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Blacknest Data System (BDS)
BdsImportCd Daemon – 1.2.21 - 2012-04-24

1. Introduction

The BdsImportCd daemon is a data import daemon that is designed to import incoming CD1.0 and CD1.1 files produced from CD1.x streams by the CDTOOLS system.

There is one BdsImportCd daemon running on a suitable host, possibly the master BDS host computer. The BdsImportCd daemon is a client of the BdsServer and connects through the DataAddAccess API in order to import the requested data.

2. Usage

The BdsImportCd is normally started off at system boot time by the BdsImportCd initialisation script in /etc/rc.d/init.d. It can thus be started and stopped with the following command line commands:

service BdsImportCd start
service BdsImportCd stop

The BdsImportCd daemon runs as the **bds** user to enhance system security. For debugging the BdsImportCd also takes the following command line arguments:

-help	Help on command line parameters
-f	Run in foreground mode
-w	Display warnings
-c	Catch up without importing the data
-d	Print debug messages

3. Configuration

The BdsImportCd uses a single text file, /etc/bdsImportCd.conf, to define its configuration. This configuration file is read when the program starts up. The configuration file's mode only allows the user **bds** and **root** to access it to provide a degree of protection for the BDS access password. The configuration file has the following parameters defined:

BdsServer	The BdsServer host name
BdsUser	The BDS user and password (Normally bdsImportCd)
Source*.name	A title for this set of data
Source*.network	The Network Organisation for this set of data
Source*.source	The BDS source to import the files under.
Source*.dir	The directory for the files.

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There can be any number of "Source*" entries each with a different number in place of the "*" field.

4. Import Files

The BdsImportCd expects files to be stored in subdirectory paths below the specified directory as follows:

> <Year>/<Month>/<Day>/<Files>

For example:

> 2011/06/01/H08N.20110601.0000.11bin

The program will import files with the extension .10bin (CD1.0 files) and .11bin (CD1.1) files. It expects a file name format of: <station>.<date>.<time>.<ext> although the actual values are ignored.

The CD1.x format consists of a set of blocks. Each block has information on the channels it contains (station and channel fields but no channelAux field). The import station and channel names are derived from this information. Each block normally contains a number of channels, but can just contain a subset. There can be duplicate blocks and blocks may not be in time order due to back filling. There can also be missing blocks for all channels or just some of the channels.

5. Operation

The BdsImportCd daemon operates once every 10 minutes. It scans each of the source directories for new files. It keeps a cache of the last date/time of the last file it has processed in /var/cache/BdsImportCdTimes.cache. Where new files are found it will first validate the data and then import the data. It will ignore the current days files as the system may be updating the blocks in these files to fix missing blocks during reception.

The "-c" option is available for the BdsImportCd program to catch up with the present data files. In this case the BdsImportCd program will just update its position to the latest files by writing a suitable entry into /var/cache/BdsImportCdTimes.cache and not import any files to the current date/time.

6. Errors

The BdsImportCd daemon is configured to re-order blocks, delete duplicate blocks and ignore missing block errors when importing. If validation fails, for another reason, then an error message will be printed in the BDS logs and and the data will not be imported.

The BdsImportCd daemon will send logs to the BDS standard logging system. Some logs are also written to the standard system log file /var/log/messages via the systems syslog daemon. Import Validation warnings are added to the BDS Notes database as well as the import files MetaData.

The BdsImportCd keeps a log of the files it has imported with a success or otherwise indication in the file:

/var/log/bds/bdsImportCd.log as defined by the "LogFile" parameter in the configuration file.

7. Further Information

For further information please look at the BDS system documentation at:
https://portal.beam.ltd.uk/support/blacknest .