



Switching Lights On

A Backend Health Check Tool

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Technical Designer Platform Engineering
„Käptn PENG“ (Thanks Geoff)

3rd Level Admin Team

Development of operations tools

Creation of ops „Services“

Loves puppet, Infrastructure as Code,
Automation, jenkins



<https://www.otto.de>

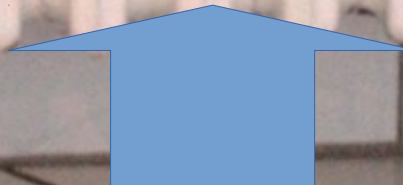
PageAssembly-Proxy (varnish)



„verticals“
(java, tomcat)
Business
functionality
DBs
SearchIndex
Recommendations



90 Tomcats / 180
Backends
Per env



InterBackend-Proxy (varnish)

Monitoring

Process based monitoring Icinga

Metrics with graphite

Monit to manage processes restarts when crashed

→ We know if varnish is running

→ We know if tomcats are running

Is our whole system „up“?



icinga: nagios-live.ihotse.de

251 UP 0 / 0 / 0 DOWN 0 / 0 / 0 UNREACHABLE 0 PENDING 0 / 251 TOTAL
7713 OK 99 / 14 / 0 WARNING 22 / 7 / 0 CRITICAL 14 / 0 / 0 UNKNOWN 0 / 24 PENDING 180 / 7893 TOTAL

icinga

251 / 0 / 0 0.07 / 4.13 / 3.250 s 7869 / 0 / 24 0.07 / 20.26 / 0.455 s
0.03 / 1.58 / 0.346 s 0.00 / 170.81 / 1.904 s

Commands for checked services

Select command Submit

View Host Status Detail For All Hosts

Service Status Details For Host/Services matching 'Varnish Process'

Page 1 of 1 Results: 50

Host	Service	Status	Last Check	Duration	Attempt	Status Information
ib-proxy-live-800.ihotse.ov.otto.de	APP Varnish Process running	OK	2013-11-26 15:28:03	49d 4h 8m 28s	1/3	PROCS OK: 1 process with command name 'varnishd', UID = 1015 (varnish)
ib-proxy-live-801.ihotse.ov.otto.de	APP Varnish Process running	OK	2013-11-26 15:28:03	32d 4h 27m 45s	1/3	PROCS OK: 1 process with command name 'varnishd', UID = 1015 (varnish)
ib-proxy-live-802.ihotse.ov.otto.de	APP Varnish Process running	OK	2013-11-26 15:28:55	49d 4h 14m 2s	1/3	PROCS OK: 1 process with command name 'varnishd', UID = 1015 (varnish)
pa-proxy-live-19288.ihotse.ov.otto.de	APP Varnish Process running	OK	2013-11-26 15:26:41	35d 22h 0m 56s	1/3	PROCS OK: 1 process with command name 'varnishd', UID = 1015 (varnish)
pa-proxy-live-805.ihotse.ov.otto.de	APP Varnish Process running	OK	2013-11-26 15:29:15	39d 0h 55m 4s	1/3	PROCS OK: 1 process with command name 'varnishd', UID = 1015 (varnish)
pa-proxy-live-806.ihotse.ov.otto.de	APP Varnish Process running	OK	2013-11-26 15:29:16	42d 22h 25m 1s	1/3	PROCS OK: 1 process with command name 'varnishd', UID = 1015 (varnish)
pa-proxy-live-807.ihotse.ov.otto.de	APP Varnish Process running	OK	2013-11-26 15:27:59	49d 3h 20m 24s	1/3	PROCS OK: 1 process with command name 'varnishd', UID = 1015 (varnish)
pd-proxy-live-1210.ihotse.ov.otto.de	APP Varnish Process running	OK	2013-11-26 15:30:03	38d 17h 3m 14s	1/3	PROCS OK: 1 process with command name 'varnishd', UID = 1015 (varnish)
pd-proxy-live-1214.ihotse.ov.otto.de	APP Varnish Process running	OK	2013-11-26 15:28:06	49d 4h 17m 16s	1/3	PROCS OK: 1 process with command name 'varnishd', UID = 1015 (varnish)
so-proxy-live-803.ihotse.ov.otto.de	APP Varnish Process running	OK	2013-11-26 15:28:11	49d 4h 19m 22s	1/3	PROCS OK: 1 process with command name 'varnishd', UID = 1015 (varnish)
so-proxy-live-804.ihotse.ov.otto.de	APP Varnish Process running	OK	2013-11-26 15:27:53	49d 4h 17m 33s	1/3	PROCS OK: 1 process with command name 'varnishd', UID = 1015 (varnish)

Page 1 of 1 Results: 50

Displaying Result 1 - 11 of 11 Matching Services

Varnish process running?

→ Low level check

Varnish memory usage

→ information „inside“

icinga: nagios-live.ihotse.de

251 UP 0 / 0 / 0 DOWN 0 / 0 / 0 UNREACHABLE 0 PENDING 0 / 251 TOTAL
7715 OK 97 / 14 / 0 WARNING 22 / 7 / 0 CRITICAL 14 / 0 / 0 UNKNOWN 0 / 24 PENDING 178 / 7893 TOTAL

icinga

251 / 0 / 0 0.07 / 4.14 / 3.238 s 7869 / 0 / 24 0.07 / 20.26 / 0.454 s
0.00 / 1.35 / 0.539 s 0.00 / 170.81 / 1.864 s

Commands for checked services

Select command Submit

View Host Status Detail For All Hosts

Service Status Details For Host/Services matching 'Varnish Cache'

Page 1 of 1 Results: 50

Host	Service	Status	Last Check	Duration	Attempt	Status Information
ib-proxy-live-800.ihotse.ov.otto.de	APP Varnish Cache memory usage	OK	2013-11-26 15:28:54	28d 21h 27m 59s	1/3	OK: cache usage at 2%
ib-proxy-live-801.ihotse.ov.otto.de	APP Varnish Cache memory usage	OK	2013-11-26 15:28:51	28d 21h 7m 51s	1/3	OK: cache usage at 2%
ib-proxy-live-802.ihotse.ov.otto.de	APP Varnish Cache memory usage	OK	2013-11-26 15:28:20	28d 21h 55m 54s	1/3	OK: cache usage at 3%
pa-proxy-live-19288.ihotse.ov.otto.de	APP Varnish Cache memory usage	OK	2013-11-26 15:36:27	29d 17h 28m 45s	1/3	OK: cache usage at 18%
pa-proxy-live-805.ihotse.ov.otto.de	APP Varnish Cache memory usage	OK	2013-11-26 15:29:24	29d 18h 13m 25s	1/3	OK: cache usage at 15%
pa-proxy-live-806.ihotse.ov.otto.de	APP Varnish Cache memory usage	OK	2013-11-26 15:29:24	29d 17h 51m 34s	1/3	OK: cache usage at 16%
pa-proxy-live-807.ihotse.ov.otto.de	APP Varnish Cache memory usage	OK	2013-11-26 15:29:32	29d 17h 52m 11s	1/3	OK: cache usage at 17%
so-proxy-live-803.ihotse.ov.otto.de	APP Varnish Cache memory usage	OK	2013-11-26 15:28:58	38d 16h 57m 57s	1/3	OK: cache usage at 0%
so-proxy-live-804.ihotse.ov.otto.de	APP Varnish Cache memory usage	OK	2013-11-26 15:30:08	46d 0h 5m 2s	1/3	OK: cache usage at 0%

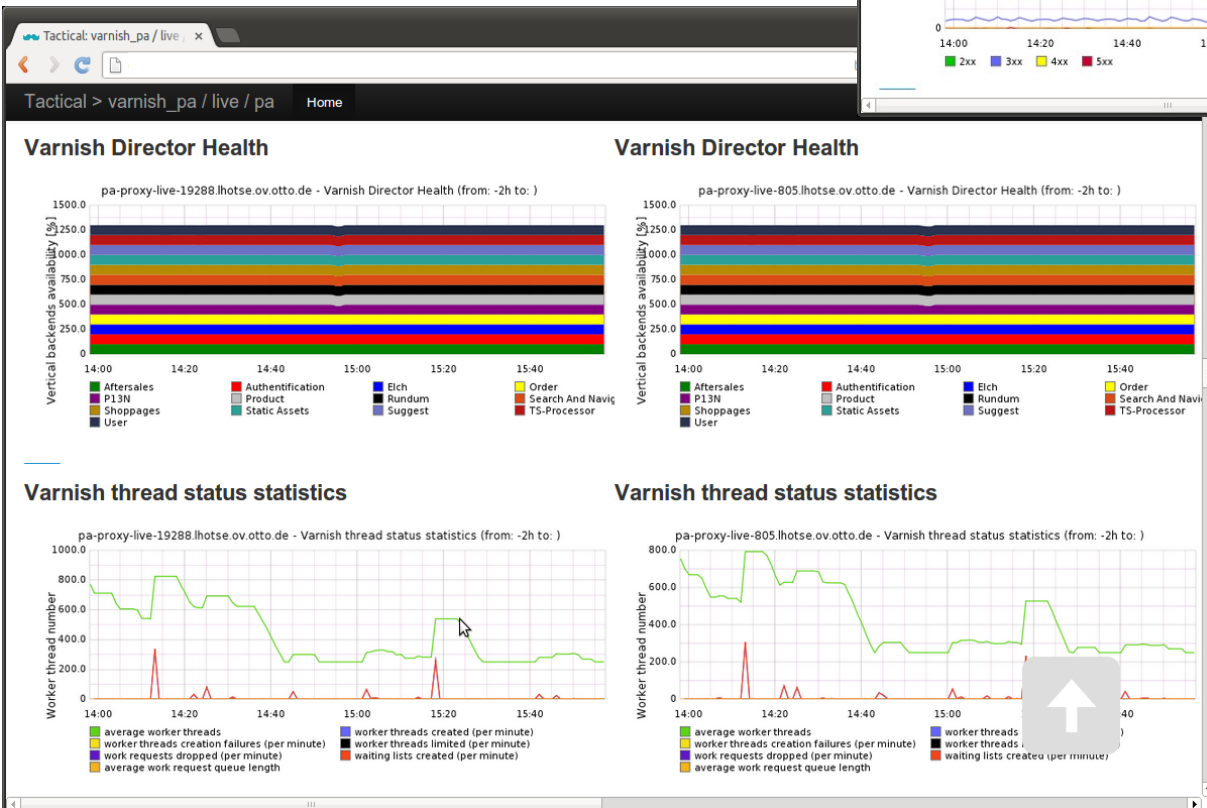
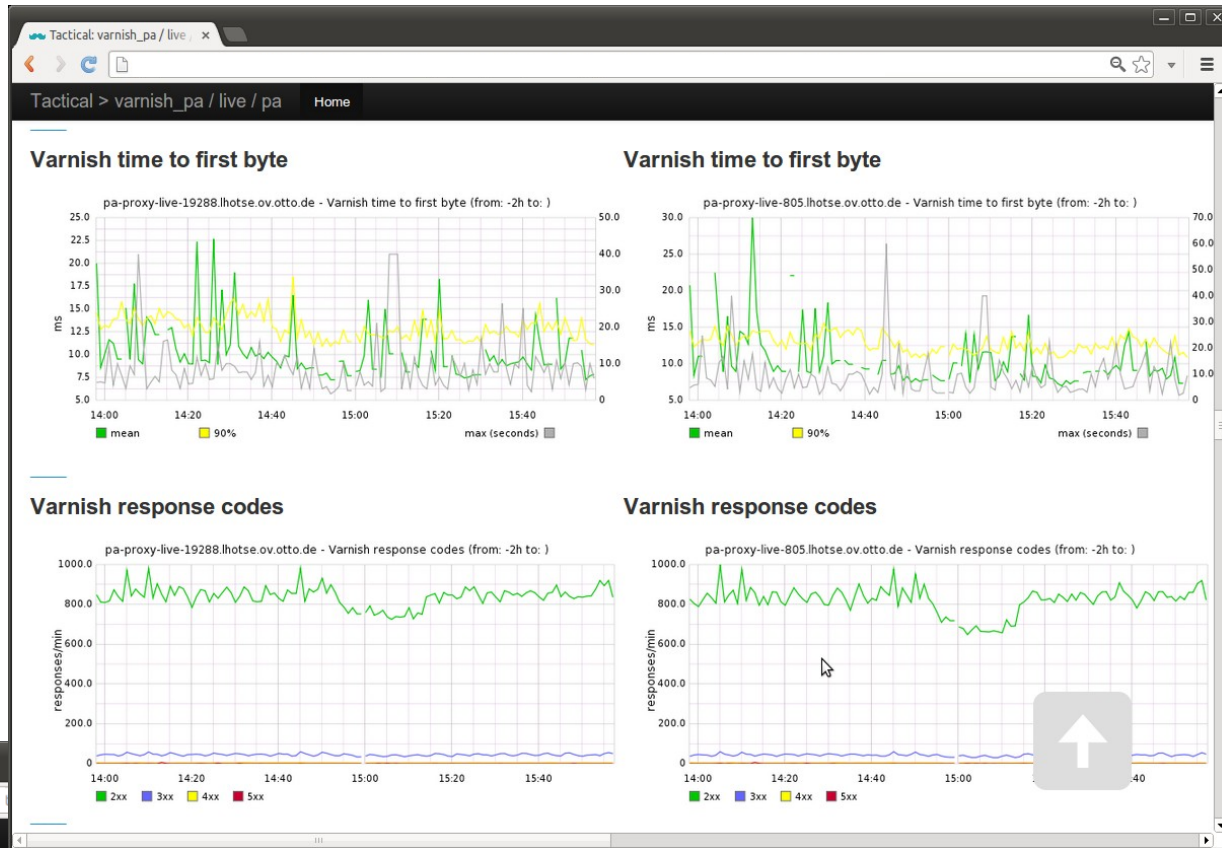
Page 1 of 1 Results: 50

Displaying Result 1 - 9 of 9 Matching Services

Warten auf nagios-live.ihotse.ov.otto.de...

LOTS of metrics already in
graphite
(too many?)

varnishstat / varnishtop



Director Health is already in our
graphing

varnishevent is the most powerful logreader :)

So ... what shall we do?



Or did we miss something?

Scenario:

Tomcats are running
Varnish is running

Shop is not performing (search is not returning results)

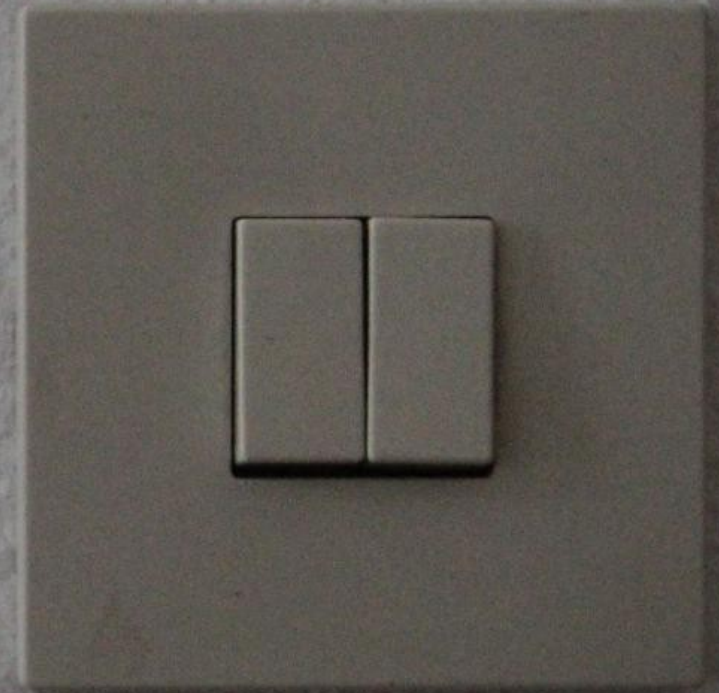
Are all backends healthy?

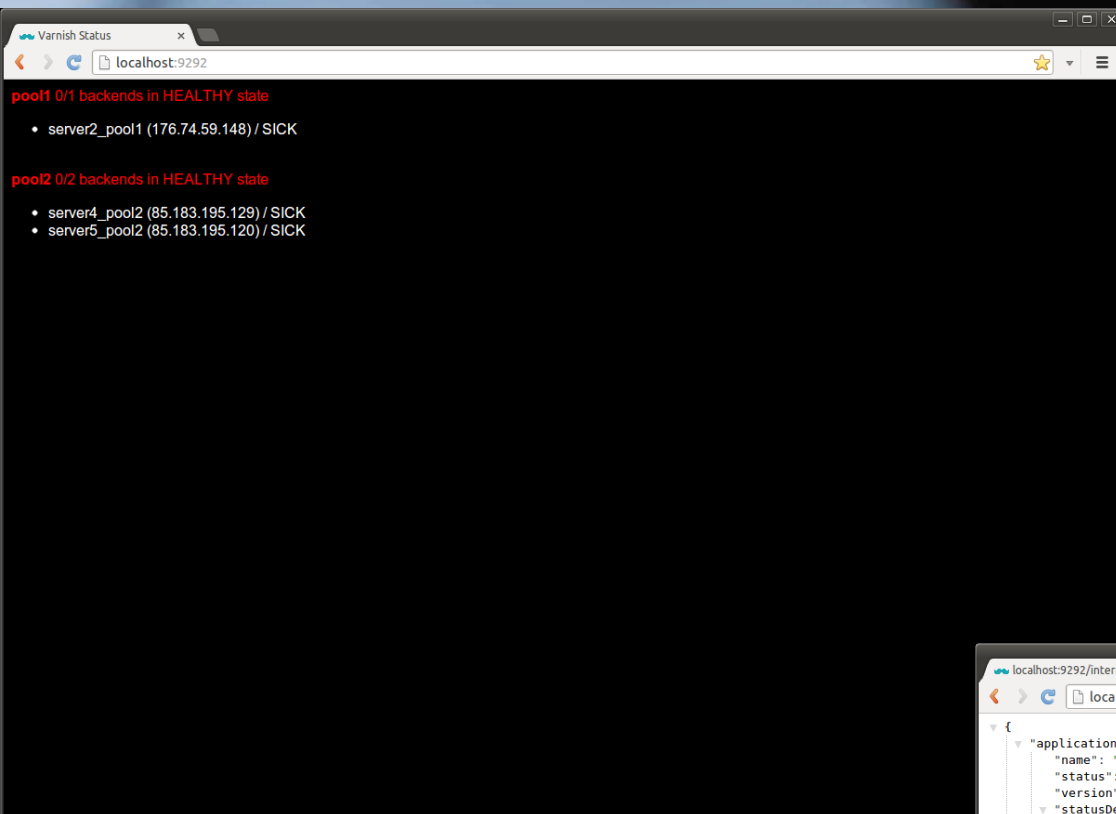
```
./varnishadm -n /bla/blubb backend.list
```

180 backends? Do not fit in my terminal :(

Automatic aggregated dashboard

varnish_status was born





Ruby

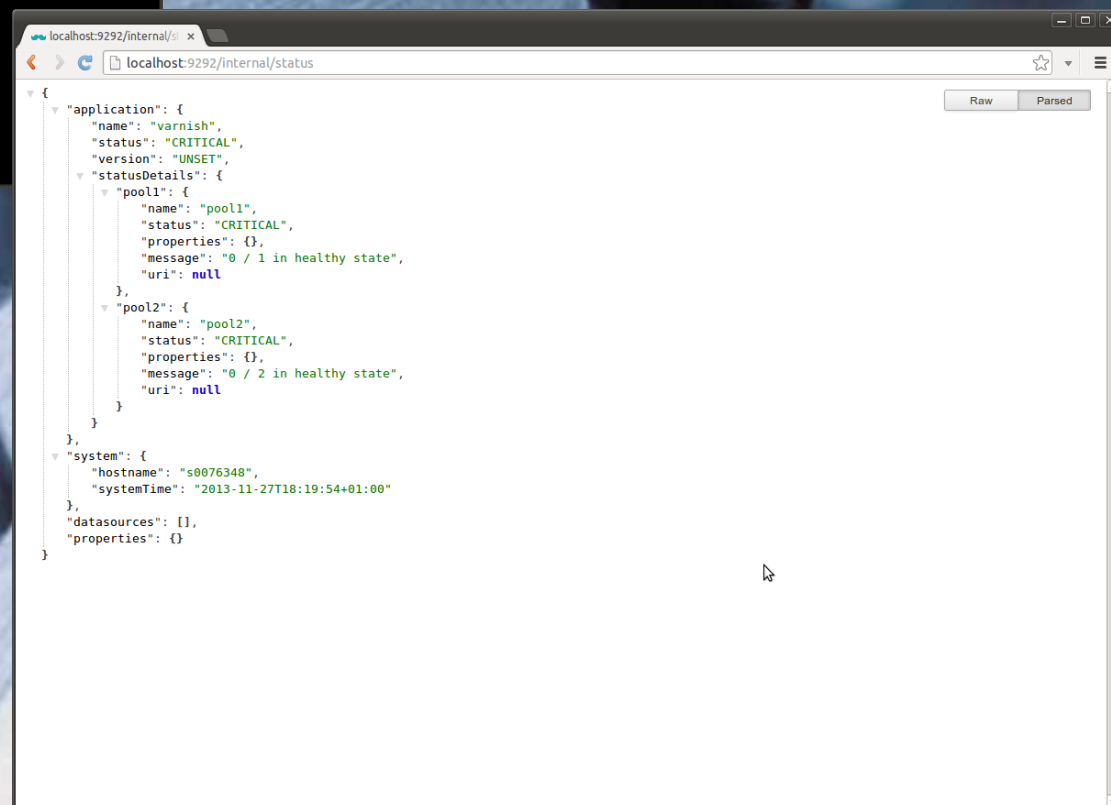
Sinatra

HTML

JSON

Realtime

varnishadm



Varnish config Backend_Director

```
backend server1_pool1 {  
    ...  
}  
  
backend server2_pool1 {  
    ...  
}  
  
backend server3_pool2 {  
    ...  
}  
  
...
```

Checkout & config

```
Git clone  
https://github.com/otto-de/varnish  
_status
```

```
Config.yaml  
:proxy_mnemonic: type of your  
proxy (we use PA and IB)  
:proxy_name: whatever  
:varnishadm: path_to_varnishadmin  
:varnishadm_opts: extra varnishadm  
opts  
:critical_threshold: availability  
below threshold is critical (ex.  
0.5)
```

run

```
(Gem install bundler)  
Bundle install  
Bundle exec puma
```

<http://localhost:9292>
HTML representation, Human readable

```
pool1 0/1 backends in HEALTHY state  
• server2_pool1 (176.74.59.148) / SICK  
  
pool2 0/2 backends in HEALTHY state  
• server4_pool2 (85.183.195.129) / SICK  
• server5_pool2 (85.183.195.120) / SICK
```

```
{  
  "application": {  
    "name": "varnish",  
    "status": "CRITICAL",  
    "version": "UNSET",  
    "statusDetails": {  
      "pool1": {  
        "name": "pool1",  
        "status": "CRITICAL",  
        "properties": {},  
        "message": "0 / 1 in healthy state",  
        "uri": null  
      },  
      "pool2": {  
        "name": "pool2",  
        "status": "CRITICAL",  
        "properties": {},  
        "message": "0 / 2 in healthy state",  
        "uri": null  
      }  
    }  
  },  
  "system": {  
    "hostname": "s0076348",  
    "systemTime": "2013-11-27T10:19:54+01:00"  
  },  
  "datasources": [],  
  "properties": {}  
}
```

<http://localhost:9292/internal/status>
JSON Document

```
application: { }  
  name: string from config.yaml  
  status: string CRITICAL|WARNING|OK  
  version: string UNSET (not implemented)  
  statusDetails: { }  
    poolname: { }  
      name: string poolname  
      status: string status of pool  
      properties: { } (not implemented)  
      message: string  
      uri: string (not implemented)  
  System: { ... }
```

JSON documents are project wide – make dashboarding easy

`http://localhost:9292/internal/details`

JSON Document

```
pool: { }
```

```
name: string from config.yaml
```

```
status: set CRITICAL|WARNING|OK
```

```
backends: [ {} ]
```

```
name: string backendname
```

```
ip: string ipv4 address
```

```
port: num portnumber
```

```
status: string SICK|HEALTHY
```

```
probes: string x/y
```

Availability: num

```
healthy backends: num
```

sick backends: num

[illegible][illegible]

```
{
  "pool1": {
    "name": "pool1",
    "status": "CRITICAL",
    "backends": [
      {
        "name": "server2_pool1",
        "ip": "176.74.59.148",
        "port": "80",
        "refs": "1",
        "status": "SICK",
        "probes": "0/10",
        "host": "server2"
      }
    ],
    "availability": 0,
    "healthy_backends": 0,
    "sick_backends": 1
  },
  "pool2": {
    "name": "pool2",
    "status": "CRITICAL",
    "backends": [
      {
        "name": "server4_pool2",
        "ip": "85.183.195.129",
        "port": "80",
        "refs": "1",
        "status": "SICK",
        "probes": "0/10",
        "host": "server4"
      },
      {
        "name": "server5_pool2",
        "ip": "85.183.195.120",
        "port": "80",
        "refs": "1",
        "status": "SICK",
        "probes": "0/10",
        "host": "server5"
      }
    ],
    "availability": 0,
    "healthy_backends": 0,
    "sick_backends": 2
  }
}
```


A close-up photograph of a person's face, looking through a pair of black binoculars. The person's mouth is wide open in a scream or shout, and their eyes are squeezed shut. The background is dark and out of focus. Several semi-transparent text boxes are overlaid on the image, each containing a different term related to IT infrastructure.

Android / iOS
(Push notifications)

Graphite, ganglia

Monitoring (nagios, zabbix)

Autohealing

40" Team Dashboards

Autoscaling

Or better relax!

https://github.com/otto-de/varnish_status

Questions?
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Like my mustache?

<http://mobro.co/marcohutzsch>