

# Startup of a sample NOvA system



“setup\_online [-z <partitionNumber>]” – this does the following:

- Sets a bunch of environment variables that specify the logfile area to use, the configuration file area to use, the “detector” environment, etc.
- Sets up the online software

This alias (and the underlying script) sets up the core environment that is needed to run the online system and to do development on the online software.

There are several independent variables that are used to determine the correct environment: e.g. detector instance and partition number.

I would propose that uBooNE DAQ have an umbrella UPS product for this.

- “setup uboonedaq” (this product name may already be used...)
- It would set up the necessary software packages and env vars
- It could use different UPS qualifiers to determine which detector instance, etc.

Questions:

- How to personalize things? Can the same UPS product be used for setting up the environment for both shared and personal accounts?
- Can the same UPS product be used for running the system and working on development of a part of the system?

# Random Questions



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Which versions of the NOvA applications are we using? Which ones do we want to use?

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```
ospl start
startRunControl.sh
# startResourceManager.sh
startDAQApplicationManager.sh
```

For NOvA test systems, the “startRunControl.sh” command also starts the ResMgr. This seems reasonable to me for uBooNE. Thoughts?

- Or, maybe we keep separate scripts for each of these and provide a wrapper script that calls all of them – “startBasicApplications.sh”?

Will all of these scripts continue to live in the DAQOperationsTools package?

- If so, then it should be set up as part of “setup uboonedaq -q <qualifiers>”

# Startup of a sample NOvA system



What got started as part of the basic startup?

## DDS Daemons:

```
[novadaq@novatest01 ~]$ ps -fu novadaq | grep ospl | grep -v grep
novadaq 14043 1 0 10:43 pts/62 00:00:00 spliced file:///nova/config/FCCDAQ/dds/novatest01/Partition2/ospl.xml
novadaq 14053 14043 0 10:43 pts/62 00:00:00 teststandNetworking teststandNetworking file:///nova/config/FCCDAQ/dds/novatest01/Partition2/ospl.xml
```

## RunControl server and client, ResourceManager server and client

```
[novadaq@novatest01 ~]$ ps -fu novadaq | grep ' r' | grep -v grep
novadaq 16047 1 0 10:45 pts/62 00:00:00 rmServer
novadaq 16050 1 0 10:45 pts/62 00:00:00 rsrcWindow
novadaq 16053 1 0 10:45 pts/62 00:00:00 rcServer -z 2
novadaq 16090 1 0 10:45 pts/62 00:00:00 rcClient
```

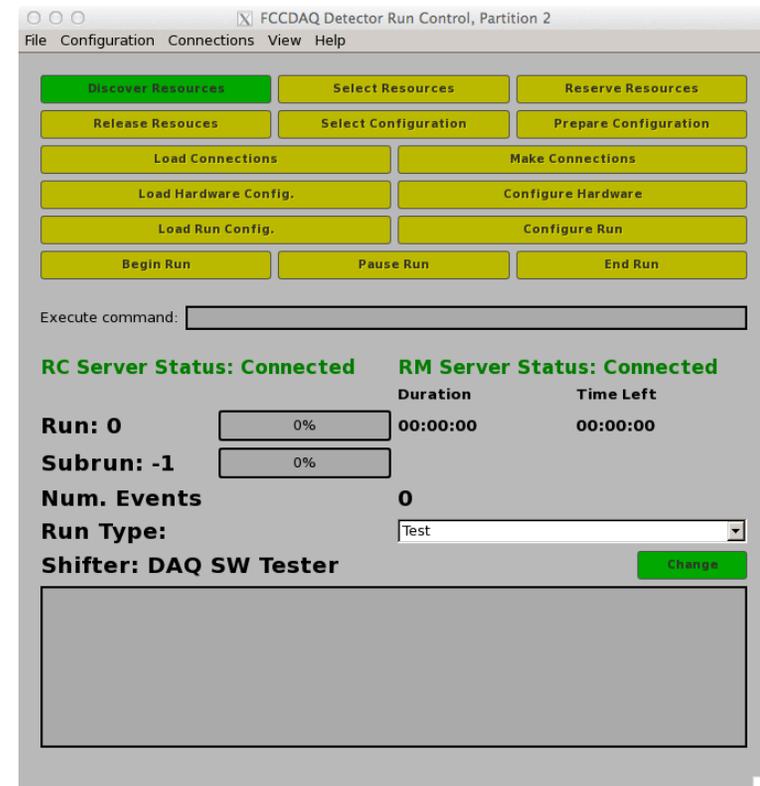
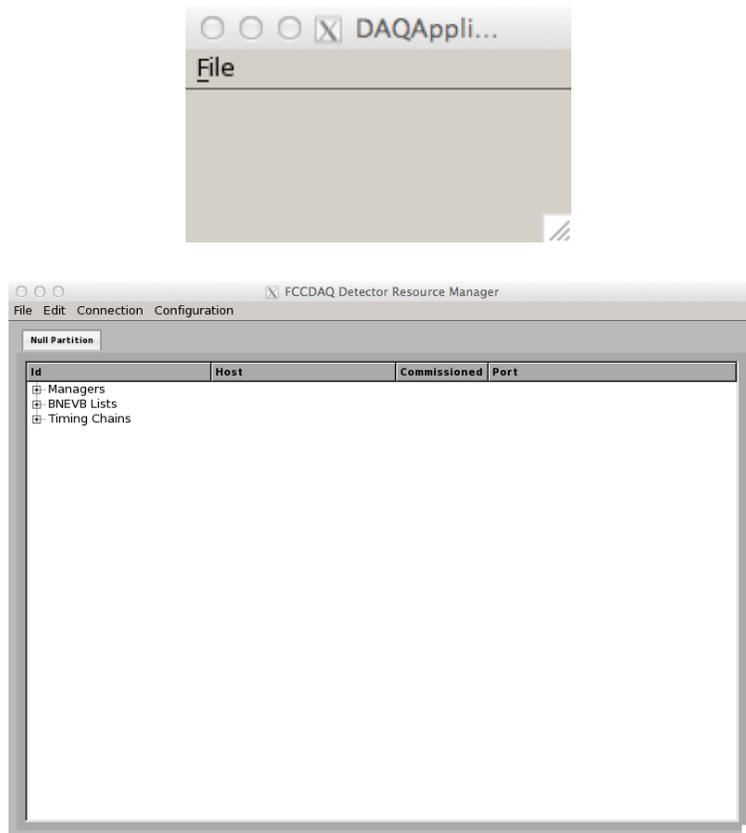
## DAQApplicationManager

```
[novadaq@novatest01 ~]$ ps -fu novadaq | grep 'DAQApp' | grep -v grep
novadaq 18048 1 0 10:47 pts/62 00:00:00 DAQApplicationManager -z 2
```

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What do the GUIs look like after the basic startup?



# Startup of a sample NOvA system



What has happened so far?

- The ResMgr has read in the defined set of resources (.NovaDAQResources.xml) [NOVADAQRSRCFILE]
- The ResMgr server and GUI have established communication
- The RunControl server and GUI have established communication
- The RCServer has established communication with the ResMgr server
- All of the processes have read in their message facility configuration

What will uBooNE want in the ResMgr “resources” file?

- (Homework: What is the format of the entries in this file? Where is that defined?)
- <http://cdcvcs.fnal.gov/cgi-bin/fnal-only/cvsweb-oss.cgi/Online/pkgs/NovaResourceManager/config/ResourceList.xsd?rev=1.10&content-type=text/x-cvsweb-markup&cvsroot=novacvs>

In which directories does the ResMgr search for this file?

What ports should be used for the RCServer and RMServer (different for different users...)

# Startup of a sample NOvA system



The basic applications are shut down with the following commands:

- `stopDAQApplicationManager.sh`
- `stopRunControl.sh`
- `ospl stop`

Note that this does *\*not\** kill off any of rest of the system (if you have started that).

Probably we want a “`stopBasicApplications.sh`” script?

What is the minimal set of processes that we want to start for a level-0 goal?

- N SEB apps
- Assembler
- Message viewer
- Configuration manager?

# Startup of the rest of the DAQ applications



## Discover Resources

- RunControl sends a message to the ResourceManager asking for the available resources
- The ResMgr returns that information in its reply
- [What could go wrong? A previous partition may not have been cleaned up. In that case, we need to release the resources by hand from the ResMgr GUI.]

## Select Resources

## Reserve Resources

- [describe the communication between processes in this step and what the AppMgr does]

# Homework/short-term goals



Create the umbrella UPS product, work through the issues, and make it available for everyone to use.

Update the DAQOperationsTools product to remove NOvA-specific things

Create the initial (common) configuration area and work out how to support individual user configuration areas (if needed)

Ditto, logfile areas.

Ditto, OSPL.xml

I want to be able to log into my account, or a common account, on uboonedaq-evb and run “setup <something>” and then be able to run “ospl start” and not interfere with other users. And, I’d like to be able to then run “ospl stop” and “startBasicApplications.sh” (it’s OK if the applications are a little broken when they start – we’ll get to that next).

# Homework/short-term goals



Create the RunControl and ResourceManager message facility configuration files.

Update NovaResourceManager/config/ResourceList.xsd.

Create a sample ResourceManager “resources” file.

Document all of this on the uBooNE DAQ Wiki pages

- What are the steps to set up a user environment for developing and testing?
- What is the scheme for providing different DDS ports to different users?
- Ditto logfile areas
- Ditto configuration file areas

# Backup slide

