Software Requirements Specification

for

Packet Sniffer

Version 1.0 approved

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Revision History

Name	Date	Reason For Changes	Version
Sunil Baliganahalli Narayana Murthy	2/17/2016	Initial draft	1.0
Sunil Baliganahalli Narayana Murthy	2/21/2016	Incorporated review comments from teammates	1.1
Sunil Baliganahalli Narayana Murthy	3/4/2016		1.2

1. Introduction

1.1 Purpose

Packet sniffing is defined as a technique that is used to monitor every packet that crosses the network. A packet sniffer is a piece of hardware or software that monitors all network traffic. Using the information captured by the packet sniffers an administrator can identify erroneous packets and use the data to pinpoint bottlenecks and help to maintain efficient network data transmission. For most organizations packet sniffer is largely an internal threat.

Packet sniffers can be operated in both switched and non switched environment. Determination of packet sniffing in a non switched environment is a technology that can be understand by everyone. In this technology all hosts are connected to a hub. There are a large number of commercial and non commercial tools are available that makes possible eavesdropping of network traffic. Now a problem comes that how this network traffic can be eavesdrop; this problem can be solved by setting network card into a special “promiscuous mode”. Now businesses are updating their network infrastructure, replacing aging hubs with new switches. The replacement of hub with new switches that makes switched environment is widely used because “it increases security”. However, the thinking behind is somewhat flawed. It cannot be said that packet sniffing is not possible in switched environment. It is also possible in switched environment.

1.2 Intended Audience and Reading Suggestions

This document is intended for User, Developer and tester.

1.3 Product Scope

<Provide a short description of the software being specified and its purpose, including relevant benefits, objectives, and goals. Relate the software to corporate goals or business strategies. If a separate vision and scope document is available, refer to it rather than duplicating its contents here.>

2. System Features

Business Requirements - [Not Applicable]

User Requirements				
ID	**Requirements**	**Topic Area**	**User**	**Priority**
UR-001	Users should have the option of choosing the client machine to monitor packets from	Freedom	Any	High
UR-002	Users should be able to deploy the application on any operating system/work environment	Deployment	Any	High
UR-003	Users should have the option to run the application either using a graphical interface or via the command	Interaction	Any	Medium
UR-004	Users should be able to extract required information and save it	Logging	Any	High

Functional Requirements				
ID	**Requirements**	**Topic Area**	**User**	**Priority**
FR-001	The user shall we be able to select the client for which he wants to monitor the network traffic.		User	High
FR-002	The user shall be able to capture live packet data from a selected network interface.		User	High
FR-003	The user shall be able to save the captured packets or discard.		User	Low
FR-004	The user shall be able to filter the packets like filter all TCP, ICMP etc.		User	Medium
FR-005	The user shall be able to open the saved packets for analysis.		User	Medium
FR-006	The user shall be import/export the saved packets.		User	Medium

FR-007	The user shall be able to look at the header data or packet data of the captured packet.		User	High
FR-008	The user shall be able to stop the capturing of the packets.		User	Medium
FR-009	The user shall be able to see the basic stats about the monitored client like # of TCP packets captured, # of UDP packets captured, etc.		User	Low
FR-010	The user shall be able to search for packets on many criteria		User	Low
FR-011	Colorize packet display based on filters.		User	Low
FR-012				

Non-Functional Requirements				
ID	**Requirements**	**Topic Area**	**User**	**Priority**
NF001	Sufficient network bandwidth			High
NF002	The application should be reliable			High
NF003	Application should be robust and handle at-least 5 clients			High
NF004	Application should be responsive			High
NF005	Application should have a reasonable performance (1sec)			Medium
NF006				

Use case documents:

Use Case ID:	UC-001
Use Case Name:	Open Graphical User Interface
Description:	Click on GUI icon of application to open a graphical interface to the application's functionality

Actors:	Any		
Pre-conditions	User should choose to use graphical interface to application in place of command line access to application		
Post conditions	User should understand the layout of the interface and should understand how the information is being displayed		
Frequency of Use:	User might use the GUI as primary interaction with application		
Flow of Events:		Actor Action	System Response
	1	Double-click application shortcut on desktop	Application GUI opens
	2	Click application entry in all programs menu	Application GUI opens
	3		
	4		
Variations:			
Notes and Issues:			
Developer Notes:			

Use Case ID:	UC-002
Use Case Name:	
Description:	

Actors:	
Pre conditions	
Post conditions	
Frequency of Use:	

Flow of Events:		Actor Action	System Response
	1		
	2		
	3		
	4		
Variations:			
Notes and Issues:			
Developer Notes:			

Use Case ID:	
Use Case Name:	
Description:	

Actors:			
Pre conditions			
Post conditions			
Frequency of Use:			
Flow of Events:		Actor Action	System Response
	1		
	2		
	3		
	4		
Variations:			
Notes and Issues:			
Developer Notes:			

Use Case ID:	
Use Case Name:	
Description:	

Actors:			
Pre conditions			
Post conditions			
Frequency of Use:			
Flow of Events:		Actor Action	System Response
	1		
	2		
	3		
	4		
Variations:			
Notes and Issues:			
Developer Notes:			

Use Case ID:	
Use Case Name:	
Description:	

Actors:			
Pre conditions			
Post conditions			
Frequency of Use:			
Flow of Events:		Actor Action	System Response
	1		
	2		
	3		
	4		
Variations:			
Notes and Issues:			
Developer Notes:			

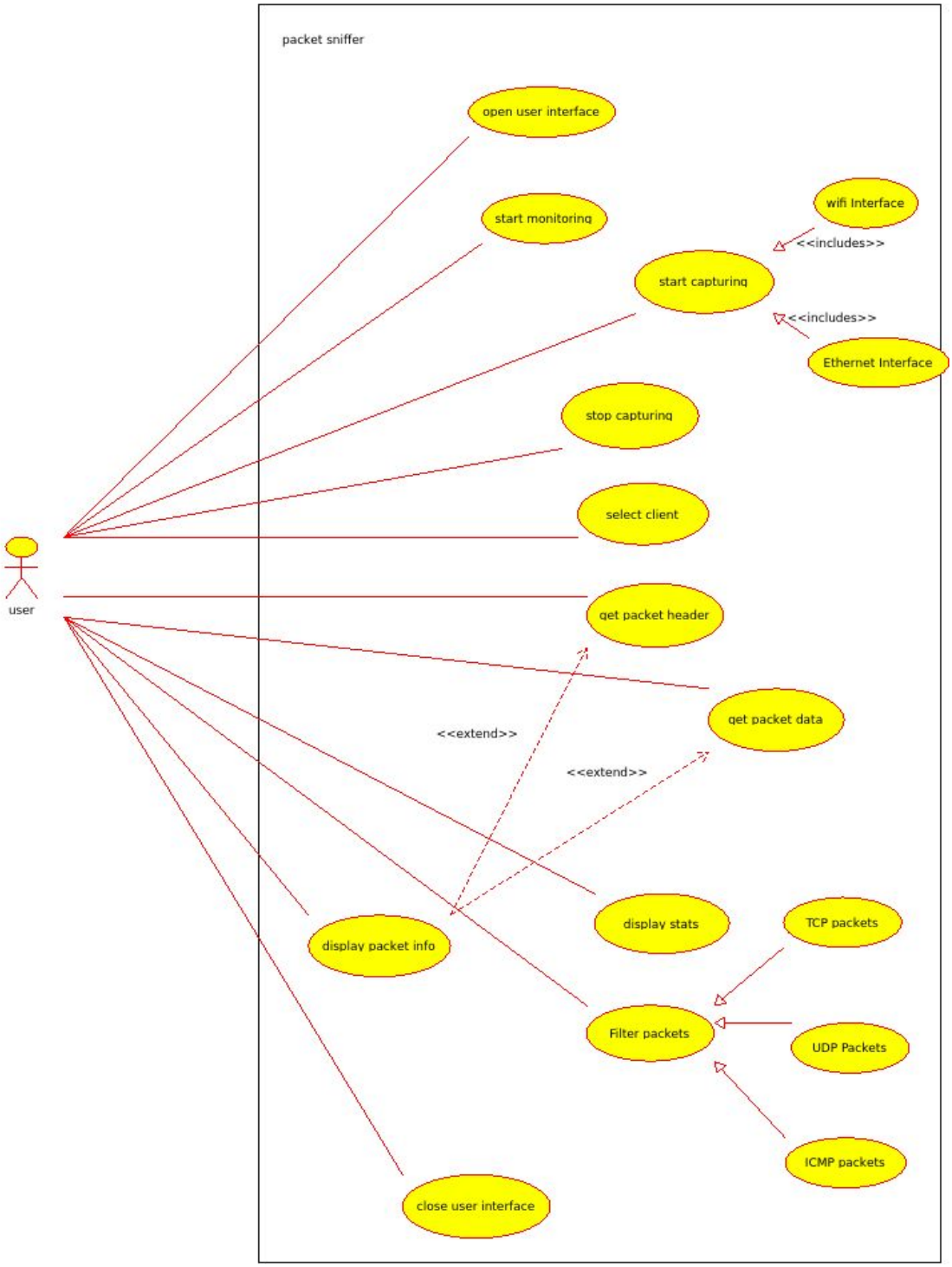
Use Case ID:	

Use Case Name:	
Description:	

Actors:			
Pre conditions			
Post conditions			
Frequency of Use:			
Flow of Events:		Actor Action	System Response
	1		
	2		
	3		
	4		
Variations:			
Notes and Issues:			
Developer Notes:			

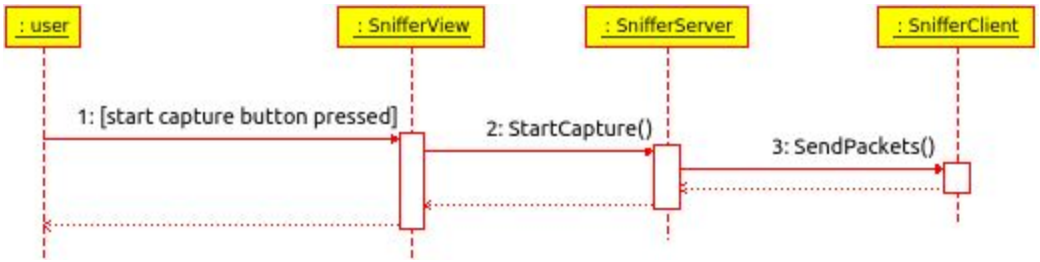
6. Functional View

6.1 Use case view



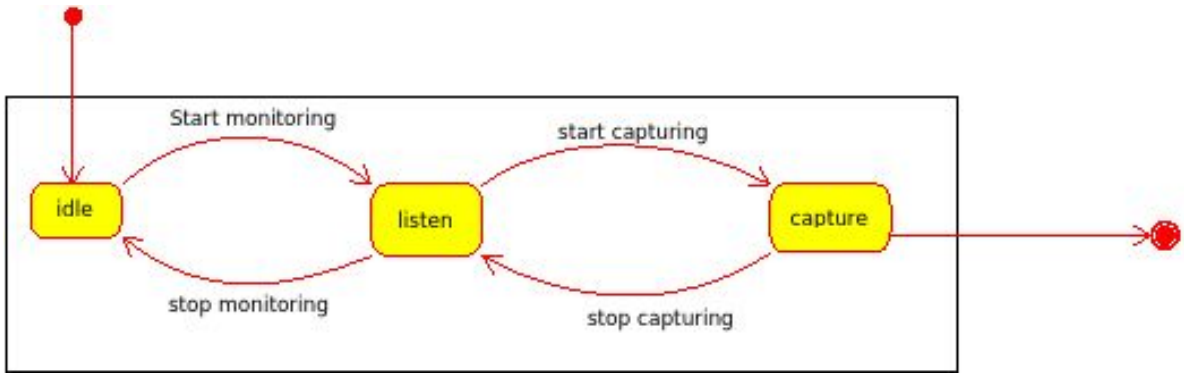
6.2 Logical View

6.2.1 Sequence diagrams

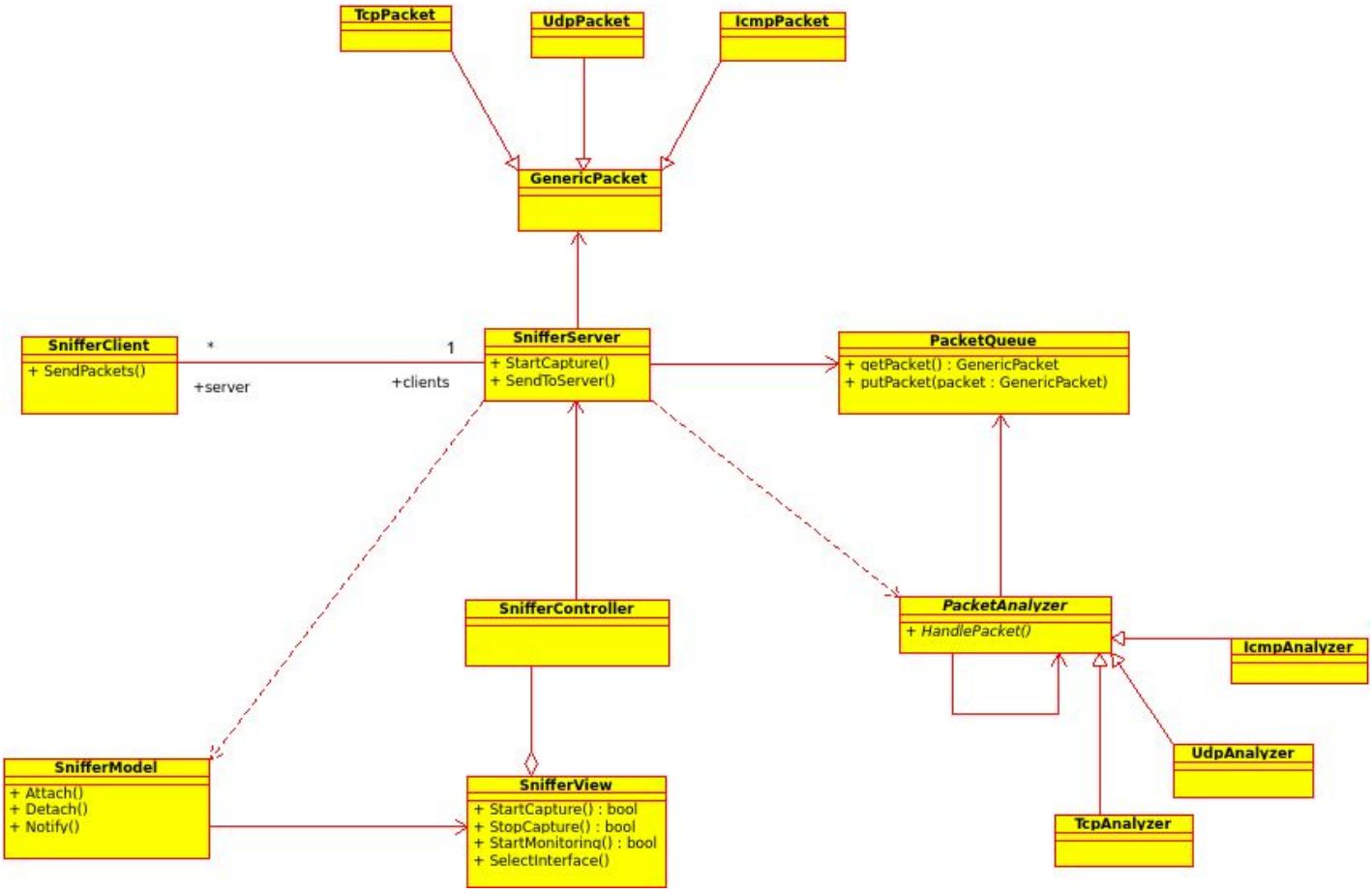


6.2.2 Activity diagrams

6.2.3 State chart diagrams

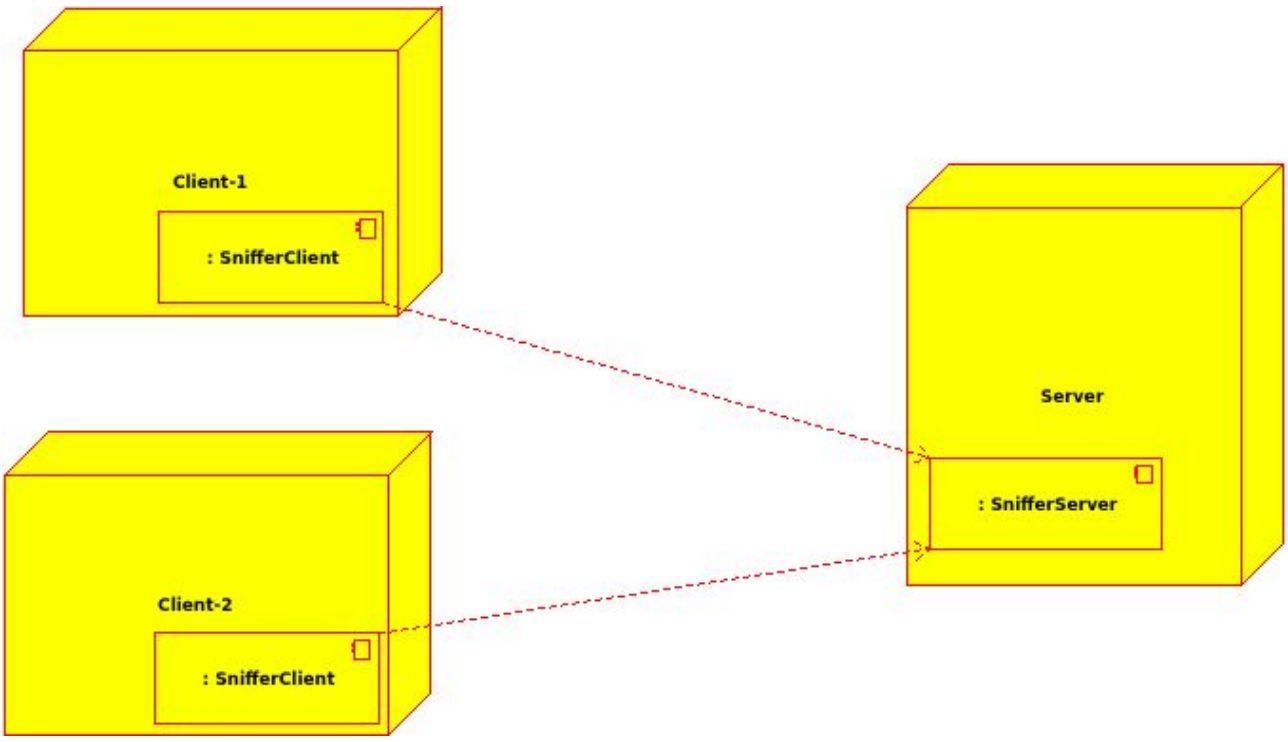


6.2.4 Class diagrams



6.3 Deployment View

6.3.1 Multi-client deployment



6.3.2 Stand-Alone deployment