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Test Environment and Data Requirements   
for Application Gateway

This document elaborate the test environment and data requirements to effectively test Application Gateway

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SUMMARY OF REVISIONS

|  |  |  |  |
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| **Version** | **Date** | **Author(s)** | **Comments** |
| v1.0 | 2015/09/09 | Thao Bui | Initiate document |
| v1.1 | 2015/09/13 | Thao Bui | Updated Test Environment Details |
| V1.2 | 2015/09/14 | Thao Bui | Updated Test Environment Details |
|  |  |  |  |

TERMS AND ABBREVIATIONS

|  |  |
| --- | --- |
| **Term** | **Description** |
|  |  |
|  |  |
|  |  |
|  |  |

# Introduction

This document will present and describe in details the test bed necessary for testing the application gateway.

## Purpose

Provide the test environment and test data in details to prepare for

* Functional testing
* Integration testing
* System testing
* Automation testing

the application gateway

## Scope

This document describe the test bed for testing features below:

1. Switching, VLAN
2. Routing: static routing, dynamic routing with protocol supported: RIPv2, OSPF
3. Network services: DHCP, PORT Forwarding, Virtual server.
4. Firewall: MAC filtering, Packet filtering, Content filtering
5. Wi-Fi: support 802.11/a/b/g/n, with WEP, WPA, and WPA2
6. Support real-time streaming protocol
7. Management: support syslog, remote syslog, and upgrade firmware.

of application gateway

## Reference

* Test Plan for Application Gateway v1.3

# Test Environment Details

## Test Environment Requirements

For each part of table below is minimum requirement for one testing functional / system. The details of environment setup and configuration present in *2.2 Test Environment Setup*.

|  |  |  |
| --- | --- | --- |
| **Test level** | **Feature to be tested** | **Hardware/software needed** |
| Functional Testing and Integration Testing | Switching and VLAN | * **Hardware** * Router: 2 * Workstation: 3 |
| Routing | * **Hardware** * Router: 16 * Workstation: 2 * Cisco 800 Series Router: 1 |
| Network services | * **Hardware** * Router: 2 * Workstation: 1 * Web/TFTP server: 2 |
| Firewall | * **Hardware** * Router: 2 * Workstation: 2 * **Software** * Wireshark v1.99.9 |
| Wi-Fi | * **Hardware** * Router: 1 * Workstation (support wireless): 2 |
| Real-time streaming | * **Hardware** * Router: 2 * Workstation: 2 * Media server: 1 |
| Management | * **Hardware** * Router: 2 * Workstation: 2 |
| System Testing and Automation Testing | All features | * **Hardware** * Router: 3 (16 if testing routing RIP) * Workstation: 6 * Workstation (support wireless): 2 * Media server: 2 * Web/TFTP server: 2 * Cisco 800 Series Router: 1 * **Software** * Wireshark v1.99.9 |

**Table 1 - Test Environment Requirements**

## Test Environment Setup

|  |  |  |
| --- | --- | --- |
| **Features** | **Network diagram** | **Note** |
| Switching and VLAN | D:\GoogleDrive\Temp\Switching.jpg  D:\GoogleDrive\Temp\VLAN.jpg |  |
| Routing | D:\GoogleDrive\Temp\Routing.jpg | These diagrams can use for integration testing between   * Routing and Switching * Routing and VLAN |
| Network services | D:\GoogleDrive\Temp\DHCP.jpg  D:\GoogleDrive\Temp\Port Forwarding.jpg | These diagrams can use for integration testing between   * DHCP and Switching * DHCP and Routing * Port Forwarding and Routing * Port Forwarding and Switching |
| Firewall | D:\GoogleDrive\Temp\Firewall.jpg | These diagrams can use for integration testing between   * Firewall and DHCP * Firewall and Routing * Firewall and Port Forwarding * Firewall and Management |
| Wi-Fi | D:\GoogleDrive\Temp\Wi-Fi.jpg | These diagrams can use for integration testing between   * Wi-Fi and DHCP * Wi-Fi and Switching |
| Real-time streaming | D:\GoogleDrive\Temp\Streaming.jpg | These diagrams can use for integration testing between   * Real-time streaming and routing * Real-time streaming and Switching * Real-time streaming and Wi-Fi |
| Management | D:\GoogleDrive\Temp\Management.jpg | These diagrams can use for integration testing between   * Management and routing * Management and Switching * Management and Wi-Fi * Management and Firewall |
| All features |  |  |

**Table 2 – Test Environment Setup**

# Training

## Training Identified

Training identified is listed in the table below:

|  |  |
| --- | --- |
| Type of Tool/Process | Tool /Process |
| Capture packet | Wireshark 1.99.9 |
| Automation test | Python 3.0 |

**Table 3 - Training identified**

## Training Materials and Approach

|  |  |  |
| --- | --- | --- |
| **Tool / Process** | **Method** | **Date / Time** |
| Wireshark 1.99.9 | * Self-studies * Knowledge sharing among peers |  |
| Python 3.0 | * Classroom style training by internal or external domain experts * Knowledge sharing among peers |  |

**Table 4 – Training Materials and Approach**

# Roles and Responsibilities

Roles and responsibilities defined as below for various tasks required in managing Test Environment:

|  |  |  |
| --- | --- | --- |
| Task | Role | Responsibilities |
| Test Environment Setup & Maintenance | IS Support  QA Manager | Plan, setup and maintain test environment with input from users |
| IS Support | Help to setup test environment |

**Table 5: Roles and Responsibilities for acquiring Test Environment**