

Курс "Администрирование суперкомпьютеров"

Жуматий С.А.

- DHCP
- DNS
- TFTP
- PXE
- Образы ОС
- Маршрутизация
- Контроль состояния узлов
- Массовые команды

ХСАТ типы объектов

auditlog boottarget eventlog firmware
group kit kitcomponent kitrepo monitoring
network node notification osdistro
osdistrouupdate **osimage policy** rack
route **site** zone

XCAT установка

<http://xcat.org/download.html>

```
•# cd /etc/yum.repos.d/
```

```
# wget https://sourceforge.net/projects/xcat/files/yum/2.10/xcat-core/xCAT-core.repo
```

```
# wget https://sourceforge.net/projects/xcat/files/yum/xcat-dep/rh7/x86_64/xCAT-dep.repo
```

```
# yum install xCAT
```

```
# source /etc/profile.d/xcat.sh
```

```
# tabdump site
```

ХСАТ настройка

tabedit TABLE

tabdump / tabrestore

tabedit site

#key,value,comments,disable

"installdir","/install",,

"ipmiretries","3",,

"ipmitimeout","2",,

"forwarders","127.0.1.1",,

"nameservers","127.0.1.1",,

"maxssh","8",,

ХСАТ настройка

```
/opt/xcat/share/xcat/scripts/setup-local-client.sh serg
```

```
ls ~/.xcat
```

```
ca.pem client-cert.pem client-cred.pem
```

```
client-key.pem client-req.pem
```

```
tabedit policy
```

```
#priority,name,host,commands,noderange,parameters,time,r  
ule,comments,disable
```

```
"1","root",,,,,,"allow",,
```

ХСАТ образы

```
# copycds CentOS-6.7-x86_64-minimal.iso -n centos67
```

```
Copying media to /install/centos67/x86_64
```

```
Media copy operation successful
```

```
# lsdef -t osimage
```

```
centos67-x86_64-install-all (osimage)
```

```
centos67-x86_64-install-compute (osimage)
```

```
centos67-x86_64-install-iscsi (osimage)
```

```
/install/custom/install/DISTR/TEMPLATE.tmpl
```

ХСАТ настройка

```
# nodeadd node-[1-10] groups=comp
```

```
# nodeadd node-[1-10]-ipmi groups=comp_ipmi
```

```
# tabedit mac
```

```
# tabedit networks
```

```
# tabedit hosts
```


ХСАТ настройка

tabedit nodehm # параметры SOL

tabedit noderes # параметры DHCP/TFTP

tabedit nodetype # что и как ставить

tabedit ipmi # соответствие ip <-> ipmi

ХСАТ настройка

```
# makehosts          # /etc/hosts
# makedhcp -a -n    # dhcp.conf
# nodeset node-[1-10] install # конфиг. загрузки
# rsetboot node-[1-10] net    # сетевая загрузка
# rpower node-[1-10] boot    # перезагружаем
```

ХСАТ типы узлов

Stateful – ОС на жёстком диске ОС

Stateless:

RAM-root – образ ОС находится на RAM-fs

Compressed RAM-root – сбраз ОС является сжатым tar-файлом

NFS Hybrid – NFS-root с копированием при записи (copy-on-write).

Statelite: бездисковый, образ ОС на RO-NFS, часть каталогов и файлов доступны RW (RAM).

ХСАТ узлы

```
# mkdef -t node node-1 groups=all,test \  
  arch=x86_64 \  
  bmc=10.4.14.254 \  
  bmcusername=ADMIN \  
  bmcpassword=admin \  
  mac=6C:AE:8B:1B:E8:52 \  
  mgt=ipmi \  
  netboot=pxe \  
  provmethod=rhels7.1-x86_64-install-compute
```

```
# chdef -t group test ip="|10.0.0.($1+0)|"
```

```
mkdef / chdef / lsdef / rmdef
```

ХСАТ узлы

Isdef **node-1**

Object name: node-1

arch=x86_64

bmc=10.4.14.254

bmcpassword=admin

bmcusername=ADMIN

groups=all,x86_64

mac=6C:AE:8B:1B:E8:52

mgt=ipmi

netboot=xnba

postbootscripts=otherpkgs

postscripts=syslog,remoteshell,syncfiles

provmethod=rhels7.1-x86_64-install-compute

ХСАТ узлы

```
# chdef node-1
```

```
groups=all,x86_64
```

```
mac=6C:AE:8B:1B:E8:52
```

```
mgt=ipmi
```

```
netboot=pxe
```

```
postbootscripts=otherpkgs
```

```
postscripts=syslog,remoteshell,syncfiles
```

```
provmethod=rhels7.1-x86_64-install-compute
```

XCAT образы

```
# Isdef -t osimage rhels7.1-x86_64-install-compute
Object name: rhels7.1-x86_64-install-compute
  osarch=x86_64
  osdistrname=rhels7.1-x86_64
  osvers=rhels7.1
  otherpkgdir=/install/post/otherpkgs/rhels7.1/x86_64
  pkgdir=/install/rhels7.1/x86_64
  pkglist=/opt/xcat/share/xcat/install/rh/compute.rhels7.pkglist
  profile=compute
  provmethod=install
  synclists=/root/syncfiles.list
  template=/opt/xcat/share/xcat/install/rh/compute.rhels7.tmpl
```

XCAT StateLite

/install/netboot/**os/arch/profile**/rootimg = statelite образ

tabdump **litefile**

#image,file,options,comments,disable

"ALL", "/etc/adjtime",,,

"ALL", "/etc/fstab",,,

"ALL", "/etc/inittab",,,

"ALL", "/etc/mtab",,,

"ALL", "/etc/ntp.conf",,,

tabdump **statelite**

node,image,statemnt,comments,disable

"test",,"storage:/nfs_state",,,

ХСАТ настройка

```
# genimage -a x86_64 -o centos76 -p compute -m statelite  
-> /install/netboot/<os>/<arch>/<profile>/rootimg
```

```
# liteimg centos76-x86_64-statelite-compute
```

```
# lsLite
```

```
# nodeset node-1 statelite
```

```
# rpower node-1 boot
```

ХСАТ генерация образа

```
# rm /install/netboot/VERSION/x86_64/comp/* -Rf  
/opt/xcat/share/xcat/netboot/centos/comp.VERSION.pkglist =
```

СПИСОК ПАКЕТОВ

```
/opt/xcat/share/xcat/netboot/centos/comp.VERSION.otherpkgs.pkglist =
```

СПИСОК ДОП. ПАКЕТОВ

```
/install/post/otherpkgs/VERSION/x86_64 =
```

сами доп. пакеты

```
/opt/xcat/share/xcat/netboot/centos/comp.VERSION.postinstall
```

```
# genimage VERSION-x86_64-statelite-compute
```

```
# liteimg VERSION-x86_64-statelite-compute
```