

# **TEST PLAN**

**Revision 1.3**

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**Team C**

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## Revision History

Date	Revision	Description
4/20/2014	1.0	Initial document
04/22/2014	1.1	Re-numbered test cases to separate error handling tests into separate cases.
04/22/2014	1.2	Added test cases to cover all requirements.
4/25/2014	1.3	Added packet templates (sections 3 and 4).

## 1. Introduction

This 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 section 2, Table 1. Section 3 includes templates for the packets generated, transmitted and received by RdosTester.

## 2. Test Plan

*Table 1.* RdosTester Test Plan.

Test Case Number	Requirement Number	Test Description	Expected Result	Actual Result	Pass/Fail
1	3	Start RdosTester.	The application's GUI is 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	Start RdosTester with no network available on the host machine.	The status bar displays a message stating, "Network Unavailable".		
3	3, 5, 6, 7	Start RdosTester. Enter a valid IP	The status bar displays a message		

		address (169.254.254.1) and an invalid port number (-100).	stating, "Invalid Address or Port".		
4	3, 5, 6, 7	Start RdosTester. Enter a valid IP address (169.254.254.1) and invalid port number (70000).	The status bar displays a message stating, "Invalid Address or Port".		
5	3, 5, 6, 7	Start RdosTester. Enter an invalid IP address (300.1.1.1) and a valid port number (27960).	The status bar displays a message stating, "Invalid Address or Port".		
6	3, 5, 6, 7	Start RdosTester. Enter an invalid IP address (300.1.1.1) and an invalid port number (-100).	The status bar displays a message stating, "Invalid Address or Port".		
7	3, 5, 6, 7	Start RdosTester. Enter an invalid IP address (300.1.1.1) and an invalid port number (70000).	The status bar displays a message stating, "Invalid Address or Port".		
8	8	A) Start RdosTester. B)	The Console output should		

		<p>Enter the source address, 192.168.88.10. C) Enter the destination address, 192.168.88.24, and port, 27960. D) Click “transmit” in the GUI. E) Manually compare the console output of PacketTransmitter to the Transmit Packet Template in section 3.</p>	<p>match the Transmit Packet Template.</p>		
9	12	<p>A) Start RdosTester. B) Start the Wireshark network protocol analyzer on the machine hosting the test Open Arena server. C) Determine the internet address of the machine on which RdosTester is running. D) Enter the address determined in</p>	<p>The Wireshark output should match the Transmit Packet Template, with differences only in the hex representing the source address and IP header checksums. The hex representing the source address in the template should match the hex representation</p>		

		<p>step C, as the source address. E) Enter the destination address, 93.109.13.29, and port, 27960. F) Click “transmit” in the GUI. G) Manually compare the Wireshark output (for traffic matching the source address) to the Transmit Packet Template in section 3.</p>	<p>of the source address entered in step D.</p>		
10	3, 8, 9, 10, 11	<p>A) Start RdosTester. B) Determine the internet address of the machine on which RdosTester is running. C) Enter the address determined in step B, as the source address. D) Transmit a packet to a valid destination address (46.21.52.57) and port (80), with no Open</p>	<p>The status bar displays a message stating, “Transmission Unsuccessful”.</p>		

		Arena server available to respond.			
11	3, 8, 9, 10, 11, 12	A) Start RdosTester. B) Enter 46.21.52.57 (valid address but incorrect for machine running RdosTester) as the source address. C) Transmit a packet to an Open Arena server, destination address 93.109.13.29, port 27960.	The status bar displays a message stating, "Transmission Unsuccessful".		
12	3, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16	A) Start RdosTester. B) Determine the internet address of the machine on which RdosTester is running. C) Enter the address determined in step B as the source address. D) Enter the destination address, 93.109.13.29,	The status bar displays a message stating, "Received Packet/Original Packet Ratio is: ", followed by the ratio of the packet sizes. The manually calculated ratio should match the ratio displayed in the GUI.		

		<p>and port, 27960. E) Click the transmit button. F) Record the packet size listed in the console for the transmitted packet. G) Record the packet size listed in the console for the received packet. H) Manually calculate the ratio between the size of the received packet and the transmitted packet. I) Compare the ratio to the ratio displayed in the GUI.</p>			
13	3	<p>Shutdown the application by clicking the "X" at the top right hand corner of the GUI.</p>	<p>The application's GUI is closed. The network connection is closed.</p>		



### 3. Transmit Packet Template

Spaces and line breaks have been added to ease readability. They will differ in the console output. The green hex represents the IP header checksum. The red hex represents the source address. The blue hex represents the destination address. The yellow highlighted area represents the destination port.

→ Begin

```
ffffffff ffff001f bc01b4db 08004500 00293cbd 40008011 8c93c0a8
580ac0a8 58186d38 6d380015 319affff ffff6765 74737461 747573
```

← End

### 4. Receive Packet Template

Spaces and line breaks have been added to ease readability. They will differ in the console output. The green hex represents the IP header checksum. The red hex represents the source address. The blue hex represents the destination address. The yellow highlighted area represents the destination port.

→ Begin

```
4500039b00004000 401105dfc0a85818 c0a8580a6d386d38 03876789fffffffff
7374617475735265 73706f6e73650a5c 675f6c6d735f6d6f 64655c305c656c69
6d696e6174696f6e 5f726f756e647469 6d655c3132305c67 5f766f746547616d
6574797065735c2f 302f312f332f342f 352f362f372f382f 392f31302f31312f
31322f5c675f646f 5761726d75705c31 5c766964656f666c 6167735c375c675f
6d617847616d6543 6c69656e74735c30 5c675f64656c6167 4869747363616e5c
315c675f766f7465 4d696e467261676c 696d69745c305c67 5f766f74654d6178
467261676c696d69 745c305c675f766f 74654d696e54696d 656c696d69745c30
5c675f766f74654d 617854696d656c69 6d69745c31303030 5c675f616c6c6f77
766f74655c315c63 6170747572656c69 6d69745c385c626f 745f6d696e706c61
796572735c345c73 765f6670735c3235 5c73765f6d617863 6c69656e74735c38
5c675f67616d6574 7970655c305c7469 6d656c696d69745c 31355c667261676c
696d69745c31355c 646d666c6167735c 305c73765f666c6f 6f6450726f746563
745c315c73765f6d 617850696e675c31 3030305c73765f6d 696e50696e675c30
5c73765f6d617852 6174655c32353030 305c73765f6d696e 526174655c305c73
765f686f73746e61 6d655c4f41205465 7374205365727665 725c76657273696f
```

6e5c696f71332b6f 6120312e33365f53 564e313931304d20 6c696e75782d7838  
365f363420446563 2032352032303131 5c70726f746f636f 6c5c37315c6d6170  
6e616d655c616767 726573736f725c73 765f707269766174 65436c69656e7473  
5c305c73765f616c 6c6f77446f776e6c 6f61645c315c7376 5f6d617374657231  
5c64706d61737465 722e64656174686d 61736b2e6e65745c 67616d656e616d65  
5c626173656f615c 656c696d666c6167 735c305c766f7465 666c6167735c3736  
375c675f6e656564 706173735c305c67 5f6f62656c69736b 5265737061776e44  
656c61795c31305c 675f656e61626c65 447573745c305c67 5f656e61626c6542  
72656174685c305c 675f726f636b6574 735c305c675f696e 7374616e74676962  
5c305c675f616c74 457863656c6c656e 745c305c675f7469 6d657374616d705c  
323031342d30342d 32362031343a3434 3a35330a30203020 2248656164637261  
7368220a33203020 224d757269656c6c 65220a3820302022 477269736d220a32  
2030202253617267 65220a3020313620 2267726966677269 66220a

← End