



Subnet Manager

Table of contents

SM Commands

7

The InfiniBand Subnet Manager (SM) is a centralized entity running in the switch. The SM discovers and configures all the InfiniBand fabric devices to enable traffic flow between those devices.

The SM applies network traffic related configurations such as Quality of Service (QoS), routing, and partitioning of the fabric devices. You can view and configure the Subnet Parameters (SM) via the CLI/WebUI menu. The embedded SM on the MLNX-OS can be used to manage fabrics up to 2048 nodes on x86 based systems.

The SM is used to discover and configure all the InfiniBand fabric devices to enable traffic flow between those devices.

Note

- Subnet manager running via MLNX-OS does not support Dragonfly+ topology or combination of Fat-Tree and Dragonfly+ topologies.
- Subnet manager running via MLNX-OS does not support adaptive routing, fault routing (i.e., SHIELD or FRN), congestion control, SHIELD, and SHARP.

To enable Subnet Manager:

1. Enable Subnet Manager (disabled by default). Run:

```
switch (config) # ib smnode my-sm enable
```

2. (Optional) Set the priority for the Subnet Manager. Run:

```
switch (config) # ib smnode my-sm sm-priority <priority>
```

i Note

If rapid SM restarts are observed in what should be a quiet subnet, verify that all nodes running SM in the same management domain are in the same IB subnet. If they are not, fix the subnet.

Partitions

Partitioning enforces isolation among systems sharing an InfiniBand fabric. Partitioning is not related to boundaries established by subnets, switches, or routers. Rather, a partition describes a set of end nodes within the fabric that may communicate. Each port of an end node is a member of at least one partition and may be a member of multiple partitions. A partition manager (part of the SM) assigns partition keys (PKEYs) to each channel adapter port. Each PKEY represents a partition. Reception of an invalid PKEY causes the packet to be discarded. Switches and routers may optionally be used to enforce partitioning. In this case the partition manager programs the switch or router with PKEY information and when the switch or router detects a packet with an invalid PKEY, it discards the packet.

Fabric administration can assign certain Service Levels (SLs) for particular partitions. This allows the SM to isolate traffic flows between those partitions, and even if both partitions operate at the same QoS level, each partition can be guaranteed its fair share of bandwidth regardless of whether nodes in other partitions misbehave or are over subscribed.

The switch enables the configuration of partitions in an InfiniBand fabric.

The default partition is created by the SM unconditionally (whether it was defined or not).

Relationship with ib0 Interface

IP interface “ib0” is running under the default PKEY (0x7fff) and can be used for in-band management connectivity to the system.

Configuring Partition

Note

The partitions configuration is applicable and to be used only when the SM is enabled and running on the system.

1. Create a partition. Run:

```
switch (config) # ib partition my-partition pkey 0x7ff2
```

2. Enter partition configuration mode. Run:

```
switch (config) # partition my-partition  
switch (config partition name my-partition) #
```

3. Add partition members. Run:

```
switch (config partition my-partition) # member all
```

4. Verify the partition configuration. Run:

```
switch (config partition my-partition) # show ib partition  
Default  
  PKey          = 0x7FFF  
  defmember    = full  
  ipoib        = yes  
  members  
    GUID='ALL' member='full'  
  my-partition
```

```
PKey          = 0x7ff2
members
  GUID='ALL' member='default'
```

Adaptive Routing

Adaptive routing (AR) allows optimizing data traffic flow. The InfiniBand protocol uses multiple paths between any two points. Thus, when unexpected traffic patterns cause some paths to be overloaded, AR can automatically move traffic to less congested paths according to the current temporal state of the network.

AR support is enabled by default on system profile “ib-single-switch”. To disable AR run either the command “system profile ib-no-adaptive-routing-single-switch” or “system profile ib” with no-adaptive-routing parameter.

Note

The AR option needs to be enabled in the SM for it to take effect.

Scatter Ports

When assigning logical paths to physical links, the UpDn algorithm tries to map the same number of paths per link to maximize use of the available bandwidth. This balancing is done statically, without knowledge of actual workloads and traffic patterns. Path balancing decisions are made locally, at each switch, without assuming anything about the physical topology. The resulting path assignments may not be optimal for typical Clos/Fat Tree workloads.

A routing option called “scatter-ports” is available for MinHop and UpDn routing engines which instructs the routing algorithm to randomize the local assignments of paths to links, which often results in better link utilization. The scatter-ports option requires an integer argument, which is the seed for the random number generator. It is recommended to use a prime number for the seed; a seed of zero turns off randomization.

GUID Routing Order

GUID routing order list allows managing the order in which the SM processes the destination LIDs in the calculations of output port as part of MinHop or Up/Down routing algorithms only.

The order of GUID appearance is important as destinations corresponding to GUIDs appearing earlier in the routing list get precedence during the routing calculations over other destinations in the fabric. This can improve load balancing towards a specific set of end ports (e.g. storage nodes or other service nodes requiring high throughput).

If scatter-ports (randomization of the output port) option is set to non-zero, `guid-routing-order-no-scatter` defines whether or not a randomization should be applied to the destinations GUIDs mentioned in GUID routing order list.

Bulk Update Mode

Bulk update mode allows users to set multiple IB SM configurations without applying them until bulk mode is disabled.

When bulk update is disabled (default situation) every SM configuration is applied immediately. When bulk is enabled, all SM configuration is saved internally and is not applied until this mode is disabled.

Bulk mode is a non-persistent state. That is, if the switch is restarted, it boots up with this mode disabled, and all the configuration changes which are saved before system restart are applied.

Note

Show commands convey every configuration change even if it is not applied yet.

SM Commands

General

ib sm

	ib sm no ib sm Enables the SM on this node. The no form of the command disables the SM on this node.
Syntax Description	N/A
Default	Disabled
Configuration Mode	config
History	3.1.0000
Example	switch (config) # ib sm
Related Commands	show ib sm
Notes	

ib sm accum-log-file

	ib sm accum-log-file no ib sm accum-log-file Adds SM log entries at the end of the current log. The no form of the command overwrites SM log file on every restart.
Syntax Description	N/A
Default	Enabled
Configuration Mode	config

History	3.1.0000
Example	switch (config) # ib sm accum-log-file
Related Commands	show ib sm accum-log-file
Notes	

ib sm allow-both-pkeys

	ib sm allow-both-pkeys no ib sm allow-both-pkeys Enables having both full and limited membership on the same partition. The no form of the command disables having both full and limited membership on the same partition.
Syntax Description	N/A
Default	Disabled
Configuration Mode	config
History	3.4.1 100
Example	switch (config) # ib sm allow-both-pkeys
Related Commands	defmember member
Notes	

ib sm babbling-policy

	ib sm babbling-policy no ib sm babbling-policy Enables the SM to disable babbling ports (i.e., generating frequent traps). The no form of the command disables the SM babbling policy.
Syntax Description	N/A
Default	Disabled

Configuration Mode	config
History	3.1.0000
Example	switch (config) # no ib sm babbling-policy
Related Commands	show ib sm babbling-policy
Notes	If the babbling policy is enabled, and decides to close a babbling interface (one which sends 129,130,131 traps, for example), the SM disables the port.

ib sm connect-roots

	ib sm connect-roots no ib sm connect-roots Forces the routing engine to make connectivity between root switches. The no form of the command disables logical LID path between root switches.
Syntax Description	N/A
Default	Enabled
Configuration Mode	config
History	3.1.0000
Example	switch (config) # ib sm connect-roots
Related Commands	show ib sm connect-roots
Notes	<ul style="list-style-type: none"> • This command is relevant only for 'updn' and 'ftree' algorithm (refer to 'ib sm routing-engines' command) • This option enforces routing engines (up/down and fat-tree) to make connectivity between root switches and in this way to be fully IBA compliant. This may violate the "deadlock-free" status of the algorithm. Hence, it is recommended to use the command carefully.

ib sm calculate-missing-routes

	<code>ib sm calculate-missing-routes</code> <code>no ib sm calculate-missing-routes</code> Enables SM to find and recalculate missing routes without creating credit-loops The no form of the command disables SM to find and recalculate missing routes without creating credit-loops
Syntax Description	N/A
Default	Disabled
Configuration Mode	config
History	3.8.2000
Example	<code>switch (config) # ib sm calculate-missing-routes</code> <code>switch (config) # show ib sm calculate-missing-routes</code> ib sm calculate-missing-routes: enabled <code>switch (config) # no ib sm calculate-missing-routes</code> <code>switch (config) # show ib sm calculate-missing-routes</code> ib sm calculate-missing-routes: disabled
Related Commands	Show ib sm calculate-missing-routes
Notes	

ib sm drop-event-subscriptions

	<code>ib sm drop-event-subscriptions</code> <code>no ib sm drop-event-subscriptions</code> Configures IB SM to drop interface subscribe or unsubscribe events. The no form of the command resets this parameter to its default value.
Syntax Description	N/A

Default	Disabled
Configuration Mode	config
History	3.4.2008
Example	switch (config) # ib sm drop-event-subscriptions
Related Commands	
Notes	

ib sm enable-quirks

Syntax Description	N/A
Default	Disabled
Configuration Mode	config
History	3.1.0000
Example	switch (config) # ib sm enable-quirks
Related Commands	show ib sm enable-quirks
Notes	

ib sm exit-on-fatal

	ib sm exit-on-fatal no ib sm exit-on-fatal Enables the SM to exit upon fatal initialization errors. The no form of the command disables the SM from exiting upon fatal initialization errors.
Syntax Description	N/A
Default	Enabled

Configuration Mode	config
History	3.1.0000
Example	switch (config) # ib sm exit-on-fatal
Related Commands	show ib sm exit-on-fatal
Notes	

ib sm force-link-speed

	ib sm force-link-speed <speed-options> no ib sm force-link-speed Defines the SM behavior for PortInfo:LinkSpeedEnabled, PortInfo:LinkSpeedExtEnabled and MLNX ExtendedPortInfo on the switch ports. The no form of the command resets this parameter to its default.	
Syntax Description	speed-options	The following options are available: <ul style="list-style-type: none"> • sdr—10.0 Gb/s rate on 4 lane width • ddr—20.0 Gb/s rate on 4 lane width • qdr—40.0 Gb/s rate on 4 lane width • fdr10—40.0 Gb/s rate on 4 lane width • fdr—56.0 Gb/s rate on 4 lane width • edr—100.0 Gb/s rate on 4 lane width
Default	Set to PortInfo:LinkSpeedExtSupported	
Configuration Mode	config	
History	3.1.0000	
	3.4.1604	Updated Syntax Description, Example, and Notes
Example	switch (config) # ib sm force-link-speed sdr ddr qdr fdr10	
Related Commands	show ib sm force-link-speed show ib sm force-link-speed-ext show ib sm fdr10	
Notes	<ul style="list-style-type: none"> • The following options, as defined in InfiniBand Specification 1.2.1 section 14.2.5.6, table 145 “PortInfo” 	

- This command updates force-link-speed, force-link-speed ext and fdr10 which are open sm parameters
- This command is backwards compatible so old configuration file containing this command with the old form (with legal bit mask) are still supported
- If the speed-options list does not include SDR speed, it is configured automatically
- Configuring more than one speed is possible by typing in consecutive speed names separated by spaces

ib sm force-log-flush

	ib sm force-log-flush no ib sm force-log-flush Forces every log message generated to be flushed. The no form of the command does not force a flush after every log write.
Syntax Description	N/A
Default	Disabled
Configuration Mode	config
History	3.1.0000
Example	switch (config) # ib sm force-log-flush
Related Commands	show ib sm force-log-flush
Notes	

ib sm guid2lid-cache

	ib sm guid2lid-cache no ib sm guid2lid-cache Allows SM to use cached GUID-to-lid mapping data. When enabled, the SM honors the cached GUID-to-lid mapping information if: <ul style="list-style-type: none"> • It exists • It is valid
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	<ul style="list-style-type: none"> • sm_reassign_lids is disabled <p>The no form of the command disallows use of cached GUID-to-lid mapping data.</p>
Syntax Description	N/A
Default	Disabled
Configuration Mode	config
History	3.1.0000
Example	switch (config) # ib sm guid2lid-cache
Related Commands	show ib sm guid2lid-cache
Notes	

ib sm honor-partitions

	<p>ib sm honor-partitions no ib sm honor-partitions</p> <p>Sets the no_partition_enforcement flag to 0. This setting controls global support for partitioning in the subnet. The no form of the command disables subnet partition support.</p>
Syntax Description	N/A
Default	Enabled
Configuration Mode	config
History	3.1.0000
Example	switch (config) # no ib sm honor-partitions
Related Commands	show ib sm honor-partitions
Notes	<ul style="list-style-type: none"> • If partitioning is disabled (no_partition_enforcement=1), then no named partitions can be enabled • If partitioning is enabled globally, the no_partition_enforcement changes from 1 to 0, and all defined partitions with state enabled are instantiated • If partitioning is globally disabled, all partitions are removed from the subnet, but the state (enabled or disabled) associated with defined partitions is not modified

ib sm hoq-lifetime

	ib sm hoq-lifetime <time> Sets the maximum time a frame can wait at the head of a switch-to-switch port queue before it is dropped.	
Syntax Description	time	The time is 4.096 uS * 2time. The range of time is 0 to 20. A time of 20 means infinite, and the default value is 18 which translates to about 1 second.
Default	0x12 (~ 1 second)	
Configuration Mode	config	
History	3.1.0000	
Example	switch (config) # ib sm hoq-lifetime 15	
Related Commands	show ib sm hoq-lifetime	
Notes		

ib sm ignore-other-sm

	ib sm ignore-other-sm no ib sm ignore-other-sm Ignores all the rules governing SM elections and attempts to manage the fabric. The no form of the command does not allow the SM to manage fabric if it loses the election.	
Syntax Description	N/A	
Default	Disabled	
Configuration Mode	config	
History	3.1.0000	
Example	switch (config) # ib sm ignore-other-sm	

Related Commands	show ib sm ignore-other-sm
Notes	

ib sm ipv6-nsm

	ib sm ipv6-nsm no ib sm ipv6-nsm Consolidates IPv6 SNM group joins to 1 MC group per-MGID PKEY. The no form of the command disables the consolidation of IPv6 SNM.
Syntax Description	N/A
Default	Disabled
Configuration Mode	config
History	3.1.0000
Example	switch (config) # ib sm ipv6-nsm
Related Commands	show ib sm ipv6-nsm
Notes	

ib sm lash

	ib sm lash {do-mesh-analysis start-vl <vl-value>} no ib sm lash do-mesh-analysis Modifies “lash” routing method parameters. The no form of the command disables SM “lash” routing for mesh analysis.	
Syntax Description	do-mesh-analysis	Enables SM “lash” routing for mesh analysis
	start-vl <vl-value>	Configures the starting VL for SM “lash” routing for mesh analysis (assuming that lash routing is enabled)
Default	do-mesh-analysis: Disabled	

	start-vl: 0
Configuration Mode	config
History	3.1.0000
Example	switch (config) # ib sm lash do-mesh-analysis
Related Commands	show ib sm lash do-mesh-analysis
Notes	

ib sm leafhoq-lifetime

	ib sm leafhoq-lifetime <time> Sets the maximum time a frame can wait at the head of a switch-to-CA_or_Router port queue before it is dropped.	
Syntax Description	time	The time is 4.096 uS * 2time. The range of time is 0 to 20. A time of 20 means infinite, and the default value is 16 which translates to about 268 millisecond.
Default	0x10 (about 268 mS)	
Configuration Mode	config	
History	3.1.0000	
Example	switch (config) # ib sm leafhoq-lifetime 8	
Related Commands	show ib sm leafhoq-lifetime	
Notes		

ib sm leafvl-stalls

	ib sm leafvl-stalls <count> Sets the number of sequential frame drops that cause a switch-to-CA_or_Router port to enter the VLStalled state.	
Syntax Description	count	Range: 1-255

Default	7
Configuration Mode	config
History	3.1.0000
Example	switch (config) # ib sm leafvl-stalls 3
Related Commands	show ib sm leafvl-stalls
Notes	

ib sm lmc

	ib sm lmc <mask> Sets the LID Mask Control (LMC) value to be used on this subnet.	
Syntax Description	mask	Range: 0-7
Default	The default value is 0, which means that every port has exactly one unique LID.	
Configuration Mode	config	
History	3.1.0000	
Example	switch (config) # ib sm lmc 7	
Related Commands	show ib sm lmc	
Notes		

ib sm lmc-esp0

	ib sm lmc-esp0 no ib sm lmc-esp0 Sets the LMC for the subnet to be used for Enhanced Switch Port 0. The no form of the command resets this parameter to its default.	
Syntax Description	N/A	
Default	Disabled	
Configuration Mode	config	

History	3.1.0000
Example	switch (config) # ib sm lmc-esp0
Related Commands	show ib sm lmc-esp0
Notes	

ib sm log-flags

	ib sm log-flags [all] [debug] [error] [frames] [funcs] [info] [none] [routing] [verbose] no ib sm log-flags Controls what messages the SM logs. The no form of the command indicates to the SM not to run on this node.	
Syntax Description	all	Turns on all the flags that follow (error info verbose debug funcs frames routing).
	debug	Logs diagnostic messages, high volume.
	error	Logs error messages.
	frames	Logs all SMP and GMP frames.
	funcs	Logs function entry/exit, very high volume.
	info	Logs basic messages, low volume.
	none	Turns off all logging flags.
	routing	Logs FDB routing information.
	verbose	Logs interesting stuff, moderate volume.
Default	0x3 (error, info)	
Configuration Mode	config	
History	3.1.0000	
Example	switch (config) # ib sm log-flags error verbose funcs frames	
Related Commands	show ib sm log-flags	
Notes	<ul style="list-style-type: none"> Every execution of this command replaces the current logging flags 	

- The options “all” and “none” must be specified as the only parameter

ib sm log-max-size

	ib sm log-max-size <size> Sets the maximum size of the log file to be <size> megabytes.	
Syntax Description	size	Range: 1-60
Default	20 MBytes	
Configuration Mode	config	
History	3.1.0000	
	3.5.1000	Updated Syntax Description, and Default
Example	switch (config) # ib sm log-max-size 50	
Related Commands	show ib sm log-max-size	
Notes	<ul style="list-style-type: none"> • The log file “opensm_<switch_name>.log” is rotated when it exceeds the configured maximum file size up to 5 compressed files • When the log gets to the maximum size, or system storage fills up, the current log is deleted and messages start accumulating • To successfully upgrade from a version prior to 3.5.1000, this parameter must be set to a value in the range specified in the syntax descriptio 	

ib sm max-op-vls

	ib sm max-op-vls <count> Sets the maximum number of VLs supported on this subnet.	
Syntax Description	count	Possible values: 1, 2, 4, 8, or 15
Default	4	

Configuration Mode	config	
History	3.1.0000	
	3.10.1000	Updated default value from 15 to 4
Example	switch (config) # ib sm max-op-vls 4	
Related Commands	show ib sm max-op-vls	
Notes		

ib sm max-reply-time

	ib sm max-reply-time <time> Sets the maximum time the SM waits for a reply before the transaction times out.	
Syntax Description	time	Must be an integer (in milliseconds)
Default	200 milliseconds	
Configuration Mode	config	
History	3.1.0000	
Example	switch (config) # ib sm max-reply-time 500	
Related Commands	show sm max-reply-time	
Notes		

ib sm max-reverse-hops

	ib sm max-reverse-hops <max-reverse-hops> Sets the maximum number of hops from the top switch to an I/O node.	
Syntax Description	N/A	

Default	0 hops
Configuration Mode	config
History	3.1.0000
Example	switch (config) # ib sm max-reverse-hops 500
Related Commands	show ib sm max-reverse-hops
Notes	

ib sm aguid_default_hop_limit

	ib sm aguid-default-hop-limit <count> no ib sm aguid-default-hop-limit Configures the default value for hop limit returned in path records where either the source or destination are alias an GUID. The no form of the command resets the count to its default value.	
Syntax Description	count	Number of concurrent management packets (must be an integer)
Default	1	
Configuration Mode	config	
History	3.6.6102	
Example	switch (config) # ib sm aguid-default-hop-limit 3	
Related Commands	show ib sm aguid-default-hop-limit	
Notes		

ib sm max-wire-smpps2

	ib sm max-wire-smpps2 <count> no Sets the maximal timeout based outstanding SM management packets.
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	The no form of the command resets the max-wire-smpls2 to its initial value.	
Syntax Description	count	Number of concurrent management packets. The value must be an integer.
Default	4	
Configuration Mode	config	
History	3.1.0000	
Example	switch (config) # ib sm max-wire-smpls 8	
Related Commands	show ib sm max-wire-smpls2	
Notes		

ib sm m-key

	ib sm m-key <mkey> no ib sm m-key Configures the MKey used by the SM. The no form of the command resets the MKey configuration to its default value.	
Syntax Description	mkey	64-bit MKey
Default	00:00:00:00:00:00:00:00	
Configuration Mode	config	
History	3.1.0000	
	3.6.2002	Added no form of the command
	3.7.0000	Added note
Example	switch (config) # ib sm m-key 11:33:55:77:99:aa:cc:ee	
Related Commands	ib sm mkey-lease ib sm mkey-lookup ib sm mkey-protect-level show ib sm m-key show ib sm mkey-lease	

Notes	<ul style="list-style-type: none"> • All nodes in the subnet may have to be reset or power-cycled after altering the SM MKey configuration • Fabric inspector, and many standalone InfiniBand utilities, may not function on subnets with a non-default MKey.
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ib sm mkey-lease

	ib sm mkey-lease <time> no ib sm mkey-lease Configures the lease period used when MKey is non-zero. The no form of the command resets this value to its default.	
Syntax Description	time	MKey lease period in seconds Range: 0-65535; 0=unlimited
Default	0	
Configuration Mode	config	
History	3.6.2002	
Example	switch (config) # ib sm mkey-lease 660	
Related Commands	show ib sm mkey-lease	
Notes		

ib sm mkey-lookup

	ib sm mkey-lookup no ib sm mkey-lookup Enables using a file cache (guid2mkey) to resolve unknown node MKey. The no form of the command disables using a file cache to resolve unknown node MKey and the configured MKey is used for all ports.	
Syntax Description	N/A	
Default	Enabled	

Configuration Mode	config
History	3.6.2002
Example	switch (config) # ib sm mkey-lookup
Related Commands	show ib sm mkey-lookup
Notes	MKey lookup is a boolean value that controls how the SM finds the MKey of ports

ib sm mkey-protect-level

	ib sm mkey-protect-level <level> no ib sm mkey-protect-level Controls what data is returned to a get_PortInfo MAD request when the MKey in the request does not match the MKey on the port. The no form of the command resets the parameter to its default value.	
Syntax Description	level	<ul style="list-style-type: none"> • 0—when PortInfo is “read”, the actual MKey is returned in port info data • 1—when PortInfo is “read”, and the MKey in the MAD does not match the MKey on the port, the MKey value in the returned PortInfo data is set to 0 • 2—when PortInfo is “read”, and the MKey in the MAD does not match the MKey on the port, no data is returned
Default	0	
Configuration Mode	config	
History	3.6.2002	
Example	switch (config) # ib sm mkey-protect-level 0	
Related Commands	show ib sm mkey-protect-level	
Notes		

ib sm msgfifo-timeout

	ib sm msgfifo-timeout <time> Sets the time value to be used by the subnet administrator to control when a BUSY status is returned to a client.	
Syntax Description	time	In milliseconds
Default	10 seconds	
Configuration Mode	config	
History	3.1.0000	
Example	switch (config) # ib sm msgfifo-timeout 50000	
Related Commands	show ib sm msgfifo-timeout	
Notes	If there is more than one message in the SA queue, and it has been there longer than time milliseconds, all additional incoming requests are immediately replied to with BUSY status.	

ib sm multicast

	ib sm multicast no ib sm multicast Enables the SM to support multicasts on the fabric. The no form of the command disables the SM from supporting multicasts on the fabric.	
Syntax Description	N/A	
Default	Disabled	
Configuration Mode	config	
History	3.1.0000	
Example	switch (config) # ib sm multicast	

Related Commands	show ib sm multicast
Notes	

ib sm no-client-rereg

	ib sm no-client-rereg no ib sm no-client-rereg Enables client re-registration requests. The no form of the command disables client re-registration requests.	
Syntax Description	N/A	
Default	disable	
Configuration Mode	config	
History	3.1.0000	
Example	switch (config) # ib sm no-client-rereg	
Related Commands	show ib sm no-client-rereg	
Notes		

ib sm overrun-trigger

	ib sm overrun-trigger <count> Enables SMA to generate standard InfiniBand trap number 130 when the number of local buffer overrun errors equals the count value, and the port's SMA supports traps.	
Syntax Description	count	Range: 0-255
Default	8	
Configuration Mode	config	

History	3.1.0000
Example	switch (config) # ib sm overrun-trigger 3
Related Commands	show ib sm overrun-trigger
Notes	Refer to the InfiniBand Architecture Specification V1 r1.2.1, section 14.2.5.1 table 131: Traps.

ib sm packet-life-time

	ib sm packet-life-time <time> Sets the maximum time a frame can live in a switch.	
Syntax Description	time	The time is $4.096 \mu\text{S} * 2^{*\text{time}}$. Range: 0-20. A time of 20 means infinite. The value 0x14 disables this mechanism.
Default	0x12 (about 1 second)	
Configuration Mode	config	
History	3.1.0000	
Example	switch (config) # ib sm packet-life-time 20	
Related Commands	show ib sm packet-life-time	
Notes		

ib sm phy-err-trigger

	ib sm phy-err-trigger <count> Enables SMA to generate trap 129 when the number of local link integrity errors equals the <count> value, and the port's SMA supports traps.	
Syntax Description	count	Range: 0-255
Default	8	

Configuration Mode	config
History	3.1.0000
Example	switch (config) # ib sm phy-err-trigger 5
Related Commands	show ib sm phy-err-trigger
Notes	

ib sm polling-retries

	ib sm polling-retries <value> This variable defines the number of consecutive times an active SM must fail to respond before it is declared dead.	
Syntax Description	value	Must be an integer
Default	4	
Configuration Mode	config	
History	3.1.0000	
Example	switch (config) # ib sm polling-retries 8	
Related Commands	show ib sm polling-retries	
Notes	The time between when the active SM fails and the time this SM declares it dead is: (sm_sminfo_polling_timeout * value) milliseconds.	

ib sm port-prof-switch

	ib sm port-prof-switch no ib sm port-prof-switch Enables the counting of adapters, routers, and switches routed through links. The no form of the command disables the counting of adapters, routers, and switches routed through links.
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Syntax Description	N/A
Default	Disabled
Configuration Mode	config
History	3.1.0000
Example	switch (config) # ib sm port-prof-switch
Related Commands	show ib sm port-prof-switch
Notes	

ib sm reassign-lids

	ib sm reassign-lids no ib sm reassign-lids Controls the ability of the SM to reassign LIDs to nodes it finds already configured with a valid LID. The no form of the command disables the SM from reassigning LIDs to nodes it finds already configured with a valid LID.
Syntax Description	N/A
Default	Disabled
Configuration Mode	config
History	3.1.0000
Example	switch (config) # ib sm reassign-lids
Related Commands	show ib sm reassign-lids
Notes	<ul style="list-style-type: none"> • If enabled (ib sm reassign-lids), the SM can, but is not required to, reassign the LID on a node with a pre-configured LID • If disabled (no ib sm reassign-lids), the SM does not reassign LIDs • There are times when the SM is required to reassign LIDs or the fabric cannot be brought to a stable state, or a fabric option (like LMC) can not be fully applied

ib sm reset-config

	ib sm reset-config Resets all SM configuration options to defaults.	
Syntax Description	N/A	
Default	N/A	
Configuration Mode	config	
History	3.1.0000	
Example	switch (config) # ib sm reset-config	
Related Commands		
Notes		

ib sm root-guid

	ib sm root-guid <guid> no ib sm root-guid <guid> Adds a root GUID for the SM. The no form of the command removes the GUID from the root GUID list.	
Syntax Description	guid	The root GUID number in hexadecimal notation
Default	N/A	
Configuration Mode	config	
History	3.1.0000	
Example	switch (config)# ib sm root-guid aa:bb:00:11:22:33:44:55	
Related Commands	show ib sm routing-engines	

Notes	The list of root GIDs are relevant when IB SM is running on the switch, and the routing algorithm is up-down or fat-tree.
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ib sm routing-engines

	ib sm routing-engines [dor] [file] [ftree] [lash] [minhop] [none] [updn] [ar-updn] no ib sm routing-engines Sets the routing engine of the SM. The no form of the command sets the routing engine to be “none”. The default SM routing engine is used.	
Syntax Description	dor	Includes “dor” engine in selection of routing engines
	file	Includes “file” engine in selection of routing engines
	ftree	Includes “ftree” engine in selection of routing engines
	lash	Includes “lash” engine in selection of routing engines
	minhop	Includes “minhop” engine in selection of routing engines
	none	No routing engines specified; use SM default(s)
	updn	Includes “up/down” engine in selection of routing engines
	ar-updn	Includes “adaptive routing up/down” engine in selection of routing engines
Default	None	
Configuration Mode	config	
History	3.1.0000	
	3.10.4000	Added ar-updn option
Example	switch (config) # ib sm routing-engines none	
Related Commands	show ib sm routing-engines	
Notes	Multiple routing engines can be specified separated by spaces so that specific ordering of routing algorithms will be tried if earlier routing engines fail.	

ib sm rtr-aguid-enable

	ib sm rtr-aguid-enable <value> no ib sm rtr-aguid-enable Configures SM alias GUID control option. The no form of the command resets SM alias GUID control to its default value.	
Syntax Description	value	Possible values: <ul style="list-style-type: none"> • 0—does not configure alias GIDs required by routers • 1—configures alias GIDs required by routers • 2—clears and does not configure alias GIDs required by routers
Default	0	
Configuration Mode	config	
History	3.6.2002	
Example	switch (config) # ib sm rtr-aguid-enable 1	
Related Commands		
Notes		

ib sm rtr-pr-flow-label

	ib sm rtr-pr-flow-label <value> no ib sm rtr-pr-flow-label <value> Configures inter-subnet PathRecord FlowLabel. The no form of the command resets inter-subnet PathRecord FlowLabel to its default value.	
Syntax Description	value	Range: 0-1048575
Default	0	
Configuration	config	

Mode	
History	3.6.2002
Example	switch (config) # ib sm rtr-pr-flow-label 1
Related Commands	
Notes	

ib sm rtr-pr-mtu

	ib sm rtr-pr-mtu <value> no ib sm rtr-pr-mtu <value> Configures inter-subnet PathRecord MTU. The no form of the command resets inter-subnet PathRecord MTU to its default value.	
Syntax Description	value	Possible values: 256, 512, 1K, 2K, 4K
Default	2K	
Configuration Mode	config	
History	3.6.2002	
Example	switch (config) # ib sm rtr-pr-mtu 2k	
Related Commands		
Notes		

ib sm rtr-pr-rate

	ib sm rtr-pr-rate <value> no ib sm rtr-pr-rate <value> Configures inter-subnet PathRecord rate. The no form of the command resets inter-subnet PathRecord rate to its default value.	
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Syntax Description	value	Possible values: 2.5, 5, 10, 14, 20, 25, 40, 56, 100
Default	100	
Configuration Mode	config	
History	3.6.2002	
Example	switch (config) # ib sm rtr-pr-rate 5	
Related Commands		
Notes		

ib sm rtr-pr-sl

	ib sm rtr-pr-sl <value> no ib sm rtr-pr-sl <value> Configures inter-subnet PathRecord SL. The no form of the command resets inter-subnet PathRecord SL to its default value.	
Syntax Description	value	Range: [0-15]
Default	0	
Configuration Mode	config	
History	3.6.2002	
Example	switch (config) # rtr-pr-sl 0	
Related Commands		
Notes		

ib sm rtr-pr-tclass

	ib sm rtr-pr-tclass <value>	
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	no ib sm rtr-pr-tclass <value> Configures inter-subnet PathRecord T-class. The no form of the command resets inter-subnet PathRecord T-class to its default value.	
Syntax Description	value	Range: 0-255
Default	0	
Configuration Mode	config	
History	3.6.2002	
Example	switch (config) # ib sm rtr-pr-tclass 1	
Related Commands		
Notes		

ib sm sa-key

	ib sm sa-key <SA_Key> Sets the SA_Key 64-bit value used by SA to qualify that a query is “trusted”.	
Syntax Description	SA Key	64 bit
Default	00:00:00:00:00:00:00:01	
Configuration Mode	config	
History	3.1.0000	
Example	switch (config) # ib sm sa-key 5	
Related Commands	show ib sm sa-key	
Notes	OpenSM version 3.2.1 and lower used the default value of “1” in host byte order. You may need to change this value to inter-operate with older subnet managers.	

ib sm single-thread

	<code>ib sm single-thread</code> <code>no ib sm single-thread</code> Enables the Subnet Manager to use a single thread to service all requests. The no form of the command enables SA to use multiple service threads.
Syntax Description	N/A
Default	Disabled (use multiple service threads)
Configuration Mode	config
History	3.1.0000
Example	<code>switch (config) # ib sm single-thread</code>
Related Commands	<code>show ib sm single-thread</code>
Notes	

ib sm sm-inactive

	<code>ib sm sm-inactive</code> <code>no ib sm sm-inactive</code> Configures the SM to start in the “inactive” SM state. This option can be used to run a standalone system without the SM/SA function. The no form of the command configures the SM to start in “init” SM state.
Syntax Description	N/A
Default	Disabled
Configuration Mode	config
History	3.1.0000
Example	<code>switch (config) # ib sm sm-inactive</code>

Related Commands	show ib sm sm-inactive
Notes	

ib sm sm-key

	ib sm sm-key <SM_Key> Sets the SM 64-bit SM_Key.	
Syntax Description	SM Key	64 bit
Default	00:00:00:00:00:00:00:01	
Configuration Mode	config	
History	3.1.0000	
Example	switch (config) # ib sm sm-key 00:00:00:00:00:00:00:05	
Related Commands	show ib sm sm-key	
Notes	OpenSM version 3.2.1 and lower used the default value of “1” in host byte order. You may need to change this value to inter-operate with older subnet managers.	

ib sm sm-priority

	ib sm sm-priority <priority> Prioritizes the desired SM compared to other SMs on the fabric.	
Syntax Description	priority	Range: 0-15 0 is least important 15 the most important
Default	0	
Configuration Mode	config	
History	3.1.0000	

Example	switch (config) # ib sm sm-priority 1
Related Commands	show ib sm sm-priority
Notes	If two or more active SMs have the same highest priority, the one with the lowest port GUID manages the fabric.

ib sm sm-sl

	ib sm sm-sl <sm-sl> Sets the SM service level for SM/SA communication.	
Syntax Description	sm-sl	0-15
Default	0	
Configuration Mode	config	
History	3.1.0000	
Example	switch (config) # ib sm sm-sl 10	
Related Commands	show ib sm sm-sl	
Notes	Selects the SL that is used for MADs.	

ib sm sminfo-poll-time

	ib sm sminfo-poll-time <time> This variable controls the timeout between two polls of an active subnet manager.	
Syntax Description	time	In milliseconds
Default	10 seconds	
Configuration Mode	config	
History	3.1.0000	

Example	switch (config) # ib sm sminfo-poll-time 15
Related Commands	show ib sm sminfo-poll-time
Notes	

ib sm subnet-prefix

	ib sm subnet-prefix <prefix> no ib sm subnet-prefix <prefix> Sets the SM “Subnet Prefix” used to create scope qualifiers for all elements managed by the SM. The no form of the command resets the subnet prefix to its default value.	
Syntax Description	prefix	64 bit
Default	FE:80:00:00:00:00:00:00	
Configuration Mode	config	
History	3.6.1002	
	3.6.2002	Added no form of the command
Example	switch (config) # ib sm subnet-prefix ff:ff:ff:ff:ff:ff:00	
Related Commands	show ib sm subnet-prefix	
Notes	The default value is also the InfiniBand default for a locally administered subnet.	

ib sm subnet-prefix-override

	ib sm subnet-prefix-override no ib sm subnet-prefix-override Disables IB Router subnet prefix checking. The no form of the command enables IB Router subnet prefix checking.	
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Syntax Description	N/A
Default	Enabled
Configuration Mode	config
History	3.6.2002
Example	switch (config) # ib sm subnet-prefix-override
Related Commands	show ib sm subnet-prefix-override
Notes	

ib sm max-smps-timeout

	ib sm max-smps-timeout <Timeout> Sets timeout for SMPs between max_wire_smps & max_wire_smps2	
Syntax Description	timeout	Timeout in seconds
Default	N/A	
Configuration Mode	config	
History	3.8.3000	
Example	switch (config) # ib sm max-smps-timeout 22	
Related Commands		
Notes		

ib sm subnet-timeout

	ib sm subnet-timeout <time> Sets the global per-port subnet timeout value (PortInfo:SubnetTimeOut). This value also controls the maximum trap
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	frequency in which no traps are allowed to be sent faster than the subnet_timeout value.	
Syntax Description	time	The actual timeout is $4.096 \mu\text{s} * 2^{*\langle\text{time}\rangle}$. The range of time is 0-31 for this parameter which supports 32 discrete time values between 4 uS and about 2.4 hours.
Default	0x12 (About 1 second)	
Configuration Mode	config	
History	3.1.0000	
Example	switch (config) # ib sm subnet-timeout 5	
Related Commands	show ib sm subnet-timeout	
Notes	If the SMA generates a sequence of traps, the interval between successive traps should not be smaller than <time>.	

ib sm sweep-interval

	ib sm sweep-interval <time> no ib sm sweep-interval Specifies the time between subnet sweeps. The no form of the command disables periodic sweeps.	
Syntax Description	time	Range: Between 0 and 36000 seconds; 0—disable
Default	10 seconds	
Configuration Mode	config	
History	3.1.0000	
Example	switch (config) # ib sm sweep-interval 20	
Related Commands	show ib sm sweep-interval	
Notes		

ib sm sweep-on-trap

	<code>ib sm sweep-on-trap</code> <code>no ib sm sweep-on-trap</code> Enables every TRAP received by the SM to initiate a heavy sweep in addition to the processing required by the TRAP. The no form of the command enables SM to use a combination of light and heavy sweeps based on the type of TRAP and other internal states.
Syntax Description	N/A
Default	enable
Configuration Mode	config
History	3.1.0000
Example	<code>switch (config) # ib sm sweep-on-trap</code>
Related Commands	<code>show ib sm sweep-on-trap</code>
Notes	More than 10 successive identical TRAPs disable the automatic sweep behavior until at least one different TRAP has been received.

ib sm transaction-retries

	<code>ib sm transaction-retries <transaction-retries-count></code> Sets the maximum retries for failed transactions.		
Syntax Description	<table border="1"><tr><td><code>transaction-retries-count</code></td><td>Must be an integer</td></tr></table>	<code>transaction-retries-count</code>	Must be an integer
<code>transaction-retries-count</code>	Must be an integer		
Default	3		
Configuration Mode	config		
History	3.1.0000		
Example	<code>switch (config) # ib sm transaction-retries 10</code>		
Related Commands	<code>show ib sm transaction-retries</code>		

Notes	
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ib sm use-heavy-sweeps

	ib sm use-heavy-sweeps no ib sm use-heavy-sweeps Turns every fabric sweep to a heavy sweep. The no form of the command enables the SM to use a combination of light and heavy sweeps.
Syntax Description	N/A
Default	disable
Configuration Mode	config
History	3.1.0000
Example	switch (config) # ib sm use-heavy-sweeps
Related Commands	show ib sm use-heavy-sweeps
Notes	

ib sm use-ucast-cache

	ib sm use-ucast-cache no ib sm use-ucast-cache Enables the SM to use cached routine data (LMC=0 only). The no form of the command disables the SM to use cached routine data.
Syntax Description	N/A
Default	Disabled
Configuration Mode	config
History	3.1.0000

Example	switch (config) # ib sm use-ucast-cache
Related Commands	show ib sm use-ucast-cache
Notes	

ib sm vl-stalls

	ib sm vl-stalls <count> Sets the number of sequential frame drops that cause a switch-to-switch port to enter the VLStalled state.	
Syntax Description	count	1-255
Default	7	
Configuration Mode	config	
History	3.1.0000	
Example	switch (config) # ib sm vl-stalls 10	
Related Commands	show ib sm vl-stalls	
Notes		

ib sm virt

	ib sm virt {enable disable ignore} no ib sm virt Configures IB SM port virtualization support. The no form of the command resets this parameter to its default value.	
Syntax Description	enable	IB SM supports virtualization, and configures virtual ports
	disable	IB SM disables virtual ports
	ignore	IB SM ignores virtual ports and does not change their

	configuration
Default	Ignore
Configuration Mode	config
History	3.4.2008
Example	switch (config) # ib sm virt configure
Related Commands	
Notes	

ib sm virt-default-hop-limit

	ib sm virt-default-hop-limit <value> no ib sm virt-default-hop-limit Configures the default value for hop limit to be returned in path records. The no form of the command resets this parameter to its default value.	
Syntax Description	value	Range: 0-255
Default	2	
Configuration Mode	config	
History	3.6.2002	
Example	switch (config) # ib sm virt-default-hop-limit 3	
Related Commands		
Notes		

ib sm virt-max-ports-in-process

	ib sm virt-max-ports-in-process <value>
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	no ib sm virt-max-ports-in-process Configures the maximum number of ports to be processed simultaneously. The no form of the command resets this parameter to its default value.	
Syntax Description	value	Range: 0-65535 "0" processes all pending ports
Default	4	
Configuration Mode	config	
History	3.6.2002	
Example	switch (config) # ib sm virt-max-ports-in-process 5	
Related Commands		
Notes		

Show

show ib sm

	show ib sm Displays the SM admin state.	
Syntax Description	N/A	
Default	N/A	
Configuration Mode	Any command mode	
History	3.1.0000	
Example	switch (config) # show ib sm enable	
Related Commands	ib sm	
Notes		

show ib sm accum-log-file

	show ib sm accum-log-file Displays the accum-log-file configuration.
Syntax Description	N/A
Default	N/A
Configuration Mode	Any command mode
History	3.1.0000
Example	switch (config) # show ib sm accum-log-file enable
Related Commands	ib sm accum-log-file
Notes	

show ib sm babbling-policy

	show ib sm babbling-policy Displays the ability of the SM to disable babbling ports (i.e., generating frequent traps).
Syntax Description	N/A
Default	N/A
Configuration Mode	Any command mode
History	3.1.0000
Example	switch (config) # show ib sm babbling-policy disable
Related Commands	ib sm babbling-policy

Notes	
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show ib sm calculate-missing-routes

	Show ib sm calculate-missing-routes Display option allowing SM to find and recalculate missing routes without creating credit-loops
Syntax Description	N/A
Default	N/A
Configuration Mode	Any command mode
History	3.8.2000
Example	<pre>switch (config) # ib sm calculate-missing-routes switch (config) # show ib sm calculate-missing-routes ib sm calculate-missing-routes: enabled switch (config) # no ib sm calculate-missing-routes switch (config) # show ib sm calculate-missing-routes ib sm calculate-missing-routes: disabled</pre>
Related Commands	ib sm calculate-missing-routes
Notes	

show ib sm connect-roots

	show ib sm connect-roots Displays the IBA compliant multi-stage switch directive.
Syntax Description	N/A
Default	N/A
Configuration Mode	Any command mode

History	3.1.0000
Example	switch (config) # show ib sm connect-roots true
Related Commands	ib sm connect-roots
Notes	

show ib sm enable-quirks

	show ib sm enable-quirks Displays if the SM uses high risk features and handles HW workarounds.
Syntax Description	N/A
Default	N/A
Configuration Mode	Any command mode
History	3.1.0000
Example	switch (config) # show ib sm enable-quirks disable
Related Commands	ib sm enable-quirks
Notes	

show ib sm exit-on-fatal

	show ib sm exit-on-fatal Displays if the SM exits upon a fatal error.
Syntax Description	N/A
Default	N/A
Configuration	Any command mode

Mode	
History	3.1.0000
Example	switch (config) # show ib sm exit-on-fatal enable
Related Commands	ib sm exit-on-fatal
Notes	

show ib sm fdr10

	show ib sm fdr10 Displays the status of the SM use of FDR10.
Syntax Description	N/A
Default	N/A
Configuration Mode	Any command mode
History	3.1.0000
Example	switch (config) # show ib sm fdr10 SM use of fdr10 is off
Related Commands	
Notes	

show ib sm force-link-speed

	show ib sm force-link-speed Displays SM behavior for PortInfo:LinkSpeedEnabled parameter on switch ports.
Syntax Description	N/A
Default	N/A

Configuration Mode	Any command mode	
History	3.1.0000	
	3.4.1604	Updated Syntax Description, Example and Notes
Example	switch (config) # show ib sm force-link-speed Default: set to PortInfo:LinkSpeedSupported	
Related Commands	ib sm force-link-speed	
Notes	Possible outputs: <ul style="list-style-type: none"> • Default: set to PortInfo:LinkSpeedExtSupported • Disabled: extended link speed not in use • Negotiate: <a list containing fdr, edr speeds> 	

show ib sm force-link-speed-ext

	show ib sm force-link-speed-ext Displays SM behavior for PortInfo:LinkSpeedExtEnabled parameter on the switch ports.	
Syntax Description	N/A	
Default	N/A	
Configuration Mode	Any command mode	
History	3.1.0000	
	3.4.1604	Updated Description and Example
Example	switch (config) # show ib sm force-link-speed-ext Negotiate: fdr edr	
Related Commands	ib sm force-link-speed	

Notes	<p>Possible outputs:</p> <ul style="list-style-type: none"> • Default: set to PortInfo:LinkSpeedExtSupported • Disabled: extended link speed not in use • Negotiate: <a list containing fdr, edr speeds>
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show ib sm force-log-flush

	<p>show ib sm force-log-flush Displays if every log message generated forces the log to be flushed.</p>	
Syntax Description	N/A	
Default	N/A	
Configuration Mode	Any command mode	
History	3.1.0000	
	3.4.1604	Updated Description and Example
Example	switch (config) # show ib sm force-log-flush enable	
Related Commands	ib sm force-log-flush	
Notes		

show ib sm guid2lid-cache

	<p>show ib sm guid2lid-cache Displays whether or not the SM honors the cached GUID-to-LID mapping information.</p>	
Syntax Description	N/A	
Default	N/A	
Configuration Mode	Any command mode	

History	3.1.0000
Example	switch (config) # show ib sm guid2lid-cache disable
Related Commands	ib sm guid2-lid-cache
Notes	

show ib sm honor-partitions

	show ib sm honor-partitions Displays the partition enforcement settings in the subnet.
Syntax Description	N/A
Default	N/A
Configuration Mode	Any command mode
History	3.1.0000
Example	switch (config) # show ib sm honor-partitions disable
Related Commands	ib sm honor-partitions
Notes	

show ib sm hoq-lifetime

	show ib sm hoq-lifetime Displays the maximum time a frame can wait at the head of a switch-to-switch port queue before it is dropped.
Syntax Description	N/A
Default	N/A
Configuration	Any command mode

Mode	
History	3.1.0000
Example	switch (config) # show ib sm hoq-lifetime 0x12 (About 1 second)
Related Commands	ib sm hoq-lifetime
Notes	

show ib sm ignore-other-sm

	show ib sm ignore-other-sm Displays if the rules governing SM elections and attempt to manage the fabric on the node are ignored by the SM.
Syntax Description	N/A
Default	N/A
Configuration Mode	Any command mode
History	3.1.0000
Example	switch (config) # show ib sm ignore-other-sm enable
Related Commands	ib sm ignore-other-sm
Notes	

show ib sm ipv6-nsm

	show ib sm ipv6-nsm Displays the consolidation of IPv6 Solicited Node Multicast (SNM) group join requests.
Syntax Description	N/A
Default	N/A

Configuration Mode	Any command mode
History	3.1.0000
Example	switch (config) # show ib sm ipv6-nsm enable
Related Commands	ib sm ipv6-nsm
Notes	

show ib sm lash

	show ib sm lash {do-mesh-analysis start-vl} Display "lash" routing method parameters.
Syntax Description	N/A
Default	N/A
Configuration Mode	Any command mode
History	3.1.0000
Example	switch (config) # show ib sm lash do-mesh-analysis enable
Related Commands	ib sm lash
Notes	

show ib sm leafhoq-lifetime

	show ib sm leafhoq-lifetime Displays the maximum time a frame can wait at the head of a switch-to-CA_or_Router port queue before it is dropped.
Syntax Description	N/A

Default	N/A
Configuration Mode	Any command mode
History	3.1.0000
Example	switch (config) # show ib sm leafhoq-lifetime 0x10 (About 268 mS)
Related Commands	ib sm leafhoq-lifetime
Notes	

show ib sm leafvl-stalls

	show ib sm leafvl-stalls Displays the number of sequential frame drops that case a switch-to-CA_or_Router port to enter the VLStalled state.
Syntax Description	N/A
Default	N/A
Configuration Mode	Any command mode
History	3.1.0000
Example	switch (config) # show ib sm leafvl-stalls 7
Related Commands	ib sm leafvl-stalls
Notes	

show ib sm lmc

	show ib sm lmc Displays the number of sequential frame drops that case a switch-to-CA_or_Router port to enter the VLStalled state.
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Syntax Description	N/A
Default	N/A
Configuration Mode	Any command mode
History	3.1.0000
Example	switch (config) # show ib sm lmc 0x0
Related Commands	ib sm lmc
Notes	

show ib sm lmc-esp0

	show ib sm lmc-esp0 Displays the number of sequential frame drops that case a switch-to-CA_or_Router port to enter the VLStalled state.
Syntax Description	N/A
Default	N/A
Configuration Mode	Any command mode
History	3.1.0000
Example	switch (config) # show ib sm lmc-esp0 enable
Related Commands	ib sm lmc-esp0
Notes	

show ib sm log

	show ib sm log [continuous] [[not] [matching <reg-expression>]]
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	Displays IB SM event logs.	
Syntax Description	continuous	Displays IB SM new event log messages as they arrive
	not	Displays IB SM new event logs that do not match a given regular expression
	matching	Displays IB SM event log messages that match a given regular expression
Default	N/A	
Configuration Mode	Any command mode	
History	3.1.0000	
Example	<pre>switch (config) # show ib sm log Jul 18 12:00:40 165863 [48026660] 0x03 -> OpenSM 3.3.13.MLNX_20121224_9b362db Jul 18 12:00:40 168685 [48026660] 0x80 -> OpenSM 3.3.13.MLNX_20121224_9b362db Jul 18 12:00:40 170789 [48026660] 0x02 -> osm_vendor_init: 1000 pending umads specified Jul 18 12:00:40 175696 [48026660] 0x80 -> Entering DISCOVERING state Jul 18 12:00:40 249448 [48026660] 0x02 -> osm_vendor_bind: Binding to port 0x2c903008b0440 Jul 18 12:00:40 293959 [48026660] 0x02 -> osm_vendor_bind: Binding to port 0x2c903008b0440 Jul 18 12:00:40 296921 [48026660] 0x02 -> osm_vendor_bind: Binding to port 0x2c903008b0440 Jul 18 12:00:40 304702 [48026660] 0x02 -> osm_opensm_bind: Setting IS_SM on port 0x0002c903008b0440 Jul 18 12:00:40 399744 [4A85D4B0] 0x80 -> Entering MASTER state</pre>	
Related Commands	show ib sm log-flags	
Notes		

show ib sm log-flags

	show ib sm log-flags Displays what type of messages the SM is logging.
Syntax Description	N/A
Default	N/A
Configuration	Any command mode

Mode	
History	3.1.0000
Example	switch (config) # show ib sm log-flags 0x3 (error, info)
Related Commands	ib sm log-flags
Notes	

show ib sm log-max-size

	show ib sm log-max-size Displays the maximum size of the log file.
Syntax Description	N/A
Default	N/A
Configuration Mode	config
History	3.1.0000
Example	switch (config) # show ib sm log-max-size 50 MBytes
Related Commands	ib sm log-max-size
Notes	

show ib sm max-op-vls

	show ib sm max-op-vls Displays the maximum size of the log file.
Syntax Description	N/A
Default	N/A

Configuration Mode	Any command mode
History	3.1.0000
Example	switch (config) # show ib sm max-op-vls 15
Related Commands	ib sm max-op-vls
Notes	

show ib sm max-ports

	show ib sm max-ports Displays the number of CA ports SM can manage.
Syntax Description	N/A
Default	N/A
Configuration Mode	Any command mode
History	3.1.0000
Example	switch (config) # show ib sm max-ports 2048
Related Commands	ib sm max-ports
Notes	

show ib sm max-reply-time

	show ib sm max-reply-time Displays the number of CA ports SM can manage.
Syntax Description	N/A
Default	N/A

Configuration Mode	Any command mode
History	3.1.0000
Example	switch (config) # show ib sm max-reply-time 200 milliseconds
Related Commands	ib sm max-reply-time
Notes	

show ib sm max-reverse-hops

	show ib sm max-reverse-hops Displays max hops IO node to top switch.
Syntax Description	N/A
Default	N/A
Configuration Mode	Any command mode
History	3.1.0000
Example	switch (config) # show ib sm max-reverse-hops 0
Related Commands	ib sm max-reverse-hops
Notes	

show ib sm aguid-default-hop-limit

	show ib sm aguid-default-hop-limit Displays max hops IO node to top switch.
Syntax Description	N/A
Default	N/A

Configuration Mode	Any command mode
History	3.1.0000
Example	switch (config) # show ib sm aguid-default-hop-limit 1
Related Commands	ib sm aguid-default-hop-limit
Notes	

show ib sm max-wire-smps

	show ib sm max-wire-smps Displays the maximal number of MADs the SM will have outstanding at one time to count.
Syntax Description	N/A
Default	N/A
Configuration Mode	Any command mode
History	3.1.0000
Example	switch (config) # show ib sm max-wire-smps 4
Related Commands	ib sm max-wire-smps
Notes	

show ib sm max-wire-smps2

	show ib sm max-wire-smps2 Displays maximal SM timeout based packets allowed to be outstanding.
Syntax Description	N/A

Default	N/A
Configuration Mode	Any command mode
History	3.1.0000
Example	switch (config) # show ib sm max-wire-smps2 4
Related Commands	ib sm max-wire-smps2
Notes	

show ib sm mkey-lease

	show ib sm mkey-lease Displays MKey period in seconds.
Syntax Description	N/A
Default	N/A
Configuration Mode	Any command mode
History	3.1.0000
Example	switch (config) # show ib sm mkey-lease 0 (no timeout)
Related Commands	ib sm mkey-lease
Notes	

show ib sm m-key

	show ib sm m-key Displays the MKey used by the SM.
Syntax Description	N/A

Default	N/A	
Configuration Mode	Any command mode	
History	3.1.0000	
	3.6.2002	Updated Example
Example	switch (config) # show ib sm m-key 11:33:55:77:99:aa:cc:ee	
Related Commands	ib sm m-key	
Notes		

show ib sm mkey-lease

	show ib sm mkey-lease Displays MKey lease period in seconds.	
Syntax Description	N/A	
Default	N/A	
Configuration Mode	Any command mode	
History	3.6.2002	
Example	switch (config) # show ib sm mkey-lease 0 (No timeout)	
Related Commands	ib sm mkey-lookup	
Notes		

show ib sm mkey-lookup

	show ib sm mkey-lookup Displays whether the SM looks in file cache for unknown note MKeys.	
--	---	--

Syntax Description	N/A
Default	N/A
Configuration Mode	Any command mode
History	3.6.2002
Example	switch (config) # show ib sm mkey-lookup enable
Related Commands	ib sm m-key
Notes	

show ib sm mkey-protect-level

	show ib sm mkey-protect-level Displays MKey protection level.
Syntax Description	N/A
Default	N/A
Configuration Mode	Any command mode
History	3.6.2002
Example	switch (config) # show ib sm mkey-protect-level 0
Related Commands	ib sm mkey-protect-level
Notes	

show ib sm msgfifo-timeout

	show ib sm msgfifo-timeout
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	Displays the elapsed time in milliseconds before a frame at the head of Subnet Agent queue causes an immediate BUSY state.
Syntax Description	N/A
Default	N/A
Configuration Mode	Any command mode
History	3.1.0000
Example	switch (config) # show ib sm msgfifo-timeout 10.000 seconds
Related Commands	ib sm msgfifo-timeout
Notes	

show ib sm multicast

	show ib sm multicast Displays whether the SM supports multicast on the fabric.
Syntax Description	N/A
Default	N/A
Configuration Mode	Any command mode
History	3.1.0000
Example	switch (config) # show ib sm multicast enable
Related Commands	ib sm multicast
Notes	

show ib sm no-client-rereg

	show ib sm no-client-rereg Displays client re-registration admin state.
Syntax Description	N/A
Default	N/A
Configuration Mode	Any command mode
History	3.1.0000
Example	switch (config) # show ib sm no-client-rereg enable
Related Commands	ib sm no-client-rereg
Notes	

show ib sm overrun-trigger

	show ib sm overrun-trigger Displays count of local buffer overrun errors for Infiniband trap 130.
Syntax Description	N/A
Default	N/A
Configuration Mode	Any command mode
History	3.1.0000
Example	switch (config) # show ib sm overrun-trigger 3
Related Commands	ib sm overrun-trigger
Notes	

show ib sm packet-life-time

	show ib sm packet-life-time Displays the maximum time a frame can live in a switch.
Syntax Description	N/A
Default	N/A
Configuration Mode	Any command mode
History	3.1.0000
Example	switch (config) # show ib sm packet-life-time 0x14 (Infinite)
Related Commands	ib sm packet-life-time
Notes	

show ib sm phy-err-trigger

	show ib sm phy-err-trigger Displays the number of local link integrity errors and the port's SMA supports traps.
Syntax Description	N/A
Default	N/A
Configuration Mode	Any command mode
History	3.1.0000
Example	switch (config) # show ib sm phy-err-trigger 5
Related Commands	ib sm phy-err-trigger
Notes	

show ib sm polling-retries

	<code>show ib sm polling-retries</code> Displays the number of consecutive times an active SM must fail to respond before it is declared dead.
Syntax Description	N/A
Default	N/A
Configuration Mode	Any command mode
History	3.1.0000
Example	<code>switch (config) # show ib sm polling-retries</code> 8
Related Commands	<code>ib sm polling-retries</code>
Notes	

show ib sm port-prof-switch

	<code>show ib sm port-prof-switch</code> Displays whether or not the counting of adapters, routers, and switches through the links is being done.
Syntax Description	N/A
Default	N/A
Configuration Mode	Any command mode
History	3.1.0000
Example	<code>switch (config) # show ib sm port-prof-switch</code> true
Related Commands	<code>ib sm port-prof-switch</code>
Notes	

show ib sm reassign-lids

	show ib sm reassign-lids Displays the ability of the SM to reassign LIDs to nodes it finds already configured with a valid LID.
Syntax Description	N/A
Default	N/A
Configuration Mode	Any command mode
History	3.1.0000
Example	switch (config) # show ib sm reassign-lids enable
Related Commands	ib sm reassign-lids
Notes	

show ib sm root-guid

	show ib sm root-guid Displays the configured root GUIDs for the SM.
Syntax Description	N/A
Default	N/A
Configuration Mode	Any command mode
History	3.1.0000
Example	switch (config)# show ib sm root-guid AA:00:11:22:33:44:55 AA:00:11:22:33:44:56 AA:00:11:22:33:44:57 ...

Related Commands	ib sm routing-engine
Notes	The list of root GUIDs are relevant when IB SM is running on the switch, and the routing algorithm is up-down or fat-tree.

show ib sm routing-engines

	show ib sm routing-engines Displays an ordered list of routing engines.
Syntax Description	N/A
Default	N/A
Configuration Mode	Any command mode
History	3.1.0000
Example	switch (config)# show ib sm routing-engines none
Related Commands	ib sm routing-engines
Notes	

show ib sm routing-info

	show ib sm routing-info Displays current routing engine information.
Syntax Description	N/A
Default	N/A
Configuration Mode	Any command mode
History	3.1.0000
Example	switch (config)# show ib sm routing-info

	Current routing engine minhop
Related Commands	
Notes	

show ib sm rtr-aguid-enable

	show ib sm rtr-aguid-enable Displays GUID option configuration.
Syntax Description	N/A
Default	N/A
Configuration Mode	Any command mode
History	3.6.2002
Example	switch (config)# show ib sm rtr-aguid-enable 0
Related Commands	ib sm rtr-aguid-enable
Notes	

show ib sm rtr-pr-flow-label

	show ib sm rtr-pr-flow-label Displays inter-subnet PathRecord FlowLabel.
Syntax Description	N/A
Default	N/A
Configuration Mode	Any command mode
History	3.6.2002
Example	switch (config)# show ib sm rtr-pr-flow-label

	0
Related Commands	ib sm rtr-pr-flow-label
Notes	“0” signifies that inter-subnet PathRecord FlowLabel is disabled

show ib sm rtr-pr-mtu

	show ib sm rtr-pr-mtu Displays inter-subnet PathRecord MTU.
Syntax Description	N/A
Default	N/A
Configuration Mode	Any command mode
History	3.6.2002
Example	switch (config)# show ib sm rtr-pr-mtu 2K
Related Commands	ib sm rtr-pr-mtu
Notes	

show ib sm rtr-pr-rate

	show ib sm rtr-pr-rate Displays inter-subnet PR rate.
Syntax Description	N/A
Default	N/A
Configuration Mode	Any command mode
History	3.6.2002
Example	switch (config)# show ib sm rtr-pr-rate

	100
Related Commands	ib sm rtr-pr-rate
Notes	

show ib sm rtr-pr-sl

	show ib sm rtr-pr-sl Displays inter-subnet PathRecord service level.
Syntax Description	N/A
Default	N/A
Configuration Mode	Any command mode
History	3.6.2002
Example	switch (config)# show ib sm rtr-pr-sl 0
Related Commands	ib sm rtr-pr-sl
Notes	

show ib sm sa-key

	show ib sm sa-key Displays the SM sa-key value used by SA to qualify that a query is “trusted”.
Syntax Description	N/A
Default	N/A
Configuration Mode	Any command mode
History	3.1.0000
Example	switch (config)# show ib sm sa-key 00:00:00:00:00:00:05

Related Commands	ib sm rtr-pr-sl
Notes	

show ib sm single-thread

	show ib sm single-thread Displays if the SM uses a single thread to service all requests.
Syntax Description	N/A
Default	N/A
Configuration Mode	Any command mode
History	3.1.0000
Example	switch (config)# show ib sm single-thread enable
Related Commands	ib sm single-thread
Notes	

show ib sm sm-inactive

	show ib sm sm-inactive Displays whether or not the SM starts in “inactive” rather than “init” SM state.
Syntax Description	N/A
Default	N/A
Configuration Mode	Any command mode
History	3.1.0000
Example	switch (config)# show ib sm sm-inactive

	enable
Related Commands	ib sm sm-inactive
Notes	

show ib sm sm-key

	show ib sm sm-key Displays the SM 64-bit SM_Key.
Syntax Description	N/A
Default	N/A
Configuration Mode	Any command mode
History	3.63.1.0000
Example	switch (config)# show ib sm sm-key 00:00:00:00:00:00:00:05
Related Commands	ib sm sm-key
Notes	

show ib sm sm-priority

	show ib sm sm-priority Displays the importance of this SM compared to other SMs on the fabric.
Syntax Description	N/A
Default	N/A
Configuration Mode	Any command mode
History	3.1.0000

Example	switch (config)# show ib sm sm-priority 1
Related Commands	ib sm sm-priority
Notes	If 2 or more active SMs have the same highest priority, the one with the lowest port GUID will manage the fabric.

show ib sm sm-sl

	show ib sm sm-sl Displays SL used for SM/SA communication.
Syntax Description	N/A
Default	N/A
Configuration Mode	Any command mode
History	3.1.0000
Example	switch (config)# show ib sm sm-sl 1
Related Commands	ib sm sm-sl
Notes	

show ib sm sminfo-poll-time

	show ib sm sminfo-poll-time Displays the timeout in milliseconds between two polls of an active SM.
Syntax Description	N/A
Default	N/A
Configuration Mode	Any command mode

History	3.1.0000
Example	switch (config)# show ib sm sminfo-poll-time 15 milliseconds
Related Commands	ib sm sminfo-poll-time
Notes	

show ib sm subnet-prefix

	show ib sm subnet-prefix Displays the SM “Subnet Prefix” used to create scope qualifiers for all elements managed by the SM.
Syntax Description	N/A
Default	N/A
Configuration Mode	Any command mode
History	3.1.0000
Example	switch (config)# show ib sm subnet-prefix FF:FF:FF:FF:FF:FF:FF:00
Related Commands	ib sm subnet-prefix
Notes	

show ib sm subnet-prefix-override

	show ib sm subnet-prefix-override Displays whether IB Router subnet prefix checking is enabled or disabled.
Syntax Description	N/A
Default	N/A

Configuration Mode	Any command mode
History	3.1.0000
Example	switch (config)# show ib sm subnet-prefix-override disable
Related Commands	ib sm subnet-prefix-override
Notes	

show ib sm subnet-timeout

	show ib sm subnet-timeout Displays the global per-port subnet timeout value (PortInfo:SubnetTimeOut). This value also controls the maximum trap frequency in which no traps are allowed to be sent faster than the subnet_timeout value. The time is 4.096 uS * 2*time.
Syntax Description	N/A
Default	N/A
Configuration Mode	Any command mode
History	3.1.0000
Example	switch (config)# show ib sm subnet-timeout 0x5 (About 131 uS)
Related Commands	ib sm subnet-timeout
Notes	

show ib sm sweep-interval

	show ib sm sweep-interval Displays the time in seconds between subnet sweeps.
--	--

Syntax Description	N/A
Default	N/A
Configuration Mode	Any command mode
History	3.1.0000
Example	switch (config)# show ib sm sweep-interval 20 seconds
Related Commands	ib sm sweep-interval
Notes	

show ib sm sweep-on-trap

	show ib sm sweep-on-trap Displays whether or not a heavy sweep is initiated by the TRAP received by the SM.
Syntax Description	N/A
Default	N/A
Configuration Mode	Any command mode
History	3.1.0000
Example	switch (config)# show ib sm sweep-on-trap enable
Related Commands	ib sm sweep-on-trap
Notes	

show ib sm transaction-retries

	show ib sm transaction-retries
--	--------------------------------

	Displays maximum retries before failing a transaction.
Syntax Description	N/A
Default	N/A
Configuration Mode	Any command mode
History	3.1.0000
Example	switch (config)# show ib sm transaction-retries 3
Related Commands	ib sm transaction-retries
Notes	

show ib sm use-heavy-sweeps

	show ib sm use-heavy-sweeps Displays maximum retries before failing a transaction.
Syntax Description	N/A
Default	N/A
Configuration Mode	Any command mode
History	3.1.0000
Example	switch (config)# show ib sm use-heavy-sweeps disable
Related Commands	ib sm use-heavy-sweeps
Notes	

show ib sm use-ucast-cache

	show ib sm use-ucast-cache
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	Displays maximum retries before failing a transaction.
Syntax Description	N/A
Default	N/A
Configuration Mode	Any command mode
History	3.1.0000
Example	switch (config)# show ib sm use-ucast-cache false
Related Commands	ib sm use-ucast-cache
Notes	

show ib sm version

	show ib sm version Displays the OpenSM version currently running.
Syntax Description	N/A
Default	N/A
Configuration Mode	Any command mode
History	3.2.3000
Example	switch (config)# show ib sm version OpenSM5.2.0
Related Commands	
Notes	

show ib sm virt-default-hop-limit

	show ib sm virt-default-hop-limit
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	Displays the open SM version that is currently running.
Syntax Description	N/A
Default	N/A
Configuration Mode	Any command mode
History	3.6.2002
Example	switch (config)# show ib sm virt-default-hop-limit 2
Related Commands	ib sm virt-default-hop-limit
Notes	

show ib sm virt-max-ports-in-process

	show ib sm virt-max-ports-in-process Displays the maximum number of ports to be processed simultaneously.
Syntax Description	N/A
Default	N/A
Configuration Mode	Any command mode
History	3.6.2002
Example	switch (config)# show ib sm virt-max-ports-in-process 4
Related Commands	ib sm virt-max-ports-in-process
Notes	

show ib sm vl-stalls

	show ib sm use-vl-stalls Displays the number of sequential frame drops that cause a switch-to-switch port to enter the VLStalled state.
Syntax Description	N/A
Default	N/A
Configuration Mode	Any command mode
History	3.1.0000
Example	switch (config)# show ib sm vl-stalls 7
Related Commands	ib sm vl-stalls
Notes	

Partitions

ib partition

	ib partition <partition-name> [pkey <pkey number>] no ib partition <partition-name> [force] Enters the context of the partition specified. The no form of the command deletes the partition.	
Syntax Description	partition-name	Name of partition context to be entered
	pkey	Creates a partition and enters a new configuration mode
	force	Forces configuration
Default	Default partition is available (PKEY 0x7fff)	
Configuration Mode	config	
History	3.2.0500	
	3.6.8008	
Example	switch (config) # ib partition my-partition	

	switch (config partition my-partition) #
Related Commands	
Notes	

pkey

	<p>pkey <number> [force] no pkey <number> Specifies PKEY number for this partition. The no form of the command removes the PKEY configuration from partitions.conf file.</p>	
Syntax Description	number	Range: 0x001-0x7fff
	force	Forces configuration
Default	N/A	
Configuration Mode	config partition	
History	3.2.0500	
	3.5.1000	Added “force” parameter
Example	switch (config partition my-partition) # pkey 0x7777	
Related Commands		
Notes	PKEY must be unique	

defmember

	<p>defmember <type> [force] no defmember Sets the default membership for port GUID list. The no form of the command set the defmember configuration to default (it will not appear in the partitions.conf file).</p>	
Syntax Description	type	Default membership for GUIDs in this partition:

		<ul style="list-style-type: none"> • full • limited • both
	force	Forces configuration
Default	limited	
Configuration Mode	config partition	
History	3.2.0500	
	3.4.1100	Added “both” option
	3.5.1000	Added “force” parameter
Example	switch (config ib partition my-partition) # defmember full	
Related Commands	ib sm allow-both-pkeys member	
Notes	This parameter can be overwritten for specific GUID, using the “member” command.	

member

	<pre>member {<guid> all all-cas all-routers all-switches all-vcas self } [type <member-type>] [force]</pre> <pre>no member {<guid> all all-cas all-routers all-switches all-vcas self } [type] [force]</pre> <p>Adds static members to partition. The no form of the command will remove the static member from the partition (it will not appear in the partitions.conf file).</p>	
Syntax Description	guid	The GUID number
	all	Can be used for all GUIDs in the fabric
	self	Can be used for the the switch GUID
	all-cas	Adds all GUIDs that belong to CA ports in the fabric
	all-routers	Adds all GUIDS that belong to routers in the fabric
	all-switches	Adds all GUIDS that belong to switched in the fabric

	all-vcas	Adds all GUIDS that belong to virtual CA posts in the fabric
	member-type	Default membership for GUIDs in this partition: <ul style="list-style-type: none"> • full • limited • both
	force	Forces configuration (only relevant to the default partition)
Default	N/A	
Configuration Mode	config partition	
History	3.2.0500	
	3.4.1100	Added "both" parameter
	3.5.1000	Added "force" parameter
	3.8.2100	Added "all-cas," "all-routers," "all-switches," and "all-vcas" parameters
Example	switch (config ib partition my-partition) # member all	
Related Commands	ib partition ib sm allow-both-pkeys defmember	
Notes		

indx0

	indx0 [force] no indx0[force] Enables this partition to use indx0. As a result indx0 flag will be enabled. The no form of the command disables the indx0 in this partition (it will not appear in the partitions.conf file).	
Syntax Description	force	Forces configuration
Default	no indx0	

Configuration Mode	config partition
History	3.12.2000
Example	switch (config ib partition my-partition) # indx0
Related Commands	ib partition show ib partition
Notes	

ipoib

	ipoib [force] no ipoib [force] Enables this partition to use IPoIB. As a result IPoIB multicast group will be created. The no form of the command removes the use of IPoIB in this partition (it will not appear in the partitions.conf file).	
Syntax Description	force	Forces configuration
Default	no IPoIB	
Configuration Mode	config partition	
History	3.2.0500	
	3.5.1000	Added "force" parameter
	3.6.8008	Added "force" parameter to no form
Example	switch (config ib partition my-partition) # ipoib	
Related Commands	ib partition rate mtu sl scope	
Notes	The commands "rate", "mtu", "sl" and "scope" can be used only when the IPoIB parameter is enabled.	

mtu

	mtu <256, 512, 1K, 2K,4K> [force] no mtu Specifies MTU for this IPoIB multicast group. The no form of the command sets the mtu to default (it will not appear in the partitions.conf file).	
Syntax Description	force	Forces configuration
Default	2K	
Configuration Mode	config partition	
History	3.2.0500	
	3.5.1000	Added “force” parameter
Example	switch (config ib partition my-partition) # mtu 4K	
Related Commands	ipoib	
Notes	IPoIB parameter on the partitions must be enabled in order to use this parameter	

rate

	rate <rate> [force] no rate Specifies rate for this IPoIB multicast group. The no form of the command set the rate to default (removes the rate from the partitions.conf).	
Syntax Description	rate	<ul style="list-style-type: none"> • default—Default • 2.5—2.5 Gbps • 5—5 Gbps • 10—10 Gbps • 14—14 Gbps • 20—20 Gbps • 25—25 Gbps • 40—40 Gbps • 56—56 Gbps

		<ul style="list-style-type: none"> • 100—100 Gbps
Default	10Gb/s	
Configuration Mode	config partition	
History	3.2.0500	
	3.4.1100	Updated rate Syntax Description
	3.5.1000	Added “force” parameter
Example	switch (config partition my-partition) # rate 20	
Related Commands	ipoib	
Notes	Ports that do not support the IPoIB rate are not added to the partition	

scope

	<p>scope <type> [force]</p> <p>no scope <link-local, site-local, organization-local, global></p> <p>Specifies scope for this IPoIB multicast group. The no form of the command removes the scope configuration from the partitions.conf file.</p>	
Syntax Description	type	<ul style="list-style-type: none"> • link-local • site-local • organization-local • global
	force	Forces configuration
Default	link-local	
Configuration Mode	config partition	
History	3.2.0500	
	3.5.1000	Added “force” parameter
Example	switch (config partition my-partition) # scope global	
Related Commands	ipoib	

Notes	IPoIB parameter on the partitions must be enabled in order to use this parameter.
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sl

	sl <0-14, "default"> [force] no sl Specifies SL (Service Level - QoS) for this IPoIB multicast group. The no form of the command sets it to default (the sl configuration is removed from the partitions.conf file).	
Syntax Description	force	Forces configuration
Default	Default (0)	
Configuration Mode	config partition	
History	3.2.0500	
	3.5.1000	Added "force" parameter
Example	switch (config partition my-partition) # sl 7	
Related Commands	ipoib	
Notes	IPoIB parameter on the partitions must be enabled in order to use this parameter.	

show ib partition

	show ib partition [<partition-name> [member [<member-name>]]] Displays partition info, with optional to filters.	
Syntax Description	partition-name	Filters the output per partition name
	member <member-name>	Filters the output by a specific member
Default	N/A	
Configurati	Any command mode	

on Mode		
History	3.2.0500	
	3.6.8008	Updated Example and note.
	3.12.2000	Added indx0 field to each partition.
Example	<pre>switch (config) # show ib partition Default: PKey : 0x7FFF ipoib: yes indx0: no members: GUID='ALL' member='full'</pre>	
Related Commands		
Notes	If bulk update mode is enabled, this command notifies the user that these changes may not have been applied yet.	

Quality of Service (SM)

ib baseqos high-limit

	<pre>ib baseqos <port-type> high-limit <count></pre> <p>Sets the high-limit value for the indicated port type. Thus the system will send at least 4096 * <count> bytes from the high priority list before sending any from the low priority list.</p>	
Syntax Description	port-type	<ul style="list-style-type: none"> • ca—channel adapters • rtr—routers • sw0—ports 0 only of the switches • swe—external ports of the switches
	high-limit	<p>Possible values are: -1...255</p> <ul style="list-style-type: none"> • -1—default SM high-limit • 0—1 frame • i = 1...254 - 4K * i • 255—unlimited
Default	-1 (default SM high-limit)	

Configuration Mode	config
History	3.1.0000
Example	switch (config) # ib baseqos ca high-limit 255
Related Commands	show ib baseqos
Notes	A high-limit value of 255 means unlimited, and that makes it possible to starve the low priority list.

ib baseqos max-vls

	ib baseqos <port-type> max-vls <value> Configures the maximum number of VLs for the indicated port type.	
Syntax Description	port-type	<ul style="list-style-type: none"> • ca—channel adapters • rtr—routers • sw0—ports 0 only of the switches • swe—external ports of the switches
	value	Range: 1-15
Default	15	
Configuration Mode	config	
History	3.1.0000	
Example	switch (config) # ib baseqos ca max-vls 15	
Related Commands	show ib baseqos	
Notes		

ib baseqos sl2vl

	ib baseqos <port-type> sl2vl {sl0 sl0 sl1 sl0 sl1 sl2 ...} no ib baseqos <port-type> sl2vl
--	--

	Sets a list of up to 16 entries that map the SL entry to an appropriate VL. The no form of the command sets the attributes to their default settings.	
Syntax Description	port-type	<ul style="list-style-type: none"> • ca—channel adapters • rtr—routers • sw0—ports 0 only of the switches • swe—external ports of the switches
	sl[i]	A single vector (1 ... 16 elements), the command line vector determine the SL [0...15] that is mapped to the specified VL [0...15].
Default	The default mapping is: 0,1,2,3,4,5,6,7,8,9,10,11,12,13,14,7	
Configuration Mode	config	
History	3.1.0000	
Example	<pre>switch (config) # show ib baseqos ca sl2vl 0,1,2,3,4,5,6,7,8,9,10,11,12,13,14,7 switch (config) # ib baseqos ca sl2vl 10 10 10 switch (config) # show ib baseqos ca sl2vl 10,10,10,15,15,15,15,15,15,15,15,15,15,15,15</pre>	
Related Commands	show ib baseqos	
Notes	Any missing SLs will be mapped to VL 15.	

ib baseqos vlarb-high

	<pre>ib baseqos <port-type> vlarb-high {VW1 VW1 VW2 ...} no ib baseqos <port-type> vlarb-high</pre> Sets up to 15 VL to Weight mapping pairs for high priority processing. The no form of the command sets the attributes to their default settings.	
Syntax Description	port-type	<ul style="list-style-type: none"> • ca—channel adapters • rtr—routers • sw0—ports 0 only of the switches • swe—external ports of the switches
	VW[i]	There are two possible options for this parameter:

		<ul style="list-style-type: none"> • A single vector (1 ...15) in the format of “#:#” separated by spaces, see example below. • Format of “i#=X:Y” in order to change a specific entry (see example below)
Default	The default mapping is: 0:4,1:0,2:0,3:0,4:0,5:0,6:0,7:0,8:0,9:0,10:0,11:0,12:0,13:0,14:0	
Configuration Mode	config	
History	3.1.0000	
Example	<pre>switch (config) # show ib baseqos ca vlarb-high 0:4,1:0,2:0,3:0,4:0,5:0,6:0,7:0,8:0,9:0,10:0,11:0,12:0,13:0,14:0 switch (config) # ib baseqos ca vlarb-high 0:10 1:10 switch (config) # show ib baseqos ca vlarb-high 0:10,1:10,2:0,3:0,4:0,5:0,6:0,7:0,8:0,9:0,10:0,11:0,12:0,13:0,14:0 switch (config) # ib baseqos sw0 vlarb-high i2=4:3 switch (config) # show ib baseqos sw0 vlarb-high 0:10,1:10,4:3,3:0,4:0,5:0,6:0,7:0,8:0,9:0,10:0,11:0,12:0,13:0,14:0</pre>	
Related Commands	show ib baseqos	
Notes	<ul style="list-style-type: none"> • Unspecified elements will be filled with (index:0) • You may have multiple entries with the same VL on this list 	

ib baseqos vlarb-low

	<pre>ib baseqos <port-type> vlarb-low {VW1 VW1 VW2 ...} no ib baseqos <port-type> vlarb-low</pre> <p>Sets up to 15 VL to Weight mapping pairs for low priority processing. The no form of the command sets the attributes to their default settings.</p>	
Syntax Description	port-type	<ul style="list-style-type: none"> • ca—channel adapters • rtr—routers • sw0—ports 0 only of the switches • swe—external ports of the switches
	VW[i]	<p>There are two possible options for this parameter:</p> <ul style="list-style-type: none"> • A single vector (1 ...15) in the format of “#:#” separated by spaces, see example below.

	<ul style="list-style-type: none"> Format of “i#=X:Y” in order to change a specific entry (see example below)
Default	The default mapping is: 0:0,1:4,2:4,3:4,4:4,5:4,6:4,7:4,8:4,9:4,10:4,11:4,12:4,13:4,14:4
Configuration Mode	config
History	3.1.0000
Example	<pre>switch (config) # ib baseqos sw0 vlarb-low 1:1 switch (config) # show ib baseqos sw0 vlarb-low 1:1, 1:0, 2:0, 3:0, 4:0, 5:0, 6:0, 7:0, 8:0, 9:0, 10:0, 11:0, 12:0, 13:0, 14:0 switch (config) # ib baseqos sw0 vlarb-low i2=4:3 switch (config) # show ib baseqos sw0 vlarb-low 1:1, 1:0, 4:3, 3:0, 4:0, 5:0, 6:0, 7:0, 8:0, 9:0, 10:0, 11:0, 12:0, 13:0, 14:0</pre>
Related Commands	show ib baseqos
Notes	You may have multiple entries with the same VL on this list.

ib baseqos reset-config

	ib baseqos reset-config Resets all basic QoS configuration options to defaults.
Syntax Description	N/A
Default	N/A
Configuration Mode	config
History	3.1.0000
Example	switch (config) # ib baseqos reset-config
Related Commands	
Notes	

show ib baseqos

	show ib baseqos <port-type> <baseqos-parameters> Displays the base IB QoS configuration.	
Syntax Description	port-type	<ul style="list-style-type: none"> • ca—channel adapters • rtr—routers • sw0—ports 0 only of the switches • swe—external ports of the switches
	baseqos-parameters	<p>Possible values are:</p> <ul style="list-style-type: none"> • high-limit—Display high limit (how many high pri before low) • max-vls—Display maximum number of VLs supported on CAs in subnet • sl2vl—Display current SL-to-VL mapping vector • vlarb-high—Display current high priority VL arbitration • vlarb-low—Display current low priority VL arbitration
Default	N/A	
Configuration Mode	Any command mode	
History	3.1.0000	
Example	switch (config) # show ib baseqos ca high-limit 0	
Related Commands		
Notes		

ib qos

	ib qos no ib qos Enables advanced QoS management on this node. The no form of the command disables advance QoS on this node.	
Syntax Description	N/A	

Default	Advance QoS is disabled
Configuration Mode	config
History	3.1.0000
Example	switch (config) # show ib qos enable
Related Commands	show ib qos
Notes	

ib qos level

	ib qos level {<name> default} {mtu-limit <mtu> packet-life <time> pkey <number> rate-limit <rate-value> sl <sl-value> use <description>} no ib qos level {<name> default} {mtu-limit packet-life pkey rate-limit sl use} Specifies a QoS level <name> or “default” parameters. The no form of the command set the parameters to default.	
Syntax Description	<name> default	Specify a name for this qos group, or use the “default” for the default qos parameters
	mtu-limit <mtu>	MTU in bytes Possible values: 1k, 256, 2k, 4k, 512
	packet-life <time>	Time a packet can wait in switch egress queue before being dropped. The bytes from 4 microsecond up to 2 seconds or infinite. Possible values: 0-20 0—4usec 1—8usec ... 20—unlimited
	pkey <number>	PKEY value: ranges between -1 and 32767 (hex 0x7fff)
	rate-limit <rate-value>	Manages rate limits for QoS Policy levels Possible values (in Gbps): default, 2.5, 5, 10, 14, 20, 25, 40, 56, 100

	sl <sl-value>	Manages service level for QoS Policy levels Range: 0-15.
	use <description >	Specify usage description for this QoS level
Default	<ul style="list-style-type: none"> • use = "default QoS Level" • sl = 0 • mtu-limit = default • rate-limit = default • packet-life = 0x12 • pkey = -1 	
Configuration Mode	config	
History	3.1.0000	
	3.4.1100	Updated description of "rate-limit" parameter
Example	<pre>switch (config) # show ib qos my-qos-group my-qos-group: use = default QoS Level sl = 0 mtu-limit = 2K rate-limit = default packet-life = 0x12 pkey = -1</pre>	
Related Commands	show ib qos	
Notes		

ib qos match-rule

	<pre>ib qos match-rule <rule-index> {{destination source} <string> {pkey qos-class service-id} <index> {first last} <value>} qos-level-name <name> use <description>} no ib qos match-rule <rule-index> {{destination source} {pkey qos-class service-id} <index> {first last} } qos-level-name use} Manages QoS Policy match rules. The no form of the command set the QoS match-rule to default.</pre>
--	--

Syntax Description	rule-index	Index of this match-rule Range: 0-4294967295
	destination source <string>	Manages destination or source for QoS Policy match rules
	pkey qos-class service-id <index>	Manages values for QoS Policy match rules
	{first last} <value>	First or last value range (per PKEY / qos-class of service ID)
	qos-level-name <name>	Name for the QoS level
	use <description>	Specify usage description for this QoS level
Default	N/A	
Configuration Mode	config	
History	3.1.0000	
Example	switch (config) # show ib qos match-rule 10 match-rule/10: match-rules: use = my-use match-rules: qos-level-name = DEFAULT	
Related Commands	show ib qos	
Notes		

ib qos port-group

	ib qos port-group <name> {node-type <index> type <node-type> partition <name> pkey <number> port-guid <index> {first last} <value> port-name <index> name <name-value> use <description>} no ib qos port-group <name> {node-type <index> type partition pkey port-guid <index> {first last} port-name <index> name use } Manages QoS Policy port groups. The no form of the command removes a QoS port-group.	
Syntax Description	<name>	Port group name
	node-type <index>	Node type index

	type <node-type>	A node type for this port group
	partition <name>	A Partition name
	pkey <number>	A PKEY number
	port-guid <index> {first last} <value>	Port-guid range
	port-name <index> name <name-value>	Port index name
	use <description>	Specify usage description for this QoS level
Default	N/A	
Configuration Mode	config	
History	3.1.0000	
Example	<pre>switch (config)# show ib qos port-group my-group port-group/my-group: port-groups: pkey = -1 port-groups: use = my-use</pre>	
Related Commands	show ib qos	
Notes		

ib qos ulp any

	<pre>ib qos ulp any {pkey service-id target-port-guid <index> {first last sl} <value> sl <sl-vlaue>} no ib qos ulp any {pkey service-id target-port-guid <index> {first last sl} sl} Configures ULP any attributes. The no form of the command deletes ULP any attributes.</pre>	
Syntax Description	pkey <index>	Manages ULP default PKEY assignment
	service-id	Manages default ULP Service ID match rule

	<index>	
	target-port- quid <index>	Manages ULP default target port GUID rule
	first last sl <value>	<ul style="list-style-type: none"> • first—first value in range • last—last value in range • sl—Service level for the ULP rule
	sl <sl-value>	Sets default SL
Default	N/A	
Configuration Mode	config	
History	3.1.0000	
Example	switch (config) # ib qos ulp any sl 2	
Related Commands	show ib qos	
Notes		

ib qos ulp ipoib

	ib qos ulp ipoib {default sl <sl-value> pkey <index> {first last sl} <value> } no ib qos ulp ipoib {default sl pkey <index>} Manages ULP IPoIB settings. The no form of the command deletes IPoIB settings.	
Syntax Description	default sl <sl-value>	Sets the default SL Range 1-15
	pkey <index>	Manages ULP default PKEY assignment
	first last sl <value>	<ul style="list-style-type: none"> • first—first value in range • last—last value in range • sl—service level for the ULP rule
Default	N/A	
Configuration Mode	config	

History	3.1.0000
Example	switch (config) # ib qos ulp ipoib default sl 5
Related Commands	show ib qos
Notes	

ib qos ulp

	ib qos ulp <protocol-type> {default sl <sl-value> port-num< index> <first last sl> <value>} no ib qos ulp iser {default <sl> port-num1 <first last sl>} Configures ULP iScsi Extensions for RDMA, Reliable Datagram Sockets or Sockets Direct Protocol attributes. The no form of the command deletes all rules.	
Syntax Description	protocol-type	iser—iSCSI extensions for RDMA (iSER) rds—reliable datagram sockets (RDS) sdp—sockets direct protocol (SDP)
	default sl <sl-value>	Sets the default SL Range 1-15
	port-num< index>	Port number index
	first last sl	<ul style="list-style-type: none"> • first—first in range • last—last in range • sl—service level for the ULP rule
Default	N/A	
Configuration Mode	config	
History	3.1.0000	
Example	switch (config) # ib qos ulp iser default sl 2	
Related Commands	show ib qos	
Notes		

ib qos ulp srp

	ib qos ulp srp target-port-guid <index> <first last sl> <value> no ib qos ulp srp target-port-guid <index> Configures Scsi Rdma Protocol attributes. The no form of the command deletes the rules.	
Syntax Description	target-port-guid <index>	The index of the target port GUID
	first last sl	<ul style="list-style-type: none"> • first—first in range • last—last in range • sl—service level for the ULP rule
Default	N/A	
Configuration Mode	config	
History	3.1.0000	
Example	switch (config) # ib qos ulp srp target-port-guid 1 sl 2	
Related Commands	show ib qos	
Notes		

show ib qos

	show ib qos [level match-rule port-group ulp] Displays InfiniBand QoS configurations	
Syntax Description	level	Displays QoS level configurations
	match-rule	Displays QoS match-rule configurations
	port-group	Displays QoS port-group configurations
	ulp	Displays QoS ulp configurations
Default	N/A	
Configuration Mode	Any command mode	
History	3.1.0000	

Example	<pre>switch (config) # show ib qos level my-qos-level my-qos-level: use = my-use sl = 0 mtu-limit = 2K rate-limit = default packet-life = 0x12 pkey = -1</pre>
Related Commands	
Notes	

Scatter Ports

ib sm scatter-ports

	<pre>ib sm scatter-ports <seed> no ib sm scatter-ports</pre> <p>Activates scatter ports and sets seed for random number generation. The no form of the command deactivates the partition.</p>	
Syntax Description	seed	Integer between 0-4294967295
Default	Disabled	
Configuration Mode	config	
History	3.6.8008	
Example	switch (config) # ib sm scatter-ports 123	
Related Commands	ib sm guid-routing-order-no-scatter	
Notes		

show ib sm scatter-ports

	show ib sm scatter-ports
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	Displays scatter port seed.
Syntax Description	N/A
Default	N/A
Configuration Mode	Any command mode
History	3.6.8008
Example	switch (config) # show ib sm scatter-ports Scatter ports seed: 234
Related Commands	ib sm scatter-ports
Notes	

GUID Routing Order

ib sm guid-routing-order add

	ib sm guid-routing-order add <guid> [position <pos>] Adds a new GUID to routing order list.	
Syntax Description	guid	GUID to add
	position	A position for the new GUID may be specified
Default	If no position is specified, the new GUID is added to the end of the list	
Configuration Mode	config	
History	3.6.8008	
Example	switch (config) # ib sm guid-routing-order add E4:1D:2D:03:00:3D:5E:87 position 6	
Related Commands	ib sm guid-routing-order-no-scatter	
Notes		

ib sm guid-routing-order delete

	ib sm guid-routing-order delete {<guid> position <pos>} Deletes a guid from routing order list. The guid can be chosen by its guid or by its position on guid routing order list.	
Syntax Description	guid	GUID to delete
	position	Deletes a GUID by specifying position number
Default	N/A	
Configuration Mode	config	
History	3.6.8008	
Example	switch (config) # ib sm guid-routing-order delete position 3 switch (config) # ib sm guid-routing-order delete E4:1D:2D:03:00:3D:5E:91	
Related Commands	ib sm guid-routing-order-no-scatter	
Notes		

ib sm guid-routing-order move

	ib sm guid-routing-order move <guid> to-position <pos> Moves a GUID in the list to a specified position.	
Syntax Description	guid	GUID to move
	position	A position for the new GUID may be specified
Default	N/A	
Configuration Mode	config	
History	3.6.8008	
Example	switch (config) # ib sm guid-routing-order move E4:1D:2D:03:00:3D:5E:91 to-position 2	
Related Commands	ib sm guid-routing-order-no-scatter	
Notes		

ib sm guid-routing-order move-down

	ib sm guid-routing-order move-down <guid> Moves a GUID position down in the GUID routing order list.	
Syntax Description	guid	GUID to move
Default	N/A	
Configuration Mode	config	
History	3.6.8008	
Example	switch (config) # ib sm guid-routing-order move-down E4:1D:2D:03:00:3D:5E:91	
Related Commands	ib sm guid-routing-order-no-scatter	
Notes		

ib sm guid-routing-order move-up

	ib sm guid-routing-order move-up <guid> Moves a GUID position up in the GUID routing order list.	
Syntax Description	guid	GUID to move
Default	N/A	
Configuration Mode	config	
History	3.6.8008	
Example	switch (config) # ib sm guid-routing-order move-up E4:1D:2D:03:00:3D:5E:91	
Related Commands	ib sm guid-routing-order-no-scatter	
Notes		

no ib sm guid-routing-order

	no ib sm guid-routing-order Disables the GUID routing order feature and cleans GUID routing order list.
Syntax Description	N/A
Default	N/A
Configuration Mode	config
History	3.6.8008
Example	switch (config) # no ib sm guid-routing-order
Related Commands	ib sm guid-routing-order-no-scatter
Notes	

ib sm guid-routing-order-no-scatter

	ib sm guid-routing-order-no-scatter no ib sm guid-routing-order-no-scatter Enables randomization for destinations mentioned in GUID order list. The no form of the command disables randomization for destinations mentioned in GUID order list.
Syntax Description	N/A
Default	N/A
Configuration Mode	config
History	3.6.8008
Example	switch (config) # ib sm guid-routing-order-no-scatter
Related Commands	ib sm guid-routing-order * ib sm scatter-ports

Notes	If scatter ports (randomization of the output port) is set to anything but zero, guid-routing-order-no-scatter defines whether or not randomization should be applied to the destination GUIDs mentioned in the GUID routing order list
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show ib sm guid-routing-order

	show ib sm guid-routing-order Displays current GUID routing order list.
Syntax Description	N/A
Default	N/A
Configuration Mode	Any command mode
History	3.6.8008
Example	switch (config) # show ib sm guid-routing-order 1: E4:1D:2D:03:00:3D:5E:85 2: E4:1D:2D:03:00:3D:5E:82 3: E4:1D:2D:03:00:3D:5E:81 4: E4:1D:2D:03:00:3D:5E:84 5: E4:1D:2D:03:00:3D:5E:86 6: E4:1D:2D:03:00:3D:5E:87 7: E4:1D:2D:03:00:3D:5E:90 8: E4:1D:2D:03:00:3D:5E:88 9: E4:1D:2D:03:00:3D:5E:83
Related Commands	ib sm guid-routing-order-no-scatter
Notes	

show ib sm guid-routing-order-no-scatter

	show ib sm guid-routing-order-no-scatter Displays the status of the GUID-routing-order-no-scatter feature
Syntax Description	N/A

Default	N/A
Configuration Mode	Any command mode
History	3.6.8008
Example	switch (config) # show ib sm guid-routing-order-no-scatter guid_routing_order_no_scatter: disabled
Related Commands	ib sm guid-routing-order * ib sm scatter-ports
Notes	

Bulk Update Mode

ib sm bulk-update enable

	ib sm bulk-update enable no ib sm bulk-update enable Enables bulk update mode. The no form of the command disables bulk update mode.
Syntax Description	N/A
Default	Disabled
Configuration Mode	config
History	3.6.8008
Example	switch (config) # ib sm bulk-update enable
Related Commands	show ib partition show ib sm bulk-update
Notes	

show ib sm bulk-update

	show ib sm bulk-update
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	Displays the status of bulk-update mode.
Syntax Description	N/A
Default	N/A
Configuration Mode	Any command mode
History	3.6.8008
Example	switch (config) # show ib sm bulk-update ib sm bulk-update: enabled
Related Commands	ib sm bulk-update enable
Notes	

ibdiagnet

ibdiagnet

	ibdiagnet [parameters]	
Syntax Description	parameters	ibdiagnet native parameters
Default	N/A	
Configuration Mode	Any command mode	
History	3.9.3100	
Example	switch (config) # ibdiagnet	
Related Commands	show ibdiagnet file ibdiagnet upload file ibdiagnet delete	
Notes	To know the optional parameters, run ibdiagnet -h.	

show ibdiagnet

	show ibdiagnet Show output from latest call to ibdiagnet
Syntax Description	N/A
Default	N/A
Configuration Mode	Any command mode
History	3.9.3100
Example	<code>switch (config) # show ibdiagnet</code>
Related Commands	ibdiagnet
Notes	

file ibdiagnet upload

	file ibdiagnet upload <file name> <upload_url> Upload ibdiagnet archive of output files (from latest call to ibdiagnet) to a remote host.
Syntax Description	N/A
Default	N/A
Configuration Mode	Any command mode
History	3.9.3100
Example	<code>switch (config) # file ibdiagnet upload ibdiagnet_output.gz scp:// username:password@192.168.10.125/var/www/html/<image_ name></code>
Related Commands	lbdiagnet file ibdiagnet delete
Notes	

file ibdiagnet delete

	file ibdiagnet delete <file name> Deletes the specified ibdiagnet archive file.	
Syntax Description	<file name>	File name
Default	N/A	
Configuration Mode	Any command mode	
History	3.9.3100	
Example	<pre>switch (config) # file ibdiagnet delete ibdiagnet_output.gz</pre>	
Related Commands	file ibdiagnet upload	
Notes		

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