

TRELLIS™ QUICK START CAPACITY PLANNING SOLUTION

Guide Specifications



1.0 General

1.1 Overview

This document includes the specifications and features of the *Trellis*™ Quick Start Capacity Planning Solution.

These include:

1. Capabilities for *Trellis* Quick Start Capacity Planning Solution
2. Requirements for network and server hardware

2.0 Software Overview

2.1 *Trellis* Quick Start Capacity Planning Solution:

The *Trellis* Capacity Planning Solution provides software and services for capacity management in a complete package. This solution may also be integrated with other *Trellis* modules to create a full-featured data center infrastructure management (DCIM) solution.

With the *Trellis* Capacity Planning Solution, you are able to:

- Support unlimited simultaneous users
- Deliver built-in alarming based on pre-defined capacities
- Support simultaneous international languages
- Support third-party integration
- Visually model critical & IT Infrastructure
- Manage overall capacities
- Improve Alarm/Notification management
- See colorization based on capacity
- Achieve quicker response time to issues that threaten business operations
- Improve uptime performance
- Improve performance by establishing key performance indicators (KPIs) for the data center
- Improve compliance
- Increase efficiency through elimination of manual data entry
- Plan data center changes and migrations
- Reduce time spent generating reports

Trellis Quick Start Capacity Planning Solution (25 FMDs)

<i>Trellis</i> Bundle SKU	TR-OF-TDMS
<i>Trellis</i> License Bundle • <i>Trellis</i> Site Manager	YES
Licensed Racks/FMDs	25
Maintenance	1-Year Silver
<i>Trellis</i> Host Server	Customer provided based on meeting Avocent requirement specifications
Professional Services	Fixed Cost, T&E included, 4 days onsite, 6 days offsite
Training	Virtual – Instructor Led

2.2 Capacity Planning Software

The *Trellis* Quick Start Data Center Capacity Planning Solution provides the following capabilities:

- Monitor and manage capacities for different portions of the data center
- Improve alarm /notification management
- Manage capacity, efficiency, and performance
- Manage pre-defined capacities
- See colorization based on power and space capacities
- Provide support in generating reports important to their business

2.2.1 Track face-plate/de-rated consumption against capacity

- Use the unified dashboard to see capacity usage and operating efficiency together; key information helps determine data center availability and expansion capabilities
- Customize dashboards so users can enter data manually if the data center is not properly instrumented for measuring total facility or IT load
- Gauge efficiency and comply with current and historical industry - approved efficiency metrics
- Understand capacity usage to ensure business-critical services are always running while lowering operating costs; roll out measures to improve peak performance

2.3 Maintenance

- One year Silver Support maintenance included

Technical Contacts*	3
Response Time ²	Based on Severity level: 1, 2 = 4 hours 3, 4 = 12 hours
Follow Up Time ²	Based on Severity level: 1 = Every 8 hours 2 = Every 2 days 3, 4 = Every 5 days
Phone Support	8 hours, 5 days a week (Monday- Friday) ³ Support available in English, French, Japanese, German and Mandarin

¹Start date is date of purchase

²Communication is via email or phone. Response times are based on initial phone contact.

³ Local operations center time (Local support centers: Philippines and China in APAC, Romania in EMEA and Florida in North America).

2.4 Installation and service

Avocent Professional Services uses a building block approach to build and quote Statements of Work. The following information provides detailed descriptions of the service components outlined in the “Services Scope” the SOW.

Service Components

2.4.1 Trellis Platform Installation

2.4.1.1 01.50.02

Trellis Platform Base Installation – Capacity Planning Solution

A. Project Kickoff

Avocent will conduct a Project Kickoff, which is a meeting to review the Statement of Work scope, the team involved and the overall objectives of the customer.

B. Pre-installation software workshops

Avocent will conduct a pre-installation software workshop with the appropriate customer personnel to ensure that the customer has all the necessary hardware and non-Trellis platform software installed and configured in advance of Avocent installing the Trellis platform software application.

C. Software installation and standard setup

Avocent will install the Trellis platform into the customer’s environment and perform standard setup tasks for both the Trellis platform application and each of the associated modules. Avocent will perform the following:

D. Software installation

Avocent will perform the following software installation tasks:

- Execute a Pre-Installation Checklist to ensure that customer has properly prepared the servers for Trellis platform installation prior to installing the Trellis platform.
- Install the Trellis platform in customer’s environment.
- Execute a Post-Installation Checklist to ensure that the Trellis platform was properly installed.

2.4.1.2 Trellis platform application setup

Avocent will perform the following Trellis platform application setup tasks:

- Configure email or SMS, up to three (3) users.
- Setup user accounts, up to three (3) users.
- Create User Groups, and Roles, up to three (3) groups and three (3) roles.

- Spend up to one hour providing knowledge transfer covering:
 - Adding users and assigning roles.
 - Requesting and downloading symbols/element libraries.

A. Project Close Out

Avocent will perform a set of activities to bring closure to the project. It includes introducing the customer to Avocent’s Support department for post-implementation support, and gaining concurrence with the customer that all the tasks defined within the Statement of Work have been performed.

B. Support Handoff

Avocent will perform the following Support Handoff tasks:

- Facilitate a call between Avocent support and customer
- Request that Support review with customer the support organizational structure, methods of contacting support, report logging system, and SLAs
- Request that Avocent Support create a Support Login for customer (if one does not currently exist.)
- Review with customer the process for requesting Element Libraries.

C. Project Close Out

Avocent will perform the following Project Close Out tasks:

- Review with Customer each of the tasks defined within the Statement of Work and the work that was completed by Avocent.
- Discuss any further work that customer may wish to consider.

2.4.1.3 01.51.02 Floor Plan Import – Capacity Planning Solution

Avocent® will import and set up an existing data center floor plan drawing in the *Trellis* platform for all customer environments within the scope of this Statement of Work. A floor plan is defined as a single level within a single building location. A single floor plan can contain multiple rooms as long as they are all on the same level. A data center containing multiple levels will require a floor plan component for each level. The standard file types (.VSD, .DWG, or .DXF) are supported, as are up to two revisions of the floor plan. Avocent assumes all drawings and data provided by the customer are accurate and complete. This includes data center floor plan drawings, which Avocent assumes to be to scale and architecturally (walls, columns, grid, etc...) correct. Customer is responsible for the accuracy and relational integrity of all data provided to Avocent.

2.4.2 *Trellis*™ Inventory Manager with Change Planner Installation

2.4.2.1 03.50.01 *Trellis* Inventory Management with Change Planner Configuration –Capacity Planning Solution

A. *Trellis* Site Inventory Manager workshop

Avocent will conduct the *Trellis* Inventory Manager workshop, which is a meeting (or series of meetings) covering the following:

- *Trellis* Inventory Manager Scope
- Review Site Scope Document to validate that all devices that are to be monitored are ready for monitoring.
- Review devices to be modeled in the *Trellis* Platform

- Determine notifications
- Determine roles and access rights

B. Pre-installation hardware workshop

Avocent will conduct a pre-installation hardware workshop with the appropriate customer personnel to ensure that the customer has performed the necessary tasks to ensure that the customer's network and servers are configured

C. *Trellis* Inventory Manager with Change Planner configuration

Avocent will complete initial configuration of the *Trellis* Inventory Manager module with a single Avocent Universal Management Gateway appliance (if applicable).

Avocent will spend up to five hours covering the following *Trellis* Inventory Manager tasks:

- Running/Filtering *Trellis* Inventory Manager reports
- Locating Device in Inventory
- View and Edit Device Properties
- Define/modify notifications
- Create a sample project with capacities

2.4.3 Value Training Services

2.4.3.1 11.50.02 Value Training Services– Capacity Planning Solution

Avocent will provide Value Training Services to include eight (8) hours of a senior consulting engineer's time and one (1) hour of project management. Customer will be shown how to run and filter specific monitoring reports.

2.5 Floor Mounted Device (FMD) License and Scope

Trellis Quick Start Capacity Planning solution is licensed by the number of Floor Mounted Devices. FMDs include racks or any devices that occupy floor space, like cooling units and UPS units.

- This package includes support for up to 25 FMDs which can be any combination of racks, cooling & power units.
- Devices are components or equipment that fit inside the FMD, like IT servers or rack PDUs. These devices are not included in the FMD count.
- The professional service scope is limited to monitoring 100 devices.
- The *Trellis* Quick Start Capacity Planning package license includes an unlimited number of devices but service will only setup and configure up to 100 devices.
- Additional FMD licenses can be added at any time.

3.0 Hardware Specifications

Trellis Quick Start Monitoring solution can be operated on a virtual or physical server platform.

The specifications below are for the current server specifications requirements:

3.1 Server Specifications

DATA SIZE GUIDELINES	SMALL	MEDIUM	LARGE	ENTERPRISE
Concurrent users	10	20	50	100
Devices	2,000	20,000	100,000	200,000
Power Connections	1,000	10,000	60,000	100,000
Data Connections	2,000	10,000	60,000	100,000
Monitored Datapoints	1,000	10,000	40,000	140,000
FRONT MACHINE	SMALL	MEDIUM	LARGE	ENTERPRISE
CPU manufacturer	Intel®	Intel®	Intel®	Intel®
CPU model	Xeon®	Xeon®	Xeon®	Xeon®
CPU speed (GHz) 8 M L3 cache	2.6	2.6	2.6	2.6
CPU count	1	2	2	2
CPU cores	4	4	4	8
Memory (GB) DDR3 1333 MHz	32	32	40	44
Disk throughput	> 500 MB/s (sequential) [uncached]			
Storage	300 GB Enterprise class			
Ethernet	> 80 MB/s			
BACK MACHINE	SMALL	MEDIUM	LARGE	ENTERPRISE
CPU manufacturer	Intel®	Intel®	Intel®	Intel®
CPU model	Xeon®	Xeon®	Xeon®	Xeon®
CPU speed (GHz) 8 M L3 cache	2.6	2.6	2.6	2.6
CPU count	1	2	2	2
CPU cores	4	4	4	8
Memory (GB) DDR3 1333 MHz	24	32	32	32
Disk throughput	> 500 MB/s (sequential) [uncached]			
Storage	*300 GB Enterprise class for base installation			
Ethernet	> 80 MB/s			
TOTALS	SMALL	MEDIUM	LARGE	ENTERPRISE
Total CPUs	2	4	4	4
Total cores	8	16	16	32

*Hardware sizing varies depending on usage requirements and is performed by Professional Services.

3.2 Operating systems

The *Trellis*™ platform supports the following operating systems and software. One of the following operating systems must be installed on both the front and back machines:

- Microsoft® Windows® 2008, R2 SP1 Enterprise, 64-bit (full installation)
- Red Hat® Enterprise Linux® version 6.4, 6.5 or 6.6, 64-bit

3.3 TaoTronics® TT-BS016 Bluetooth Wireless Barcode Scanner

3.3.1 Features

A. Supports:

- Windows XP/7/8
- Android 4.0 and above
- iOS
- Mac OS

3.3.2 Specifications

- Range up to 33 feet
- 64 KB internal memory
- Scanning Angle
 - Inclination Angle of 45°
 - Elevation Angle of 60°

- Light Source – Class 1,650 nm
- Sensor Interval – 0.3 second between scans
- Scan Accuracy – 3.3 mil
- Decode Speed – 200 time/s
- Scan Width – 30 cm

A. Mechanical

- Size (W x D x H): 155 mm x 66 mm x 92mm
- Weight: 3.05 oz (87 g)

B. Warranty

One Year TaoTronics Warranty

3.4 iPad Air 2 with Silver Finish or Comparable*

3.4.1 Features

- Wi-Fi Model
- 64 GB Capacity
- Lightning to USB Cable
- USB Power Adapter

3.4.2 Specifications**

- Retina Display
- 9.7-inch (diagonal) LED backlit Multi-Touch display with IPS technology

- 2048 x 1536 pixel resolution at 264 ppi
- Fully laminated display
- Antireflective coating
- A8X chip with 64 bit architecture
- M8 motion coprocessor
- Bluetooth 4.2 technology

*Does not include cellular phone carrier services

** For additional specification information visit <http://www.apple.com/ipad-air-2/specs/>