TEST PLAN

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Team C

Jamie Lane, Bradley Norman, Daniel Ross

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	Requirement	Test Description	Expected	Actual Result	Pass/Fail
Number	Number		Result		
1	3	Start the	The		
1	3				
		application	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,	Enter a valid	The status bar		
	10, 11, 12, 13,	source IP	displays a		
	14, 15, 16	address,	message		
		destination IP	stating,		
		address, and	"Received		
		port number in	Packet/Original		
		GUI text fields.	Packet Ratio is:		
		Click the	" followed by		
		transmit	the ratio of the		
		button.	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 delibera	
	opaque code	