TEST PLAN

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Team C

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1. Introduction

The test plan is directly linked with the event-trace diagrams from the Team C Project Design document dated 18 April 2014. Each event-trace diagram has a corresponding test plan listed in Table 1. Table 2 includes the project requirements referenced in the test plan.

2. Test Plan

Table 1. RdosTester Test Plan.

Test Case Number	Requirement Number	Test Description	Expected Result	Actual Result	Pass/Fail
1	3	Start the application	The application's GUI is opened and displayed. The GUI displays text fields where the user can enter a source IP address, destination IP address, and a port number. A transmit button is also available. The network connection is open and ready for use.		
2	3, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16	Enter a valid source IP address, destination IP address, and port number in GUI text fields. Click the transmit button.	The status bar displays a message stating, "Received Packet/Original Packet Ratio is: " followed by the ratio of the packet sizes.		

3	3	Start the application with no network available on the host machine.	The status bar displays a message stating, “Network Unavailable“.		
4	3, 5, 6, 7	Enter invalid IP addresses (outside of IPv4 specifications) and invalid port numbers (less than 0 and greater than 65535).	The status bar displays a message stating, “Invalid Address or Port“.		
5	3, 8, 9, 10, 11	Transmit a packet to a valid address and port, with no Open Arena server available to respond.	The status bar displays a message stating, “Transmission Unsuccessful“.		
6	3, 8, 9, 10, 11, 12	Transmit a packet to an active Open Arena server using a valid source address that is incorrect for the machine running RdosTester.	The status bar displays a message stating, “Transmission Unsuccessful“.		
7	3	Shutdown the application by clicking the “X” at the top right hand corner of the GUI.	The application’s GUI is closed. The network connection is closed.		

3. Project Requirements

Table 2. RdosTester requirements.

Requirement	Description
1	Shall be written using the Java v7 SDK and jNetPcap API
2	Shall run on the Oracle JVM (Java virtual machine), hosted on a currently supported version of the Microsoft Windows operating system
3	Shall provide the user with a graphical user interface
4	Shall run as a standalone application (neither as a client nor as a server)
5	Shall allow a source IP (internet protocol) address to be selected by the user as a target address
6	Shall allow a destination IP address (Open Arena server IP) to be selected by the user
7	Shall allow a destination port (Open Arena server port) to be selected by the user
8	Shall construct UDP (user datagram protocol) packets containing a message eliciting status from an Open Arena server
9	Shall construct IP packet headers, containing user selected addresses and ports
10	Shall combine IP packet headers and UDP packet payloads
11	Shall calculate complete packet-size, prior to transmission
12	Shall transmit packets to a selected Open Arena server, following user initiation
13	Shall receive packets from the selected Open Arena server
14	Shall calculate the size of received packets
15	Shall calculate the ratio of transmitted packet-size to received packet-size
16	Shall display the packet-size ratio (amplification ratio)
17	Shall not be operated remotely via any direct form of network control
18	Shall not be operated by an internal timer

19	Shall not obfuscate its operation via hidden user interface elements or deliberately opaque code