

SA2 T3

GTS Monitoring in Zabbix (Resources and Projects)

Nicolai ILIUHA, RENAM, Moldova

04/11/15, Copenhagen

- 1. GTS Operational control:** availability (ping), CPU Load %, HDD space Used, SSH Failed, JAVA CPU/RAM;
 - 2. GTS Statistic:** total resources in use (VMs, Links), total resources remain (ex:VPN IP), Zombie VMs/LINKs;
 - 3. GTS System State Tests:** (under construction);
 - 4. GTS Users Projects States (for each Project separately):** CPU Load %, ...?..., need Users feedback what they want to monitor in GTS
- Triggers:** created, need to allocate messages to mail-lists

Operational Monitoring Today (GTS Production)



Units (32 Total):

- Servers (CSFx);
- VMs (CSFx-x);
- Compute nodes (SRVx).

For ALL Units:

- Units availability;
- CPU Load (%);
- Used HDD space;
- SSH Failed.

VM TaaSCore:

- JAVA Processes CPU Load;
- JAVA Processes RAM Load.

AMS

COMPUTENODES
SRV0 SRV1
SRV2 SRV3

BRA

COMPUTENODES
SRV0 SRV1
SRV2 SRV3

PRG

CSF0

CSF0-0 OpenStack Ctrl
CSF0-1 OpenNSA
CSF0-2 TaaSCore
CSF0-4 Monitoring

CSF1

CSF1-0 UAG

SRV0 COMPUTENODE0

HAM

COMPUTENODES
SRV0 SRV1
SRV2 SRV3

LJU

COMPUTENODES
SRV0 SRV1
SRV2 SRV3

MIL

COMPUTENODES
SRV0 SRV1
SRV2 SRV3

LON

COMPUTENODES
SRV0 SRV1
SRV2 SRV3

5. GTS Operational: JAVA CPU/RAM

62.40.126.11/zabbix/items.php?form=update&hostid=10108&itemid=24943&sid=c4a29e0e4f9da267





ZABBIX

Monitoring | Inventory | Reports | Configuration | Administration

Host groups | Templates | Hosts | Maintenance | Actions | Screens | Slide shows | Maps | Discover

History: Custom screens » Custom graphs » Custom screens » Configuration of hosts » Configuration of items

CONFIGURATION OF ITEMS

« [Host list](#) **Host:** [GTS PRG](#) Enabled     [Applications](#) (0) [Items](#) (54) [Triggers](#) (15) [Graphs](#)

Item
<div><div><div><div><div>Name</div><div>TEST JMX JAVA</div></div><div><div>Type</div><div>JMX agent</div></div><div><div>Key</div><div>jmx["java.lang:type=Memory","HeapMemoryUsage.used"]</div></div></div><div><div><div>Host interface</div><div>127.0.0.1 : 10052</div></div><div><div>User name</div><div>{JMX_USERNAME}</div></div><div><div>Password</div><div>{JMX_PASSWORD}</div></div><div><div>Type of information</div><div>Numeric (unsigned)</div></div><div><div>Data type</div><div>Decimal</div></div></div></div></div>

In Zabbix we have next Screens (a sets of graphs) for Operational Monitoring:

1. GTS Operational: All Units Availability
2. GTS Operational: All Units CPU Load %
3. GTS Operational: All Units HDD Filled
4. GTS Operational: All Units SSH Failed
5. GTS Operational: JAVA CPU/RAM

Screens with Graphs grouped for each host (experimental):

GTS Operational: AMS ALL

GTS Operational: PRG ALL

2. GTS Statistic:

- GTS Statistic of VMs, Projects, IPs and Active LINKs

GTS Statistic of VMs, Projects, IPs and Active LINKs

Screens GTS Statistic of VMs, Projects, IPs and Active LINKs

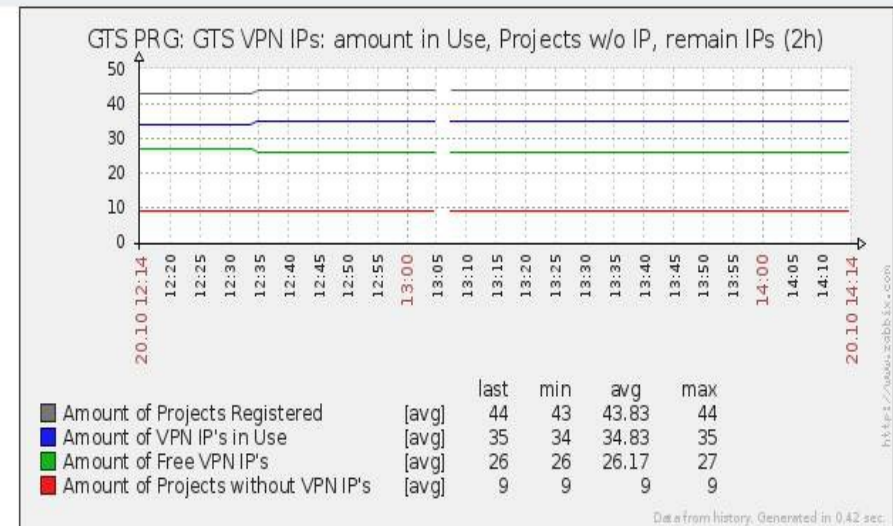
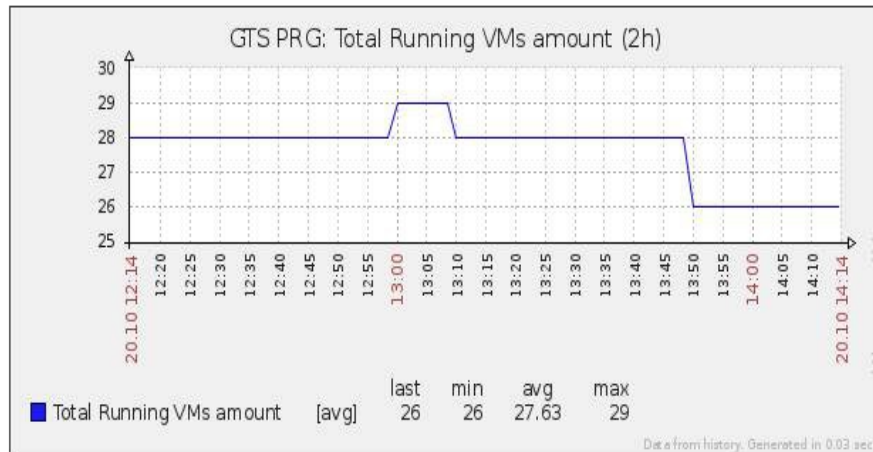
Hide filter

Zoom: 1h 2h 3h 6h 12h 1d 7d 14d 1m 3m 6m 1y All

2015-10-20 12:15 - 2015-10-20 14:15 (no)

< > 1y 6m 1m 7d 1d 12h 1h | 1h 12h 1d 7d 1m 6m 1y >>

2h (dynamic)

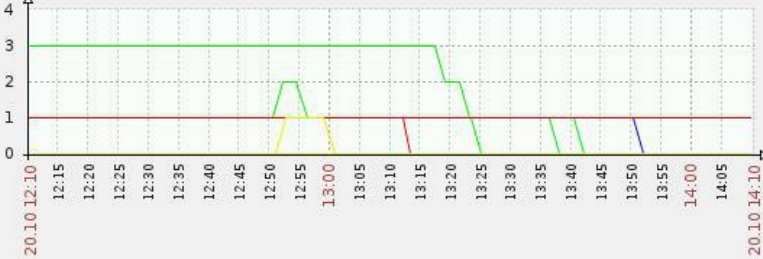


GTS Statistic Screens



- 2. GTS Statistic:
- GTS Statistic of Zombie VMs and Links

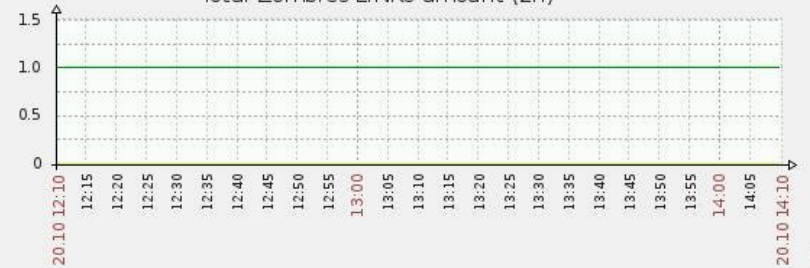
Zombies VMs amount (or 1st time RESERVED, not ACTIVATED yet) (2h)



	last	min	avg	max
GTS PRG: Zombies VMs amount PRG0	[avg]	0	0	0
GTS AMS: Zombies VMs amount AMS0	[avg]	0	0	0
GTS AMS: Zombies VMs amount AMS1	[avg]	0	0	0.8475
GTS AMS: Zombies VMs amount AMS2	[avg]	0	0	0
GTS AMS: Zombies VMs amount AMS3	[avg]	0	0	0
GTS BRA: Zombies VMs amount BRA0	[avg]	0	0	1.78
GTS BRA: Zombies VMs amount BRA1	[avg]	0	0	0
GTS BRA: Zombies VMs amount BRA2	[avg]	0	0	0.7288
GTS BRA: Zombies VMs amount BRA3	[avg]	0	0	0.7966
GTS HAM: Zombies VMs amount HAM0	[avg]	0	0	0
GTS HAM: Zombies VMs amount HAM1	[avg]	1	1	1
GTS HAM: Zombies VMs amount HAM2	[avg]	0	0	0.5294
GTS HAM: Zombies VMs amount HAM3	[avg]	0	0	0
GTS LJU: Zombies VMs amount LJU0	[avg]	0	0	0
GTS LJU: Zombies VMs amount LJU1	[avg]	0	0	0
GTS LJU: Zombies VMs amount LJU2	[avg]	0	0	0
GTS LJU: Zombies VMs amount LJU3	[avg]	0	0	0
GTS LON: Zombies VMs amount LON0	[avg]	0	0	0
GTS LON: Zombies VMs amount LON1	[avg]	0	0	0
GTS LON: Zombies VMs amount LON2	[avg]	0	0	0
GTS LON: Zombies VMs amount LON3	[avg]	0	0	0
GTS MIL: Zombies VMs amount MIL0	[avg]	0	0	0
GTS MIL: Zombies VMs amount MIL1	[avg]	0	0	0
GTS MIL: Zombies VMs amount MIL2	[avg]	0	0	0
GTS MIL: Zombies VMs amount MIL3	[avg]	0	0	0.0667

Data from history. Generated in 0.43 sec.

Total Zombies LINKs amount (2h)



	last	min	avg	max
GTS PRG: Zombie LINKs amount PRG	[avg]	0	0	0
GTS AMS: Zombies LINKs amount AMS	[avg]	1	1	1
GTS BRA: Zombies LINKs amount BRA	[avg]	1	1	1
GTS HAM: Zombies LINKs amount HAM	[avg]	0	0	0
GTS LJU: Zombies LINKs amount LJU	[avg]	0	0	0
GTS LON: Zombies LINKs amount LON	[avg]	0	0	0
GTS MIL: Zombies LINKs amount MIL	[avg]	0	0	0

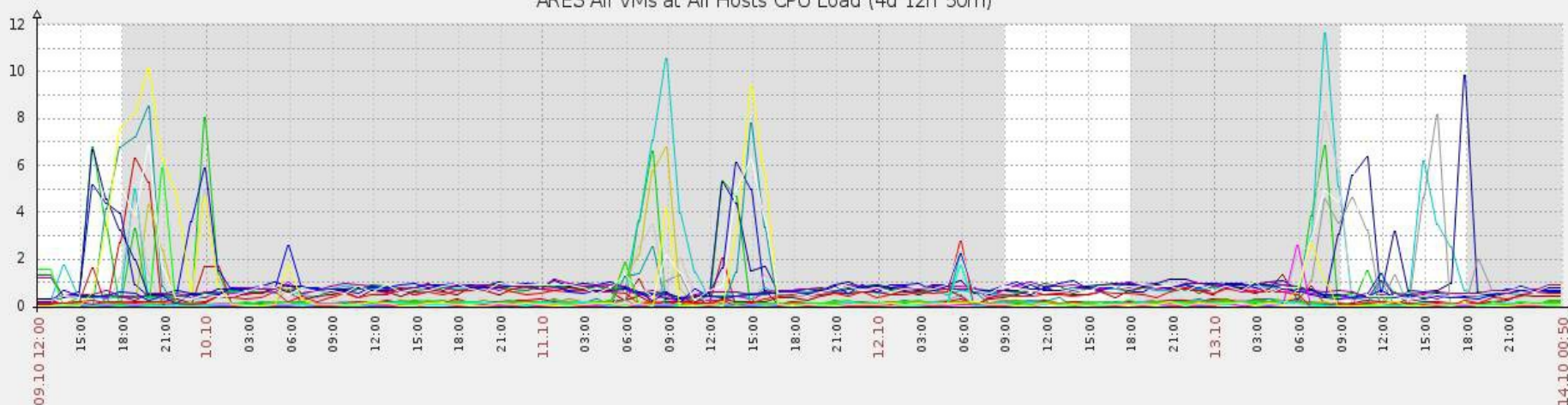
Data from history. Generated in 0.25 sec.

3. GTS System State Tests (To test periodically that all GTS components are working well: reserving, activating and releasing of resources, etc.)

- UNDER CONSTRUCTION

4. GTS Users Projects States (for each Project separately) :

ARES All VMs at All Hosts CPU Load (4d 12h 50m)



		last	min	avg	max
VMs ARES ams-compute2: VM CPU instance-000001ad/h11	[avg]	0.225	0	0.6301	16
VMs ARES ams-compute2: VM CPU instance-0000019b/h18	[avg]	0.0985	0	0.3432	20.8
VMs ARES bra-compute1: VM CPU bra-compute1 instance-000001a5/h3	[avg]	0.6154	0	0.9418	14.4
VMs ARES bra-compute2: VM CPU bra-compute2 instance-000001a4/h2	[avg]	0.64	0	0.6043	62.4
VMs ARES bra-compute3: VM CPU bra-compute3 instance-000001a9/h7	[avg]	0.775	0	1.15	16
VMs ARES ham-compute2: VM CPU ham-compute2 instance-0000019d/h16	[avg]	0.075	0	0.2848	73.6
VMs ARES ham-compute2: VM CPU ham-compute2 instance-0000019e/h15	[avg]	0.1	0	0.4706	107.2
VMs ARES ham-compute3: VM CPU ham-compute3 instance-000001ac/h10	[avg]	0.7877	0	0.6623	102.4
VMs ARES lju-compute0: VM CPU lju-compute0 instance-000001a8/h6	[avg]	0.4431	0	0.4241	43.2
VMs ARES lju-compute0: VM CPU lju-compute0 instance-0000019a/h19	[avg]	0.8	0	1.19	12.8
VMs ARES lju-compute1: VM CPU lju-compute1 instance-000001a2/h0	[avg]	0.875	0	0.7094	6.4
VMs ARES lju-compute2: VM CPU lju-compute2 instance-000001a7/h5	[avg]	0.075	0	0.5507	99.2
VMs ARES lju-compute2: VM CPU lju-compute2 instance-000001aa/h8	[avg]	0.2	0	0.1302	99.2
VMs ARES lju-compute2: VM CPU lju-compute2 instance-0000019c/h17	[avg]	0.025	0	0.4279	43.2
VMs ARES lju-compute2: VM CPU lju-compute2 instance-00000197/h22	[avg]	0.15	0	0.2049	97.6
VMs ARES lju-compute3: VM CPU lju-compute3 instance-000001a1/h12	[avg]	0.5169	0	0.4018	155.2
VMs ARES lon-compute2: VM CPU lon-compute2 instance-000001a6/h4	[avg]	0.64	0	0.6932	104
VMs ARES mil-compute3: VM CPU mil-compute3 instance-000001ab/h9	[avg]	0	0	0.0405	156.8
VMs ARES mil-compute3: VM CPU mil-compute3 instance-00000198/h21	[avg]	0.025	0	0.078	107.2
VMs ARES mil-compute3: VM CPU mil-compute3 instance-00000199/h20	[avg]	0.075	0	0.7521	105.6
VMs ARES prg-compute0: VM CPU prg-compute0 instance-0000019f/h14	[avg]	0.8123	0	1.17	108.8

1. CEOVDS Project.

- Public Key was added to VMs, so we can configure HDD storage and RAM control;
- Block for monitoring of availability of VMs was added. Users themselves can start/stop monitoring (VMs ping with e-mail messaging if any problems are);

2. DREAMER Project.

- Made scripts to get for a group of VMs (at different XEN servers) 1 sec CPU Load statistic;
- Made scripts to get in Zabbix graph with 1 min AVERAGE CPU Load statistic;

For several VMs was manually increased RAM and HDD size

Triggers in GTS Production are.

We have user groups:

- 1.T1-T2-T3 monitoring mail list - gts-monitoring@lists.geant.org
- 2.SA2 T1 TL and task members: gn4-1-sa2-t1@lists.geant.org
- 3.SA2 T2 TL and task members: gn4-1-sa2-t2@lists.geant.org
- 4.SA2 T3 TL and task members: gn4-1-sa2-t3@lists.geant.org
- 5.GÉANT OTRS Ticketing System: support@oc.geant.net
- 6.TaaS Service Desk: support.taas@geant.net
- 7.RENAM Team: imiadmin@math.md

Questions ?



Connect | Communicate | Collaborate

www.geant.net

www.twitter.com/GEANTnews | www.facebook.com/GEANTnetwork | www.youtube.com/GEANTtv

