

# Ethernet Device Network Settings for LCLS Subnets

## Ethernet Device Network Settings for LCLS Subnets

### References

- [README](#)
- [How-to Configure an MVME6100 RTEMS Processor](#)
- [EVR Installation](#)
- [Terminal Server and VME CPU Serial Port](#)
- [How-to Release Software](#)
- [How-to Setup DHCP for an IOC](#)
- [Network](#)
- [How-to Connect to an IOC Serial Port](#)
- [How-to Reboot an RTEMS IOC](#)

On the [LCLS DMZ](#) production subnet devices can be on the LCLS DMZ or on a 172 production subnet. All above network devices any subnet must be in the Internet Free Zone (IFZ).

Controls Subnets		
Device	Production Subnet	Development Production
EPICS IOCs	<a href="#">LCLSCA</a>	<a href="#">LCLSDMZ</a>
VME Crates, Power strips Terminal Servers, Switches	<a href="#">LCLSUTIL</a>	
Cameras	<a href="#">LCLSVIDEO</a>	
PLCs, EPSC	<a href="#">LCLSINST</a>	

### Development

- [Nodes on LCLSDEV Subnet](#)
  - [IP Addresses on LCLSDEV for development](#)

RTEMS			
Boot Server	Subnet	Dev Directory	Prod Directory
surrey11	<a href="#">LCLSDEV</a>	/nfs/slac/g/lcls/build/rtems/4.7.1	/nfs/slac/g/lcls/build/rtems/4.7

LCLSDEV Subnet	
Server IP Address	134.79.19.29
Secondary Server IP Address	134.79.19.148
Default Gateway	134.79.219.1
Subnet Mask:	255.255.252.0
Domain	slac.stanford.edu
DNS #1	134.79.111.111
DNS #2	134.79.111.112
DNS #3	
NTP #1	134.79.110.75
NTP #2	134.79.110.10
NTP #3	134.79.110.9
My Network IF + media (LAN Speed)	auto
Use Bootp	N

For development iocs send a request to unix-admin to add your ioc to the **lcls-rtems** netgroup so the ioc can access files under [/nfs/slac/g/lcls](#).

File System	Account	uid.gid	Directory
lcls-dev2	laci	8412.2211	/home/epics/ioc/data/<ioc nodename>
<b>RTEMS st.cmd files</b>			
IOC Log	nfsMount("8412.2211.@134.79.219.12","/nfs/slac/g/lcls/dev/epics/ioc/data","/dat")		
SLC-Aware	nfsMount("8412.2211.@134.79.219.12","/nfs/slac/g/lcls/dev/slc","/slc")		

<a href="#">EPICS IOC Startup Files</a>		
Directory:	<a href="#">/nfs/slac/g/lcls/build/epics/ioc/iocBoot/ioc-&lt;area&gt;-&lt;subsystem&gt;</a>	
File	Description	Comment
st.cmd	RTEMS IOC Startup Script	<a href="#">example</a>
st.cmd	Soft IOC Startup Script	<a href="#">example</a>
<a href="#">pre/post startup files</a>	Setup env variables	

#### Production on LCLSDMZ Subnet

- [Nodes on LCLSDMZ Subnet](#)
  - [IP Addresses on LCLSDMZ for temporary only](#)
  - [How-to Setup DHCP for an IOC](#)

<b>RTEMS</b>		
<b>Boot Host</b>	<b>Subnet</b>	<b>Directory</b>
surrey11	<a href="#">LCLSDMZ</a>	/nfs/slac/g/lcls/build/rtems/rtems/4.7
<b>LCLSDMZ Subnet</b>		
<b>Server IP Address</b> 134.79.19.29		
<b>Secondary Server IP Address</b>	134.79.19.148	
<b>Default Gateway</b>	134.79.151.1	
<b>Subnet Mask</b>	255.255.252.0	
<b>Domain</b>	slac.stanford.edu	
<b>DNS #1</b>	134.79.151.11	
<b>DNS #2</b>	134.79.18.41	
<b>DNS #3</b>	134.79.18.40	
<b>NTP #1</b>	134.79.48.11	
<b>NTP #2</b>	134.79.18.40	
<b>NTP #3</b>	134.79.18.41	
<b>My Network IF + media (LAN Speed)</b>	auto	
<b>Use Bootp</b>	N	

For iocs on the LCLSDMZ subnet send a request to unix-admin to add your ioc to the [lcls-rtems](#) netgroup so the ioc can access files under [/nfs/slac/g/lcls](#).

File System	Account	uid.gid	Directory
surrey11	laci	8412.2211	/nfs/slac/g/lcls/epics/ioc/data/<ioc nodename>
<b>NFS Access for IOCs</b>			
IOC Log	nfsMount("8412.2211.@134.79.127.60","/nfs/slac/g/lcls/epics/ioc/data /<nodename>","/data")		
SLC-Aware	nfsMount("8412.2211.@134.79.127.60","/nfs/slac/g/lcls/slc","/slc")		

<a href="#">EPICS IOC Startup Files</a>		
<b>Directory:</b>	<a href="#">/afs/slac/g/lcls/epics/ioc/iocBoot/ioc-&lt;area&gt;-&lt;subsystem&gt;</a>	
<b>File</b>	<b>Description</b>	<b>Comment</b>
st.cmd	RTEMS IOC Startup Script	<a href="#">example</a>
st.cmd	Soft IOC Startup Script	<a href="#">example</a>
<a href="#">epicsEnvSetDmz</a>	Setup env variables	

**Production on LCLSDMZ Subnet**

[Nodes on LCLSCA Subnet](#)

Boot Host	Subnet	RTEMS Version
mccfs2	LCLSCA	/usr/local/lcls/rtems/4.7.1
LCLSCA Subnet		
Server IP Address	172.27.8.11	
Default Gateway	172.27.8.1	
Subnet Mask	255.255.252.0	
DNS #1	134.79.151.11	
NTP #1	134.79.151.11	
My Network IF + media (LAN Speed)	auto	
Use Bootp	N	

Note: to use DHCP enter "Y" for instead of "N" for Use Bootp. For further instruction on setting up DHCP click [here](#).

For production iocs on the LCLSCA subnet send email to ((Jingchen Zhou|Jingchen) and request that he add your ioc to the following system files on lcls-prod05. This will give your ioc access to the files on mccfs2, which is mounted as /u1 on lcls-prod05.

/etc/hosts
/etc/dfs/dfsta

Boot Host	NFS Disk	Host	Account (uid)	Group (gid)	uid.gid	IOC Data
mccfs2	mccfs2	lcls-prod05	laci	lcls	8412.2211	/u1/lcls/epics/ioc/data /<nodename>
NFS Mounts						
File Systems	nfsMount("8412.2211@172.27.8.11","/u1/lcls/epics/ioc/data /<nodename>","/data")					
SLC-Aware	nfsMount("8412.2211@172.27.8.11","/u1/lcls/epics/slc","/slc")					

File	Description	Directory
startup.cmd	file your ioc boots. Generated automatically by <b>ioc-release</b>	/usr/local/lcls/epics/iocCommon/<subsystem>/<nodename>
st.cmd	EPICS startup script, called by startup.cmd	/usr/local/epics/iocTop/<subsystem>/<subsystem cvs tag>/iocBoot /<nodename>
pre_st.cmd	Setup for RTMES IOC's, called by startup.cmd	/usr/local/lcls/epics/iocCommon/All/Prod
post_st.cmd	Diagnostic infor for RTMES IOC's, called by startup.cmd	/usr/local/lcls/epics/iocCommon/All/Prod

**Instrumentation Subnets**

- [Nodes on LCLSINST Subnet](#)

<b>LCLSINST Subnet</b>
<b>Default Gateway:</b> 172.27.12.1
<b>DNS #1:</b> 134.79.151.11
<b>Subnet Mask:</b> 255.255.252.0

- [Nodes on LCLSUTIL Subnet](#)

<b>LCLSUTIL Subnet</b>
<b>Default Gateway:</b> 172.27.4.1
<b>DNS #1:</b> 134.79.151.11
<b>Subnet Mask:</b> 255.255.252.0

- [Nodes on LCLSVIDEO Subnet](#)

<b>LCLSVIDEO Subnet</b>
<b>Default Gateway:</b> 172.27.16.1
<b>DNS #1:</b> 134.79.151.11
<b>Subnet Mask:</b> 255.255.252.0