

Instruction Manual of SCD Configuration Tool

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1.Overview

Typical substation automation system of standards implementation process is: The owner/design institute provides the SSD (Substation Specification Description) file, IED manufacturers provide ICD (IED configuration Description) file, SCD (Substation Configuration Description) file is generated by system integrators through system configuration, then the client side and server side both perform corresponding engineering work according to the SCD file. The client side can get substation equipment list, model, data source and the main wiring diagram and other kinds of information through SCD, the server side can parse out its relevant part from the SCD, and form a CID (Configured IED Description) or proprietary parameters to download in the device for execution.

Actually there is no very good correspondence between the three roles of prescribed standards and actual domestic roles such as users, design institutes and manufacturers, so this directly leads to the result that it is very difficult to strictly enforce the standard process in the project implementation. Typically, with regard to all 61850 projects which have been implemented in China, no user/design institute can provide the SSD file.

2.Nomenclature

- CID: Configured IED Description.
- ICD: IED Capabilities Description.
- IEC 61400_25: International Standard IEC 61400_25. Communications for monitoring
- and control of wind power plants.
- IEC 61850: International Standard IEC 61850. Communication Networks and
- Systems in Substations [1].
- IED: Intelligent Electronic Device.
- eFS (energyFactorySuite): Environment to develop energy generation and distribution
- facility engineering according to standard IEC.
- INGESYS[™] IT: Operation and control system to automate systems [2].
- INGESYS[™] eFS. Electrical power substation automation system.
- LN: Logical Node.



LCB: Log Control Block.

- LD: Logical Device.
- RCB: Report Control Block.
- SCD: Substation Configuration Description.
- SCL: Substation Configuration Description Language.
- SSD: Substation Specification Description.

3. Function Introduction

SCD configuration tools comprehensively realize finding, opening, modifying, saving and checking of SCD file. Its main functions are as follows:

- 1) Import of IED File
- 2) Export of CID
- 3) Communication Management
- 4) IED Management
- 5) Verification
- 6) Export GOOSE configuration
- 7) Text View
- 8) SCD configuration tools can supply for substation:
 - IED configuration tools
 - System (Substation) configuration tools
 - IED interrogation, monitoring and analysis software tools
 - Diagnostics and maintenance tools
- 9) SCD configuration tools can play an IED configurator and a system configurator.
- 10) SCD configuration tools can model the IED and substations
- 11) SCD configuration tools can import or export the files defined by IEC 61850.
- 12) SCD configuration tools included the engineering environment
- SCD configuration tools can define control and protection devices data models according to the IEC 61850
- 14) SCD configuration tools can adjust to the communication and hierarchy model architectures established by the IEC 61850
- 15) SCD configuration tools can create any IEC 61850 data model starting from scratch thus generating ICD files
- 16) SCD configuration tools can import these regulating files from the different units
- 17) The automatically generated database is the only system database used in SCD configuration tools
- 18) Database Main characteristics:
- Graphical IED engineering tool.
- Easy creation of complex information models.
- Internal repository of all the IEDs modelled.
- · Dictionary with the definitions included in the first revision of the standard to improve the



comprehension of the models.

- Creation and modification of datasets and control blocks.
- Quick assignments of initial values and descriptions.
- Graphical display of the information model either as a tree or a list of items with filter functionality.
- Import and export of normative configuration files (ICD files).
- 19) Database Specific functions:
- Definition of the data model of the protection or control device ("ICD").
- Definition of the supervision and command graphic consoles.
- Definition of the operation and maintenance historic records.
- Definition of the states and alarms with the state change time.
- Definition of the data/measurement groups through "DataSets".
- Definition of the report groups through "Reports".
- Definition of the historical groups through "Logs".
- Definition of the settings.
- Definition of the local or remote commands.
- 20) With SCD configuration tools there are several options to create a new IED model:
- Using the templates of the standards.
- Using the data types of a previous created device.
- Importing a normative SCL file (ICD, CID or SCD files).
- 21) To access to the information the tool provide:
- FILTERS that reduce the information model size. Some available filters are:
- Type: LogicalDevice, LogicalNode, DataObject...
- FunctionalConstraint: Smart I/O, MX, CO...
- Name of the element.
- VIEWS that help users to visualize the information desired.
- Select the columns needed.
- Create your own configurations.
- SEARCHES that help users to find where a data type is used.
- 22) SCD configuration tools can import or export configuration files defined by IEC 61850.
- 23) SCD configuration tools allows integrating control and protection devices in the data base of the substation according to the IEC-61850
- 24) SCD configuration tools can establishes communication architecture based on the client-server model
- 25) The information model defined by the IEC 61850 standard for electrical substations is organized hierarchically in different levels
- 26) With SCD configuration tools, IED models can be created for each type of device.
- 27) If in an installation there are various devices of the same type, the configuration will only be done once
- 28) SCD configuration tools Main characteristics are:
- Graphical IEC 61580 system engineering tool.
- Instantiation of the IEDs of the substation from the library defined in the Tool Factory.
- Assignation of the name and Access Point to the IED.
- Configuration of the system topology and assignation of communications to the IED.
- Edition of settings.



- Edition de DATA_SET and Control Blocks (Report Control Block, Setting Group Control Block and GOOSE Control Block).
- Graphical display of the information model either as a tree or a list of items.
- Powerful filter mechanism to display/modify initial values, descriptions...
- Import and export normative configuration files. (CID, SCD).

29) SCD configuration tool enables to define a complete system with the following steps:

- Define the system topology
- Add IEDs to the system
- IEDs created with the IED configuration tool are instantiated to create the substation configuration.
- Configure IED parameters
- Set initial values, descriptions, etc.

• Modify, add and remove datasets and report or GOOSE control blocks (only if they are different from those defined in the IED model)

- 30) SCD configuration tool are designed for network troubleshooting, analysis, and communications protocol monitoring. It can separate simulator into "server" and "client" According IEC 61850-2.
- 31) The tool emulates an IEC 61850 client and facilitates the test of the communications
- 32) The application configuration is based on: CID file, IED data base in the substation tool or IEC 61850 self-description services.
- 33) SCD configuration tool has storage of the displayed information into excel.
- 34) The tool offers a powerful report monitoring with services:
- Data polling
- Dataset polling
- Settings and setpoints modification
- Event retrieval and configuration (report or log)
- Goose messages monitoring
- Control services
- File access based on an explorer appearance
- Device data model recover:
- Device data model generation based on the communications self-description services of the standard and automatic generation of an SCL file (CID).
- 35) The data model is loaded in the operation tool, users can communicate with the device simulating an IEC 61850 client.
- 36) The tool can recover the device data model based on the communications.
- 37) This tool can simulate an IEC 61850 server application that emulates the communication behavior of a real device based on CID file or IEC data base in the substation tool, with service as below:
- Self-description services.
- Data model.
- Setting model.
- Unbuffered / buffered reporting.
- Goose messages
- Control models: normal and enhanced security, direct and SBO control based on SCL loaded.

The data model loaded in the tool and users can communicate with the device using any other IEC 61850 client.

38) The engineering tool features:



Open system Software User-friendly and easy to use engineering tools Access control password Authentication of authorized user System versioning and configuration management Configuration wizards Commissioning test facility IEC 61850 compliant Hierarchical navigation tree-view structure based on IED object hierarchy TCP/IP communication access interface Able to create IED configuration template Able to create Bay configuration template based on selected IED configuration Able to communicate and exchange information using XML based SCL Able to import and generate SCD file 39) The IED Configuration tool features: Open system Software User-friendly and easy to use engineering tools Access control password Authentication of authorized user IED versioning and configuration management Configuration wizards Commissioning test facility IEC 61850 compliant Hierarchical navigation tree-view structure based on IED object hierarchy TCP/IP communication access interface Able to communicate and exchange information using XML based SCL Able to access and generate ICD file and CID file 40) The IED interrogation, monitoring and analysis software tools features Manufacturer Native Proprietary Software User-friendly and easy touse engineering tools Include as part of device mandatory accessories Access control password Device setting, function selection and configuration Device configuration programmable logic editor Disturbance, fault and event analysis/evaluation Device communication Commissioning test facility IEC 61850 compliant Hierarchical navigation tree-view structure based on IED Object hierarchy TCP/IP communication access interface 41) The diagnostics and maintenance tools features Manufacturer Native Proprietary Software User-friendly and easy touse engineering tools



Access control password Authentication of authorized user System, network, and device Diagnostics Communication network tools such as Ping, Traceroute, Network Analyser, File Transfer, etc. System, network and IED Maintenance Device communication Commissioning test facility IEC 61850 compliant Hierarchical navigation tree-view structure based on IED Object hierarchy TCP/IP communication access interface

4. Installation Instructions

SCD configuration tools rely on .NET framework, which needs to install dotnetfx.exe, Scd_Icd installation package.msi before install. If the initial two programs are still not be launched after installation, vcredist x86.exe should be installed.

After installation, the installation directory contains the following files or folders:

- 1) The executable program and related dynamic library file
- 2) SchemaFile: Schema grammar file
- 3) GooseCfg: Generated Goose configuration folder
 - 1 > DownLoad: Generated device Goose configuration file
 - 2 > UpLoad: Device to upload Goose configuration file

4.1. Instructions on Main Interface of SCD Configuration Tool

Main interface of SCD tool is as follows:



PRS7007 SCD Configuration	-		the second	-		
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	4 1.0	0.8	2020-06-04T16:	1	1	1
	5 1.0	0.8	2020-06-04T16:	1	1	1
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SCD tool is mainly divided into four areas:

- 1) The area of Menu and toolbar: Menus and Toolbars
- 2) Navigation area: Tree diagram of tool kit defines the functions of two parts: SCD editing and text browsing. SCD editing mainly covers modified version information, communication management and IED management; Text browsing mainly provides a function to browse four parts of SCD file in the way of XML, namely modified version information, communication information, IED information, and information on data type template.
- 3) Workspace: Information showed in this area is based on the choice of the tree diagram in the navigation area.
- 4) Output information area: It is mainly for some hints and authentication information in the process of operating SCD file.

4.2. Import of ICD File

Based on the configuration flow of engineering practice, SCD configuration file is obtained by importing ICD document. The imported file comprises IED part of ICD file and Data Type Templates. For imported template part, it will take union set of various corresponding template contents of all imported IED.



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4.3. Export of CID File

This function completes export of the whole CID file needed by the device from SCD file. An IED of SCD is the default of export, and file name is the name of IED, such as CM5001. CID. Tools provide a single IED export and batch export function. One option is to choose an IED in the navigation area and use right-click menu to export, another is to select multiple IEDs in IED management interface and bulk export.



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4.4. Communication Management

Communication management function is for setting up communications of the whole station in a unified way. It mainly depends on the type of access point of IED and practical needs to conduct network configuration of MMS, GOOSE, and SMV



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SMV [IECSMV]	2 MM2201_NZ		M1		MSVCB01	MUSV	01-0C-CD-04-0	000	1	4008
GOOSE [IECGOOSE]	3 MT2204_SR		M1		Smvcb0	MUSV	01-0C-CD-04-0	000	1	4007
MMS_A [8-MMS]	4 ML2206_NZ		M1		MSVCB01	MUSV	01-0C-CD-04-0	000	1	4009
GOOSE1 [IECGOOSE]	5 MM2201_SF		M1		MSVCB01	MUSV	01-0C-CD-04-0	0	4	4005
IED Management	6 MT2204_SF		M1		MSVCB01	MUSV	01-0C-CD-04-0	0	4	4004
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	9 MT2204_JB		M1		smvcb0	MUSV	01-0C-CD-04-0	000	4	4003
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4.5. IED Management

IED management function is for configuring and combining SV data for data sets, report control block, the log control block, instantiation, GOOSE data assembly, GSE control block, SMV control block, fixed value control block, SCL control block, and the log which are specified by 61850 of IED.



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	1	MM2201_SF	北京四方母线合并单元	SiFang	CSD602	V2.00 2014.11.5	8 Unknown state	Unknown state	Unknown state	💡 Unknown state	🖁 Unkno
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	13	IT2204_SR	长园深瑞主变智能终端	CYSR	PRS-7789	V2.00	8 Unknown state 8	Unknown state	Unknown state	💡 Unknown state 🕯	🖁 Unkno
	14	IL2206SR	长园深瑞线路智能终端	CYSR	PRS-7789	V2.00	8 Unknown state	Unknown state	Unknown state	💡 Unknown state 🖇	8 Unkno
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	18	PM2201_NZ	国电南自母线保护	GDNZ	SGB-750A-DA-G	V2.04	8 Unknown state 8	Unknown state	Unknown state	🖁 Unknown state 🕯	2 Unkno
	19	PL2206_NZ	国电南自线路保护	GDNZ	PSL-603UA-DA-G	V1.02	8 Unknown state 8	Unknown state	Unknown state	💡 Unknown state 🖇	🖁 Unkno
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4.5.1. Data set

Provides configuration function of IED data set, including data set attributes and data set members.

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ML2206_KJ [南瑞科技	2 RPIT/04XCB	R1 Pos 断路罢台(署2(合位相与 對	(立相志) ((立相志) 2		0	0 RPIT/LLN0.Beh	行为		-
ML2206_NZ [固电 闻 E	2 RDIT/OAXCB	R1 Post 新校型台位	署2(合信相与别	は近日成り		õ	1 RPIT/LLN0.Health	健康状态	-	
ML2206_SR [长园深碑	4 RPIT/00AXC	RR1 Do 使的空心的	合業	017.114340		Add 6	2 RPIT/LLN0.Mod	模式	/	-
ML2206 XJ 「许健康气」	5 RPIT/ODAXC	BR1 Do 使的容易A相	位置			V		10001		-
	J KFIT/QUANC	DIGT.FO ENGERS ATE	12 m		<u> </u>	il Del				_
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										_
Overview Schema Protocol	Apply									
File location: C:/Users/zZz/Desktop/测词	式交换机11.scd									

① List all IED data sets and the attributes thereof.

2 List FCDA members of data sets and the attributes thereof.

(3,4,5,6) According to LN function constraint, and character string included in reference (case-sensitive), unfold references until DO or DA can filter out the eligible member references of data sets



⑦ List all eligible member references of data sets

(a) Add/delete FCDA members of data sets. When adding, if members are already in, it will not add the existing members.

4.5.2. Report Control Module

Provides configuration function for report control module of IED

	Sch	Pro ALL	★ 6 ↓ 6	Export Export G	EN VIEW Export 60 GO TXT	S Sov	
ToolBox 🗗 ×	DataS	et Instantiated	ReportControlE	Block SettingC	ontrolBlock GSE	ControlBlock	SMVControlBlock LogControlBlock Log SCLControlBlock Graph
		datSet	period (ms)	buffered	bufTime	TrgOpts	OptFields
Filter:	7	dsCommState	0	true	0	0009	OODE
ML2206_XJ [详继电气 ·	8	dsRelavBlk	0	true	0	0009 4	00DF 5
- MM2201_KJ [南瑞科主	9	dsRelavEna	0	true	0	0009	00DF
MM2201_NZ [国电南]	10	dsRelayDin	0 1	true	0	0009	00DF
	11	dsRelayState	0	true	0	0009	00DF
MM2201_SK [长因深坊 MM2201 X] [注始由 @	12	dsRelayFunEn	0	true	0	0009	00DF
MT2204_JB [南瑞維保	13	dsRelavAin	0	false	0	0009	00DF
- MT2204_KJ [南瑞科技	14	dsRelayRec	0	true	0	0009	00DF
MT2204_NZ [国电南自		,					
MT2204_3F [北泉四月 MT2204 SR [长扇空错	Trigo	er Options					Transfer Options
- MT2204_XJ [许继电气	V [Data changes		Ouality cl	hanges		✓ seqNum ✓ timeStamp ✓ dataSet ✓ reasonCode ✓ DataRef
PL2201_XJ [许继电气结)ata undate		Period			hufQverflow I entryID I configRef segmentation
PL2206_JB [南端继保5 pl 2206_VI [南瑞社长5	hours .	and aparte			2		3
PL2206_NZ [国电南白			~				
PL2206_SR [长园深瑞	✓ E	nable Control Client	t Maxinam numb	er: 18		÷	IED name:
- PM2201JB [南瑞維保 [
- PM2201SR [长园深瑞 - PM2201 K 「南瑞利林						۵.	Add
PM2201_NJ [周瑞科技 PM2201 NZ [国电南E							
						0	Del
View							
					Outpu	t	
Information							
	0	ala					
Schema Protocol		1112					

- ① List the report control module of IED and the attribute thereof;
- ② Select the trigger option in the report control module. The value shown corresponds to the hexadecimal value in step ④;
- ③ Select the trigger option in the report control module. The value shown corresponds to the hexadecimal value in step ⑤.
- ④ Double click to set the trigger option. The value is displayed in hexadecimal number system.



PRS7007 SCD Configuration					8
File(F) Edit(E) View(V) Verify(F) Too	I(T) Operate(O) Help(H)				
🚯 🕲 🖶 🗕	Sch Pro ALL	Export Export GEN VIEW Export CID CCD GO GO TXT	∔ <mark>S +</mark> Gs ↓S ↓S +SS		
ToolBox & X	DataSet Instantiated ReportControlE	lock SettingControlBlock GSEC	ontrolBlock SMVControlBlock L	ogControlBlock Log SCLControlBlock Graph	
IED Eilter:	datSet period (ms)	buffered bufTime	TrgOpts	OptFields	1
- ML2206_XJ [许继电气•]	7 dsCommState 0	true 0	0009 00DF		
— MM2201_JB [南瑞維修	8 dsRelayBlk 0	true 0	0009 00DF		
- MM2201_KJ [南瑞科托 - MM2201_NZ [国由市]	9 dsRelayEna 0	true 0	0009 00DF		
MM2201_NZ (国电用)	10 dsRelayDin 0	Trigger Options	? ×		
MM2201_SR [长园深时	11 dsRelayState 0				
MM2201_XJ [许继电 ⁴	12 dsRelayFunEn 0	Trigger Options			
- MT2204_JB [南瑞继保	13 dsRelayAin 0	🖌 🗹 Data changes 📃 Quality ch	anges 📃 Data update 🗹 Period		
MT2204_KJ [用编科技 MT2204_N7 [国由南自	14 dsRelayRec 0				
- MT2204_SF [北京四方	<u> </u>		OK Cancel		
- MT2204_SR [长园深瑞	Trigger Options	<u>[</u>		J	- 1
MT2204_XJ [许继电气	✓ Data changes	Quality changes	🖌 seqNum 🖌	timeStamp 🗹 dataSet 🗹 reasonCode 🗹 DataRef	
PL2201_XJ [计继电气3 	Data update	✓ Period	bufOverflow	entryID 🗹 configRef 📃 segmentation	
- PL2206_KJ [南瑞科技					
				الا	
PL2206_SR [长园深瑞	Enable Control Client Maximum numb	er: [18	ED name:		
PM2201JB [南埔建住 PM2201SB [卡国湾建住					
- PM2201 KJ [南端科技			Add 🧼		
PM2201 NZ 「国由.南貞二			d Di		
			UP Dei		
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No. Information					
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ne location: C:/Users/ZZZ/Desktop/jjj	III、公拱机LLI.SCO				رك

(5) Double click to set the transmission option. The value is displayed in hexadecimal number system (a little different from that in 2006 Schema).

PRS7007 SCD Configuration	11.00	difference		10100			
File(F) Edit(E) View(V) Verify(F) Tool(T) Operate(O) Help(H)						
🛃 🚳 📰 🕂 🗕	Sch Pro ALL	tan	COD GO GO T	Start	1 5 1 5 1 5	1 ² 1 131 131	
ToolBox 🗗 🗙	DataSet Instantiated	ReportControlBlock S	ettingControlBlock	GSEControlBlock S	MVControlBlock	LogControlBlock Log S	CLControlBlock Graph
SCD Edit	datSet	neriod (ms) huf	fered hufTin	ne TraΩnts		OntFields	
IED Filter:		- period (ms)	- Durin	ie ingopia		optricits	
— ML2206_XJ [许继电气	7 dsCommState	0 true	0	0009			
	o dcRelavEna	0 true	Iransfer Opti	ons			
	10 dsRelayDin	0 true	-Transfer Option	15			
MM2201_SF [北京四方	11 dsRelayState	0 true					
	12 dsRelayFunEn	0 true	v sequum	v timestamp v d	ataset		
— MT2204_JB [南瑞維保	13 dsRelayAin	0 false	reasonCod		utovertiow		
- MT2204_KJ [南瑞科技	14 dsRelayRec	0 true	✓ entryID	✓ configRet se	egmentation		-
MT2204_NZ [国电闸E MT2204 SF [北京四方	1		-	ОК	Cancel		<u></u>
	-Trigger Options		-				
- MT2204_XJ [许继电气 DI 2001 XI [计继电气	Data changes	🗆 Q	Uanty changes		sequen	🖌 timeStamp 🛛 🗹 dataSet	✓ reasonCode ✓ DataRef
PL2201_X5 [许强电气3 PL2206_JB [南瑞維保約	🔲 Data update	✔ P	eriod		bufOverflow	🖌 entryID 🛛 🗹 configRef	segmentation
PL2206_KJ [南瑞科技结							
PL2206_NZ [国电南自 PL2206_SR (长周深時	Enable Control Client	Maximum number: 18			IED name:		\$
PM2201JB [南瑞继保t							
				(A	dd		
PM2201_KJ [南端科技 PM2201 N7 [国由南日				4			
				🖒 D	el		
Text View							
				Dutput			6 ×
No. Information							
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4.5.3. Log Control Module

Provides configuration function for log control module of IED.



PRS700	7 SCD Confi	iguration												. D . X
File(F) Edit	(E) View(V)	Verify(E) Too	I(<u>T</u>) Operate(<u>O</u>) He	lp(H)										
6	8 🔒	+ -	Sch Pro ALL	1 18		GEN VIEW		↓ ↓ ↓ §	₽ 85 1 85					
SCD Edit	ToolBox	₽×	DataSet Insta	ntiated ReportCo	ontrolBlock Sett	ingControlBlock	GSEControlBlock	SMVControlBl	lock LogContro	olBlock Log	SCLControlB	lock	Graph	
			name	desc	AccessPoint	LDevice	LNode	Period(ms)	LogEnable	LogReason	DataSet	ogNam	Trigg	erOptions
IED Fitter:		r 11	0 lcbLog1	装置运行状态	S1	LD0	LLN0	0	true	true	dsLog1	LD0	0001	-
1	MT2204_SF		1 lcbLog2	告警信息日志	S1	LD0	LLN0	0	true	true	dsLog2	LD0	0001	3
	MT2204_31	[许继电气	2 lcbLog1	保护事件日志	S1	PROT	LLNO	0	true	true	dsLog1	PROT	0001	
-	PL2201_XJ [许继电气的	3 IcbLog2	告警信息日志	S1	PROT	LLN0	0	true	true	dsLog2	PROT	0001	
-	PL2206_JB []	南瑞維保約	4 IcbLog3	变位信息日志	S1	PROT	LLN0	0	true	true	dsLog3	PROT	0001	
	PL2206_KJ [PL2206_N7_[用埔科校3 「国由南白												
	PL2206_SR [长园深瑞												
-	PM2201JB []	南瑞維保f												
	PM22015R [大団深端					1							
	PM2201_NZ	「国电南自	-											
-	PM2201_XJ	[许继电气												
-	PT2204_JB [南瑞继保:												
-	PT2204_KJ [南瑞科技:												
	PT2204_INZ [PT2204_SE [画电用目 /合四右												
	PT2204 SR [长凤深瑞												
	PT2204_XJ [许继电气:												
-	SWitch01 [3	交换机1]												
- Com	WSitch02 [3	☆碘机2」	- Trigger Options											
<u> </u>		<u>·</u>	Data change	5	Qu	ality changes 2		📃 Data updat	e		Period			
Text View														
							Output							₽×
No.	Infor	mation												
Overview	Schema	Protocol	Apply											
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- ① List log control module of IED;
- (2) Display the trigger option of selected log control module. The value shown corresponds to the hexadecimal value.
- ③ Double click to set the trigger option. The value is displayed in hexadecimal number system;

PRS7007 SCD Configuration											
File(F) Edit(E) View(V) Verify(F) Tool	(T) Operate(O) Help(H)									
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ToolBox & ×	DataSet Instantia	ated ReportCo	ontrolBlock Set	tingControlBlock	GSEControlBlock	SMVContro	IBlock LogContr	olBlock Log	SCLControlBlo	ock Graj	h
	name	desc	AccessPoint	LDevice	LNode	Period(ms)	LogEnable	LogReason	DataSet	ogNam	TriggerOptions
IED Filter:	0 lcbLog1	装置运行状态	S1	LD0	LLN0	0	true	true	dsLog1	LD0 000	1
M12204_SF [北京四万土]	1 lcbLog2	告警信息日志	S1	LD0	LLN0	0	true	true	dsLog2	LD0 000	1
MT2204_SIC[[[[[]]]];[]]]; []]) MT2204_XJ[[]]) []] []] []] []] []] []] []] []] []	2 lcbLog1	保护事件日志	S1	PROT	LLNO	0	true	true	dsLog1	PROT 000	1
PL2201_XJ [许继电气:	3 lcbLog2	告警信息日志	S1 🚾 Tri	gger Options	100		8 X	true	dsLog2	PROT 000	1
PL2206_JB [南瑞維保約	4 lcbLog3	变位信息日志	S1	0.1				true	dsLog3	PROT 000	1
PL2205,NZ [建电預音 PL2205,NZ [建电預音 PM220196 [荷葉維督] PM220196 [荷葉維督] PM2201,NZ [荷葉維督] PM2201,NZ [潜電用 PM2201,NZ [潜電用 PM2204,NZ [清電用 P12204,JZ [清電用 P12204,JZ [清電用 P12204,JZ [海电用 P12204,JZ [海电用 P12204,SZ [海ー用 P12204,SZ [海ー P12204,SZ [P12204,SZ [Trigger Options			Data changes	Quality changes	OK OK	Cancel				
Taxt View	Data changes		🗌 QI	uality changes		📃 Data upo	late		Period		
PER TICH					Output						A X
No. Information					output						
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4.5.4. Instantiation

PRS7007 SCD Configuration	In the Station									
File(E) Edit(E) View(V) Verify(E) Tool	(I) Operate(O) Help(H)									
👌 🕲 🔒 🔶 🗕	Sch Pro ALL 🤞 🕇		Espot GEN VIEW GO GO		\$ ↓ ↓ ↓ ↓					
ToolBox 🗗 🗙	DataSet Instantiated Repo	ortControlBlock	SettingControlBloc	GSEControlBlock	SMVControlBlock LogControlBlock Log	SCLControlBlock Graph				
SCD Edit	Filter									
IED Filter:										
MT2204 SE [北京四方 •]	Included referencd:					*				
- MT2204_SR [长园深瑞										
	reference	value	desc	valKind	sAd	dr 🔟				
PL2201_XJ [计继电气3 	0 LD0/LLN0.Mod.ctlModel	status-only	模式							
PL2206_KJ [南瑞科技纪	1 LD0/LLN0.ActSG.dU	运行定值区号	运行定值区号							
- PL2206_NZ [国电南自	2 LD0/LLN0.ActSG.dataNs	SGCC MODEL:2	运行定值区号							
PL2206_SR [长园深端:	3 LD0/LLN0.ActSG.mag.f		运行定值区号							
PM22013B [附请通注1年t PM2201SR [长园空瑞士	4 PROT/LLN0.Mod.ctlModel	status-only	模式							
PM2201_KJ [南瑞科技	5 PROT/LLN0.LEDRs.dU	装置信号复归	装置信号复归							
PM2201_NZ [国电南自	6 PROT/LLN0.LEDRs.ctlMo	direct-with-nor	装置信号复归							
PM2201_XJ [许继电气 pT2204_IP [劳动地铁/R-	7 PROT/LLN0.LEDRs.pulse	pulse	装置信号复归							
	8 PROT/LLN0.LEDRs.pulse	0	装置信号复归							
PT2204_NZ [国电南自	9 PROT/LLN0.LEDRs.pulse	0	装置信号复归							
	10 PROT/LLN0.LEDRs.pulse	0	装置信号复归							
PT2204_SR [长园深瑞 PT2204_VI [计继由复	11 PROT/LLN0.SetZone.dU	定值区号	定值区号							
	12 PROT/LLN0.SetZone.data	SGCC MODEL:2	定值区号							
WSitch02 [交换机2]	13 PROT/LLN0.SetZone.max	30	定值区号							
	14 PROT/LLN0.SetZone.min	1	定值区号							
Taxt Views	15 DDOT/II NID Cot7ono cot\/sl		合体で早							
IEXT VIEW										
The second se				Output		e ×				
No. Information										
Overview Schema Protocol	Overview Schema Protocol Apply									
File location: C:/Users/zZz/Desktop/测词	式交换机11.scd									

4.5.5. Goose Data Assembly

Provides configuration function for Inputs (association relationship with Goose) of IED.

SR [长国羽	総指 保护]					✓ IL220	JB [南瑞建保线路智能终端]	y gecb0	
OlName	desc	AccessPoint	LDevice		LNode		Index	OutDesc	
501	邮站器分相批闸位	61	PIGO	GOINGGIO1		0 1	2206JB RPIT/Q0XCBR1.Pos.stVal	总断路器位置	
SO2	断路器分相线闸的	G1	PIGO	GOINGGIO1		1 1	2206/B_RPIT/Q0XCBR1.Pos.t	局動路器位置	
503	断路器分相跳	G1	PIGO	GOINGGIO1		2 1	2206/B_RPIT/O0XCBR2.Pos.stVal	新路器逻辑位置三旗单合	
01	间动量合同-1	G1	PIGO	GOINGGIO2		3 1	2206JB RPIT/O0XCBR3.Pos.stVal	新始器逻辑位置单数三合	
02	(田志振会)第-2	G1	PIGO	GOINGGIO2		4 1	2206JB_RPIT/ODAXCBR1.Pos.stVal	A相對路発位要	
03	证验证会测-3	G1	PIGO	GOINGGIO2		5 1	2206JB RPIT/00AXCBR1.Pos.t	A相称路器位置	
14	(石6台)(中全)第-4	61	PIGO	GOINGGIO2		6 1	206/B_RPIT/OORXCRR1.Pos.stVal	RHDHEP3.與位果	
15	HENE CHILS	61	P160	GOINGGIO2		7 1	2205 IB RRIT/OORXCRRI Rost	BitatiSk等位要	
36	LUSAN CONTRACT	GI	PIGO	GOINGGIO2			206 IR RRIT/ODCVCRRI Rec et/al	(19449331)1111	
21	AL ANY TELEVISION	61	0100	CONIGGIO2		0 1	2005 IN THOUS CREDIT Days	CONTRACT	
21	MA CELIGIORE	01	PINO DICO	CONCCION		9 10	2000 NPT/QCACDID/Ost	Canada Canad	
22	Plat.1	01	P100	CONCORT		10 1	22006 KPIT/QGLXSWILP6SSWI	1977 JA102 02	
32	12191-2	01	MGO	GOINGGEON		11 1	220038 KPTI/QG1ASWILPOS.t	22214/191	
15	四传1-3	61	PIGO	GOINGGIO4		12 1	220636 KPTT/QG2XSWILPos.stVel	用/ 2028	
34	1四倍1-4	Gl	PIGO	GOINGGIO4		13 1	2206JB RPIT/QG2XSWII.Pos.t	用/7,242.25	
05	运传1-5	G1	PIGO	GOINGGIO4		14 R	2206JB RPIT/QG3X5WI1.Pos.stVal	闸刀3位置	
06	送传1-6	Gl	PIGO	GOINGGIO4		15 II.	2206JB RPIT/QG3XSWII.Pos.t	闸刀1位置	
01	运传2-1	G1	PIGO	GOINGGIO5	1	16 L	2206JB RPIT/QG4XSWI1.Pos.stVal	闸刀4位置	
02	运传2-2	G1	PIGO	GOINGGIO5		17 II.	2206JB RPIT/QG4XSWII.Pos.t	间刀4位置	
3	运传2-3	G1	PIGO	GOINGGIO5		18 1	2206JB RPIT/QGD1XSWI1.Pos.stVal	接地闸刀1位置 2	
14	远传2-4	G1	PIGO	GOINGGIO5		19 B	2206JB RPIT/OGD1XSWILPos.t	格达到71位于	
05	法传2-5	G1	PIGO	GOINGGIO5		20 1	2206JB_RPIT/OGD2XSWILPos.stVal	接住间712位置	
6	(元体2-6	GI	PIGO	GOINGGIOS		21 0	206 IR RPIT/OGD2XSWIT Post	集他展门2位表	
11	1010181025-01-1	61	P160	GOINGGIOS		22 8	206 IR RRIT/OGD3//SWII Pos et/al	按44回77305要	
12	HCMHOLER.2	61	P1G0	CONICCION		22 8	2006 ID RDIT/OGD2VSWIT Bort	10/07/ J-020	
12	44 C 18 1 40 1 - 4	C1	0100	CONCOR		22 1	2000 RPTT/QCD4VCMR Des still	10/071/J-020	
	ALCOMOUNT OF A	61	P100	CONCORD		24 1	22005 NPT/ QOD4/SWILPOSSIVE	· · · · · · · · · · · · · · · · · · ·	
<i>м</i>	具七1米伊4311F-4	01	PIGO	COINCOICE		22 1	22000 KPTT/Q0D4ASWILP053	· 按规则/ Piuž	
15	智FS:维导-2015-2	GI	MGO	GUINGGIUG		26 1	22003B RPTT/QGD5X5WD.Pos.stval	會用位置1	
06	其它保护动作-0	61	PIGO	GOINGGIO6		27 1	2206JB KPIT/QGD5XSWD.Pos.t	會用位置1	
						28 1	2206JB RPIT/QGD6XSWI6.Pos.stVal	資用位置 2	
						29 1	2206JB RPIT/QGD6XSWI6.Pos.t	各用位置2	
						30 R	2206JB RPIT/ProtInGGIO1.Ind1.stVal	间颜重合闸	
						31 11	2206JB RPIT/ProtInGGI01.Ind2.stVal	开关压力低禁止重合闸	
						32 1	2206JB RPIT/ProtInGGIO1.Ind5.stVal	KKJ合后位置	
						33 R	2206JB RPIT/ProtInGGIO1.Ind6.stVal	SHJ	
						34 1	2206JB RPIT/ProtInGGI01.Ind7.stVal	STJ	
						35 R	2206JB RPIT/ProtInGGIO1.Ind4.stVal	新路器三相不一致	
						36 1	2206JB RPIT/ProtInGGI01.Ind3.stVal	TUR三跳不启垂合由失灵	
						37 1	2206JB RPIT/ProtinGGI01.Ind3.t	DR三路不會重合由失思	
						38 1	2206JB_RPIT/BinInGGIO2.Indl2.stVal	重会开入	
						30 1	206 IB RPIT/BioloGGIO2 Ind12 #	王母祖八 王会王》	
						33 4	2006 ID PDIT/Binle (COO) In di 2 milei	197A	
						40 1	2305 ID PDIT/DialaGGI02 Indi 2 8	1780(1/) 系統(1)	
						41 1.	2000 NET DISTOCTOR ALL AND	デ約井八	
						42 11	22000 KETT/ BHURGBUZ ING14.STV81	リーニススティー	
						43 D	220036 RP11/BinInGGIOZInd14.t	リアニ政ナ人	
						44 11	22003B KP11/BinInGG2USInG323tVal	UR#A	
						[45] B.	220638 RPI1/BinInGGIO3.Ind32.t	UR#A	
	InDesc		InAddr		OutIndex		OutDe	oName	

Zone with red number 1: List all DOI under IED;

Zone with red number 2: Filter out all data set members (output) that meet the requirements; Zone with red number 3: List Inputs member ExtRef (connection relation) that is related to selected DOI (import).

Notes:

1) Drag a clicked row of data from zone with red number 2 to the above row of data in zone with red



number 1, and release the mouse button to add Inputs member ExtRef to Goose data assembly.

on the top

2) Select a certain row of data in the zone with red number 3, and click the button

to delete the Inputs number ExtRef.

3) Click button **IDM** to look over the association relationship of the currently configured Inputs member ExtRef in IED.



to configure the port information which is received in the Goose data assembly

module.

4)

Configuration for association relationship among IEDs is the key point, and export function of association relationship is provided. Click [IED management] node and jump to IED list interface; and then, click IED to be exported and later click the button [export TXT] marked in red box.

PRS7007 SCD Configuration				-		_			0	
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Overview Schema Protocol	Apply									
in ne iocation: C:/ Users/222/ Desktop/测	uxx 拱机LL.scd									

The exported document in txt format is stored as a backup copy and used for recovery of an error configuration during revision through the following steps:

- 1> Export association relationship excluding description of terminals into a document in txt format (Click button Cancel in a prompted dialog), and back up the document;
- 2> Right click on the button IED management node in the submenu of tool kit SCD's editing interface to import association relationship;



Communication Manager	3 MT2204_SI
+ IED Management IL22063B [#0] Import M IL22065R [+1] Import m	elationship
IL2206_NZ [] Cancel n	elationship 206_SF
- IL2206_SF (北 Copy ied	is from bay 2204_SF
- IT2204_18 [南瑞维保主	9 MT2204_SI

3> Select relational documents of backups;

IEDName	Import from File:
	Virtual Terminal Information
	- Error Messages

The association relationship between import and export is shown, during which the legality thereof will be analyzed. Illegality of the association relationship will be prompted in the form of error message. If the association relationship is imported repeatedly, the error will be prompted as follows:





IEDName	Legal reference information Virtual Terminal Information
	Error Messages

4> Select OK to import legal association relationship;

5> Export association relationship before revision and export another copy after the revision; make a comparison conveniently with the text comparing tool.

Meanwhile, comparison of Goose configuration is also conveniently done through the function of importing.

Given the configuration before revision is GooseCfg\UpLoad\ PRS7789.cfg, the Goose configuration shall be regenerated after the revision.

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SCD Edit									
TED Eilter:		IEDName	IEDDesc	Manufacturers	Туре	VersionCfg	ImportCID	ImportCCD	GenerateCfg [
	13	IT2204_SR	长园深瑞主变智能终端	CYSR	PRS-7789	V2.00	8 Unknown state	8 Unknown state	Unknown state 🎖
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And then, click to view the configuration and get the comparison result.





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4.5.6. GSE Control Module

Provides configuration function for GSE control module of IED, including GSSE and GOOSE types; the default one is GOOSE.

CC PRS7007 SCD Configuration	SF Control Mode	der .				
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IED Filter:	name desc	GooseappID AccessPoint	LDevice	datSet	GooseconfRev	type
⊡-SCL	0 gocb0 1 gocb1	IL2206_JBRPIT/ G1 IL2206 JBRPIT/ G1	RPIT	dsGOOSE0 dsGOOSE1	1	GOOSE
Version Information E Communication Manager	2 gocb2	IL2206_JBRPIT/ G1	RPIT	dsGOOSE2	1	GOOSE
1.2206 F (南陽維) 1.2206 F (右陽常衛結) 1.2206 K (石陽清衛結) 1.2206 SF (北京四方左 1.2206 SF (北京四方左 1.2206 SF (北京田方左 1.2206 JS (北南地平佐 1.2204 JS) 8 (南陽維保主 1.72204 JS) (南陽和核査) 1.72204 JS (南原西方言 1.72204 JS (北京西方言				-		
IT2204_SR [长园深瑞: IT2204_XJ [许继电气:j	Private property:		Subscribe	IED list:		All IED list:
ML2206JB [南瑞維保約 	Plates ID Network port ID	VLAN ID				
	2					Add Pel
Text View						

① List GSE control module of IED and attributes thereof;

② List plate & internet access number, private attribute of VLAN number, and SZNARI characteristic, which are for generation of Goose configuration;

4.5.7. SMV Control Module

Provides configuration function for SMV Control Module of IED.



PRS7007 SCD Configuration	Includes Designation	A REAL PROPERTY AND	and and	ten internet in	
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IED Eilter	name desc	SMVsmvID AccessPoint	LDevice datSet	confRev multicast	smpRate ASDU number SMVOpts
IED Filter:	0 smvcb0	MUSV/LLN0.sm M1	MUSV dsSV	1 true	4000 1 0002
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Version Information					
E IED Management			1		
IL2206JB [南瑞維保线			÷		
IL2206SR [长园深瑞线					
— IL2206_KJ [南瑞科技约					
IL2206_SF [北京四方3_]					
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ML2206_NZ [国电南自					
				<	Add
ML2206_SR [长园深瑞					
				ć	Del
Text View					

- ① List SMV control module of IED and attributes thereof;
- 2 Display the transmission option of report control block.

4.5.8. Constant Value Control Module

Provides configuration function for Constant Value Control Module of IED.



4.5.9. SCL Control Module

Provides configuration function for SCL Control Module of IED.



PRS7007 SCD Configuration) 🔀
File(E) Edit(E) View(V) Verify(E) Too	ool[] Operate(0) Help(H)	
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ToolBox 🗗 ×	X DataSet Instantiated ReportControlBlock SettingControlBlock GSEControlBlock SMVControlBlock LogControlBlock Log SCLControlBlock Graph	
IED Filter:	desc AccessPoint LDevice	
MT2204_SF [1表四方::] MT2204_SF [1表理::] MT2204_SF [1法理::] PL2201_SI [1法理::] PL2202_SI [1法理::] PL2205_SI [1法] PL2206_SI [1法] PL2206_SI [1法] PL2206_SI [1法] PL2205_SI [1法] PL2205_SI [1法] PL2205_SI [1法] PL2205_SI [1法] PL2205_SI [1] PL220_SI [1] PL2204_SI [1] PT2204_SI [1] PT2204_SI [1] PT2204_SI [1] PT2204_SI [1] PT2204_SI [1] PT2204_SI [1]		
Text View		

4.5.10. Log

Provides configuration function for Log of IED.



4.5.11. SV Data Assembly



Zone with red number 1: List all DOIs under IED;



Zone with red number 2: Filter out data set members that meet the requirements (export); Zone with red number 3: List Inputs member ExtRef (connection relation) that is related to the selected DOI (import);

Notes:

4)

1) Drag one selected row from zone with red number 2 to the above row of a certain item of data in zone with red number 1, and release the mouse button to add Inputs member ExtRef to SV;

2) Click a certain row of data in zone with red number 3, and click the button

on the top to

delete Inputs member ExtRef.



3) Click button to view the association relationship of the currently configured Inputs member ExtRef in IED;



to configure port information that is received by SV.

4.6.Verification Function

Click button

Verification is provided respectively for Schema grammar and protocol. For the verification of Schema grammar, SCD file is verified in accordance with Schema grammar file under SchemaFile file; and for the verification of protocol, it is stipulated for verification of 61850 communication protocol. Verification information will be displayed in the output information zone.

4.7. View of Goose Configuration

View Goose configuration in IED, including communication configuration, ExtRef (connection relation) of Inputs, etc.

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SCD Edit	name	desc	AccessPoint	Device	1		INode			
D Filter:	0 dsGOOSE0	保护GOOSE发	G1	RPIT	LLN0		Enoue			
Version Information	1 dsGOOSE1	测控GOOSE发	G1	RPIT	LLN0					
ED Management	2 dsGOOSE2		G1	RPIT	LLN0					

 Select IED and click the button . There will be a green tick shown in the configuration generation column if the Goose configuration succeeds, and default name .cfg will be generated in subdirectory of GooseCfg\DownLoad.



2) Double click or select and click the button

to display and view Goose configuration.

4.8. Text View

Text View mainly implements the function of browsing the information of the version of SCD files, communication information, IED information and data type template information in XML method.

VIEW

PRS7007 SCD Configuration		No. or o			NA G									w Genese contiguences.	
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Test Manual	3	<private th="" typ<=""><th>e="NR_Board</th><th>>Type:N</th><th>R1136, Slot</th><th>B01, Fiber:</th><th>8<th>e></th><th></th><th></th><th></th><td></td><td></td><td></td><td></td></th></private>	e="NR_Board	>Type:N	R1136, Slot	B01, Fiber:	8 <th>e></th> <th></th> <th></th> <th></th> <td></td> <td></td> <td></td> <td></td>	e>							
lext view	4	<private th="" typ<=""><th>e="NR_Board</th><th>>Type:N</th><th>R1136, Slot</th><th>B02, Fiber:</th><th>B<th>e></th><th></th><th></th><th></th><td></td><td></td><td></td><td></td></th></private>	e="NR_Board	>Type:N	R1136, Slot	B02, Fiber:	B <th>e></th> <th></th> <th></th> <th></th> <td></td> <td></td> <td></td> <td></td>	e>							
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Version Information	6日	<services></services>													
Communication Manager	7	< ConfDat	aSet max="32	" maxAttr	ibutes="2	56"/>									
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IL2206JB [南)語語 (除)	9	< GOOSE r	max="10"/>												
IL22005K [代因采捕我	10		<												
11.2200_KJ [图场科技3:	118	< AccessPoir	nt name="G1"	>											
11 2200_112 (国电用日)	12日	<server></server>													
112206_31 [北宋西/]5	14	Autrie	ntication/>	27											
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	18		ECDA daNan	ne="t" do	Name="P	s" fc="ST"	IdInst="	RPIT" InCl	ass="XC	BR" InIns	t="1" nre	fix="00"/>	1		
IT2204_SR [长园深瑞:	19		FCDA daNan	ne="stVal	doName	"Pos" fc=	ST" IdIns	t="RPIT"	InClass=	"XCBR" I	nInst="2"	prefix="00"	1/>		
IT2204_XJ [许继电气 j	20		FCDA daNan	ne="stVal	doName	"Pos" fc=	"ST" IdIns	t="RPIT"	InClass=	"XCBR"	nInst="3"	prefix="00"	1/>		
ML2206JB [南瑞維保約	21		FCDA daNan	ne="stVal"	doName	"Pos" fc="	"ST" IdIns	t="RPIT"	InClass=	"XCBR"	nInst="1"	prefix="Q04	A"/>		
ML2206_KJ [南瑞科技	22		FCDA daNan	ne="t" do	Name="P	os" fc="ST"	IdInst="	RPIT" InCl	ass="XC	BR" InIns	t="1" pre	fix="QOA"/>	-		
ML2206_NZ [国电南自	23		FCDA daNan	ne="stVal"	doName	"Pos" fc=	ST" IdIns	t="RPIT"	InClass=	"XCBR"	nInst="1"	prefix="QOE	B"/>		
ML2206_SF [北京四方	24		FCDA daNan	ne="t" do	Name="P	os" fc="ST"	IdInst="	RPIT" InCl	ass="XC	BR" InIns	t="1" pre	fix="QOB"/>			
- ML2206_SR [长园深瑞	25		FCDA daNan	ne="stVal"	doName	="Pos" fc=	"ST" IdIns	t="RPIT"	InClass=	"XCBR" I	nInst="1"	prefix="Q00	C"/>		
— ML2206_XJ [许继电气	26	-	FCDA daNan	ne="t" do	Name="P	os" fc="ST'	IdInst="	RPIT" InCl	ass="XC	BR" InIns	t="1" pre	fix="QOC"/>			
- MM2201_JB [南瑞維作 _ 1	27	-	FCDA daNan	ne="stVal"	doName	="Pos" fc="	"ST" IdIns	t="RPIT"	InClass=	"XSWI" Ir	nInst="1"	prefix="QG1	L"/>		
MM2201 KI 「 菌理 到 长	28		FCDA daNan	ne="t" do	Name="P	os" fc="ST"	IdInst="	RPIT" InCl	ass="XS	MI" InInst	t="1" pre	fix="QG1"/>			- 1
	20		ECDA dablas	nc="etVal	doName	"Dec" fr-	"CT" Idlar	+_"DNIT"	InClass-	VCIAR! L	alast="1"	wrafiv_"OG3	5 "/~		
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4.9. Configuration Download

SCD tool provides the downloading of Goose/SV configuration files, and downloading configuration files for the appliances is completed through the toolbar. Below are the detailed descriptions of the toolbar. Before the configuration file is generated, a certain IED needs to be chosen as in the picture below.

PRS7007 SCD Configuration			-					1000	1000		
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IED Filter:		IEDName	IEDDesc	Manufacturers	Туре	VersionCfg	ImportCID	ImportCCD	GenerateCfg	DownloadCfg	Upload 1
d sci	1	MM2201_SF	北京四方母线合并单元	SiFang	CSD602	V2.00 2014.11.5	8 Unknown state	Unknown state	8 Unknown state	8 Unknown state	2 Unknov
Version Information	2	ML2206_SF	北京四方线路合并单元	SiFang	CSD602	V2.00 2014.11.5	8 Unknown state	Unknown state	8 Unknown state	8 Unknown state	Unknov
Communication Manager	3	MT2204_SF	北京四方主变合并单元	SiFang	CSD602	V2.00 2014.11.5	8 Unknown state	Unknown state	8 Unknown state	8 Unknown state	2 Unkno
SMV [IECSMV]	4	SWitch01	交换机1	SF	CSC-150A-DA-G	V1.00	8 Unknown state	Unknown state	8 Unknown state	8 Unknown state	2 Unknov
GOOSE [IECGOOSE]	5	WSitch02	交换机2	SF	CSC-103A-DA-G	V2.00	8 Unknown state	Unknown state	8 Unknown state	8 Unknown state	2 Unknov
MMS B [8-MMS]	6	IT2204_SF	北京四方主变智能终端	SIFANG	CSD601	1.00	8 Unknown state	Unknown state	8 Unknown state	8 Unknown state	2 Unknov
GOOSE1 [IECGOOSE]	7	IL2206_SF	北京四方线路智能终端	SIFANG	CSD601	1.00	8 Unknown state	Unknown state	8 Unknown state	8 Unknown state	Vnknov
IED Management	8	PT2204_SF	北京四方四方主变保护	SF	CSC-326T2-DA-G	V2.00	8 Unknown state	Unknown state	8 Unknown state	8 Unknown state	2 Unknov
IL2206JB [南埔继保线 IL2206CD [上国家III48	9	MT2204_SR	长园深瑞主变合并单元	长园深瑞	PRS7393	V1.0	8 Unknown state	Unknown state	8 Unknown state	8 Unknown state	2 Unknov
11.2206 KJ [南瑞科技:	10	ML2206_SR	长园深瑞线路合并单元	长园深瑞	PRS7393	V1.0	8 Unknown state	Unknown state	8 Unknown state	8 Unknown state	2 Unknov
IL2206_NZ [国电南自约	11	MM2201_SR	长园深瑞母线合并单元	长园深瑞	PRS7393	V1.0	8 Unknown state	Unknown state	8 Unknown state	8 Unknown state	2 Unknov
IL2206_SF [北京四方約	12	PL2206_SR	长园深瑞线路保护	CYSR	PRS-753A-DA	V1.10	8 Unknown state	Unknown state	8 Unknown state	8 Unknown state	2 Unknov
IL2206_XJ [1+38电气影 IT2204_IB [责订始终k/B >	13	IT2204_SR	长园深瑞主变智能终端	CYSR	PRS-7789	V2.00	8 Unknown state	Unknown state	8 Unknown state	8 Unknown state	2 Unknov
IT2204_JD [南瑞報休日 IT2204 KJ [南瑞科技主	14 🖌	IL2206SR	长园深瑞线路智能终端	CYSR	PRS-7789	V2.00	8 Unknown state	Unknown state	8 Unknown state	8 Unknown state	Unknov
IT2204_NZ [国电南自:	15	PT2204_SR	长园深瑞主变保护	CYSR	PRS-778T2-DA	V1.0	8 Unknown state	Unknown state	8 Unknown state	8 Unknown state	2 Unknov
	16	ML2206_NZ	国电南自线路合并单元	SAC	PSMU	1.0	8 Unknown state	Unknown state	8 Unknown state	8 Unknown state	2 Unknov
- IT2204_SR [长园梁瑞三 IT2204_XI [於均時中 复う	17	MT2204_NZ	国电南自主变合并单元	SAC	PSMU	1.0	8 Unknown state	Unknown state	8 Unknown state	8 Unknown state	2 Unknov
ML2206JB [南瑞继保4二	18	PM2201_NZ	国电南自母线保护	GDNZ	SGB-750A-DA-G	V2.04	8 Unknown state 1	Unknown state	8 Unknown state	💡 Unknown state	2 Unkno
Text View	19	PL2206_NZ	国电南自线路保护	GDNZ	PSL-603UA-DA-G	V1.02	2 Unknown state	Unknown state	2 Unknown state	2 Unknown state	Vnknor≚ ♪
					Output 1P	age					8.

4.9.1. Upload Goose Configuration

```
The
```

G

button implements the function of uploading Goose.cfg from the appliance to the local

computer. Check the detailed information of the uploaded configuration with the

button after you

VIEW



have completed uploading the file. Detailed configuration information is shown in the picture below (on the left of the tree graph are configurations uploaded from the appliance, and on the right are the configurations generated locally):

11.22065R——长日军续15篇智武终端										
Local config	New config									
Least config	Free cong - Congle - Congle - Input Gradytant (Grad)									
Expond ell	openAndCompare compare close									

4.9.2. Download Goose Configuration

The **button** implements the function of generating and downloading the GOOSE configuration for the currently selected IED appliance.

On the main interface, select the IED Management node and select an IED device in the right view,then

click the button, sselect the download way on the download interface as "Overseas way", and set the "Support MMS GOOSE" checked, input the correct IpAddr, finally start to download.

PRS7007 SCD Configuration										
<pre>File(E) Language(L) Edit(E) View(V)</pre>	Veri	fy(<u>F</u>) Tool(D	Opera	ate(O) H	Help(H)			
A Sch Pro	ALI		4		↑ G	₽G	Export	Export CCD	GEN GO	VIE
ToolBox 🗗 🗙	~		-	_		2.2.1				
SCD Edit	Sta	ition	CRC:	40	:45DA	3D				
IED Filter			EDNar	me	IE	DDesc	Ma	anufactu	rers	
	1	~	✓ PRS7367		PRS-7	7367	CYS	CYSR		
Version Information	2		BS1		BUS S	BUS SECTION 1		Ingeteam		Ing
Communication Managemer										
Substation										
IED Management										
BS1 [BUS SECTION 1]										
PRS7367 [PRS-7367]										



Download way:	Six unity	
Bvte Order:	CommonStyle	
	Overseas way	
Download Dir:	/C/Tmp/	\$
ED2	Support MMS GOOSE	Anti mistakenly download
Device informatio	n	
UserName: szi	nari IpAddr: 192.168.253.3	Password: *

4.9.3. Generate GOOSE Configuration

The button implements the function of generating the GOOSE configuration for the currently

selected IED appliance. Check the detailed information of the uploaded configuration with the button.

4.9.4. Download SV Configuration

The button implements the function of generating and downloading the SV configuration file for the currently selected IED appliance.

4.9.5. One-key Downloading of GOOSE/SV Configurations

The button implements the function of generating and downloading the GOOSE/SV configurations together for the currently selected IED appliance.

4.9.6. Download CID Configuration

The button implements the function of generating and downloading the CID configuration for the currently selected IED appliance.

5. Instructions

A realistic example is provided to show you how to use the SCD configuration tool.

VIEW GO



5.1.Import ICD File

Create a new SCD file - Example.scd, and import CE2001.icd and IE2201A.icd files separately.



5.2. Communication Configuration

To set communication parameters as needed, select Communication Manager in the navigation zone, right click on it and select Add Network in the context menu.



Then click in the toolbar to add ConnecteAP for the network.



IEC):	全部IED								\$	
Ne	tWork	SMV[IECSMV]		¢ A	ccessPoint:	Type: Address			\$		
1		IEDName	IEDD	esc	oint	Î	Access	cessPointDesc			
1		IL2206JB	南瑞继保组	找路	<mark>G</mark> 1						
2		IL2206SR	长园深瑞线	找路	G1		G	OOSE服务	予功能		
3		IL2206_KJ	南瑞科技线	浅路…	G1					-	
4		IL2206_NZ	国电南自约	浅路…	G1				_		
5		IL2206_SF	北京四方纲	浅路…	G1						
6		IT2204_JB	南瑞继保	È变…	G1						
7		IT2204_KJ	南瑞科技	È变…	G1						
8		IT2204_NZ	国电南自主	È变…	G1						
9		IT2204_SF	北京四方:	È变…	G1						
10		IT2204_SR	长园深瑞	È变…	G1		G	OOSE服夠	予功能		
11		ML2206JB	南瑞继保组	浅路…	G1					-	

Set the parameters for the network.

ToolBox & X	Netw	ork Name: SMV				Bus Protoco	ol Type: IECSM	(Rate: 0
Filter:	Ad	dress GSE	SMV								
SCL Version Information		IEDName	ConnectedAPDesc	AccessPointName	SMVDesc	SMVControlBlock	LDevice	MAC-Address	VLAN-ID	VLAN-PRIORITY	APPID
Communication Managemen	1	ML2206JB		M1		smvcb0	MUSV	01-0C-CD-04-0	000	4	4002
SMV [IECSMV]	2	ML2206_SF		M1		MSVCB01	MUSV	01-0C-CD-04-0	0	4	4001
GOOSE [IECGOOSE] MMS_A [8-MMS] MMS_B [8-MMS] GOOSE1 [IECGOOSE]	3	MT2204_SR		M1		Smvcb0	MUSV	01-0C-CD-04-0	000	1	4007
	4	ML2206_NZ		M1		MSVCB01	MUSV	01-0C-CD-04-0	000	1	4009
	5	MM2201_SF		M1		MSVCB01	MUSV	01-0C-CD-04-0	0	4	4005
IED Management	6	MT2204_SF		M1		MSVCB01	MUSV	01-0C-CD-04-0	0	4	4004
	7	MM2201_JB		M1		smvcb0	MUSV	01-0C-CD-04-0	000	4	4006
	8	MM2201_NZ		M1		MSVCB01	MUSV	01-0C-CD-04-0	000	1	4008
	9	MT2204_JB		M1		smvcb0	MUSV	01-0C-CD-04-0	000	4	4003
	10	ML2206_SR		M1		Smvcb0	MUSV	01-0C-CD-04-0	000	1	400A
	11	MT2204_NZ		M1		MSVCB01	MUSV	01-0C-CD-04-0	000	1	400B

5.3.IED Configuration

IED configuration mainly performs the configurations for the data set, data assembly, and GSE control



module.

1) Data Set

Select data set, filter out the eligible FCDAs, and add FCDA members for the data set.

PRS7007 SCD Configuration											×
File(E) Edit(E) View(V) Verify(E) Tool	① Operate(①) Help(Help(Help(Help(Help(Help(Help(Help(H)	01								
🔊 🕲 🗃 🕂 🗕	Sch Pro ALL	🤞 🕇		GEN VIEW Es	₩ ↓ S	GS 🕴	₽ §	₩	1 ^s		
ToolBox & X	DataSet Instantia	ted ReportCor	ntrolBlock Set	tingControlBlock	GSEControlBlo	ock SMV	ControlBloc	k LogControlBlock	Log Si	CLControlBlock Graph	
	name	desc	AccessPoint	LDevice				LNoc	e		
IED Filter:	0 dsGOOSE0	保护GOOSE发	G1	RPIT	LLN0						
B SCL	1 dsGOOSE1	测控GOOSE发	G1	RPIT	LLN0						1
Communication Manager	2 dsGOOSE2		G1	RPIT	LLN0						
GOOSE1 [IECGOOSE] □ IED Management IL2206JB [南端維保线 IL2206SR [卡因梁湍线 IL2206_KJ [南端維接线 IL2206_KJ [南端科技約 IL2206_KJ [南端科技約	DataSet members:			Func	constraint:ST		LN:	[LLN0]		↓ Func constraint	t: ST 🗘
IL2206_37 [北泉西川东 IL2206_XJ [许继电气约	referenc	e	d	esc	-		Ref filter:			 Expand to 	DO 😫
IT2204_JB [南瑞維保主	0 RPIT/Q0XCBR	1.Pos 总断路器(立置								
IT2204_KJ [南瑞科技]	1 RPIT/Q0XCBR	1.Pos.t 总断路器(立置					reference		desc	
	2 RPIT/Q0XCBR	2.Pos 断路器逻辑	儲位置三跳单合				0 RPIT/	LLN0.Beh			
IT2204_SR [长园深瑞]	3 RPIT/Q0XCBR	3.Pos 断路器逻辑	儲位置单跳三合				1 RPIT/	LLN0.Health			
IT2204_XJ [许继电气 j	4 RPIT/Q0AXCB	R1.Po A相断路器	检告			dd 🤃	2 RPIT/	LLN0.Mod			
→ ML2206JB 南福維保全	5 RPIT/Q0AXCB	R1.Po A相断路器	验金 置		-1						
Text View						- Del	L				

2) GSE Control Module

GSE Control Module mainly configures the private attributes. Private attributes specify the parameters for the appliance to send and receive data.

PRS7007 SCD Configuration									×
File(E) Edit(E) View(V) Verify(E) Tool	(I) Operate(Q) Help(H)								
🕹 🕲 🖪 🕂 🗕	Sch Pro ALL	1 16 4	G Expert Expert	GEN VIEW EN GO GO T	S S S S S S S S S S S S S S S S S S S	1: 1	§ ∔ §î 1 §î		
ToolBox 🗗 ×	DataSet Instantiated	d ReportCor	ntrolBlock Settin	gControlBlock	GSEControlBlock	SMVControl	Block LogContro	IBlock Log SCLControlBlock Graph	
IED Eilter:	name	desc	GooseappID	AccessPoint	LDevice	datSet	GooseconfRev	type	
	0 gocb0		IL2206_JBRPIT/	G1	RPIT	dsGOOSE0	1	GOOSE	
Version Information	1 gocb1		IL2206_JBRPIT/	G1	RPIT	dsGOOSE1	1	GOOSE	
Communication Manager	2 gocb2		IL2206_JBRPIT/	G1	RPIT	dsGOOSE2	1	GOOSE	
- GODS [IECGODS] - MMS, [8-MMS] - MMS, [8-MMS] - GODSEI [IECGODSE] - IED Management - IL22065 [I] (古賀林技 - IL22065 [1] (百爾林技 - IL22065 [1] (百爾林技 - IL22065 [1] (百爾南自) - IL2206 5F (古代四方) - IL2206 5F (古代四方)									
IT2204_JB [南瑞維保主	Private property:				Subscribe	ED list:		All IED list:	
11.2204_IXZ (蜀龍科技3 11.2204_IXZ (国电南自: 11.2204_SF (北京四方3 11.2204_SF (米园环境: 11.2204_SF (米园环境: 11.2204_XJ) (许维电气3 ML2206JB (南田総修保4 	Plates ID N	letwork port ID	VL	AN ID				Add Del	

5.4.Verification

Verification of the SCD file is needed after you have completed these settings. Verification function can be accessed through the verification menu



or toolbar.



Sch Pro ALL

Schema Verification mainly verifies whether the SCD files match the format required by Schema. Schema is a 2003 version.

Protocol Verification mainly verifies:

- 1) Whether there is duplication of the names of the visiting points
- 2) Whether there is duplication of the names of LDs

3) Whether the prefix, lnClass and lnInst of the LN are the same at the same time; whether the corresponding LNodeType for the LN exists

4) Whether there is duplication of names of the data sets; whether the relevant LN, LNodeType, DO, DOType, DA, DAType of the FCDA in the data set exist; whether at least one FCDA member exists in the data sets

5) Whether there is duplication of names of the report control modules; whether the linked data set of the report control module exists

6) Whether there is duplication of names of GSE control modules; whether the linked data set of the GSE control module exists; whether the private attributes of GES control module are legal

7) Whether there is duplication of names of SMV control module; whether the linked data set of GSE control module exists;

8) Whether there is duplication of names of Log control modules; whether the linked data set of the Log control module exists;

- 9) The number of Fixed-value control modules under LN0 can only be 1
- 10) Whether the DOI-relevant DO, DOType, DA, DAType exist
- 11) Whether the corresponding DOType of LNodeType/DO exists
- 12) Whether the corresponding DAType or EnumType of DOType/DA exists

5.5.Export CID File

Select the IED of the CID file to be exported, and export the CID file.

PRS7007 SCD Configuration	_		1.572								
File(E) Edit(E) View(V) Verify(E) Too	I(T) Op	erate(O) Help(H	Ð								
🔄 🖏 🔚 🖌 Y	ALL	🔏 🕇	G Expert Expert	GEN VIEW Experi GO GO TXT	↓S ↓Gs	↓c ↓c		ar 1st			
ToolBox & ×	Station	n CRC: [f5022d7	70								
IED Filter:		IEDName	IEDDesc	Manufacturers	Туре	VersionCfg	ImportCID	ImportCCD	GenerateCfg	DownloadCfg	Upload 1
is set	10	ML2206_SR	长园深瑞线路合并单元	长园深瑞	PRS7393	V1.0	8 Unknown state	💡 🖁 Unknown state	🔋 🦹 Unknown state	8 Unknown state	2 Unknow
Version Information	11	MM2201_SR	长园深瑞母线合并单元	长园深瑞	PRS7393	V1.0	8 Unknown state	💡 🖁 Unknown state	🔋 🦹 Unknown state	8 Unknown state	2 Unknov
Communication Manager	12	PL2206_SR	长园深瑞线路保护	CYSR	PRS-753A-DA	V1.10	8 Unknown state	💡 Unknown state	🔋 💡 Unknown state	8 Unknown state	2 Unknov
SMV [IECSMV]	13	IT2204_SR	长园深瑞主变智能终端	CYSR	PRS-7789	V2.00	8 Unknown state	💡 🖁 Unknown state	🔋 💈 Unknown state	8 Unknown state	2 Unknov
GOOSE [IECGOOSE]	14 🗸	IL2206SR	长园深瑞线路智能终端				Second Success	💡 Unknown state	🔋 🦹 Unknown state	💈 Unknown state	2 Unknow
MMS B [8-MMS]	15	PT2204_SR	长园深瑞主变保护	CYSR	PRS-778T2-DA	V1.0	8 Unknown state	💡 🖁 Unknown state	🔋 💈 Unknown state	8 Unknown state	2 Unknow
GOOSE1 [IECGOOSE]	16	ML2206_NZ	国电南自线路合并单元	SAC	PSMU	1.0	8 Unknown state	2 Unknown state	🔋 💡 Unknown state	8 Unknown state	2 Unknov
= IED Management	17	MT2204_NZ	国电南自主变合并单元	SAC	PSMU	1.0	8 Unknown state	💡 🖁 Unknown state	🔋 💡 Unknown state	8 Unknown state	2 Unknov
IL2206JB [南瑞維保线]	18	PM2201_NZ	国电南自母线保护	GDNZ	SGB-750A-DA-G	V2.04	8 Unknown state	💡 Unknown state	💡 💡 Unknown state	8 Unknown state	2 Unknov
1122005K [下西:宋诵戎	19	PL2206_NZ	国电南自线路保护	GDNZ	PSL-603UA-DA-G	V1.02	8 Unknown state	💡 🖁 Unknown state	💡 Unknown state	8 Unknown state	2 Unknov
	20	MM2201_NZ	国电南自母线合并单元	SAC	PSMU	1.0	2 Unknown state	2 Unknown state	2 Unknown state	8 Unknown state	2 Unknov
	21	IT2204_NZ	国电南自主变智能终端	SAC	PSMU	1.0	2 Unknown state	2 Unknown state	2 Unknown state	8 Unknown state	2 Unknov
IL2206_XJ [许继电气氛	22	IL2206 NZ	国电南自线路智能终端	SAC	PSMU	1.0	2 Unknown state	2 Unknown state	2 Unknown state	2 Unknown state	2 Unknov
112204_JB [南埔継保王	23	PT2204 NZ	国电南自主变保护	GDNZ	PST-1200UT2-D	V1.01	2 Unknown state	2 Unknown state	2 Unknown state	2 Unknown state	2 Unknov
	24	PM2201JB	南瑞绯保母线保护	NRR	PCS-915A-DA-G	V3.00	2 Unknown state	2 Unknown state	2 Unknown state	2 Unknown state	2 Unknov
IT2204_SF [北京四方主	25	PL2206 JB	南瑞绯保线路保护	南瑞绯保	PCS-931A-DA-G	V4.00	2 Unknown state	2 Unknown state	2 Unknown state	9 Unknown state	2 Unkno
IT2204_SR [长园深瑞三	26	IT2204 JB	南瑞維保主変智能终端	NRR	PCS-222B	1.00	2 Unknown state	2 Unknown state	2 Unknown state	2 Unknown state	2 Unknov
112204_XJ [许继电气 j	27	IL2206JB	南瑞維保維路智能终端	NRR	PCS-222B	1.00	2 Unknown state	2 Unknown state	2 Unknown state	2 Unknown state	2 Unkno
	28	PT2204 JB	南瑞維保主变保护	NRR	PCS-978T2-DA	V4.00	2 Unknown state	2 Unknown state	2 Unknown state	2 Unknown state	2 Unknor
Text View	1		Transfer marshall be b			410000000					<u> </u>

5.6.Export GOOSE Configuration

Certain amount of verification, relevant to GOOSE configuration, is performed during the process of exporting the GOOSE configuration, the GOOSE configuration file is generated through the verification.



6. Notes

In compliance with the specific requirements of grammars of the files themselves and projectization, there are some matters that need special attention as follows:

- 1) The name of the data set or control module shall be unique in the LN or LN0
- 2) The name of the data set linked to the control module must exist in LN or LN0
- 3) The number of fixed values shall be equal to or greater than that of the current fixed value zone

4) Grammar verification must be performed when file configuration is completed, and then verified through the verification function. The file can only be written to the server after you have confirmed that there are no mistakes.