

# Table of Contents

<b>IGI CERTIFICATION TESTBED.....</b>	<b>1</b>
HOWTO, POLICIES & PROCEDURES.....	1
HOWTO Request a new instance.....	1
HOWTO Install Debian 6.0 on virtual KVM.....	1
HOWTO Restore clean OS image disk in XEN.....	2
PUPPET SETUP.....	3
AVAILABLE MODULES.....	3
TESTBED INVENTORY.....	4
Other services.....	4
User Interface.....	4
HLR Server.....	5
Computing elements: GlueCEStateStatus: Testing.....	5
EMI 2 CEs.....	5
LSF (7.0.5.125007) CEs.....	5
Torque (2.5.7-2) CEs.....	5
SPARE Virtual machine for deployment tests.....	6
EMI Integration Testbed INFN.....	6
EMI Platform Release Testing.....	6
EMI pre EMI Production.....	6
EMI-1 Production.....	6
EMI-2 Production + RC (SL6 + DEBIAN).....	7
EMI 3 RC INFN.....	9
Useful Links.....	10

# IGI CERTIFICATION TESTBED

This testbed is supposed to be used by the "Testing, Certification and Release" group people; it should be used mainly for functionality tests and for stress tests.

## HOWTO, POLICIES & PROCEDURES

### HOWTO Request a new instance

To request a new instance for certification please email grid-release mailing list specifying:

- When the instance is needed for (>request day + 3 working days)
- What is the instance needed for, and its reference in the inventory before (or whether it needs to be added)
- HW requirements (DISK, RAM)
- Virtual Machine deployment is default, please specify whether you need a physical server
- Host certificate requirements
- OS platform
- Grid service to install
- Life Time Estimate

Reasonable requests will be taken in charge and tracked as sub-task on Jira task TESTBED MANAGEMENT number 7. The requester will be added as "watcher" in the relative sub-task.

### HOWTO Install Debian 6.0 on virtual KVM

- Requirements:
  - ◆ dom0 server running KVM with Intel VIRTUALIZATION technology flag enabled (check with "cat /proc/cpuinfo |grep vmx")
  - ◆ host public IP + MAC address number
- connect to your dom0: `$ ssh -X root@dom0`

#### 1. Installation from scratch

- ◆ Download iso image: `$wget http://linux.studenti.polito.it/linuxstudenti/debian-6.0.2.1-amd64-netinst.iso`
- ◆ NEW Virtual Image:
  - ◇ Start virt image, click on dom0 hostname, select NEW and enter following parameters: `$ virt-image&`
    - fully virtualized, x64, kvm
    - local install ISO, OS linux, Generic 2.6
    - select from browser the iso previously downloaded
    - select storage (file or partition depending on your choice) and size ( $\geq$  10GB)
    - shared physical bridge, (eth0/1), fixed MAC (choose a free one from NewEntropy)
    - from virt-image console enter parameters for installation
      - NETWORK: IP, gateway, nameserver
      - users (root passwd, one user)
      - US keyboard, ...
      - ssh server + graphyics if needed
- ◆ Once finished, enter machine from console and run:
  - ◇ `wget --no-check-certificate https://yam-server.cnaf.infn.it/EMIinstall/emi-post-install.sh`
  - ◇ `chmod +x emi-post-install.sh`

◇ ./emi-post-install.sh (this script enable developer users + align packages to etics CERN version)

2. Installation from previously created template image:

- ◆ Shutdown template image to clone (ex. cert-31-Debian is the template image for which we have both .img file and xml conf file)
- ◆ Clone image:
  - ◇ \$virt-clone --original-xml=XMLFILEOFTEMPLATE --name=NEWmachineNAMEinVIRTMANAGER --mac=NEWMAC\_address --file=DestinationImageFILE
  - ◇ Example: \$virt-clone --original-xml=/etc/libvirt/qemu/cert-31-Debian.xml --name=cert-32-Debian --mac=00:16:3e:08:01:9b --file=/virtdisk1/cert-32-Debian.img
- ◆ New image post configuration
  - ◇ NOTE The original image must be NOT running
  - ◇ start new machine from virt-manager and enter machine console:
    - CHANGE HOSTNAME: \$sed -i 's/OLD\_HOSTNAME/NEW\_HOSTNAME/g' /etc/hostname
    - CHANGE NETWORK CONF:
      - \$ifconfig > check which eth is used
      - \$ifdown ethXX (from above)
      - editing files: /etc/resolv.con , /etc/network/interfaces (new IP there)
      - restart network: \$ifup ethXX \*\$ ifconfig ----> to check it is fine.
  - ◆ restart both original and new machine.
  - ◆ remove puppet files and rerun the puppet configuration commands as in <https://yam-server.cnaf.infn.it/EMIinstall/emi-post-install.sh> script \*\$ apt-get remove puppet \*\$ rm /root/puppetfile?HOSTNAME \*execute the following:

```
wget -q http://doctorwho.cnaf.infn.it/cgi-bin/hostinfo.cgi?certname=$HOSTNAME
apt-get install -y puppet
touch /etc/puppet/namespaceauth.conf
TEST=`grep doctorwho /etc/puppet/puppet.conf|wc -l`
if [ $TEST -eq 0 ] ; then
    cat >> /etc/puppet/puppet.conf << EOF
    server = doctorwho.cnaf.infn.it
    report = true
    listen = true
    runinterval = 360
EOF
update-rc.d puppet enable 5
sed -i 's/START=no/START=yes/g' /etc/default/puppet
/etc/init.d/puppet restart
fi
```

## HOWTO Restore clean OS image disk in XEN

- Requirements and checks:
  - ◆ Daemons stopped (or in @chkconfig on@) in server hosting your service
  - ◆ Backup File Image with clean OS
- 1. Connect to dom0 server, as root
- 2. get help on xen manager with: xm
- 3. List running machines: \$xm list
- 4. Shutdown your machine with: =\$xm shutdown NAME\_OF\_MACHINE\_AS\_FROM\_XM\_LIST\_OUTPUT (ex.. emitestbed09-SL6X-64)
- 5. Restore clean os image file from backup image: cp emitestbed18-SL5X-64\_CLEANOS.img emitestbed18-SL5X-64.img

6. N.B. The image file used for a given virtual server is stored in the xen configuration file. ex:

```
[root@emitest-dom01 ~]# cat /etc/xen/emitestbed18-SL5X-64
name = "emitestbed18-SL5X-64"
builder = "hvm"
memory = "1024"
disk = [ 'file:/domU/emitestbed18-SL5X-64.img,hda,w' ]
boot = "c"
vif = [ 'mac=00:16:3e:08:01:76, bridge=xenbr0' ]
vfb = ["type=vnc,vncunused=1"]
device_model = "/usr/lib64/xen/bin/qemu-dm"
kernel = "/usr/lib/xen/boot/hvmlloader"
vcpus=1
on_reboot = 'restart'
on_crash = 'restart'
```

1. START THE NEW MACHINE WITH: `$>xm create emitestbed18-SL5X-64 ----->` same name as the conf file without path `/etc/xen/emitestbed18-SL5X-64`

## PUPPET SETUP

### AVAILABLE MODULES

1. BASENODE: deployed on all IGI servers (production + R&D)
  1. fail2ban -> bans users aftern X wrong password attempts
  2. lcg-ca -> egi trustanchor repo + CA
  3. lemon -> lemon monitoring setup
  4. nrpe -> nagios probes
  5. nsca -> nagios probes
  6. ntp -> ntp server setup
  7. pakiti-> pakiti security monitoring setup
  8. puppet
  9. repo-updates
  10. resolv
  11. security-checks -> monitor existence of dangerous files
  12. security-updates -> monitor existence of dangerous files
  13. ssh -> ssh setup + some ssh keys
  14. yum -> repos
2. EMI AND TESTBEDS: ON ALL EMITESTBED + IGI CERTIFICATION/RELEASE nodes
  1. emi-cerntb -> install cern utilities repo + BitFace CA for Nagios tests
  2. emi-testers-vo -> creates following files `/root/siteinfo/ + /root/siteinfo/groups.conf+users.conf + /root/siteinfo/vo.d/testers2.eu-emi.eu+testers.eu-emi.eu`
  3. emi-generic-vo -> creates following files `/root/siteinfo/ + /root/siteinfo/groups.conf+users.conf + /root/siteinfo/vo.d/testers2.eu-emi.eu+testers.eu-emi.eu+cms+dteam` (other VO can be added if needed)
  4. emi-users -> creates users with password for pre-registered bastion users in IGI Middleware Unit
  5. emi-testwrapperscript -> creates file `/root/siteinfo/script-wrapper.py`
3. EMI AND TESTBEDS: REPOSITORIES AVAILABLE ON DEMAND
  1. emi1-prodrepo -> install emi1 release package (on emi1 emitestbed servers)
  2. emi1-releaseupdatesrepo -> install emi1-deployment repo (on emi1 emitestbed servers)
  3. emi2-prodrepo -> install emi2 release package
  4. emi2-rcrepo -> install emi2 RC repo
4. EMI TESTBEDS: AUTOMATED DEPLOYMENT MODULES
  1. ARGUS

1. SCENARIO files to deploy an argus with emitestbed policy emi2-argus-deploy -> Provides template files for automated deployment test with /root/siteinfo/script-wrapper.py |-- files |-- EMI2\_SL5-64\_ARGUS\_deployment\_command\_list.txt |-- EMI2\_SL6-64\_ARGUS\_deployment\_command\_list.txt |-- emitestbed\_policy.txt |-- site-info.def

2. WMS

1. SCENARIO files to deploy a WMS from testing repo and emitestbed setup. emi1-wmstesting-deploy -> Provides template files for automated deployment test with /root/siteinfo/script-wrapper.py |-- files |-- EMI1\_TESTING\_SL5-64\_WMS\_deployment\_command\_list.txt |-- site-info.def
2. SCENARIO files to deploy a WMS from production then update it to testing repo and emitestbed setup. emi1-wmsupdate-deploy -> Provides template files for automated deployment test with /root/siteinfo/script-wrapper.py |-- files |-- EMI1\_UPDATE\_SL5-64\_WMS\_deployment\_command\_list.txt |-- site-info.def

5. IGI CERTIFICATION: AUTOMATED DEPLOYMENT MODULES

1. WMS

1. SCENARIO: install a wms from testing repo with multi VO enabled and certification bdii etc. : emi1-wms-cert-install -> Provides template files for automated deployment test with /root/siteinfo/script-wrapper.py |-- files |-- EMI1\_CERT\_INSTALL\_SL5-64\_WMS\_deployment\_command\_list.txt |-- site-info.def
2. SCENARIO: install a wms from production repo with multi VO enabled and certification bdii etc. then update it to testing: emi1-wms-cert-update -> Provides template files for automated deployment test with /root/siteinfo/script-wrapper.py |-- files |-- EMI1\_CERT\_UPDATE\_SL5-64\_WMS\_deployment\_command\_list.txt |-- site-info.def

## TESTBED INVENTORY

### Other services

HOSTNAME	SO	SERVICE	State	Note
emitestbed53.cnaf.infn.it	SL6/x86_64	BDII_top 1.1.3 (EMI 3)	✓	BDII_top for certification testbed (Cris)
emitestbed58.cnaf.infn.it	SL5/x86_64	BDII_site 1.2.1 (EMI 3)	✓	BDII_site for certification testbed (Cris)
cream-46.pd.infn.it	SL 5.5 Epel	EMI Argus server 1.3.0-4	✓	
cream-45.pd.infn.it	SL 6.5 Epel	worklog	✓	reinstalled on 22 Nov, empty
cream-32.pd.infn.it	SL 6.4 Epel	WMS EMI 3	✓	WMS v. 3.6.0

### User Interface

HOSTNAME	SO	SERVICE	State	Note
emitestbed54.cnaf.infn.it	SL5/x86_64	EMI 3 UI	✓	UI for WMS certification
cream-12.pd.infn.it	SL 5.5 Epel	EMI UI 1.0.0	✓	
cream-03.pd.infn.it	SL 5.5	GLITE UI 3.2.11	✓	

## HLR Server

HOSTNAME	SO	SERVICE	State	Note
cert-13.pd.infn.it	SL 5.7	HLR IGI	✓	used for the HLR Server certification

## Computing elements: GlueCEStateStatus: Testing

### EMI 2 CEs

#### LSF (7.0.5.125007) CEs

HOSTNAME	SO	SERVICE	EMI Version	State	Note	CeMon	Argus	BLParser	Cluster
cream-19.pd.infn.it	SL 5.5 Epel X86_64	Cream 1.14.2-1 BDII Site 1.0.0-1	2.5.1-1	✓	Cream LSF testing	no	yes	new	no
cream-20.pd.infn.it	SL 5.5 Epel X86_64	Cream 1.15.1-2	3.0.0-1	✓	Cream LSF testing	no	no	old	no
cream-22.pd.infn.it	SL 5.5 Epel X86_64	Cream 1.14.2-1	2.9.0	✓	Cream LSF testing	no	yes	old	no
cream-23.pd.infn.it	SL 6.4	Cream-CE 1.14.5-1	2.10.5	✓	Cream LSF testing	no	no	new	no
cream-24.pd.infn.it	SL 5.5 Epel X86_64	Cream 1.14.3-1	2.5.1-1	✓	Cream LSF testing	no	yes	new	no
cream-41.pd.infn.it	SL 5.5 Epel X86_64	Cream 1.14.2-1	2.5.1-1	✓	Cream LSF testing	no	no	new	no
cert-41.pd.infn.it	SL 6. Epel X86_64	CREAM 1.14.1	.....	✓	In use for EMI 2 CREAM 1.14.1 certification	no	yes	new	no

#### Torque (2.5.7-2) CEs

HOSTNAME	SO	SERVICE	EMI Version	State	Note	CeMon	Argus	BLParser	Cluster
cream-30.pd.infn.it	SL 5.5	Cream-CE 1.16.2	3.7.1	✓	Cream Torque 2.1.3	no	no	new	no
cream-31.pd.infn.it	SL 6.4 Epel X86_64	Cream 1.14.6-1	2.10.5	✓	Cream PBS testing	no	no	old	no
cert-34.pd.infn.it	SL 5.5 Epel	Cream 1.13.4-1 + DGAS_sensors		✓		-	-	-	-
cert-42.pd.infn.it	SL 6. Epel X86_64	CREAM 1.14.1	.....	✓	In use for EMI 2 CREAM 1.14.1	no	yes	new	no

					certification				
cert-44.cnaf.infn.it	SL 5 Epel	EMI CREAM PBS 2.0.0	CREAM EMI2	-			-	-	-

## SPARE Virtual machine for deployment tests

HOSTNAME	Master host	Assigned to	Note
cert-18.pd.infn.it	cert-14.pd.infn.it	Cristina	Storm 1.8.3
cert-12.pd.infn.it	cert-03	Sergio	old Worklog <input checked="" type="checkbox"/> Installation of RC3 fails (scratched)
cert-40.pd.infn.it	cert-38	Sergio	old Worklog <input checked="" type="checkbox"/> old host used to certify the sensors (scratched)
cream-06.pd.infn.it	cream-mstr-021.pd.infn.it	Sara Bertocco	---
cream-48.pd.infn.it	cream-mstr-020.pd.infn.it	Sara Bertocco	---
cream-wn-036.pd.infn.it	cream-mstr-024.pn.pd.infn.it	Sara Bertocco	---
cream-wn-016.pd.infn.it	cream-master-008.pn.pd.infn.it	Sara Bertocco	---
cream-wn-035.pd.infn.it	prod-wn-005.pn.pd.infn.it	Sara Bertocco	---
cream-wn-042.pd.infn.it	cream-mstr-027.pn.pd.infn.it	Sara Bertocco	---
cream-wn-043.pd.infn.it	cream-mstr-027.pn.pd.infn.it	Sara Bertocco	---

## EMI Integration Testbed INFN

### EMI Platform Release Testing

<https://twiki.cern.ch/twiki/bin/view/EMI/EMITestbedInventory#INFN>

### EMI pre EMI Production

1	gLite 3.2 cream	SL5/64bit	cream-37.pd.infn.it	Status	gLite Job Management	LSF Batch system
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### EMI-1 Production

Logbook at page: [https://twiki.cern.ch/twiki/bin/view/EMI/EMITestbedInventory#INFN\\_AN2](https://twiki.cern.ch/twiki/bin/view/EMI/EMITestbedInventory#INFN_AN2)

	Service Deployed	Platform	Server Hostname	Service Status	PT	Additional information
2	VOMS Admin Mysql	SL5/64bit	emitestbed07.cnaf.infn.it	Status	VOMS	TO BE KEPT
3	ARGUS Server	SL5/64bit	emitestbed10.cnaf.infn.it	Status	Argus	TO BE DISMISSED
4	Storm	SL5/64bit	emitestbed03.cnaf.infn.it	Status	StoRM	TO BE DISMISSED
5	emi-WMS	SL5/64bit	cert-08.cnaf.infn.it	Status	GLiteJobManagement	

CertTestBed < IGIRelease < TWiki

						TO BE DISMISSED
6	emi-CREAM	SL5/64bit	cert-07.cnaf.infn.it	Status	GLiteJobManagement	( ARGUS + MPI + GLEXEC Enabled)TO BE DISMISSED
7	emi-WN	SL5/64bit	emitestbed15.cnaf.infn.it	Availability Status (Restricted Access)	GLiteJobManagement	(ARGUS + MPI + GLEXEC Enabled) TO BE DISMISSED
8	emi-WN	SL5/64bit	emitestbed17.cnaf.infn.it	Availability Status (Restricted Access)	GLiteJobManagement	(ARGUS + MPI + GLEXEC Enabled) TO BE DISMISSED
9	emi-CREAM	SL5/64bit	emitestbed21.cnaf.infn.it	Status	GLiteJobManagement	Sun Grid ENGINE GE-plugin TO BE DISMISSED
10	Grid Engine Server	SL5/64bit	emitestbed22.cnaf.infn.it	Availability Status (Restricted Access)	TO BE DISMISSED	
11	emi-WN	SL5/64bit	emitestbed12.cnaf.infn.it	Availability Status (Restricted Access)	GLiteJobManagement	Sun Grid Engine -> emitestbed21 TO BE DISMISSED
12	emi-WN	SL5/64bit	emitestbed13.cnaf.infn.it	Availability Status (Restricted Access)	GLiteJobManagement	Sun Grid Engine -> emitestbed21 TO BE DISMISSED

**EMI-2 Production + RC (SL6 + DEBIAN)**

Logbooks at page: [https://twiki.cern.ch/twiki/bin/view/EMI/EMITestbedInventory#INFN\\_AN1](https://twiki.cern.ch/twiki/bin/view/EMI/EMITestbedInventory#INFN_AN1)

	Service Deployed	Platform	Server Hostname	Service Status	PT	Additional information
1	UI + emiNAGIOS	SL5/64bit	emitestbed16.cnaf.infn.it	Availability Status (Restricted Access)	emiUI	EMI 2.0.0-1
2	emi-CREAM SGE	SL5/64bit	emitestbed02.cnaf.infn.it	Status	GLiteJobManagement	SGE BATCH SERVER emitestbed22, WN: emitestbed12/13 TO BE DISMISSED
4	emi-WMS	SL5/64bit	cert-13.cnaf.infn.it	Status	GLiteJobManagement	NO EMI2 RC FInal available
5	emi-CREAM	SL5/64bit	emi-demo08.cnaf.infn.it	Status	GLiteJobManagement	WORKING ON



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	LSF					
6	emi-WN for CREAM torque + MPI + ARGUS + CEMON	SL5/64bit	emitestbed23.cnaf.infn.it	Availability Status (Restricted Access)	GLiteJobManagement	EMI2 RC -> emi-demo13 CREAM
7	emi-WN	SL5/64bit	emitestbed14.cnaf.infn.it	Availability Status (Restricted Access)	GLiteJobManagement	CE-> emidemo08, LSF Batch system
8	UI + emiNAGIOS	SL6/64bit	emitestbed24.cnaf.infn.it	Availability Status (Restricted Access)	emiUI	EMI 2.0.0-1
10	emi-WN for SGE Cluster	SL6/64bit	emitestbed26.cnaf.infn.it	Availability Status (Restricted Access)	WN	TO BE DISMISSED
13	CREAM torque + MPI + ARGUS + CEMON + GLEXEC on WN	SL6/64bit	emitestbed29.cnaf.infn.it	Status	GLiteJobManagement	
14	emi-CREAM for LSF CLUSTER	SL6/64bit	emitestbed32.cnaf.infn.it	Status		WORKING ON
15	emi-CREAM for SGE CLUSTER	SL6/64bit	emitestbed09.cnaf.infn.it	Status		SGE BATCH SERVER emitestbed22, WN: emitestbed12/13 TO BE DISMISSED
16	ARGUS Server + ARGUS-EES	SL5/64 + SL6/64bit DISK	emitestbed30.cnaf.infn.it	Status	GLiteJobManagement	WORKING ON
17	emiWN for TORQUE Cluster	SL6/64bit	emitestbed28.cnaf.infn.it	Availability Status (Restricted Access)		
18	emiWN for LSF	SL6/64bit	emitestbed31.cnaf.infn.it	Availability Status (Restricted Access)		
19	gLite Cluster	SL5/64bit or DEBIAN 6/64bit	emitestbed33.cnaf.infn.it	Availability Status (Restricted Access)	GLiteJobManagement	TO BE DISMISSED
20	emi-CREAM + Torque + MPI	SL5x 64bit	emi-demo13.cnaf.infn.it	Status	GLiteJobManagement	EMI2-RC Final -> WN emitestbed23, emi-demo09

CertTestBed < IGIRelease < TWiki

21	LSF Server	SL5/64bit	cert-36.cnaf.infn.it	Availability Status (Restricted Access)	GLiteJobManagement	
22	gliteCluster	SL6x64bit	emi-demo15.cnaf.infn.it	Availability Status (Restricted Access)		TO BE DISMISSED
23	WN Torque + MPI	SL5x64bit	emi-demo09.cnaf.infn.it	Availability Status (Restricted Access)		
24	WN Torque + MPI	SL6x64bit	emi-demo16.cnaf.infn.it	Availability Status (Restricted Access)		

**EMI 3 RC INFN**

The following VMs belong to domus13.cnaf.infn.it dom0 physical machine.

	Service Deployed	Platform	Server Hostname	Service Status	PT	Additional information
5	EMI 3 RC WMS	SL5/x86_64	emitestbed41.cnaf.infn.it	-	WMS	V. 3.6.0-1
6	EMI 3 RC WMS	SL6/x86_64	emitestbed44.cnaf.infn.it	-	WMS	V. 3.6.2-1
7	EMI 3 RC ARGUS	SL5/x86_64	emitestbed42.cnaf.infn.it	-	ARGUS	
8	EMI 3 RC ARGUS	SL6/x86_64	emitestbed45.cnaf.infn.it	-	ARGUS	
9	EMI 3 RC WN	SL6/x86_64	emitestbed46.cnaf.infn.it	-	EMI Common, CREAM - emitestbed59	
10	EMI 3 RC UI	SL6/x86_64	emitestbed47.cnaf.infn.it	-	EMI Common	
12	EMI 3 RC CREAM Torque	SL6/x86_64	emitestbed49.cnaf.infn.it	-	CREAM	WN: emitestbed55
13	EMI 3 RC CREAM LSF	SL6/x86_64	emitestbed50.cnaf.infn.it	-	CREAM	LSF server: cert-36
14	EMI 3 RC CREAM SGE	SL6/x86_64	emitestbed51.cnaf.infn.it	-	CREAM	SGE master: emitestbed22 TO BE DISMISSED
15	JENKINS BUILD SLAVE	SL6/x86_64	emitestbed52.cnaf.infn.it	-		
18	EMI 3 RC WN	SL5/x86_64	emitestbed55.cnaf.infn.it	-	EMI Common, CREAM - emitestbed49	
22	EMI 3 RC CREAM Torque	SL5/x86_64	emitestbed59.cnaf.infn.it	-	CREAM	WN: emitestbed46
23		SL5/x86_64	emitestbed60.cnaf.infn.it	-	CREAM	LSF server: cert-36

	EMI 3 RC CREAM LSF					
24	EMI 3 RC CREAM SGE	SL5/x86_64	emitestbed61.cnaf.infn.it	-	CREAM	SGE master: emitestbed22 TO BE DISMISSED
25	JENKINS BUILD SLAVE	SL5/x86_64	emitestbed62.cnaf.infn.it	-		

## Useful Links

\* Nagios monitoring page

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This topic: IGIRelease > CertTestBed

Topic revision: r122 - 2014-06-06 - FabioCapannini



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