

Team TBD

Chapter 1

Overview

Pidgin, similar to our original H/FOSS candidate Empathy, is an open-source platform for messaging across a number of [different protocols](#) used by Facebook, AIM, and other popular instant messaging networks. Pidgin is based off of another IM messaging service called Jabber. A number of 3rd party [plugins](#) add networks like Twitter, Skype, and many more. There is currently no mobile app for Pidgin, though there is a [portable app](#). Apple's development restrictions and the giant leap of porting to Android are significant obstacles to mobile development.

<https://pidgin.im/>

<https://developer.pidgin.im/>

Application Tests

We successfully compiled Pidgin in Ubuntu and have tested built-in IM services for Facebook and IRC as well as 3rd party plugins for classic Battle.net and Skype.

- IRC is working very well. It's easy to login and search/browse channels.
- Connecting to Facebook Chat is smooth, and the IM feature works beautifully. It's initially annoying that contact names pop up all over the Desktop, but the functionality is good.
- We've tested a few 3rd party plugins at this point. So far we have installed classic Battle.net and Skype but haven't been able to log in to Battle.net without a CD key for one of the older games, and we're troubleshooting Skype's failed SSL handshake. We plan to try the Twitter plugin next, but Twitter's previous ban on

clients and the lack of updates for this plugin in the last two years doesn't make this look promising.

Source Code Exploration

We started to dive into the source code by looking at `pidgin/test-driver.sh` and the `pidgin/libpurple/tests` folder that we thought might contain validation test suites for us to run. Not understanding what these files were initially, we emailed the pidgin development team on 9/9 for assistance and started working through the test-related files described below. It now seems to us that these are routine tests that the program runs during operation to check basic utilities, IM protocols, and encryption methods.

Summaries of test-related files:

`pidgin/`

- `test-driver.sh`
 - This is the driver included to make running tests easier. The command takes three parameters that are the test name, log file path, and trs file path. The test-name is the name of the test which is mostly meant to be used in console reports about the test suite. The log and trs paths are used for outputting the results and data acquired by the tests. There are other optional parameters as well that colorize the terminal output, determine if a failure is expected, or decide how hard errors are treated versus normal errors.

`pidgin/libpurple/tests/`

- `Makefile.am`
 - `Makefile.am` = automaker of other make files.
 - <http://stackoverflow.com/questions/2531827/what-are-makefile-am-and-makefile-in>

- test_jabber_*
 - It would appear that this project is using something called the Jabber test Suite which is an old open source testing framework that has been very hard to find information about, but it would appear that the Jabber testing framework was built to test an old IM messaging system that Pidgin appears to be built off of. The main purpose of this particular testing suite is to stress test the server capacities.
 - <http://www.drdoobs.com/stress-testing-jabber-with-the-jabber-te/199101609>
 - <http://jabbertest.sourceforge.net/>
- test.h
 - Header file that relates all the test suites.
- check_libpurple.c
 - Appears to be a test suite of the other test suites. Could not run as it has a missing dependency that is "glib.h".
- test_cipher.c
 - Tests following encryption methods as part of Cipher Suite:
 - MD4 - Message Digest algorithm
 - MD5 - replacement for MD4 (both now obsolete)
 - SHA1 - Secure Hash Algorithm 1
 - SHA256 - 256bit hash
 - DES - Data Encryption Standard
 - DES3 ECB - Triple DES Electronic CookBook
 - DES3 CBC - Triple DES Cipher-Block Chaining
 - HMAC - hash message authentication code
- test_util.c
 - Utility Functions suite:
 - Base 16 and 64 data encoding
 - Invalid file names

- Invalid email addresses
 - Invalid IP addresses
 - html to xml markup
 - text strip mnemonic?
 - utf8 strip unprintables?
 - strdup_withhtml?
- test_xmlnode.c
 - Testing for billion laughs DOS attack that targets xml parsers with haha's.
- test_oscar_util.c
 - OSCAR (Open System for CommunicAtion in Realtime) is AOL's proprietary protocol for AIM (and ICQ before they sold it), but lots of third parties have reverse engineered it.
 - Oscar Utility Functions suite:
 - Testing the name input for using protocol?
- test_yahoo.util.c
 - Yahoo IM's proprietary protocol.
 - Yahoo Utility Functions suite:
 - Testing the name input for using protocol?