 61850Details Edition 2 have some mismatches according to standard document. Modified the xml files and handled the issue.

- Fixed machine dependency issue in evaluation version of SCL Manager.

- Issue in selecting and deselecting tags while adding logical nodes is handled correctly.

- Modifying the permission of sVC according to the attribute torq in WCNV is corrected as per standard document.

SCL Manager Version 4.3.0

- Dot Net Framework requirement for SCL Manager is upgraded to the version 3.5.0.

- Windows 64bit compatibility

- Repeated display of same function types in the Ldevice details form of IED Wizard is now solved.

- Exception occurred while clicking toolbox icon in the project toolbar is handled correctly.

- Fixed Issues on adding n logical devices via IED Configuration Wizard and then go back and change the number of logical devices and again while adding the Ldevice details it asks details for the previously configured no of logical devices.

- Issues while modifying values in the function types and function names in Ldevice details in the IED configuration wizard is also resolved.

- Issues in removing the tree-view items in the right side of SCL Manager while deleting SLD is resolved.

SCL Manager Version 4.2.1

SCL Manager Version 4.2.0

A compact installation package and a full installation package is provided. Full installation package consists of Set up for SQL 2005 server Express and dot net framework 2.0

SCL Manager Version 4.1.0

- While creating a new project or creating a new IED into the project the user will be asked to enter the SCL Version details namely , "IEC61850 Ed.1 (SCL Version 2)" and "IEC61850 Ed.2 (SCL Version 3)"

- Validation of SCL with different schema versions. This wont be applicable to right click - validate option. If user click "Validate SCL" button in the tool bar, an additional window with
(1) Folder Browse window
(2) Version Selector Drop down should be available. Drop down entries shall be
     a) SCL Version 1.4
     b) SCL Version 2.0
     c) SCL Version 3.0
     For the project validation from the project explorer, the schema validation is based on Schema version 2. The validation done while importing the scd and icd files are done with respect to Schema version 2.

- Default schema version while adding Project is "IEC61850 Ed.1 (SCL Version 2)". Old Projects should be loaded with IEC61850 Ed.1 (SCL Version 2) as default schema version

- The IED Wizrd now doesn bot show the default start page , instead its starts with asking user to select one from the three ways to add IED ("" Create New IED" ," From IED Database" and "Import From File System").

- Adding an IED from the Tree view is now through the IED wizard .

- ICD /SCD files containing all possible Logical Nodes where not able to be imported in the previous SCL versions . Now it is fixed.

- The "ExpandAll" and "Collapse All" option in the project explorer and the tree view now changed to "Expand" and "Collapse".

SCL Manager Version 4.1.2

- Setting Group Control block pop up window cannot be resized.

- In Setting Group Control block pop up window user will be allowed to enter only maximum three digit integers.

SCL Manager Version 4.0.3

SCL Manager Version 3.6.2

- Pan and Zoom view : Bugs have been corrected.

SCL Manager Version 3.6.1

- Application Mode : Application can be run in compact mode as well as in standard mode. Mode will be determined from the installed license.

- Pan and Zoom view : Added outline and zoom view for easy and size SLD drawing.

- Log Control Block (LCB) : Option for adding the LCBs included.

- Dependency updation: Cleared the dependency updation problems of the IED elements like Functional Constraint Data Attribute (FCDA), Client Logical Node (LN), and Inputs.

SCL Manager Version 3.6.0

- Drawing Component : Added graphical component with enhanced drawing options.

- Provision for adding/linking existing LN in to the substation elements.

- Toolbox : Replaced the old toolbox with more dynamic toolbox. Toolbox elements and its icon images are taken from the XML.

- Save file: The   output will have two files. One with standard extension and the other with *.SCL extension. SCL file will have all the standard tags and the private tags which will have the information of the substation coordinates.

- Corrected to remove the parent tag after the user deletes the last child element. (For example, FCDA, and EetRef).

- Corrected bugs in the loading of control block parameters.

- Corrected addition of the Private Common Data Class (CDC) in already existing CDC list, in private data management. Delete options for all the private data and its attributes have changed to right-click and remove.

- Corrected bugs in the display of the unlinked elements in the Data Type Template while loading.

- Corrected bugs in importing of Configured ICD Description (ICD/CID) files which

contains communication elements.

- Corrected bugs in adding and linking the LNs.

SCL Manager Version 3.5.0

- XML Editor: Added XML editor module for viewing and editing of the SCL XML file.

- Private Data Management: Added private data managing option to add, edit and include private data into an SCD/ICD file.

- New save format : Added option to save the output XML in Unicode Transformation Format (UTF-8) and UTF-16 formats.

- Validate: Added option to validate the current project SCD/ICD file, while working on it.

- Client LN : Report Control Block (RCB) can now pre-configure, all the client LN from which report is going to enable through Client LN.

- Corrected DataSet addition error, in which Functional Constraint (FC) was not written to the SCD/ICD (IED Capability Description) file if the DataSet tag contained only LN instance id and FC.

- Corrected property display problem during View/Edit of the control blocks.

- Corrected bugs in dependency list updation of the substation elements.

- Corrected bugs in loading of the services.

SCL Manager Version 3.4.0

- Multiple inclusion of DO's: Inclusion of multiple DO instance option for all optional DO's in generic LNs (GGIO, GAPC).

- DataSet Configuration: Simplification in the DataSet configuration, like configure all FCD/FCDA along with its DataSet. Drag and drop option for FCDA's have been included.

- Corrected scrolling limitations in the graphical view.

SCL Manager Version 3.3.0

- LN addition and linking: Provided LN adding and linking options in the graphical view, by displaying all the LNs that can be linked from the SCD file.

SCL Manager Version 3.2.0

- Copy Paste options: Enhanced cut/copy/paste options in the Graphical view. Substation elements can be cloned.

- Control Model Editing: Provided control model editing option. Control model editing will now prompt for creation of new LN type or for change in all instances of the LN Type.

SCL Manager Version 3.1.2

- Corrected editing option for LN type.

SCL Manager Version 3.1.1

- Resolved fixed Data Type Template repetition issues.

- Resolved the line breaking issues occurred during drawing the connections.

- SCL elements have been arranged as per the standard IEC 61850.

- Resolved validation issues for the SCL files generated.

SCL Manager Version 3.1.0

- ICD Combine/ Import: Enables the user to import the pre-configured ICD files to configure SCD or CID files.

- Generate data tag:Enables user to create Manufacturing Message Specification (MMS) tags for the loaded SCL file. User can also have the list of substation equipments with in the same file of the MMS tags or with other file.

- Evaluation days for the tool: Evaluation version restriction has been given a specific period of 20 days.

- Map external signal: This enables the user to map any signals coming to the IED to the corresponding internal address. The internal address can be any IED specific address or a MMS tag itself.

SCL Manager Version 3.0.0

- Tree based configuration: Enables user to configure the total SCL (Substation configuration language) file including substation, IED, and communication tags.

- Graphical substation configuration: Graphical configuration of the substation include drawing substation, voltage level, bays, different orientation of conducting equipments, connectivity node and including horizontal and vertical bus bars.

- Toolbox for the graphical elements: Toolbox contains different representation of the substation elements with different orientations.

- Licensing scheme: Machine dependent licensing.

- SCL File validation : Validation of the SCL file with schema version 1.4.

Documentation

- Online Help is available with SCL Manager.

- We provide the User Manual (PDF) version along with the SCL Manager CD.

Global Support

- Contact: support@ase-systems.com for further clarifications and details.

List of Abbreviations

BOM   : Bill of Materials

CD   : Compact Disk.

CDC   : Common Data Class.

CID   : Configured ICD Description.

DER   : Distributed Energy Resources

DO   : Data Object.

FC   : Functional Constraint

FCDA : Functional Constraint Data Attribute.

GB   : Giga Byte.

ICD   : IED Capability Description.

IED   : Intelligent Electronic Device.

LCB   : Log Control Block

LN   : Logical Nodes.

MMS : Manufacturing Message Specification.

RAM : Random Access Memory.

SCD   : Substation Configuration Description.

SCL   : Substation Configuration Language.

SCL M: SCL Manager.

SLD   : Single Line Drawing.

SSD   : System Specification Description.

SQL   : Structured Query Language.

UTF   : Unicode Transformation Format.

XML   : Extensible Markup Language.