

# Testing PV Gateways

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## Production PV Gateways

A list of the various LCLS, LCLS-II, FACET, and Test Facilities gateways managed by EED Systems Group.

| Name           | Purpose                                         | PVs served                         | Host          | CAS port | Beacon Port | Beacon sent to                                           | Document/Comment                                                                        | Upgrade Status                                                              |
|----------------|-------------------------------------------------|------------------------------------|---------------|----------|-------------|----------------------------------------------------------|-----------------------------------------------------------------------------------------|-----------------------------------------------------------------------------|
| LCLS           |                                                 |                                    |               |          |             |                                                          |                                                                                         |                                                                             |
| gwEbeamServe   | Serving LCLS PVs (Ebeam) to Photon              | Readonly<br>Write for selected PVs | lcls-daemon3  | 5080     | 5081        | 172.21.40.63<br>(Photon Gateway Subnet)                  | <a href="#">Design</a><br><a href="#">Admin</a><br>Allow all<br>Deny OTRS:DMP1:695:.*   | <input checked="" type="checkbox"/> Upgrade to 64-bit EPICS7<br>22 Aug 2019 |
| gwEbeamServeWF | Serving LCLS PVs (Ebeam) to Photon              | Readonly<br>Write for selected PVs | lcls-daemon3  | 5079     | 5081        | 172.21.40.63<br>(Photon Gateway Subnet)                  | Deny all<br>Allow OTRS:DMP1:695:.*<br>(dedicated to serve XTCAV OTRDMP camera image PV) | <input checked="" type="checkbox"/> Upgrade to 64-bit EPICS7<br>22 Aug 2019 |
| gwLCLS4FACET   | Serving LCLS PVs to FACET                       | Readonly                           | lcls-daemon10 | 5070     | 5069        | 172.27.75.255<br>(FACETCA)                               | <a href="#">Design</a><br><a href="#">Admin</a>                                         | <input checked="" type="checkbox"/> Upgrade to 64-bit EPICS7<br>22 Aug 2019 |
| gwLCLS4LCLSII  | Serving LCLS PVs to LCLS-II                     | Read and Write                     | lcls-daemon10 | 5060     | 5069        | 172.27.131.255 ( LCLS2IOC)<br>and 172.27.11.255 (MCCSRV) |                                                                                         | <input checked="" type="checkbox"/> Upgrade to 64-bit EPICS7<br>22 Aug 2019 |
| gwLCLSPUB      | Serving LCLS PVs to public                      | Readonly                           | lcls-prod01   | 5068     | 5069        | 134.79.151.255<br>(DMZ)                                  | <a href="#">Admin</a>                                                                   | <input checked="" type="checkbox"/> Upgrade to 64-bit EPICS7<br>22 Aug 2019 |
| gwLCLSARCH0    | Serving LCLS and LCLS-II PVs to Archiver on DMZ | Readonly                           | lcls-prod01   | 5076     | 5069        | 134.79.151.255<br>(DMZ)                                  | .* ALLOW (default)<br>Deny a list<br>refer gwLCLSARCH*.dat                              | <input checked="" type="checkbox"/> Upgrade to 64-bit EPICS7<br>22 Aug 2019 |
| gwLCLSARCH1    | Serving LCLS and LCLS-II PVs to Archiver on DMZ | Readonly                           | lcls-prod01   | 5077     | 5069        | 134.79.151.255<br>(DMZ)                                  | .* DENY<br>Allow portion in the list<br>refer gwLCLSARCH*.dat                           | <input checked="" type="checkbox"/> Upgrade to 64-bit EPICS7<br>22 Aug 2019 |
| gwLCLSARCH2    | Serving LCLS and LCLS-II PVs to Archiver on DMZ | Readonly                           | lcls-prod01   | 5078     | 5069        | 134.79.151.255<br>(DMZ)                                  | .* DENY<br>Allow portion in the list<br>refer gwLCLSARCH*.dat                           | <input checked="" type="checkbox"/> Upgrade to 64-bit EPICS7<br>22 Aug 2019 |

|                        |                                                                   |                                                                   |                         |      |      |                                                              |                                                                        |                                                                             |
|------------------------|-------------------------------------------------------------------|-------------------------------------------------------------------|-------------------------|------|------|--------------------------------------------------------------|------------------------------------------------------------------------|-----------------------------------------------------------------------------|
| gwLCLS<br>ARCH3        | Serving LCLS and LCLS-II PVs to Archiver on DMZ                   | Readonly                                                          | lcls-<br>prod01         | 5079 | 5069 | 134.79.151.255<br><br>(DMZ)                                  | . * DENY<br><br>Allow portion in the list<br><br>refer gwLCLSARCH*.dat | <input checked="" type="checkbox"/> Upgrade to 64-bit EPICS7<br>22 Aug 2019 |
| <b>LCLS-II</b>         |                                                                   |                                                                   |                         |      |      |                                                              |                                                                        |                                                                             |
| gwLCLSI<br>I4LCLS      | Serving LCLS-II PVs to LCLS                                       | Read and Write                                                    | lcls2-<br>daemo<br>n10  | 5060 | 5069 | 172.27.3.255 ( LCLSIOC) and<br>172.27.11.255 (MCCSRV)        |                                                                        | <input checked="" type="checkbox"/> Upgrade to 64-bit EPICS7<br>22 Aug 2019 |
| <b>FACET</b>           |                                                                   |                                                                   |                         |      |      |                                                              |                                                                        |                                                                             |
| gwFACE<br>T4LCLS       | Serving FACET PVs to LCLS                                         | Readonly                                                          | facet-<br>daemo<br>n1   | 5070 | 5069 | 172.27.11.255<br><br>(LCLSCA)                                | <a href="#">Design</a><br><br><a href="#">Admin</a>                    | <input type="checkbox"/> Upgrade to 64-bit EPICS7                           |
| gwFACE<br>TPUB         | Serving FACET PVs to public                                       | Readonly                                                          | lcls-<br>prod01         | 5063 | 5069 | 134.79.151.255<br><br>(DMZ)                                  | <a href="#">Design</a>                                                 | <input checked="" type="checkbox"/> Upgrade to 64-bit EPICS7<br>22 Aug 2019 |
| gwEXP2<br>FACET        | Serving Fedora based PCOEdge Camera PVs in B244 to FACET controls | Readonly<br><br>Write allowed from<br>facet-srv20 to slac-dev-fed | lcls-<br>prod01         | 5062 | 5069 | facet-srv*:<br><br>172.27.72.28 172.27.72.22<br>172.27.72.23 | Not in use currently                                                   | <input checked="" type="checkbox"/> Upgrade to 64-bit EPICS7                |
| gwFACE<br>TARCH        | Serving FACET PVs to Archiver on DMZ                              | Readonly                                                          | lcls-<br>prod01         | 5075 | 5069 | 134.79.151.255<br><br>(DMZ)                                  | Allow all                                                              | <input checked="" type="checkbox"/> Upgrade to 64-bit EPICS7<br>22 Aug 2019 |
| <b>Test Facilities</b> |                                                                   |                                                                   |                         |      |      |                                                              |                                                                        |                                                                             |
| gwACCT<br>ESTPUB       | Serving Test Facilities PV to public                              | Readonly                                                          | testfac-<br>daemo<br>n2 | 5048 | 5049 | 134.79.219.255<br><br>(LCLSDEV)                              | <a href="#">doc</a>                                                    | <input type="checkbox"/> Upgrade to 64-bit EPICS7                           |
| <b>Cryo</b>            |                                                                   |                                                                   |                         |      |      |                                                              |                                                                        |                                                                             |
| gwCRY<br>O4LCLS        | Serving Cryo PVs to LCLS                                          | Read and Write                                                    | cryo-<br>daemo<br>n1    | 5061 | 5069 | 172.27.43.255 172.27.11.255<br>134.79.151.21                 | . * ALLOW<br><br>. * ALLOW CANWRITE                                    | <input checked="" type="checkbox"/> Upgrade to 64-bit EPICS7<br>22 Aug 2019 |

## LCLS Gateway Test Procedures

### lcls-daemon3

#### gwEbeamServe:

1. Change /etc/init.d/st.gwEbeamServe on lcls-daemon3 to use CMDPATH=/usr/local/lcls/tools/gateway/script/st.gwEbeamServe64
2. Restart gateway:

```
[laci@lcls-daemon3]$ /etc/init.d/st.gwEbeamServe restart
```

3. Verify that all LCLSIOC subnet PVs **except** for 0TRS:DMP1:695: \* PVs can be seen from Photon/PCDS subnet clients.
4. Verify that the lclshome->Network (Global)->PV Gateway Diag->Ebeam Serve display is repopulated after the restart.
5. Check /u1/lcls/tools/gateway/gwEbeamServe.log for errors.

#### gwEbeamServeWF:

1. Change /etc/init.d/st.gwEbeamServeWF on lcls-daemon3 to use CMDPATH=/usr/local/lcls/tools/gateway/script/st.gwEbeamServeWF64
2. Restart gateway:

```
[laci@lcls-daemon3]$ /etc/init.d/st.gwEbeamServeWF restart
```

3. Verify that **only** OTRS:DMP1:695:\* PVs can be seen from Photon/PCDS subnet clients.
4. Verify that the lclshome->Network (Global)->PV Gateway Diag->Ebeam Serve WF display is repopulated after the restart.
5. Check /u1/lcls/tools/gateway/gwEbeamServeWF.log for errors.

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## **lcls-daemon10**

### **gwLCLS4FACET:**

1. Change /etc/init.d/st.gwLCLS4FACET on lcls-daemon10 to use CMDPATH=/usr/local/lcls/tools/gateway/script/st.gwLCLS4FACET64
2. Restart gateway:

```
[laci@lcls-daemon10]$ /etc/init.d/st.gwLCLS4FACET restart
```

3. Verify that LCLSIOC subnet PVs can be seen from FACETCA subnet clients.
4. Verify that the lclshome->Network (Global)->PV Gateway Diag->LCLS 4 FACET display is repopulated after the restart.
5. Check /u1/lcls/tools/gateway/gwLCLS4FACET.log for errors.

### **gwLCLS4LCLSII:**

1. Change /etc/init.d/st.gwLCLS4LCLSII on lcls-daemon10 to use CMDPATH=/usr/local/lcls/tools/gateway/script/st.gwLCLS4LCLSII\_64
2. Restart gateway:

```
[laci@lcls-daemon10]$ /etc/init.d/st.gwLCLS4LCLSII restart
```

3. Verify that LCLSIOC subnet PVs can be seen from LCLS2IOC subnet clients.
4. Check /u1/lcls/tools/gateway/gwLCLS4LCLSII.log for errors.

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## **lcls-prod01**

### **gwLCLSPUB:**

1. Change /etc/init.d/st.gwLCLSPUB on lcls-prod01 to use CMDPATH=/afs/slac/g/lcls/tools/gateway/script/st.gwLCLSPUB64
2. Restart gateway:

```
[laci@lcls-prod01]$ /etc/init.d/st.gwLCLSPUB restart
```

3. Verify that LCLS production PVs can be seen when running lclshome on LCLSDEV/LCLSDMZ nodes (e.g., mcclogin).
4. Verify that the lclshome->Network (Global)->PV Gateway Diag->LCLS PUB display is repopulated after the restart.
5. Check /nfs/slac/g/lcls/tools/gateway/gwLCLSPUB.log for errors.

### **gwLCLSARCH0:**



#### **Archiver Gateways**

Archiver Gateways should be stopped and restarted one at a time to independently verify that ACLs are working properly.

1. Change /etc/init.d/st.gwLCLSARCH0 on lcls-prod01 to use CMDPATH=/afs/slac/g/lcls/tools/gateway/script/st.gwLCLSARCH0\_64
2. Restart gateway:

```
[laci@lcls-prod01]$ /etc/init.d/st.gwLCLSARCH0 restart
```

3. Verify that the lclshome->Network (Global)->PV Gateway Diag->LCLS ARCH0 display is repopulated after the restart.

4. Check /nfs/slac/g/lcls/tools/gateway/gwLCLSARCH0.log for errors.

#### gwLCLSARCH1:



##### Archiver Gateways

Archiver Gateways should be stopped and restarted one at a time to independently verify that ACLs are working properly.

1. Change /etc/init.d/st.gwLCLSARCH1 on lcls-prod01 to use CMDPATH=/afs/slac/g/lcls/tools/gateway/script/st.gwLCLSARCH1\_64
2. Restart gateway:

```
[laci@lcls-prod01]$ /etc/init.d/st.gwLCLSARCH1 restart
```

3. Verify that the lclshome->Network (Global)->PV Gateway Diag->LCLS ARCH1 display is repopulated after the restart.
4. Check /nfs/slac/g/lcls/tools/gateway/gwLCLSARCH1.log for errors.

#### gwLCLSARCH2:



##### Archiver Gateways

Archiver Gateways should be stopped and restarted one at a time to independently verify that ACLs are working properly.

1. Change /etc/init.d/st.gwLCLSARCH2 on lcls-prod01 to use CMDPATH=/afs/slac/g/lcls/tools/gateway/script/st.gwLCLSARCH2\_64
2. Restart gateway:

```
[laci@lcls-prod01]$ /etc/init.d/st.gwLCLSARCH2 restart
```

3. Verify that the lclshome->Network (Global)->PV Gateway Diag->LCLS ARCH2 display is repopulated after the restart.
4. Check /nfs/slac/g/lcls/tools/gateway/gwLCLSARCH2.log for errors.

#### gwLCLSARCH3:



##### Archiver Gateways

Archiver Gateways should be stopped and restarted one at a time to independently verify that ACLs are working properly.

1. Change /etc/init.d/st.gwLCLSARCH3 on lcls-daemon10 to use CMDPATH=/afs/slac/g/lcls/tools/gateway/script/st.gwLCLSARCH3\_64
2. Restart gateway:

```
[laci@lcls-prod01]$ /etc/init.d/st.gwLCLSARCH3 restart
```

3. Verify that the lclshome->Network (Global)->PV Gateway Diag->LCLS ARCH3 display is repopulated after the restart.
4. Check /nfs/slac/g/lcls/tools/gateway/gwLCLSARCH3.log for errors.

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### **lcls2-daemon10**

#### gwLCLSII4LCLS:

1. Change /etc/init.d/st.gwLCLSII4LCLS on lcls2-daemon10 to use CMDPATH=/usr/local/lcls/tools/gateway/script/st.gwLCLSII4LCLS64
2. Restart gateway:

```
[laci@lcls2-daemon10]$ /etc/init.d/st.gwLCLSII4LCLS restart
```

3. Verify that LCLS2IOC subnet PVs are readable and writable from LCLSIOC subnet clients.
4. Check /u1/lcls/tools/gateway/gwLCLSI4LCLS.log for errors.

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## FACET Gateway Test Procedures

### **facet-daemon1**

#### **gwFACET4LCLS:**

1. Change /etc/init.d/st.gwFACET4LCLS on facet-daemon1 to use CMDPATH=/usr/local/facet/tools/gateway/script/st.gwFACET4LCLS64
2. Restart gateway:

```
[flaci@facet-daemon1]$ /etc/init.d/st.gwFACET4LCLS restart
```

3. Verify that FACETCA subnet PVs can be seen from LCLSIOC subnet clients.

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### **lcls-prod01**

#### **gwFACETPUB:**

1. Change /etc/init.d/st.gwFACETPUB on lcls-prod01 to use CMDPATH=/afs/slac/g/lcls/tools/gateway/script/st.gwFACETPUB64
2. Restart gateway:

```
[laci@lcls-prod01]$ /etc/init.d/st.gwFACETPUB restart
```

3. Verify that FACETCA subnet PVs can be seen when running facethome on LCLSDEV/LCLSDMZ nodes (e.g., mcclogin).

#### **gwEXP2FACET:**

1. Change /etc/init.d/st.gwEXP2FACET on lcls-prod01 to use CMDPATH=/usr/local/lcls/tools/gateway/script/st.gwEXP2FACET64
2. Restart gateway:

```
[laci@lcls-prod01]$ /etc/init.d/st.gwEXP2FACET restart
```



#### **gwEXP2FACET Note**

gwEXP2FACET not currently in use.

#### **gwFACETARCH:**

1. Change /etc/init.d/st.gwFACETARCH on lcls-daemon10 to use CMDPATH=/usr/local/lcls/tools/gateway/script/st.gwFACETARCH64
2. Restart gateway:

```
[laci@lcls-prod01]$ /etc/init.d/st.gwFACETARCH restart
```

3. Verify that the following PV patterns are archived in the FACET Archiver according to the permissions below:

```
[laci@lcls-prod01]$ cat $TOOLS/gateway/config/gwFACETARCH.dat
...
# support the gateway internal statistics
# Serve all FACET PVs
.* ALLOW
```

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## Test Facilities Gateway Test Procedures

### **testfac-daemon2**

gwACCTESTPUB:

1. Change /etc/init.d/st.gwACCTESTPUB on testfac-daemon2 to use CMDPATH=/afs/slac/g/acctest/tools/gateway/script/st.gwACCTESTPUB64
2. Restart gateway:

```
[acctf@testfac-daemon2]$ /etc/init.d/st.gwACCTESTPUB restart
```

3. Verify that ACCTESTFAC subnet PVs can be seen when running xtahome on LCLSDEV/LCLS DMZ nodes (e.g., mcclogin).
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## Cryo Gateway Test Procedures

### **cryo-daemon1**

gwCRYO4LCLS:

1. Change /etc/init.d/st.gwCRYO4LCLS on cryo-daemon1 to use CMDPATH=/usr/local/lcls/tools/gateway/script/st.gwCRYO4LCLS64
2. Restart gateway:

```
[laci@cryo-daemon1]$ /etc/init.d/st.gwCRYO4LCLS restart
```

3. Verify that CRYOSRV subnet PVs can be seen from LCLSIOC and LCLS2IOC subnet clients.

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- [Testing EPICS Extensions](#)