8505 Asn 1 - Testing and Usage

How does one dance the Futterwacken?

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README

Replicated below as shown on https://github.com/isaacmorneau/8505-asn1

README.md

8505-asn1

Building

to keep the root folder orderly it is recomended to make from within bin as follows

```
git clone https://github.com/isaacmorneau/8505-asn1.git
mkdir 8505-asn1/bin
cd bin
cmake ../
make
```

Running

Client usage info:

```
$ ./8505-asn1-client
-[-v]ersion - current version
-[-t]est    - run the test suite if compiled in debug mode
-[-f]ile    - the path to the file to send
-[-p]ort    - the server port to connect to
-[-h]ost    - the host to connect to
-[-d]elay   - seconds between messages
--help      - this message
```

Server usage info:

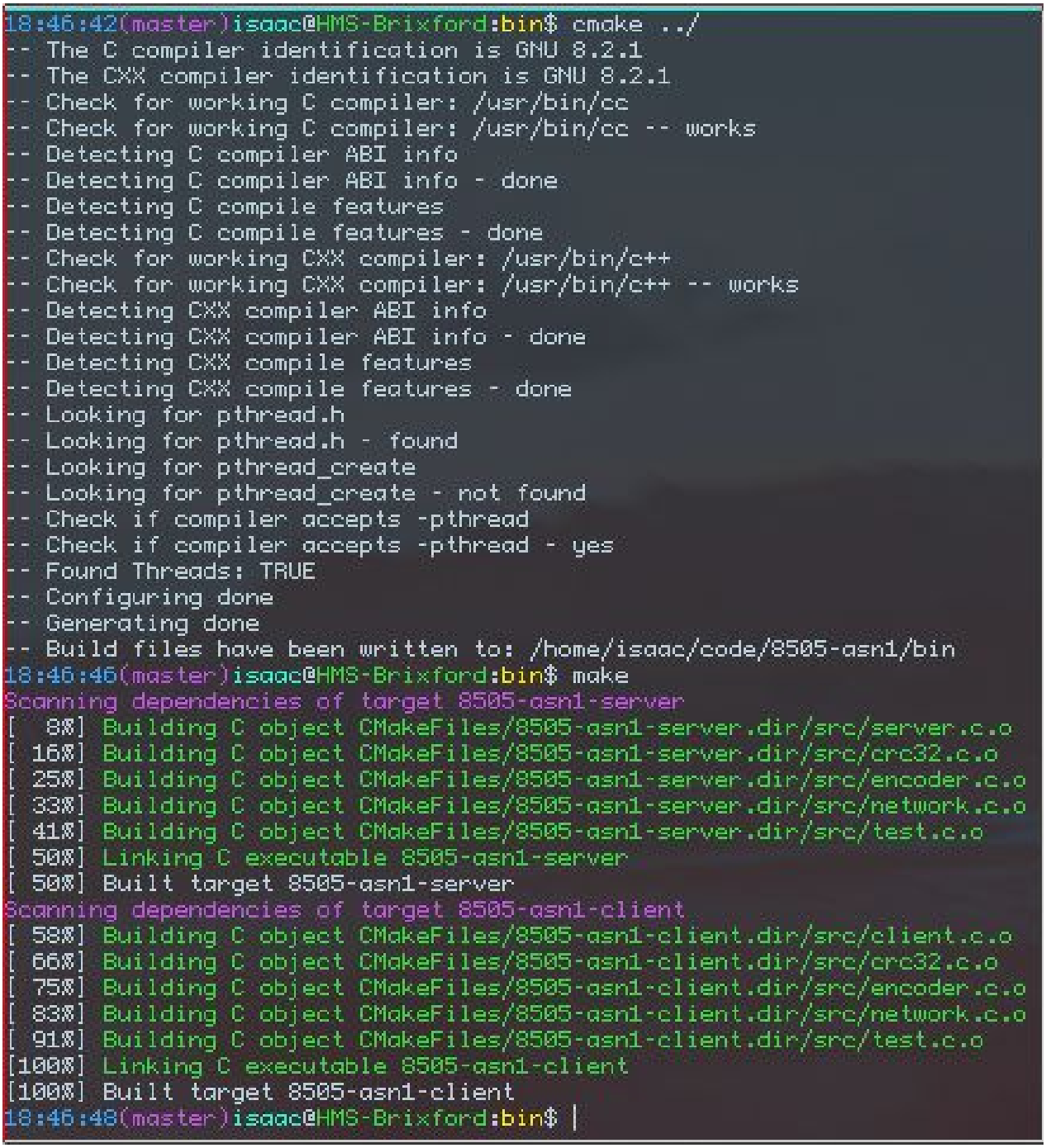
```
$ ./8505-asn1-server
-[-v]ersion - current version
-[-t]est    - run the test suite if compiled in debug mode
-[-f]ile    - the path to the file to recv
-[-p]ort    - the server port to connect to
--help      - this message
```

Build and Run

Steps

1. Run `cmake ../` inside of ./bin
2. Run `make`

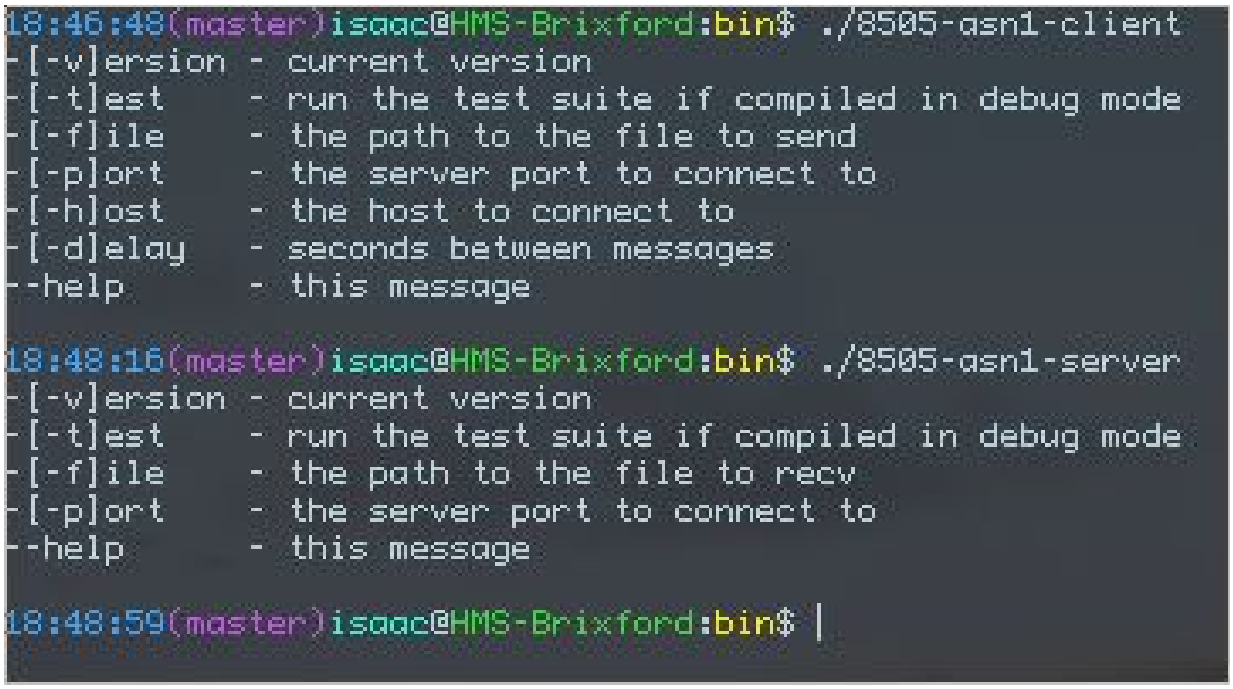
Expected Result



Run

1. Run `./8505-asn1-client`
2. Run `./8505-asn1-server`

Expected Result

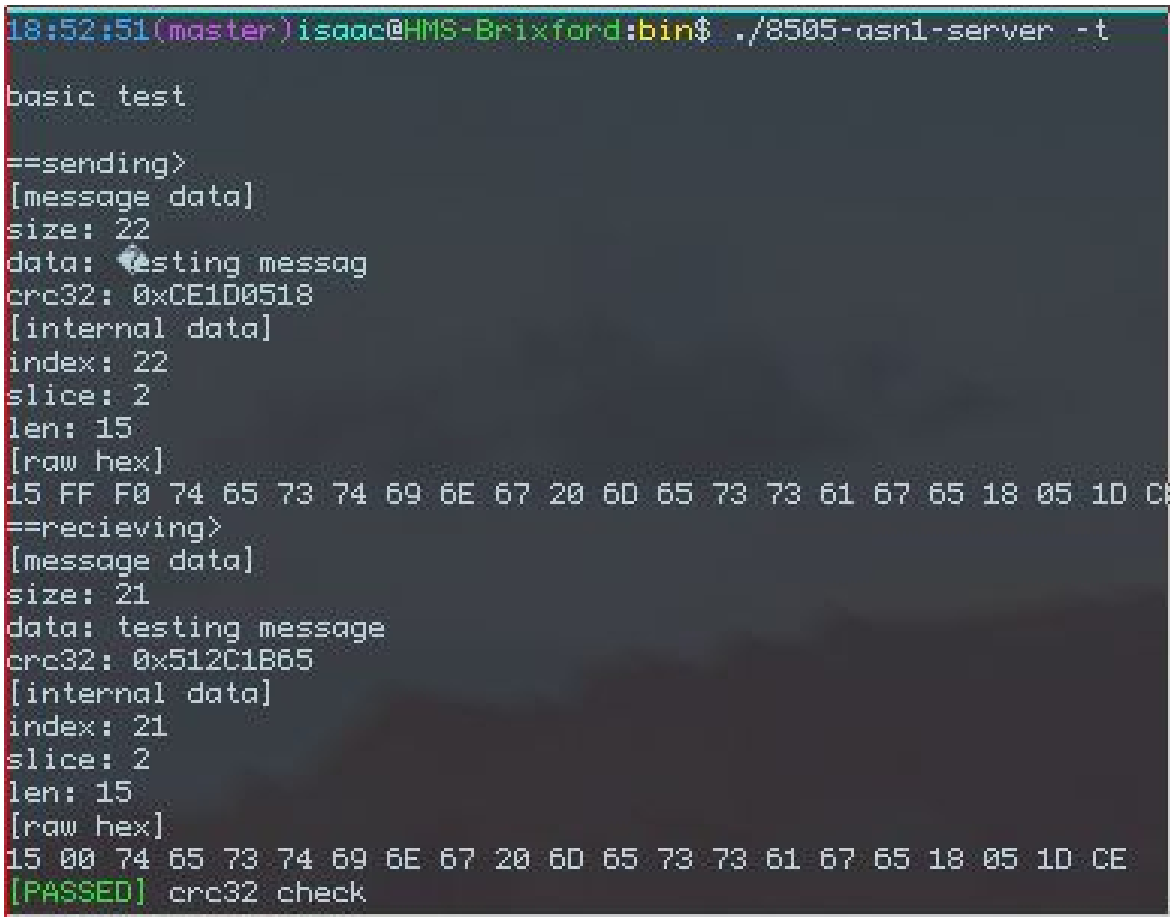


Test Cases

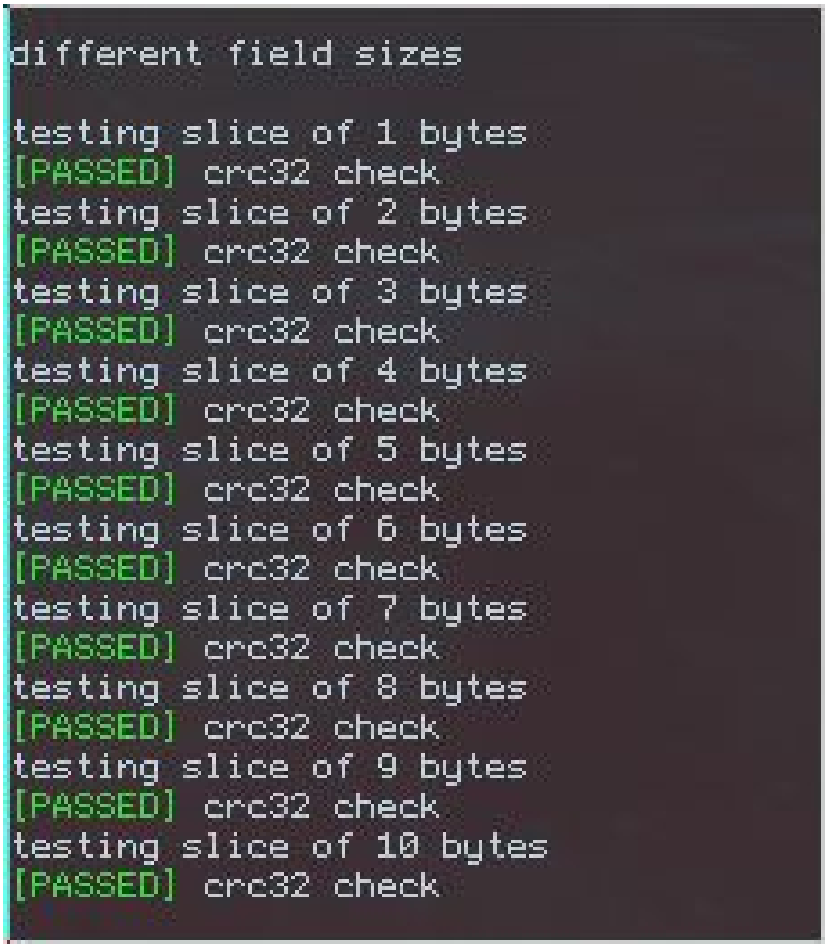
Unit Tests

This project, when compiled in debug mode, includes unit tests for all encoding and transcoding functionality. Each set of tests is overviewed below.

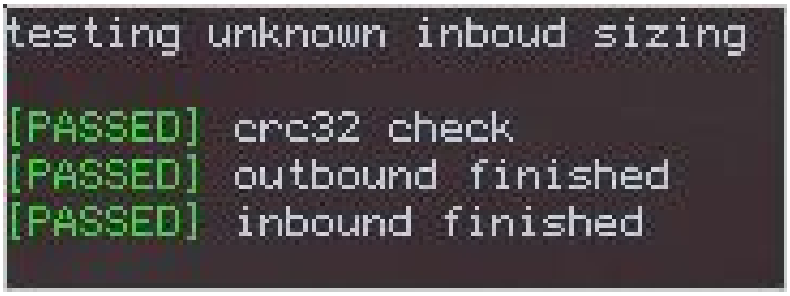
Most basic case of testing the interface



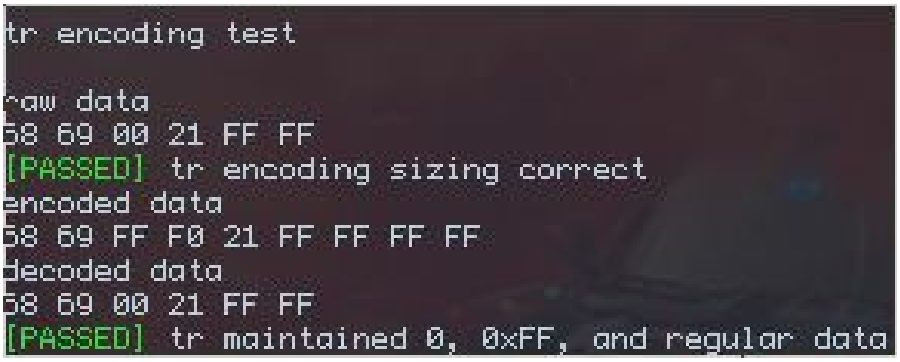
The encoder is actually designed to be able to handle any size of field as I was uncertain how much space would be available depending on what fields I was planning on using for exfiltration. As such it is able to handle multiple sizes of fields.



As the frames are designed to be sent over a network one of the tests involves sending it without a preknown size to ensure anything can be sent at run time.



Finally as the transcoding itself had a need to avoid zeros the functionality is ensured manually just to be certain all transcoding maintains the data and the sizing.



Manual Testing

Test	Steps	Result
Send a File	Server Machine 1. Run `./8505-asn1-server -f test` 2. Wait for frame to print 3. Run `cat test` Client Machine 1. Run `echo “hello world” > test` 2. Run `./8505-asn-client -f test -h <server address>` 3. Wait for file to send	Client sends till the file is transfered Server reads the file The file contains “hello world”
Test Daemon Mode	Server Machine 1. Run `./8505-asn1-server -f test` 2. Wait for frame to print 3. Run `cat test` Client Machine 1. Run `echo “hello world” > test` 2. Run `./8505-asn-client -f test -h <server address> -b` 3. Client Exits immediately	Client exits immediately Server reads the file The file contains “hello world”