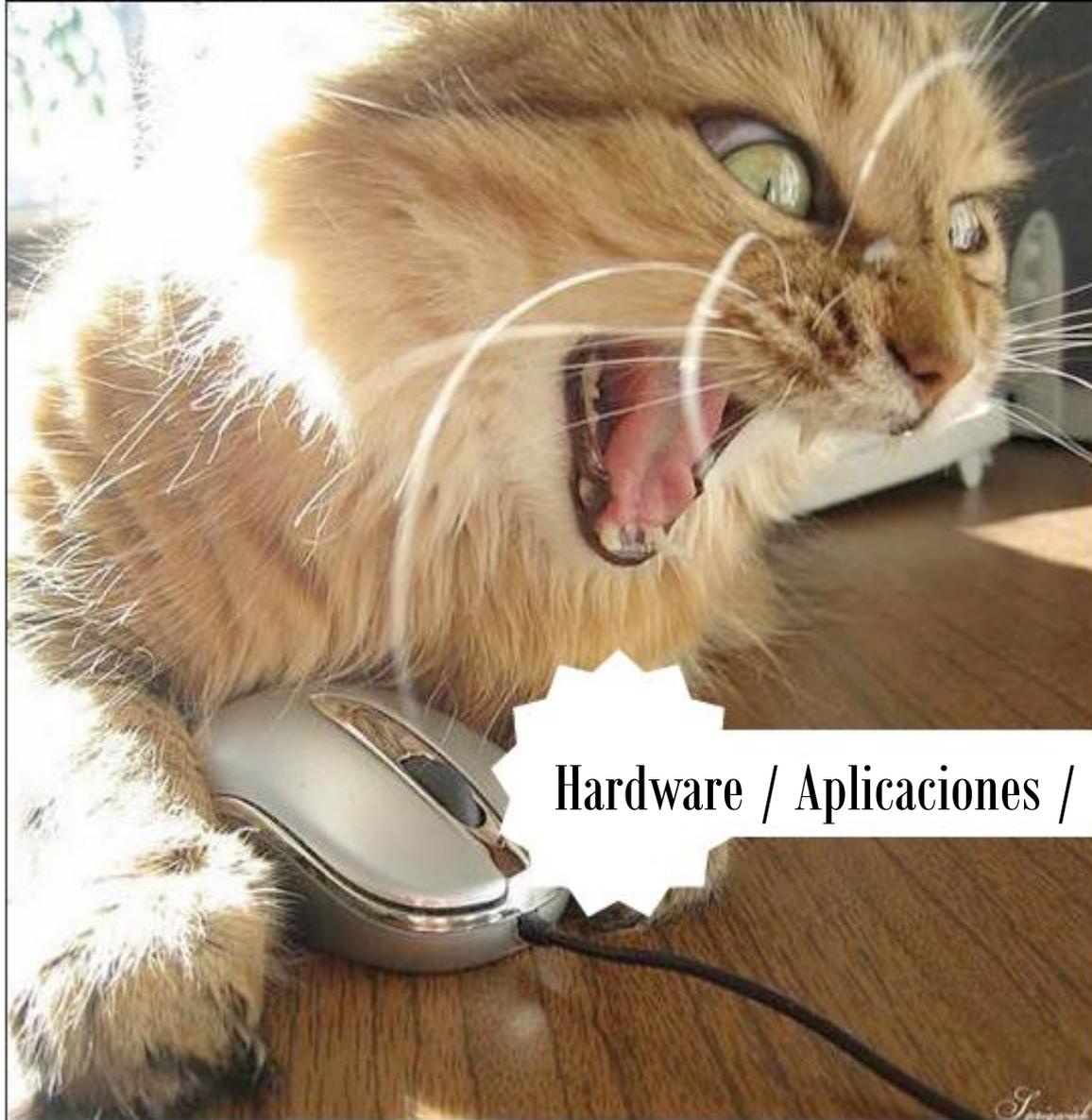






HERRAMIENTA DE MONITOREO OPEN SOURCE



Hardware / Aplicaciones / Servicios **SENTIMIENTOS**

ELEMENTOS

- Detectar tendencias
- Detectar patrones
- Detectar fallas
- Detectar funcionamientos anormales.



ANALISIS

- **Conocer nuestra infraestructura**
- **Conocer nuestras capacidades**
- **Anticiparnos al futuro**



?



PROCESO SELECCIÓN HERRAMIENTA

- **Customizable**
- **Gran flexibilidad**
- **Robusto**
- **Confiable**
- **Activa Comunidad**
- **Open Source**



QUE MONITOREAMOS

Servicios

- DNS
- SMTP
- POP3
- NTP
- LDAP

Protocolos

- TCP/IP
- SNMP
- HTTP
- HTTPS

Hardware

- CPU load /use
- Disk I/O
Read/write
- File Systems
- Memory Used
- NIC Cards
- Threads

Bases de Datos

- Postgres
- Oracle

Servidores de Aplicación

- Apache
- Jboss
- Asterix



TOOLBOX

nagvis

check-mk

pn4nagios

rrd

plug-ins

nagios



RRDTool

- **RRDTool es una herramienta construida sobre el concepto de Round-Robin Database.**
- **Se trata de un tipo muy específico de base de datos, orientadas al almacenamiento de información basados en series temporales, y que garantizan el espacio final ocupado por sus elementos.**



PNP4Nagios

- **PNP se configura para analizar analisis de **performance** mediante los datos provistos por los plugins de nagios y los almacena automaticamente en las bases RRD.**



CHECK-MIX

- **Elegido en principio como front-end para los usuarios.**
- **Integra chequeos propios que reemplaza a algunos plug-in de nagios de forma mas eficiente**

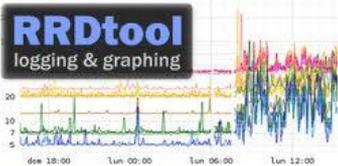


NAGVIS

- **Nagvis permite visualizar los sistemas de una red.**
- **El administrador crea sus propias imágenes de fondo (denominadas mapas) y luego integre en dichas imágenes unos iconos representativos de las máquinas y servicios de la red.**
- **Cada icono muestra el estado actual de la máquina o servicio que representa**



INTEGRACION



Nagios®

Nag  Vis

CHECK-MK

CheckMK 1.2.0p2

Main Overview

nagiosadmin (admin) 13:23

Tactical Overview		
Hosts	Problems	Unhandled
551	34	34
Services	Problems	Unhandled
1424	5	5

Quicksearch

- Views
- Bookmarks
- WATO - Configuration
- Master control
 - Notifications
 - Service checks
 - Host checks
 - Event handlers
 - Performance data

Speed-O-Meter



state	Host	Icons	Age	Status detail
DOWN	CeFe003		3 hrs	(Host Check Timed Out)
DOWN	asteriskCCZ5		53 sec	(Host Check Timed Out)
DOWN	ddi6		3 hrs	(Host Check Timed Out)
DOWN	imm_correo		4 hrs	(Host Check Timed Out)
DOWN	imm_rcivil		3 hrs	(Host Check Timed Out)

Service Problems (unhandled)						
State	Host	Service	Icons	Status detail	Age	Checked
CRIT	mx01prod	DRBD drbd1 status		CRIT - Connection State: Connected, Roles: Primary/Secondary (Expected: Secondary/Primary), Disk States: UpToDate/UpToDate	4 hrs	2 min
CRIT	swRambla-SanNicolas	PING		PING CRITICAL - Packet loss = 50%, RTA = 1.84 ms	108 min	3 min
UNKN	pdb01prod	RACO Time Idle		POSTGRES_TSN_IDLE UNKNOWN: DB "raco" (host:10.212.0.30) (port=5433) No matches - please run as a superuser	2 hrs	101 sec
WARN	pdb02prod	RACO Query Time		(null)	37 sec	37 sec

Events of recent 4 hours				
Time	Host	Service	Check output	Icons
2 sec	as01prod	JBOSS Heap Memory Geoserver	CRITICAL - [MEMORY_HEAP_USED] : Threshold '95' failed f 97.54% (1394457528 / 1429602304)	
17 sec	pdb02prod	RACO Query Time	(null)	
51 sec	relojUtap-4	PING	PING OK - Packet loss = 0%, RTA = 59.99 ms	
51 sec	imm_utap	PING	PING OK - Packet loss = 0%, RTA = 83.83 ms	
54 sec	imm_mujer	PING	PING OK - Packet loss = 0%, RTA = 58.78 ms	
66 sec	asteriskCCZ5		(Host Check Timed Out)	
66 sec	routeroLocacionesLan		PING CRITICAL - Packet loss = 44%, RTA = 5006.38 ms	
66 sec	imm_ccz08	PING	PING OK - Packet loss = 0%, RTA = 68.06 ms	
66 sec	imm_averdes	PING	PING OK - Packet loss = 0%, RTA = 6.21 ms	
66 sec	swC-MunicipioG	PING	PING OK - Packet loss = 0%, RTA = 7.27 ms	
66 sec	firewallTeatroSolis	PING	PING OK - Packet loss = 0%, RTA = 2.85 ms	
116 sec	routeroUtapLan	PING	PING OK - Packet loss = 9%, RTA = 331.66 ms	
116 sec	imm_ccz17	PING	PING OK - Packet loss = 9%, RTA = 15.81 ms	
116 sec	routeroEMADLan	PING	PING OK - Packet loss = 9%, RTA = 24.99 ms	
116 sec	swC-CCZ18	PING	PING OK - Packet loss = 0%, RTA = 22.11 ms	
116 sec	swC-MunicipioCH	PING	PING OK - Packet loss = 0%, RTA = 12.84 ms	
116 sec	swC-CCZ14	PING	PING OK - Packet loss = 0%, RTA = 11.34 ms	
116 sec	swC-MunicipioA	PING	PING OK - Packet loss = 0%, RTA = 11.72 ms	
116 sec	firewallMercadoModelo	PING	PING OK - Packet loss = 0%, RTA = 6.12 ms	
117 sec	imm_canton2	PING	PING OK - Packet loss = 0%, RTA = 6.52 ms	
117 sec	asteriskCCZ9	PING	PING OK - Packet loss = 0%, RTA = 59.91 ms	

CHECK-MK

Check[✓]MK

1.2.0p2

Tactical Overview

Hosts	Problems	Unhandled
551	36	36
Services	Problems	Unhandled
1424	4	4

Quicksearch

as01prod

Views

Bookmarks

WATO - Configuration

Master control

- Notifications
- Service checks
- Host checks
- Event handlers
- Performance data

Speed-O-Meter



as01prod

State	Service	Icons	Status detail	Age	Checked	Perf-O-Meter
OK	Check_MK	🔄★	OK - Agent version 1.2.0p2, execution time 0.2 sec	4 hrs	2 min	0.2s
OK	CPU load	🔄★	OK - 15min load 0.40 at 16 CPUs	4 hrs	2 min	0.3
OK	CPU utilization	🔄★	OK - user: 1.6%, system: 0.2%, wait: 0.0%	4 hrs	2 min	1%
OK	Disk IO SUMMARY	🔄★	OK - 0.00B/sec read, 258.22KB/sec write, IOs: 10.48/sec, Latency: 0.11ms	4 hrs	2 min	0.00M/s 0.25M/s
OK	Flota-Prod	🔄★	RESPONSE: OK - 203 ms	4 hrs	94 sec	
OK	fs_/_	🔄★	OK - 59.7% used (23.13 of 38.7 GB), (levels at 80.0/90.0%), trend: +7.81MB / 24 hours	4 hrs	2 min	59%
OK	fs_/_boot	🔄★	OK - 13.8% used (0.03 of 0.2 GB), (levels at 80.0/90.0%), trend: 0.00B / 24 hours	4 hrs	2 min	13%
OK	fs_/_geodata	🔄★	OK - 63.3% used (24.92 of 39.4 GB), (levels at 80.0/90.0%), trend: +1.23MB / 24 hours	4 hrs	2 min	63%
OK	fs_/_jboss	🔄★	OK - 72.5% used (49.14 of 67.8 GB), (levels at 80.0/90.0%), trend: +671.52MB / 24 hours	4 hrs	2 min	72%
OK	fs_/_jboss/geoweb-prod	🔄★	OK - 77.4% used (3.75 of 4.8 GB), (levels at 80.0/90.0%), trend: +6.31MB / 24 hours	4 hrs	2 min	77%
OK	fs_/_logs	🔄★	OK - 34.6% used (10.21 of 29.5 GB), (levels at 80.0/90.0%), trend: +548.26MB / 24 hours	4 hrs	2 min	34%
OK	fs_/_logs_respaldo	🔄★	OK - 5.9% used (1.17 of 19.7 GB), (levels at 80.0/90.0%), trend: 0.00B / 24 hours	4 hrs	2 min	5%
OK	fs_/_var	🔄★	OK - 6.3% used (3.08 of 48.4 GB), (levels at 80.0/90.0%), trend: +4.29MB / 24 hours	4 hrs	2 min	6%
OK	Interface 2	🔄★	OK - [eth0] (up) 1GBit/s, in: 146.02KB/s(0.1%), out: 166.06KB/s(0.1%)	4 hrs	2 min	0.1% 0.1%
OK	JBOSS Heap Memory flota-prod	🔄★	OK - [MEMORY_HEAP_USED] : In range 21.54% (205599440 / 954466304)	4 hrs	94 sec	
OK	JBOSS Heap Memory Geoserver	🔄★	OK - [MEMORY_HEAP_USED] : In range 87.98% (1257796608 / 1429602304)	92 sec	92 sec	
OK	JBOSS Heap Memory pre-prod	🔄★	OK - [MEMORY_HEAP_USED] : In range 25.66% (547785088 / 2134376448)	109 min	94 sec	
OK	JBOSS Heap Memory prod5tmp01	🔄★	OK - [MEMORY_HEAP_USED] : In range 78.99% (3180252744 / 4026138624)	4 hrs	2 min	
OK	JBOSS Heap Memory stm	🔄★	OK - [MEMORY_HEAP_USED] : In range 80.77% (647858816 / 802095104)	28 min	2 min	
OK	JBOSS Threads flota-prod	🔄★	OK - [THREAD_COUNT_STARTED] : Value 0 in range	4 hrs	94 sec	
OK	JBOSS Threads Geoserver	🔄★	OK - [THREAD_COUNT_STARTED] : Value 0 in range	4 hrs	94 sec	
OK	JBOSS Threads pre-prod	🔄★	OK - [THREAD_COUNT_STARTED] : Value 0 in range	110 min	92 sec	
OK	JBOSS Threads prod5tmp01	🔄★	OK - [THREAD_COUNT_STARTED] : Value 0 in range	4 hrs	92 sec	
OK	JBOSS Threads stm	🔄★	OK - [THREAD_COUNT_STARTED] : Value 0 in range	4 hrs	2 min	
OK	Kernel Context Switches	🔄★	OK - 3421/s in last 119 secs	4 hrs	2 min	3420.9/s
OK	Kernel Major Page Faults	🔄★	OK - 0/s in last 119 secs	4 hrs	2 min	0.0/s
OK	Kernel Process Creations	🔄★	OK - 6/s in last 119 secs	4 hrs	2 min	6.3/s
OK	Memory used	🔄★	OK - 20.02 GB used (20.02 GB RAM + 0.00 GB SWAP, this is 31.8% of 62.94 GB RAM)	4 hrs	2 min	31%
OK	Mount options of /	🔄	OK - mount options exactly as expected	4 hrs	2 min	
OK	Mount options of /boot	🔄	OK - mount options exactly as expected	4 hrs	2 min	
OK	Mount options of /geodata	🔄	OK - mount options exactly as expected	4 hrs	2 min	
OK	Mount options of /jboss	🔄	OK - mount options exactly as expected	4 hrs	2 min	
OK	Mount options of /jboss/geoweb-prod	🔄	OK - mount options exactly as expected	4 hrs	2 min	
OK	Mount options of /logs	🔄	OK - mount options exactly as expected	4 hrs	2 min	
OK	Mount options of /logs_respaldo	🔄	OK - mount options exactly as expected	4 hrs	2 min	



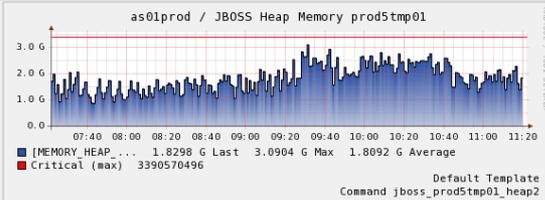
© Mathias Kettner

CHECK-MK

Service JBOSS Heap Memory prod5tmp01, as01prod

nagiosadmin (admin) 11:21

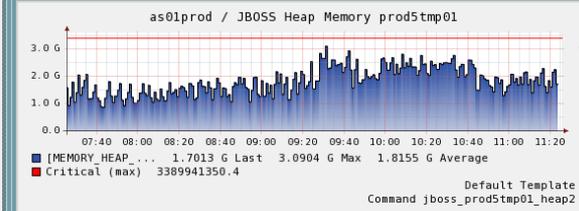
Comments	Complete site	Downtimes	History	Host & service history	Host Problems	Host comments	Host downtimes
Host history	Host status	PNP graphs	Same serv. PNP Graph	Same serv. on all hosts	Services	Services of Site	

Commands	Display	1	2	3	4	5	6	8	30 s	60 s	90 s	∞	Edit
Site alias													
Hostname	as01prod												
Service description	JBOSS Heap Memory prod5tmp01												
Servicegroups the service is member of													
Service icons	 												
Service state	OK												
Output of check plugin	OK - [MEMORY_HEAP_USED] : In range 34.53% (1463635280 / -56754178)												
Long output of check plugin (multiline)													
Service performance data	[MEMORY_HEAP_USED]=1463635280;;;3390570496;0,4238213120												
Service check command	jboss_prod5tmp01_heap2												
Current check attempt	1/1												
Service check type	ACTIVE												
The age of the current service state	18 hrs												
The time since the last check of the service	65 sec												
The time of the next scheduled service check	5 sec												
The time of the next service notification	-												
The time of the last service notification	-												
Service check latency	0.285 sec												
Service check duration	0.276 sec												
Currently in downtime	no												
In notification period	yes												
Service notification period	24x7												
Check manual (for Check_MK based checks)													
Custom services notes													
PNP service graph													

Service details as01prod -> JBOSS Heap Memory prod5tmp01

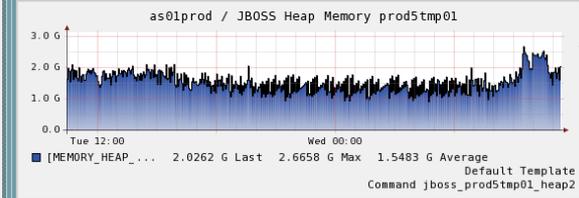
Host: as01prod Service: JBOSS Heap Memory prod5tmp01
4 Hours 23.11.11 7:25 - 23.11.11 11:25

Datasource: [MEMORY_HEAP_USED]



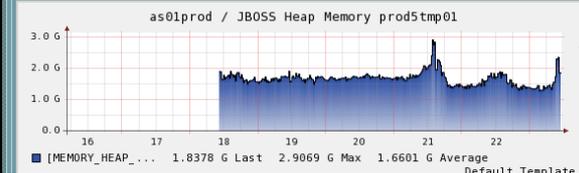
Host: as01prod Service: JBOSS Heap Memory prod5tmp01
25 Hours 22.11.11 10:25 - 23.11.11 11:25

Datasource: [MEMORY_HEAP_USED]



Host: as01prod Service: JBOSS Heap Memory prod5tmp01
One Week 16.11.11 4:25 - 23.11.11 11:25

Datasource: [MEMORY_HEAP_USED]



Search

Actions



My basket

Basket is empty

Multisite links

Host: [as01prod](#)
Service: [JBOSS Heap Memory prod5tmp...](#)

Time ranges

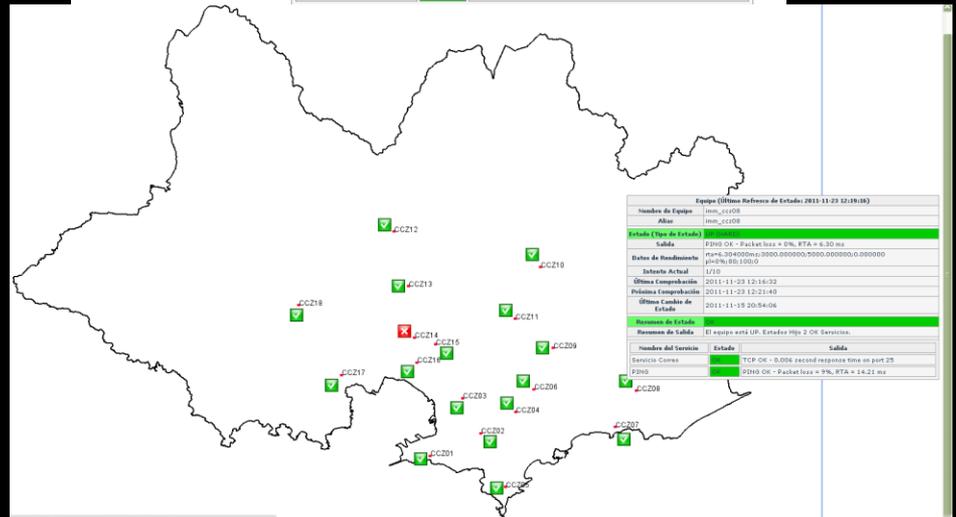
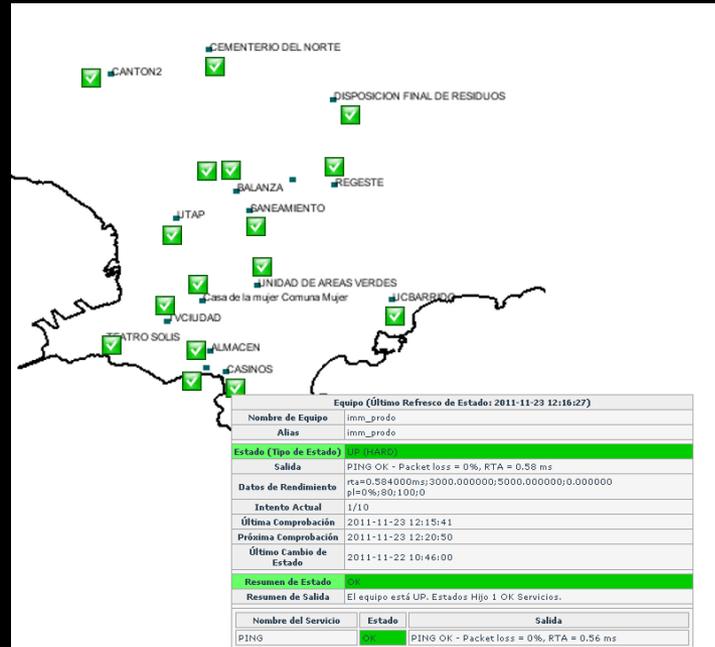
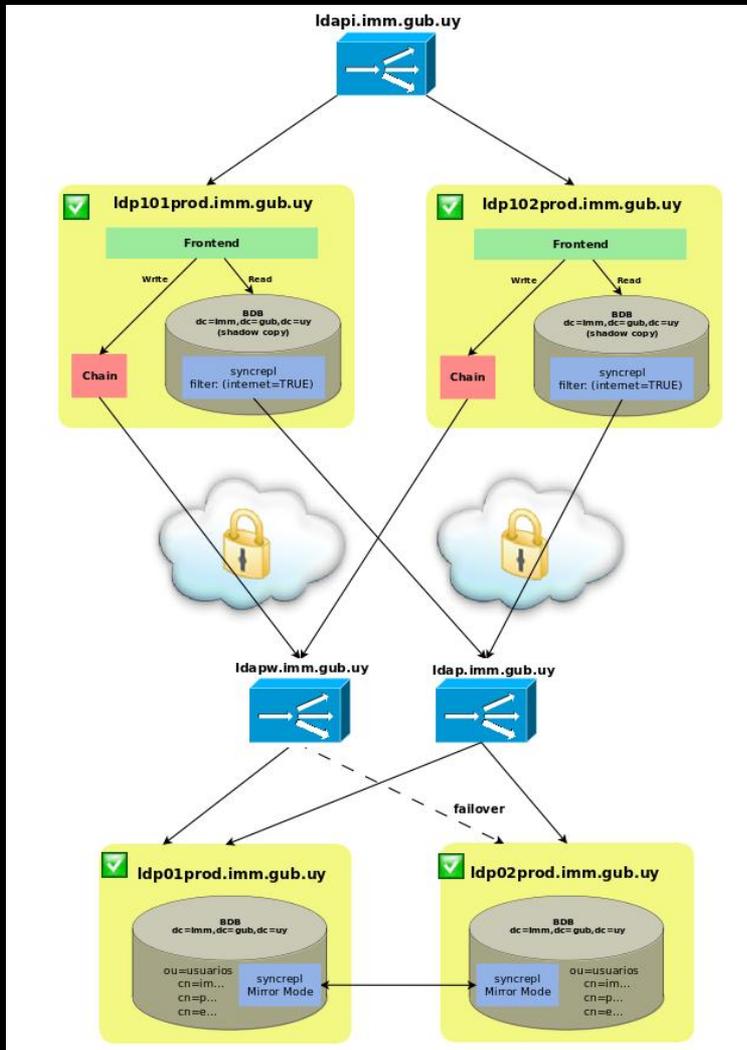
- 4 Hours
- 25 Hours
- One Week
- One Month
- One Year

Services

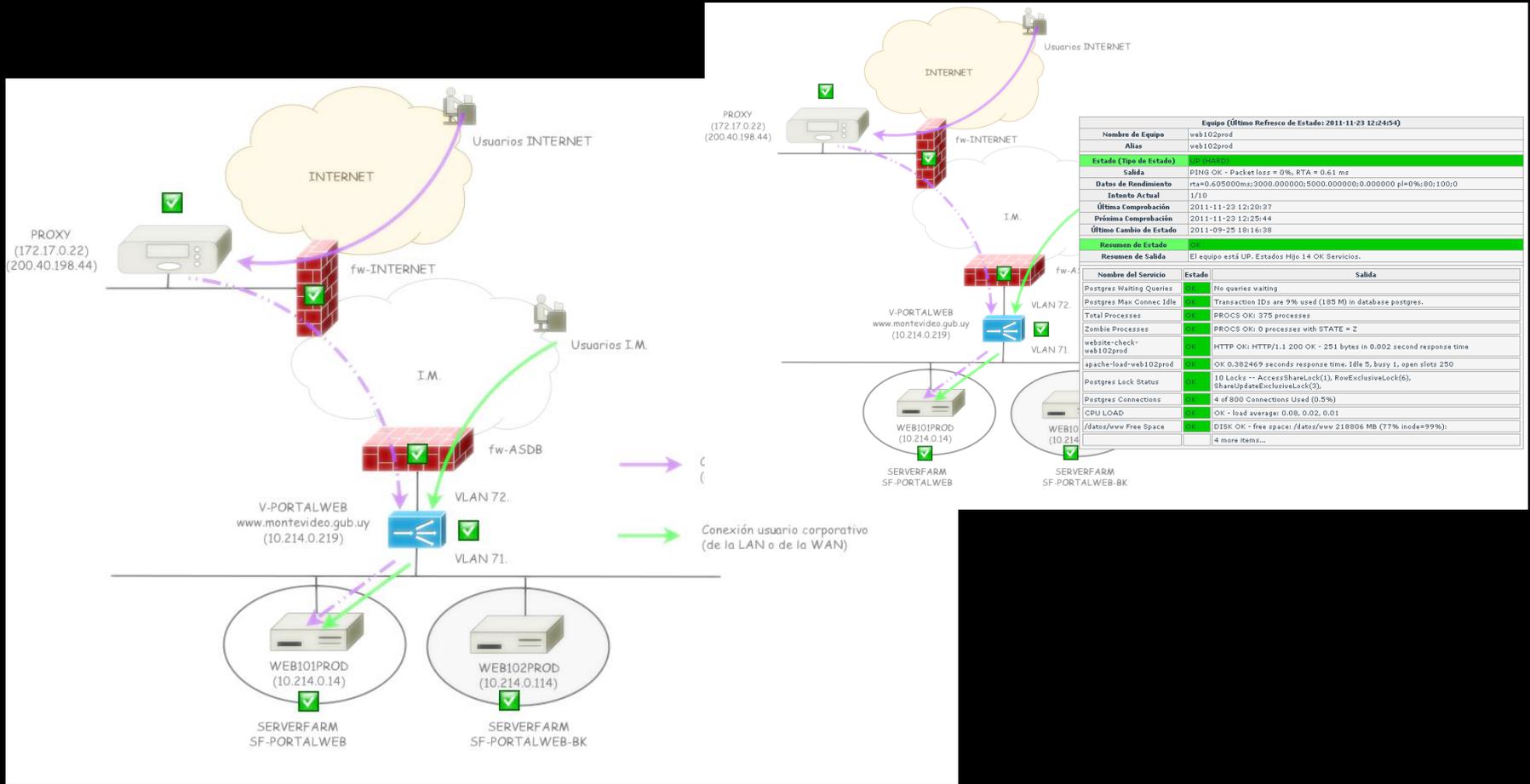
- Host_Perfdata
- Check_MK
- CPU load
- CPU utilization
- Disk IO read
- Disk IO write
- fs /
- fs /boot
- fs /jboss
- fs /jboss/aeoweb-prod
- fs /var
- Heap Memory prod5tmp01
- JBOSS Heap Memory prod5tmp...
- JBOSS Threads prod5tmp01
- Kernel Context Switches
- Kernel Major Page Faults
- Kernel Process Creations
- Memory Used
- NIC eth0 counters
- NIC eth1 counters
- NIC eth2 counters
- NIC eth3 counters
- NIC eth4 counters
- NIC eth5 counters
- NTP Time
- Number of threads
- TCP Connections
- Threads prod5tmp01
- Uptime

PNP [0.6.13] RRDeal

NAGIOS / NAGVIS



NAGIOS / NAGVIS



CONCLUSIONES

1. Nagios y sus complementos constituyen una herramienta poderosa, robusta y versátil para monitorear gran variedad de servicios y dispositivos.

2. Es liviana, un servidor pequeño puede ser capaz de atender gran cantidad de controles.

3. No compromete la performance de los objetos monitoreados.

4. Una gran y activa comunidad.



A tener en cuenta

**Es un poco
“dura” para la
realización de
cambios e
instalación de
plug-ins.**



A tener en cuenta

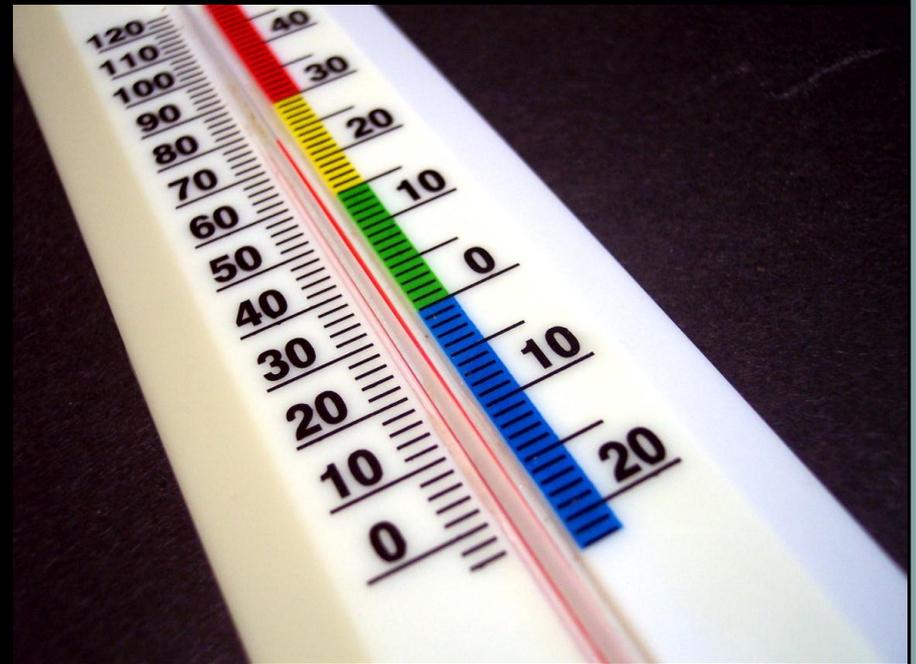
La curva de aprendizaje inicial es un poco lenta



<http://www.flickr.com/photos/97041449@N00/1467420263/>

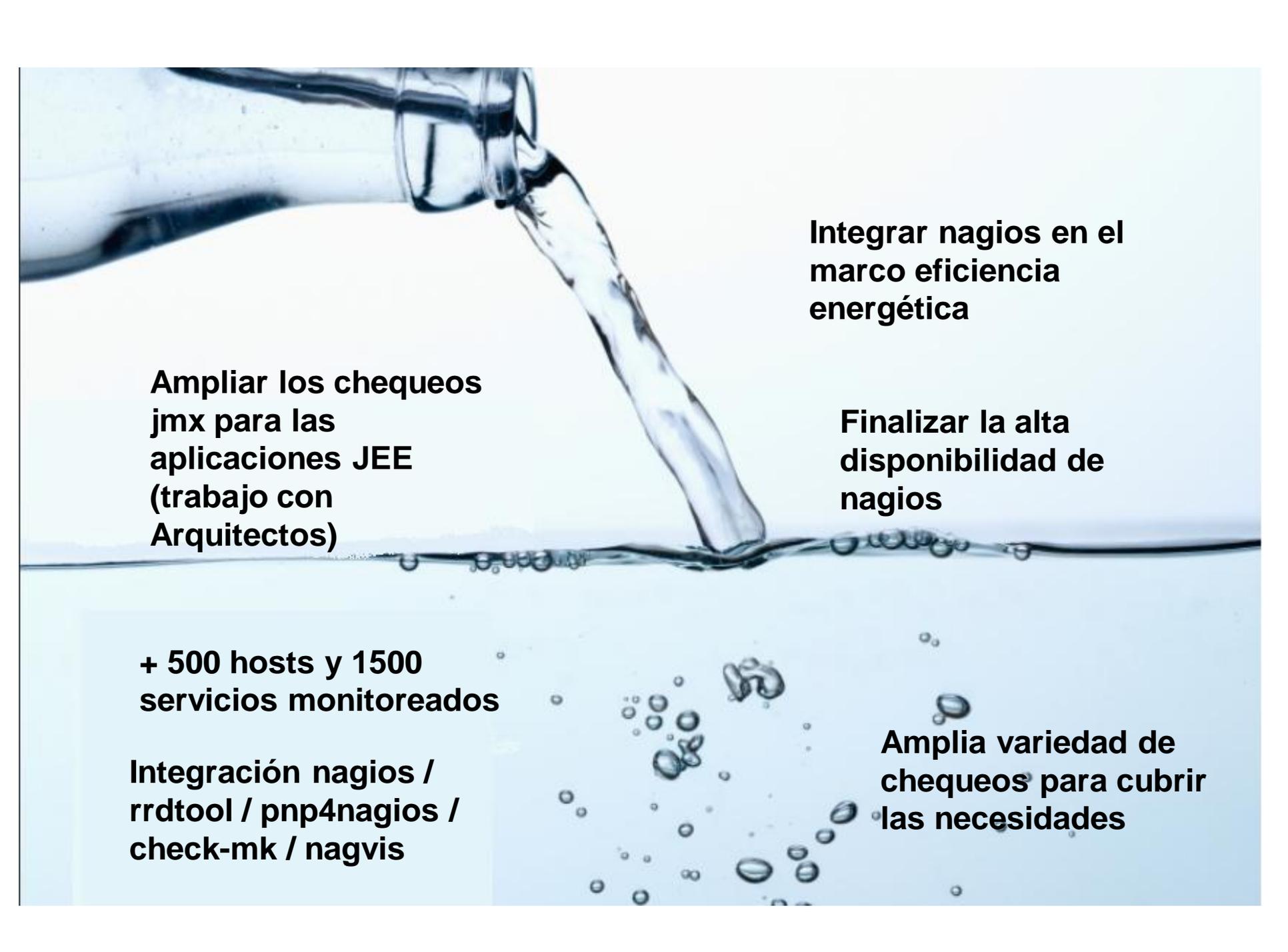
A tener en cuenta

El estudio de umbrales para algunos plugins no es trivial.



A tener en cuenta





**Ampliar los chequeos
jmx para las
aplicaciones JEE
(trabajo con
Arquitectos)**

**Integrar nagios en el
marco eficiencia
energética**

**Finalizar la alta
disponibilidad de
nagios**

**+ 500 hosts y 1500
servicios monitoreados**

**Integración nagios /
rrdtool / pnp4nagios /
check-mk / nagvis**

**Amplia variedad de
chequeos para cubrir
las necesidades**



**Jamás se desvía
uno tan lejos
como cuando
cree conocer el
camino.**

Proverbio Chino