

PowerVista™ Software Application Suite

Control and Management of Distribution Systems

Description

PowerVista™ software is a powerful and flexible suite of applications and tools for managing distribution system assets that are monitored and controlled with Sensus Distribution Automation (DA) intelligent communications devices. PowerVista software applications enable real-time access to distribution equipment from any PC using a standard browser, by logging onto a secure account created and maintained for each customer. PowerVista software can be hosted by Sensus or located in a customer's data center.



Features

APPLICATIONS

PowerVista software is an ideal tool for distribution engineers, system planners and asset managers. Using the PowerVista application, personnel can quickly identify equipment or system issues from any office or remote PC. This same information is available to field crews equipped with mobile PC's

or by notices sent via e-mail, text message or pagers.

PowerVista software complements distribution supervisory control and data acquisition (SCADA) systems by providing additional features for engineering, planning and operations. For customers without distribution SCADA systems, PowerVista software is a powerful

application for managing their equipment.

PowerVista provides tools to manage:

- Distribution equipment
- User accounts and access
- Communication system status

The screenshot shows the PowerVista SENSUS web interface. At the top left is the SENSUS logo. Below it is a navigation menu with items like 'Device List', 'Filtered Device List Mgt.', 'Event Based Actions', etc. The main header contains 'welcome' and 'device.list' tabs, and 'help', 'support', 'logout' buttons. Below the header are tabs for 'Export Device list', 'Filtered Device List Mgt.', 'TVM Format', 'Customized Device List', and 'Maintain Customized Device List Query'. The main content area is titled 'Device List' and shows 'Local Time: 6/24/2011 12:52:46 PM'. There are filters for 'Display Group: All Devices' and 'Point Status Filter: No Filters Selected'. A message states '=> The device has been temporarily deactivated'. Below this is a table with columns: Device, Model, Location/Description, Date/Time, Call Type Or Event Color, Radio, Additional Information, and In Xchange.

Device	Model	Location/Description	Date/Time	Call Type Or Event Color	Radio	Additional Information	In Xchange
8833	DNP-RTM	Nulec Centurion Demo	7/27/2010 10:03:10 PM	Time Scheduled Report	GPRS	Telemetric Demo	<input type="checkbox"/>
9784	DNP-RTM	ETI - MNPR Network Protector Relay	7/27/2010 9:57:00 PM	Time Scheduled Report	GPRS	Telemetric Demo	<input type="checkbox"/>
9786	DNP-RTM	Cooper F6 Recloser Control	4/22/2010 3:34:30 PM	Time Scheduled Report	GPRS	IEEE	<input checked="" type="checkbox"/>
9787	DNP-RTM	IntelliCap Plus FW120S StndNeut	7/27/2010 10:02:48 PM	Configuration Report	GPRS	Demo Room	<input type="checkbox"/>
9965	DNP-RTM	ABB PCD2000 Demo	4/22/2010 3:33:04 PM	Time Scheduled Report	GPRS	IEEE	<input type="checkbox"/>
9979	DNP-RTM	JHV - SEL351J Recloser Control	7/27/2010 8:17:00 PM	Time Scheduled Report	GPRS	Telemetric Demo	<input type="checkbox"/>
11215	TC012	Telemetric TC012 Cap Bank Monitor	6/30/2010 9:47:04 PM	Maintenance Report	CM-42	Telemetric Demo	<input type="checkbox"/>

Figure I. Typical PowerVista Device List

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Features *Continued*

The following features are available to all PowerVista software users. No local application other than a standard web browser is required.

Equipment Management

- Device list: View a list of all equipment on your account, such as switches, reclosers, capacitors and many more distribution and transmission system assets
- Device status: Displays digital and analog inputs, analog outputs and control outputs. View the current status of all devices and drill down to see greater detail.
- Customize the device list and

device status screens to provide only the relevant information for your application, individual user, or group of users. For example, a recloser or switch might display just voltage and load amperes.

- Request updated status information at any time
- User notifications: Set up customized rules that will send alarm or status change information via email, text message or pager. For example, receive a page for low voltage alarms or high load conditions.
- Send output commands: Control output commands can be sent to any Sensus DA enabled field device or group of devices

- Control actions: Set up customized rules that will trigger an automatic control action by a Sensus DA field device
- Device groups: Create groups of devices that can be addressed with a single command
- Graphing: View graphs of analog inputs
- Export Data: Users can export data to comma-separated values (CSV) files or e-mail to share information or use in other applications

Account and User Management

- Create new user IDs and passwords

The screenshot shows the 'Customized Device List' page in the PowerVista Sensus web application. The page has a header with the Sensus logo and navigation links (welcome, device list, customized device list). Below the header, there are tabs for 'TVM Format', 'Export Customized Device list', and 'Maintain Customized Device list'. The main content area includes a search filter for 'Display Group' (set to 'All Devices') and 'Display Query' (set to 'CMP Query Test 4'). There are also radio buttons for 'Sort Order' (Asc. selected) and a 'GO' button. A note states: 'Note: The group and query selected have to be in the same product family. Invalid selection will cause no data to be returned.' Below the note is a table with the following data:

Device	Location Description	DateTime	Firmware Version	FCI-1A Serial Number	Any FCI Tripped	Any FCI Low Battery	Any FCI Communication Fault	Phase A Tripped
22931 - 0	NaviComm Status and Setup	4/15/2010 1:18:07 PM	75	4/15/2010 1:18:07 PM 43	4/15/2010 1:18:07 PM Normal	4/15/2010 1:18:07 PM Normal	4/15/2010 1:18:07 PM Normal	4/15/2010 1:18:07 PM Normal
23432 - 0		4/24/2010 1:39:53 PM	75	4/24/2010 1:39:53 PM 43	4/24/2010 1:39:53 PM Normal	4/24/2010 1:39:53 PM Normal	4/24/2010 1:39:53 PM Normal	4/24/2010 1:39:53 PM Normal

Figure II. PowerVista Customized Device

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- Assign access levels to users
- Five levels of user access control: View only, view and request data, operator, sub-administrator and administrator
- Assign devices to groups
- Update account information
- Manage strong passwords and changes
- Command logging by user for traceability

Communication Management

- View call volume and data usage by device
- View communications performance

- Set up notifications for devices not communicating

PowerVista Software Security

Each customer's secure account and data is password protected. The account data is backed up daily and is housed on servers with redundant hard drives that mirror the active hard drives. Hardware and software firewalls provide an additional layer of security for the servers. Communications between the Network Operations Center (NOC) and the customer's web browser are encrypted via Secure Sockets Layer (SSL).

- Server authentication using 128-bit encryption key

- Bi-directional data transmission using private encryption keys
- Two factor authentication using RSA SecureID is available as an option

Network Operations Center Features

When PowerVista is hosted, the Sensus NOC collects and processes data from Sensus DA intelligent communicating devices. A Sensus DA field device's integrated radio provides two-way communications between the Sensus radio module and the NOC via the data networks. PowerVista servers provide users with instant access to this data through their

PowerVista™ SENSUS

welcome edit customer password rule setup help support logout

logged in as

Password Rules Setup

Use this page to setup your password rules. If this is the first time the rules are setup, the numbers in the dropdown will be the default value.

- ▶ Password must be at least characters long.
- ▶ Password must contain at least 1 of the following 4 categories of characters:
 - lowercase letters: a,b,c,...
 - uppercase letters: A,B,C,...
 - numbers: 1,2,3,...
 - symbols: ~,!,@,#,\$,%,&,*,(,),-,+,{,},|,|,|,?,
- ▶ Password cannot contain more than contiguous characters from your Logon ID or Name.
- ▶ Password cannot be any of your previous passwords.
- ▶ Password cannot be reused for at least days.
- ▶ Password must be changed every days.

Figure III. Security — Password Rules Setup

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secure account.

The Sensus NOC is hosted in a special communications facility designed to promote maximum uptime, reliability and safety for your data.

Sensus NOC features:

- Redundant, fault tolerant Synchronous optical networking (SONET) facilities
- Redundant path, dual-entry fiber facilities
- Storage Array Network (SAN)

with hot-swappable components provides redundancy and facilitates disaster recovery

- Hardware firewall
- Automatic server fail-over to hot-standby
- Load balancing server
- Watchdog software applications monitor key processes and notify staff of problems on a 24/7 basis
- Uninterruptible power supplies, including a generator with 24 hours of fuel supply on site
- Halon fire protection system

- Security card access and 24/7 monitoring
- Earthquake protection

SCADA-Xchange™ Software

In parallel with PowerVista software, Sensus DA field devices can also be monitored and controlled through an existing SCADA system using PowerVista's software optional SCADA-Xchange module via DNP3 or other protocols.

For more information, visit us at www.sensus.com

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