LRGS Client
Getting Started Guide

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Prepared for NOAA/NESDIS

(National Oceanic and Atmospheric Administration)
(National Environmental Satellite Data Information Service)

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1 Download LRGS Client

The LRGS Client software is also called "OpenDCS", for Open Data Collection System. This is a collection of tools for downloading DCP (Data Collection Platform) data, decoding it, converting it to time-tagged engineering units, and formatting it in a variety of popular data exchange formats. It also includes a time series database that can run under PostgreSQL or Oracle.

OpenDCS owned and maintained by the U.S. Federal Government. The latest source code and wiki can be found at:

https://github.com/opendcs/opendcs

For convenience, a link to an executable installer for OpenDCS can be found on the DCS website at:

https://dcs1.noaa.gov

You do not need to login to your DADDS account to download the client.

The client software is written in 100% Java. This means it will run on any modern operating system. It has been well tested on many versions of Unix, Linux, Windows, and Macintosh OS X.

2 Install Java (If Necessary)

A Java Runtime Environment (JRE) is necessary to run the LRGS Client
Software. To check to see if Java is installed, open a terminal window in
linux/unix, or a DOS "cmd" window on Windows. Type the following command:

```
java -version
```

If Java is installed, you will see a version message. LRGS Client requires Java
version 1.8 or higher. If this is the case, skip the rest of this section.

If Java is *not* installed you will see an error telling you that the command is not
recognized. The exactly wording of the message will vary depending on the
operating system and shell you are running.

If Java is either A.) Not Installed, or B.) a very old (pre 1.8) release, THEN you
have to install or update Java. OpenJDK is compatible with OpenDCS and may be
downloaded from:

https://openjdk.java.net/

3 Run the Installer

The OpenDCS Software is distributed as a wizard-GUI installer. The version number is embedded in the file name. At the time of this writing the latest release is 6.2 RC03 and the installer file is called:

```
opendcs-nf-6-8-RC10.jar
```

The file you download from NOAA/NESDIS may have a newer version number.

Many Java programs are distributed in files with a ".jar" extension, which stands for Java Archive. On most operating systems you can simply double-click the file after downloading. On some operating systems you may need to open a terminal/command window and then:

- CD (change Directory) to the folder where you downloaded the file.
- Then run this command:

```
java -jar downloaded-file-name-here
```

The installer will guide you through the various configuration choices.

The first screen allows you to choose an installation location:
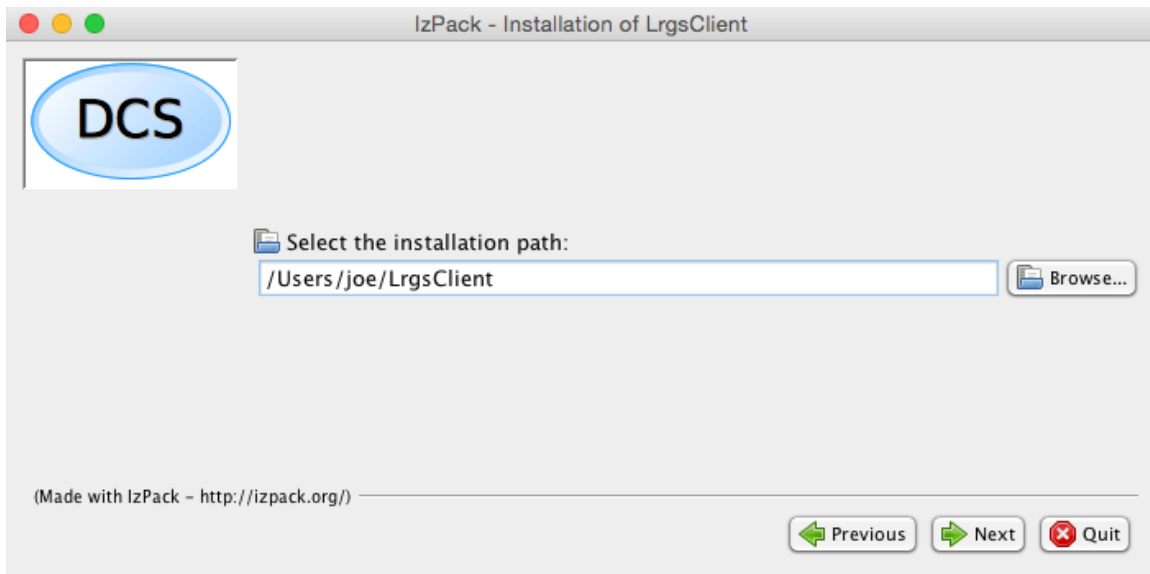
On Windows, the OpenDCS software does not need to write to the registry. So, even if you do not have administrative privileges on your computer, you may still be able to install it (but check with your friendly IT representative first).

Please choose a directory name that does not have embedded spaces. Thus, please do not install it under "C:\Program Files".

If this is a new installation you will be told the directory that is about to be created. Otherwise the installation proceeds.

The next screens show you the installation progress. Everything should complete without errors.

Important! Please go all the way through the screens until you get to the final screen with the "Done" button in the lower right corner. Aborting out of the installation before it is complete will render the software unusable.

4 Contact Wallops CDA to get an LRGS User Name

You will need a valid account in order to pull DCP data from the public servers at Wallops or Sioux Falls. To get an account, call your friendly DCS operator at (757) 824-7450. Be prepared to provide:

- Name
- Email Address
- Organization
- Telephone Number
- Preferred 6-character user name

The operator will create an account on the primary LRGS, with host name "cdadata.wcda.noaa.gov". The operator will also give you an initial password that conforms to NOAA standards. You should be able to connect to this server immediately. Within 24 hours the name will be propagated to the other public LRGS servers.

5 LRGS Real Time Status Page

On a Windows machine, the installer will create shortcuts for "LrgsClient" under your start menu. On other systems, start the software with the commands:

- First CD to the directory where you installed the software
- Type the command:
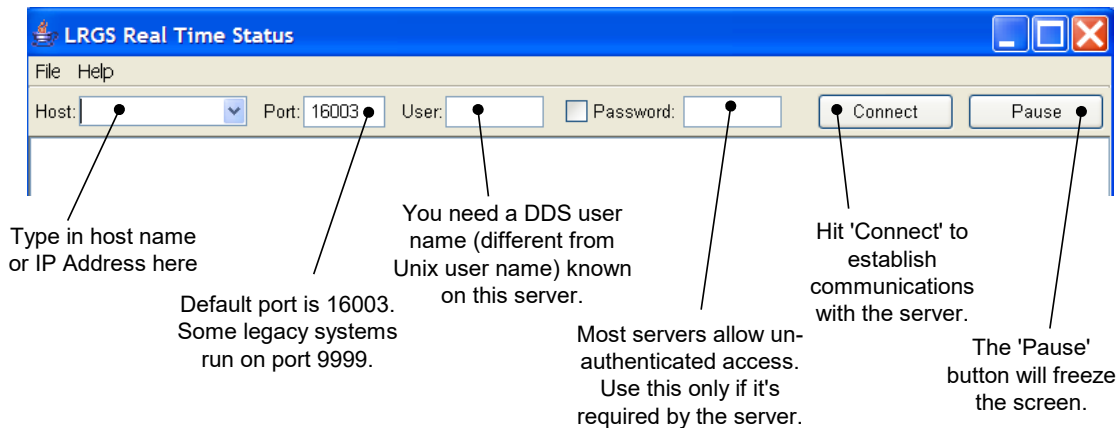
```
bin/rtstat
```

On Windows, you can also start a DOS CMD window and then

```
CD C:\LRGSClient                    (or wherever you installed!)
BIN\rtstat
```

There are seven public LRGS servers available to you:

- cdadata.wcda.noaa.gov
- cdabackup.wcda.noaa.gov
- nlrgs1.noaa.gov
- nlrgs2.noaa.gov
- lrgseddn1.cr.usgs.gov
- lrgseddn2.cr.usgs.gov
- lrgseddn2.cr.usgs.gov

Click the "LRGS Status" button on the launcher or run the "rtstat" command. At the top of the screen you specify which of the above LRGS servers you want to connect to:

Type in host name or IP Address here

Default port is 16003. Some legacy systems run on port 9999.

You need a DDS user name (different from Unix user name) known on this server.

Most servers allow un-authenticated access. Use this only if it's required by the server.

Hit 'Connect' to establish communications with the server.

The 'Pause' button will freeze the screen.

The main part of the screen describes the status of messages going into and out of this particular LRGS:

LRGS: drot1.wcda.noaa.gov

UTC: August 19, 2005 01:39:59 (Day 231)
(Time reported by LRGS)
System Status: Running
LRGS Version: 5.0

Messages in the 30-day archive →

Archive Statistics

Messages In Storage: `154428`   Oldest Msg Time: `08/18 15:42:05`   Next Idx #: `23966`

8-hour snapshot of data collection stats →

Hourly Data Collection Statistics

Hour:	18-19	19-20	20-21	21-22	22-23	23-0	0-1	1-2
DOMSAT (Good/ParErr):	0	10568 / 59	11651 / 69	11933 / 84	11557 / 75	11540 / 72	10282 / 63	0
GOES DRGS (Good/ParErr):	0	0	0	0	0	0	0	0
DDS Recv (Good/ParErr):	0	47904 / 286	11658 / 69	11920 / 84	11568 / 74	11523 / 73	11960 / 77	8107 / 49
Archived (Good/ParErr):	0	47664 / 277	11650 / 68	11935 / 83	11557 / 74	11540 / 71	11930 / 74	8107 / 49

Detailed status on all message inputs →

Downlink Statistics

Downlink Name	Last Msg Rcv Time	Link Type	Last Seq Num	Link Status	Link Params
DomsatRecv	08/19 00:49:54	DOMSAT	43112	Active	
DDS-Recv:Main	08/19 01:39:52	DDS	-1	Active	
DRGS-Recv:Main	(none)	DRGS	-1	Active	
DDS:DROT	08/19 01:39:52	DDSCON	-1	Real-Time	
DDS:CDADATA	(none)	DDSCON	-1	Ready	

Stats on clients currently connected to this server →

Client Statistics

Slot	Host Name	Client Type	User	Msg Count	Last Activity Time	Status
0	216.83.203.98-0	DDS-CLI	wcdas	0	08/19 01:39:58	running

5.1 Change your User Information and Password

After you have connected to one of the NOAA servers with your password, you can use the program to set your user information and password.

Select File – Set Password to change your password. As of 2016 NOAA will require that password follow NOAA guidelines:

- 12 non-blank characters minimum
- At least 3 of the 4 character types: upper case, lower case, digits, special characters.
- No dictionary words or common acronyms
- Cannot reuse a password used within the last 8 times or 2 years

You must also add user information about yourself and your organization. Select File – User Administration. Fill out the form as shown below. NOAA will soon require all fields to be filled out except for Description.

Edit DDS User Info

DDS User on Host: cdadata.wcda.noaa.gov

DDS User Name: joetest

DDS Password: Select File – Set Password

First Name: Joe

Last Name: Testuser

Organization: Test User, Inc.

Email: joes@testuser.net

Telephone: 123–456–7890

Description: A temporary test user

☐ Local?

Permissions
- ☑ Retrieve DCP Messages & Status
- ☐ Administrator
- ☐ Suspended

Restrictions
- ☐ IP Addr:
- ☐ DCP RT Limit:
- ☐ Force Ascending

[OK] [Cancel]

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6 Browse DCP Messages in the GUI

Click the "DCP Message Browser" shortcut or run the "msgaccess" command.

This program allows you to interactively retrieve, view, and download DCP messages from an LRGS server.
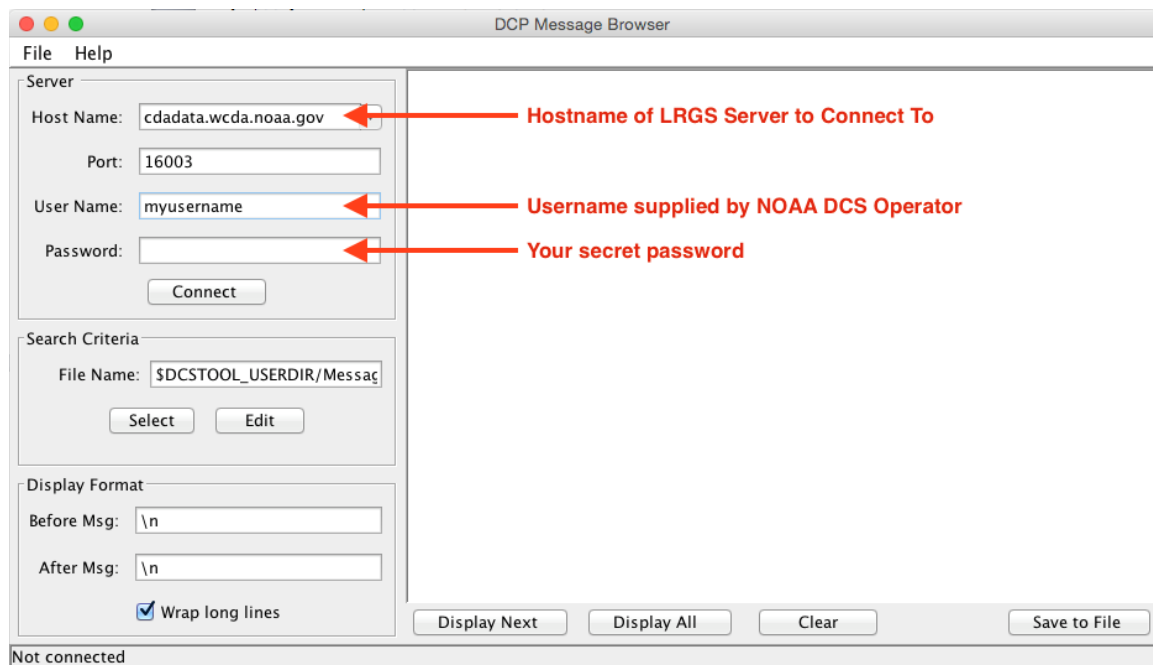

The usual workflow for this program is as follows:

1. Specify which server you want to connect to and supply a user name.
2. Type your secret password in the area provided.
3. Hit "Connect" and verify the status bar on the bottom that you are indeed connected.
4. Hit the "Edit" button under Search Criteria. This is where you specify which data you are interested in.
5. Hit either the Display Next or Display All buttons at the bottom to view one message at a time, or to retrieve all messages that pass your criteria.
6. (Optional) Hit "Save to File" in the lower right corner. Specify a file name in which to save the data on your local disk.

The 4ᵗʰ step allows you to edit a "Search Criteria" screen.

(The first time you run this program there may be no stored search criteria yet and you will receive a warning. This will not happen after you have saved the first search criteria, as described below).
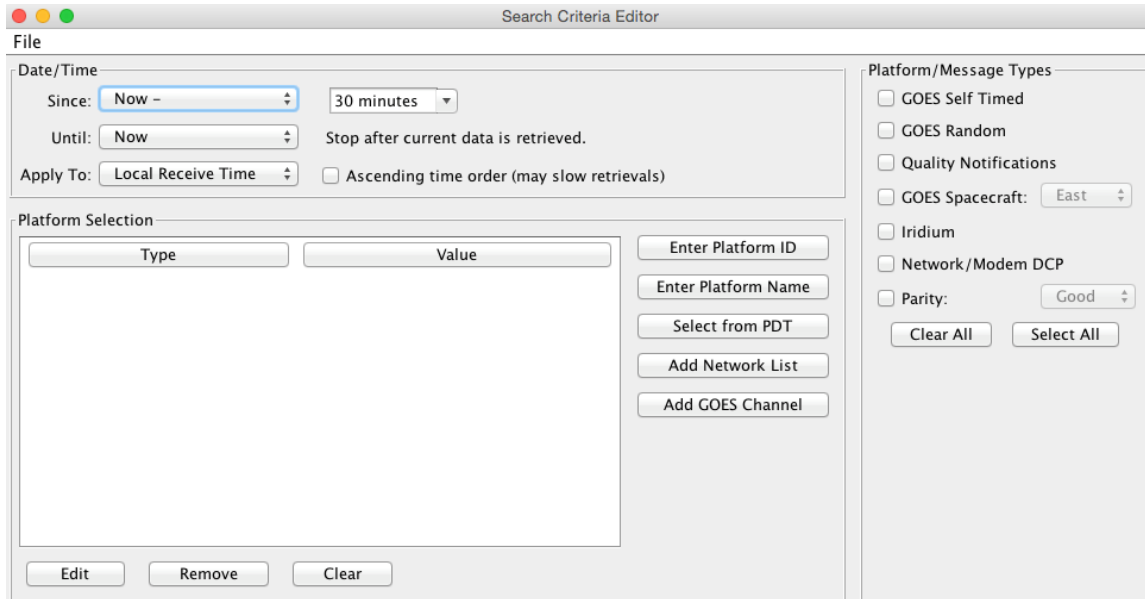
Time Range	Enter the Since and Until time for your retrieval. You can specify a time relative to "now" (shown above), or a calendar date/time.
	The above example shows retrieval for the 30 minutes.
Platform Selection:	Specify platforms by DCP address, network list, GOES Channel, or select from the GOES PDT.
Message Type:	For the NOAA servers, you can specify GOES Self Timed, GOES Random, or leave the selection blank for both.

After specifying the criteria you can hit File – Save to make it permanent, or just leave the editor screen up but move it aside.

7 Download DCP Messages from Command Line

There is a command line program you can use to download DCP data without the GUI. You can use this for automated downloads. The program is called "getDcpMessages". To run it, open a terminal (or DOS CMD) window and:

- CD to where the OPENDCS software is installed
- Type:

```
bin\getDcpMessages
```

The program takes many arguments. Run it with "-x" on the command line to get a list of arguments and an explanation of their meaning.

8 Other Capabilities

OpenDCS contains a powerful module for decoding, translating, and formatting DCP data. Look in the 'doc' subdirectory after installation for numerous PDF documents on using the software. A good place to start for decoding is the "Quick Start" manual in that directory.

Support is available through various commercial vendors and also on the GitHub opendcs wiki. For more information contact Cove Software, LLC:

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