

Virtual Services Platform 9000 Software Release 3.4.6.0

1. Release Summary

Release Date: March 2015

Purpose: Software release to address customer found software issues.

2. Important Notes before Upgrading to This Release

None.

3. Platforms Supported

Virtual Services Platform 9000 (all models)

4. Special Instructions for Upgrade from previous releases

None.

5. Notes for Upgrade

Please see “*Virtual Services Platform 9000, Release Notes*” for software release 3.4.0.2 (NN46250-401, 05.04) available at <http://www.avaya.com/support> for details on how to upgrade your Switch.

File Names For This Release

File Name	Module or File Type	File Size (bytes)
VSP9K.3.4.6.0.tgz	Release 3.4.6.0 archived software distribution	114858393
VSP9K.3.4.6.0_modules.tgz	Release 3.4.6.0 Encryption Modules	41893
VSP9K.3.4.6.0_mib.zip	Archive of all MIB files	772445
VSP9K.3.4.6.0_mib.txt	MIB file	4856346
VSP9K.3.4.6.0_mib_sup.txt	MIB file	818126
VSP9000v340_HELP_EDM_gzip.zip	EDM Help file	4012849
VSP9000v3.4.3.0.zip	EDM plug-in for v3430/vsp9000, built on 8/5/14, based on svn #31565	5627960
VSP9K.3.4.6.0.md5	MD5 Checksums	586

Note about image download:

Ensure images are downloaded using the binary file transfer. Perform MD5 checksum check on downloaded files to ensure file integrity.

Check that the file type suffix is “.tgz” and the image names after download to device match those shown in the above table. Some download utilities have been observed to append “.tar” to the file name or change the filename extension from “.tgz” to “.tar”. If file type suffix is “.tar” or file name does not exactly match the names shown in above table, rename the downloaded file to the name shown in the table above so that the activation procedures will operate properly.

Load activation procedure:

```
software add VSP9K.3.4.6.0.tgz
software add-modules 3.4.6.0.GA VSP9K.3.4.6.0_modules.tgz
software activate 3.4.6.0.GA
```

6. Version of Previous Release

Software Version 3.4.0.2, 3.4.1.0, 3.4.2.0, 3.4.2.1, 3.4.2.2, 3.4.3.0, 3.4.4.0, 3.4.5.0

7. Compatibility

8. Changes in 3.4.6.0

New Features in This Release

Slice Local Mirroring

An alternative “slice” method of doing port mirroring is added to supplement diag port mirroring to provide higher performance mirroring with restriction that ports must be local to the same slice.

The new “scope” field is added to the existing diag port mirroring command. If “scope” is not specified, it will be defaulted to “chassis” scope for the existing diag port mirroring functionality.

“scope” must be explicitly specified as “slice” to select the alternative way of port mirroring. The slice port mirroring is currently supported only on legacy card (9024XL) and is not supported on 9048GB and 9048GT or on Avaya next generation cards such as 9048XS-2 and 9012QQ-2.

The CLI command has following format,

```
(config)mirror-by-port 1 in-port {slot/port} out-port {slot/port} mode {rx/tx/both} scope {chassis/slice}
```

```
VSP-9010:1(config)#Mirror-by-port 1 in-port 3/9 outport 3/16 mode rx ?
    enable                               Enable port mirroring
    remote-mirror-vlan-id                 Set remote mirror vlan id
    scope                                 Set port mirroring scope, chassis is the regular port
                                           Mirroring and slice is port mirroring with restriction
    <cr>
```

For a port mirroring instance defined as slice, the following configuration restrictions apply:

1). Both mirroring port and mirrored port are required to be on the same slot/slice. Port mapping from individual ports to slices is listed below.

For a 24-port 10G card (9024XL), there are three slices per card with 8 ports per slice:

- Slice 0: port 1 - 8
- Slice 1: port 9 - 16
- Slice 2: port 17 - 24

For Example:

```
VSP-9010:1(config)#mirror-by-port 1 in-port 3/9 out-port 3/21 mode rx scope slice
```

Error: In-port and out-port should be on the same slot and slice for slice port mirroring

2). When configuring in-port (mirrored port) and out-port (mirroring port), a single port instead of port list must be supplied. Many to one port mirroring can be achieved by configuring multiple instances with the same destination port.

For example, if we want to monitor 4 ports via a single port on a 9024XL module, e.g., to use port 3/16 to monitor received traffic on ports 3/9 - 3/12, we can use multiple slice mirror instances as follows.

```
(config)mirror-by-port 1 in-port 3/9 out-port 3/16 scope slice
(config)mirror-by-port 2 in-port 3/10 out-port 3/16 scope slice
(config)mirror-by-port 3 in-port 3/11 out-port 3/16 scope slice
(config)mirror-by-port 4 in-port 3/12 out-port 3/16 scope slice
```

```
=====
                          Diag Mirror-By-Port
=====
```

ID	MIRRORED_PORT	MIRRORING_DEST	ENABLE	MODE	REMOTE-MIRROR	DSCP	TTL	SCOPE
VLAN-ID								
1	3/9	3/16	true	rx	0	0	64	slice
2	3/10	3/16	true	rx	0	0	64	slice
3	3/11	3/16	true	rx	0	0	64	slice
4	3/12	3/16	true	rx	0	0	64	slice

All 4 out of 4 Total Num of MirIds displayed

3). Up to 4 mirroring instances per slice are supported. To monitor a different slice port once 4 are defined, an existing one needs to be removed first.

```
VSP-9010:1(config)#mirror-by-port 5 in-port 3/13 out-port 3/15 mode both scope slice
```

```
Error: Only 4 slice port mirroring instances are allowed per slice.
```

```
VSP-9010:1(config)#no mirror-by-port 4
```

```
VSP-9010:1(config)#mirror-by-port 5 in-port 3/13 out-port 3/15 mode both scope slice
```

```
VSP-9010:1(config)#show mirror-by-port
```

```
=====
```

Diag Mirror-By-Port

```
=====
```

ID	MIRRORED_PORT	MIRRORING_DEST	ENABLE	MODE	REMOTE-MIRROR VLAN-ID	DSCP	TTL	SCOPE
1	3/9	3/16	true	rx	0	0	64	slice
2	3/10	3/16	true	rx	0	0	64	slice
3	3/11	3/16	true	rx	0	0	64	slice
5	3/13	3/15	true	both	0	0	64	slice

```
All 4 out of 4 Total Num of MirIds displayed
```

4). For an existing slice port mirroring instance, only two types of modifications are allowed. One is to enable/disable that instance and the other is to change the monitor mode, i.e., to choose among rx, tx, and both. To change the values of other parameters such as mirroring port and mirrored port, the instance must be deleted first then recreated with the desired parameters.

```
VSP-9010:1(config)#no mirror-by-port 1 enable
```

```
VSP-9010:1(config)#mirror-by-port 1 mode tx
```

```
VSP-9010:1(config)#mirror-by-port 1 enable
```

```
VSP-9010:1(config)#show mirror-by-port
```

```
=====
```

Diag Mirror-By-Port

```
=====
```

ID	MIRRORED_PORT	MIRRORING_DEST	ENABLE	MODE	REMOTE-MIRROR VLAN-ID	DSCP	TTL	SCOPE
1	3/9	3/16	true	tx	0	0	64	slice
2	3/10	3/16	true	rx	0	0	64	slice
3	3/11	3/16	true	rx	0	0	64	slice
5	3/13	3/15	true	both	0	0	64	slice

All 4 out of 4 Total Num of MirIds displayed

5). Of the 4 possible instances of scope slice port mirroring per slice, a maximum of two mirrors can be configured with Both and/or Tx mode, each of which may have different mirror-to ports.

VSP-9010:1#sho mirror-by-port

```
=====
                          Diag Mirror-By-Port
=====
```

ID	MIRRORED_PORT	MIRRORING_DEST	ENABLE	MODE	REMOTE-MIRROR	DSCP	TTL	SCOPE
VLAN-ID								
1	5/1	5/5	true	tx	0	0	64	slice
3	5/2	5/6	true	rx	0	0	64	slice
4	5/4	5/8	true	tx	0	0	64	slice
5	5/9	5/10	true	both	0	0	64	slice
6	5/11	5/12	true	both	0	0	64	slice
7	5/13	5/14	true	rx	0	0	64	slice
8	5/15	5/16	true	rx	0	0	64	slice
9	5/17	5/24	true	both	0	0	64	slice
10	5/18	5/24	true	both	0	0	64	slice
11	5/19	5/24	true	both	0	0	64	slice
12	5/20	5/24	true	both	0	0	64	slice
111	4/1	3/8	true	both	0	0	64	chassis

All 12 out of 12 Total Num of MirIds displayed

VSP-9010:1(config)#mirror-by-port 2 in-port 5/3 out-port 5/7 mode both scope slice

Error: Maximum two mirrors of scope Slice supported if multiple Both/Tx mode mirrors configured, each for different mirror-to ports.

VSP-9010:1(config)#mirror-by-port 2 in-port 5/3 out-port 5/7 mode rx scope slice

VSP-9010:1(config)#show mirror-by-port

```
=====
                          Diag Mirror-By-Port
=====
```

ID	MIRRORED_PORT	MIRRORING_DEST	ENABLE	MODE	REMOTE-MIRROR	DSCP	TTL	SCOPE
VLAN-ID								
1	5/1	5/5	false	tx	0	0	64	slice

2	5/3	5/7	true	rx	0	0	64 slice
3	5/2	5/6	true	rx	0	0	64 slice
4	5/4	5/8	true	tx	0	0	64 slice
5	5/9	5/10	true	both	0	0	64 slice
6	5/11	5/12	true	both	0	0	64 slice
7	5/13	5/14	true	rx	0	0	64 slice
8	5/15	5/16	true	rx	0	0	64 slice
9	5/17	5/24	true	both	0	0	64 slice
10	5/18	5/24	true	both	0	0	64 slice
11	5/19	5/24	true	both	0	0	64 slice
12	5/20	5/24	true	both	0	0	64 slice
111	4/1	3/8	true	both	0	0	64 chassis

All 13 out of 13 Total Num of MirIds displayed

6). Diag port mirroring (scope equals chassis) and slice port mirroring (scope equals slice) can co-exist and the total number of mirroring instances is the same as current supported range from 1 to 479. Please see ID 111 in example output shown above.

MIB change: New MIB instance added to the existing rcDiagMirrorByPortTable

rcDiagMirrorByPortScope OBJECT-TYPE

```
SYNTAX      INTEGER {
                chassis(1),
                slice(2)
            }
```

MAX-ACCESS read-create

STATUS current

DESCRIPTION "Used to configure the port mirroring scope.

chassis is the default option which allows mirroring among ports from different slots.

slice option requires both mirroring and mirrored ports to be within the same slice.

Scope configuration only allowed in creation

but cannot be changed unless recreate."

DEFVAL { chassis }

::= { rcDiagMirrorByPortEntry 20 }

Migration Considerations

Slice local port mirroring configuration must be removed when migrating to a Release that does not support this functionality.

Old Features Removed From This Release

Problems Resolved in This Release

ID	Description
wi01188314, wi01197963	Slice local port mirroring for 9024 modules only. See notes on new feature above.
wi01198508	<p>High packet rate to and from the OAM port may cause an incorrect protocol out of profile message to be logged, indicating that the wrong type of packets are being dropped. Symptoms may be sluggish out of band management applications (FTP, Telnet, etc).</p> <p>Fix adds two new internal protocols: INGRESS_OAM and EGRESS_OAM to track OAM related packets. When the ingress-OAM or egress-OAM traffic goes out of profile, the "show khi cpp protocol-drops" command will show the number of dropped packets:</p> <pre>VSP9K:1(config)#show khi cpp protocol-drops</pre> <p>=====</p> <p style="text-align: center;">KHI CPP Details - Protocol Drop Counters</p> <p>=====</p> <pre>Protocol ID Discard Count -----</pre> <pre>INGRESS_OAM 89 EGRESS_OAM 40</pre> <p>Sample log messages:</p> <pre>CP1 [01/21/15 21:02:11.003] 0x00024715 00000000 GlobalRouter CPU WARNING Protocol meter EGRESS_OAM has gone out-of-profile. CP1 [01/21/15 21:00:44.200] 0x00024715 00000000 GlobalRouter CPU WARNING Protocol meter INGRESS_OAM has gone out-of-profile.</pre>
wi01203279, wi01208140	<p>SSH clone session option is not supported.</p> <p>Using clone session option in SecureCRT for SSH may cause system reset.</p>
wi01205385	crash while configuring LACP ActorOper Key=0

wi01205557	Adding an IST or SMLT port to a VLAN with a new MSTP group does not forward any traffic on IST ports.
wi01207304	SNMP request with an erroneous extra long community string may cause CP to reset.
wi01209259	Configuring RIP parameters when RIP has not been configured or if IP has not been configured will cause a CP reset.
wi01209683	MAC/ARP has wrong egress MLT ID after endpoint migration between SMLTs when local SMLT link is down. Fix is also available via 3.4.5.0 VSP9K.3.4.5.0.GA-T01209683A.tgz
wi01210444	When the log file instance is greater than 999, a wraparound error occurs. Logger starts appending to existing files and continues writing to the end of the next present file until it is full. There are circumstances where the log file instance will also go beyond 1000 and continue to create new files until the flash is full. Fix makes sure the file instance wraps at 999 and also checks when moving to new file to see if the file already exists and deletes it before continuing to log.

10. Outstanding Issues

Please see "Virtual Services Platform 9000, Release Notes release 3.4.0.2" (NN46250-401, 05.04) available at <http://www.avaya.com/support> for details regarding Known Issues.

In addition, the following issues have been identified:

ID	Problem Description	Workaround
wi01134134	ACL filter "default" deny action with "permit" control-packet-action not working after line card power off/on.	Once in the bad state, simply re-keying in "filter acl set 30 default-action deny control-packet-action permit" restores the functionality.
wi01135592	When ip mroute stats is enable via EDM, "PktsPerSecond" count is always showing zero.	Display properly by performing " show ip mroute stats " on ACLI.
wi01152560	ISIS adjacency over the IST port comes down and does not get re-established automatically when the IST is deconfigured.	<p>The configuration of SMLT peer-system-id and SMLT virtual BMAC is tied to having a valid IST configuration on the switch. Deletion of IST on a switch running SPBM is a service impacting operation and the following procedure must be followed when doing so.</p> <ul style="list-style-type: none"> • Disable ISIS • Clear the SMLT peer system-id • Clear the SMLT Virtual BMAC • Delete the IST peer configuration • Enable ISIS and • Bounce the ports that are/were part of the IST MLT. <p>Here is an example session output following this procedure.</p> <pre>/* disable ISIS */ CB15:1(config)#no router isis enable WARNING:Disable ISIS will cause traffic disruption Do you want to continue (y/n) ? y /* Clear the SMLT peer system-id */ CB15:1(config)#router isis CB15:1(config-isis)#spbm 1 smlt-peer-</pre>

		<pre> system-id 0000.0000.0000 /* Clear the SMLT Virtual BMAC */ CB15:1(config-isis)#spbm 1 smlt-virtual- bmac 0x00:0x00:0x00:0x00:0x00:0x00 CB15:1(config-isis)#exit /* delete IST peer configuration */ CB15:1(config)#interface mlt2 CB15:1(config-mlt)#no ist enable WARNING : Disabling IST may cause loop in the network! Do you really want go DISABLE IST (y/n) ? y CB15:1(config-mlt)#no ist peer-ip CB15:1(config-mlt)#exit /* enable isis */ CB15:1(config)#router isis enable /* At this point, the interface still needs to be bounced */ CB15:1(config)#interface gigabitEthernet 10/17 CB15:1(config-if)#shut CB15:1(config-if)#no shut </pre>
wi01192436	MLT up/down trap is not sent when first port of the MLT transitions up or last port of the MLT transitions down.	Log messages of the MLT up and down events are written and sent to syslog servers if configured.

11. Known Limitations

Please see “*Virtual Services Platform 9000, Release Notes release 3.4.0.2*” (NN46250-401, 05.04) available at <http://www.avaya.com/support> for details regarding Known Limitations.

MLT configuration recommendation:

MLT is designed for redundancy/robustness for when components/subsystems that comprise the network fail. To take advantage of this, it is suggested that MLT links span different IO cards so that if there is a failure on a card it only takes down one MLT link and the others continue to operate normally. If there are more MLT ports required on a single card, then those links should reside in different “slices” on a given card. A “slice” is a grouping of ports that are handled by a single forwarding engine on the IO card.

For 24x10G card, a “slice” is grouping of eight ports, and for 48x1G it is a grouping of 24 ports. For MLT links on the same 10G card, they should span different “slices”, or groups of eight ports, i.e. 1-8, 9-16, 17-24. For MLT links on the same 1G card, they should span different “slices”, or groups of 24 ports, i.e. 1-24, 25-48.

You may have to wait up to 30 seconds between subsequent “show pluggables” commands to give time for pluggable information to be refreshed.

New external flash devices come with a FAT16 format. While this appears to work correctly when inserted into a 9080CP card, there is an incompatibility issue when there are more than 169 log files created. The incompatibility will cause the logging mechanism to stop writing any new log files. To correct this issue you need to reformat any new flash device after it has been inserted into the 9080CP with the “dos-format” ACLI command as explained in the document: “CP Module Compact Flash Replacement”.

VSP 9000 Power Supply LEDs are in a non-deterministic state when the CP Power Supply indicator is lit RED indicating fault. There will be log messages indicating the Power Supply fault event but the PS LEDs may be RED, GREEN or OFF.

IPFIX is not supported on ISIS interfaces. Log messages such as the following will start filling up the log files:

```
IO3 [10/25/13 13:58:50.722] 0x0001c68d 00000000 GlobalRouter HW ERROR getSlotIdFromLpid: LPID
(2868) is not associated with a slot!
IO3 [10/25/13 14:02:30.791] 0x000005e0 00000000 GlobalRouter SW ERROR Invalid LPID: 2904 for
getPimPortFromLpid conversion!!!
```

Refer to Quick Install guide (NN46250-102) for New Chassis Installation Best Practices.

12. Documentation Corrections

For other known issues, please refer to the product release notes and technical documentation available from the Avaya Technical Support web site at: <http://www.avaya.com/support> .

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