

TauNet Software Test Plan

Document Version 1.0

Abstract

This document describes the test plan for the TauNet system.

Status of This Memo

This document is provided as part of the requirements for TauNet, as specified in Portland State University CS 300 Section 1 Fall 2015.

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1.0 Introduction

Unit test will be run after each build to verify functionality. The unit test focus on the cryptographic functions of the software. The software will pass all unit test when it is complete. Once the system is assembled the system tests will be run. The system tests focus on interoperability of this TauNet implementation. The software will pass all system tests when it is complete.

2.0 Unit Tests

2.1 Encryption & Decryption Subsystem (*secComponent*)

2.1.1 Decrypt(Encrypt) Unit Tests

Unit test will be performed the verify that the encryption and decryption are inverse functions. These test will cover all input expected during normal operation. These test will also attempt to cover edge cases.

Input: Plaintext string

Output: Plaintext string

2.1.2 Decrypt Known Test Vector Unit Tests

Unit test will also be performed to verify that know good values can be decrypted. These test are the standard CS1 test vectors along with CS2 test vectors.

Input: Encrypted test vector

Output: Decrypted test vector

3.0 System Tests

3.1 Normal Operation Test - Local Pi's

This is a manual system test

This test will deploy the TauNet software on two Raspberry Pis and verify that messages can be sent and received.

Input: Client A messages Client B
 Client B messages Client A
Output: Client A receives Client B's message
 Client A receives Client B's message

3.2 Normal Operation Test - Communication with the TauNet echo server

This is a manual system test

This test will verify that messages can be sent to the TauNet echo server.

Input: A message is sent to the Echo Server
Output: A return message is recieved.

3.2 Normal Operation Test - Communication with other TauNet nodes

This is a manual system test

This test will verify that messages can be delivered in between two different implementations of the TauNet protocol.

Input: Client A messages Client B
 Client B messages Client A
Output: Client A receives Client B's message
 Client A receives Client B's message