

Observium



All in one network
graphing and monitoring

Network Monitoring and Management

Network Startup Resource Center



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Observium

- SNMP-based auto-discover network monitoring tool
- Written in PHP as a web application
- Includes support for a wide range of hardware:
 - Cisco, Linux, FreeBSD, Juniper, Brocade, Foundry, HP and many more
 - See http://www.observium.org/wiki/Supported_Devices

Available metrics

- CPU, memory and storage statistics
- Interface traffic, packet and detailed error statistics
- Temperature, fan speed, voltage, amperage, power humidity and frequency sensors
- Users, processes, load average and uptime statistics

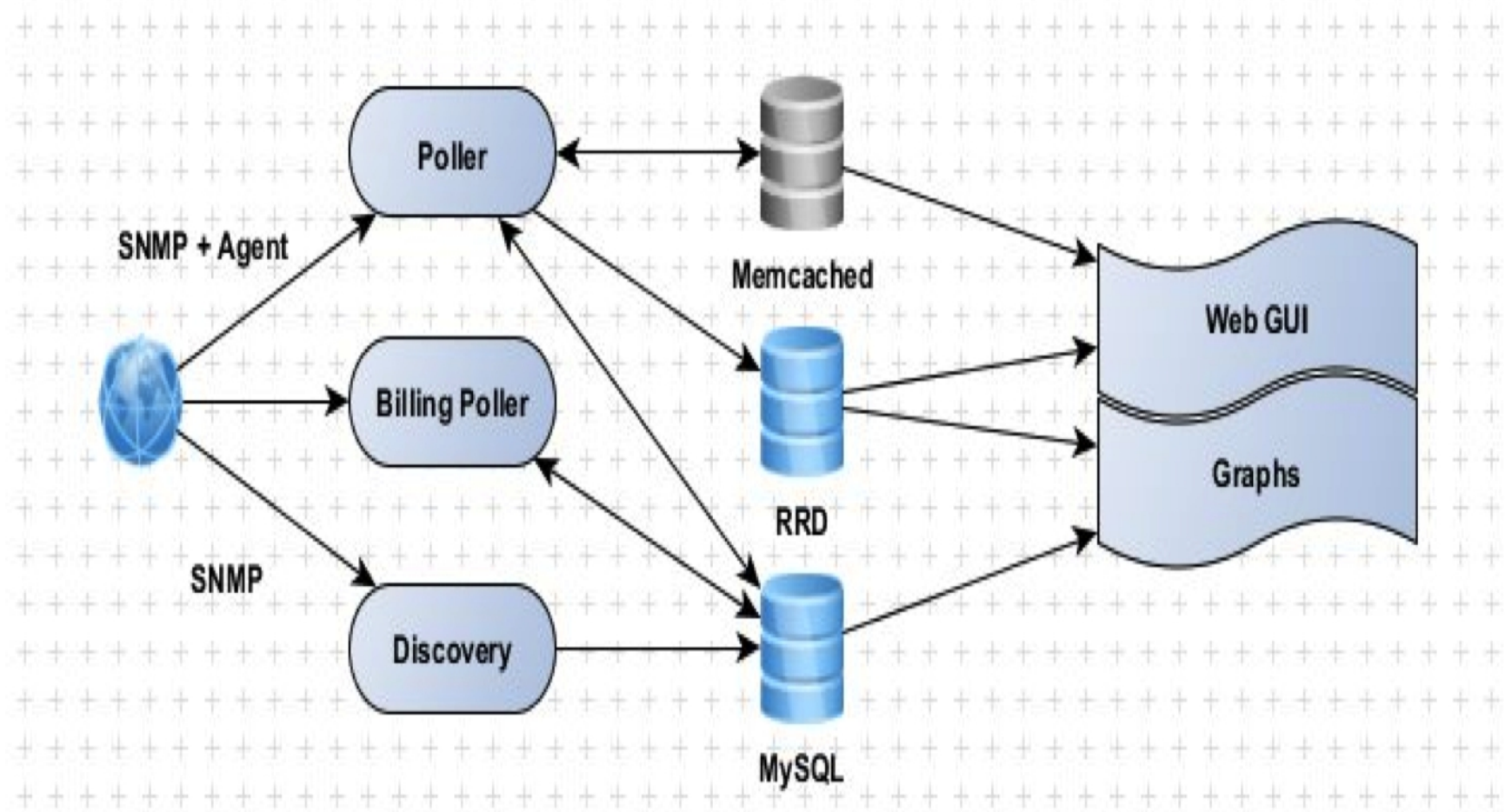
Available metrics cont.

- Linux distribution detection
- Real-time interface traffic graphing
- Device inventory collection (useful!)
- Detailed IPv4, IPv6, TCP and UDP stack statistics
- BGP And OSPF information
- Mac and IP address information

Features

- Concept of enabled vs. ignored
- Many already supported devices
- Host monitoring well supported using check_mk and support scripts
- Application monitoring using SNMP
- Billing module
- Integration with other tools:
 - Smokeping, collectd, syslog (receive logs from devices)

Architecture



Availability

Observium

Open Source (free) vs. “Professional” (paid) versions

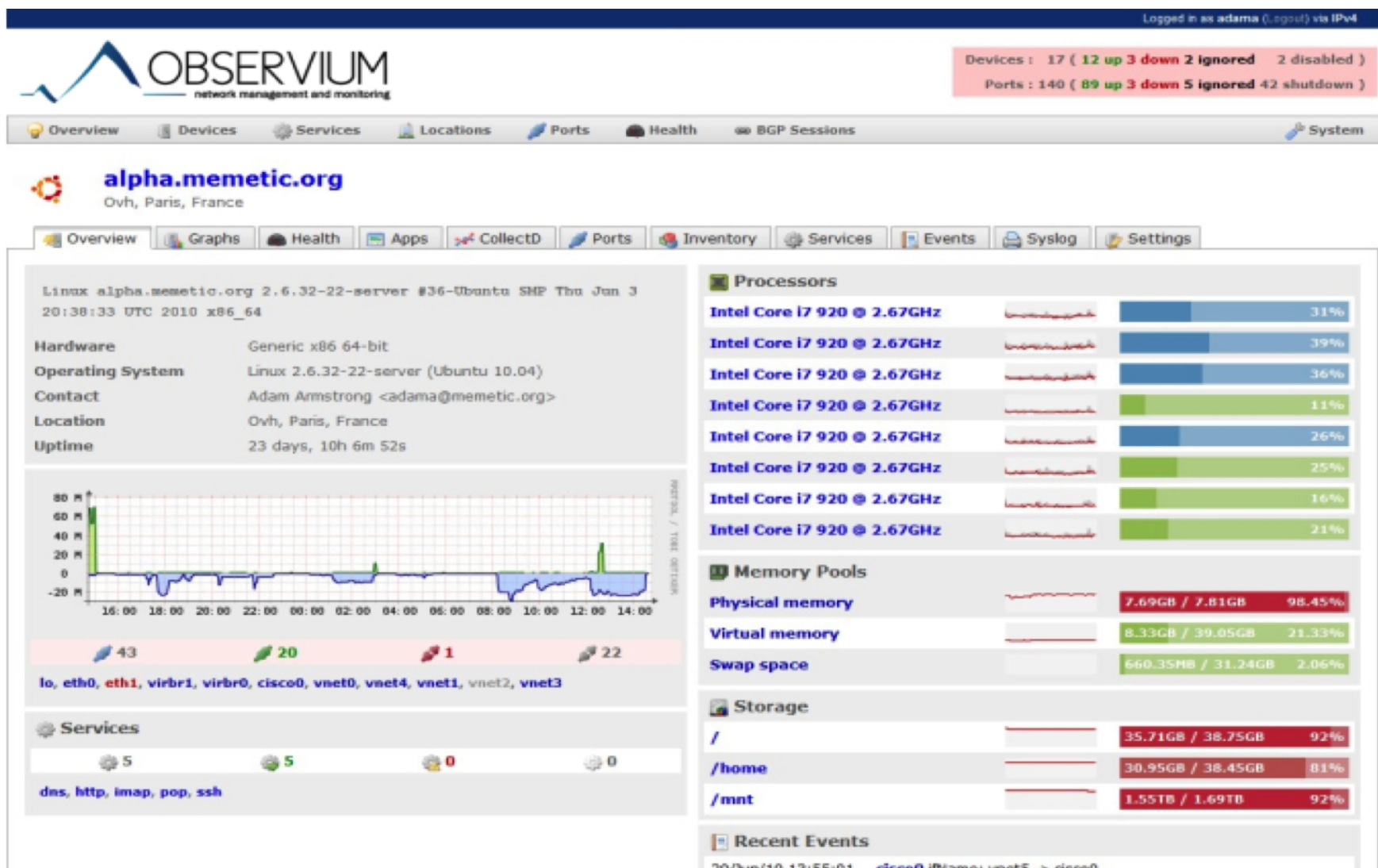
- <http://www.observium.org/>
- http://www.observium.org/wiki/Edition_Split

Librenms

- Fork of Observium. Open Source, Free and GPL
- <https://github.com/librenms/librenms>
- https://github.com/librenms/librenms/blob/master/doc/Observium_Welcome.md

Screen shots

These are from the Observium Open Source version. This is the version we will use in class and in our labs.



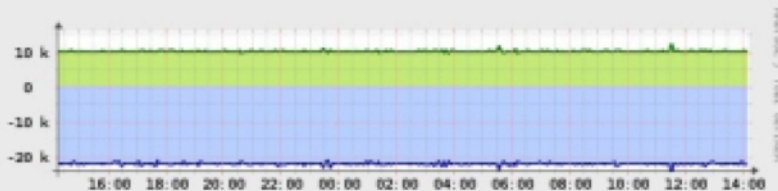
Devices : 17 (12 up 3 down 2 ignored 2 disabled)
Ports : 140 (89 up 3 down 5 ignored 42 shutdown)

cisco0.vm

Belly of Alpha

Cisco IOS Software, 7200 Software (C7200-ADVIPSERVICESK9-M), Version 12.2(33)SRD2, RELEASE SOFTWARE (fc2) Technical Support:
<http://www.cisco.com/techsupport> Copyright (c) 1986-2009 by Cisco Systems, Inc. Compiled Wed 20-May-09 20:57 by prod_rel_team

Hardware CISC07206VXR
Operating System Cisco IOS 12.2(33)SRD2 (ADVIPSERVICESK9)
Location Belly of Alpha
Uptime 15 days, 16m 15s



16 7 0 9
Fa0/0, Fa1/0, Fa1/1, Et2/0, Et2/1, Et2/3, Et2/2, Et2/4, Et2/5, Et2/6, Et2/7, Fa3/0, Fa3/1, Null0, Lo0, Lo100

Recent Syslog

14/Jul/10 14:07:58 CLNS-3-BADPACKET : ISIS: L2 CSNP, packet (64769) or wire (115) length invalid from ca01.3979.001c (FastEthernet1/0)
14/Jul/10 14:07:36 CLNS-5-ADJCHANGE : ISIS: Adjacency to 0110.0000.0001 (FastEthernet1/0) Down, hold time expired

Processors

NPE400 0 10%

Memory Pools

7200VXR NPE-400 - I/O 5.38MB / 16MB 33.66%
7200VXR NPE-400 - Processor 40.02MB / 151.46MB 26.42%
7200VXR NPE-400 - Transient 91.5KB / 16MB 0.56%

Temperatures

I/O Cont Inlet 22°C NPE Inlet 22°C
I/O Cont Outlet 22°C NPE Outlet 22°C

Recent Events

04/Jul/10 20:07:14 Loopback100 ifName: Tu0 -> Lo100
04/Jul/10 20:07:14 Loopback100 ifDescr: Tunnel0 -> Loopback100
04/Jul/10 20:07:14 Loopback100 ifAlias: -> Cust: Memetic (Loopback fake)
04/Jul/10 20:07:14 Loopback100 ifMtu: 17883 -> 1514
04/Jul/10 20:07:14 Loopback100 ifSpeed: 100000 -> 4294967295
04/Jul/10 20:07:14 Loopback100 ifHighSpeed: 0 -> 8000
04/Jul/10 20:07:14 Loopback100 ifType: tunnel -> softwareLoopback
04/Jul/10 20:07:14 Loopback100 type: -> Cust
04/Jul/10 20:07:14 Loopback100 descr: -> Memetic
04/Jul/10 20:07:14 Loopback100 notes: -> Loopback fake

3. GigabitEthernet0/0/2

Peering: LINX 224
195.66.224.180/23
2001:7fb:4::21e9:1/64



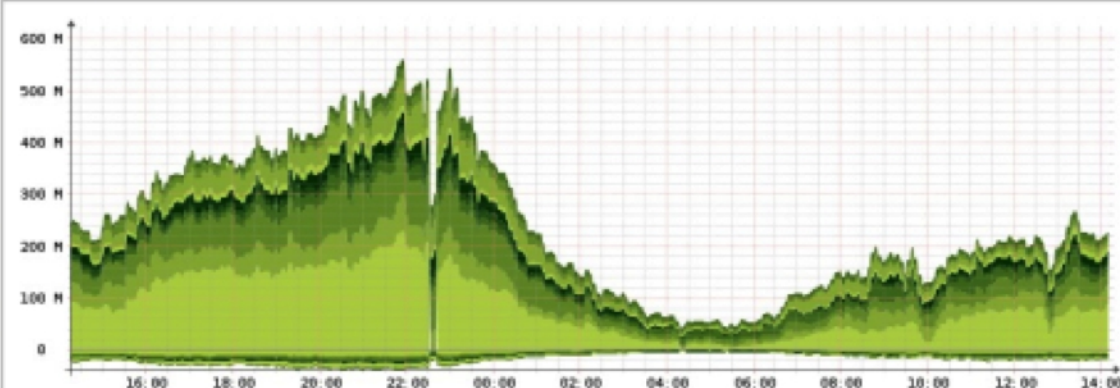
367.37Mbps
80.55Mbps
54.95Kpps
43.24Kpps

1 Gbps

Ethernet

0:23:4:a7:7a:2
MTU 1500

Graphs | ARP Table | Mac Accounting : Bits (Mini|Top10) | Packets (Mini)



	In:	Current	Maximum	Total	Out:	Current	Maximum	Total
195.66.224.125 (00:19:e2:bf:e7:c4)	-	87.08Mbps	230.75Mbps	7.36TB	-	7.52Mbps	13.08Mbps	575.74GB
195.66.224.168 (00:24:dc:8e:e4:01)	-	38.04Mbps	71.08Mbps	2.51TB	-	1.40Mbps	2.60Mbps	97.56GB
195.66.224.133 (00:0c:db:e8:57:09)	-	25.59Mbps	98.77Mbps	3.51TB	-	1.75Mbps	4.57Mbps	194.06GB
195.66.224.140 (00:19:07:ab:ec:c0)	-	11.15Mbps	43.41Mbps	1.38TB	-	1.16Mbps	5.44Mbps	156.57GB
195.66.224.46 (00:18:74:2e:1b:c0)	-	11.89Mbps	21.76Mbps	698.90GB	-	2.10Mbps	3.84Mbps	139.90GB
195.66.225.56 (00:1f:ca:4f:73:80)	-	14.17Mbps	39.23Mbps	1.19TB	-	877.28kbps	1.91Mbps	79.25GB
195.66.224.43 (00:21:e0:3a:3e:02)	-	10.11Mbps	16.59Mbps	662.79GB	-	4.50Mbps	8.20Mbps	355.62GB
195.66.224.243 (00:1a:90:29:89:c0)	-	9.71Mbps	70.80Mbps	2.04TB	-	727.43kbps	4.99Mbps	87.92GB
195.66.225.100 (00:1e:f7:47:cd:84)	-	9.06Mbps	27.56Mbps	949.74GB	-	13.34 bps	14.33 bps	897.38KB
195.66.224.227 (00:12:f2:3e:e4:01)	-	8.88Mbps	27.88Mbps	925.59GB	-	461.89kbps	1.31Mbps	49.05GB



Ports : 140 (89 up 3 down 5 ignored 42 shutdown)

 System

Belly of Alpha

 Settings

 Expand All Nodes Collapse All Nodes

Serial No. 4294967295

I/O and Processor Slot Container

Cisco 7200VXR Network Processing Engine NPE-400

Serial No. 11111111

I/O FastEthernet (TX-1SL)

Serial No. 4294967295

- 1. **FastEthernet0/0**
DEC21140
- 1. **I/O Cont Inlet Temperature 0 ()**
I/O Cont Inlet Temperature Sensor
- 2. **I/O Cont Outlet Temperature 0 ()**
I/O Cont Outlet Temperature Sensor

1. Flash Card Slot Container I/O 0

Flash Card Slot Container I/O

PA Slot Container

PA Slot Container

1. PA-2FE-FX (module 2)

Dual Port FastEthernet (RJ45)

Serial No. XXX000000000

PA Slot Container

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Devices : 17 (12 up 3 down 2 ignored 2 disabled)
Ports : 140 (89 up 3 down 5 ignored 42 shutdown)

Overview Devices Services Locations Ports Health BGP Sessions System

cisco0.vm
Belly of Alpha

Overview Graphs Health Ports BGP Map Inventory Events Syslog Config Settings

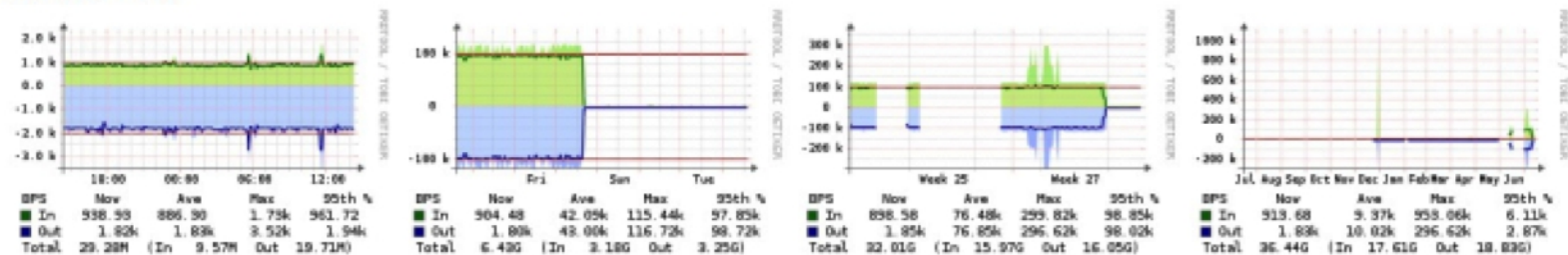
3. FastEthernet1/1

Cust: Memetic [100Mbit] {CUST001} (BGP Partial)
172.16.0.2/24

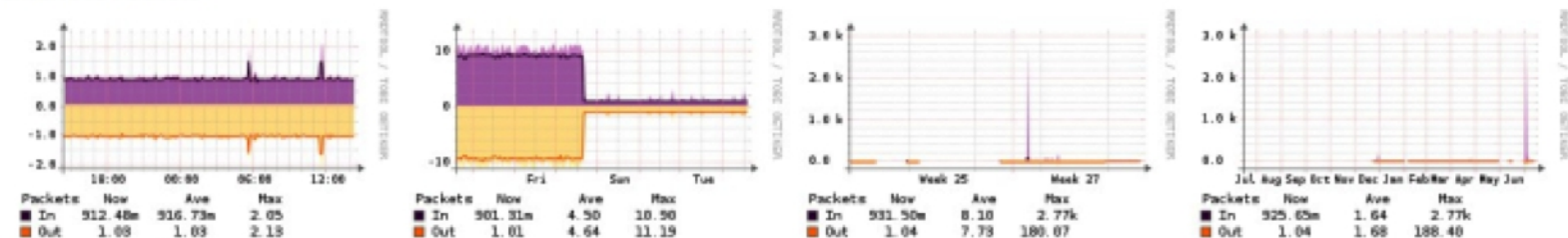
944bps 100Mbps Ethernet ca:0:39:79:0:1d MTU 1500
2Kbps 1pps 1pps
cisco0 on alpha.memetic v4

Graphs | ARP Table | Mac Accounting : Bits (Mini|Top10) | Packets (Mini)

Interface Traffic



Interface Packets



Interface Non Unicast

Online Observium demo

Is available at:

<http://demo.observium.org/>

Workshop installation is at:

<http://observium.ws.nsrc.org/>

Questions

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