

Source-Route Bridging Commands

This chapter describes the function and displays the syntax of each source-route bridging command. For more information about defaults and usage guidelines, see the corresponding chapter of the *Router Products Command Reference* publication.

[no] access-expression {in | out} expression

Use the **access-expression** interface configuration command to define an access expression. Use the **no** form of this command to remove the access expression from the given interface. You use this command in conjunction with the **access-list** interface configuration command.

in | out

Either **in** or **out** is specified to indicate whether the access expression is applied to packets entering or leaving this interface.

You can specify both an input and an output access expression for an interface, but only one of each.

expression

Boolean access list expression, built as explained in the “Usage Guidelines” section for this command in the *Router Products Command Reference* publication.

[no] access-list *access-list-number* {**permit** | **deny**} {*type-code*
wild-mask | *address mask*}

Use the **access-list** global configuration command to configure the access list mechanism for filtering frames by protocol type or vendor code. Use the **no** form of this command to remove the single specified entry from the access list.

| | |
|---------------------------|---|
| <i>access-list-number</i> | Integer that identifies the access list. If the <i>type-code</i> and <i>wild-mask</i> arguments are included, this integer ranges from 200 through 299, indicating that filtering is by protocol type. If the <i>address</i> and <i>mask</i> arguments are included, this integer ranges from 700 through 799, indicating that filtering is by vendor code. |
| permit | Permits the frame. |
| deny | Denies the frame. |
| <i>type-code</i> | 16-bit hexadecimal number written with a leading 0x; for example, 0x6000. Specify either a Link Service Access Point (LSAP) type code for 802-encapsulated packets or a SNAP type code for SNAP-encapsulated packets. (LSAP, sometimes called SAP, refers to the type codes found in the DSAP and SSAP fields of the 802 header.) |
| <i>wild-mask</i> | 16-bit hexadecimal number whose ones bits correspond to bits in the <i>type-code</i> argument. The <i>wild-mask</i> indicates which bits in the <i>type-code</i> argument should be ignored when making a comparison. (A mask for a DSAP/SSAP pair should always be 0x0101 because these two bits are used for purposes other than identifying the SAP code.) |
| <i>address</i> | 48-bit Token Ring address written in dotted triplet form. This field is used for filtering by vendor code. |

mask 48-bit Token Ring address written in dotted triplet form. The ones bits in *mask* are the bits to be ignored in *address*. This field is used for filtering by vendor code.

[no] bridge *bridge-group* protocol ibm

Use the **bridge protocol ibm** global configuration command to create a bridge group that runs the automatic spanning tree function. Use the **no** form of this command to cancel the previous assignment.

bridge-group Number in the range 1 through 9 that you choose to refer to a particular set of bridged interfaces. Frames are bridged only among interfaces in the same group.

clear netbios-cache

Use the **clear netbios-cache** EXEC command to clear the entries of all dynamically learned NetBIOS names. This command will not remove statically defined name cache entries.

clear rif-cache

Use the **clear rif-cache** EXEC command to clear the entire RIF cache.

clear source-bridge

Use the **clear source-bridge** EXEC command to clear the source-bridge statistical counters.

clear sse

Use the **clear sse** privileged EXEC command to reinitialize the Silicon Switch Processor (SSP) on the Cisco 7000 series.

Source-Route Bridging Commands

ethernet-transit-oui { **standard** | **90-compatible** | **cisco** }
no ethernet-transit-oui

Use the **ethernet-transit-oui** interface configuration command to choose the Organizational Unique Identifier (OUI) code to be used in the encapsulation of Ethernet Type II frames across Token Ring backbone networks. Various versions of this OUI code are used by Ethernet/Token Ring translational bridges. The **standard** keyword is used when you are forced to interoperate with other vendor equipment, such as the IBM 8209, in providing Ethernet and Token Ring mixed media bridged connectivity. Use the **no** form of this command to return the default OUI code.

| | |
|----------------------|-------------------------------|
| standard | (Optional) Standard OUI form. |
| 90-compatible | (Optional) Default OUI form. |
| cisco | (Optional) Cisco's OUI form. |

lnm alternate *number*
no lnm alternate

Use the **lnm alternate** interface configuration command to specify the threshold reporting link number. In order for a LAN Reporting Manager (LRM) to change parameters, it must be attached to the reporting link with the lowest reporting link number, and that reporting link number must be lower than this threshold reporting link number. Use the **no** form of this command to restore the default of 0.

| | |
|---------------|---|
| <i>number</i> | Threshold reporting link number. It must be in the range 0 through 3. The default is 0. |
|---------------|---|

[no] lnm crs

Use the **lnm crs** interface configuration command to monitor the current logical configuration of a Token Ring. Use the **no** form of this command to disable this function.

lnm loss-threshold *number*
no lnm loss-threshold

Use the **lnm loss-threshold** interface configuration command to set the threshold at which the router sends a message informing all attached LNM's that it is dropping frames. Use the **no** form of this command to return to the default value.

| | |
|---------------|---|
| <i>number</i> | A single number expressing the percentage loss rate in hundredths of a percent. The valid range is 0 through 9999. The default is 10 (.10 percent). |
|---------------|---|

lnm password *number string*
no lnm password *number*

Use the **lnm password** interface configuration command to set the password for the reporting link. Use the **no** form of this command to return the password to its default value of 00000000.

| | |
|---------------|---|
| <i>number</i> | Number of the reporting link to which to apply the password. This value should be in the range 0 through 3. |
| <i>string</i> | Password you enter at the keyboard. In order to maintain compatibility with LNM, the parameter <i>string</i> should be a six- to eight-character string of the type listed in the "Usage Guidelines" section for this command in the <i>Router Product Command Reference</i> publication. |

[no] lnm rem

Use the **lnm rem** interface configuration command to monitor errors reported by any station on the ring. Use the **no** form of this command to disable this function.

Source-Route Bridging Commands

[no] lnm rps

Use the **lnm rps** interface configuration command to ensure that all stations on a ring are using a consistent set of reporting parameters. Use the **no** form of this command to disable this function.

[no] lnm snmp-only

Use the **lnm snmp-only** global configuration command to prevent any LNM stations from modifying parameters in the router. Use the **no** form of this command to allow modifications.

lnm softerr *milliseconds*

no lnm softerr

Use the **lnm softerr** interface configuration command to set the time interval in which the router will accumulate error messages before sending them. Use the **no** form of this command to return to the default value.

milliseconds Time interval in tens of milliseconds between error messages. The valid range is 0 through 65535. The default is 200 milliseconds (2 seconds).

[no] locaddr-priority *list-number*

Use the **locaddr-priority** interface configuration command to assign a remote source-route bridging (RSRB) priority group to an input interface. Use the **no** form of this command to remove the RSRB priority group assignment from the interface.

list-number Priority list number of the input interface.

[no] locaddr-priority-list *list-number address-number queue-keyword*
[*dsap ds*] [*dmac dm*]

Use the **locaddr-priority-list** global configuration command to map logical units (LUs) to queuing priorities as one of the steps to establishing queuing priorities based on LU addresses. Use the **no** form of this command to remove that RSRB priority queuing assignment. You use this command in conjunction with the **priority list** command.

| | |
|-----------------------|---|
| <i>list-number</i> | Arbitrary integer between 1 and 10 that identifies the LU address priority list selected by the user. |
| <i>address-number</i> | Value of the LOCADDR= parameter on the LU macro, which is a one-byte address of the LU in hex. |
| <i>queue-keyword</i> | Priority queue name; one of high , medium , normal , or low . |
| <i>dsap ds</i> | (Optional) Indicates that the next argument, <i>ds</i> , represents the destination service access point address. The argument <i>ds</i> is a hexadecimal value. |
| <i>dmac dm</i> | (Optional) Indicates that the next argument, <i>dm</i> , is the destination MAC address. The argument <i>dm</i> is a dotted triple of four-digit hexadecimal numbers. |

mac-address *ieee-address*

Use the **mac-address** interface configuration command to set the MAC layer address of the Cisco Token Ring.

| | |
|---------------------|--|
| <i>ieee-address</i> | 48-bit IEEE MAC address written as a dotted triplet of four-digit hexadecimal numbers. |
|---------------------|--|

Source-Route Bridging Commands

[no] multiring {*protocol-keyword* | **all** | **other**}

Use the **multiring** interface configuration command to enable collection and use of RIF information. Use the **no** form of this command with the appropriate keyword to disable the use of RIF information for the protocol specified.

| | |
|-------------------------|--|
| <i>protocol-keyword</i> | Specifies a protocol; see the keyword list in the “Usage Guidelines” section for this command in the <i>Router Products Command Reference</i> publication. |
| all | Enables the multiring for <i>all</i> frames. |
| other | Enables the multiring for <i>any</i> routed frame not included in the previous list of supported protocols. |

[no] netbios access-list bytes *name* {**permit** | **deny**} *offset pattern*

Use the **netbios access-list bytes** global configuration command to define the offset and hexadecimal patterns with which to match byte offsets in NetBIOS packets. Use the **no** form of this command to remove an entire list or the entry specified with the *pattern* argument.

| | |
|---------------|--|
| <i>name</i> | Name of the access list being defined. |
| permit | Permits the condition. |

| | |
|----------------|---|
| deny | Denies the condition. |
| <i>offset</i> | Decimal number indicating the number of bytes into the packet where the byte comparison should begin. An offset of zero points to the very beginning of the NetBIOS header. Therefore, the NetBIOS delimiter string (0xffef), for example, begins at offset 2. |
| <i>pattern</i> | Hexadecimal string of digits representing a byte pattern. The argument <i>pattern</i> must conform to certain conventions. These conventions are listed in the “Usage Guidelines” section for this command in the <i>Router Products Command Reference</i> publication. |

[no] netbios access-list host *name* {**permit** | **deny**} *pattern*

Use the **netbios access-list host** global configuration command to assign the name of the access list to a station or set of stations on the network. The NetBIOS station access list contains the station name to match, along with a permit or deny condition. Use the **no** form of this command to remove either an entire list or just a single entry from a list, depending upon the argument given for *pattern*.

| | |
|----------------|--|
| <i>name</i> | Name of the access list being defined. |
| permit | Permits the condition. |
| deny | Denies the condition. |
| <i>pattern</i> | A set of characters. The characters can be the name of the station, or a combination of characters and pattern-matching symbols that establish a pattern for a set of NetBIOS station names. This combination can be especially useful when stations have names with the same characters, such as a prefix. For available pattern-matching symbols, see the table in the “Usage Guidelines” section of the <i>Router Products Command Reference</i> publication. |

Source-Route Bridging Commands

[no] netbios enable-name-cache

Use the **netbios enable-name-cache** interface configuration command to enable NetBIOS name caching. Use the **no** form of this command to disable the name-cache behavior.

[no] netbios input-access-filter bytes *name*

Use the **netbios input-access-filter bytes** interface configuration command to define a byte access list filter on incoming messages. The actual access filter byte offsets and patterns used are defined in one or more **netbios access-list bytes** commands. Use the **no** form of this command with the appropriate name to remove the entire access list.

| | |
|-------------|--|
| <i>name</i> | Name of a NetBIOS access filter previously defined with one or more of the netbios access-list bytes global configuration commands. |
|-------------|--|

[no] netbios input-access-filter host *name*

Use the **netbios input-access-filter host** interface configuration command to define a station access list filter on incoming messages. The access lists of station names are defined in **netbios access-list host** commands. Use the **no** form of this command with the appropriate argument to remove the entire access list.

| | |
|-------------|---|
| <i>name</i> | Name of a NetBIOS access filter previously defined with one or more of the netbios access-list host global configuration commands. |
|-------------|---|

netbios name-cache *mac-address netbios-name* { *interface-name* | **ring-group *group-number* }**

no netbios name-cache *mac-address netbios-name*

Use the **netbios name-cache** global configuration command to define a static NetBIOS name-cache entry, tying the server with the name *netbios-name* to the *mac-address*, and specifying that the server is

accessible either locally via the *interface-name* specified, or remotely, via the **ring-group** *group-number* specified. Use the **no** form of this command to remove the entry.

| | |
|-----------------------|---|
| <i>mac-address</i> | The MAC address. |
| <i>netbios-name</i> | Server name linked to the MAC address. |
| <i>interface-name</i> | Name of the interface by which the server is accessible locally. |
| ring-group | Specifies that the link is accessible remotely. |
| <i>group-number</i> | Number of the ring group by which the server is accessible remotely. This ring group number must match the number you have specified with the source-bridge ring-group command. The valid range is 1 through 4095. |

netbios name-cache name-len *length*

Use the **netbios name-cache name-len** global configuration command to specify how many characters of the NetBIOS type name the name cache will validate.

| | |
|---------------|--|
| <i>length</i> | The length of the NetBIOS type name. The default length is 15 characters. The range is 8 to 16 characters. |
|---------------|--|

netbios name-cache proxy-datagram *seconds*

Use the **netbios name-cache proxy-datagram** global configuration command to enable the router to act as a proxy and send NetBIOS datagram type frames.

| | |
|----------------|---|
| <i>seconds</i> | Time interval, in seconds, that the router forwards a route broadcast datagram type packet. The valid range is any number greater than 0. |
|----------------|---|

Source-Route Bridging Commands

netbios name-cache query-timeout *seconds*

no netbios name-cache query-timeout

Use the **netbios name-cache query-timeout** global configuration command to specify the “dead” time, in seconds, that starts when a host sends any ADD_NAME_QUERY, ADD_GROUP_NAME, or STATUS_QUERY frame. During this dead time, the router drops any repeat, duplicate ADD_NAME_QUERY, ADD_GROUP_NAME, or STATUS_QUERY frame sent by the same host. This timeout is only effective at the time of the login negotiation process. Use the **no** form of this command to bring the time back to the default of 6 seconds.

seconds “Dead” time period in seconds. The default is 6 seconds.

netbios name-cache recognized-timeout *seconds*

no netbios name-cache recognized-timeout

Use the **netbios name-cache recognized-timeout** global configuration command to specify the “dead” time, in seconds, that starts when a host sends any FIND_NAME or NAME_RECOGNIZED frame. During this dead time, the router drops any repeat, duplicate FIND_NAME or NAME_RECOGNIZED frame sent by the same host. This timeout is only effective at the time of the login negotiation process. Use the **no** form of this command to bring the time back to the default of 6 seconds.

seconds “Dead” time period in seconds. The default is 6 seconds.

[no] netbios name-cache timeout *minutes*

Use the **netbios name-cache timeout** global configuration command to enable NetBIOS name caching and to set the time that entries can remain in the NetBIOS name cache. Use the **no** form of this command to bring the time back to the default of 15 minutes.

minutes Time, in minutes, that entries can remain in the NetBIOS name cache. Once the time expires, the entry will be deleted from the cache. The default is 15 minutes.

[no] netbios output-access-filter bytes *name*

Use the **netbios output-access-filter bytes** interface configuration command to define a byte access list filter on outgoing messages. Use the **no** form of this command to remove the entire access list.

name Name of a NetBIOS access filter previously defined with one or more of the **netbios access-list bytes** global configuration commands.

[no] netbios output-access-filter host *name*

Use the **netbios output-access-filter host** interface configuration command to define a station access list filter on outgoing messages. Use the **no** form of this command to remove the entire access list.

name Name of a NetBIOS access filter previously defined with one or more of the **netbios access-list host** global configuration commands.

[no] priority-group *list*

Use the **priority-group** interface configuration command to assign a specified priority list to an interface. Use the **no** form of this command to cancel the assignment.

list Priority list number assigned to the interface.

priority-list *list-number protocol protocol-name queue-keyword*
no priority-list *list-number address-number queue-keyword*

Use the **priority-list** global configuration command to establish queuing priorities based upon the protocol type as one of the steps to establishing queuing priorities based on logical unit (LU) addresses. Use the **no** form of this command to remove the priority list. Use this command in conjunction with the **locaddr-priority-list** command.

list-number Arbitrary integer between 1 and 10 that identifies the LU address priority list selected by the user.

Source-Route Bridging Commands

| | |
|----------------------|---|
| protocol | Keyword indicating you want the priority list to be based on a protocol type. |
| <i>protocol-name</i> | Protocol you are using. In most cases, this will be ip . |
| <i>queue-keyword</i> | Priority queue name; one of high , medium , normal , or low . |

rif *mac-address rif-string* { *interface-name* | **ring-group** *ring* }
no rif *mac-address* { *interface-name* | **ring-group** *ring* }

Use the **rif** global configuration command to enter static source-route information into the RIF cache. If a Token Ring host does not support the use of IEEE 802.2 TEST or XID datagrams as explorer packets, you might need to add static information to the RIF cache of the router/bridge. Use the **no** form of this command to remove an entry from the cache.

| | |
|-----------------------|--|
| <i>mac-address</i> | 12-digit hexadecimal string written as a dotted triplet; for example, 0010.0a00.20a6. |
| <i>rif-string</i> | Series of 4-digit hexadecimal numbers separated by a period (.). This RIF string is inserted into the packets sent to the specified MAC address. |
| <i>interface-name</i> | Interface name (for example, tokenring0) that indicates the origin of the RIF. |
| ring-group | Specifies the origin of the RIF is a ring group. |
| <i>ring</i> | Ring group number that indicates the origin of the RIF. This ring group number must match the number you have specified with the source-bridge ring-group command. The valid range is 1 through 4095. |

rif timeout *minutes*

no rif timeout

Use the **rif timeout** global configuration command to determine the number of minutes an inactive RIF entry is kept. RIF information is maintained in a cache whose entries are aged. Use the **no** form of this command to restore the default.

| | |
|----------------|---|
| <i>minutes</i> | Number of minutes the RIF entry is kept. The value must be greater than 0. The default is 15 minutes. |
|----------------|---|

rif validate-age *seconds*

Use the **rif validate-age** global configuration command to define the validation time when the router is acting as a proxy for the **netbios name-query** command or for explorer frames.

| | |
|----------------|---|
| <i>seconds</i> | Interval, in seconds, at which a proxy is sent. The valid range is any number greater than 0. The default is 2 seconds. |
|----------------|---|

rsrb remote-peer *ring-group* **tcp** *ip-address* **lsap-output-list**
access-list-number

rsrb remote-peer *ring-group* **fst** *ip-address* **lsap-output-list**
access-list-number

rsrb remote-peer *ring-group* **interface** *interface-name* **lsap-output-list**
access-list-number

Use the **rsrb remote-peer lsap-output-list** global configuration command to define SAP filters by LSAP address on the remote source-route bridging WAN interface.

| | |
|-------------------|---|
| <i>ring-group</i> | Virtual ring number of the remote peer. |
| tcp | Indicates TCP encapsulation. |
| fst | Indicates FST encapsulation. |
| <i>ip-address</i> | IP address. |

Source-Route Bridging Commands

| | |
|---------------------------|---------------------------------|
| interface | Indicates direct encapsulation. |
| <i>interface-name</i> | Interface name. |
| <i>access-list-number</i> | Number of the access list. |

rsrb remote-peer ring-group tcp ip-address netbios-output-list name
rsrb remote-peer ring-group fst ip-address netbios-output-list name
rsrb remote-peer ring-group interface interface-name
netbios-output-list host

Use the **rsrb remote-peer netbios-output-list** global configuration command to filter packets by NetBIOS station name on a remote source-route bridging WAN interface.

| | |
|-----------------------|--|
| <i>ring-group</i> | Virtual ring number of the remote peer. |
| tcp | Indicates TCP encapsulation. |
| fst | Indicates FST encapsulation. |
| <i>ip-address</i> | IP address. |
| <i>name</i> | Name of a NetBIOS access filter previously defined with one or more netbios access-list host global configuration commands. |
| interface | Indicates direct encapsulation. |
| <i>interface-name</i> | Interface name. |
| <i>host</i> | Host name. |

sap priority number

Use the **sap-priority** interface configuration command to define a priority list on an interface.

| | |
|---------------|---|
| <i>number</i> | Priority list number you specified in the sap-priority-list command. |
|---------------|---|

sap-priority-list *number queue-keyword* [**dsap** *ds*] [**ssap** *ss*] [**dmac** *dm*] [**smac** *sm*]

Use the **sap-priority-list** global configuration command to define a priority list.

| | |
|-----------------------|--|
| <i>number</i> | Arbitrary integer between 1 and 10 that identifies the priority list. |
| <i>queue-keyword</i> | Priority queue name or a remote source-route bridge TCP port name. |
| dsap <i>ds</i> | (Optional) Indicates that the next argument, <i>ds</i> , represents the destination service access point address. The argument <i>ds</i> is a hexadecimal number. |
| ssap <i>ss</i> | (Optional) Indicates that the next argument, <i>ss</i> , represents the source service access point address. The argument <i>ss</i> is a hexadecimal number. |
| dmac <i>dm</i> | (Optional) Indicates that the next argument, <i>dm</i> , represents the destination MAC address. The argument <i>dm</i> is written as a dotted triple of four-digit hexadecimal numbers. |
| smac <i>sm</i> | (Optional) Indicates that the next argument, <i>sm</i> , represents the source MAC address. The argument <i>sm</i> is written as a dotted triple of four-digit hexadecimal numbers. |

show controllers token

Use the **show controllers token** privileged EXEC command to display information about memory management, error counters, and the board itself. Depending on the board being used, the output can vary. This command also displays proprietary information. Thus, the information that **show controllers token** displays is of primary use to our technical personnel. Information that is useful to users can be obtained with the **show interfaces tokenring** command.

Source-Route Bridging Commands

show interfaces tokenring [*unit*]

Use the **show interfaces tokenring** privileged EXEC command to display information about the Token Ring interface and the state of source-route bridging.

unit (Optional) Interface number. If you do not provide a value for the *unit* argument, the command will display statistics for all Token Ring interfaces.

show lnm bridge

Use the **show lnm bridge** privileged EXEC command to display all currently configured bridges and all parameters that are related to the bridge as a whole, not to one of its interfaces.

show lnm config

Use the **show lnm config** privileged EXEC command to display the logical configuration of all bridges configured in a router. This information is needed to configure an LNM Management Station to communicate with a router. This is especially important when the router is configured as a multiport bridge, thus employing the concept of a virtual ring.

show lnm interface [*interface*]

Use the **show lnm interface** privileged EXEC command to display all LNM-related information about a specific interface, or about all interfaces.

interface (Optional) Number of a specific interface for which LNM-related information is to be displayed.

show lnm ring [*ring-number*]

Use the **show lnm ring** privileged EXEC command to display all LNM information about a specific Token Ring, or about all Token Rings. If a specific interface is requested, it also displays a list of all currently active stations on that interface.

ring-number (Optional) Number of a specific Token Ring. It can be a value in the range 1 through 4095.

show lnm station [*address*]

Use the **show lnm station** privileged EXEC command to display LNM-related information about a specific station, or about all known stations on all rings. If a specific station is requested, it also displays a detailed list of that station's current MAC-level parameters.

address (Optional) Address of a specific LNM station.

show local-ack

Use the **show local-ack** privileged EXEC command to display the current state of any current Local Acknowledgment for both LLC2 and SDLLC connections, as well as any configured passthrough rings.

show netbios-cache

Use the **show netbios-cache** privileged EXEC command to display a list of NetBIOS cache entries.

show rif

Use the **show rif** privileged EXEC command to display the current contents of the RIF cache.

show source-bridge

Use the **show source-bridge** privileged EXEC command to display the current source bridge configuration and miscellaneous statistics.

Source-Route Bridging Commands

show span

Use the **show span** EXEC command to display the spanning-tree topology known to the router.

source-bridge *local-ring bridge-number target-ring*

no source-bridge

Use the **source-bridge** interface configuration command to configure an interface for source-route bridging. Use the **no** form of this command to disable source bridging on a particular interface.

| | |
|----------------------|---|
| <i>local-ring</i> | Ring number for this interface's Token Ring. It must be a decimal number between 1 and 4095 that uniquely identifies a network segment or ring within the bridged Token Ring network. |
| <i>bridge-number</i> | Number that uniquely identifies the bridge connecting the local and target rings. It must be a decimal number between 1 and 15. |
| <i>target-ring</i> | Decimal ring number of the destination ring on this router/bridge. It also must be unique within the bridged Token Ring network. The target ring can also be a ring group. |

[no] source-bridge cos-enable

Use the **source-bridge cos-enable** global configuration command to force the router to read the contents of the Format Identification 4 (FID 4) frames to prioritize traffic when using TCP. Use the **no** form of this command to disable prioritizing.

[no] source-bridge enable-80d5

Use the **source-bridge enable-80d5** global configuration command to change the router's Token Ring to Ethernet translation behavior. Use the **no** form of this command to restore the default behavior.

[no] source-bridge explorer-fastswitch

Use the **source-bridge explorer-fastswitch** global configuration command to enable explorer fast switching. To disable explorer fast switching, use the **no** form of this command.

source-bridge explorer-maxrate *maxrate*
no source-bridge explorer-maxrate

Use the **source-bridge explorer-maxrate** global configuration command to set the maximum byte rate of explorers per ring. To reset the default rate, use the **no** form of this command.

maxrate Number in the range 1000 through -1.

[no] source-bridge explorerq-depth *depth*

Use the **source-bridge explorerq-depth** global configuration command to set the maximum explorer queue depth. To reset the default value, use the **no** form of this command.

depth The maximum number of incoming packets.
The valid range is 1 through 500. The default is 30.

[no] source-bridge fst-peername *local-interface-address*

Use the **source-bridge fst-peername** global configuration command to set up a Fast Sequenced Transport (FST) peer name. Use the **no** form of this command to disable the IP address assignment.

local-interface-address IP address to assign to the local router.

Source-Route Bridging Commands

[no] source-bridge input-address-list *access-list-number*

Use the **source-bridge input-address-list** interface configuration command to assign an access list to a particular input interface for filtering the Token Ring or IEEE 802.2 source addresses. This command filters packets coming into the router. Use the **no** form of this command to remove the application of the access list.

access-list-number Number of the access list. The value must be in the range 700 through 799.

source-bridge input-lsap-list *access-list-number*

Use the **source-bridge input-lsap-list** interface configuration command to filter, on input, FDDI and IEEE 802-encapsulated packets which include the destination service access point (DSAP) and source service access point (SSAP) fields in their frame formats. The access list specifying the type codes to be filtered is given by this variation of the **source-bridge** interface configuration command.

access-list-number Number of the access list. This access list is applied to all IEEE 802 or FDDI frames received on that interface prior to the source-routing process. Specify zero (0) to disable the filter. The value must be in the range 200 through 299.

source-bridge input-type-list *access-list-number*

Use the **source-bridge input-type-list** interface configuration command to filter SNAP-encapsulated packets on input.

access-list-number Number of the access list. This access list is applied to all SNAP frames received on that interface prior to the source-routing process. Specify zero (0) to disable the application of the access list on the bridge group. The value must be in the range 200 through 299.

source-bridge keepalive *seconds*
no source-bridge keepalive

Use the **source-bridge keepalive** interface configuration command to assign the keepalive interval of the remote source-bridging peer. Use the **no** form of this command to cancel previous assignments.

| | |
|----------------|--|
| <i>seconds</i> | Keepalive interval in seconds. The valid range is 10 through 300. The default is 30 seconds. |
|----------------|--|

source-bridge largest-frame *ring-group size*
no source-bridge largest-frame *ring-group*

Use the **source-bridge largest-frame** global configuration command to configure the largest frame size that is used to communicate with any peers in the ring group. Use the **no** form of this command to cancel previous assignments.

| | |
|-------------------|---|
| <i>ring-group</i> | Ring group number. This ring group number must match the number you have specified with the source-bridge ring-group command. The valid range is 1 through 4095. |
| <i>size</i> | Maximum frame size. |

[no] source-bridge old-sna

Use the **source-bridge old-sna** interface configuration command to rewrite the RIF headers of explorer packets sent by the PC/3270 emulation program to go beyond the local ring. Use the **no** form of this command to disable this compatibility mode.

[no] source-bridge output-address-list *access-list-number*

Use the **source-bridge output-address-list** interface configuration command to assign an access list to a particular output interface packet for filtering the Token Ring or IEEE 802.2 source (rather than

Source-Route Bridging Commands

destination) addresses. This command filters packets sent out from the router. Use the **no** form of this command to remove the application of the access list.

access-list-number Number of the access list. The value must be in the range 700 through 799.

source-bridge output-lsap-list *access-list-number*

Use the **source-bridge output-lsap-list** interface configuration command to filter, on output, FDDI and IEEE 802-encapsulated packets which include the destination service access point (DSAP) and source service access point (SSAP) fields in their frame formats.

access-list-number Number of the access list. This access list is applied just before sending out a frame to an interface. Specify zero (0) to disable the filter. The value must be in the range 200 through 299.

source-bridge output-type-list *access-list-number*

Use the **source-bridge output-type-list** interface configuration command to filter SNAP-encapsulated frames by type code on output.

access-list-number Number of the access list. This access list is applied just before sending out a frame to an interface. Specify zero (0) to disable the application of the access list on the bridge group. The value must be in the range 200 through 299.

[no] source-bridge passthrough *ring-group*

Use the **source-bridge passthrough** global configuration command to configure some sessions on a few rings to be locally acknowledged and the remaining to pass through. Use the **no** form of this command to disable passthrough on all the rings and allow the session to be locally acknowledged.

| | |
|-------------------|---|
| <i>ring-group</i> | Ring group number. This ring is either the start ring or destination ring of the two IBM end machines for which the passthrough feature is to be configured. This ring group number must match the number you have specified with the source-bridge ring-group command. The valid range is 1 through 4095. |
|-------------------|---|

[no] source-bridge proxy-explorer

Use the **source-bridge proxy-explorer** interface configuration command to configure the interface to respond to any explorer packets from a source node that meet the conditions described in the “Usage Guidelines” section for this command in the *Router Products Command Reference* publication. Use the **no** form of this command to cancel responding to explorer packets with proxy explorers.

[no] source-bridge proxy-netbios-only

Use the **source-bridge proxy-netbios-only** interface configuration command to enable proxy explorers for the NetBIOS name-caching function. Use the **no** form of this command to disable the NetBIOS name-caching function.

source-bridge remote-peer *ring-group* **fst** *ip-address* [**if** *size*]
no source-bridge remote-peer *ring-group* **fst** *ip-address*

Use the **source-bridge remote-peer fst** global configuration command to specify a Fast Sequenced Transport (FST) encapsulation connection. Use the **no** form of this command to disable the previous assignments.

| | |
|-----------------------|---|
| <i>ring-group</i> | Ring group number. This ring group number must match the number you have specified with the source-bridge ring-group command. The valid range is 1 through 4095. |
| <i>ip-address</i> | IP address of the remote peer with which the router will communicate. |
| If <i>size</i> | (Optional) Maximum size frame to be sent to this remote peer. The router negotiates all transit routes down to this size or lower. Use this argument to prevent timeouts in end hosts by reducing the amount of data they have to transmit in a fixed interval. The legal values for this argument are 516, 1500, 2052, 4472, 8144, 11407, and 17800 bytes. |

source-bridge remote-peer *ring-group* **ftcp** *ip-address*
[**if** *size*] [**local-ack**]
no source-bridge remote-peer *ring-group* **ftcp** *ip-address*

Use the **source-bridge remote-peer ftcp** global configuration command to enable fast switching of Token Ring frames over TCP/IP. Use the **no** form of this command to remove a remote peer from the specified ring group.

| | |
|-------------------|---|
| <i>ring-group</i> | Ring-group number. This ring-group number must match the number you have specified with the source-bridge ring-group command. The valid range is 1 through 4095. |
| <i>ip-address</i> | IP address of the remote peer with which the router will communicate. |

| | |
|-----------------------|--|
| If <i>size</i> | (Optional) Maximum size frame to be sent to this remote peer. The router negotiates all transit routes down to this size or lower. |
| local-ack | (Optional) LLC2 sessions destined for a specific remote peer are to be locally terminated and acknowledged. Local acknowledgment should be used for LLC2 sessions going to this remote peer. |

source-bridge remote-peer *ring-group* **interface** *interface-name*
 [*mac-address*] [**If** *size*]
no source-bridge remote-peer *ring-group* **interface** *interface-name*

Use the **source-bridge remote-peer interface** global configuration command when specifying a point-to-point direct encapsulation connection. Use the **no** form of this command to disable previous interface assignments.

| | |
|-----------------------|--|
| <i>ring-group</i> | Ring group number. This ring group number must match the number you have specified with the source-bridge ring-group command. The valid range is 1 through 4095. |
| <i>interface-name</i> | Name of the router's serial interface over which to send source-route bridged traffic. |
| <i>mac-address</i> | (Optional) MAC address for the interface you specify using the <i>interface-name</i> argument. This argument is required for nonserial interfaces. You can obtain the value of this MAC address by using the show interface command, and then scanning the display for the interface specified by <i>interface-name</i> . |

Source-Route Bridging Commands

If size (Optional) Maximum size frame to be sent to this remote peer. The router negotiates all transit routes down to this size or lower. This argument is useful in preventing timeouts in end hosts by reducing the amount of data they have to transmit in a fixed interval. The legal values for this argument are 516, 1500, 2052, 4472, 8144, 11407, and 17800 bytes.

**source-bridge remote-peer ring-group tcp ip-address [If size]
[local-ack] [priority]**
no source-bridge remote-peer ring-group tcp ip-address

Use the **source-bridge remote-peer tcp** global configuration command to identify the IP address of a peer in the ring group with which to exchange source-bridge traffic using TCP. Use the **no** form of this command to remove a remote peer for the specified ring group.

ring-group Ring group number. This ring group number must match the number you have specified with the **source-bridge ring-group** command. The valid range is 1 through 4095.

ip-address IP address of the remote peer with which the router will communicate.

If size (Optional) Maximum size frame to be sent to this remote peer. The router negotiates all transit routes down to this size or lower. Use this argument pair to prevent timeouts in end hosts by reducing the amount of data they have to transmit in a fixed interval. The valid values for this argument pair are 516, 1500, 2052, 4472, 8144, 11407, and 17800 bytes.

local-ack (Optional) LLC2 sessions destined for a specific remote peer are to be locally terminated and acknowledged. Local acknowledgment should be used for LLC2 sessions going to this remote peer.

priority (Optional) Enables prioritization over a TCP network. You must specify the keyword **local-ack** earlier in the same **source-bridge remote-peer** command. The keyword **priority** is a prerequisite for features such as SNA class of service and SNA LU address prioritization over a TCP network.

source-bridge remote-peer-keepalive *seconds*
no source-bridge remote-peer-keepalive

Use the **source-bridge remote-peer-keepalive** interface configuration command to enable remote-peer keepalives, which are used to verify that a remote peer is reachable. Use the **no** form of this command to disable the keepalive mechanism.

seconds Keepalive interval in seconds. The valid range is 10 through 300. The default is 30 seconds.

[no] source-bridge ring-group *ring-group*

Use the **source-bridge ring-group** global configuration command to define or remove a ring group from the router configuration. Use the **no** form of this command to cancel previous assignments.

ring-group Ring group number. The valid range is 1 through 4095.

[no] source-bridge route-cache

Use the **source-bridge route-cache** interface configuration command to enable fast switching. Use the **no** form of this command to disable fast switching.

Source-Route Bridging Commands

[no] source-bridge route-cache cbus

Use the **source-bridge route-cache cbus** interface configuration command to enable autonomous switching. Use the **no** form of this command to disable autonomous switching.

[no] source-bridge route-cache sse

Use the **source-bridge route-cache sse** interface configuration command to enable Cisco's silicon switching engine (SSE) switching function. Use the **no** form of this command to disable SSE switching.

[no] source-bridge sap-80d5 dsap

Use the **source-bridge sap-80d5** global configuration command to allow non-IBM hosts (attached to a router with 80d5 processing enabled) to use the standard Token Ring to Ethernet LLC2 translation instead of the nonstandard Token Ring to Ethernet 80d5 translation. This command allows you to set the translation on a per-DSAP basis. Use the **no** form of this command to disable this feature.

dsap Destination service access point (DSAP).

[no] source-bridge spanning bridge-group

Use the **source-bridge spanning** interface configuration command to enable the automatic spanning tree function for a specified group of bridged interfaces. Use the **no** form of this command to disable the previous assignment.

bridge-group Number in the range 1 through 9 that you choose to refer to a particular group of bridged interfaces. This must be the same bridge-group number as assigned in the **bridge protocol ibm** command.

[no] source-bridge spanning *bridge-group path-cost path-cost*

Use the **source-bridge spanning path-cost** interface configuration command to assign a path cost for a specified interface. Use the **no** form of this command to disable the previous assignment.

| | |
|---------------------|--|
| <i>bridge-group</i> | Number in the range 1 through 9 that you choose to refer to a particular group of bridged interfaces. This must be the same bridge-group number as assigned in the bridge protocol ibm command. |
| <i>path-cost</i> | Path cost for the interface. The valid range is 0 through 65535. |

[no] source-bridge tcp-queue-max *number*

Use the **source-bridge tcp-queue-max** global configuration command to modify the size of the backup queue for remote source-route bridging. This backup queue determines the number of packets that can wait for transmission to a remote ring before packets start being thrown away. Use the **no** form of this command to return to the default value.

| | |
|---------------|--|
| <i>number</i> | Number of packets to hold in any single outgoing TCP queue to a remote router. The default is 100 packets. |
|---------------|--|

source-bridge transparent *ring-group pseudo-ring bridge-number
tb-group [oui]*
no source-bridge transparent *ring-group pseudo-ring bridge-number
tb-group*

Use the **source-bridge transparent** global configuration command to establish bridging between transparent bridging and source-route bridging. Use the **no** form of this command to disable a previously established link between a source-bridge ring group and a transparent bridge group.

| | |
|----------------------|--|
| <i>ring-group</i> | Virtual ring group created by the source-bridge ring-group command. This is the source-bridge virtual ring to associate with the transparent bridge group. This ring group number must match the number you have specified with the source-bridge ring-group command. The valid range is 1 through 4095. |
| <i>pseudo-ring</i> | Ring number used to represent the transparent bridging domain to the source-route bridged domain. This number must be a unique number, not used by any other ring in your source-route bridged network. |
| <i>bridge-number</i> | Bridge number of the bridge that leads to the transparent bridging domain. |
| <i>tb-group</i> | Number of the transparent bridge group that you want to tie into your source-route bridged domain. |
| <i>oui</i> | (Optional) Organizational unique identifier. Possible values include: 90-compatible , standard , and cisco . |