# **CDOAN-Converter**

External File to CMSG Converter June 23, 2024 Release 1.0.8

#### **CDOAN** Converter

This program extracts DNP messages located in various "other file formats" and writes those messages to a CDOAN message files (\*.cmsg). The cmsg file can then be loaded into CDOAN-DNP3.

The program works on several file format in addition to PCAP.

#### Convert A File

The CDOAN-Converter program appears as shown.

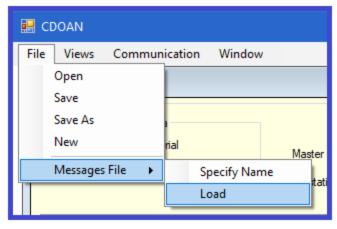
🔡 External File Conversion, Release 1.0.8, 23-June-2024	- 0	×
File Selection         Output File         Input File         Convert from file type         PCAP       Generic Text         Binary       Triangle Conformance XML         Triangle TestHamess Log	<ul> <li>Show Converted Data</li> <li>Convert Only</li> </ul>	

To convert a file:

- Select *Input File* and enter the name and location of the file to convert. Once selected, the *Output File* field is filled in with the same name as the input file, but replacing the extension with *CMSG*, the extension for CDOAN-DNP3 message files.
- Change the **Output file** name if you want to use a name other than the one automatically generated
- Before converting, checking *Show Converted Data* will display what is being converted in a scroll window in the lower portion of the view. This is then available for viewing when the conversion is over. However, for larger files, this can require a large amount of time. For example, a 56K binary file may take one minute to convert and format for viewing. Check *Convert Only* to convert the file without display. The reduces the time in the sample file from one minute to two seconds. A converted file can always be loaded into CDOAN-DNP3 for viewing.
- Select one of the targets corresponding to the input file format.
  - **PCAP** works on files generated by Wireshark.
  - Binary may work on binary files if you do not know the format. The program scans the file looking for DNP message sequences. It considers any sequence it finds that starts with [05 64]
  - o Generic text works the same as binary, except with text files
  - Triangle: Conversion options for files from programs released by Triangle Microworks<sup>™</sup> usually work, but their conversion is not guaranteed. CDOAN has no access to Triangle Microworks<sup>™</sup> software and has never used any of their programs. The code was written by reverse engineering files received from others.

### Loading a Converted File

Once conversion completes, start CDOAN-DNP3 and load the generated messages (CMSG) file as shown below.



## Sample View of Converted PCAP File

🖳 External File Conversion, Release 1.0.8, 23-June-2024	- 🗆 X
File Selection	
Output File D:\Temp\15072021_DCU_DSR_time_sync_flag.cmsg	Show Converted Data
Input File D:\Temp\15072021_DCU_DSR_time_sync_flag.pcapng	Convert Only
Convert from file type	
PCAP Generic Text Binary Triangle Conformance XML Triangle TestHamess Log	
	~
DNP Message at [23-Jun-2024 15:15:51.299]	
05 64 11 C4 04 00 03 00 4E EF F3 C4 01 3C 02 06 3C 03 06 3C 04 06 E0 38	
DNP Message at [23-Jun-2024 15:15:52.299]	
05 64 0A 44 03 00 04 00 7C AE CO C4 81 00 00 B7 34	
DNP Message at [23-Jun-2024 15:15:53.299]	
05 64 11 C4 04 00 03 00 4E EF F4 C5 01 3C 02 06 3C 03 06 3C 04 06 29 32	
DNP Message at [23-Jun-2024 15:15:54.299]	
05 64 0A 44 03 00 04 00 7C AE C1 C5 81 00 00 59 D5	
DNP Message at [23-Jun-2024 15:15:55.299]	
05 64 11 C4 04 00 03 00 4E EF F5 C6 01 3C 02 06 3C 03 06 3C 04 06 5C E5	
EOF	~
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