

Product Update: Configuration Backup Manager



Figure 1: In addition to backing up OrionLX configurations, SEL® Settings are retrieved and backed up by the OrionLX or OrionLXm using SEL protocol over RS-232 or over Ethernet

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Upcoming Training & Events

Upcoming Scheduled Courses:
OrionLX/OrionLXm Automation Platform

December 5-7, 2016	Lenexa, KS	K700
March 7-8, 2017	Lenexa, KS	K700

For complete course descriptions, please visit our website <http://www.novatechweb.com/substation-automation/training/>

Upcoming Events:
DistribuTECH 2017

January 31 - February 2, 2017
San Diego, California
Booth #1523

Latest Software

- OrionLX Release: 8.8
- Bitronics 50 Series Firmware: 3.12
- Orion NCD3 Version: 3.30
- Bitronics 60 Series Firmware: 2.21
- Bitronics M87x firmware: 4.11
- Bitronics PowerPlex II Firmware: 2.21
- Bitronics 70 Series Configurator: 4.11
- BiView: 3.05

The Configuration Backup Manager, formerly Configuration Manager Agent, is a software option available on all OrionLX CPXs and OrionLXms, and standard OrionLXs with suitable memory. It provides a simple and automatic method to retrieve and back-up configuration files from the OrionLX as well as settings files from attached SEL® protective relays. The Configuration Backup Manager also provides a convenient MD5 checksum on the backed up files which can be used to determine if any of the backup files have been changed from previous backups. Backed up files can also be used for system restore.

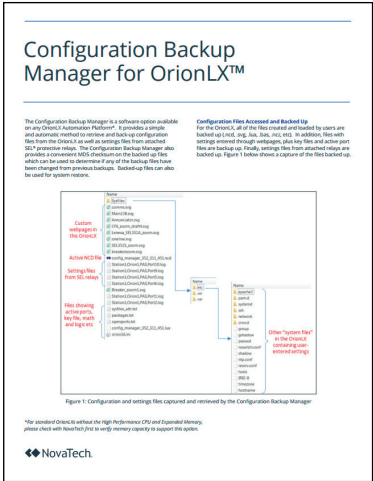
For the OrionLX/LXm, all of the files created and loaded by users are backed up (.ncd, .svg, .lua, .bas, .ncz, etc). In addition, files with settings entered through webpages, plus key files and active port files are backed up. Finally, settings files from attached SEL relays are backed up.

Operation is as follows: Configuration Backup Manager accesses Orion files and SEL relay settings files and zips into a single file. SEL settings files are accessed using SEL protocol over either a serial RS-232 point-to-point link or an Ethernet link as shown in Figure 1. Settings in NCD include company name, station name, Orion name, the name of the log files and zip files, and target directory. The .zip file produced by the Configuration Backup Manager is named according to the IEEE C37.232 standard, which includes the timestamp, substation name, device name, and company name. The .zip file is stored in non-volatile OrionLX memory. Stored files can be manually accessed or automatically transferred from the OrionLX. An MD5 checksum is calculated on the zip file to aid in change monitoring. The Configuration Backup Manager can be set up as a scheduled task in the OrionLX Scheduler, or executed as a task from command line.

An FTP file transfer utility such as FileZilla can be used to manually access the .zip file from the specified folder on the OrionLX. The .zip file can also be transferred to a thumb drive attached to the OrionLX. Using the OrionLX “FileMover” feature, stored files can be scheduled for automatic SFTP or FTP transfer to a remote directory. The .zip file can also be automatically sent out as an attachment using the Orion Email option.

The backed-up sysfiles, NCD file, logic file and SVG files can be used to restore an OrionLX back to original condition. In addition, to improve security and to meet portions of the NERC CIP-010 standard, you can compare the previous and current ZIP files to determine what settings, if any, have changed since the previous scan. You can use an enterprise configuration management server, such as the Tripwire Enterprise system, to run this comparison.

NEW! Visit NovaTech’s website for the latest Configuration Backup Manager for OrionLX datasheet.



New Pre-Drawn Image Library

The Pre-Drawn Image Library provides pre-drawn .svg images for users to use in custom webpages. The library contains more than 80 images including Orion and Bitronics products, substation IEDs, substation symbols, buttons, and links. Users have the ability to create and add images into their local library.

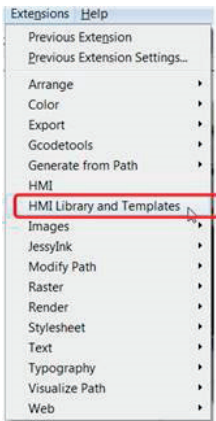
To obtain this new library of images, update NCD to the latest version: 3.30. When NCD is updated, the Inkscape files will also be updated. The Image Library is a new plug-in in Inkscape and will appear as in the image below.

Most of the images in the library are more than just a simple single image. Instead, they are a collection of sub-images or “child attributes.” These attributes, such as indicating LEDs on protective relays are included in the image and ready for animation when linked to points obtained by Orion and transferred into the web environment through XML.

Adding new images is straightforward:

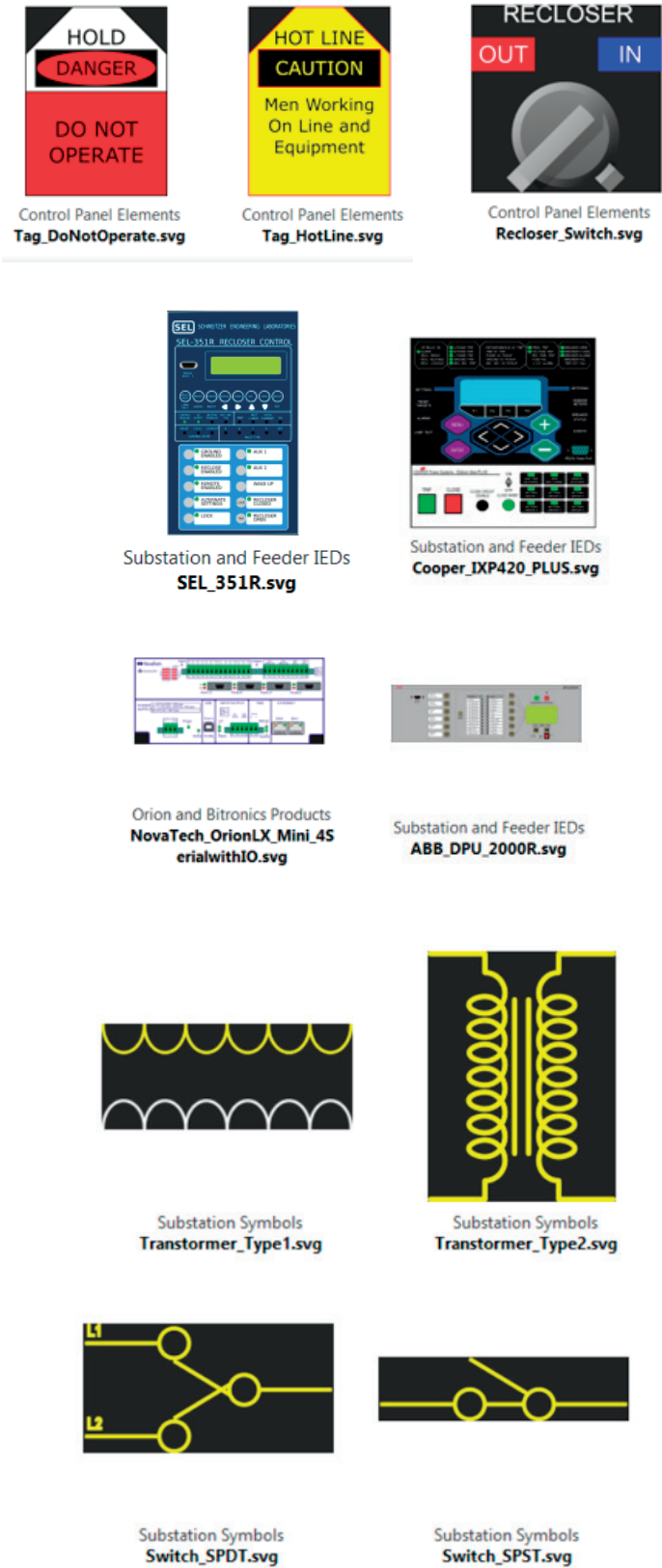
- Step 1: Create a new “UserHMLibrary” directory in NCD to file new created images
- Step 2: Draw new object
- Step 3: Draw and identify Child Attributes
- Step 4: Group Object
- Step 5: Set “Object Properties” (ID, Title and Description)
- Step 6: “Save As” to “UserHMLibrary”

Benefits of the Image Library include: 1) reduced design labor, notably for images that include many embedded animated elements such as SEL® relays, 2) consistency; multiple designers use standardized images, 3) higher overall image quality, and 4) increased operational safety through enforcement of company standards. This is important where colors or images are used to denote equipment status.



The new HMI Library plug-in in Inkscape.

Examples of images from the Pre-Drawn Image Library



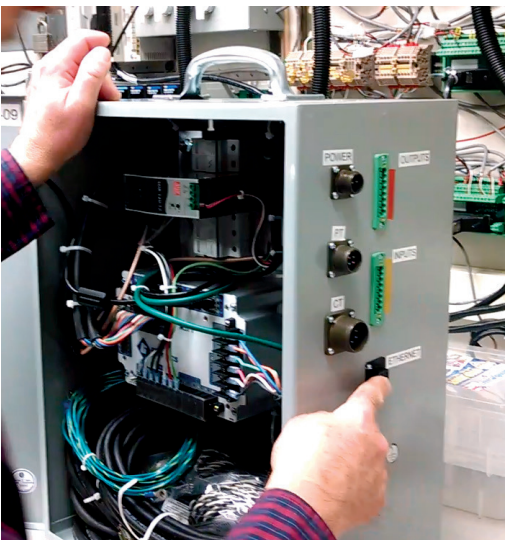
Quickly Add Automation to an Older E/M Relay Substation

Do you know that you can install a fault location and recording solution, and begin transmitting substation SCADA data in less than an hour without taking an outage? NovaTech, working with a Mid-Atlantic Utility, designed and packaged a solution into a small enclosure for retrofit at 69kV substations. The self-contained box--easily mounted to a pole or panel--includes the following elements:

- Bitronics 70 Series Monitoring and Recording IED for fault and disturbance recording, SCADA measurements, distance-to-fault location
- Split-core CTs that attach around existing transformer wires allowing installation without interrupting CT circuits
- All connectors built on side of box for quick install
- Outputs for alarms and event notification
- All necessary wires/cables contained within box and pre-wired for quick connection
- Built-in radio modem, as well as standard Ethernet port that can tie into Utility Ethernet network where available, for quick communications
- Status inputs for monitoring circuit breaker or relay operations
- Detached display attached to box door



A display is provided to give local indication of measured values including fault location.



External connectors and all necessary wiring/cables simplify installation.

IEC 61850: More Than Just a Protocol

Many users consider IEC 61850 to be “just another protocol” which is not entirely true. Several papers have been written on the protocol and applications, but little public information is available on the “remainder” of IEC 61850.

The Guest Editorial article, “IEC 61850: More Than Just a Protocol” in *Electric Energy T&D* magazine was written by NovaTech’s Bruce Muschlitz and attempts to de-mystify the concepts of IEC 61850 and the inter-relationship with other standards.

Read the full article:
www.novatechweb.com/iec61850-protocol-article

