ETICS Pool for IPv6 tests

Xavier JEANNIN
Mario REALE
Marian ZUREK

www.eu-etics.org

Geneva-CERN, 25th of July 2007

Information Society

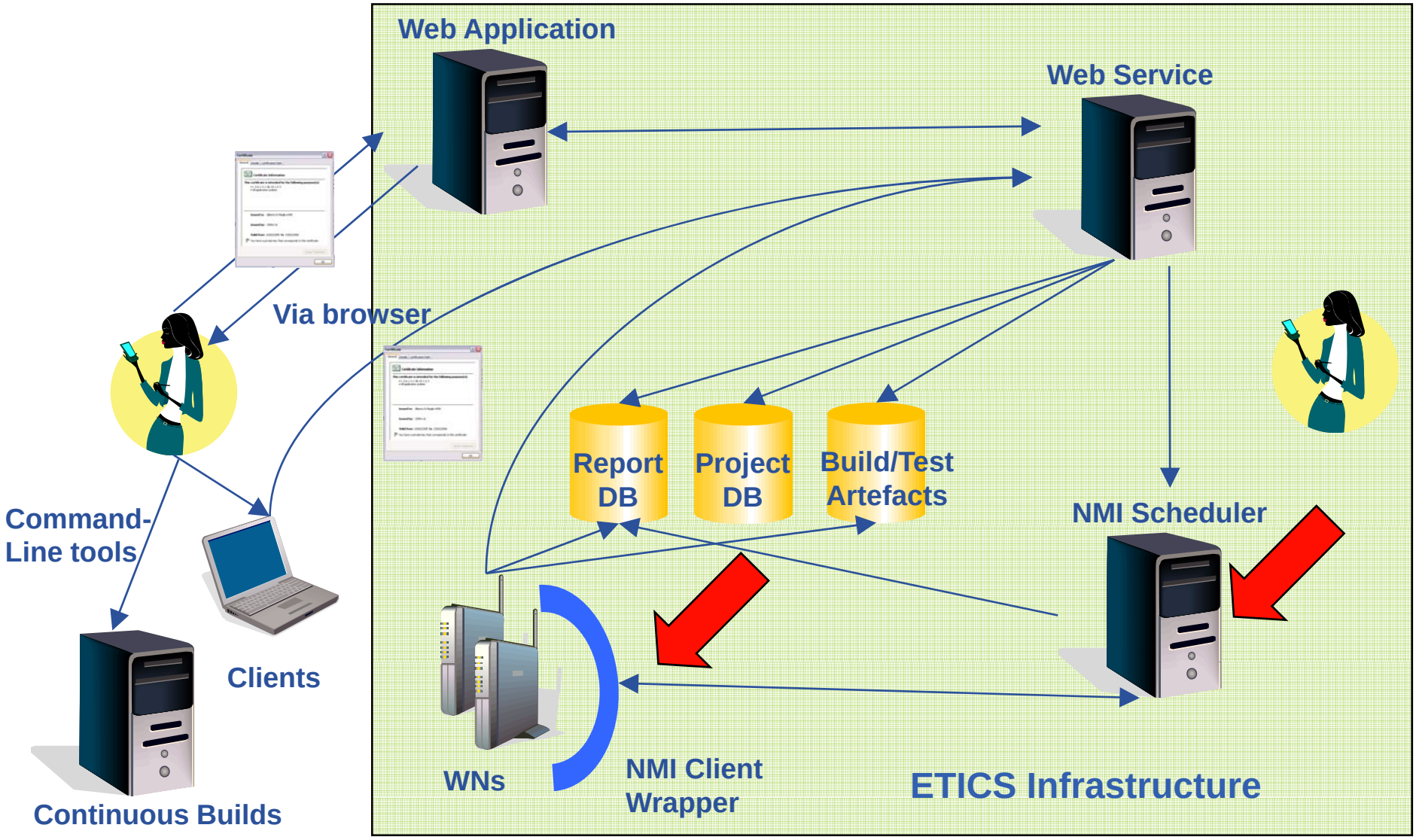
Agenda

- Motivation
- Practical work
- Lesson learned
- What's missing
- Q & A

Motivation

- **As ETICS in collaboration with GARR and UREC we want to enable the community to test their software on the IPv6 network stack**

Service Overview



Practical work

- Dedicated nodes has been setup to build the ETICS-IPv6 pool including the nodes from GARR(2), UREC(1), and CERN(1)
- The GARR and UREC nodes are running the double stack: IPv6 and IPv4
- Despite the numerous requests CERN was not able to support the IPv6 networking

Practical work

- **The special Condor configuration has been adopted to assure the proper match making for IPv6 jobs**
  - on the WN (not visible to the user)

```
host_network_stack = "IPv6"
STARTD_EXPRS = $(S
START = (
```

  - in th… …mission)

```
… =?= "IPv6" )
```

  - from th… …-test command (extra options)

```
etics-test ... --remote-platforms slc4_ia32_gcc346 --remote-requirements
   client_req_'append_requirements=( host_network_stack =?= "IPv6" )',
   client_req_'++job_network_stack = "IPv6"' <your_project_name_here>
```

- These are the temporary solution and will be replaced with more elegant one: --ipv6 option for the etics-client and a flag for the WA

Practical work

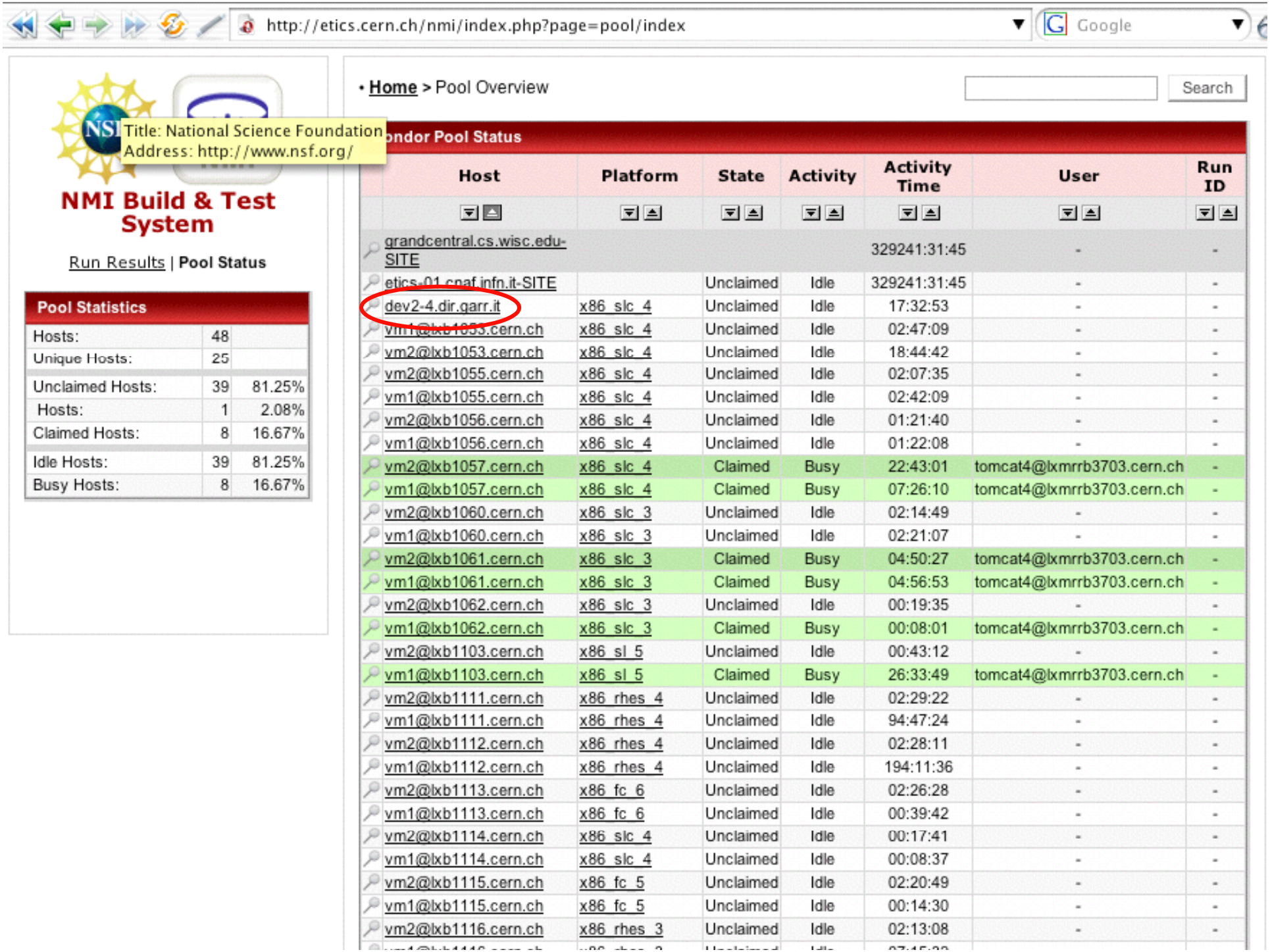
- After the initial tests the GARR and UREC nodes has been attached to the ETICS production pool:

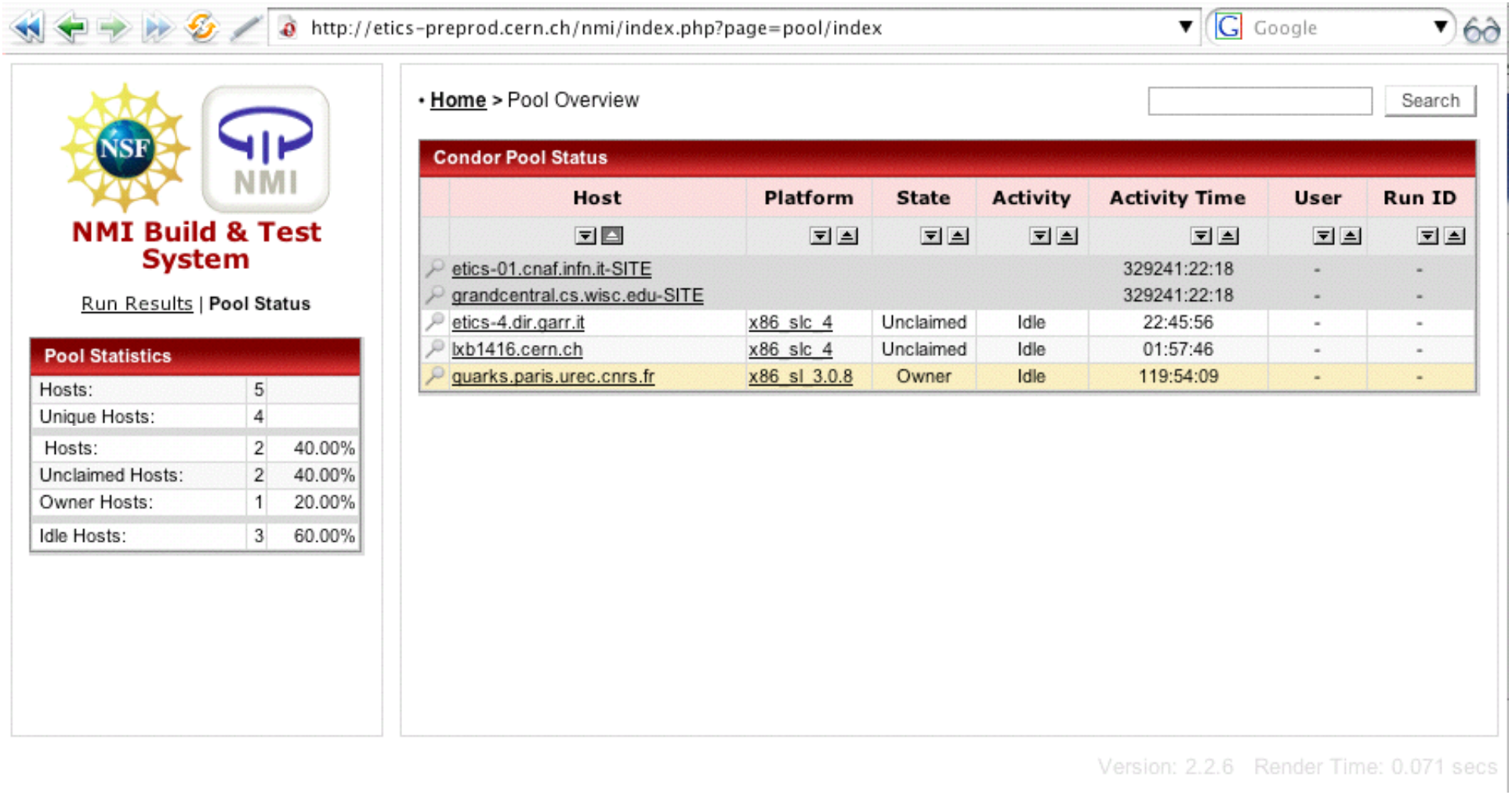
  http://etics.cern.ch/nmi/index.php?page=pool/index

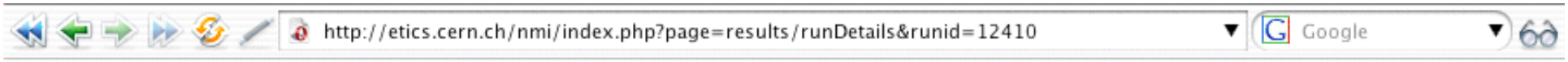
- Test pool visible at:

  http://etics-preprod.cern.ch/nmi/index.php?page=pool/index

- The IPv6 nodes should be present either in the production or pre-production pool


http://etics.cern.ch/nmi/index.php?page=pool/index
Google
Title: National Science Foundation
Address: http://www.nsf.org/
NMI Build & Test System
Run Results | Pool Status
Pool Statistics
Hosts: 48
Unique Hosts: 25
Unclaimed Hosts: 39 81.25%
Hosts: 1 2.08%
Claimed Hosts: 8 16.67%
Idle Hosts: 39 81.25%
Busy Hosts: 8 16.67%
• Home > Pool Overview
Search
ondor Pool Status
Host
Platform
State
Activity
Activity Time
User
Run ID
grandcentral.cs.wisc.edu-SITE 329241:31:45 - -
etics-01.cnaf.infn.it-SITE Unclaimed Idle 329241:31:45 - -
dev2-4.dir.garr.it x86_slc_4 Unclaimed Idle 17:32:53 - -
vm1@lxb1053.cern.ch x86_slc_4 Unclaimed Idle 02:47:09 - -
vm2@lxb1053.cern.ch x86_slc_4 Unclaimed Idle 18:44:42 - -
vm2@lxb1055.cern.ch x86_slc_4 Unclaimed Idle 02:07:35 - -
vm1@lxb1055.cern.ch x86_slc_4 Unclaimed Idle 02:42:09 - -
vm2@lxb1056.cern.ch x86_slc_4 Unclaimed Idle 01:21:40 - -
vm1@lxb1056.cern.ch x86_slc_4 Unclaimed Idle 01:22:08 - -
vm2@lxb1057.cern.ch x86_slc_4 Claimed Busy 22:43:01 tomcat4@lxmrrb3703.cern.ch -
vm1@lxb1057.cern.ch x86_slc_4 Claimed Busy 07:26:10 tomcat4@lxmrrb3703.cern.ch -
vm2@lxb1060.cern.ch x86_slc_3 Unclaimed Idle 02:14:49 - -
vm1@lxb1060.cern.ch x86_slc_3 Unclaimed Idle 02:21:07 - -
vm2@lxb1061.cern.ch x86_slc_3 Claimed Busy 04:50:27 tomcat4@lxmrrb3703.cern.ch -
vm1@lxb1061.cern.ch x86_slc_3 Claimed Busy 04:56:53 tomcat4@lxmrrb3703.cern.ch -
vm2@lxb1062.cern.ch x86_slc_3 Unclaimed Idle 00:19:35 - -
vm1@lxb1062.cern.ch x86_slc_3 Claimed Busy 00:08:01 tomcat4@lxmrrb3703.cern.ch -
vm2@lxb1103.cern.ch x86_sl_5 Unclaimed Idle 00:43:12 - -
vm1@lxb1103.cern.ch x86_sl_5 Claimed Busy 26:33:49 tomcat4@lxmrrb3703.cern.ch -
vm2@lxb1111.cern.ch x86_rhes_4 Unclaimed Idle 02:29:22 - -
vm1@lxb1111.cern.ch x86_rhes_4 Unclaimed Idle 94:47:24 - -
vm2@lxb1112.cern.ch x86_rhes_4 Unclaimed Idle 02:28:11 - -
vm1@lxb1112.cern.ch x86_rhes_4 Unclaimed Idle 194:11:36 - -
vm2@lxb1113.cern.ch x86_fc_6 Unclaimed Idle 02:26:28 - -
vm1@lxb1113.cern.ch x86_fc_6 Unclaimed Idle 00:39:42 - -
vm2@lxb1114.cern.ch x86_slc_4 Unclaimed Idle 00:17:41 - -
vm1@lxb1114.cern.ch x86_slc_4 Unclaimed Idle 00:08:37 - -
vm2@lxb1115.cern.ch x86_fc_5 Unclaimed Idle 02:20:49 - -
vm1@lxb1115.cern.ch x86_fc_5 Unclaimed Idle 00:14:30 - -
vm2@lxb1116.cern.ch x86_rhes_3 Unclaimed Idle 02:13:08 - -


http://etics-preprod.cern.ch/nmi/index.php?page=pool/index
Google
NSF
NMI
NMI Build & Test System
Run Results | Pool Status
Pool Statistics
Hosts: 5
Unique Hosts: 4
Hosts: 2 40.00%
Unclaimed Hosts: 2 40.00%
Owner Hosts: 1 20.00%
Idle Hosts: 3 60.00%
• Home > Pool Overview
Search
Condor Pool Status
Host
Platform
State
Activity
Activity Time
User
Run ID
etics-01.cnaf.infn.it-SITE 329241:22:18 - -
grandcentral.cs.wisc.edu-SITE 329241:22:18 - -
etics-4.dir.garr.it x86_slc_4 Unclaimed Idle 22:45:56 - -
lxb1416.cern.ch x86_slc_4 Unclaimed Idle 01:57:46 - -
quarks.paris.urec.cnrs.fr x86_sl_3.0.8 Owner Idle 119:54:09 - -
Version: 2.2.6 Render Time: 0.071 secs



NMI Build & Test System

Run Results | Pool Status

• Home > Runs Overview > Run Details

Search

Run Details - a Test project for the ETICS/EGEE/EUChina IPv6 tests

Run ID:	12410	**GID:**	tomcat4_lxmrrb3703.cern.ch_1184868848_17071
User:	Mario Reale	**Run Type:**	TEST
Project:	gLite IPv6 compliance	**Project Version:**	-
Component:	gLite IPv6 compliance	**Component Version:**	-
Start:	Jul-19-2007 16:14	**Finish:**	Jul-19-2007 16:35
Submission Host:	lxmrrb3703.cern.ch	**Duration:**	00:21:40
Metronome Version:	2.2.7	**Metronome Install Path:**	/opt/nmi-2.2.7
Result:	Complete		

Tasks Statistics

Total Tasks:	7	
Completed:	7	100.00%
Running:	0	0.00%
Queued:	0	0.00%
Failed:	0	0.00%

File Information

Run Directory:	View
Archived:	Yes
Pinned Until:	-

Task Results

ID	Result	Output	Platform	Name	Host	Start	Duration
83986	Complete		local	fetch.eticsBuildSystem...	lxmrrb3703.cern.ch	Jul-19-2007 16:14	00:00:07
84006	Complete	-	local	post_all	lxmrrb3703.cern.ch	Jul-19-2007 16:35	00:00:29
84007	Complete	- -	local	common.put	lxmrrb3703.cern.ch	Jul-19-2007 16:35	00:00:08
83987	Complete	- -	x86_slc_4	platform_job		Jul-19-2007 16:15	00:19:35
83997	Complete	-	x86_slc_4	remote_declare	dev2-4.dir.garr.it	Jul-19-2007 16:27	00:00:00
83998	Complete		x86_slc_4	remote_task	dev2-4.dir.garr.it	Jul-19-2007 16:27	00:03:11
84002	Complete		x86_slc_4	remote_post	dev2-4.dir.garr.it	Jul-19-2007 16:31	00:00:00

Page [1] of 1 Rows per page 20 Go

Version: 2.2.7 Render Time: 0.108 secs

Practical work

- **Mario, Xavier will tell more about the performed tests.**
- **Marian will tell more about the NMI and Condor at 11:10.**

Lesson learned

- **Taking into account the site policies building the Condor pool out of geographically dispersed Worker Nodes isn't a a trivial task as it may appear. Numerous issues found like:**
  - Reverse DNS
    - Solved by hard-coding the IP addresses in the Condor config files
  - Firewall policies
  - Condor: Job Match-making: partial match was causing the ETICS production pool throughput degradation
  - Power-cuts, etc.
- **Mail, IM, SMS, phone were very useful**

Conclusions

- ETICS in collaboration with GARR and UREC is providing the infrastructure enabling the community to perform the IPv6 tests
- The allocation of more resources might be needed in the future
- Automated deployment procedures should be established to guarantee the service persistency
- Within the next months we plan to continue the collaboration

What's next

- New layout of ETICS Web Application featuring the IPv6 check-box is being developed and will be deployed as part of Release v1.2 (to be confirmed)
- Etics client with the -ipv6 switch is already available and will be deployed as part of Release v1.2
- IPv6 plug-in results will be presented by Alberto
- Co-scheduling will be covered by Marc-Elian
- Dedicated session during the EGEE'07 conference in Budapest

Q & A