

InterMapper[®]

by Dartware



InterMapper from Dartware

Introduction

InterMapper: Features/Benefits

What's your ROI?

John Sutton

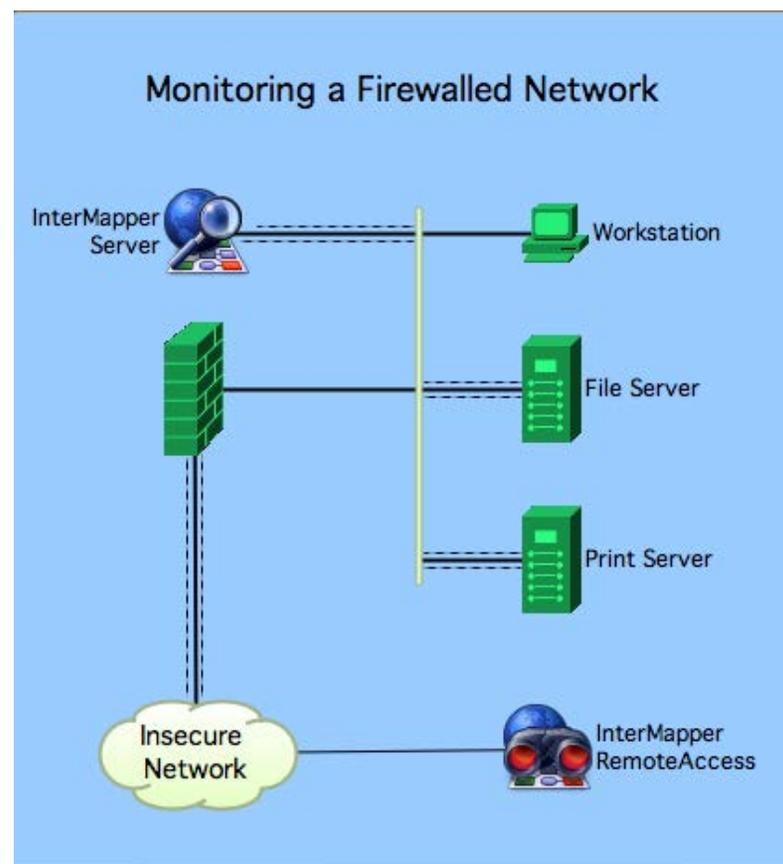
**Dartware,
LLC**

InterMapper's Benefits

- ❑ **Multi-site deployment**
- ❑ **Highly Scalable**
- ❑ **Cross platform**
- ❑ **Easy to install and set up**
- ❑ **Unique graphical view**
- ❑ **Real-time monitoring**
- ❑ **Alerting on thresholds not just failure**
- ❑ **Real-time charting of thousands of data points**

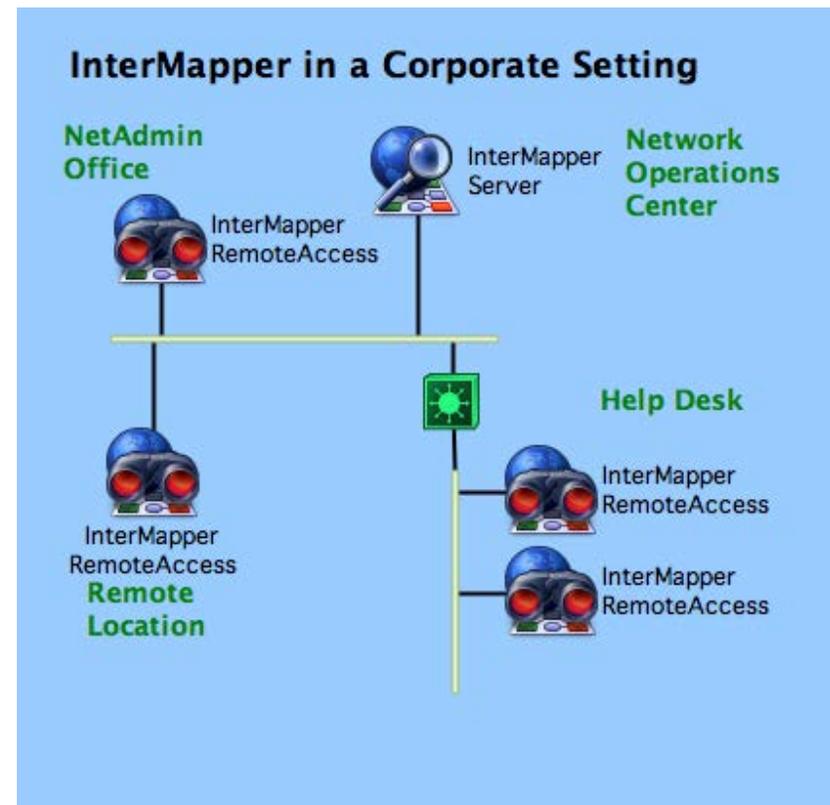
Sample Deployment—1

- ❑ **InterMapper at branch office A**
- ❑ **Behind Firewall**
- ❑ **RemoteAccess in NOC or in the field**
- ❑ **Views and configures the server**



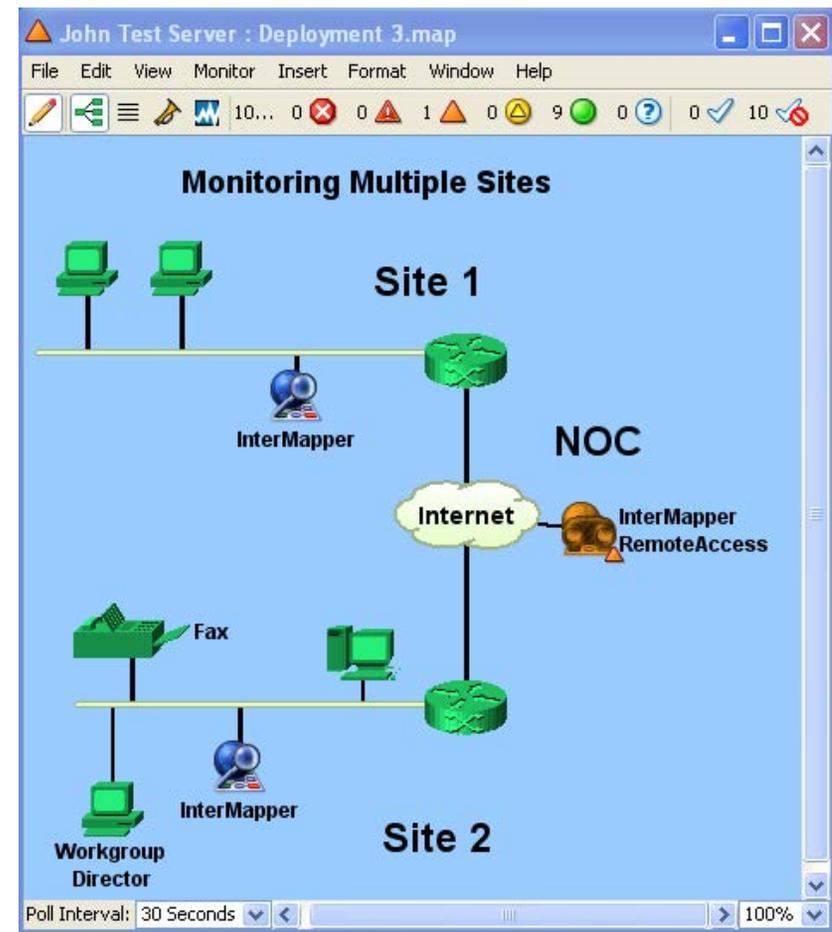
Sample Deployment—2

- ❑ InterMapper in NOC
- ❑ RemoteAccess in net admin's office
- ❑ RemoteAccess at Help Desk and in the field



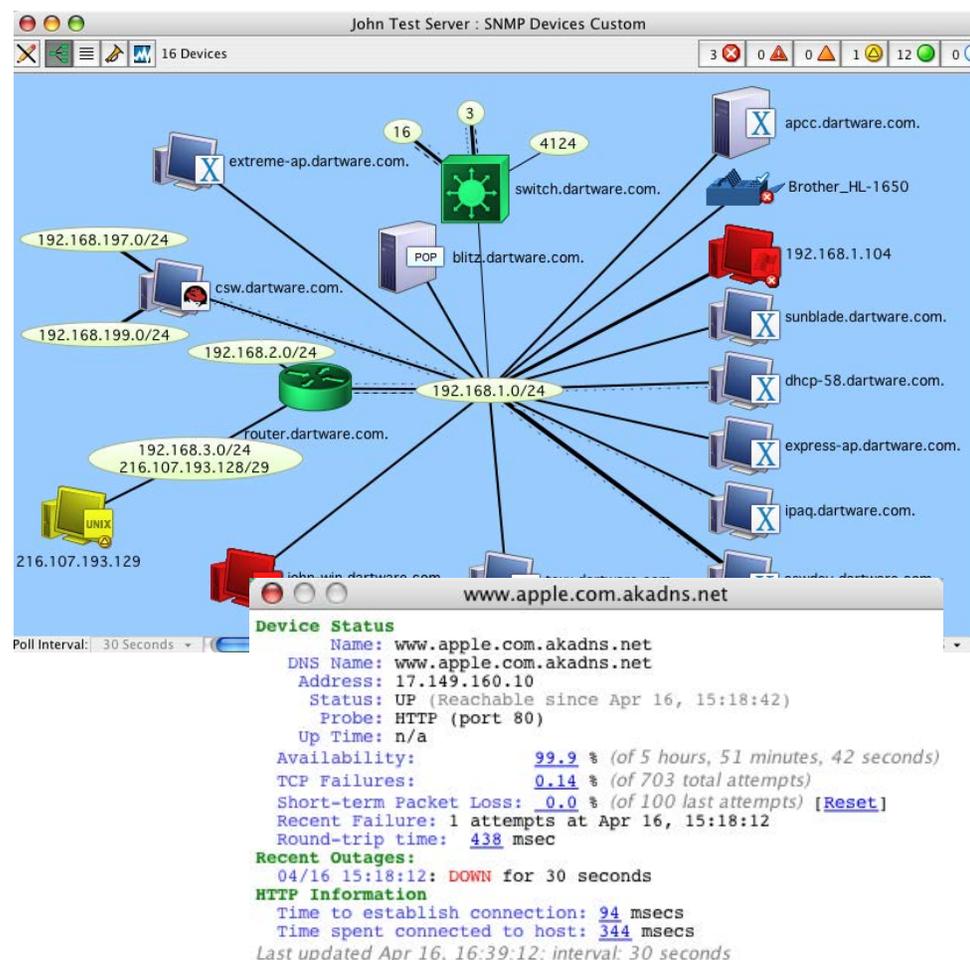
Sample Deployment—3

- ❑ InterMapper installed at two customer sites
- ❑ Configure and monitor from NOC



See the Health of the Network

- ❑ What's working
- ❑ What's down
- ❑ Heavy traffic areas
- ❑ ROI: Knowing when and where bottlenecks and outages occur immediately saves time and money fixing the issues.



Device and Interface Statistics

- ❑ Live Data
- ❑ 100's of Data Points
- ❑ Chartable

- ❑ UPS Probe:

```

apcc.dartware.com.
Device Status
  Name: apcc.dartware.com.
  DNS Name: apcc.dartware.com.
  Address: 192.168.1.22
  Status: UP (Reachable since Nov 24, 15:06:10)
  Probe: Probe Group
  Last updated Nov 25, 08:24:38
  Reason: (APC UPS: apcc.dartware.com.) UPS battery temperature Warning: 41 °C (Optimal Range: 10-38 °C)

Member Probes
  ▼ WARN: APC UPS   apcc.dartware.com. UPS battery temperature Warning: 41 °C

Device Status
  Status: UP (Reachable since Nov 24, 15:06:10)
  Probe: APC UPS (port 161 SNMPv1)
  Up Time: 8 days, 19 hours, 5 minutes
  SysName: Dartware, LLC
  Contact: The Manager
  Location: In the bowels of our net
  Availability: 97.4 % (of 8 days, 20 hours, 59 minutes)
  Packet Loss: 5.53 % (of 51177 total attempts)
  Short-term Packet Loss: 0.0 % (of 100 last attempts) [Reset]
  Recent Loss: 1 pkts at Nov 25, 07:08:54
  Response time: 219 msec

  Retention Policy: 24 Hours (-3), Exportable

APC UPS (Single Phase) Information
  Model: SMART-UPS 700
  Firmware: 50.11.D
  Status: On Line (Not On Battery)
  Battery: 100% Charge, 6 hours, 30 minutes left.
           Internal temperature is 41 °C / 106 °F.
           Last replaced on 03/27/00 and needs to be replaced.
  Output: 0% Load; 117 Volts; 60 Hz; 0.0 Amps.
  Input: 117 Volts (117-118V over last minute); 60 Hz.
          Last input failure was a No Transfer.

Bugs or Requests? Please contact us.
  Last updated Nov 25, 08:24:19; interval: 30 seconds
  Reason: UPS battery temperature Warning: 41 °C (Optimal Range: 10-38 °C)
  
```

Device & Interface Statistics

□ Monitor Server Health

□ Host Resources:

192.168.1.119

Device Status
 Name: 192.168.1.119
 DNS Name: (Unknown)
 Address: 192.168.1.119
 Status: UP
 Probe: Probe Group
 Last updated Nov 25, 08:35:55

Member Probes
 ▶ OK: Ping/Echo JSWINBOX
 ▼ OK: SNMP - Host Resources JSWINBOX

Device Status
 Status: UP
 Probe: SNMP - Host Resources (port 161 SNMPv1)
 Up Time: 4 minutes, 27 seconds
 SysName: JSWINBOX

Availability: 100 % (of 3 minutes, 11 seconds)
 Packet Loss: 0.0 % (of 134 total attempts)
 Short-term Packet Loss: 0.0 % (of 100 last attempts) [Reset]
 Recent Loss: None
 Response time: 16 msec

Retention Policy: 24 Hours (-3), Exportable

Host Resources General Information
 System Uptime: 8 days, 21 hrs, 19 mins, 8 secs
 System Date: 2009-11-25, 08:35:55.04
 Number of User Sessions: 2
 Number of Processes Loaded/Running: 80
 Installed Memory: 3143520 KB
 Description: Hardware: x86 Family 6 Model 15 Stepping 6 AT/AT COMPATIBLE - Software: Windows

Host Resources Storage Table Information

Index	Used (MB)	Size (MB)	% Full	Fail	Descr.
1	57,660	85,384	<u>67</u>	0	C:\ Label: Serial Number 4495ad57
2	0	0	<u>0</u>	0	D:\
3	1,170	4,955	<u>23</u>	0	Virtual Memory
4	1,140	3,069	<u>37</u>	0	Physical Memory

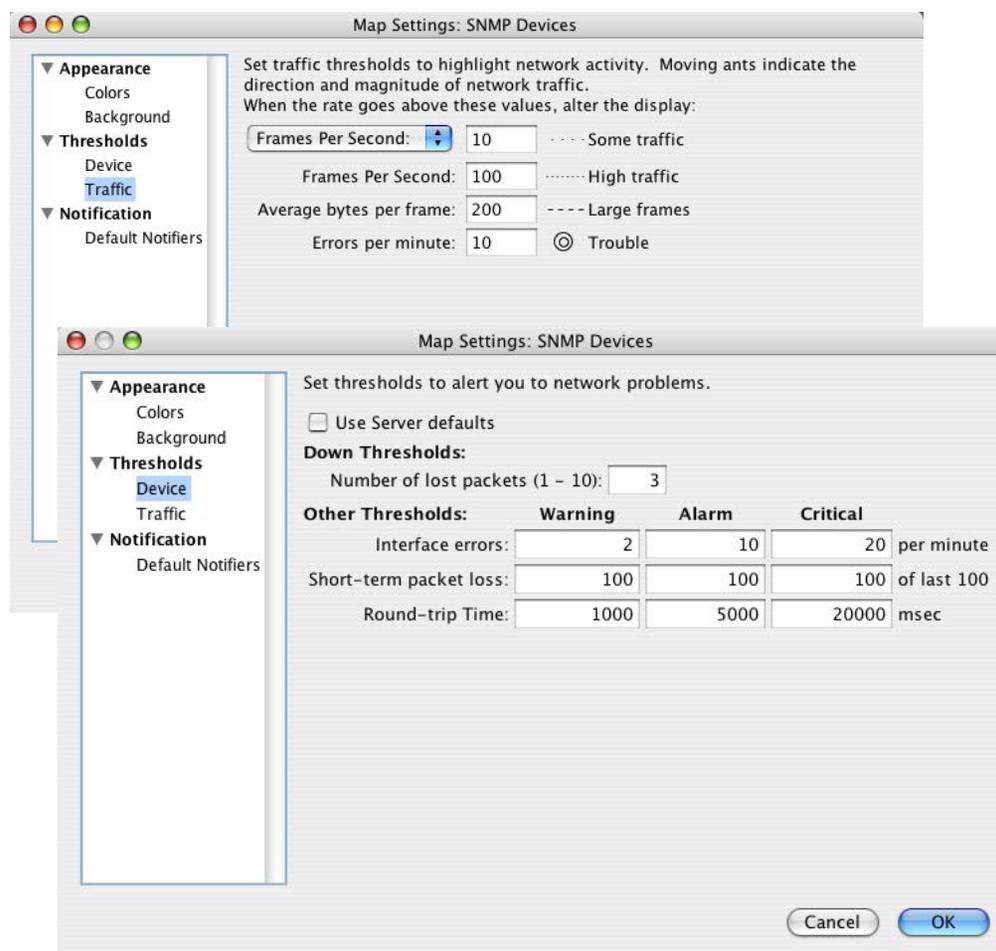
Host Resources Processor Table Information

Index	Load
13	<u>54</u> %
14	<u>66</u> %

CPU Utilization: 60%
 Last updated Nov 25, 08:35:55; interval: 30 seconds

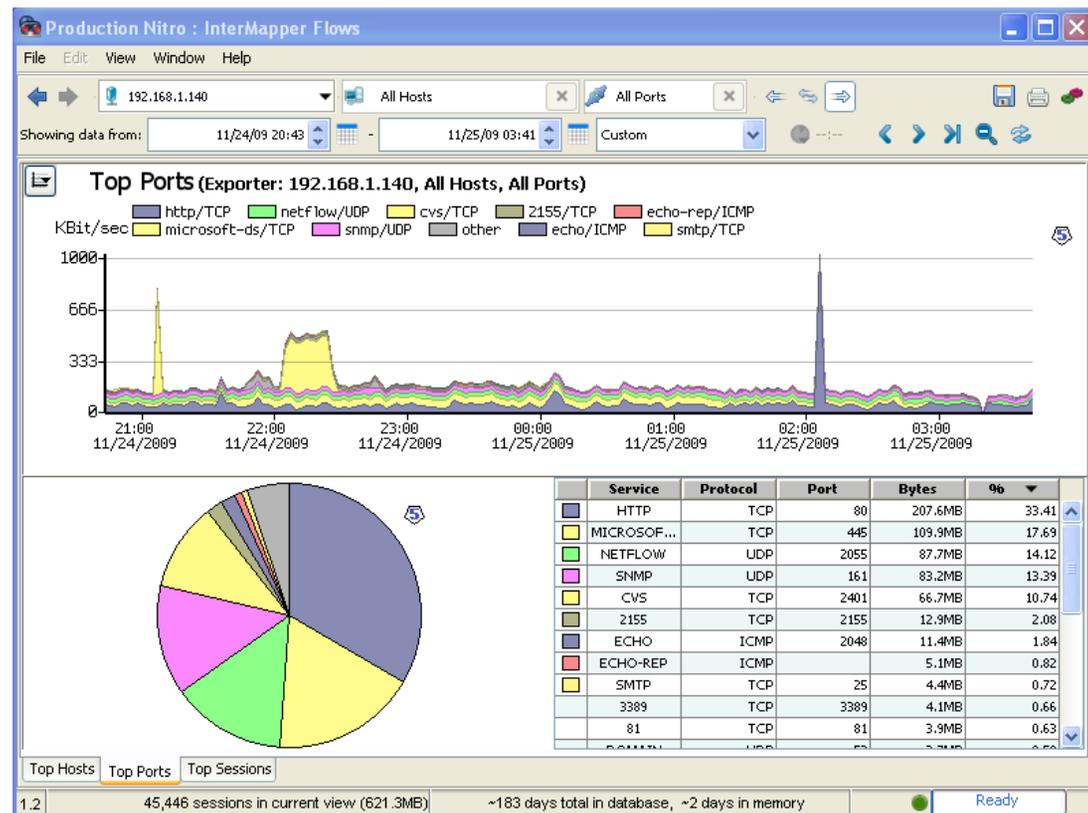
Customized Thresholds

- ❑ Set Device and Traffic Thresholds
- ❑ Alert on packet loss, round trip time
- ❑ Per-server, per-map, per-device



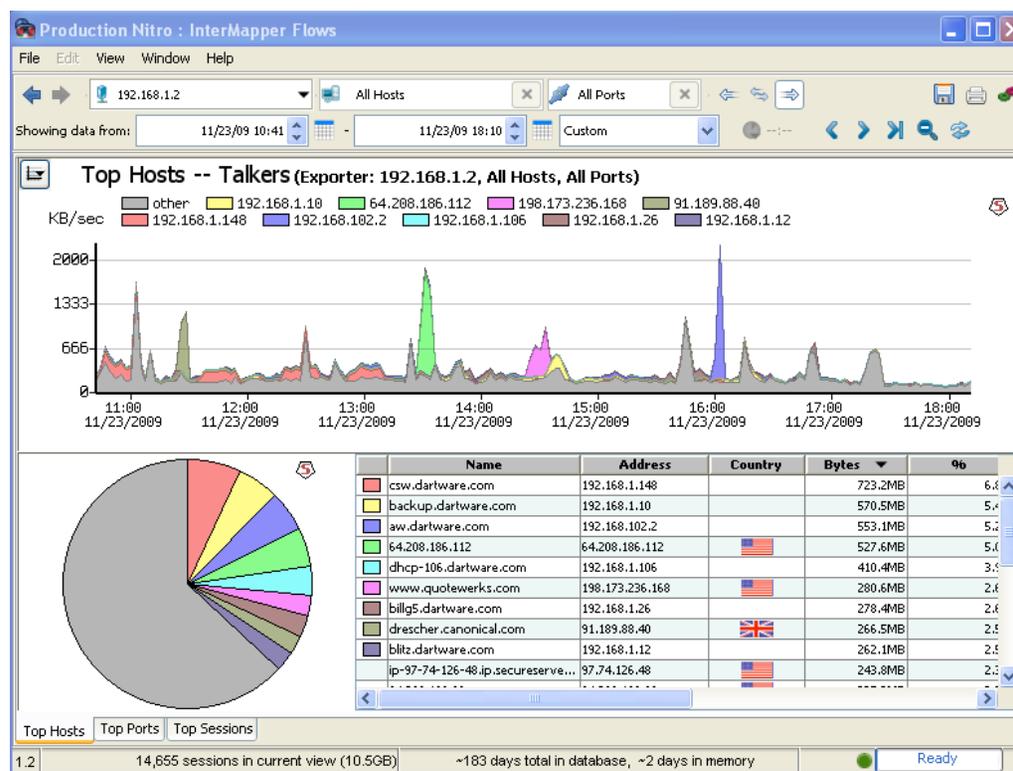
NetFlow

- Good diagnostic tool
- Identifies who's "hogging the bandwidth"



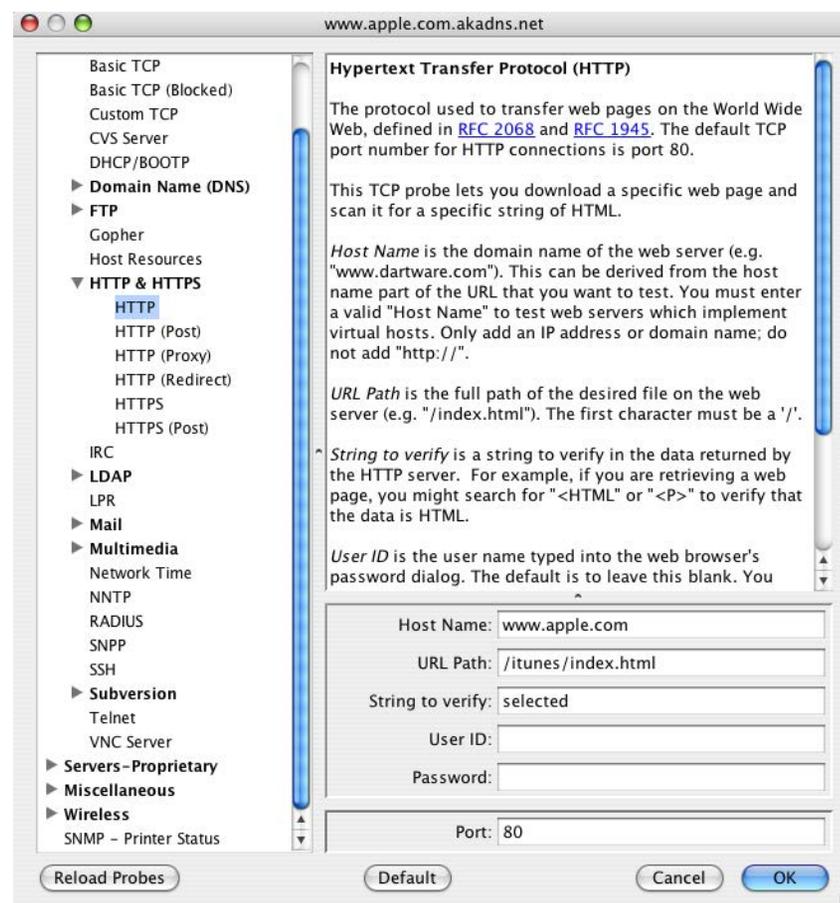
And sFlow, JFlow, cFlow

- ❑ Spot DoS attacks
- ❑ Historic Data Analysis
- ❑ Patterns & Trends
- ❑ Country of Origin



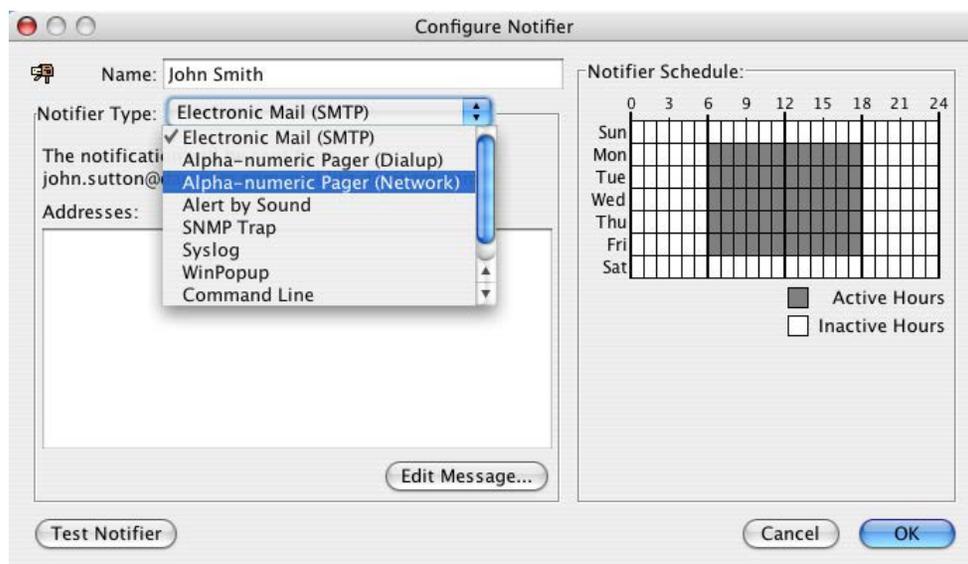
Built-in Probes

- 85+ built-in probes let you maximize the amount of real-time information you can see
- SNMP traffic
- Servers (web, mail, file, printers, etc.)
- Applications
- Create your own as needed



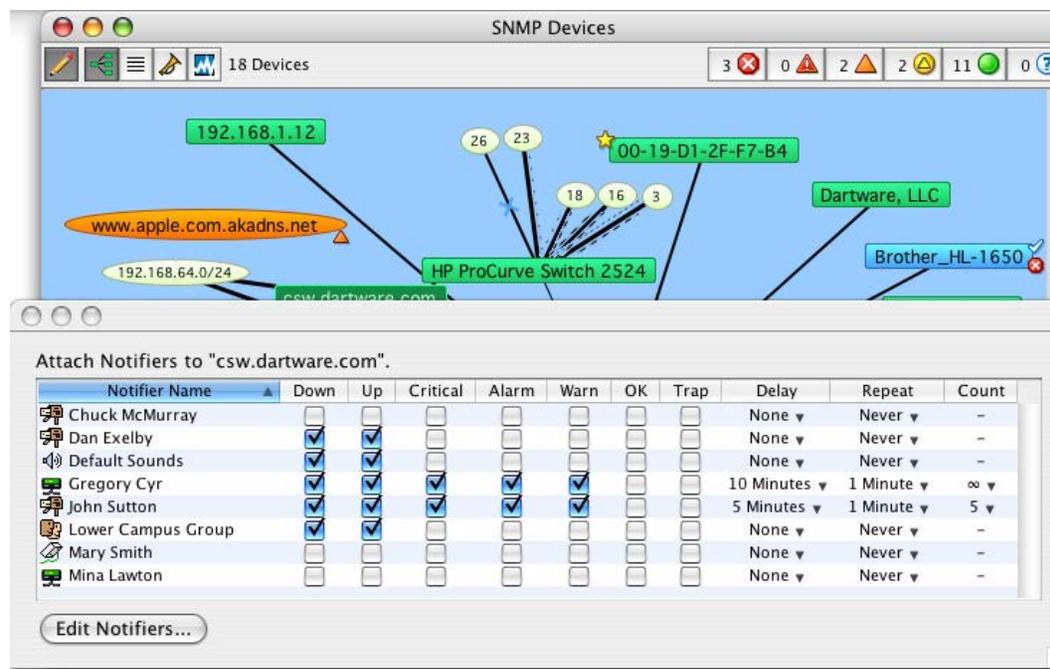
Notifications—Part I

ROI: Immediate alert of problems or potential problems. Alert thresholds mean you can act before a problem becomes critical.



Notifications—Part II

- Decide who is to receive the notifications, how and when



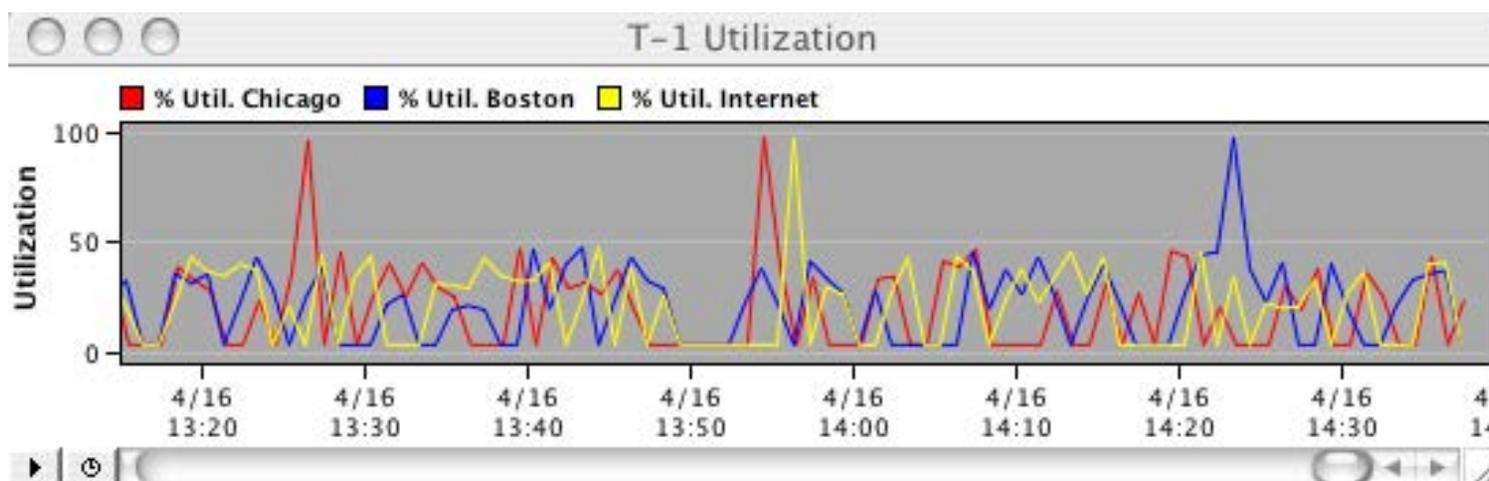
The screenshot shows the InterMapper interface with a network diagram and a notification configuration table. The network diagram displays various devices and their connections, including IP addresses like 192.168.1.12 and 192.168.64.0/24, a domain www.apple.com.akadns.net, and hardware like an HP ProCurve Switch 2524 and a Brother HL-1650. The notification configuration table is titled "Attach Notifiers to 'csw.dartware.com'".

Notifier Name	Down	Up	Critical	Alarm	Warn	OK	Trap	Delay	Repeat	Count
Chuck McMurray	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	None	Never	-				
Dan Exelby	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	None	Never	-
Default Sounds	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	None	Never	-
Gregory Cyr	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	10 Minutes	1 Minute	∞				
John Sutton	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	5 Minutes	1 Minute	5				
Lower Campus Group	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	None	Never	-
Mary Smith	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	None	Never	-
Mina Lawton	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	None	Never	-				

Buttons: Edit Notifiers...

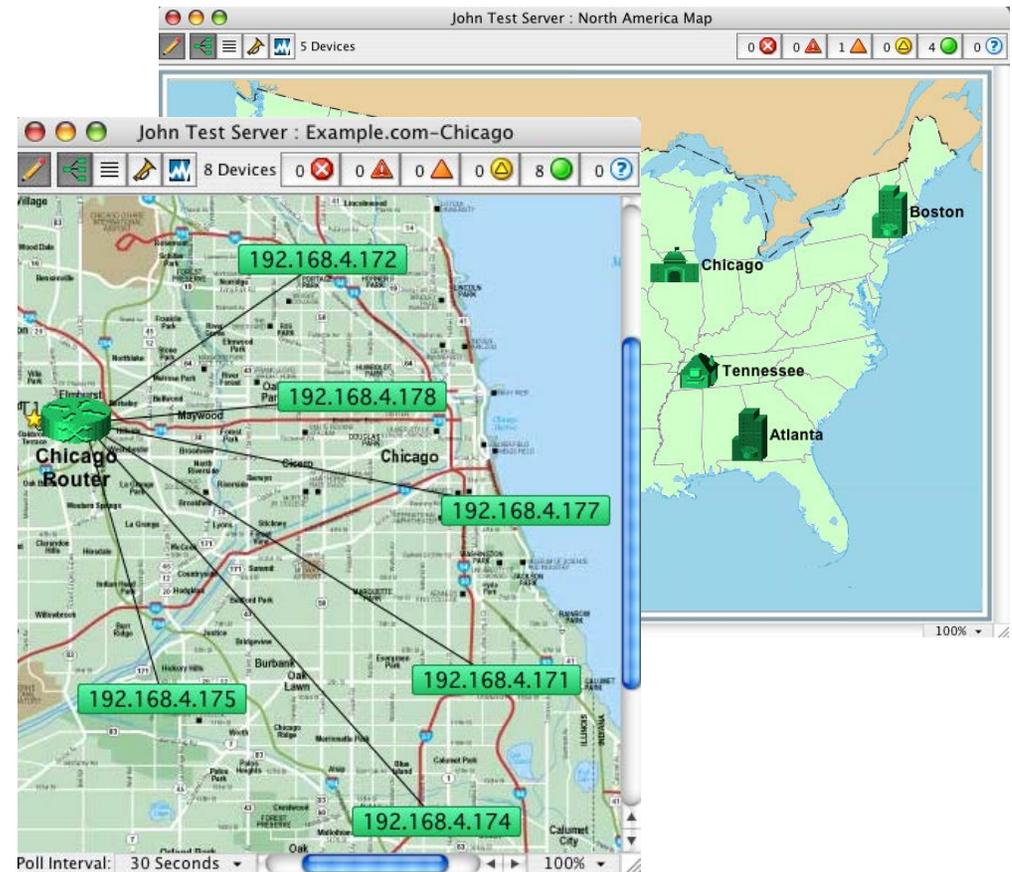
Charts show Historical Data

- ❑ **ROI: You can chart hundreds of data points. Trending data enables you to monitor QoS in real time.**
- ❑ **Degraded service can be detected and fixed early on.**



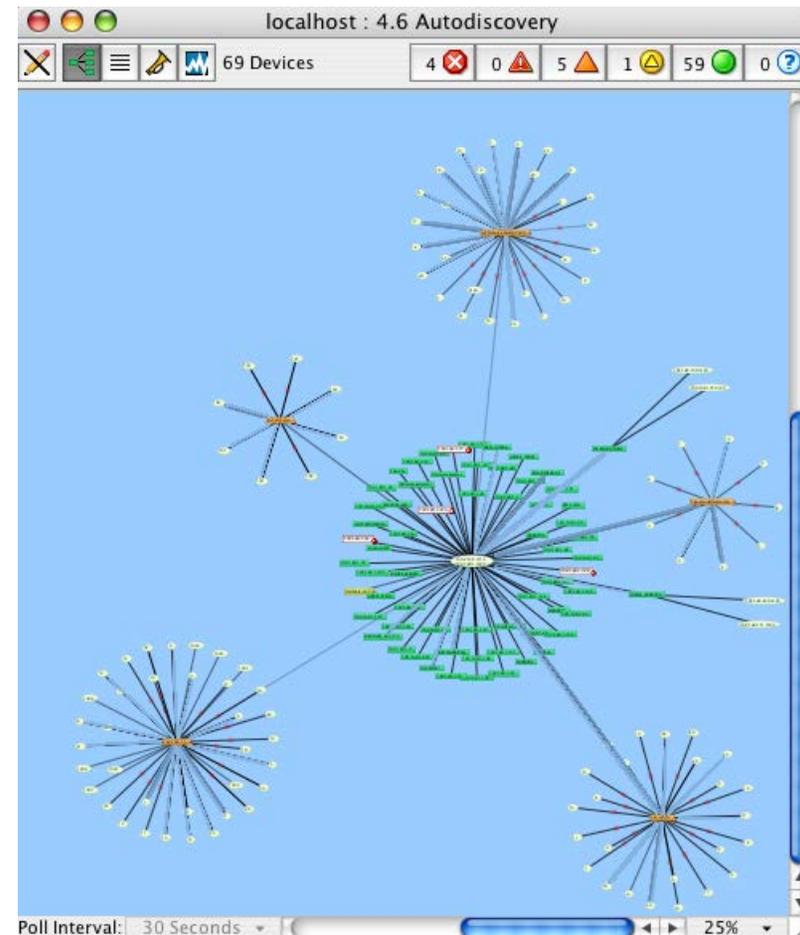
Sub-maps

- Main map shows overall status
- Sub-map shows detailed state
- Makes InterMapper scalable



Autodiscovery

- ❑ InterMapper discovers and lays out the map
- ❑ ROI: Start monitoring within minutes. Save expensive and time-consuming on-site visits.

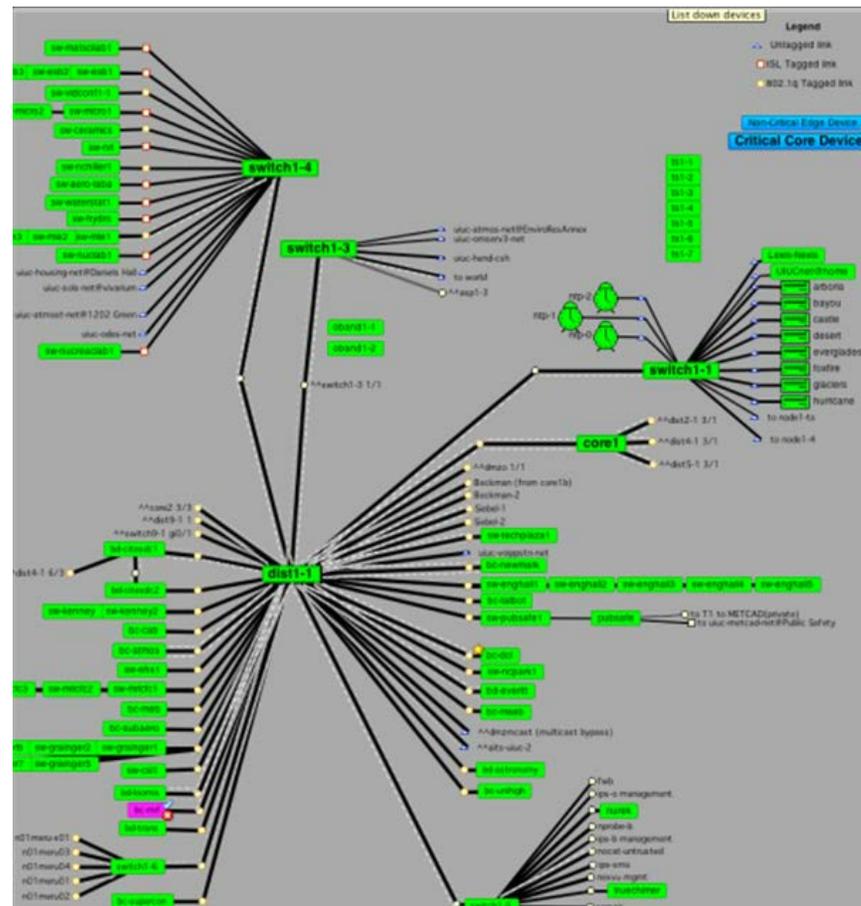


Entering Devices Manually

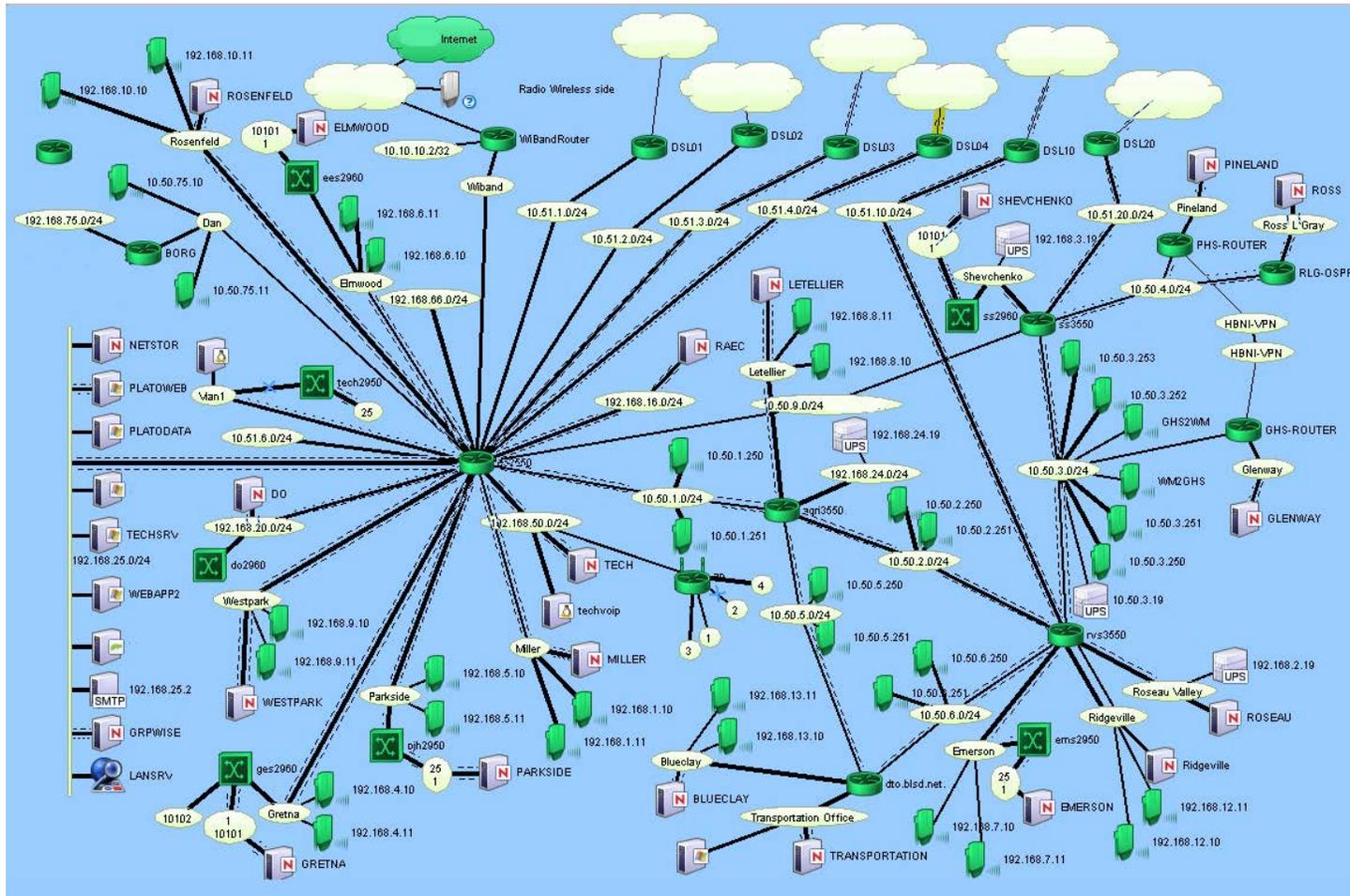
- ❑ Enter a list of devices with IPv4 or IPv6 addresses, DNS names
- ❑ Import from a file



Sample Customer Map

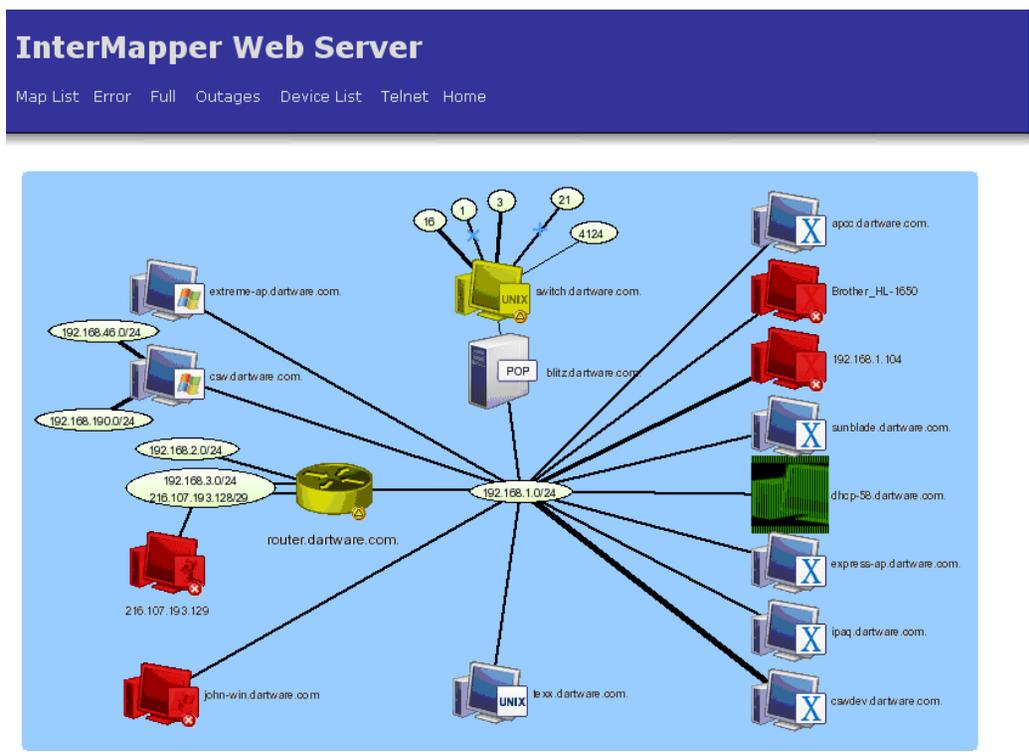


Sample Customer Map



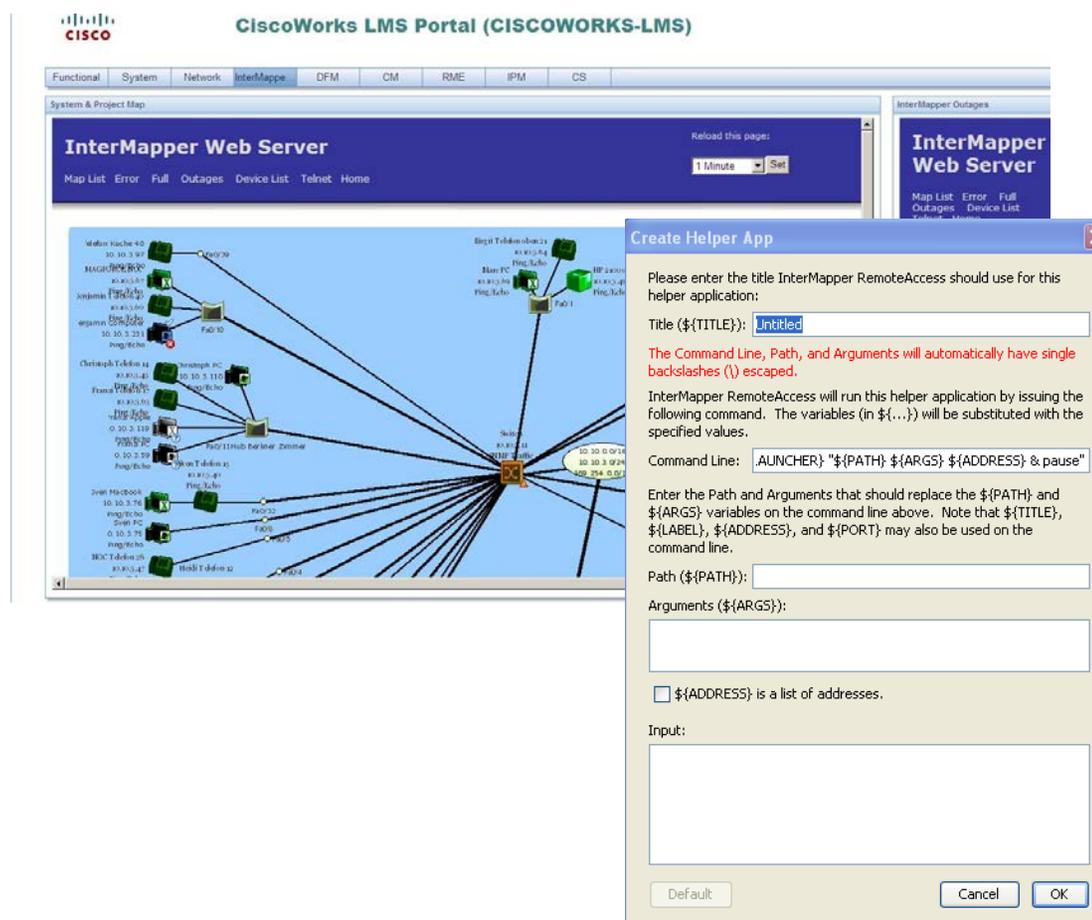
Read-only View via Web

- ROI: Allow users controlled access to network maps.
- Increase overall awareness— Stay in constant touch.



Helper Applications

- ❑ Invoke other applications
- ❑ Add functions easily
- ❑ “Just a right-click away”



The screenshot displays the CiscoWorks LMS Portal (CISCOWORKS-LMS) interface. The main window shows a network map with various devices and connections. A dialog box titled "Create Helper App" is open in the foreground, allowing the user to configure a helper application. The dialog box contains the following fields and options:

- Title (\${\$TITLE}):** Untitled
- Command Line:** `[AUNCHER] "${PATH} ${ARGS} ${ADDRESS} & pause"`
- Path (\${\$PATH}):** [Empty field]
- Arguments (\${\$ARGS}):** [Empty field]
- ``${ADDRESS}` is a list of addresses.
- Input:** [Empty text area]
- Buttons: Default, Cancel, OK

Why Use InterMapper?

- ❑ Open Source-1
- ❑ Nagios



Nagios

General

- Home
- Documentation

Monitoring

- Tactical Overview
- Service Detail
- Host Detail
- Hostgroup Overview
- Hostgroup Summary
- Hostgroup Grid
- Servicegroup Overview
- Servicegroup Summary
- Servicegroup Grid
- Status Map
- 3-D Status Map
- Service Problems
- Host Problems
- Network Outages

Show Host:

- Comments
- Downtime
- Process Info
- Performance Info
- Scheduling Queue

Reporting

- Trends
- Availability

Current Network Status
Last Updated: Tue Nov 24 10:38:11 CLST 2009
Updated every 90 seconds
Nagios® - www.nagios.org
Logged in as root

[View Service Status Detail For All Host Groups](#)
[View Host Status Detail For All Host Groups](#)
[View Status Overview For All Host Groups](#)
[View Status Grid For All Host Groups](#)

Host Status Totals

Up	Down	Unreachable	Pending
103	0	0	0
All Problems		All Types	
0		103	

Service Status Totals

OK	Warning	Unknown	Critical	Pending
363	11	0	2	0
All Problems		All Types		
13		406		

Status Summary For All Host Groups

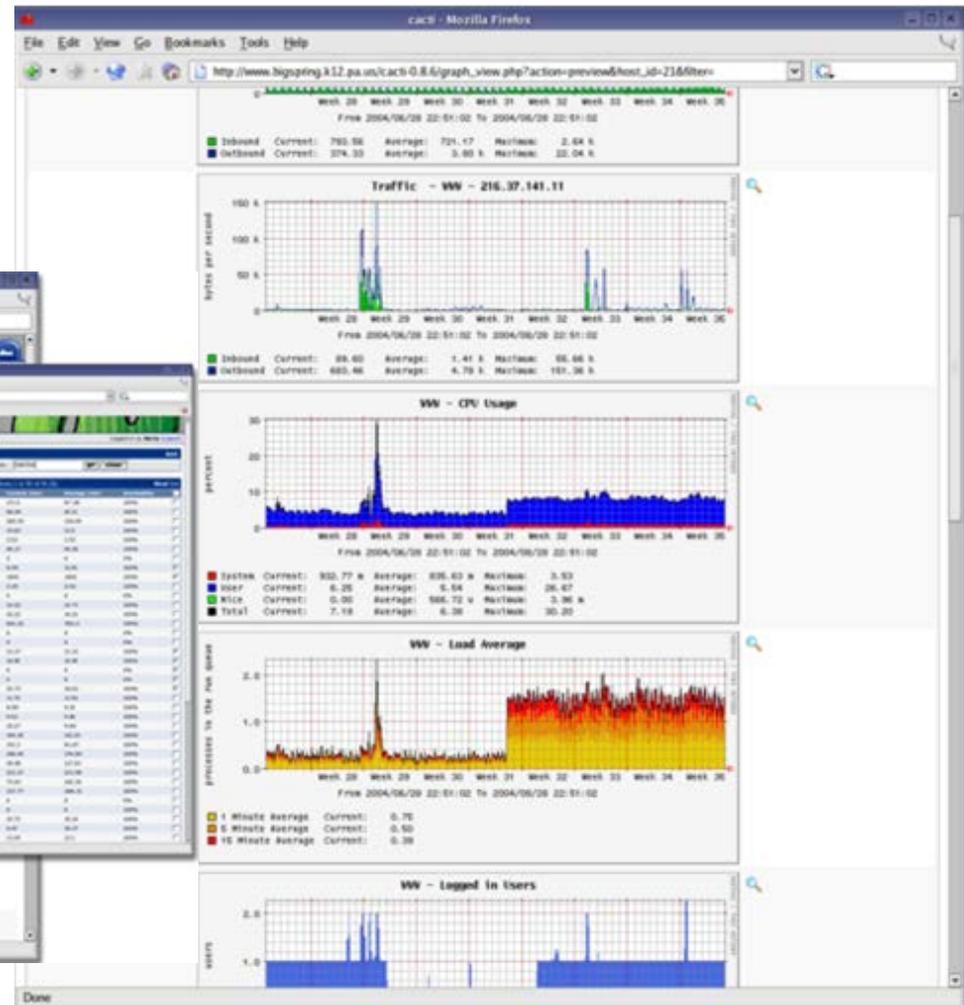
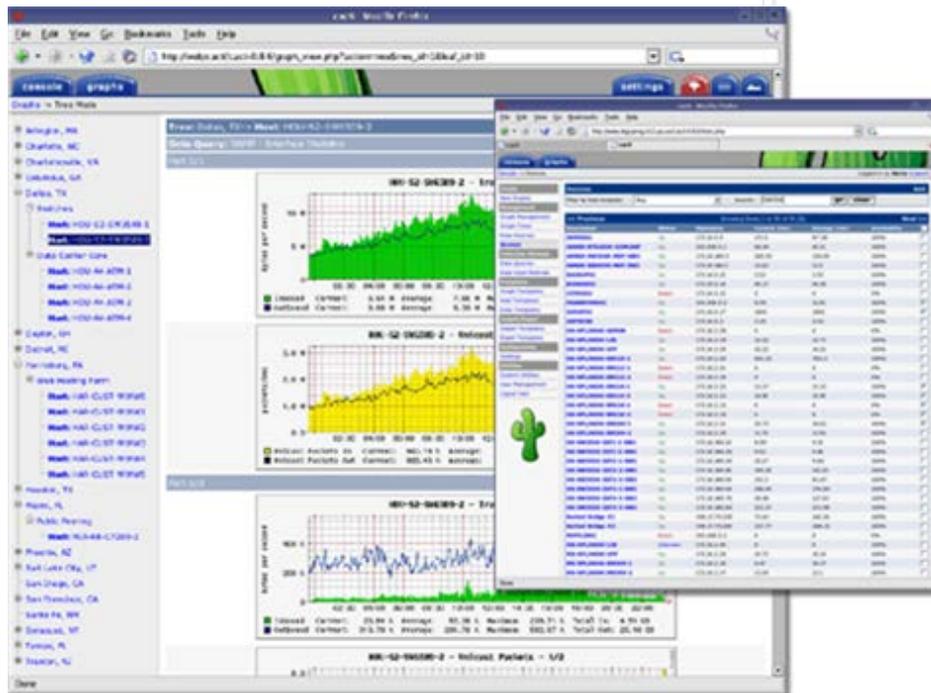
Host Group	Host Status Totals	Service Status Totals
Enlaces de Netline (enlaces)	10 UP	10 OK
Routers de LC-1 (routers_lc-1)	5 UP	12 OK
Servicios Netline (servicios_netline)	21 UP	52 OK
Servicios Telco (servicios_telco)	15 UP	35 OK
Servidores Internos (servidores_internos)	5 UP	10 OK 2 WARNING 3 CRITICAL
Servidores Local Cell 1 (servidores_lc-1)	16 UP	10 OK 4 WARNING 1 CRITICAL
Servidores Telco 1 (servidores_telco1)	22 UP	107 OK 5 WARNING

Why Use InterMapper? - 2

- ❑ **Nagios**
- ❑ **Pros:**
- ❑ **Open Source**
- ❑ **Big Community**
- ❑ **Free**
- ❑ **Cons:**
- ❑ **5 minute polling – miss a lot of information**
- ❑ **Requires large server – more expensive than InterMapper**
- ❑ **Contains few probes. Very time consuming to add more**
- ❑ **No graphs, therefore no trending information**
- ❑ **No web interface**
- ❑ **Very hard to map the network**
- ❑ **No Flows feature**

Why Use InterMapper? - 3

- ❑ Open Source-2
- ❑ CACTI



Why Use InterMapper? -4

❑ **CACTI**

❑ **Pros:**

- ❑ **Great Color Graphs**
- ❑ **Use RRD Database**
- ❑ **Open Source**
- ❑ **Free**
- ❑ **Web interface for configuration**

❑ **Cons:**

- ❑ **5 minute polling – miss a lot of information**
- ❑ **Requires large server – more expensive than InterMapper**
- ❑ **Contains few probes. Very time consuming to add more**
- ❑ **No alerting**
- ❑ **No Flows feature**

Why Use InterMapper? -4

- ❑ **Open Source**
- ❑ **Conclusions:**
- ❑ **The man hours necessary to configure the open source solutions to come closer to InterMapper's feature set make these "free" applications more expensive than InterMapper**
- ❑ **The feature sets are incomplete compared to InterMapper and would necessitate the use of additional applications**
- ❑ **InterMapper's "time to implementation" is easy and fast**
- ❑ **InterMapper's robust feature set gives a more comprehensive 24/7 network health analysis**

Why Use InterMapper? - Summary

- ❑ **Solves your problems – *fast!***
- ❑ **Easy to use with other products and services**
- ❑ **Identifies the need for system upgrades & deployment of hardware**
- ❑ **Makes it easy to manage remote sites — spend less time driving**
- ❑ **Reduces costs by saving time, and money**
- ❑ **Hit problems as they start, and before they become critical**

Thank you

