Aerohive Networks Inc.

L7 Application Microsoft Lync Support Test Case

Revision History

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| --- | --- | --- | --- |
| Version | Date | Author | Description |
| 0.1 | 2013-07-10 | Lei Xu | Initial version |
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Glossary and Abbreviations

# Introduction

Aerohive AVC solution is adding Microsoft Lync as a supported application. All existing AVC features such as visibility and reporting, QoS, and Firewall will support it. Currently HiveOS supports adding new applications dynamically, without the need of any firmware upgrade or device reboots.

# Test Objectives

Verify HiveOS can classify Microsoft Lync correctly with the latest application signature.

Since this enhancement does not impact application visibility and reporting, QoS and Firewall workflow, thereporting, QoS and Firewall after Microsoft Lync classification are not in test scope.

# Test Acceptance Criterion from Development

* Approved – MRD

<http://aerohive.jiveon.com/docs/DOC-6948>

* Approved – Functional Specifications

<https://wiki.aerohive.com/wiki/display/hiveos/AVC+Microsoft+Lync+support>

* Approved – Unit Test Plans

N/A

# Product Pass Criterion

Meet all objects in marketing requirement or function spec which may include key function objectives, capacity objectives, and performance objectives and so on.

# Test Bed/Topo Design

# Test Case

## Solution

NA

## Function Test Case

### Upgrade L7 Application signature with Lync support

#### L7\_Signature\_Upgrade\_01

|  |  |  |  |
| --- | --- | --- | --- |
| Case ID | L7\_Signature\_Upgrade\_01 | | |
| Priority | Accept | Automation Flag | Yes |
| Topology to use | For AP  Laptop1-----(wifi0/wifi1)AP(eth)\_\_\_\_\_\_Switch\_\_\_\_\_HM  |  |  Internet  For BR  Laptop1-----(eth1/WiFi)BR(eth)\_\_\_\_\_\_Switch\_\_\_\_\_HM  |  |  Internet  Or we can meger AP and BR into same one topology. | | |
| Description | Verify upgrade application signature with Microsoft Lync support. | | |
| PlatformDependence | AP: AP110,AP120,AP121,AP141,AP170,AP320,AP340,AP330,AP350,  BR: BR200,BR200-WP,BRAP330,BRAP350  Note: when draft this test case, HiveOS Millau 6.0r2c AP370/390 does not support application signature with Lync support. And HiveOS Geneva release is not related with AP370/390. As per plan, AP370/390 will support it by 2013 fall. | | |
| Pre-condition | AP and BR are managed by HM. | | |
| Test procedure | * + 1. Upgrade HiveOS application signature upgrade to support Lync classification. | | |
| Expect result | Step 1. Upgrade HiveOS application signature successfully. | | |
| Test Result |  | | |
| Comment |  | | |

### L7 Engine Lync Classification Verification

#### Lync\_Client\_Login\_verification

|  |  |  |  |
| --- | --- | --- | --- |
| Case ID | Lync\_Client\_Login\_verification | | |
| Priority | Low | Automation Flag | No |
| Topology to use | For AP  Laptop1-----(wifi0/wifi1)AP(eth)\_\_\_\_\_\_Switch\_\_\_\_\_HM  |  |  Internet  For BR  Laptop1-----(eth1/WiFi)BR(eth)\_\_\_\_\_\_Switch\_\_\_\_\_HM  |  |  Internet  Or we can meger AP and BR into same one topology. | | |
| Description | Verify HiveOS loading application signature with Microsoft Lync support can classify Lync client login as “SSL” and “SIP”. | | |
| PlatformDependence | AP: AP110,AP120,AP121,AP141,AP170,AP320,AP340,AP330,AP350,  BR: BR200,BR200-WP,BRAP330,BRAP350  Note: when draft this test case, HiveOS Millau 6.0r2c AP370/390 does not support application signature with Lync support. And HiveOS Geneva release is not related with AP370/390. As per plan, AP370/390 will support it by 2013 fall. | | |
| Pre-condition | AP and BR are managed by HM.  Set BR eth1 mode as bridge-802.1q, AP eth as backhaul.  Create a SSID and bind it with AP’s sub-interface, which is set as access mode.  Laptop1 connects with SSID, or with BR. | | |
| Test procedure | * + 1. Block SSL and SIP via L7 FW at HiveOS, try to login Lync.     2. Permit SSL and SIP via L7 FW at HiveOS, try to login Lync. | | |
| Expect result | Step 1. Fail to login Lync client.  Step 2. Succeed to login Lync client. | | |
| Test Result |  | | |
| Comment |  | | |

#### Lync\_Chat\_Messages\_Verification

|  |  |  |  |
| --- | --- | --- | --- |
| Case ID | Lync\_Chat\_Messages\_Verification | | |
| Priority | Low | Automation Flag | No |
| Topology to use | For AP  Laptop1-----(wifi0/wifi1)AP(eth)\_\_\_\_\_\_Switch\_\_\_\_\_HM  |  |  Internet  For BR  Laptop1-----(eth1/WiFi)BR(eth)\_\_\_\_\_\_Switch\_\_\_\_\_HM  |  |  Internet  Or we can meger AP and BR into same one topology. | | |
| Description | Verify HiveOS loading application signature with Microsoft Lync support can classify Lync chat messages as “SSL” and “SIP”. | | |
| PlatformDependence | AP: AP110,AP120,AP121,AP141,AP170,AP320,AP340,AP330,AP350,  BR: BR200,BR200-WP,BRAP330,BRAP350  Note: when draft this test case, HiveOS Millau 6.0r2c AP370/390 does not support application signature with Lync support. And HiveOS Geneva release is not related with AP370/390. As per plan, AP370/390 will support it by 2013 fall. | | |
| Pre-condition | AP and BR are managed by HM.  Set BR eth1 mode as bridge-802.1q, AP eth as backhaul.  Create a SSID and bind it with AP’s sub-interface, which is set as access mode.  Laptop1 connects with SSID, or with BR. | | |
| Test procedure | * + 1. Permit SSL and SIP via L7 FW at HiveOS, customer send/receive chat message.     2. Check "show forwarding-engine ip-session" | | |
| Expect result | Step 2. HiveOS should create IP session with L7 ID as “SSL” and “SIP” for chat messages. And the number of packet/byte of IP session will increase with the increase of chat message usage. | | |
| Test Result |  | | |
| Comment |  | | |

#### Lync\_File\_Transfer\_verification

|  |  |  |  |
| --- | --- | --- | --- |
| Case ID | Lync\_File\_Trnansfer\_verification | | |
| Priority | Middle | Automation Flag | No |
| Topology to use | For AP  Laptop1-----(wifi0/wifi1)AP(eth)\_\_\_\_\_\_Switch\_\_\_\_\_HM  |  |  Internet  For BR  Laptop1-----(eth1/WiFi)BR(eth)\_\_\_\_\_\_Switch\_\_\_\_\_HM  |  |  Internet  Or we can meger AP and BR into same one topology. | | |
| Description | Verify HiveOS loading application signature with Microsoft Lync support can classify Lync file transfer as “Lync”. | | |
| PlatformDependence | AP: AP110,AP120,AP121,AP141,AP170,AP320,AP340,AP330,AP350,  BR: BR200,BR200-WP,BRAP330,BRAP350  Note: when draft this test case, HiveOS Millau 6.0r2c AP370/390 does not support application signature with Lync support. And HiveOS Geneva release is not related with AP370/390. As per plan, AP370/390 will support it by 2013 fall. | | |
| Pre-condition | AP and BR are managed by HM.  Set BR eth1 mode as bridge-802.1q, AP eth as backhaul.  Create a SSID and bind it with AP’s sub-interface, which is set as access mode.  Laptop1 connects with SSID, or with BR. | | |
| Test procedure | * + 1. Block Lync via L7 FW at HiveOS, and try to transfer file via Lync.     2. Permit Lync via L7 FW at HiveOS, and try to transfer file via Lync.     3. Check "show forwarding-engine ip-session" | | |
| Expect result | Step 1. Fail to transfer file via Lync client.  Step 2. Succeed to transfer file via Lync client.  Step 3. HiveOS should create IP session with L7 ID as “Lync” for Lync file transfer. And the number of packet/byte of IP session will increase with the increase of file transfer usage. | | |
| Test Result |  | | |
| Comment |  | | |

#### Lync\_Group\_Voice\_Chat\_verification

|  |  |  |  |
| --- | --- | --- | --- |
| Case ID | Lync\_Group\_Voice\_Chat\_verification | | |
| Priority | Middle | Automation Flag | No |
| Topology to use | For AP  Laptop1-----(wifi0/wifi1)AP(eth)\_\_\_\_\_\_Switch\_\_\_\_\_HM  |  |  Internet  For BR  Laptop1-----(eth1/WiFi)BR(eth)\_\_\_\_\_\_Switch\_\_\_\_\_HM  |  |  Internet  Or we can meger AP and BR into same one topology. | | |
| Description | Verify HiveOS loading application signature with Microsoft Lync support can classify Lync group voice chat as “Lync”. | | |
| PlatformDependence | AP: AP110,AP120,AP121,AP141,AP170,AP320,AP340,AP330,AP350,  BR: BR200,BR200-WP,BRAP330,BRAP350  Note: when draft this test case, HiveOS Millau 6.0r2c AP370/390 does not support application signature with Lync support. And HiveOS Geneva release is not related with AP370/390. As per plan, AP370/390 will support it by 2013 fall. | | |
| Pre-condition | AP and BR are managed by HM.  Set BR eth1 mode as bridge-802.1q, AP eth as backhaul.  Create a SSID and bind it with AP’s sub-interface, which is set as access mode.  Laptop1 connects with SSID, or with BR. | | |
| Test procedure | * + 1. Block Lync via L7 FW at HiveOS, and try to make group voice chat via Lync.     2. Permit Lync via L7 FW at HiveOS, and try to make group voice chat via Lync.     3. Check “show forwarding-engine ip-session” | | |
| Expect result | Step 1. Fail to make group voice chat via Lync client.  Step 2. Succeed to make group voice chat via Lync client.  Step 3. HiveOS should create IP session with L7 ID as “Lync” for Lync group voice chat. And the number of packet/byte of IP session will increase with the increase of group voice chat usage. | | |
| Test Result |  | | |
| Comment |  | | |

#### Lync\_Application\_Screen\_Sharing\_verification

|  |  |  |  |
| --- | --- | --- | --- |
| Case ID | Lync\_Application\_Screen\_Sharing\_verification | | |
| Priority | Middle | Automation Flag | No |
| Topology to use | For AP  Laptop1-----(wifi0/wifi1)AP(eth)\_\_\_\_\_\_Switch\_\_\_\_\_HM  |  |  Internet  For BR  Laptop1-----(eth1/WiFi)BR(eth)\_\_\_\_\_\_Switch\_\_\_\_\_HM  |  |  Internet  Or we can meger AP and BR into same one topology. | | |
| Description | Verify HiveOS loading application signature with Microsoft Lync support can classify Lync application screen sharinig as “Lync”. | | |
| PlatformDependence | AP: AP110,AP120,AP121,AP141,AP170,AP320,AP340,AP330,AP350,  BR: BR200,BR200-WP,BRAP330,BRAP350  Note: when draft this test case, HiveOS Millau 6.0r2c AP370/390 does not support application signature with Lync support. And HiveOS Geneva release is not related with AP370/390. As per plan, AP370/390 will support it by 2013 fall. | | |
| Pre-condition | AP and BR are managed by HM.  Set BR eth1 mode as bridge-802.1q, AP eth as backhaul.  Create a SSID and bind it with AP’s sub-interface, which is set as access mode.  Laptop1 connects with SSID, or with BR. | | |
| Test procedure | * + 1. Block Lync via L7 FW at HiveOS, and try to share application screen via Lync.     2. Permit Lync via L7 FW at HiveOS, and try to share application screen via Lync.     3. Check “show forwarding-engine ip-session” | | |
| Expect result | Step 1. Fail to share application screen via Lync client.  Step 2. Succeed to share application screen via Lync client.  Step 3. HiveOS should create IP session with L7 ID as “Lync” for Lync application screen sharing. And the number of packet/byte of IP session will increase with the increase of application screen sharing usage. | | |
| Test Result |  | | |
| Comment |  | | |

#### Lync\_Video\_Call\_verification

|  |  |  |  |
| --- | --- | --- | --- |
| Case ID | Lync\_Video\_Call\_verification | | |
| Priority | Middle | Automation Flag | No |
| Topology to use | For AP  Laptop1-----(wifi0/wifi1)AP(eth)\_\_\_\_\_\_Switch\_\_\_\_\_HM  |  |  Internet  For BR  Laptop1-----(eth1/WiFi)BR(eth)\_\_\_\_\_\_Switch\_\_\_\_\_HM  |  |  Internet  Or we can meger AP and BR into same one topology. | | |
| Description | Verify HiveOS loading application signature with Microsoft Lync support can classify Lync video call as “Lync”. | | |
| PlatformDependence | AP: AP110,AP120,AP121,AP141,AP170,AP320,AP340,AP330,AP350,  BR: BR200,BR200-WP,BRAP330,BRAP350  Note: when draft this test case, HiveOS Millau 6.0r2c AP370/390 does not support application signature with Lync support. And HiveOS Geneva release is not related with AP370/390. As per plan, AP370/390 will support it by 2013 fall. | | |
| Pre-condition | AP and BR are managed by HM.  Set BR eth1 mode as bridge-802.1q, AP eth as backhaul.  Create a SSID and bind it with AP’s sub-interface, which is set as access mode.  Laptop1 connects with SSID, or with BR. | | |
| Test procedure | * + 1. Block Lync via L7 FW at HiveOS, and try to make video call via Lync.     2. Permit Lync via L7 FW at HiveOS, and try to make video call via Lync.     3. Check “show forwarding-engine ip-session” | | |
| Expect result | Step 1. Fail to make video call via Lync client.  Step 2. Succeed to make video call via Lync client.  Step 3. HiveOS should create IP session with L7 ID as “Lync” for Lync video call. And the number of packet/byte of IP session will increase with the increase of video call usage. | | |
| Test Result |  | | |
| Comment |  | | |

#### Lync\_Desktop\_Sharing\_verification

|  |  |  |  |
| --- | --- | --- | --- |
| Case ID | Lync\_Desktop\_Sharing\_verification | | |
| Priority | Middle | Automation Flag | No |
| Topology to use | For AP  Laptop1-----(wifi0/wifi1)AP(eth)\_\_\_\_\_\_Switch\_\_\_\_\_HM  |  |  Internet  For BR  Laptop1-----(eth1/WiFi)BR(eth)\_\_\_\_\_\_Switch\_\_\_\_\_HM  |  |  Internet  Or we can meger AP and BR into same one topology. | | |
| Description | Verify HiveOS loading application signature with Microsoft Lync support can classify Lync desktop sharing as “Lync”. | | |
| PlatformDependence | AP: AP110,AP120,AP121,AP141,AP170,AP320,AP340,AP330,AP350,  BR: BR200,BR200-WP,BRAP330,BRAP350  Note: when draft this test case, HiveOS Millau 6.0r2c AP370/390 does not support application signature with Lync support. And HiveOS Geneva release is not related with AP370/390. As per plan, AP370/390 will support it by 2013 fall. | | |
| Pre-condition | AP and BR are managed by HM.  Set BR eth1 mode as bridge-802.1q, AP eth as backhaul.  Create a SSID and bind it with AP’s sub-interface, which is set as access mode.  Laptop1 connects with SSID, or with BR. | | |
| Test procedure | * + 1. Block Lync via L7 FW at HiveOS, and try to share desktop via Lync.     2. Permit Lync via L7 FW at HiveOS, and try to share desktop via Lync.     3. Check “show forwarding-engine ip-session” | | |
| Expect result | Step 1. Fail to share desktop via Lync client.  Step 2. Succeed to share desktop via Lync client.  Step 3. HiveOS should create IP session with L7 ID as “Lync” for Lync desktop sharing. And the number of packet/byte of IP session will increase with the increase of desktop sharing usage. | | |
| Test Result |  | | |
| Comment |  | | |

#### Lync\_Presentation\_Sharing\_verification

|  |  |  |  |
| --- | --- | --- | --- |
| Case ID | Lync\_Presentation\_Sharing\_verification | | |
| Priority | Low | Automation Flag | No |
| Topology to use | For AP  Laptop1-----(wifi0/wifi1)AP(eth)\_\_\_\_\_\_Switch\_\_\_\_\_HM  |  |  Internet  For BR  Laptop1-----(eth1/WiFi)BR(eth)\_\_\_\_\_\_Switch\_\_\_\_\_HM  |  |  Internet  Or we can meger AP and BR into same one topology. | | |
| Description | Verify HiveOS loading application signature with Microsoft Lync support can classify Lync presentation sharing as “SSL” and “SIP”. | | |
| PlatformDependence | AP: AP110,AP120,AP121,AP141,AP170,AP320,AP340,AP330,AP350,  BR: BR200,BR200-WP,BRAP330,BRAP350  Note: when draft this test case, HiveOS Millau 6.0r2c AP370/390 does not support application signature with Lync support. And HiveOS Geneva release is not related with AP370/390. As per plan, AP370/390 will support it by 2013 fall. | | |
| Pre-condition | AP and BR are managed by HM.  Set BR eth1 mode as bridge-802.1q, AP eth as backhaul.  Create a SSID and bind it with AP’s sub-interface, which is set as access mode.  Laptop1 connects with SSID, or with BR. | | |
| Test procedure | * + 1. Block SSL and SIP via L7 FW at HiveOS, and try to share presentation via Lync.     2. Permit SSL and SIP via L7 FW at HiveOS, and try to share presentation via Lync.     3. Check “show forwarding-engine ip-session” | | |
| Expect result | Step 1. Fail to share presentation via Lync client.  Step 2. Succeed to share presentation via Lync client.  Step 3. HiveOS should create IP session with L7 ID as “SSL” and “SIP” for Lync presentation sharing. And the number of packet/byte of IP session will increase with the increase of presentation sharing usage. | | |
| Test Result |  | | |
| Comment |  | | |

#### Lync\_Voice\_Call\_Encryption\_verification

|  |  |  |  |
| --- | --- | --- | --- |
| Case ID | Lync\_Voice\_Call\_Encryption\_verification | | |
| Priority | Low | Automation Flag | No |
| Topology to use | For AP  Laptop1-----(wifi0/wifi1)AP(eth)\_\_\_\_\_\_Switch\_\_\_\_\_HM  |  |  Internet  For BR  Laptop1-----(eth1/WiFi)BR(eth)\_\_\_\_\_\_Switch\_\_\_\_\_HM  |  |  Internet  Or we can meger AP and BR into same one topology. | | |
| Description | Verify HiveOS loading application signature with Microsoft Lync support can classify Lync voice call with encryption as “SSL”. | | |
| PlatformDependence | AP: AP110,AP120,AP121,AP141,AP170,AP320,AP340,AP330,AP350,  BR: BR200,BR200-WP,BRAP330,BRAP350  Note: when draft this test case, HiveOS Millau 6.0r2c AP370/390 does not support application signature with Lync support. And HiveOS Geneva release is not related with AP370/390. As per plan, AP370/390 will support it by 2013 fall. | | |
| Pre-condition | AP and BR are managed by HM.  Set BR eth1 mode as bridge-802.1q, AP eth as backhaul.  Create a SSID and bind it with AP’s sub-interface, which is set as access mode.  Laptop1 connects with SSID, or with BR. | | |
| Test procedure | * + 1. Block SSL via L7 FW at HiveOS, and try to make voice call with encryption via Lync.     2. Permit SSL and SIP via L7 FW at HiveOS, and try to make voice call with encryption via Lync.     3. Check “show forwarding-engine ip-session” | | |
| Expect result | Step 1. Fail to make voice call with encryption via Lync client.  Step 2. Succeed to make voice call with encryption via Lync client.  Step 3. HiveOS should create IP session with L7 ID as “SSL” for Lync voice call with encryption. And the number of packet/byte of IP session will increase with the increase of voice call with encryption usage. | | |
| Test Result |  | | |
| Comment |  | | |

## Stress Test Case

NA

## Longevity Test Case

NA

## Performance Test Case

NA

## Capacity Test Case

NA

## Compatibility Test Case

NA

## Negative Test Case

NA

## Other Test Case

NA

## CLI Management (Automation Status: Yes/No)

NA

## GUI Management-HiveManager

<List HM test case or test log>

## GUI Management-HiveUI

<List HiveUI test case or test log>

## Typical issue Test Case