

VERTIV™

Trellis™ Intelligence Engine

Release Notes

VERSION 4.6.1.27, APRIL 13, 2018

Release Notes Section Outline

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1 New Features Overview

The *Trellis™* Intelligence Engine is a light weight, software-based data collection engine available with the release of the *Trellis™* real-time infrastructure optimization platform, version 4.0.3 and higher. The *Trellis™* Intelligence Engine queries and analyzes information collected from devices (IT and facility equipment) in the data center and then provides the collected information to the platform software modules. The *Trellis™* Intelligence Engine is installed as a separate software component.

Trellis™ Intelligence Engine New Features

- **Liebert® iCOM™-S Thermal System Control Integration:** The *Trellis™* Intelligence Engine integrates with the Liebert iCOM-S thermal system control unit via the REST protocol. Data points are collected and displayed in the *Trellis™* real-time infrastructure optimization platform user interface just like any other monitored device. A new Element Library and Symbol are provided to monitor data at the Site, Room, and/or Group level.
- **Ubuntu 14.04.LTS:** *Trellis™* Intelligence Engine version 4.6.1.27 supports all point releases of Ubuntu 14.04 LTS. Previous releases of the *Trellis™* Intelligence Engine only supported Ubuntu 14.04.3 LTS and 14.04.1 LTS.

2 General Features Overview

The following list details existing components of the *Trellis™* platform software supported by the *Trellis™* Intelligence Engine:

- ***Trellis™* Site Manager software module:** This module reports the health of the infrastructure to data center personnel, enabling them to recognize and resolve conditions that impact infrastructure availability and system performance.
- ***Trellis™* Energy Insight software module:** This module provides data center personnel with visibility into the data center's total consumption, energy costs and PUE, which enables them to measure the impact of decisions on the data center energy efficiency.
- ***Trellis™* Power Systems Manager software module:** This module provides data center personnel with the ability to monitor the power flow of their building through a one line diagram. The one line diagram also allows the data center personnel to see the current consumed and remaining capacity of devices at a glance, and then take action accordingly. Dashboards provide the ability to view the capacity trend and power status of devices.
- ***Trellis™* BMS Integration module:** With the BMS (Building Management System) Integration module, the device monitoring feature of the *Trellis™* platform has been enhanced to support monitoring of BMS devices. Features such as update monitoring configurations of monitored devices using Custom Element Libraries and Element Library synchronization have been introduced with BMS Integration.
- ***Trellis™* Receptacle Monitoring and Control feature:** With the Receptacle Monitoring and Control feature, device views for selected rack Power Distribution Units (PDUs) in the *Trellis™* platform have been enhanced to support the display of

information. Features such as viewing the data points for the receptacle openings on a supported PDU on both the Dashboard and Additional data points tabs of the device view, as well as sending commands from the Control and Configuration tabs of device view have been added to the interface.

- **Trellis™ Thermal Systems Manager software module:** The *Trellis™* Thermal Systems Manager balances total cooling production with the actual heat load at the room and rack level, which allows facilities management to understand the true thermal capacity for planning and redundancy and reduce wasteful overcooling to lower energy costs.

3 Notes and Special Instructions

For more information and detailed instructions on using the *Trellis™* platform, visit <https://www.vertivco.com/en-us/products-catalog/monitoring-control-and-management/software/trellis-enterprise-solutions/> for accompanying user documentation. Select the *Downloads* tab from that link location to access documentation options.

Trellis™ Intelligence Engine Upgrade

For instructions on data collection engine upgrading, see section 3.10.1 of the *Trellis™* Real-Time Infrastructure Optimization Platform User Guide (*Uploading and Upgrading the Avocent® Universal Management Gateway Appliance Firmware*).

Installing Dependencies

- For Ubuntu, clean installation installs *Trellis™* Intelligence Engine-dependent libraries/packages using the Ubuntu Repository. Update the repositories first for the Ubuntu operating system (OS) by entering the following command: **apt-get update**.
- For Red Hat Linux, clean installation installs *Trellis™* Intelligence Engine-dependent libraries/packages using the Red Hat Repository. This enables support for Red Hat 7.1, 7.2 and 7.3 OS versions. The Red Hat OS-hosted machine requires access to the Red Hat repositories.

NOTE: See the Dependencies section of these release notes for additional information.

Element Library Support Summary

NOTE: *Trellis™* platform software version 4.0.3 and the *Trellis™* Intelligence Engine version 4.6.1.27 are compatible with Element Library version 4.0.3.0 and lower versions.

Avocent® Universal Management Gateway appliance

NOTE: Installation of the *Trellis™* Intelligence Engine on the Avocent® Universal Management Gateway appliance is currently not supported.

Service Processor Management Support

The Intelligence Engine uses the Service Processor Management (SPM) protocol. The SPM module can be added on and installed as an upgrade. SPM module version 2.0.7.12 will be available on the software download site.

If an Avocent® Universal Management Gateway appliance that monitors Service Processors is being replaced by a *Trellis™* Intelligence Engine installation, the Service Processors should be unmonitored in *Trellis™* prior to the appliance replacement, and then remonitored again after the *Trellis™* Intelligence Engine installation is complete.

Pre-requisites

- The *Trellis™* Intelligence Engine is supported on *Trellis™* platform release version 4.0.3 and higher.
- Fresh installation of Red Hat Enterprise Linux 7.2 and Ubuntu 14.04 LTS is required before installing *Trellis™* Intelligence Engine version 4.6.1.27.
 - Red Hat Enterprise Linux 7.2 should be in “permissive” mode while installing the *Trellis™* Intelligence Engine.
 - The *Trellis™* Intelligence Engine has been tested with Ubuntu 14.04 LTS point version 14.04.1, and 14.04.3 and 14.04.5.

- For SNMPv3 support, please configure the SNMPv3 destination IP as the Host IP of the software-based Intelligence Engine in the Device Configuration page.

4 Issues Addressed in this Release

ISSUE	RESOLVED ISSUE DESCRIPTION
487234-785022014 487234-757150257 487234-737318962	Enhanced Modbus protocol communication with end devices by introducing Modbus TCP session control on number of requests.
487234-750784984	Resolved an issue with aggregation of data points in the Engine.
487234-756884674	Resolved handling of status data point and event for devices supporting dry contacts or opening.
487234-709597007	Resolved issue with file handle on accepting a <i>Trellis</i> TM platform request, and released new cisco-ucs 4.0.0.5 on Vertiv TM Symbol portal.
487234-785022014 487234-757150257 487234-737318962	Enhanced Modbus protocol communication with end devices by introducing Modbus TCP session control on number of requests.
487234-656384917 487234-735377112 487234-767258452	Enhanced SNMP protocol library to handle device communication lost for the devices which are not in network. Improved SNMPv1, V2 and V3c protocol performance.
487234-680632925 487234-773083175 487234-786984809	Improved BACNet protocol library by adding support for REAL data type which was not supported in earlier release. Improved BACNet protocol performance for slow devices in the network.
General Improvements	Added log rotate rules for Ubuntu OS covering error and debug log files

Known Issues

Certain Modbus devices send an unknown message for which there was no request sent by the *Trellis*TM Intelligence Engine or the Avocent® Universal Management Gateway appliance. This unknown message coming from device is not being handled in the current release. The side effect of this issue is that devices may report device communication lost and immediately clear it. The device communication lost event may delay depending on the protocol timeout set on the device network configuration in the *Trellis*TM platform.

5 Dependencies

The following dependencies require access to the corresponding repository for clean installation of the *Trellis*TM Intelligence Engine:

- Ubuntu (14.04 LTS repository)
 - postgresql
 - postgresql-contrib
 - liblog4cpp5
 - libpqxx-4.0
 - snmp
 - snmpd

- libsigx-2.0-2
- Red Hat (7.1,7.2 or 7.3 repository)
 - net-tools
 - psmisc
 - log4cpp
 - jsoncpp
 - net-snmp
 - openssl
 - postgresql
 - postgresql-contrib
 - postgresql-server
 - libpqxx
 - glibmm24