



# Virtual Service Domain

This chapter describes how to identify and resolve problems related to Virtual Service Domain (VSD).

This chapter includes the following sections:

- [Information about Virtual Service Domain, page 20-1](#)
- [Problems with Virtual Service Domain, page 20-1](#)
- [Collecting and Evaluating Logs, page 20-2](#)
- [Virtual Service Domain Troubleshooting Commands, page 20-3](#)

## Information about Virtual Service Domain

A Virtual Service Domain (VSD) is a logical group of interfaces that is serviced by a common Service VM (SVM). With VSD the Cisco Nexus 1000V can support third party appliances such as vShield.

VSD lets you classify and separate traffic for network services such as firewalls and traffic monitoring.

Multiple VSDs can co-exist on a host; with each VSD serviced by an SVM.

For more information, to configure VSD, an example configuration, and for configuration limits, see the *Cisco Nexus 1000V System Management Configuration Guide*.

## Problems with Virtual Service Domain

The following are symptoms, possible causes, and solutions for problems with VSD.

Symptom	Possible Causes	Solution
The SVM does not come online.	There is more than one SVM per VSD per host. There can be only one SVM per VSD per host. If a second SVM tries to come up, the SVM ports are error disabled.	<ol style="list-style-type: none"> <li>1. Check for multiple SVMs per VSD per host. <b>show virtual-service-domain interface</b> If output indicates <b>Invalid SVM interface</b>, then there are multiple SVMs per VSD per host.</li> <li>2. Remove or relocate one of the SVMs.</li> </ol>

Symptom	Possible Causes	Solution
A loop occurs.	SVM ports are not correctly attached to the inside and outside port profiles.	<ol style="list-style-type: none"> <li>1. Turn off the SVM looping capability or the SVM itself.</li> <li>2. Display the interfaces attached to the port profiles. <b>show port-profile usage</b></li> <li>3. Correct configuration errors.</li> </ol> <p>For information about configuring VSD, see the <i>Cisco Nexus 1000V System Management Configuration Guide</i>.</p>

## Collecting and Evaluating Logs

You can use the commands in this section from the VSM to collect and view logs related to VSD captured as follows:

- VSM logs: /var/log/external/startupdebug
- VEM DPA logs: /var/log/vemdpa.log

Command	Description
<b>module vem <i>module_number</i> execute vemdpalog writelogs</b>	Enables the DPA logs and writes them to vemdpa.log.
<b>module vem <i>module_number</i> execute vemdpalog debug sfvsimagent all</b>	
<b>module vem <i>module_number</i> execute vemdpalog start</b>	Starts and stops DPA logging for viewing.
<b>module vem <i>module_number</i> execute vemdpalog stop</b>	
<b>module vem <i>module_number</i> execute vemdpalog show all</b>	Displays DPA logs.
<b>module vem <i>module_number</i> execute vemlog debug sfvsim all</b>	Enables DP logs.
<b>module vem <i>module_number</i> execute vemlog start</b>	Starts and stops DP logging for viewing.
<b>module vem <i>module_number</i> execute vemlog stop</b>	
<b>module vem <i>module_number</i> execute vemlog show all</b>	Displays DPA logs.

### Example 20-1 VSM Logs

```

2011 Feb 17 10:14:01 vsm vsim: <{vsim}> [DBG]=====ZONES=====
2011 Feb 17 10:14:01 vsm vsim: <{vsim}>[DBG]Zone_id: 1, name: vsd1, is_in_use? 1,
default_action: (DROP), member_cnt: 5
2011 Feb 17 10:14:01 vsm vsim: <{vsim}> [DBG]=====INTFS=====

```

```

2011 Feb 17 10:14:01 vsm vsim: <{vsim}>[DBG]Ifindex 0x1c000000, zoneid 1, status ATTACHED,
type SVM_MEMBER (2)
2011 Feb 17 10:14:01 vsm vsim: <{vsim}>[DBG]Ifindex 0x1c000010, zoneid 1, status ATTACHED,
type SVM_MEMBER (2)
2011 Feb 17 10:14:01 vsm vsim: <{vsim}>[DBG]Ifindex 0x1c000020, zoneid 1, status ATTACHED,
type SVM_MEMBER (2)
2011 Feb 17 10:14:01 vsm vsim: <{vsim}>[DBG]Ifindex 0x1c000030, zoneid 1, status ATTACHED,
type SVM_MEMBER (2)

```

### Example 20-2 VEM DPA Logs

```

Feb 17 16:11:02.645378: sfvsimagent: PDL Lite :Opening new session
Feb 17 16:11:02.723186: sfvsimagent: PDL Lite :Add policy callback
Feb 17 16:11:02.727281: sfvsimagent: PDL Lite :Add policy node callback
Feb 17 16:11:02.727293: sfvsimagent: sf_vsim_add_vzone: Entered
Feb 17 16:11:02.727303: sfvsimagent: sf_vsim_dpa_vzone_init: Entered
Feb 17 16:11:02.727324: sfvsimagent: MTS Opcode: 142337

```

### Example 20-3 VEM Logs

```

Feb 17 15:58:42.924322      4411   1    1  16   Debug sfvsimsrc: Reached vsim stage src
l1 18 dst l1 10
Feb 17 15:58:42.924337      4412   1    1  16   Debug sfvsimsrc: Reached vsim stage src
l1 9  dst l1 8
Feb 17 15:58:43.038065      4413   1    1  16   Debug sfvsimsrc: Reached vsim stage src
l1 18 dst l1 10
Feb 17 15:58:43.038087      4414   1    1  16   Debug sfvsimsrc: Reached vsim stage src
l1 9  dst l1 8
Feb 17 15:58:43.038128      4415   2    1  16   Debug sfvsimsrc: Reached vsim stage src
l1 8  dst l1 4282
Feb 17 15:58:43.038152      4416   1    1  16   Debug sfvsimsrc: Reached vsim stage src
l1 10 dst l1 18
Feb 17 15:58:43.038156      4417   2    0  0     Suspending log

```

## Virtual Service Domain Troubleshooting Commands

You can use the commands in this section to troubleshoot problems related to VSD.

Command	Description
<b>show system internal ethpm event-history interface</b>	Displays the request/response pre-configuration event. Useful when the port is error disabled. See <a href="#">Example 20-4 on page 20-4</a> .
<b>show system internal vsim event-history msgs</b>	Displays a log of the MTS events processed by VSIM. See <a href="#">Example 20-5 on page 20-4</a> .
<b>module vem mod-number execute vemcmd show port</b>	Displays the port state on the VEM. Useful for debugging traffic flow on interfaces. See <a href="#">Example 20-6 on page 20-5</a> .
<b>show virtual-service-domain name vsd-name</b>	Displays a specific VSD configuration. See <a href="#">Example 20-7 on page 20-5</a> .

Command	Description
<b>show virtual-service-domain brief</b>	Displays a summary of all VSD configurations. See <a href="#">Example 20-8 on page 20-5</a> .
<b>show virtual-service-domain interface</b>	Displays the interface configuration for all VSDs. See <a href="#">Example 20-9 on page 20-6</a> .
<b>module vem <i>module_number</i> execute vemcmd show vsd</b>	Displays the VEM VSD configuration by sending the command to the VEM from the remote Cisco Nexus 1000V. See <a href="#">Example 20-10 on page 20-6</a> .
<b>module vem <i>module_number</i> execute vemcmd show vsd ports</b>	Displays the VEM VSD ports configuration by sending the command to the VEM from the remote Cisco Nexus 1000V. See <a href="#">Example 20-11 on page 20-6</a> .
<b>show port-profile name <i>profile-name</i></b>	Displays the port profile configuration. See

**Example 20-4 show system internal ethpm event-history interface vethernet 1**

```
n1000v# show system internal ethpm event-history interface vethernet 1
...
18) Event:ESQ_REQ length:34, at 725272 usecs after Thu Feb 17 15:42:13 2011
Instance:469762048, Seq Id:0x1, Ret:success
[E_MTS_TX] Dst:MTS_SAP_VSIM(716), Opc:MTS_OPC_ETHPM_PORT_PRE_CFG(61441)

19) Event:ESQ_RSP length:34, at 739984 usecs after Thu Feb 17 15:42:13 2011
Instance:469762048, Seq Id:0x1, Ret:success
[E_MTS_RX] Src:MTS_SAP_VSIM(716), Opc:MTS_OPC_ETHPM_PORT_PRE_CFG(61441)
...
n1000v#
```

**Example 20-5 show system internal vsim event-history msgs**

```
n1000v# show system internal vsim event-history msgs
1) Event:E_MTS_RX, length:60, at 215249 usecs after Thu Feb 17 10:16:53 2011
[REQ] Opc:MTS_OPC_SDWRAP_DEBUG_DUMP(1530), Id:0X000C14C4, Ret:SUCCESS
Src:0x00000101/2282, Dst:0x00000101/716, Flags:None
HA_SEQNO:0X00000000, RRtoken:0x000C14C4, Sync:UNKNOWN, Payloadsize:216
Payload:
0x0000: 01 00 2f 74 6d 70 2f 64 62 67 64 75 6d 70 32 34

2) Event:E_MTS_TX, length:60, at 833885 usecs after Thu Feb 17 10:14:01 2011
[NOT] Opc:MTS_OPC_FSMUTILS_SYNC_PSS_TO_STDBY(1523), Id:0X000C05B3, Ret:SUCCESS
Src:0x00000101/716, Dst:0x00000101/0, Flags:None
HA_SEQNO:0X00000000, RRtoken:0x00000000, Sync:UNKNOWN, Payloadsize:380
Payload:
0x0000: 00 00 00 00 00 00 00 00 01 00 00 00 01 00 00 00 01

3) Event:E_FU_UNLOCK, length:36, at 820289 usecs after Thu Feb 17 10:14:01 2011
Status: 0x0
Gwrap: 0x80fa09c Cat: 0x0
Opc:MTS_OPC_VSH_CMD_TLV_SYNC(7682)
Msg id: 0X000C05A5
Lock type: 0
```

```

RID Size: 8
Val :
0x0000: 01 00 00 00 00 00 00 01
4) Event:E_FU_UNLOCK, length:36, at 818291 usecs after Thu Feb 17 10:14:01 2011
Status: 0x0
Gwrap: 0x80fa09c Cat: 0x0
Opc:MTS_OPC_VSH_CMD_TLV_SYNC(7682)
Msg id: 0X000C05A5
Lock type: 0
RID Size: 8
Val :
0x0000: 00 00 00 1c 00 00 00 02
5) Event:E_FU_UNLOCK, length:36, at 816421 usecs after Thu Feb 17 10:14:01 2011
Status: 0x0
Gwrap: 0x80fa09c Cat: 0x0
Opc:MTS_OPC_VSH_CMD_TLV_SYNC(7682)
Msg id: 0X000C05A5
Lock type: 0
RID Size: 8
Val :
0x0000: 10 00 00 1c 00 00 00 02
n1000v#

```

**Example 20-6 module vem # execute vemcmd show port**

```

n1000v# module vem 3 execute vemcmd show port
LTL   VSM Port  Admin Link  State  PC-LTL  SGID  Vem Port
18    Eth3/2   UP   UP   F/B*    0      vmnic1
49    Veth1     UP   UP   FWD     0      New Virtual Machine.eth0
50    Veth2     UP   UP   FWD     0      New Virtual Machine.eth1
51    Veth3     UP   UP   FWD     0      New Virtual Machine.eth2
52    Veth4     UP   UP   FWD     0      New Virtual Machine.eth3

```

\* F/B: Port is BLOCKED on some of the vlans.  
Please run "vemcmd show port vlans" to see the details.

```
n1000v#
```

**Example 20-7 show virtual-service-domain name vsd\_name**

```
n1000v# show virtual-service-domain name vsd1
Default Action: drop
```

Interface	Type
Vethernet1	Member
Vethernet2	Member
Vethernet3	Member
Vethernet6	Member
Vethernet7	Inside
Vethernet8	Outside

```
n1000v#
```

**Example 20-8 show virtual-service-domain brief**

```
n1000v# show virtual-service-domain brief
```

Name	vsd-id	default action	in-ports	out-ports	mem-ports	Modules with VSD Enabled
zone	1	forward	1	1	2	4

```
n1000v#
```

**Example 20-9 show virtual-service-domain interface**

```
n1000v# sho virtual-service-domain interface
-----
Name          Interface          Type      Status
-----
vsd1          Vethernet1        Member    Active
vsd1          Vethernet2        Member    Active
vsd1          Vethernet3        Member    Active
vsd1          Vethernet6        Member    Active
vsd1          Vethernet7        Inside    Active
vsd1          Vethernet8        Outside   Active
vsd2          Vethernet9        Inside    Active
vsd2          Vethernet10       Outside   Active
```

**Example 20-10 module module\_number execute vemcmd show vsd**

```
n1000v# module vem 4 execute vemcmd show vsd
ID Def_Act ILTL OLT L NMLTL State Member LTLs
1 FRWD 51 50 1 ENA 49
n1000v#
```

**Example 20-11 module module\_number execute vemcmd show vsd ports**

```
n1000v# module vem 4 execute vemcmd show vsd ports
LTL IfIndex VSD_ID VSD_PORT_TYPE
49 1c000010 1 REGULAR
50 1c000040 1 OUTSIDE
51 1c000030 1 INSIDE
n1000v#
```

**Example 20-12 show port-profile name UpLinkProfile**

```
n1000v# show port-profile name UpLinkProfile3
port-profile UpLinkProfile3
description:
type: vethernet
status: disabled
capability l3control: no
pinning control-vlan: -
pinning packet-vlan: -
system vlans: none
port-group:
max ports: 32
inherit:
config attributes:
channel-group auto mode on sub-group manual
evaluated config attributes:
channel-group auto mode on sub-group manual
assigned interfaces:
n1000v#
```