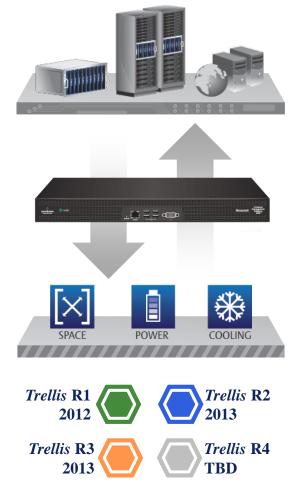




## Развитие платформы Trellis™





#### Inventory Manager

Document, View and Manage Data Center Room and Rack Layout

#### **Change Planner** *Plan, Understand and Schedule Equipment Adds and Changes*

**Site Manager** Manage and Monitor Devices and Environmental Conditions

**Energy Insight** *PUE and Energy Consumption Dashboard* 

#### **Power System Manager** Track and Understand Power Dependencies Respond Quickly to Events

#### Mobile

Monitor Data Center Operations from Mobile Devices

#### Virtual Insight

Identify and Track Virtual Machines and Physical Dependencies

Process Manager Document and Execute Workflow

#### **Cooling System Manager** Recognize Available and Stranded Co

Recognize Available and Stranded Cooling Capacity Respond Quickly to Events

#### **Scenario Planner**

Evaluate and Compare Deployment Scenarios



### NMS IT Management & Monitoring

Мониторинг производительности и работоспособности сетевой инфраструктуры Мониторинг вычислительной инфраструктуры – физические и виртуальные сервера, системы хранения данных Мониторинг системных и бизнес приложений Мониторинг виртуальных сред и "облаков"

#### **DCIM** Trellis

Inventory Management – учёт активов ЦОДа и их конфигураций Change Planner - Управление изменениями Virtual Insight – интеграция с виртуальными средами Workflow - Управление процессами в ЦОД (регламенты) Access & Control – обеспечение удаленного доступа и управления ІТ-инфраструктурой Cable Management – кабельный журнал в ЦОД, учёт соединений Site Manager – мониторинг физической инфраструктуры Отчёты по различным физическим параметрам в ЦОД Mobile – интеграция с мобильными приложениями в ЦОД

#### IT Service Management

Service Desk; Asset & Lifecycle Management, CMDB, Incident Management

## Manage Data Center Infrastructure in Real-Time

Gather millions of data points in real-time; view only data that is most critical to your business and execute several actions simultaneously

Centralize monitoring, planning, control and automation in a single system

Management capabilities for small, medium and enterprise environments

Simplicity

**Scalability** 





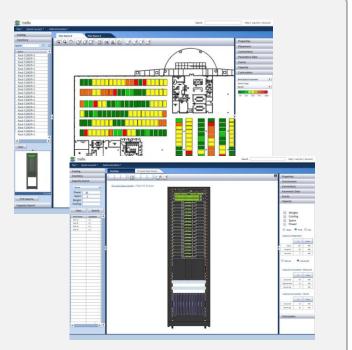
## Trellis™ Inventory Manager - R1

**Inventory Mgr** 

**Change Planner** 

#### Trellis Inventory Manager

- Model the entire data center physical environment
- Manage relationships between IT/facilities assets and resources
- Data-driven architecture, auto-generated graphics
- Comprehensive reporting and analytics engine



#### Create a single repository for all asset information

## **Inventory Manager**

File v Quick Launch v &	Iministration																
> Catalog								_									
Catalog Search								Portfo	lio								
> Inventory								_	_	_							
Capacity Search																	
								6	J	22	Q 9	4	2	22	22	1	
Device														_			
Building Select								Unplaced Inventory									
Floor Select								5								1	
Space Select								- Ne			٦				4		
Zone Select								듺				$\vdash$					
Power 1200	w							ĕ									
Rack Units 4	RU							8				$\vdash$					
Heat 4000	BTU/Hr							Ē									
Weight 40	lbs							-									
		_															
View -	Clear Searc	h														1	
								11				$\vdash$					
Rack Name Building		Space	Zone A	Power	V Space RU		Weight				1						
Reck E28 A_JHTest	Cisco Floor	Alpha	Zone	1200	4		40				1			_			
Reok E32 Monitored Sp		Beta	Alpha	1200	4		40				1						
Rack E34 Energy - S1	Unplaced invent		Alpha	1200	4		40										
Rack E35 Energy - S1	Unplaced invent		Alpha	1200	4		40					$ \rightarrow $				1	
ellis	_		_	_	_		_			Search				Welcome		Ital	ip į Accou
ellis	Porr A									Search				Walcoma:	Prop		p   Accou
ellis	Roor A	torio								Search	-			Welcome	Prop	erties	p   Accou
rellis		ાંગ્લાઓ	<u>N<u>a</u> 2</u>		0)=	= -	-  <i>#</i> ]+			Search		urrent S		Welcome	and the second	erties Inwent	ip į Accou
		1eteil	<u>A el 2</u>		0 11 1		- <i>0-</i> +			Search	0	urrent S		Welcome	Place	erties Inhent 195	ip   Accou
		19194			0 = 1	<b>a</b> v 4	- <i>1</i> +			Search	0	urrent S		Welcome	Place Grou Ports	erties Inhent 195	ip į Accou
		ti eti eti			0 = 1		-			Search	<u>[</u>	urrent S		Welcome	Place Grou Ports	erties provent ps s ifications.	ip   Accou
		i ei ei	<u>A a a</u>		0=1		-			Search		urrent S		Welcone:	Place Grou Ports Speci	erties invent gs s ifications iort	y ( Acces
		tietieri			0 = 1					Search		urrent S		Welcone:	Place Grou Ports Speci Supp	erties invent ps s ifications iort itoring	ip ( Accou
		ticcical	<u>A ei e</u>							Saarch		urrent S		Welcome:	Place Grou Ports Speci Supp Mon	erties ment ps s ifications infort itoring rol	lp   Accou
		ाळाल्स	<u> </u>				-			Saarch		urrent S		Welcome	Place Grou Ports Speci Supp Mon Cont Capa	erties ment ps s ifications infort itoring rol	ip ) Accou
		10104	Na							Search		urrent 3		Walterne	Place Grou Ports Speci Supp Mon Cont Capa	erties ps s fications ort itoring rol city rization	ip   Accou
		10104										urrent S		Walkcome	Place Grou Ports Speci Supp Moni Conts Capa Color	erties ps s fications ort itoring rol city rization	ip   Access
		tiesieri	Name	Templa	ite							urrent 1		Welcome	Place Grou Ports Speci Supp Moni Conts Capa Color	erties ps s fications ort itoring rol city rization	ip   Access
		10104	Name		ite							urrent 1		Welcome	Place Grou Ports Speci Supp Moni Conts Capa Color	erties ps s fications ort itoring rol city rization	p ) Acces
		192194	Name	Templa	ite ame					Search		urrent 1		Welceme	Place Grou Ports Speci Supp Moni Conts Capa Color	erties ps s fications ort itoring rol city rization	p   Acces
			Name	Templa remplate n	ate ome							urrent 1		Welcome	Place Grou Ports Speci Supp Moni Conts Capa Color	erties ps s fications ort itoring rol city rization	ip   Accou
		10104	Name	Templa remplate nu sting Temp	ite ame					Search		urrent 1		Welcone	Place Grou Ports Speci Supp Moni Conts Capa Color	erties ps s fications ort itoring rol city rization	ip ] Accou
			Name T Copy exi	Templa remplate nu sting Temp	ite ame							urrent 5			Place Grou Ports Speci Supp Moni Conts Capa Color	erties ps s fications ort itoring rol city rization	ip ) Accou
			Name T Copy exi	Templa remplate nu sting Temp	ite ame					Search		urrent 5			Place Grou Ports Speci Supp Moni Conts Capa Color	erties ps s fications ort itoring rol city rization	(р.) Ассон
			Name T Copy exi Search	Templa remplate nu sting Temp	ite ame							urrent 1			Place Grou Ports Speci Supp Moni Conts Capa Color	erties ps s fications ort itoring rol city rization	(р.) Ассон
			Name T Copy exi	Templa remplate nu sting Temp	ite ame										Place Grou Ports Speci Supp Moni Conts Capa Color	erties ps s fications ort itoring rol city rization	jų į Accou
			Name T Copy exi Search	Templa remplate nu sting Temp	ite ame					Search					Place Grou Ports Speci Supp Moni Conts Capa Color	erties ps s fications ort itoring rol city rization	iy ] Accou
			Name T Copy exi Search Nam Owne	Templa remplate nu sting Temp	ate ame Jate	Bade Ch									Place Grou Ports Speci Supp Moni Conts Capa Color	erties ps s fications ort itoring rol city rization	iy J Accou
			Name T Copy exi Search Nam	Templa remplate nu sting Temp	ite ame										Place Grou Ports Speci Supp Moni Conts Capa Color	erties ps s fications ort itoring rol city rization	jų į Accou
			Name T Copy exi Search Nam Owne	Template nu sting Temp te r	ate ame Jate							urrent 5			Place Grou Ports Speci Supp Moni Conts Capa Color	erties ps s fications ort itoring rol city rization	y ( Account
			Name T Copy exi Search Nam Owne Categor	Template nu sting Temp te r	ate ame Jate			Rack				arrent 5			Place Grou Ports Speci Supp Moni Conts Capa Color	erties ps s fications ort itoring rol city rization	
			Name T Copy exi Search Nam Owne Categor	Template nu sting Temp te r	ate ame Jate							urrent.			Place Grou Ports Speci Supp Moni Conts Capa Color	erties ps s fications ort itoring rol city rization	
			Name T Copy exi Search Nam Owne Categor	Templa remplate no sting Temp r r r r	ate ame Jate			Rack			ack				Place Grou Ports Speci Supp Moni Conts Capa Color	erties ps s fications ort itoring rol city rization	p)Acces
rellis			Name T Copy exi Search Nam Owne Categor	Templa remplate no sting Temp r r r r r	ate ame Jate	Bade Ch		Rack			ack				Place Grou Ports Speci Supp Moni Conts Capa Color	erties ps s fications ort itoring rol city rization	p ) Access
			Name T Copy exi Search Nam Owne Categor	Templa remplate no sting Temp r r r r r	ate ame Jate			Rack			ack				Place Grou Ports Speci Supp Moni Conts Capa Color	erties ps s fications ort itoring rol city rization	p ) Access
			Name T Copy exi Search Nam Owne Categor	Templa remplate no sting Temp r r r r r	ate ame Jate			Rack			ack				Place Grou Ports Speci Supp Moni Conts Capa Color	erties ps s fications ort itoring rol city rization	ip J Access

- End-to-end view of infrastructure configuration (power and network)
- Additional capacity information provided during searches

Increased detail for better decision making



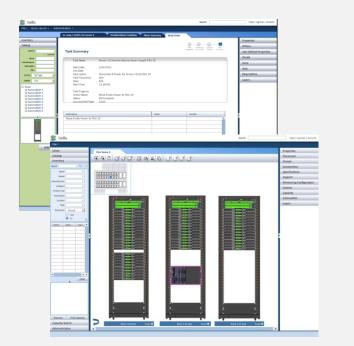
## **Trellis™ Change Planner – R1**

**Inventory Mgr** 

**Change Planner** 

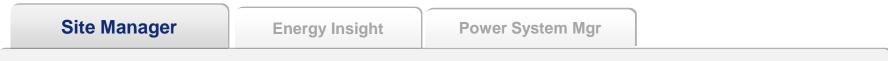
#### Trellis Change Planner

- Standardize data center processes and enforce policies with assignment and tracking of tasks
- Maintain an audit trail of changes to the infrastructure
- Reduce errors and rework with intelligent asset placement capabilities
- Reduce risks associated with changes by performing detailed impact analysis



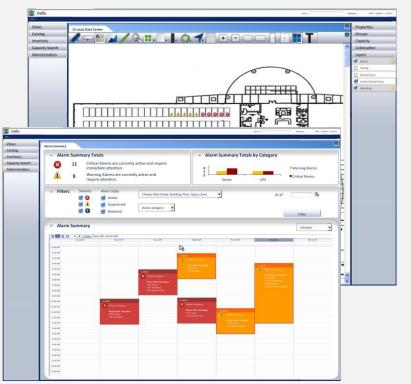
Begin proactive collaboration between IT and facilities management

## Trellis<sup>™</sup> Site Manager – R1



#### **Trellis Site Manager**

- Configure and manage device level thresholds
- View facility layout and asset utilization
- Manage alarm notifications via SMS and email
- Monitor the data centers environmental conditions



Reduce time in identifying and resolving critical device issues within the data center

## Trellis<sup>™</sup> Energy Insight – R1

Site Manager	Energy Insight	Power System Mgr
Trellis Energy l	nsight	
Calculate real tir	ne power consumption	Administration PUE - Power Usage Effectiveness Data Source Training Dc Browse To 04/20/2011 S Source S Confer
Identify utility co	st at the system and unit level	PUE Week to Date Chart Type Status Meter  PUE Month to Date Chart Type Status Meter 2.8
View energy me	trics for PUE and DCiE	1a 2e 30 40 LL/YC 12 2a 30 40 1.7 1.7 1.7 1.7 1.7 1.7 1.7 1.7 1.7 1.7
		DGE Week to Date Chart Type Status Meter   DGE Month to Date Chart Type Status Meter
		48% 31% 50% 75% 31% 50% 75% 31% 50% 75% 31% 50% 75%

Minimum 22% Maximum 36%

MAR 2011

Target

APR 2011

Target

PUE Year to Dat

Determine current and future energy needs based on historical data

## Trellis<sup>™</sup> Power System Mgr – R2

**Power System Mgr Site Manager Energy Insight** Trellis Power System Manager Expose and manage power system dependencies View one-line diagrams of all data center devices Assess risk through identifying relationships between IT equipment and power system devices

Get a dynamic view of the operating state of power distribution within the data center

### **Power System Manager**



- Documents and displays, in a single view, how each device in the data center connects to the power system
- Improves response time to alarms related to Switchgear through improved visibility of the contents
- Provides an operational view of the power system by graphically displaying power flow and distinguishing connections as active, energized, or de-energized
- Assess the impact and risk of an outage or maintenance activity by identifying dependent devices

Create and visualize power connections from the utility entrance down to Rack based power



New

distribution manifes

## **Power System Manager** (cont)

			File #	Vesr *
Prediating Power Databased         Name	belefit annual an Administration		Welcome:trellisuser Help LogOu	t Account +
Intering	procession Commission			
<pre>rades [beddeng 13] UR mage: b00 UR mage</pre>		Building Power Dashboard		-
Image:     Image: <th></th> <td></td> <td></td> <td></td>				
Image:				
Telescore dorse (Date)       Teles. Advance / Daved (Date)         Telescore dorse (Date)       Teles. Advance / Date)         Telescore dorse (Date)       Telescore dorse (Date)         Telescore dorse (Date)       Telescore (Date)         Telescore dorse (Date)       Telescore dorse (Date)		UPS Rating >= 1.00	Tann As PDE	
Image: second		Switchrean Main Breaker	Generator	
Teles cue concer Ray       Image and the set of				
Image: Contract of the product of t			Generator System 1	
Image: State of the state				
Image: Second			Generator 2	
Image: Second State       Image: Second State         Image: Second State       Image: Second State <th></th> <td>Main Breaker 1</td> <td></td> <td></td>		Main Breaker 1		
Image: International internatione internatinternatintereactional international international inte			Generator 1	
Index Concerned in Index       Index Concerned in Index       Index Concerned in Index         Index Concerned in Index       Index Concerned in Index       Index Concerned in Index         Index Concerned in Index       Index Concerned in Index       Index Concerned in Index         Index Concerned in Index       Index Concerned in Index       Index Concerned in Index         Index Concerned in Index       Index Concerned in Index       Index Concerned in Index         Index Concerned in Index       Index Concerned in Index       Index Concerned in Index         Index Concerned in Index       Index Concerned in Index       Index Concerned in Index         Index Concerned in Index       Index Concerned in Index       Index Concerned in Index         Index Concerned in Index       Index Concerned in Index       Index Concerned in Index         Index Concerned in Index       Index Concerned in Index       Index Concerned in Index         Index Concerned in Index       Index Concerned in Index       Index Concerned in Index         Index Concerned in Index       Index Concerned in Index       Index Concerned in Index         Index Concerned in Index       Index Concerned in Index       Index Concerned in Index         Index Concerned in Index       Index Concerned in Index       Index Concerned in Index         Index Concerned in Index       Index Concerned in Index				
Triels Jour Stores (Dark / ) Triels Ankack / Swedynes  Triels Jour Stores (Dark / ) Triels Ankack / Swedynes (Dary - 2000-4174064139428.84.2011)de544-6487.Doument Wew-SPM Triels.  Triels.  Triels.  Triels Jour Stores (Dark / ) Triels Jour Stores (		Adding and a state of the state		
C      C    C			2	
C      C    C				
Control         Call Acade A proceedings of Control Acade				
Charloss      Dedo:      Country by Columns!      Pressay     Press      Vorument or	Fije 🗸 Quick Launch 🗸 & & & & & & & & & & & & & & & & & &			
Status       True       True       True         True       True		S Capacity Trend Dashboard Rules		
Copular Type IC Connuest IC Researce IC R				
		• Devices		
Constant for any formula		Display:		
		Display: "Capacity Type 🔽 Consumed 🔽 Remaining 🔽 Paak	1700 0 To 0	
torinin Name Capacity Dutheard → Capacity Duthear		Dicplay: *Capacity Type IF Consumed IF Remaining IF Peak IF Statistics		
topostanticit donas famo: Capacity Dataloned 		Copylog: "Capanity Type IP Concurse IP tensioning IP heat IP Statistics Constructions Interne Concurse IBS_1	NW 20 Niconume 20 Nicrom Threshold 20 N	
thesise Name Capacity Dublewst → Cabado → Cabado Patel → Cabado Patel → Cabado →		Depay: "Cequelor type: \$7 Concursed \$7 Remaining \$7 Instal \$7 Restances Ceque Colors Instreme \$251.4 \$252.4 \$25	109 二〇 Notonume 二〇 Noton Headed 二〇 No 138 日 2 397 51 40	-
t Ookise Name Capaty Dational → t Qable → t2able t Qable Anter Part M → t2able t Qable Anter Part M		Depay: "Cequelor type: \$7 Concursed \$7 Remaining \$7 Instal \$7 Restances Ceque Colors Instreme \$251.4 \$252.4 \$25	18 소º Norumel 소º NorumProbet 소약 10 124 8 8 2 30 81 4 0 1	-
		Depay: "Cequelor type: \$7 Concursed \$7 Remaining \$7 Instal \$7 Restances Ceque Colors Instreme \$251.4 \$252.4 \$25	18 소º Norumel 소º NorumProbet 소약 10 124 8 8 2 30 81 4 0 1	-
		Depay: "Cequelor type: \$7 Concursed \$7 Remaining \$7 Instal \$7 Restances Ceque Colors Instreme \$251.4 \$252.4 \$25	10 고   Monumer 고 ( 사이가 Theopher) 고 ( 사이가 Theopher) 고 ( 사이가 Theopher) 고 ( 사이가 Theopher) ( 사이가	-
		Songer "Cequelar type: IP calcumed IP mealang IP mult IP balance IP balance	10 20 Nonumer 20 Nonumer 20 Nonu Theologi 20 Nonu Theolog	
		Departy:         Comparing Type         P concurred         P marking         P mail           Image: Concurrence of the second	10 고 전 Notourine 고 전 Notour Headed 그 전 Notour	Rated: W
		Boaty: Sequence Type: IP Concerned IP Annuang IP Nut IP Extintion IP	100     200     Noneumed     200     Noneumed     200     10       300     30     30     30     30     30       Impose to Sense times: Deputy Outboard	
		Copyr         "Opening Type         IP         Concounts         IP         Instanting         IP         Instanting           IF         Statutos         IF         Statutos         IF         Statutos           IF         IF         Statutos         IF         Statutos         IF         Statutos	10 고 전 Notourine 고 전 Notour Headed 그 전 Notour	Rated: W
		Experime         Compared Type         IP         Consume         IP         Nations           IF         Particles         IP         Particles         IP         Particles           IF         Particles         IP         Particles         IP         IP         IP           IF         Particles         IP         Particles         IP         IP         IP           IF         Particles         IP         IP         IP         IP         IP         IP           IF         Particles         IP         <	10 2 Nonumer 2 Nonumer 2 Nonum Non Nonum Nonum NonumNo Nu	Rate: M Designed: M
20 Hummit M 20 Hummit A		Experime         Compared Type         IP         Consume         IP         Nations           IF         Particles         IP         Particles         IP         Particles           IF         Particles         IP         Particles         IP         IP         IP           IF         Particles         IP         Particles         IP         IP         IP           IF         Particles         IP         IP         IP         IP         IP         IP           IF         Particles         IP         <	10 2 Volument 2 Volume	Rated: W
20 100 1340 1400 1340 1340 1341 2546 Average: 40 150 1340 140 140 1344 244 Average: 40		Serger "Opening Type: IP Cancerned IP Annuang IP Ault IP Statistics Interest Careford Interest I	10 20 Moreomet 20 Moreometer 20 Moreometer 20 20 Moreomet	Rate: M Designed: M
		Express     IP counted IP meaning     IP nuit       IP statistic     IP statistic	10 2 Nonumed 2 Non Headed 2 Non	Rate: M Designet: M Statistics: Heremun: M

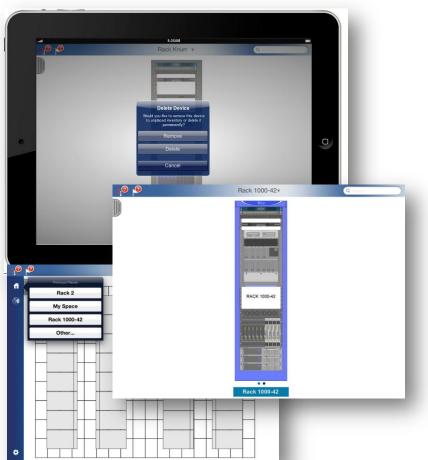
- Enhances the understanding of remaining capacity and headroom through visualization of real-time and historical utilization, repetitive cycles, and periodic spikes or peaks
- Includes an extensible connection algorithm providing vendor neutral device support
- Quickly identifies the owner and contact information of a dependent device if an issue should arise

View a dashboard displaying the real-time capacity and graphical trends of many devices



New

## Mobile – Data Center Operations



- Innovative image recognition technology and bar code scanning capabilities
- Update information in real-time or offline
- Search for racks and devices
- View Trellis platform reports in real-time
- View device capacities & port
- Place, remove and move devices
- Update and view power connections

## Trellis mobile suite extends the real-time capabilities of the Trellis platform onto mobile

a lanval avail



New

# Дякуємо за увагу!

