Ganglia & Nagios

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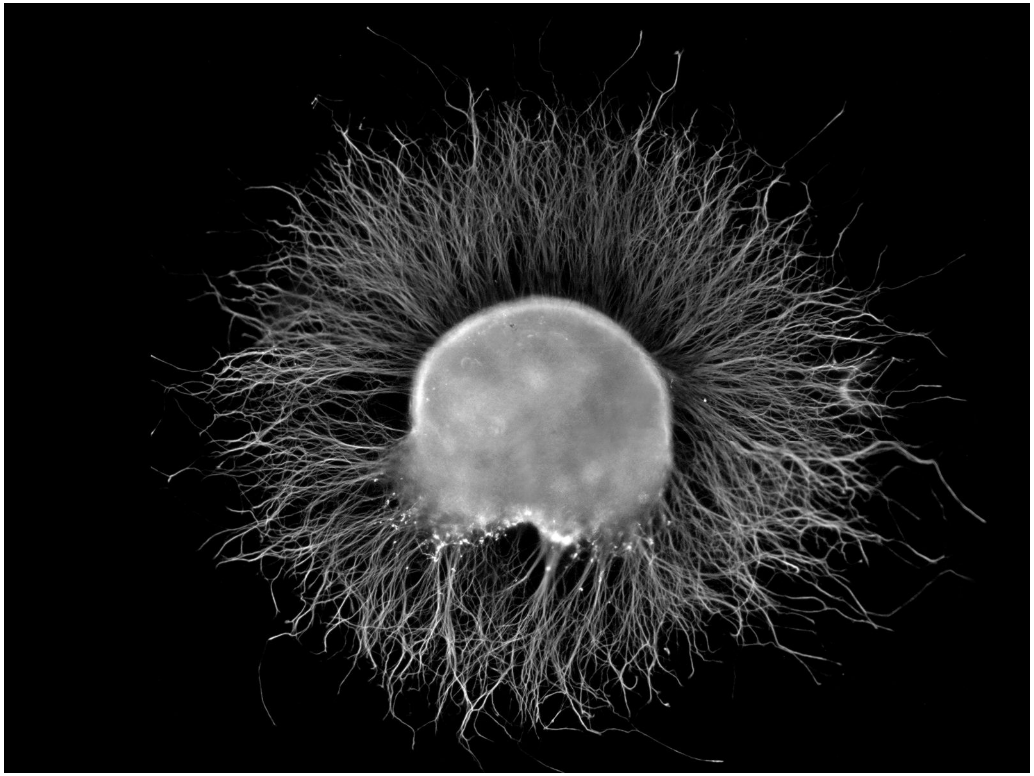
11. Sesja Linuksowa

Wrocław, 2014-04-06

Ganglia.. what?

Ganglia – cluster / group of neurons found outside the central nervous system



Just a little about monitoring

- the need for monitoring

Just a little about monitoring

- the need for monitoring

- measuring availability

Just a little about monitoring

- the need for monitoring

- measuring availability

- measuring performance

Just a little about monitoring

- the need for monitoring
- measuring availability
- measuring performance
- gathering additional metrics

Monitoring is critical for HA

How to measure availability?

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A = Uptime / (Uptime + Downtime)

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- The average time it takes to diagnose the problem

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- The average time it takes to fix a problem

MTTF (Mean Time to Failure)

- The average time there is correct behavior

Monitoring is critical for HA

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MTTD (Mean Time to Diagnose)

The average time it takes to diagnose the problem

MTTR (Mean Time to Repair)

The average time it takes to fix a problem

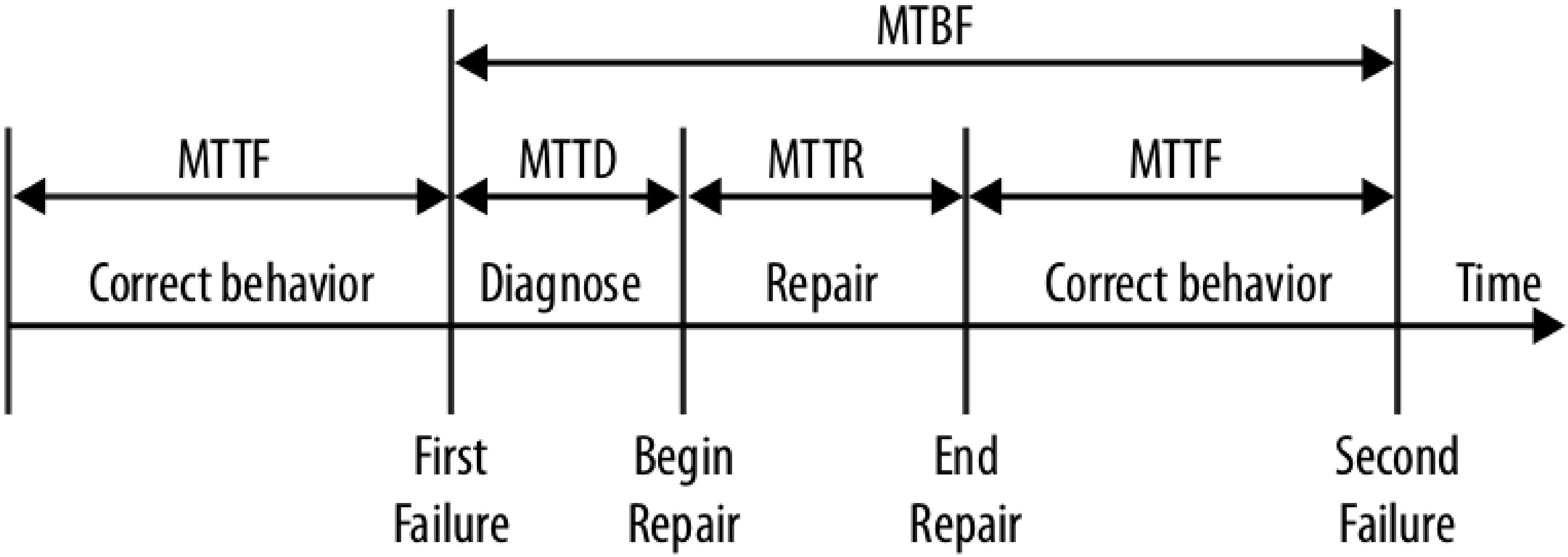
MTTF (Mean Time to Failure)

The average time there is correct behavior

MTBF (Mean Time Between Failures)

The average time between different failures of the service

Monitoring is critical for HA



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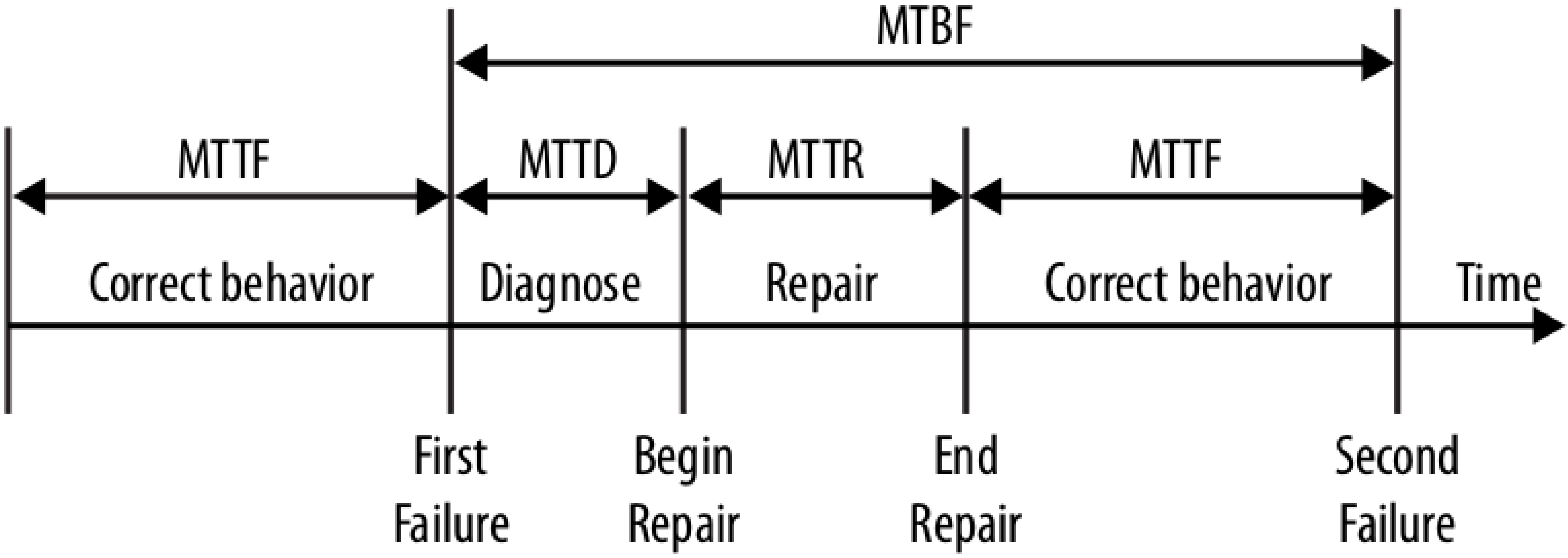

A = MTTF / MTBF = MTTF / (MTTF + MTTD + MTTR)

What should we monitor?

- hardware housing
- devices
- storage
- network
- hosts
- software (very deep hole)

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Think dependencies!

When outage hits us – don't panic!

- Notifications

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- Escalations

  L1 <-> L2 <-> L3 <-> L4 lol ;)

  desktop support / devs / ops / networking /

  / storage / middleware / dc / security

When outage hits us – don't panic!

- Notifications
- Escalations

  L1 <-> L2 <-> L3 <-> L4 lol ;)

  desktop support / devs / ops / networking /

  / storage / middleware / dc / security
- Clock is ticking – it should be simple

When outage hits us – don't panic!

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- Escalations

  L1 <-> L2 <-> L3 <-> L4 lol ;)

  desktop support / devs / ops / networking /

  / storage / middleware / dc / security
- Clock is ticking – it should be simple
- What if cell is offline or someone is out?

Monitoring: notifications issues

- false positives

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- major events

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- major events
- failover notifications?

Monitoring: notifications issues

- false positives

- major events

- failover notifications?

- tolerance & critical thresholds

Monitoring: reporting

- baseline

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- baseline
- correlation between incidents and change management

Monitoring: reporting

- baseline

- correlation between incidents and change management

- trending info

Monitoring: reporting

- baseline

- correlation between incidents and change management

- trending info

- reporting

Monitoring: good practices

- don't NIH!

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- testing envs

- think usability!

- passive checks

- automate – don't hardcode

- security

Monitoring: good practices

Last but not least...

“Quis custodiet ipsos custodes?”

(Who will guard the guards?)

Nagios recap

Host / Services / Contacts

- hosts, hostgroups

Nagios recap

Host / Services / Contacts

- hosts, hostgroups
- services, service groups

Nagios recap

Host / Services / Contacts

- hosts, hostgroups
- services, service groups
- templates

Nagios recap

Host / Services / Contacts

- hosts, hostgroups
- services, service groups
- templates
- time periods

Nagios recap

Host / Services / Contacts

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- host and services dependencies

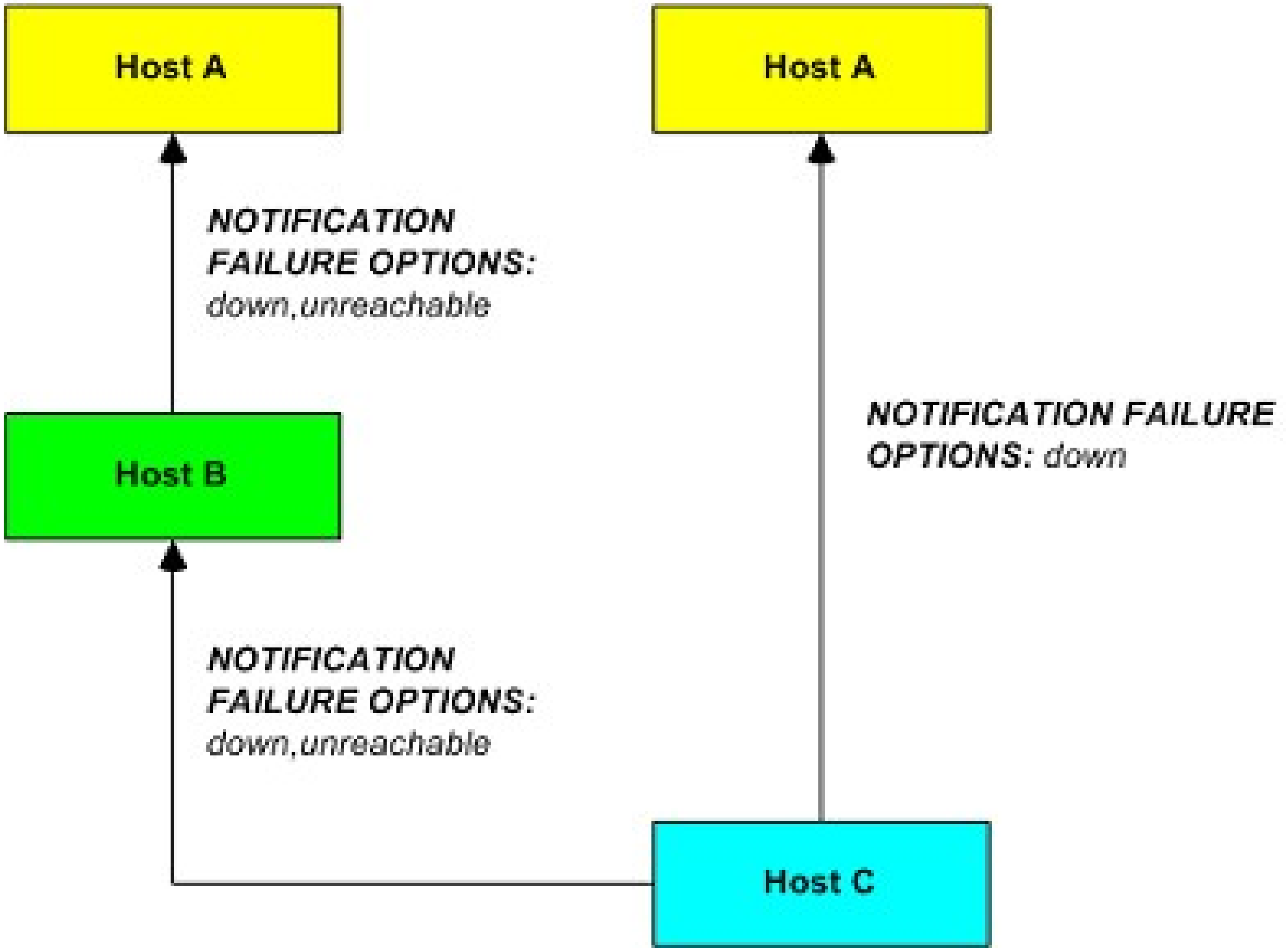
Nagios recap

Host / Services / Contacts

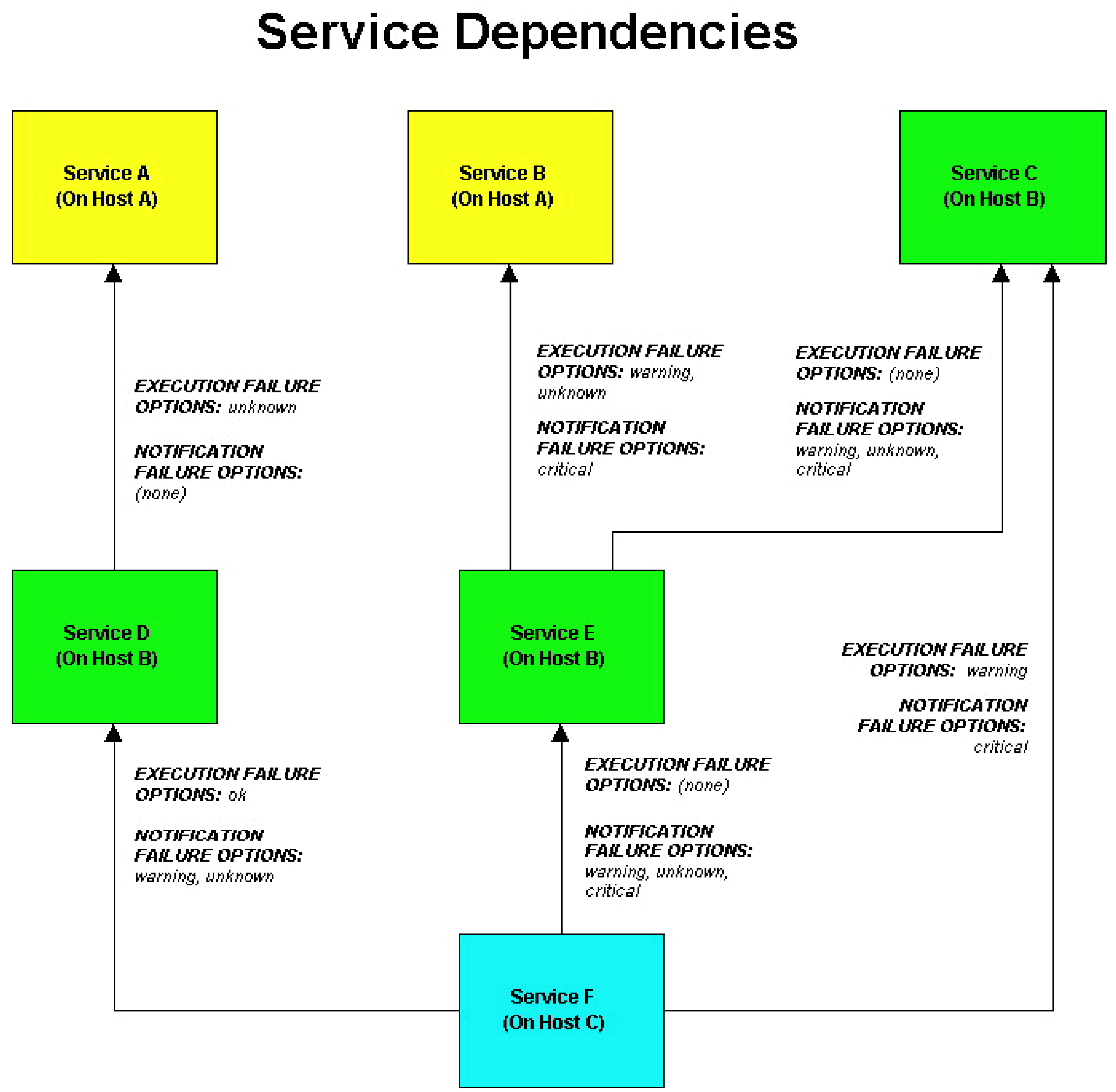
- hosts, hostgroups
- services, service groups
- templates
- time periods
- host and services dependencies
- regular expressions

Nagios recap

Host Dependencies


Host A
NOTIFICATION FAILURE OPTIONS: down,unreachable
Host B
NOTIFICATION FAILURE OPTIONS: down,unreachable
Host A
NOTIFICATION FAILURE OPTIONS: down
Host C

Nagios recap


Service Dependencies
Service A (On Host A)
Service B (On Host A)
Service C (On Host B)
Service D (On Host B)
Service E (On Host B)
Service F (On Host C)
EXECUTION FAILURE OPTIONS: unknown
NOTIFICATION FAILURE OPTIONS: (none)
EXECUTION FAILURE OPTIONS: warning, unknown
NOTIFICATION FAILURE OPTIONS: critical
EXECUTION FAILURE OPTIONS: (none)
NOTIFICATION FAILURE OPTIONS: warning, unknown, critical
EXECUTION FAILURE OPTIONS: warning
NOTIFICATION FAILURE OPTIONS: critical
EXECUTION FAILURE OPTIONS: ok
NOTIFICATION FAILURE OPTIONS: warning, unknown
EXECUTION FAILURE OPTIONS: (none)
NOTIFICATION FAILURE OPTIONS: warning, unknown, critical

Nagios recap

Checks and states

- frequencies & thresholds

Nagios recap

Checks and states

- frequencies & thresholds
- scheduling downtimes

Nagios recap

Checks and states

- frequencies & thresholds
- scheduling downtimes
- outages and flapping

Nagios recap

Notifications

- periods

Nagios recap

Notifications

- periods
- groups

Nagios recap

Notifications

- periods
- groups
- which states to be notified about?

Nagios recap

Notifications

- periods
- groups
- which states to be notified about?
- escalations / rotations

Nagios recap

Notifications

- periods
- groups
- which states to be notified about?
- escalations / rotations
- custom notifications method

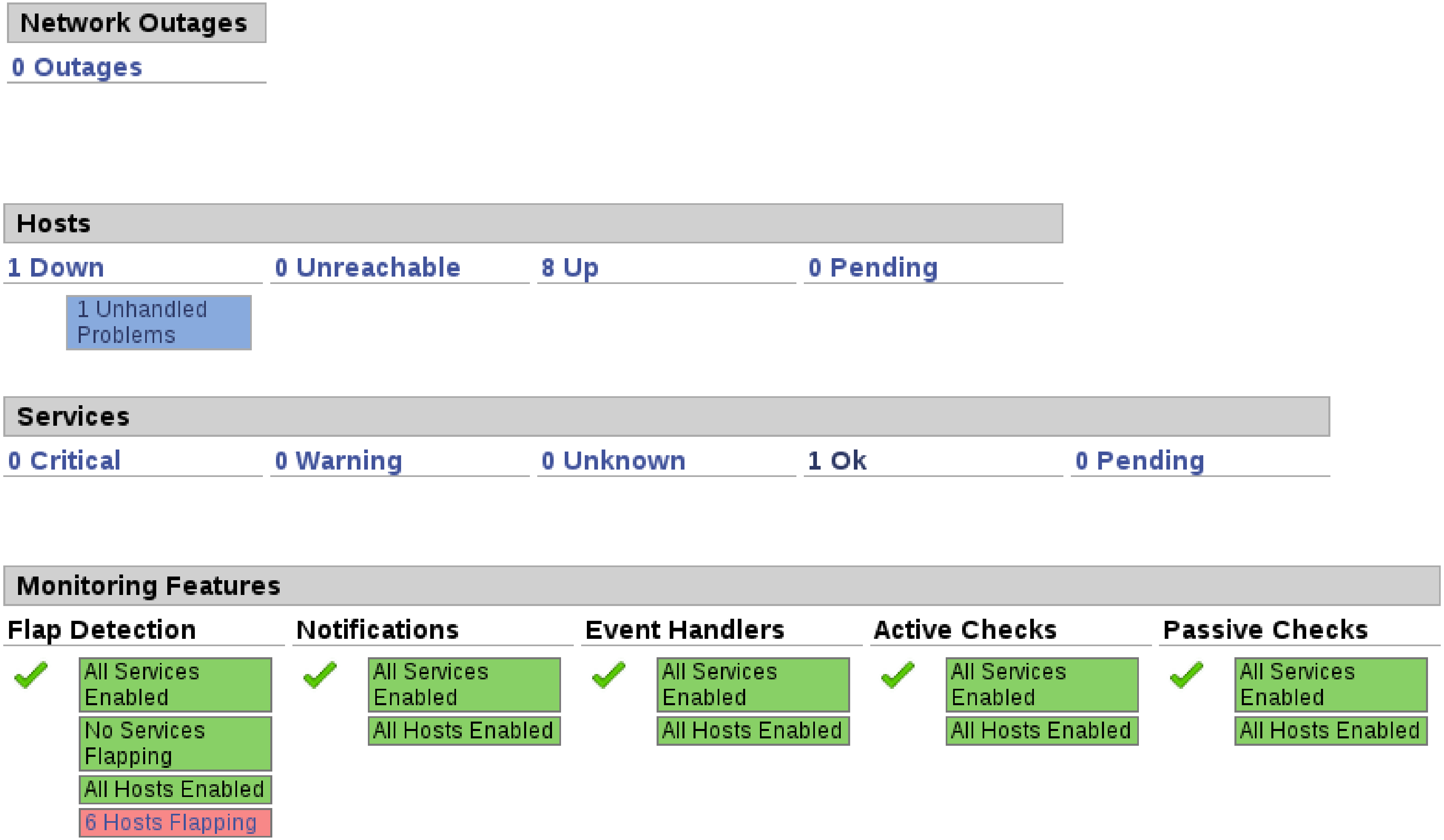
Nagios recap

Monitoring remotes

- NRPE daemons
- checks via SSH

Nagios recap

Web interface – tactical overview



Network Outages

0 Outages

Hosts

1 Down	0 Unreachable	8 Up	0 Pending
1 Unhandled Problems			

Services

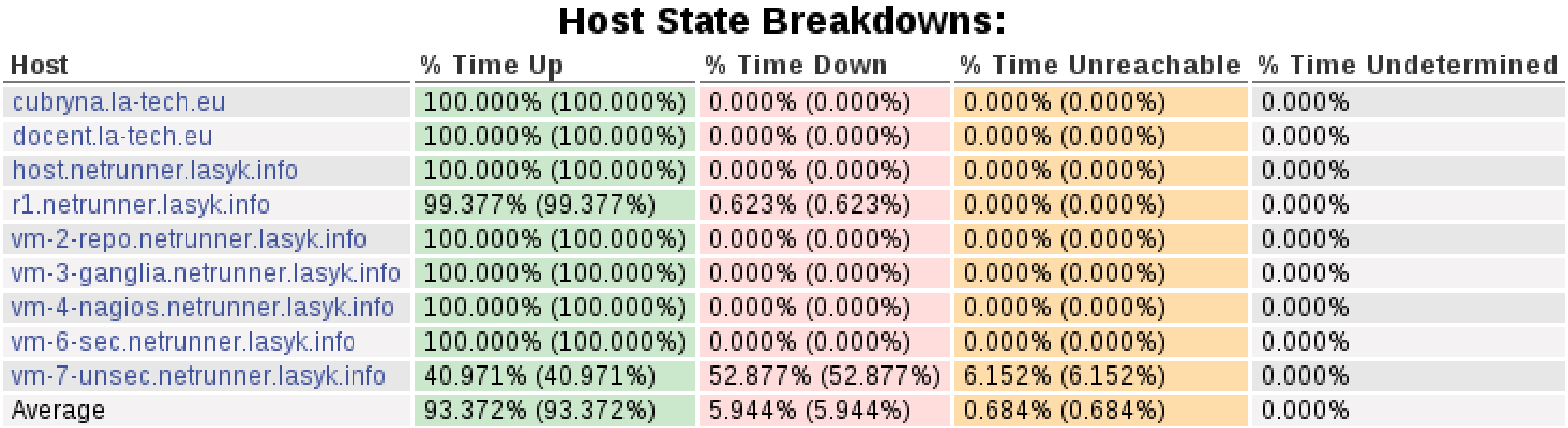
0 Critical	0 Warning	0 Unknown	1 Ok	0 Pending

Monitoring Features

Flap Detection	Notifications	Event Handlers	Active Checks	Passive Checks
✓ All Services Enabled No Services Flapping All Hosts Enabled 6 Hosts Flapping	✓ All Services Enabled All Hosts Enabled	✓ All Services Enabled All Hosts Enabled	✓ All Services Enabled All Hosts Enabled	✓ All Services Enabled All Hosts Enabled

Nagios recap

Web interface – availability reports

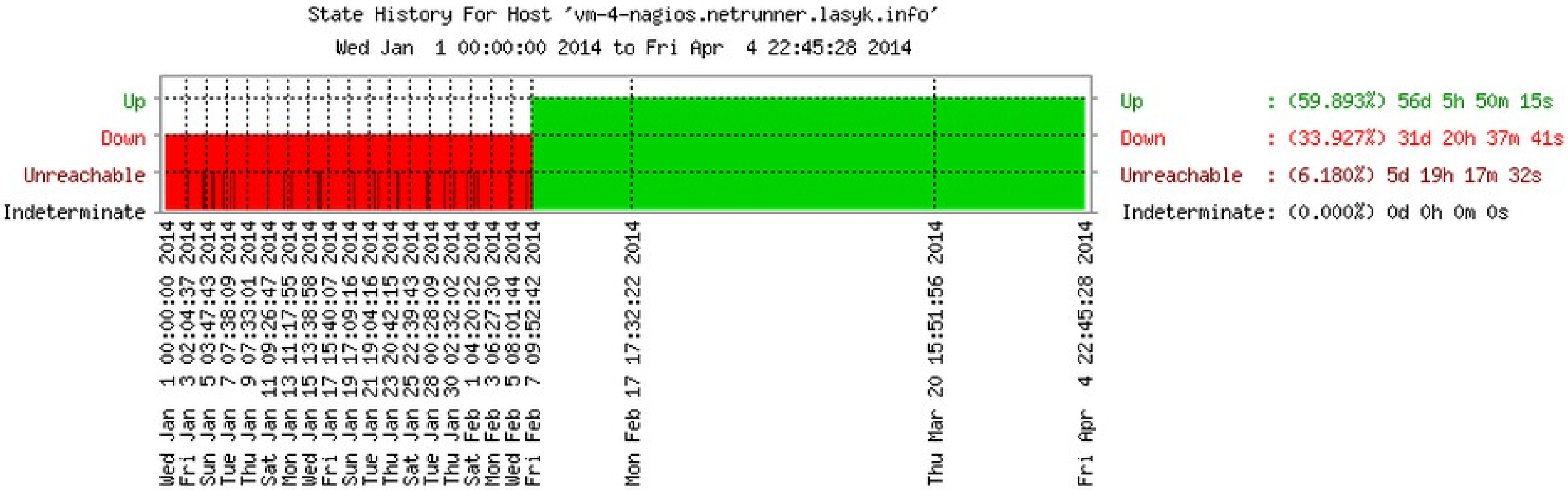


Host State Breakdowns:

Host	% Time Up	% Time Down	% Time Unreachable	% Time Undetermined
cubryna.la-tech.eu	100.000% (100.000%)	0.000% (0.000%)	0.000% (0.000%)	0.000%
docent.la-tech.eu	100.000% (100.000%)	0.000% (0.000%)	0.000% (0.000%)	0.000%
host.netrunner.lasyk.info	100.000% (100.000%)	0.000% (0.000%)	0.000% (0.000%)	0.000%
r1.netrunner.lasyk.info	99.377% (99.377%)	0.623% (0.623%)	0.000% (0.000%)	0.000%
vm-2-repo.netrunner.lasyk.info	100.000% (100.000%)	0.000% (0.000%)	0.000% (0.000%)	0.000%
vm-3-ganglia.netrunner.lasyk.info	100.000% (100.000%)	0.000% (0.000%)	0.000% (0.000%)	0.000%
vm-4-nagios.netrunner.lasyk.info	100.000% (100.000%)	0.000% (0.000%)	0.000% (0.000%)	0.000%
vm-6-sec.netrunner.lasyk.info	100.000% (100.000%)	0.000% (0.000%)	0.000% (0.000%)	0.000%
vm-7-unsec.netrunner.lasyk.info	40.971% (40.971%)	52.877% (52.877%)	6.152% (6.152%)	0.000%
Average	93.372% (93.372%)	5.944% (5.944%)	0.684% (0.684%)	0.000%

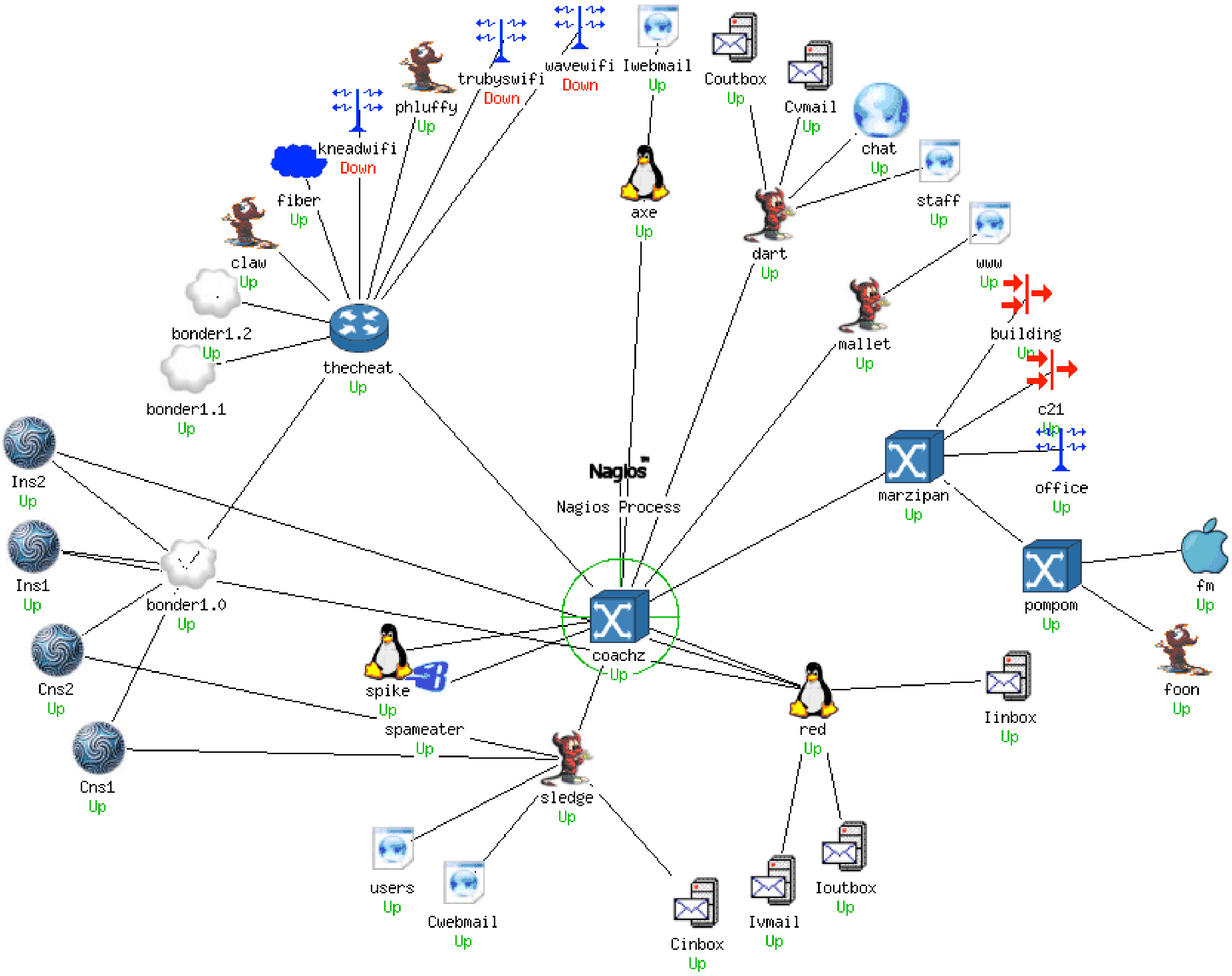
Nagios recap

Web interface – trends



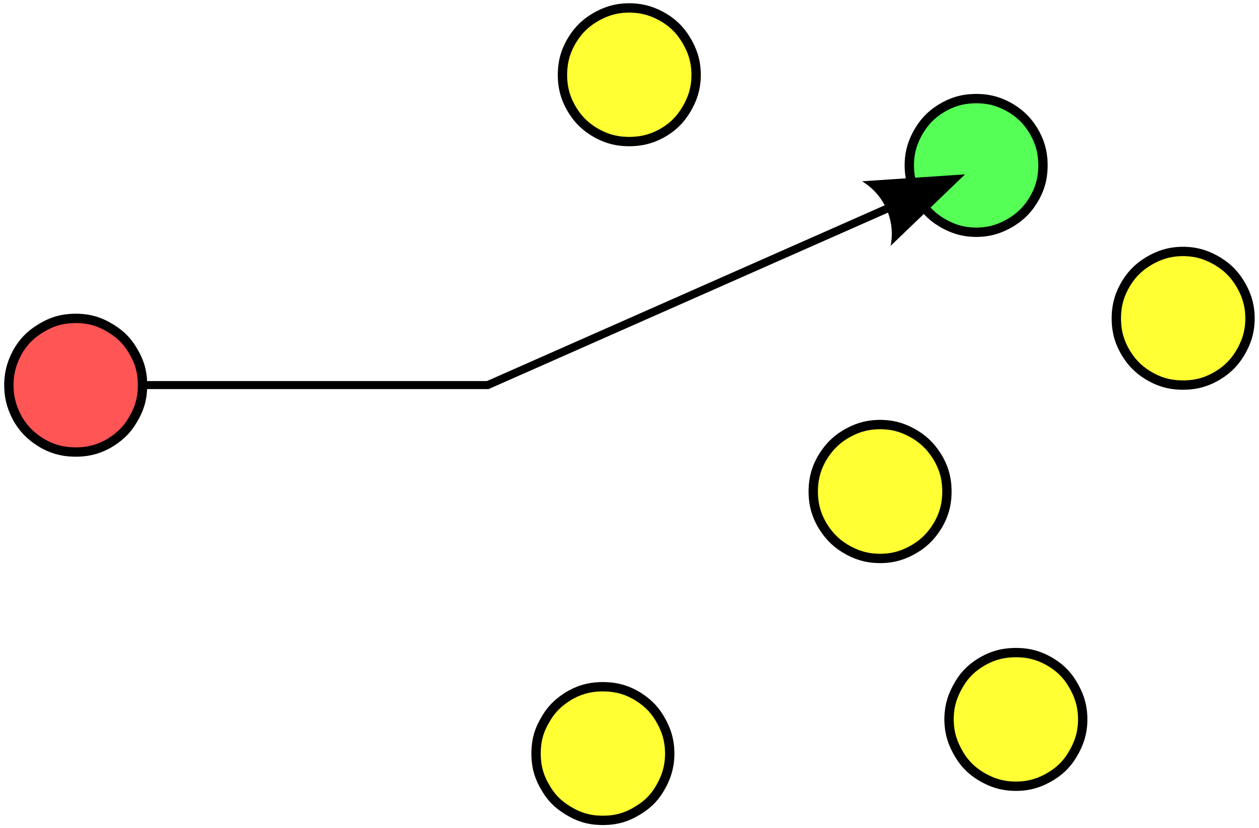
Nagios recap

Web interface – network maps



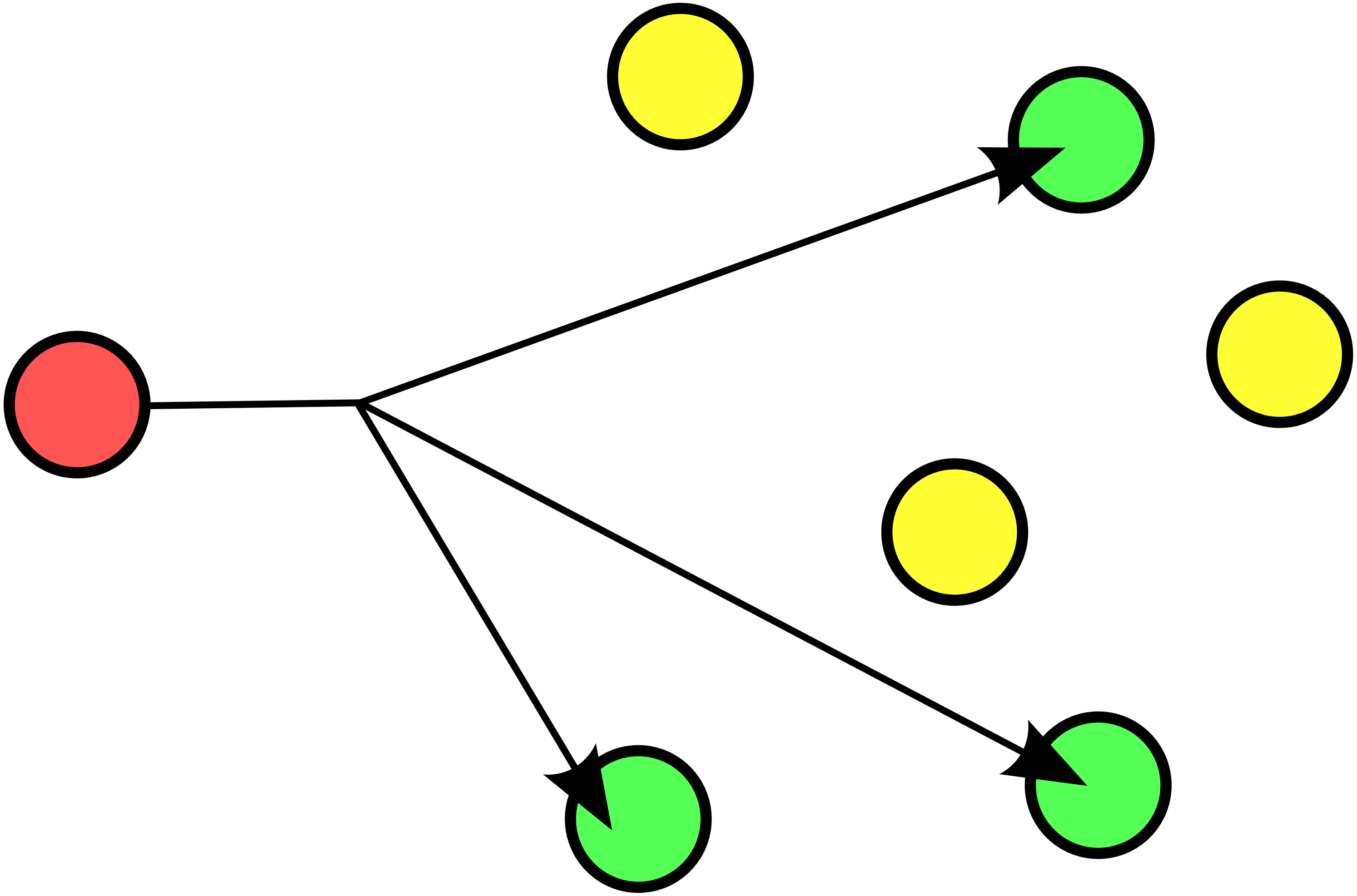
Networking recap

Unicast



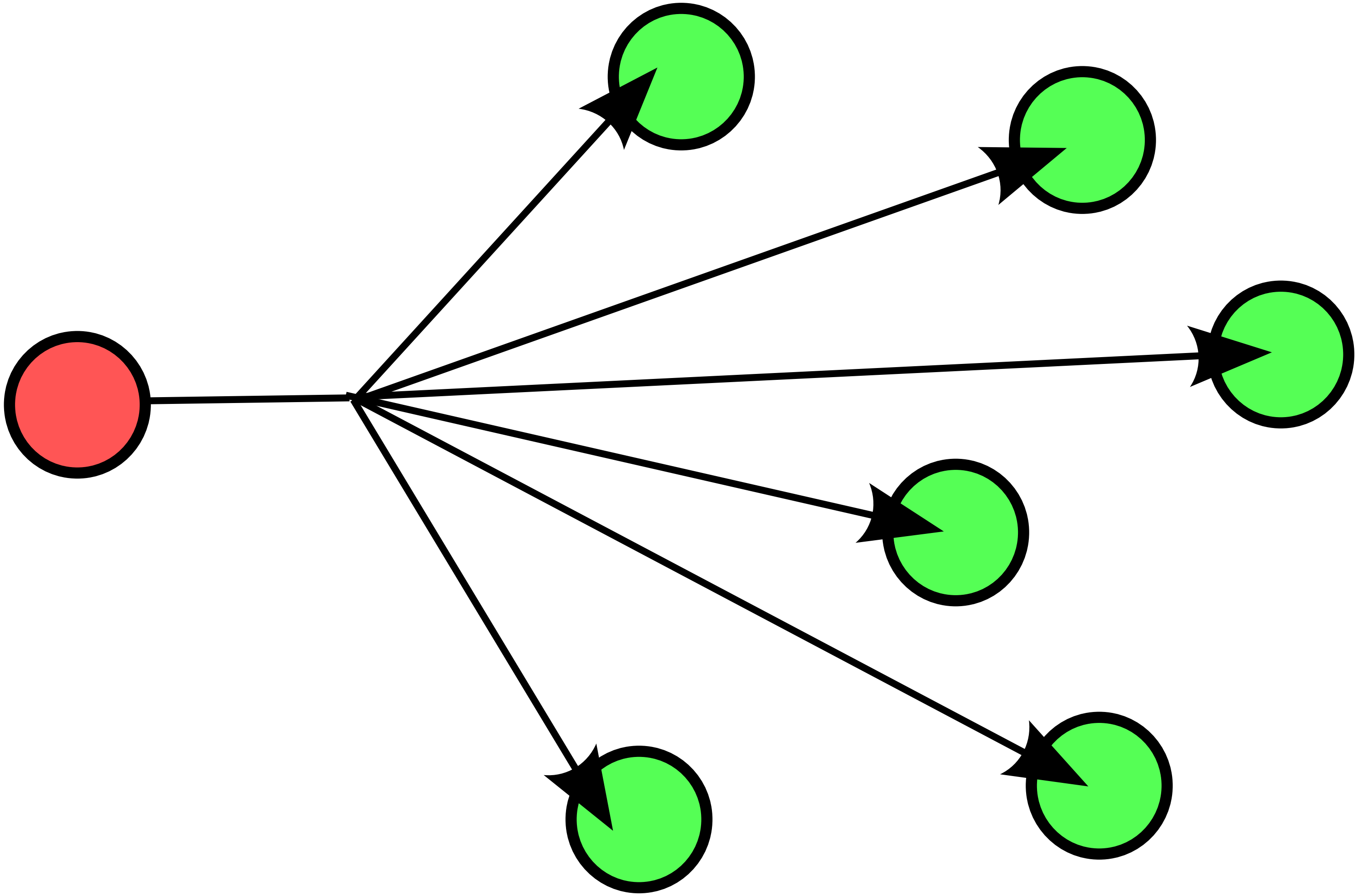
Networking recap

Multicast



Networking recap

Broadcast



Ganglia – what is it?

Problems of big scale:

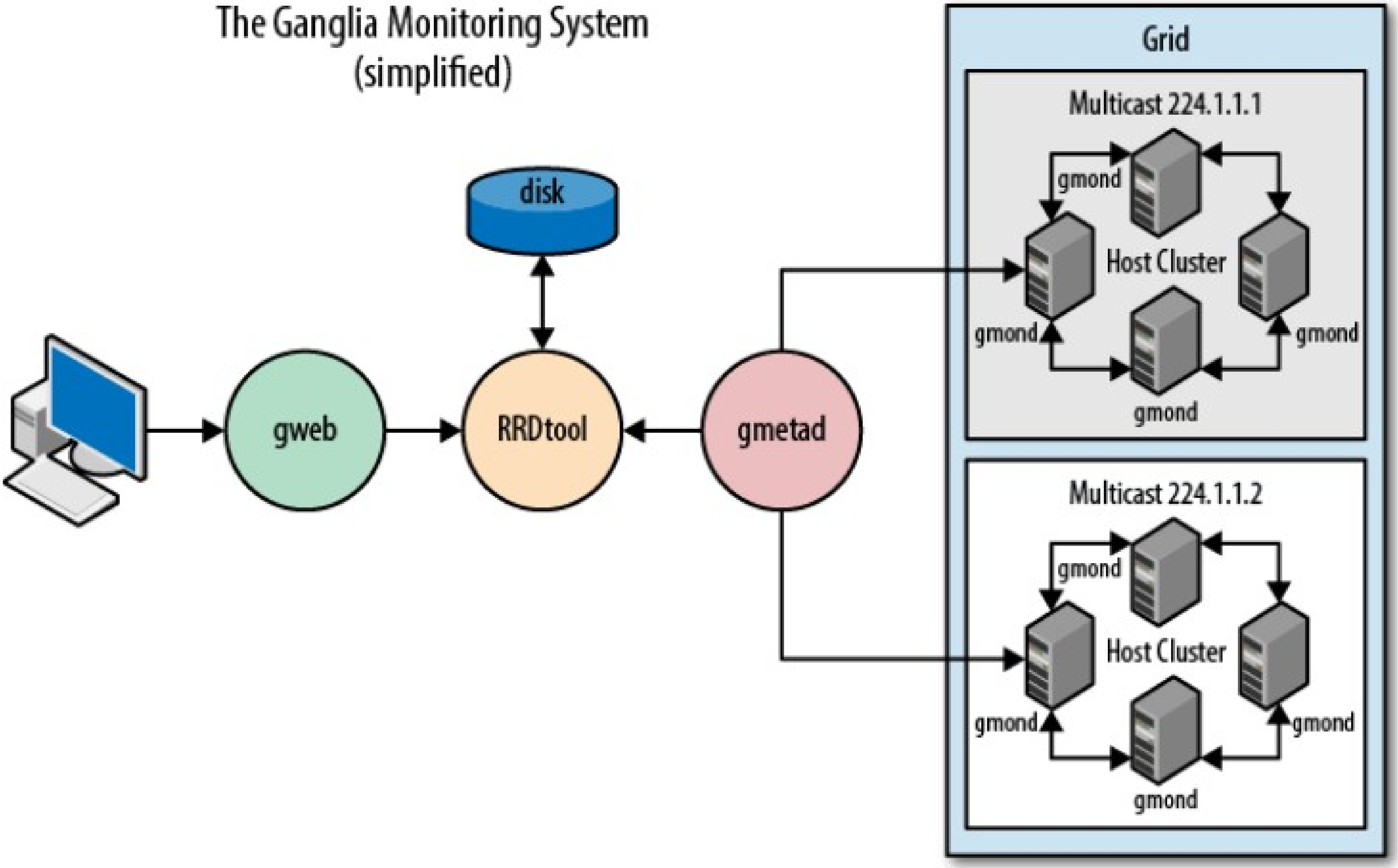
20k hosts with **zylion** metrics probed every **10** seconds

It is fully redundant (until you spoil it)

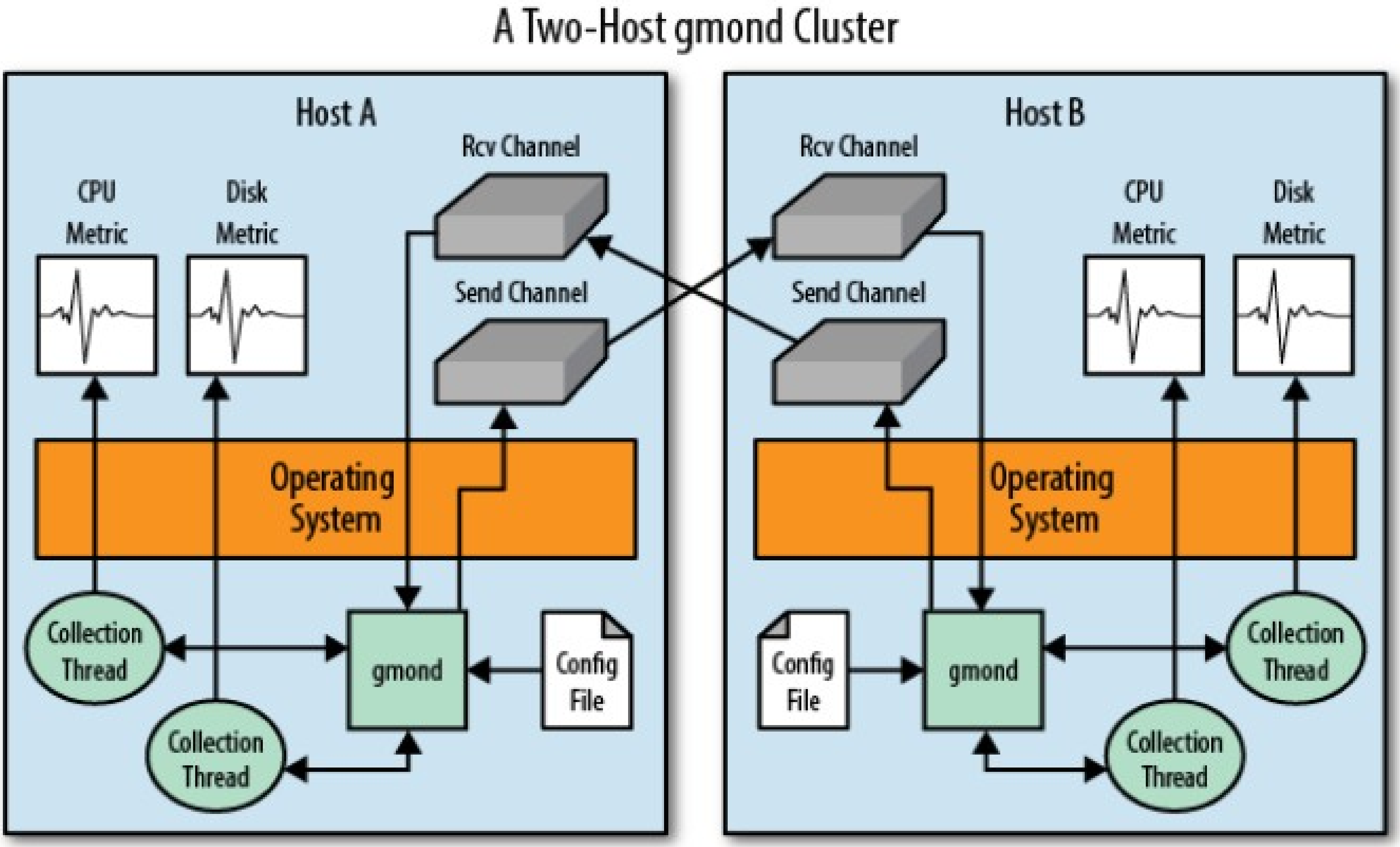
It is very scalable

Regexp searches and creating of views – adhoc :)

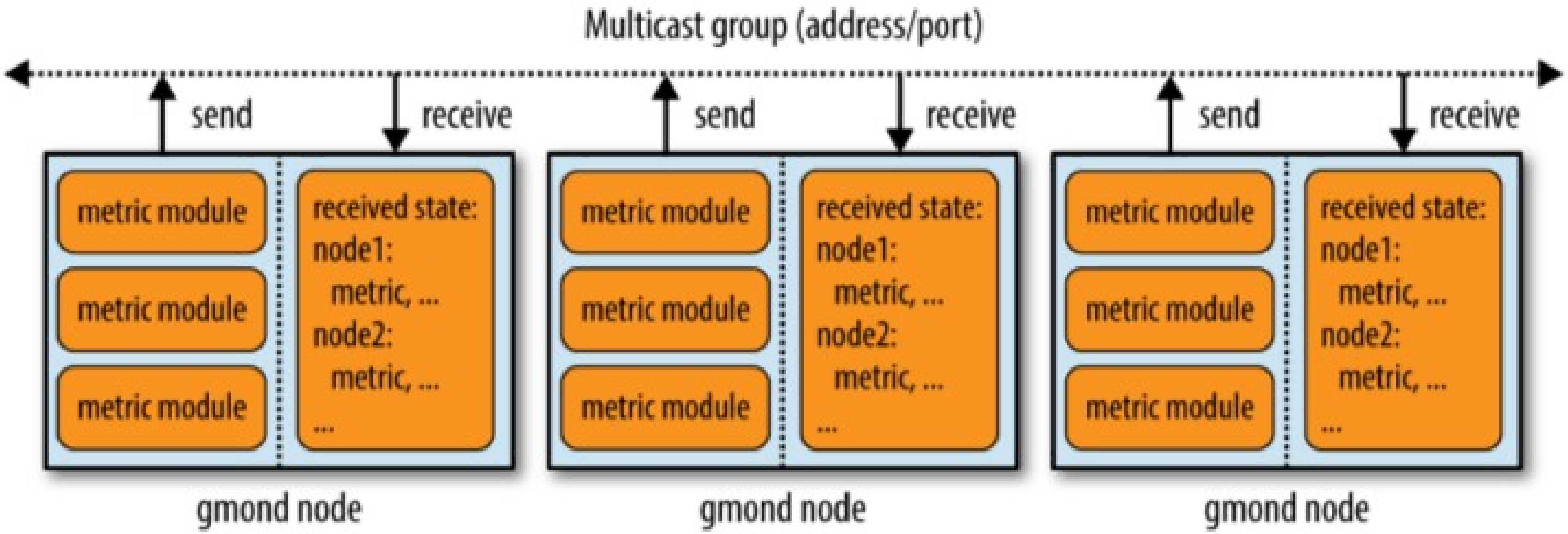
Ganglia – architecture



Ganglia – architecture

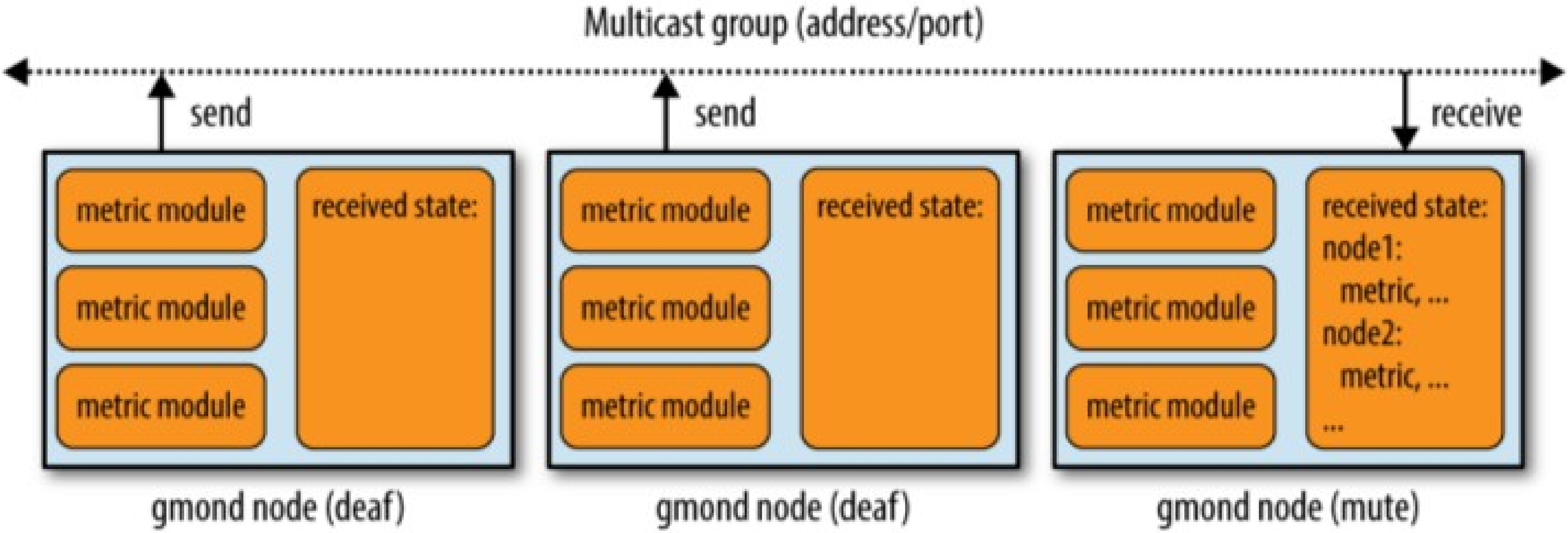


Ganglia – topologies



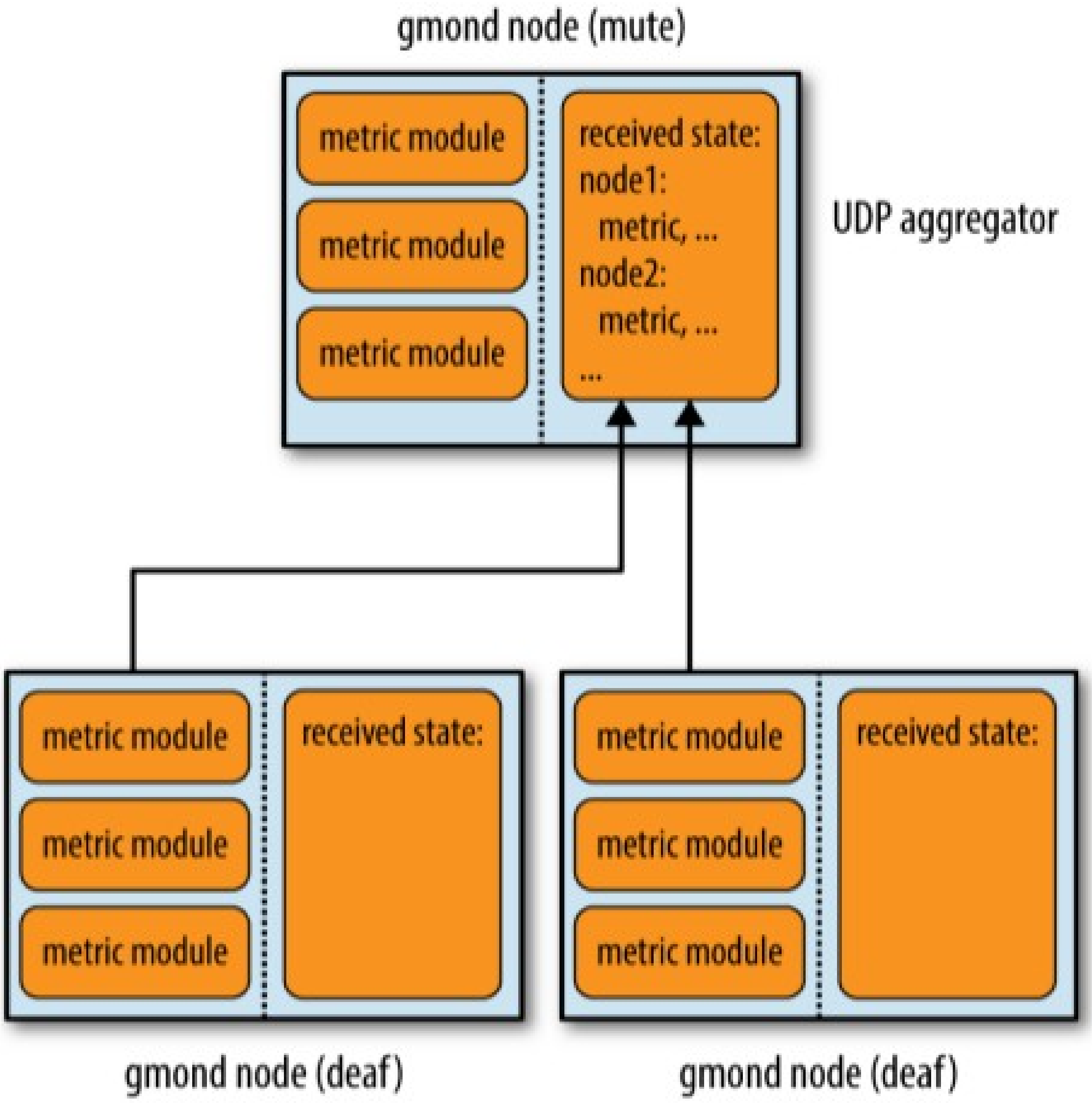
Default multicast topology

Ganglia – topologies



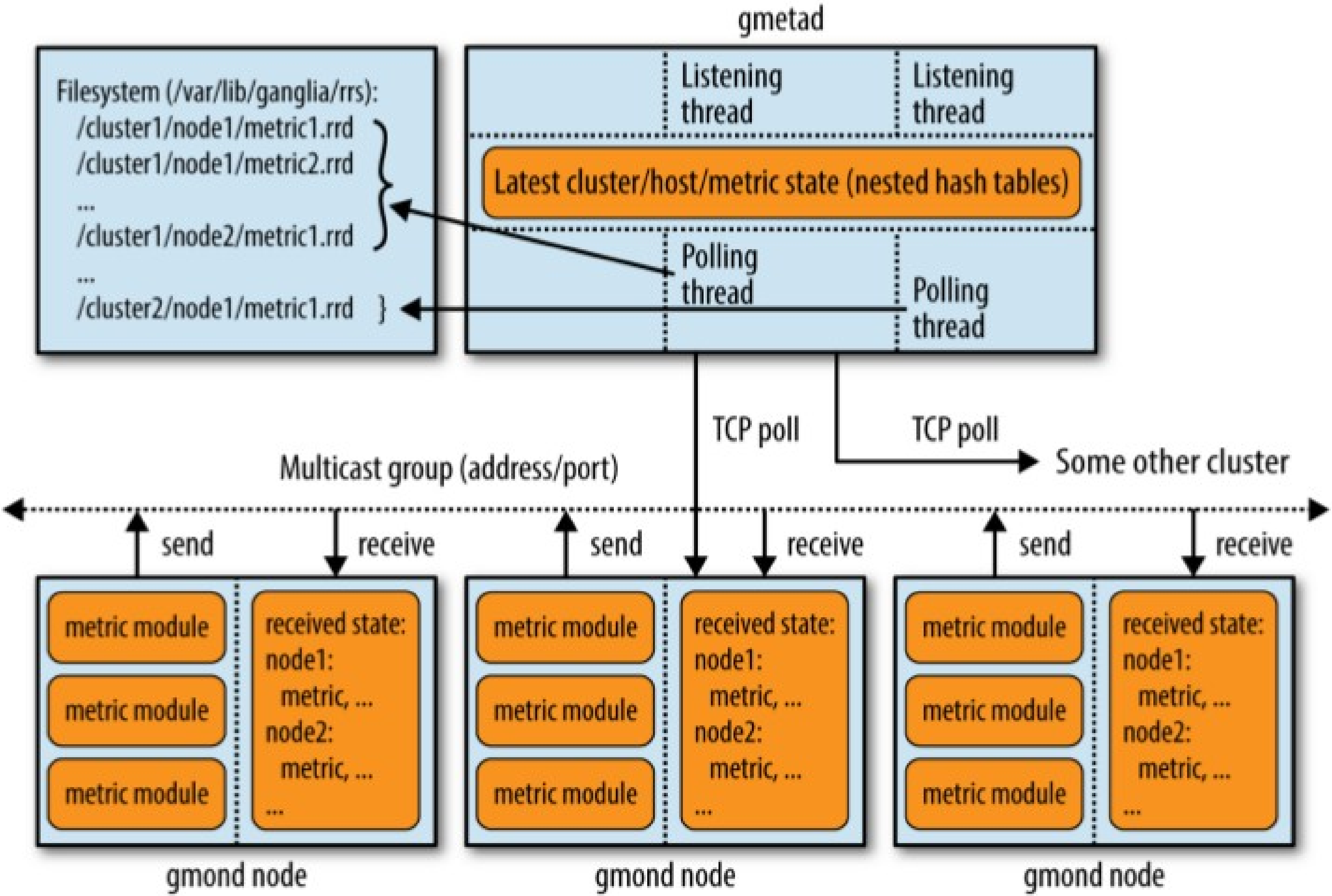
Deaf / mute multicast topology

Ganglia – topologies



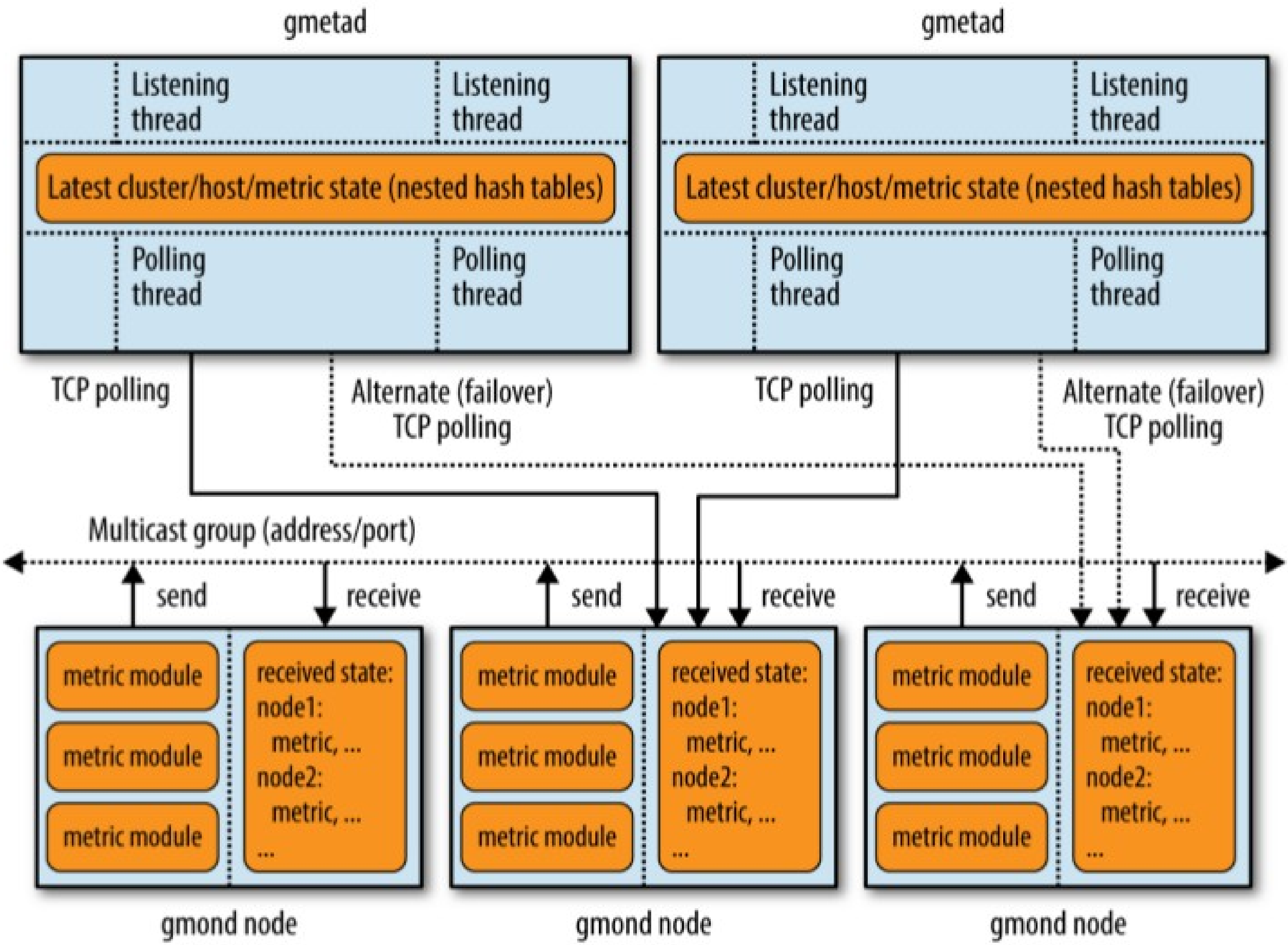
Unicast topology

Ganglia – topologies



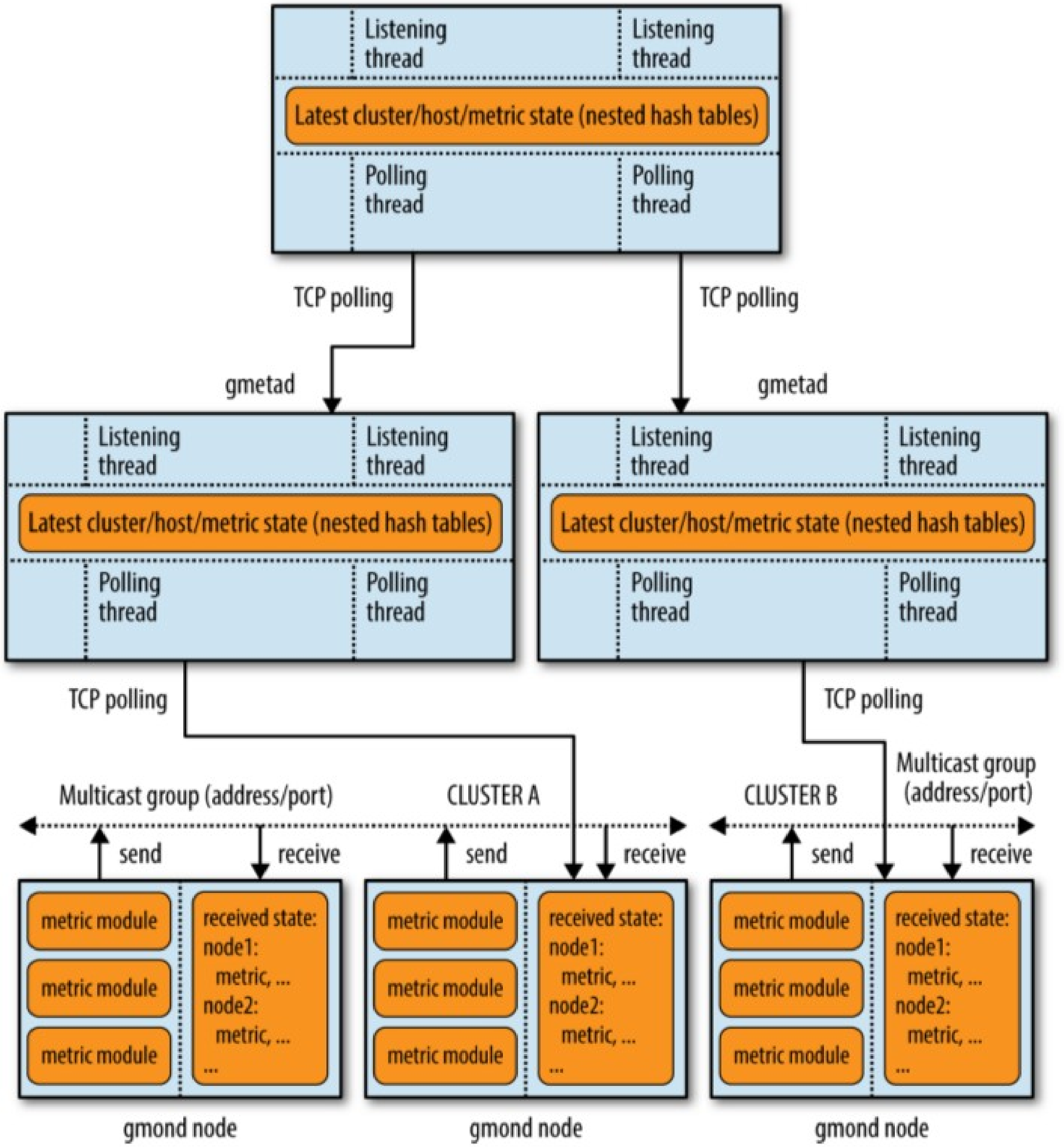
Gmetad topology

Ganglia – topologies


gmetad
gmetad
Listening thread
Listening thread
Listening thread
Listening thread
Latest cluster/host/metric state (nested hash tables)
Latest cluster/host/metric state (nested hash tables)
Polling thread
Polling thread
Polling thread
Polling thread
TCP polling
Alternate (failover) TCP polling
TCP polling
Alternate (failover) TCP polling
Multicast group (address/port)
send
receive
send
receive
send
receive
metric module
metric module
metric module
received state: node1: metric, ... node2: metric, ...
metric module
metric module
metric module
received state: node1: metric, ... node2: metric, ...
metric module
metric module
metric module
received state: node1: metric, ... node2: metric, ...
gmond node
gmond node
gmond node

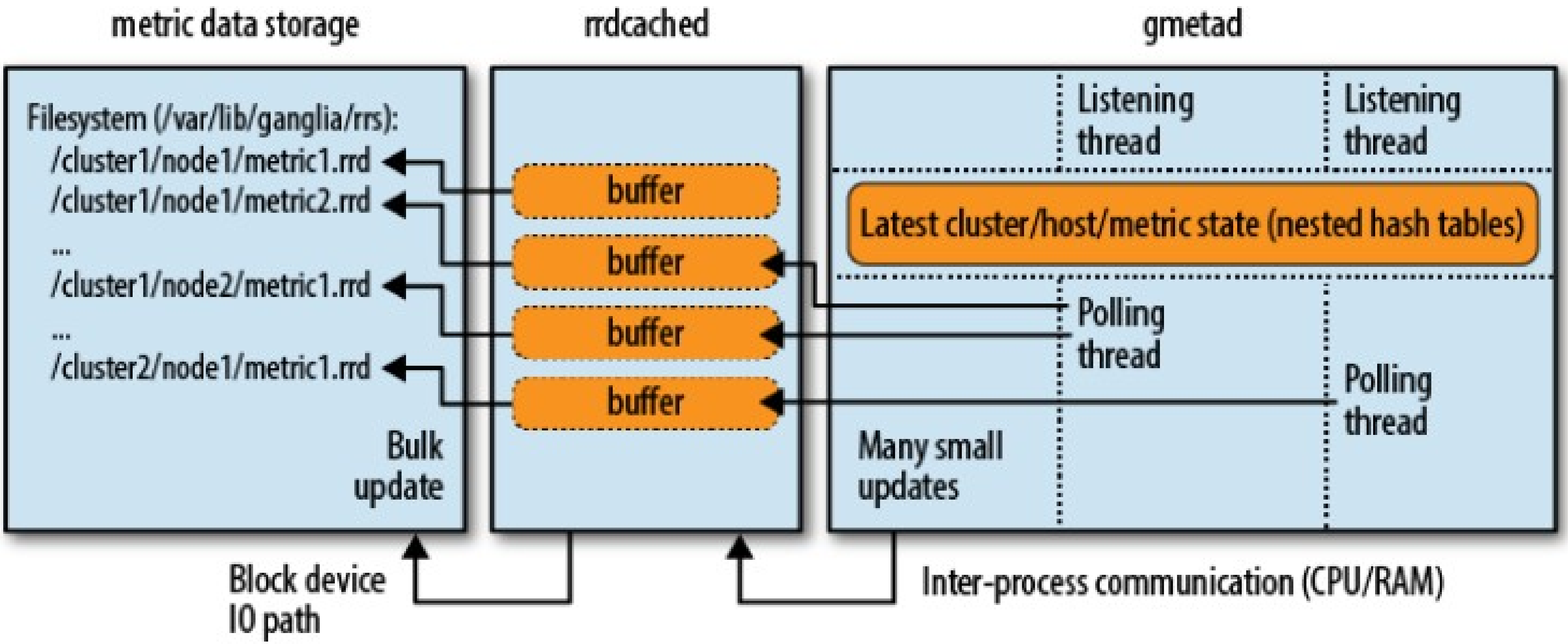
Gmetad HA topology (active - active)

Ganglia – topologies

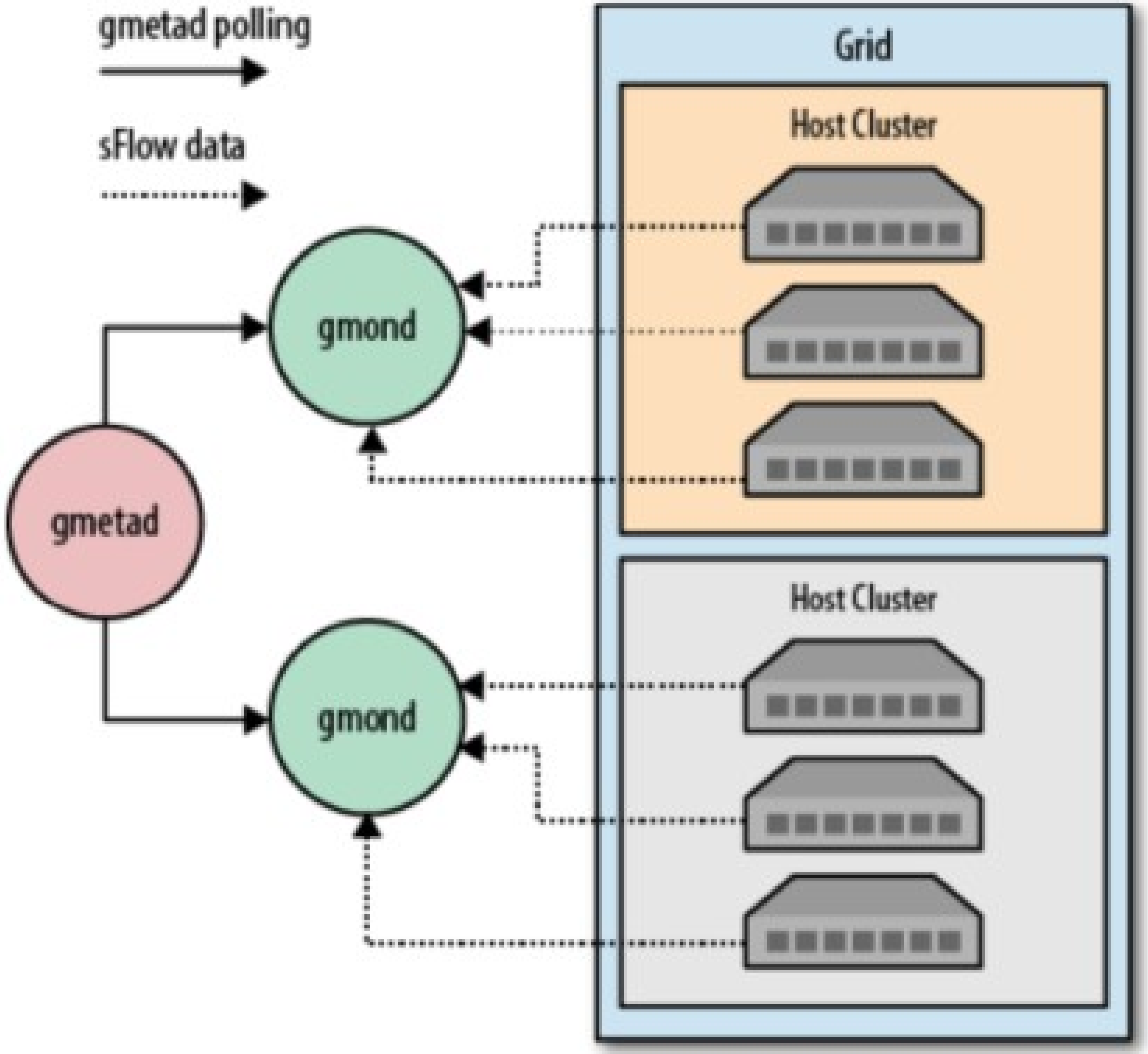


Gmetad hierarchical topology

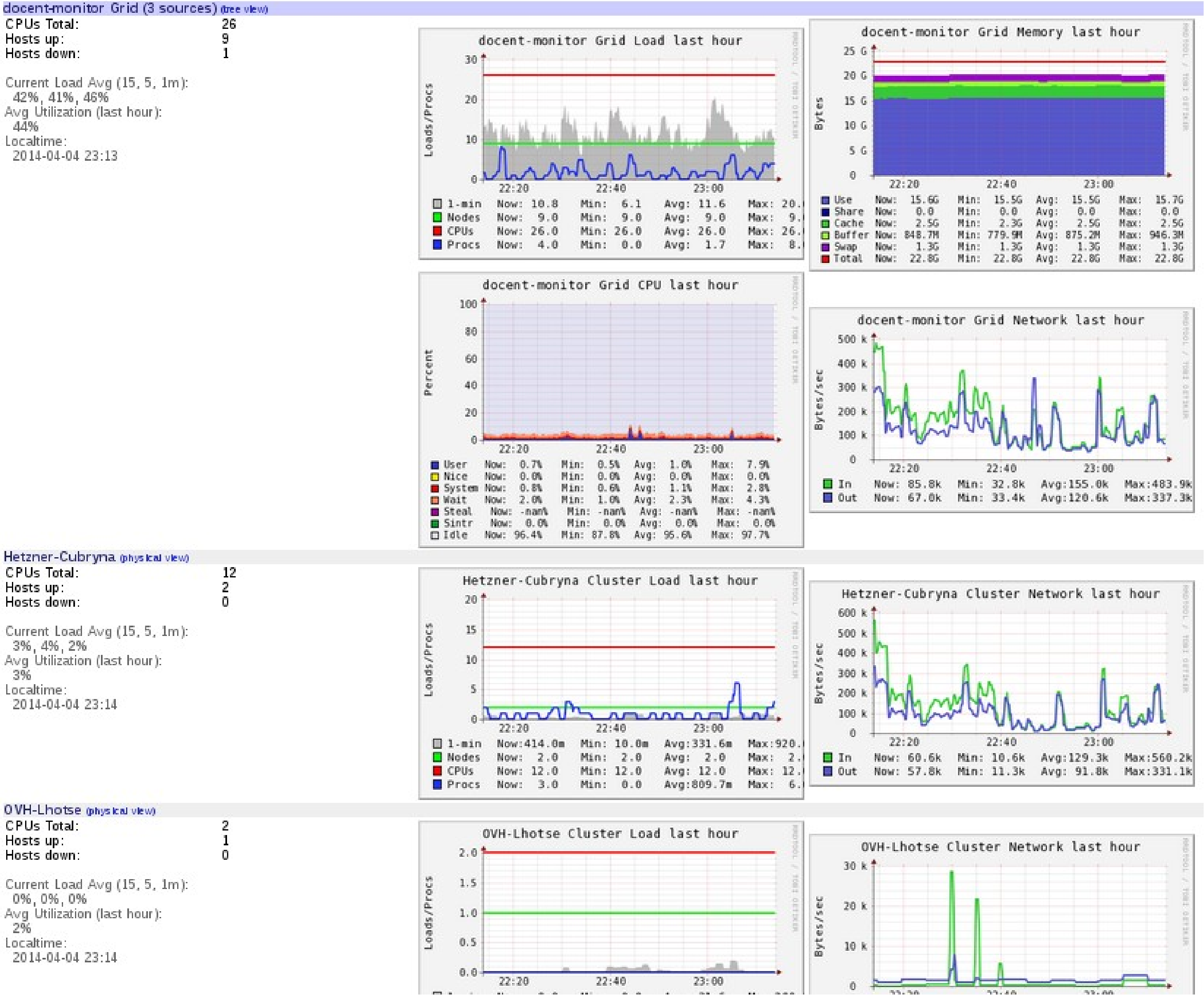
Ganglia – RRDcached


metric data storage
rrdcached
gmetad
Filesystem (/var/lib/ganglia/rrs):
/cluster1/node1/metric1.rrd
/cluster1/node1/metric2.rrd
...
/cluster1/node2/metric1.rrd
...
/cluster2/node1/metric1.rrd
Bulk update
buffer
buffer
buffer
buffer
Listening thread
Listening thread
Latest cluster/host/metric state (nested hash tables)
Polling thread
Polling thread
Many small updates
Block device IO path
Inter-process communication (CPU/RAM)

Ganglia – sFlow



Ganglia – web (grid view)



docent-monitor Grid (3 sources) (tree view)

CPUs Total:	26
Hosts up:	9
Hosts down:	1

Current Load Avg (15, 5, 1m):
42%, 41%, 46%
Avg Utilization (last hour):
44%
Localtime:
2014-04-04 23:13

```
1-min   Now: 10.8   Min:  6.1   Avg: 11.6   Max: 20.
Nodes   Now:  9.0   Min:  9.0   Avg:  9.0   Max:  9.
CPUs    Now: 26.0   Min: 26.0   Avg: 26.0   Max: 26.
Procs   Now:  4.0   Min:  0.0   Avg:  1.7   Max:  8.
```

```
Use    Now:  15.6G  Min:  15.5G  Avg:  15.5G  Max:  15.7G
Share  Now:    0.0  Min:    0.0  Avg:    0.0  Max:    0.0
Cache  Now:   2.5G  Min:   2.3G  Avg:   2.5G  Max:   2.5G
Buffer Now: 848.7M  Min: 779.9M  Avg: 875.2M  Max: 946.3M
Swap   Now:   1.3G  Min:   1.3G  Avg:   1.3G  Max:   1.3G
Total  Now:  22.8G  Min:  22.8G  Avg:  22.8G  Max:  22.8G
```

```
User   Now:  0.7%  Min:  0.5%  Avg:  1.0%  Max:  7.9%
Nice   Now:  0.0%  Min:  0.0%  Avg:  0.0%  Max:  0.0%
System Now:  0.8%  Min:  0.6%  Avg:  1.1%  Max:  2.8%
Wait   Now:  2.0%  Min:  1.0%  Avg:  2.3%  Max:  4.3%
Steal   Now: -nan%  Min: -nan%  Avg: -nan%  Max: -nan%
Sintr   Now:  0.0%  Min:  0.0%  Avg:  0.0%  Max:  0.0%
Idle   Now: 96.4%  Min: 87.8%  Avg: 95.6%  Max: 97.7%
```

```
In   Now: 85.8k   Min: 32.8k   Avg:155.0k   Max:483.9k
Out  Now: 67.0k   Min: 33.4k   Avg:120.6k   Max:337.3k
```

Hetzner-Cubryna (physical view)

CPUs Total:	12
Hosts up:	2
Hosts down:	0

Current Load Avg (15, 5, 1m):
3%, 4%, 2%
Avg Utilization (last hour):
3%
Localtime:
2014-04-04 23:14

```
1-min   Now:414.0m   Min: 10.0m   Avg:331.6m   Max:920.
Nodes   Now:  2.0    Min:  2.0    Avg:  2.0    Max:  2.
CPUs    Now: 12.0    Min: 12.0    Avg: 12.0    Max: 12.
Procs   Now:  3.0    Min:  0.0    Avg:809.7m   Max:  6.
```

```
In   Now: 60.6k   Min: 10.6k   Avg:129.3k   Max:560.2k
Out  Now: 57.8k   Min: 11.3k   Avg: 91.8k   Max:331.1k
```

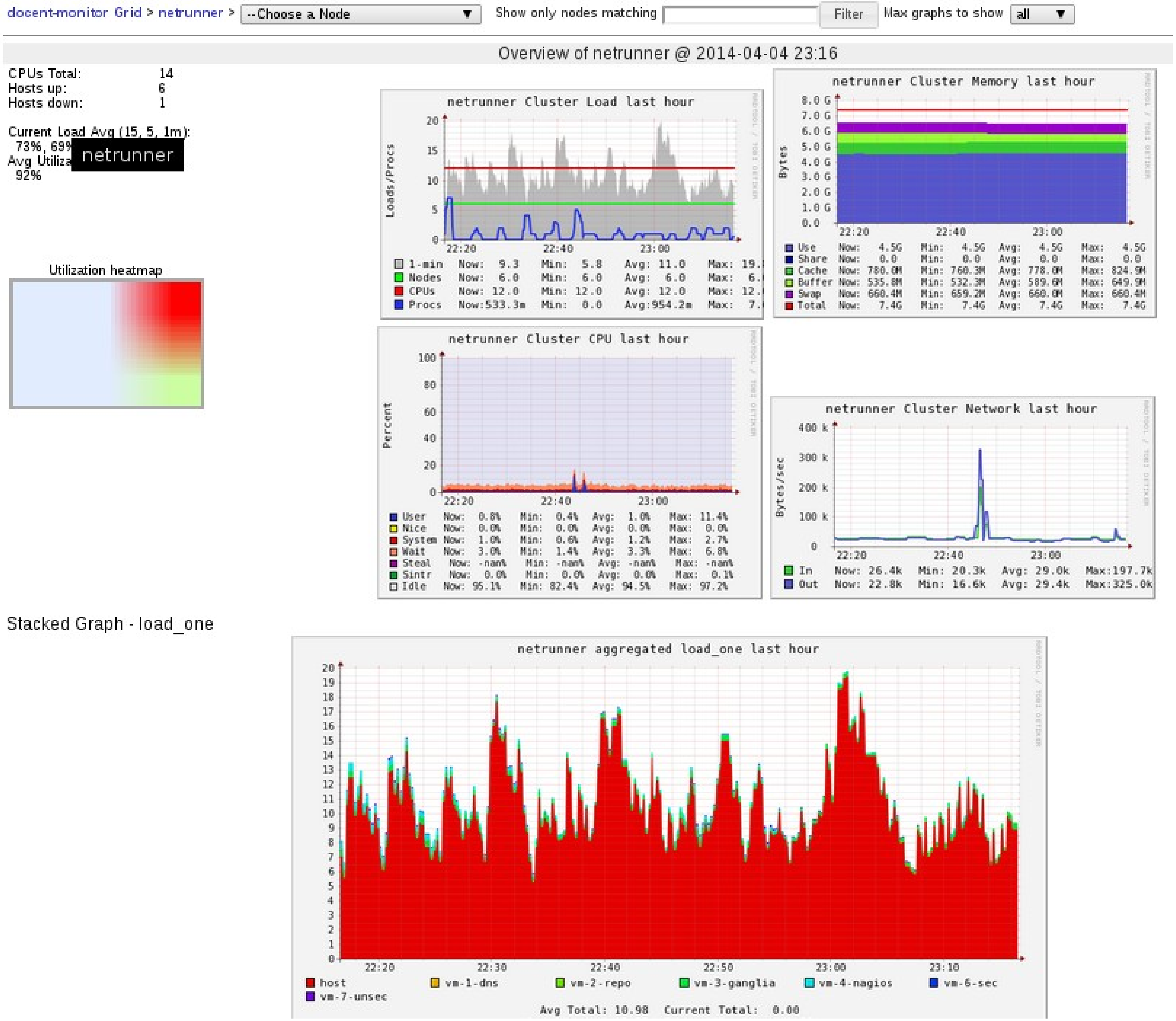
OVH-Lhotse (physical view)

CPUs Total:	2
Hosts up:	1
Hosts down:	0

Current Load Avg (15, 5, 1m):
0%, 0%, 0%
Avg Utilization (last hour):
2%
Localtime:
2014-04-04 23:14

docent-monitor Grid Load last hour
Loads/Procs
30
20
10
0
22:20
22:40
23:00
docent-monitor Grid Memory last hour
Bytes
25 G
20 G
15 G
10 G
5 G
0
docent-monitor Grid CPU last hour
Percent
100
80
60
40
20
0
docent-monitor Grid Network last hour
Bytes/sec
500 k
400 k
300 k
200 k
100 k
0
Hetzner-Cubryna Cluster Load last hour
20
15
10
5
0
Hetzner-Cubryna Cluster Network last hour
600 k
OVH-Lhotse Cluster Load last hour
2.0
1.5
1.0
0.5
0.0
OVH-Lhotse Cluster Network last hour
30 k
20 k
10 k
0

Ganglia – web (cluster view)



docent-monitor Grid > netrunner > --Choose a Node ▼ Show only nodes matching [ ] Filter Max graphs to show all ▼

Overview of netrunner @ 2014-04-04 23:16

CPUs Total:	14
Hosts up:	6
Hosts down:	1

Current Load Avg (15, 5, 1m):
73%, 69%
Avg Utiliza
92%

netrunner

Utilization heatmap

```
1-min   Now:   9.3   Min:  5.8   Avg:  11.0   Max: 19.
Nodes   Now:   6.0   Min:  6.0   Avg:   6.0   Max:  6.
CPUs    Now:  12.0   Min: 12.0   Avg:  12.0   Max: 12.
Procs   Now:533.3m   Min:  0.0   Avg:954.2m   Max:  7.
```

```
Use    Now:   4.5G  Min:   4.5G  Avg:   4.5G  Max:   4.5G
Share  Now:   0.0   Min:   0.0   Avg:   0.0   Max:   0.0
Cache  Now: 780.0M  Min: 760.3M  Avg: 778.0M  Max: 824.9M
Buffer Now: 535.8M  Min: 532.3M  Avg: 589.6M  Max: 649.9M
Swap   Now: 660.4M  Min: 659.2M  Avg: 660.0M  Max: 660.4M
Total  Now:   7.4G  Min:   7.4G  Avg:   7.4G  Max:   7.4G
```

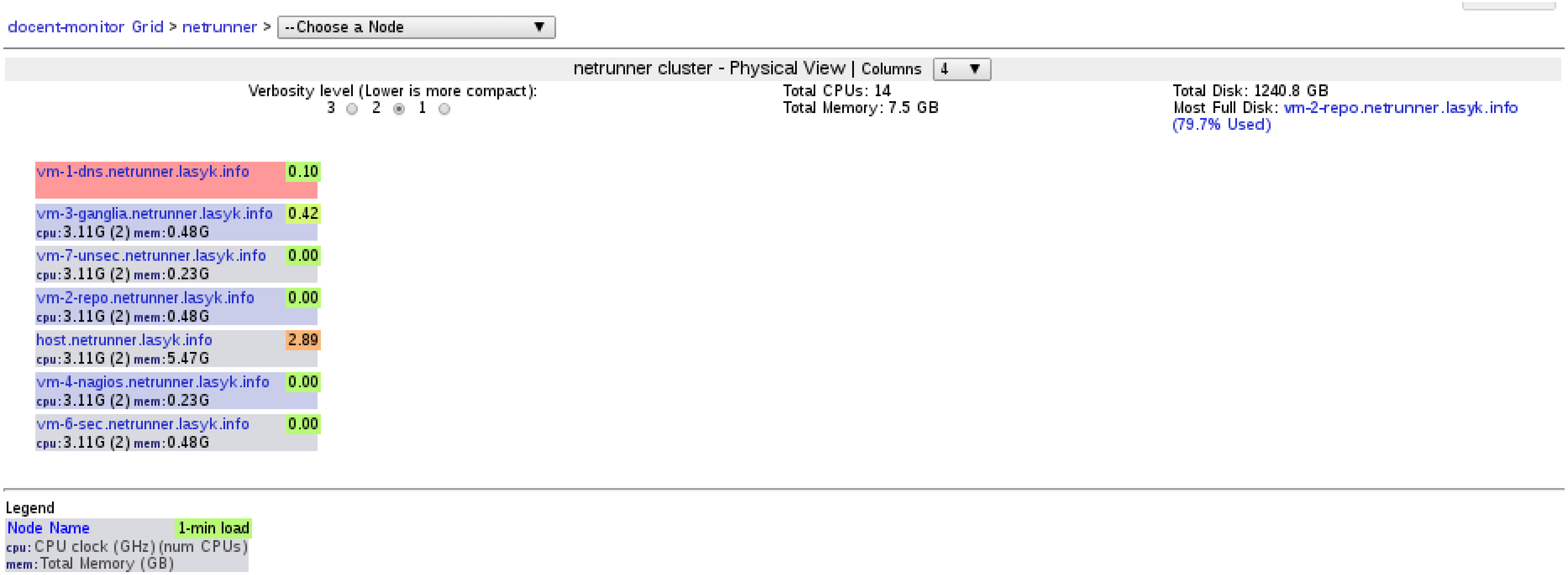
```
User    Now:  0.8%   Min:  0.4%   Avg:  1.0%   Max: 11.4%
Nice    Now:  0.0%   Min:  0.0%   Avg:  0.0%   Max:  0.0%
System  Now:  1.0%   Min:  0.6%   Avg:  1.2%   Max:  2.7%
Wait    Now:  3.0%   Min:  1.4%   Avg:  3.3%   Max:  6.8%
Steal   Now: -nan%   Min: -nan%   Avg: -nan%   Max: -nan%
Sintr   Now:  0.0%   Min:  0.0%   Avg:  0.0%   Max:  0.1%
Idle    Now: 95.1%   Min: 82.4%   Avg: 94.5%   Max: 97.2%
```

```
In   Now: 26.4k  Min: 20.3k  Avg: 29.0k  Max:197.7k
Out  Now: 22.8k  Min: 16.6k  Avg: 29.4k  Max:325.0k
```

Stacked Graph - load_one

Avg Total: 10.98   Current Total: 0.00

Ganglia – web (physical view)



docent-monitor Grid > netrunner > --Choose a Node ▼

netrunner cluster - Physical View | Columns 4 ▼

Verbosity level (Lower is more compact):
3 ○ 2 ● 1 ○

Total CPUs: 14
Total Memory: 7.5 GB

Total Disk: 1240.8 GB
Most Full Disk: vm-2-repo.netrunner.lasyk.info (79.7% Used)

vm-1-dns.netrunner.lasyk.info 0.10

vm-3-ganglia.netrunner.lasyk.info 0.42
cpu: 3.11G (2) mem: 0.48G

vm-7-unsec.netrunner.lasyk.info 0.00
cpu: 3.11G (2) mem: 0.23G

vm-2-repo.netrunner.lasyk.info 0.00
cpu: 3.11G (2) mem: 0.48G

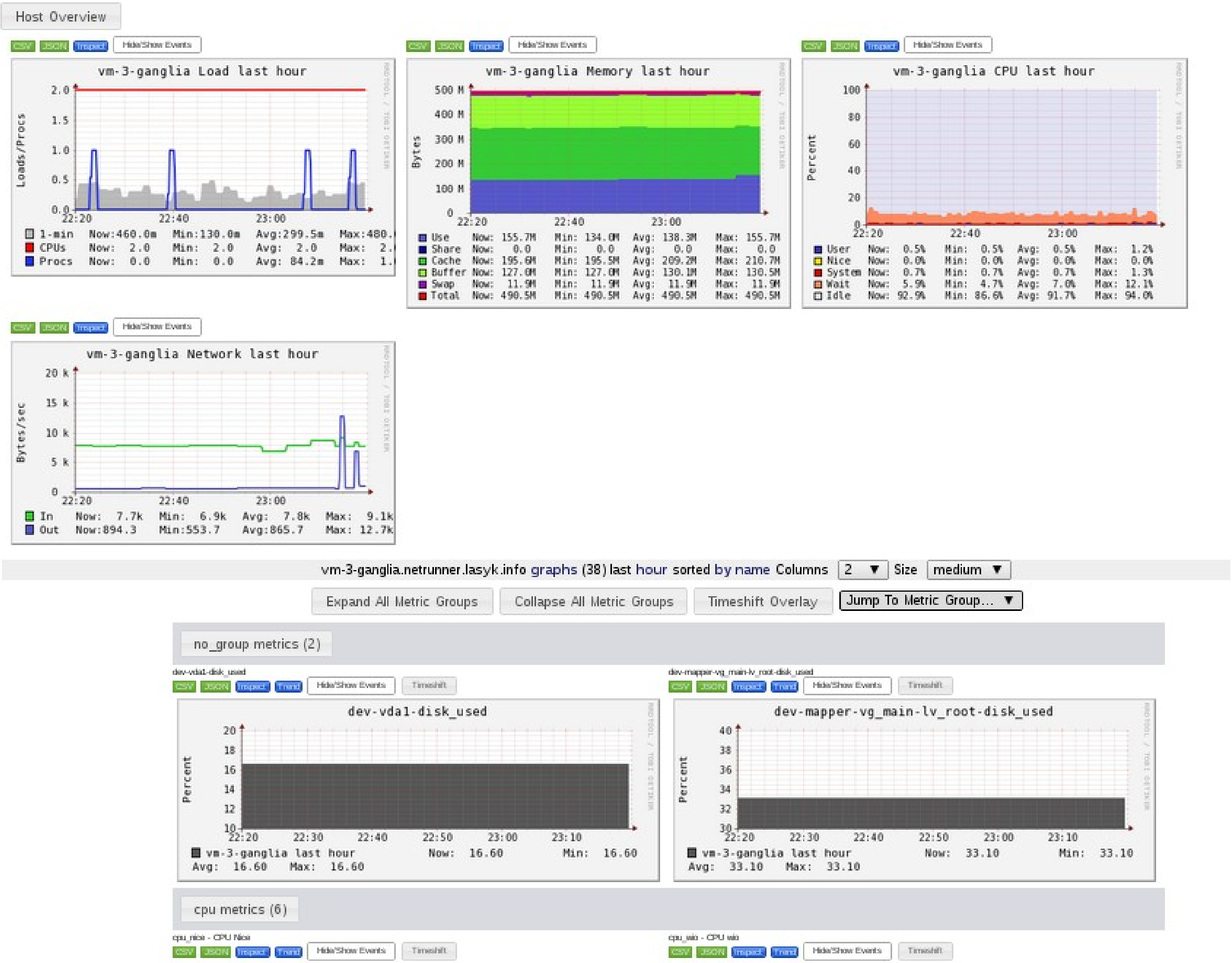
host.netrunner.lasyk.info 2.89
cpu: 3.11G (2) mem: 5.47G

vm-4-nagios.netrunner.lasyk.info 0.00
cpu: 3.11G (2) mem: 0.23G

vm-6-sec.netrunner.lasyk.info 0.00
cpu: 3.11G (2) mem: 0.48G

Legend
Node Name 1-min load
cpu: CPU clock (GHz) (num CPUs)
mem: Total Memory (GB)

Ganglia – web (host view)



vm-3-ganglia Load last hour

```
■ 1-min  Now:460.0m  Min:130.0m  Avg:299.5m  Max:480.
■ CPUs   Now:  2.0   Min:  2.0   Avg:  2.0   Max:  2.
■ Procs  Now:  0.0   Min:  0.0   Avg: 84.2m  Max:  1.
```

vm-3-ganglia Memory last hour

```
■ Use     Now: 155.7M   Min: 134.0M   Avg: 138.3M   Max: 155.7M
■ Share   Now:   0.0    Min:   0.0    Avg:   0.0    Max:   0.0
■ Cache   Now: 195.6M   Min: 195.5M   Avg: 209.2M   Max: 210.7M
■ Buffer  Now: 127.0M   Min: 127.0M   Avg: 130.1M   Max: 130.5M
■ Swap    Now:  11.9M   Min:  11.9M   Avg:  11.9M   Max:  11.9M
■ Total   Now: 490.5M   Min: 490.5M   Avg: 490.5M   Max: 490.5M
```

vm-3-ganglia CPU last hour

```
■ User    Now:   0.5%   Min:   0.5%   Avg:   0.5%   Max:   1.2%
■ Nice    Now:   0.0%   Min:   0.0%   Avg:   0.0%   Max:   0.0%
■ System  Now:   0.7%   Min:   0.7%   Avg:   0.7%   Max:   1.3%
■ Wait    Now:   5.9%   Min:   4.7%   Avg:   7.0%   Max:  12.1%
□ Idle    Now:  92.9%   Min:  86.6%   Avg:  91.7%   Max:  94.0%
```

vm-3-ganglia Network last hour

```
■ In   Now:  7.7k  Min:  6.9k  Avg:  7.8k  Max:  9.1k
■ Out  Now:894.3   Min:553.7   Avg:865.7   Max: 12.7k
```

vm-3-ganglia.netrunner.lasyk.info graphs (38) last hour sorted by name Columns 2 ▼ Size medium ▼

Expand All Metric Groups | Collapse All Metric Groups | Timeshift Overlay | Jump To Metric Group... ▼

no_group metrics (2)

dev-vda1-disk_used

dev-vda1-disk_used

```
■ vm-3-ganglia last hour          Now:   16.60          Min:   16.60
Avg:   16.60    Max:   16.60
```

dev-mapper-vg_main-lv_root-disk_used

dev-mapper-vg_main-lv_root-disk_used

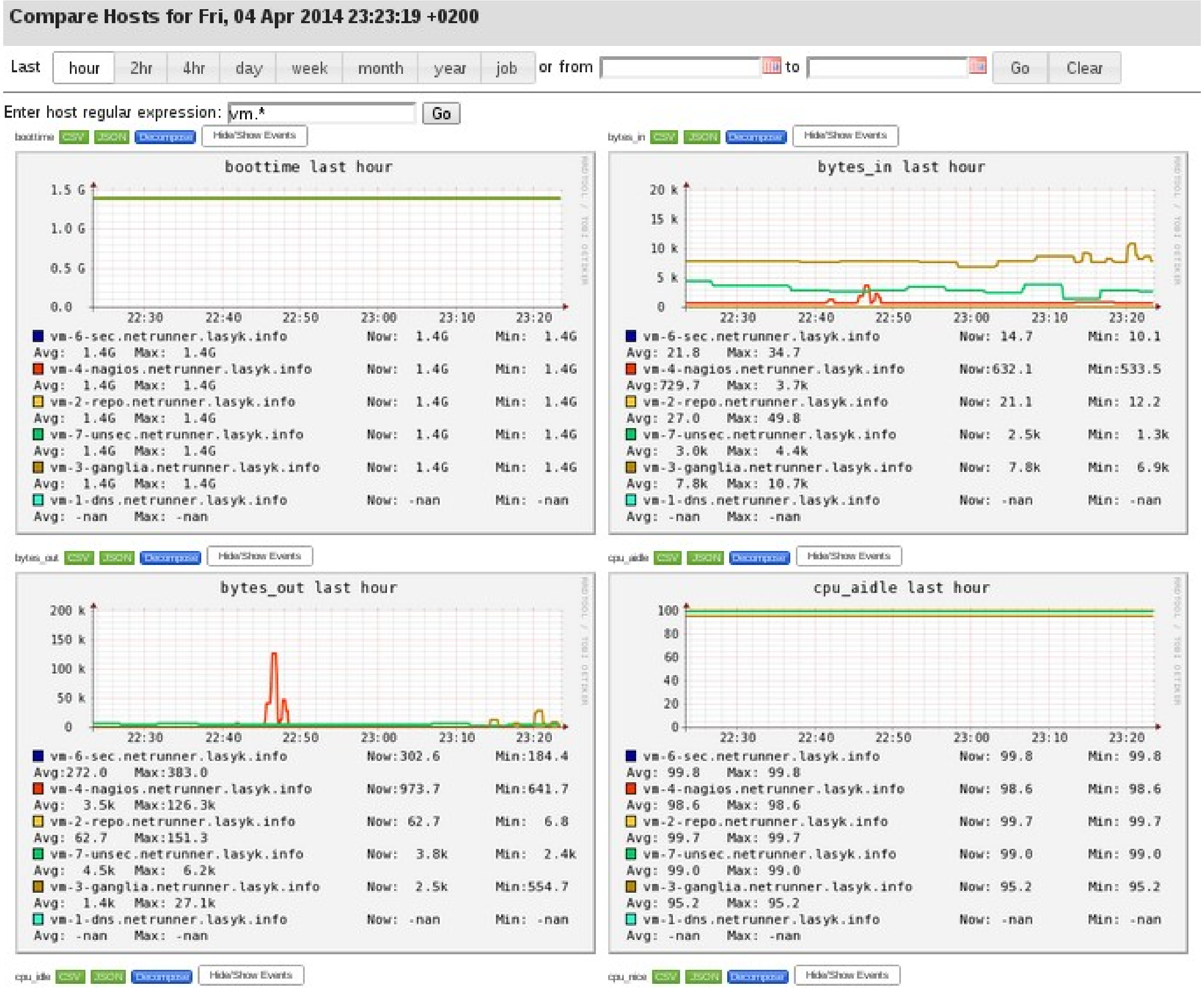
```
■ vm-3-ganglia last hour          Now:   33.10          Min:   33.10
Avg:   33.10    Max:   33.10
```

cpu metrics (6)

cpu_nice - CPU Nice

cpu_wio - CPU wio

Ganglia – web (compare hosts)



Compare Hosts for Fri, 04 Apr 2014 23:23:19 +0200

Enter host regular expression: vm.*

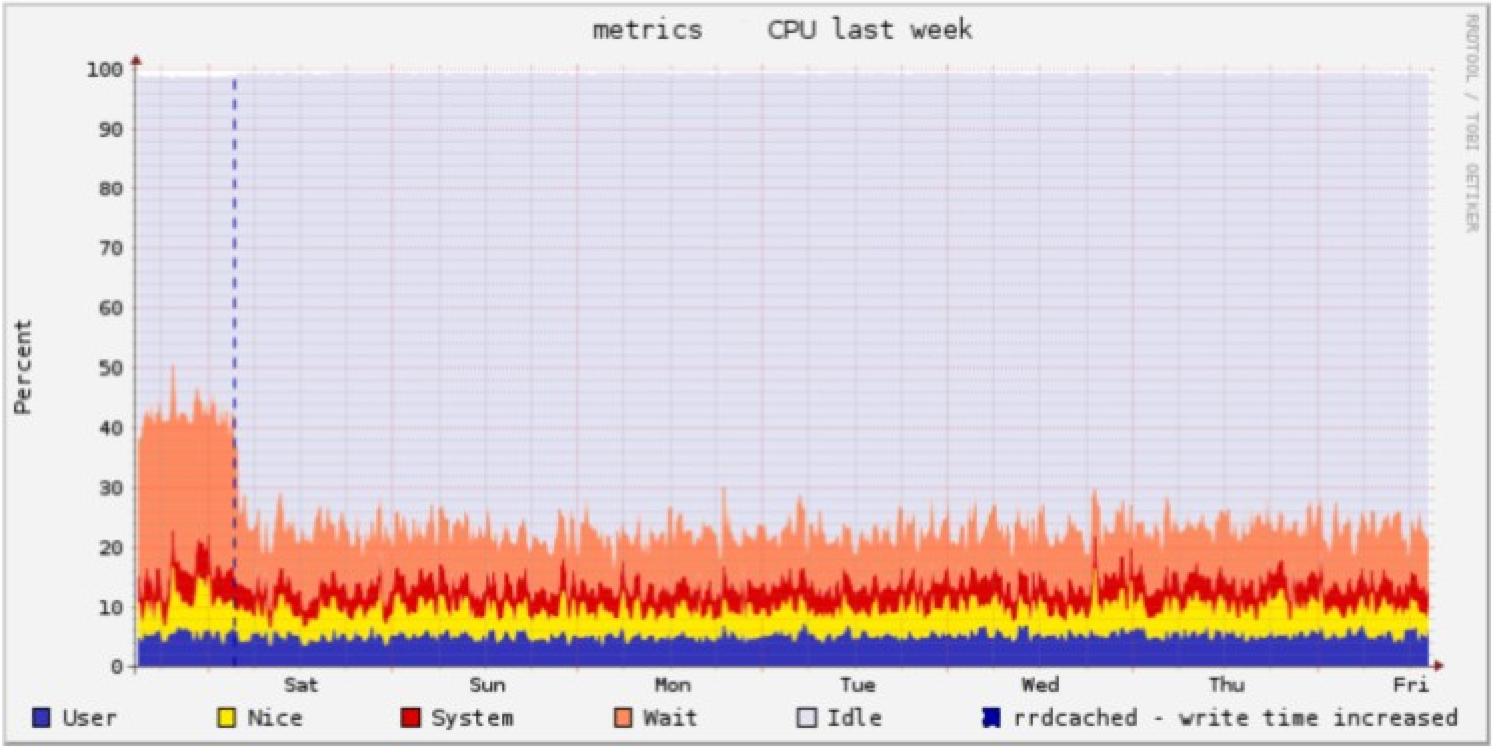
```
■ vm-6-sec.netrunner.lasyk.info          Now:  1.4G     Min:  1.4G
Avg:  1.4G   Max:  1.4G
■ vm-4-nagios.netrunner.lasyk.info       Now:  1.4G     Min:  1.4G
Avg:  1.4G   Max:  1.4G
■ vm-2-repo.netrunner.lasyk.info         Now:  1.4G     Min:  1.4G
Avg:  1.4G   Max:  1.4G
■ vm-7-unsec.netrunner.lasyk.info        Now:  1.4G     Min:  1.4G
Avg:  1.4G   Max:  1.4G
■ vm-3-ganglia.netrunner.lasyk.info      Now:  1.4G     Min:  1.4G
Avg:  1.4G   Max:  1.4G
■ vm-1-dns.netrunner.lasyk.info          Now: -nan      Min: -nan
Avg: -nan    Max: -nan
```

```
■ vm-6-sec.netrunner.lasyk.info          Now: 14.7      Min: 10.1
Avg: 21.8    Max: 34.7
■ vm-4-nagios.netrunner.lasyk.info       Now:632.1      Min:533.5
Avg:729.7    Max:  3.7k
■ vm-2-repo.netrunner.lasyk.info         Now: 21.1      Min: 12.2
Avg: 27.0    Max: 49.8
■ vm-7-unsec.netrunner.lasyk.info        Now:  2.5k     Min:  1.3k
Avg:  3.0k   Max:  4.4k
■ vm-3-ganglia.netrunner.lasyk.info      Now:  7.8k     Min:  6.9k
Avg:  7.8k   Max: 10.7k
■ vm-1-dns.netrunner.lasyk.info          Now: -nan      Min: -nan
Avg: -nan    Max: -nan
```

```
■ vm-6-sec.netrunner.lasyk.info          Now:302.6      Min:184.4
Avg:272.0    Max:383.0
■ vm-4-nagios.netrunner.lasyk.info       Now:973.7      Min:641.7
Avg:  3.5k   Max:126.3k
■ vm-2-repo.netrunner.lasyk.info         Now: 62.7      Min:  6.8
Avg: 62.7    Max:151.3
■ vm-7-unsec.netrunner.lasyk.info        Now:  3.8k     Min:  2.4k
Avg:  4.5k   Max:  6.2k
■ vm-3-ganglia.netrunner.lasyk.info      Now:  2.5k     Min:554.7
Avg:  1.4k   Max: 27.1k
■ vm-1-dns.netrunner.lasyk.info          Now: -nan      Min: -nan
Avg: -nan    Max: -nan
```

```
■ vm-6-sec.netrunner.lasyk.info          Now: 99.8      Min: 99.8
Avg: 99.8    Max: 99.8
■ vm-4-nagios.netrunner.lasyk.info       Now: 98.6      Min: 98.6
Avg: 98.6    Max: 98.6
■ vm-2-repo.netrunner.lasyk.info         Now: 99.7      Min: 99.7
Avg: 99.7    Max: 99.7
■ vm-7-unsec.netrunner.lasyk.info        Now: 99.0      Min: 99.0
Avg: 99.0    Max: 99.0
■ vm-3-ganglia.netrunner.lasyk.info      Now: 95.2      Min: 95.2
Avg: 95.2    Max: 95.2
■ vm-1-dns.netrunner.lasyk.info          Now: -nan      Min: -nan
Avg: -nan    Max: -nan
```

Ganglia – web (events)



Events have API json based

Think – integration with whatever app :)

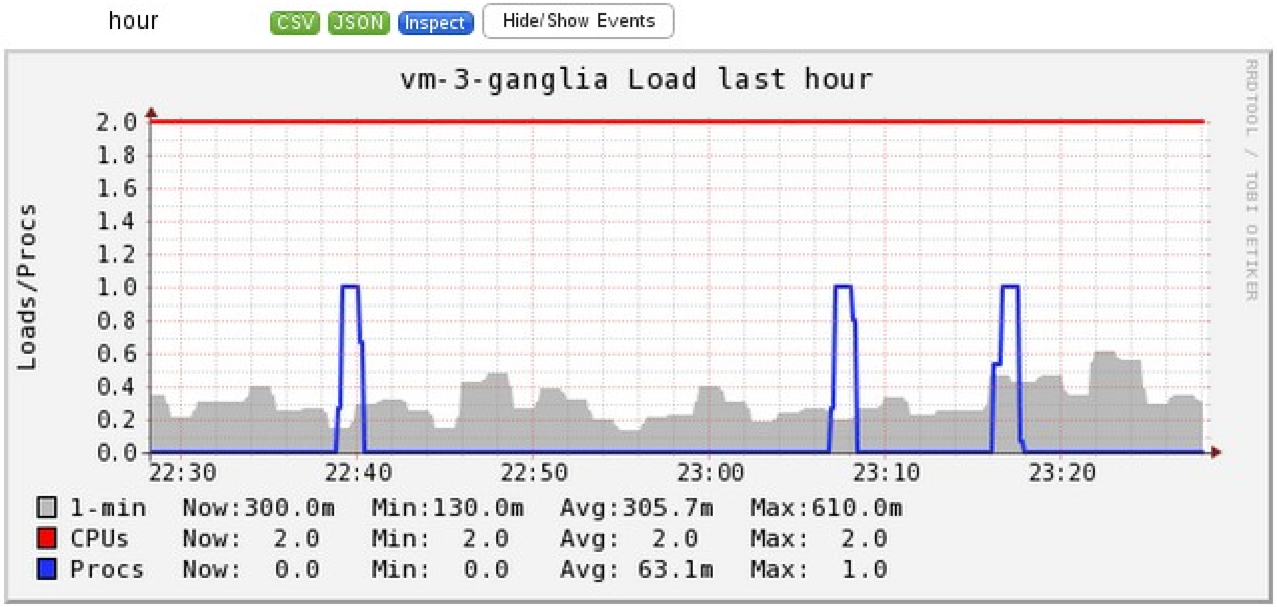
Ganglia – web (dashboards)

- Create view -> apply as dashboard

- Create dashboard from XML

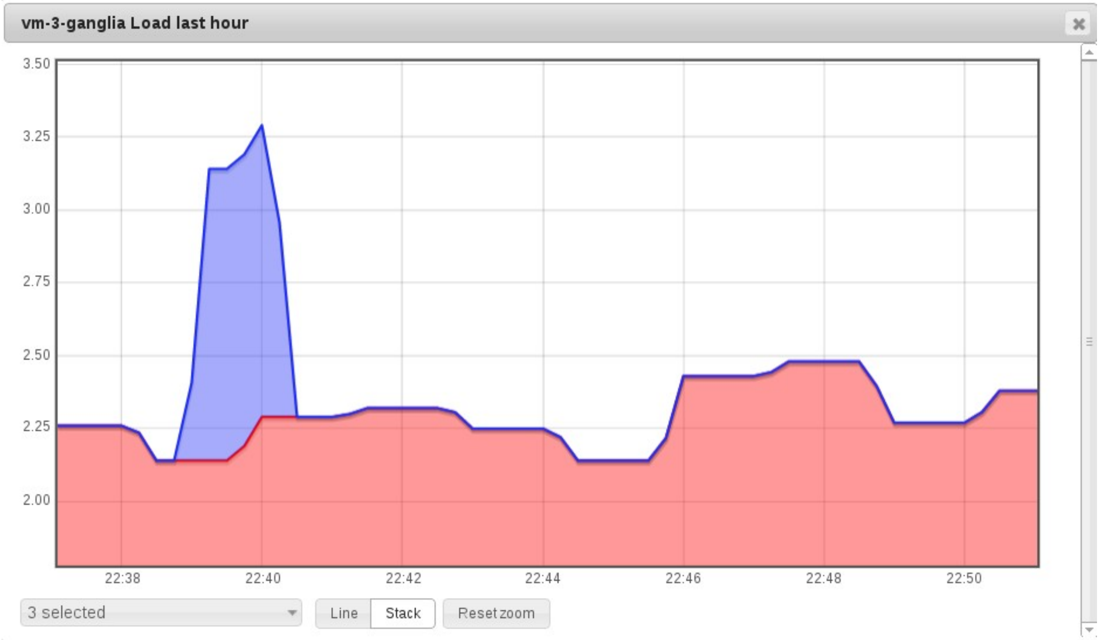
- Generate graphs and add to views

Ganglia – web (graphs)



vm-3-ganglia Load last hour

```
■ 1-min  Now:300.0m  Min:130.0m  Avg:305.7m  Max:610.0m
■ CPUs   Now:  2.0   Min:  2.0   Avg:  2.0   Max:  2.0
■ Procs  Now:  0.0   Min:  0.0   Avg: 63.1m  Max:  1.0
```



vm-3-ganglia Load last hour

Ganglia – metrics

- base / extended metrics
- own modules
- c / c++
- mod_python
- spoofing
- gmetric
- gmetric4j / java
- Which to choose? gmetric / python / c/c++?

Ganglia – metrics

- base / extended metrics

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- base / extended metrics

- own modules

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- base / extended metrics
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- Which to choose? gmetric / python / c/c++?

Ganglia and logfiles?

ganglia-logtailer

- https://bitbucket.org/maplebed/ganglia-logtailer
- parser logfiles (realtime)
- pushes data to ganglia (via gmetric)
- yup – based on specific log formats
- yet still – open source so poke around ;)

So... Nagios + Ganglia!

3 ways of integration:

- ganglia-web/nagios (PHP & bash based)

  https://github.com/ganglia/ganglia-web

- ganglia-nagios-bridge (Python & cron based)
  https://github.com/ganglia/ganglia-nagios-bridge

- check-ganglia-metric (Python)
  https://github.com/ganglia/ganglia_contrib

Nagios + Ganglia: ganglia-web/nagios

https://github.com/ganglia/ganglia-web

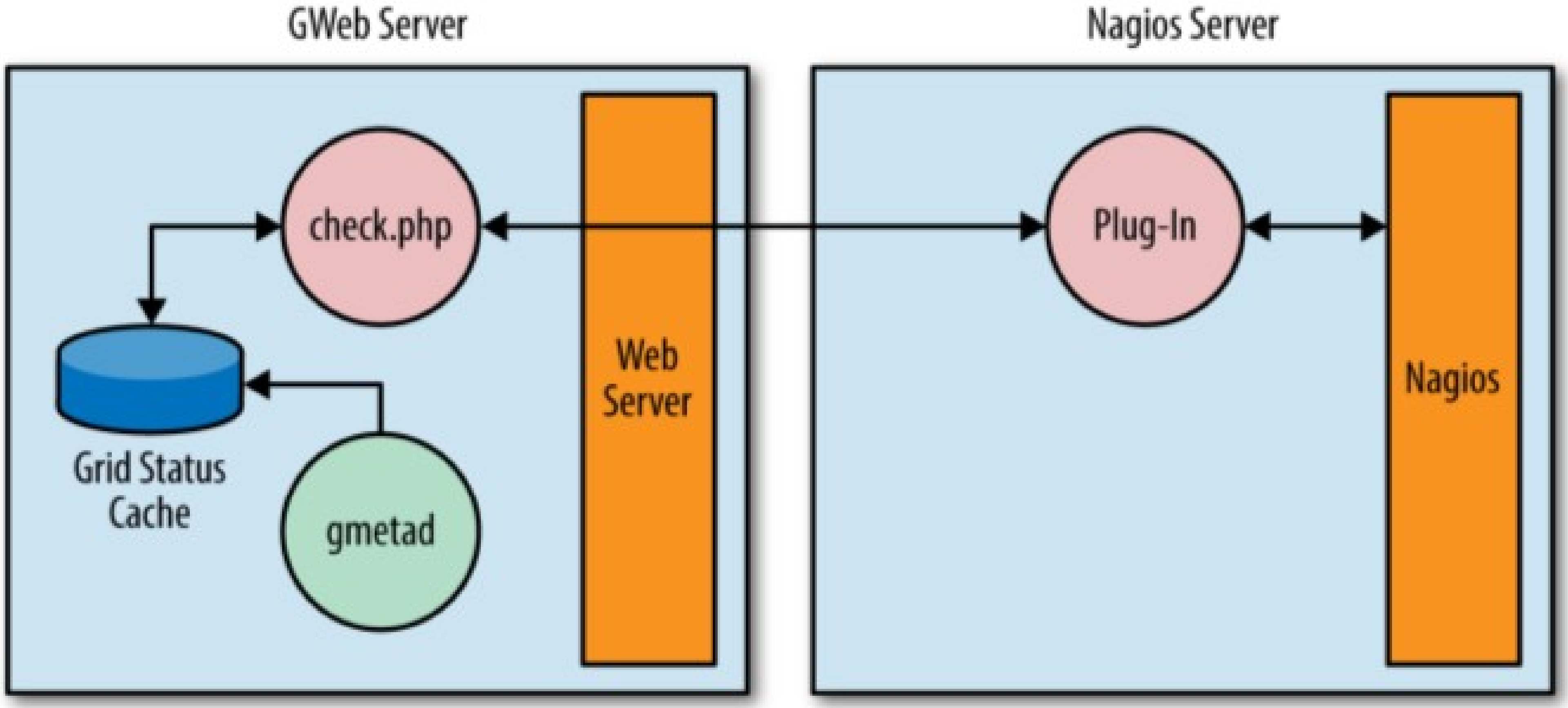
Sending Nagios Data to Ganglia

service_perfdata_command

Or replace Nagios checks with Ganglia!

- Check heartbeat.
- Check a single metric on a specific host.
- Check multiple metrics on a specific host.
- Check multiple metrics across a regex-defined range of hosts

Nagios + Ganglia: ganglia-web/nagios



Nagios pulls info from Ganglia via HTTP

Nagios + Ganglia: ganglia-nagios-bridge

- https://github.com/ganglia/ganglia-nagios-bridge
- Python script run in e.g. in crontab
- pulls data from Ganglia XML via sockets
- parses XML
- send data to Nagios
- Nagios commits only passive checks

Nagios + Ganglia: check_ganglia_metric

- https://pypi.python.org/pypi/check_ganglia_metric/

- basically Nagios plugin

- pulls data from Ganglia XML via sockets

-
  ```
  check_ganglia_metric.py \
     --gmetad_host=gmetad-server.example.com \
     --metric_host=host.example.com --metric_name=cpu_idle
  ```

Nagios + Ganglia

Which one integration should I use?

Nagios + Ganglia

Which one integration should I use?

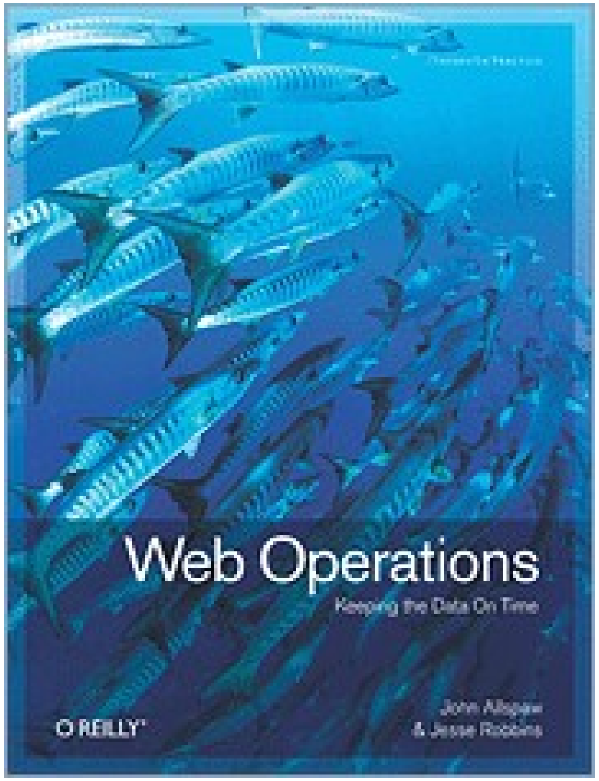
Seriously – try yourself and test

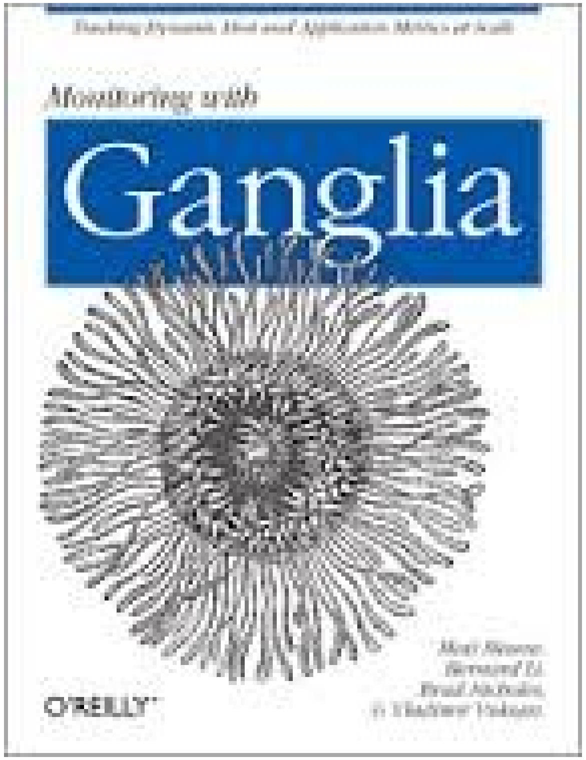
Freenode #ganglia

https://lists.sourceforge.net/lists/listinfo/ganglia-general

sources?

- “Monitoring with Ganglia” book
- also nagios.org
- and “Web Operations” book
- plus some experience ;)





Thank you :)

Ganglia & Nagios

Maciej Lasyk

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