



Release Notes for the Cisco Connected Grid Design Suite (CGDS) - Substation Workbench Release 1.5

Current Release: 1.5 - October, 2013

This document describes the system requirements, features, and open caveats for the Cisco Connected Grid Design Suite (CGDS) - Substation Workbench. Use this document in conjunction with the documents listed in the [“Related Documentation”](#) section on page 7.

Contents

- [Introduction to the Cisco Connected Grid Design Suite, page 1](#)
- [System Requirements, page 2](#)
- [Features, page 3](#)
- [Open Caveats, page 6](#)
- [Related Documentation, page 7](#)

Introduction to the Cisco Connected Grid Design Suite

The Cisco Connected Grid Design Suite (CGDS) is a portfolio of software modules, hardware appliances, and services that are developed to support operational engineers throughout the grid modernization lifecycle. The first software module released within the suite is the Substation Workbench. The Substation Workbench provides a single pane-of-glass visualization capability for protection and telecommunications networks, and enables vendor-agnostic substation configuration via standards-based templates. Using the Substation Workbench, engineers are able to design, deploy, and monitor distributed automated substation communications networks supporting next-generation grid applications.



[Send documentation comments to cgds-docfeedback@cisco.com](mailto:cgds-docfeedback@cisco.com)

System Requirements

The CGDS Release 1.5 includes the following components:

- [CGDS Designer, page 2](#)
- [CGDS Monitor, page 2](#)

CGDS Designer

Table 1 *CGDS Designer - System Requirements*

Item	Supported Requirements
Operating System	Windows 7 64-bit
Hardware	<ul style="list-style-type: none"> • Dual Core 64-bit Intel-based • 4 GB RAM • 40 GB hard disk
Languages	English

CGDS Monitor

Table 2 *CGDS Monitor - System Requirements*

Item	Supported Requirements
Operating System	Red Hat Linux (RHEL) 5.8 64-bit
Hardware	<ul style="list-style-type: none"> • Cisco UCS C220 M3 (Non-hardened system) OR • Advantech UNO 4863 (Hardened system)
UI Runtime	<ul style="list-style-type: none"> • Internet Explorer 8.0 or higher on Windows 7 • Firefox on Windows 7 • Google Chrome on Windows 7
Languages	English

Send documentation comments to cgds-docfeedback@cisco.com

Features

- [CGDS Designer, page 3](#)
- [CGDS Monitor, page 4](#)

CGDS Designer

The following CGDS Designer features enable you to access its capabilities:

- [User Management, page 3](#)
- [Model Creation, page 3](#)
- [Validation, page 3](#)
- [Export, page 3](#)
- [DNP Support, page 4](#)
- [Non-Cisco Switch Support, page 4](#)

User Management

The User Management module enables you to add and manage users for the substation design. All of the substation designers are expected to locally install a copy of the CGDS Designer, and connect to the centralized database for designing the substation.

Model Creation

The CGDS supports the creation of the 61850 or the DNP3-based model. For a new substation, it enables designing from scratch. For an existing substation, you can discover the topology using the Auto Discovery feature in the CGDS Monitor, and export the output as an XML file. This XML file is then imported into the CGDS Designer, and you can continue with designing the substation.

As part of creating a model, you can establish a connection between the Intelligent Electronic Devices (IEDs) and switches, correlate how the IED exchanges information with them, and specify other details, such as the VLAN, port number, and other information that is related to the communication topology.

Validation

After designing the topology, you can validate the switch connectivity, switch to IED connectivity, and obtain the VLAN information. This feature enables you to perform some basic validation before exporting it for verification using the CGDS Monitor.

Export

Apart from the export mechanisms that are available in the CGDS 1.0 release, the following export mechanisms are added to the CGDS Designer in the CGDS 1.5 release:

- The substation topology export helps to export the substation diagram, which helps in establishing the connection between the switches and IEDs.
- The signal matrix export enables the possible exchange of signal information between the IEDs that are extracted from the SCL file.

Send documentation comments to cgds-docfeedback@cisco.com

- The IED information provides information on the data structures and attributes that exist for the IEDs that are extracted from the SCL file.

DNP Support

In addition to supporting the 61850-specific IEDs, the CGDS 1.5 release includes support for the DNP IED to specifically address the needs of the North American market. With the help of the Services engagement, you will have to construct the substation representation for the DNP substation.

Non-Cisco Switch Support

In addition to supporting the Cisco CGS2520 switch, the CGDS 1.5 release includes support for the RuggedCom RSG2200 switch. This enables a differentiated display of Cisco and RuggedCom switches. It also supports the validation of switch reliability and switch to IED connectivity. Future releases of CGDS will include support for obtaining VLAN information for the RuggedCom switches.

CGDS Monitor

The following CGDS Monitor features enable you to access its capabilities:

- [Import, page 4](#)
- [Validation, page 4](#)
- [Monitor, page 4](#)
- [Reports, page 5](#)
- [Auto Discovery, page 5](#)
- [Administration, page 5](#)

Import

Supports the import of the substation topology, and the signal matrix and IED information. Using this information, you can validate and monitor the substation activities.

Validation

This functionality, which is available in both the CGDS Designer and Monitor, validates the design and connectivity status for the switch, IED, and VLAN information. It also supports further investigation when the devices are not reachable.

Monitor

The signal matrix indicates the possible information that is exchanged among different IEDs. Additionally, the packet capture functionality enables detailed investigation of the actual traffic that is passed among the IEDs. Currently, the CGDS Monitor supports the DNP3 and GOOSE packet capture.

Send documentation comments to cgds-docfeedback@cisco.com

Reports

Traffic analysis is used to understand the bandwidth utilization across VLANs and different protocols. When the traffic violates an existing pattern, an alarm is generated, which can be seen using the Alarm graph. To understand the response time of various IEDs, a Host Performance graph is supported. Similarly, a DNP-specific response time analysis is supported to better understand the response of these IP-enabled IEDs.

Auto Discovery

For existing substations, instead of designing their topology from scratch, the CGDS provides this functionality. As part of this process, you can identify existing switch and IED connections within the substation, and also establish a relationship with the SCL file. The substation designer can then use this feature to speed up the task of designing the substation.

Administration

The configurations for various validation and monitoring features is done using this module. User management, that is, adding and deleting users, changing their password, and so on is also performed using this module.

Send documentation comments to cgds-docfeedback@cisco.com

Open Caveats

- [CGDS Designer](#), page 6
- [CGDS Monitor](#), page 6

CGDS Designer

Table 3 Open Caveats in the CGDS Designer

Caveat ID	Description
CSCuj81114	<p>When you initiate an action, and before it is completed, initiate another action, an exception error message is displayed. For example, if you click on Model 1, and before it gets loaded, click on Model 2, an exception error message is displayed.</p> <p>Workaround: When the exception error message is displayed, simply restart the CGDS Designer. You will be now be able to work on Model 2.</p>
CSCuj81120	<p>When multiple users are working on the same model, and if one of the users, creates the model and uploads the SCL file, if this SCL file is not present on other users' systems that have the CGDS Designer installed on them, an exception error message is displayed. This exception error message states that the SCL file is missing.</p> <p>Workaround: All of the users must have the same model that corresponds to the SCL file locally available on their systems. The current version of the CGDS does not provide a mechanism for file sharing, so you need to share files using other means, such as using FTP, via email, or through a shared repository.</p>

CGDS Monitor

Table 4 Open Caveats in the CGDS Monitor

Caveat ID	Description
CSCuj81129	<p>The same user can log in to the application from multiple locations.</p> <p>Workaround: When using the application for detailed investigations, such as packet capture or validating IED connectivity, exercise caution to ensure that multiple users using the same username do not log in to the application, as this could lead to over-corresponding packet captures.</p>
CSCuj81146	<p>If you forget your login password, the only way to recover it is by contacting the Administrator.</p> <p>Workaround: The Administrator has the ability to reset your password. The current release of the CGDS does not support the Forgot Password functionality.</p>

Send documentation comments to cgds-docfeedback@cisco.com

Related Documentation

The following documents are available online at:

http://www.cisco.com/en/US/products/ps13053/tsd_products_support_series_home.html

- *Cisco Connected Grid Design Suite (CGDS) - Substation Workbench Installation and Configuration Guide*
- *Cisco Connected Grid Design Suite (CGDS) - Substation Workbench Quick Start Guide*
- *Cisco Connected Grid Design Suite (CGDS) - Substation Workbench Designer User Guide*
- *Cisco Connected Grid Design Suite (CGDS) - Substation Workbench Monitor User Guide*
- *Cisco Connected Grid Design Suite (CGDS) - Substation Workbench Troubleshooting Guide*

Send documentation comments to cgds-docfeedback@cisco.com