DLSw+ Commands

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

[**no**] **dlsw bgroup-list** *group-list*

Use the **dlsw bgroup-list** global configuration command to configure a transparent bridge group list.

group-list	The transparent bridge group list number. The valid range is 1 through 255.

[**no**] **dlsw bridge-group** *group-number*

Use the **dlsw bridge-group** global configuration command to link DLSw+ to the bridge group of the Ethernet LANs. Use the **no** form of this command to disable the link.

group-number	The transparent bridge group to which DLSw+ will be attached. The valid range is 1 through 63.

dlsw disable

Use the **dlsw disable** global configuration command to disable and reenable DLSw+ without altering the configuration.

[**no**] **dlsw duplicate-path-bias** [**load-balance**]

Use the **dlsw duplicate-path-bias** global configuration command to specify how DLSw+ handles duplicate paths to the same MAC address or NetBIOS name. Use the **no** form of the command to return to the default (fault-tolerance).

load-balance	(Optional) Specifies that sessions are load-balanced across duplicate paths.

[**no**] **dlsw explorerq-depth** *queue-max*

Use the **dlsw explorerq-depth** global configuration command to configure the depth of the DLSw explorer packet processing queue. Use the **no** form of this command to disable the explorer packet processing queue.

queue-max	Maximum queue size in packets. The valid range is 25 through 500 packets.

[**no**] **dlsw icannotreach saps** *sap* [*sap* ...]

Use the **dlsw icannotreach saps** global configuration command to configure a list of SAPs not locally reachable by the router. Use the **no** form of this command to remove the list.

sap sap ...	Array of SAPs.

[**no**] **dlsw icanreach** {**mac-exclusive** | **netbios-exclusive** | **mac-address** *mac-addr* [**mask** *mask*] | **netbios-name** *name*}

Use the **dlsw icanreach** global configuration command to configure a resource that is locally reachable by this router. Use the **no** form of this command to remove the resource.

mac-exclusive	Router can reach only the MAC addresses that are user configured.
netbios-exclusive	Router can reach only the NetBIOS names that are user configured.
mac-address *mac-addr*	Configure a MAC address that this router can locally reach.
mask *mask*	(Optional) MAC address mask in hexadecimal h.h.h.
netbios-name *name*	Configure a NetBIOS name that this router can locally reach. Wildcards are allowed.

[**no**] **dlsw local-peer** [**peer-id** *ip-address*] [**group** *group*] [**border**] [**cost** *cost*] [**lf** *size*] [**keepalive** *seconds*] [**passive**] [**promiscuous**]

Use the **dlsw local-peer** global configuration command to define the parameters of the DLSw+ local peer. Use the **no** form of this command to cancel the definitions.

peer-id *ip-address*	(Optional) Local peer IP address; required for FST and TCP.
group *group*	(Optional) Peer group number for this router. The valid range is 1 through 255.
border	(Optional) Enables as a border peer.
cost *cost*	(Optional) Peer cost advertised to remote peers. The valid range is 1 through 5.
lf *size*	(Optional) Largest frame size for this local peer. Valid sizes are the following: 11407-11407 byte maximum frame size 11454-11454 byte maximum frame size 1470-1470 byte maximum frame size 1500-1500 byte maximum frame size 17800-17800 byte maximum frame size 2052-2052 byte maximum frame size 4472-4472 byte maximum frame size 516-516 byte maximum frame size 8144-8144 byte maximum frame size
keepalive *seconds*	(Optional) Default remote peer keepalive interval in seconds. The valid range is 0 through 1200 seconds.
passive	(Optional) Specifies that the router will not initiate remote peer connections.
promiscuous	(Optional) Accepts connections from nonconfigured remote peers.

[**no**] **dlsw mac-addr** *mac-addr* {**rif** *rif-entry* | **ring-group** *ring* | **remote-peer** {**interface serial** *number* | **ip-address** *ip-address*} | **group** *group*}

Use the **dlsw mac-addr** global configuration command to configure a

static MAC address. Use the **no** form of this command to cancel the configuration.

macaddr	Specifies the MAC address.
rif *rif-entry*	Maps the MAC address to a specified routing information field (RIF). The RIF entry is a hexadecimal number in the form h.h...
ring-group *ring*	Maps the MAC address to a ring number or ring group number. The valid range is 1 through 4095.
remote-peer	Maps the MAC address to a specific remote peer.
interface serial *number*	Specifies the remote peer by direct serial interface.
ip-address *ip-address*	Specifies the remote peer by IP address.
group *group*	Maps the MAC address to a specified peer group. Valid numbers are in the range 1 through 255.

[**no**] **dlsw netbios-name** *netbios-name* {**rif** *rif-entry* | **ring-group** *ring* | **remote-peer** {**interface serial** *number* | **ip-address** *ip-address*} | **group** *group*}

Use the **dlsw netbios-name** global configuration command to configure a static NetBIOS name. Use the **no** form of this command to cancel the configuration.

netbios-name	Specifies the NetBIOS name. Wildcards are allowed.
rif *rif-string*	Maps the NetBIOS name to a specified RIF.
ring-group *ring*	Maps the NetBIOS name to a ring number or ring group number.
remote-peer	Maps the NetBIOS name to a specific remote peer.

interface serial *number*	Specifies the remote peer by direct interface.
ip-address *ip-address*	Specifies the remote peer by IP address.
group *group*	Maps the NetBIOS name to a specified peer group. Valid numbers are in the range 1 through 255.

[**no**] **dlsw peer-on-demand-defaults fst** [**bytes-netbios-out** *bytes-list-name* | **cost** *cost* | **host-netbios-out** *host-list-name* | **keepalive** *keepalive* | **lsap-output-list** *access-list-number* | **port-list** *portnumber*]

Use the **dlsw peer-on-demand-defaults fst** global configuration command to configure FST for peer-on-demand transport. Use the **no** form of this command to disable the previous assignment.

bytes-netbios-out *bytes-list-name*	Configures NetBIOS bytes output filtering for peer-on-demand peers. The *bytes-list-name* is the name of the previously defined netbios bytes access list filter.
cost *cost*	Specifies the cost to reach peer-on-demand peers. The valid range is 1 through 5. The default cost is 3.
host-netbios-out *host-list-name*	Configures NetBIOS host output filtering for peer-on-demand peers. The *host-list-name* is the name of the previously defined NetBIOS host access list filter.

keepalive *keepalive*	Configures the peer-on-demand keepalive interval. The valid range is 0 through 1200 seconds. The default is 30 seconds.
lsap-output-list *access-list-number*	Configures LSAP output filtering for peer-on-demand peers. Valid numbers are in the range 200 through 299.
port-list *portlistnumber*	Configures a port list for peer-on-demand peers. Valid numbers are in the range 0 through 4095.

[**no**] **dlsw peer-on-demand-defaults tcp** [**bytes-netbios-out** *bytes-list-name* | **cost** *cost* | **host-netbios-out** *host-list-name* | **keepalive** *seconds* | **local-ack** | **lsap-output-list** *accesslistnumber* | **port-list** *portnumber* | **priority**]

Use the **dlsw peer-on-demand-defaults tcp** global configuration command to configure TCP for peer-on-demand transport. Use the **no** form of this command to disable the previous assignment.

bytes-netbios-out *bytes-list-name*	Configures NetBIOS bytes output filtering for peer-on-demand peers. The bytes-list-name is the name of the previously defined netbios bytes access list filter.
cost *cost*	Specifies the cost to reach peer-on-demand peers. The valid range is 1 through 5. The default cost is 3.
host-netbios-out *host-list-name*	Configures netbios host output filtering for peer-on-demand peers. Host-list-name is the name of the previously defined netbios host access list filter.
keepalive *seconds*	Configures the peer-on-demand keepalive interval. The valid range is 0 through 1200 seconds. The default is 30 seconds.
local-ack	Configures local acknowledgment for peer-on-demand sessions.

lsap-output-list *accesslistnumber*	Configures local SAP (LSAP) output filtering for peer-on-demand peers. Valid numbers are in the range 200 through 299.
port-list *portlistnumber*	Configures a port-list for peer-on-demand peers. Valid numbers are in the range 0 through 4095.
priority	Configures prioritization for peer-on-demand peers. The default state is off.

[**no**] **dlsw port-list** *list-number* {*type number*}

Use the **dlsw port-list** global configuration command to configure a peer post list. Use the **no** form of this command to disable the previous assignment.

list-number	Port list number. The valid range is 1 through 255.
type	The interface type, indicated by the keyword **ethernet**, **serial**, or **tokenring**.
number	The interface number.

[**no**] **dlsw remote-peer** *ring-group* **fst** *ip-address* [**cost** *cost*] [**lf** *size*] [**keepalive** *seconds*] [**lsap-output-list** *list*] [**host-netbios-out** *host-list-name*] [**bytes-netbios-out** *bytes-list-name*] [**backup-peer** *ip-address*]

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

ring-group	Remote peer ring g2.57 roup list 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.
fst *ip-address*	IP address of the remote peer with which the router is to communicate.
cost *cost*	(Optional) Cost to reach this remote peer. The valid range is 1 through 5.
lf *size*	(Optional) Sets the largest frame size for this remote peer. Valid sizes are the following: 11407-11407 byte maximum frame size 11454-11454 byte maximum frame size 1470-1470 byte maximum frame size 1500-1500 byte maximum frame size 17800-17800 byte maximum frame size 2052-2052 byte maximum frame size 4472-4472 byte maximum frame size 516-516 byte maximum frame size 8144-8144 byte maximum frame size
keepalive *seconds*	(Optional) Sets the keepalive interval for this remote peer. The range is 0 through 1200 seconds.
lsap-output-list *list*	(Optional) Filters output IEEE 802.5 encapsulated packets. Valid access list numbers are in the range 200 through 299.

host-netbios-out *host-list-name*	(Optional) Configures NetBIOS host output filtering for this peer. The *host-list-name* is the name of the previously defined NetBIOS host access list filter.
bytes-netbios-out *bytes-list-name*	(Optional) Configures NetBIOS bytes output filtering for this peer. The bytes-list-name is the name of the previously defined NetBIOS bytes access list filter.
backup-peer *ip-address*	(Optional) Configures as a backup to an existing TCP/FST peer.

[**no**] **dlsw remote-peer** *ring-group* **interface serial** *number* [**cost** *cost*] [**lf** *size*] [**keepalive** *seconds*] [**lsap-output-list** *list*] [**host-netbios-out** *host-list-name*] [**bytes-netbios-out** *bytes-list-name*] [**backup-peer** *ip-address*]

Use the **dlsw 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.

ring-group	Remote peer ring group list 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.
interface serial *number*	Specifies the remote peer by direct serial interface.
cost *cost*	(Optional) Cost to reach this remote peer. The valid range is 1 through 5.

lf *size*	(Optional) Sets the largest frame size for this remote peer. Valid sizes are the following: 11407-11407 byte maximum frame size 11454-11454 byte maximum frame size 1470-1470 byte maximum frame size 1500-1500 byte maximum frame size 17800-17800 byte maximum frame size 2052-2052 byte maximum frame size 4472-4472 byte maximum frame size 516-516 byte maximum frame size 8144-8144 byte maximum frame size
keepalive *seconds*	(Optional) Sets the keepalive interval for this remote peer. The range is 0 through 1200 seconds.
lsap-output-list *list*	(Optional) Filters output IEEE 802.5 encapsulated packets. Valid access list numbers are in the range 200 through 299.
host-netbios-out *host-list-name*	(Optional) Configures NetBIOS host output filtering for this peer. The *host-list-name* is the name of the previously defined NetBIOS host access list filter.
bytes-netbios-out *bytes-list-name*	(Optional) Configures NetBIOS bytes output filtering for this peer. The bytes-list-name is the name of the previously defined NetBIOS bytes access list filter.

[**no**] **dlsw remote-peer** *ring-group* **tcp** *ip-address* [**priority**] **[cost** *cost*] [**lf** *size*] [**keepalive** *seconds*] [**tcp-queue-max** *size*] [**lsap-output-list** *list*] [**host-netbios-out** *host-list-name*] [**bytes-netbios-out** *bytes-list-name*] [**backup-peer** *ip-address*]

Use th**e dlsw remote-peer tcp** global configuration command to identify the IP address of a peer with which to exchange traffic using TCP. Use the **no** form of this command to remove a remote peer.

ring-group	Remote peer ring group list 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.
tcp *ip-address*	IP address of the remote peer with which the router is to communicate.
priority	Enables prioritization features for this remote peer.
cost *cost*	(Optional) The cost to reach this remote peer. The valid range is 1 through 5.
lf *size*	(Optional) Sets the largest frame size for this remote peer. Valid sizes are the following: 11407-11407 byte maximum frame size 11454-11454 byte maximum frame size 1470-1470 byte maximum frame size 1500-1500 byte maximum frame size 17800-17800 byte maximum frame size 2052-2052 byte maximum frame size 4472-4472 byte maximum frame size 516-516 byte maximum frame size 8144-8144 byte maximum frame size
keepalive *seconds*	(Optional) Sets the keepalive interval for this remote peer. The range is 0 through 1200 seconds.

tcp-queue-max *size*	Maximum output TCP queue size for this remote peer. The valid maximum TCP queue size is a number in the range 10 through 2000.
lsap-output-list *list*	(Optional) Filters output IEEE 802.5 encapsulated packets. Valid access list numbers are in the range 200 through 299.
host-netbios-out *host-list-name*	(Optional) Configures NetBIOS host output filtering for this peer. The host-list-name is the name of the previously defined NetBIOS host access list filter.
bytes-netbios-out *bytes-list-name*	(Optional) Configures NetBIOS bytes output filtering for this peer. The bytes-list-name is the name of the previously defined NetBIOS bytes access list filter.
backup-peer *ip-address*	(Optional) Configures a backup to an existing TCP/FST peer.

[**no**] **dlsw ring-list** *list-number* **rings** *ring-numbers*

Use the **dlsw ring-list** to configure a ring list, mapping traffic on a local interface to remote peers. Use the **no** form of this command to cancel the definition.

list-number	Ring list number. The valid range is 1 through 255.
rings	Specify one or more physical or virtual ring
ring-number	Physical or virtual ring number. The valid range is 1-4095.

[**no**] **dlsw timer** {**icannotreach-block-time** | **netbios-cache-timeout** | **netbios-explorer-timeout** | **netbios-retry-interval** | **netbios-verify-interval** | **sna-cache-timeout** | **sna-explorer-timeout** | **sna-retry-interval** | **sna-verify-interval**} *time*

Use the **dlsw timer** global configuration command to tune an existing configuration parameter. Use the **no** form of this command to restore the default parameters.

icannotreach-block-time *time*	Cache life of unreachable resource, during which searches for that resource are blocked. The valid range is 1 through 86400 seconds. The default is 0 (disabled).
netbios-cache-timeout *time*	Cache life of NetBIOS name location for both local and remote reachability cache. The valid range is 1 through 86400 seconds. The default is 16 minutes.
netbios-explore-timeout *time*	Length of time that this router waits for an explorer response before marking a resource unreachable (LAN and WAN). The valid range is 1 through 86400 seconds. The default is 6 seconds.
netbios-retry-interval *time*	NetBIOS explorer retry interval (LAN only). The valid range is 1 through 86400 seconds. The default is 1 second.
netbios-verify-interval *time*	Interval between the creation of a cache entry and when the entry is marked as stale. If a search request comes in for a stale cache entry, a directed verify query is sent to assure that it still exists. The valid range is 1 through 86400 seconds. The default is 4 minutes.

sna-cache-timeout *time*	Length of time that an SNA MAC/SAP location cache entry exists before it is discarded (local and remote). The valid range is 1 through 86400 seconds. The default is 16 minutes.
sna-explorer-timeout *time*	Length of time that this router waits for an explorer response before marking a resource unreachable (LAN and WAN). The valid range is 1 through 86400 seconds. The default is 3 minutes.
sna-retry-interval *time*	Interval between SNA explorer retries (LAN). The valid range is 1 through 86400 seconds. The default is 30 seconds.
sna-verify-interval *time*	Interval between the creation of a cache entry and when the entry is marked as stale. If a search request comes in for a stale cache entry, a directed verify query is sent to assure that it still exists. The valid range is 1 through 86400 seconds. The default is 4 minutes.

show dlsw capabilities [**interface** {*type number*} | **ip-address** *ip-address* | **local**]

Use the **show dlsw capabilities** privileged EXEC command to display the configuration of the peer specified or of all peers.

interface *type*	(Optional) The interface type is indicated by the keyword **ethernet**, **null**, **serial**, or **tokenring**.

number	(Optional) The interface number.
ip-address *ip-address*	(Optional) Specifies a remote peer by its IP address.
local	(Optional) Specifies the local DLSw peer.

show dlsw circuits

Use the **show dlsw circuit** privileged EXEC command to display the state of all circuits involving this MAC address as a source and destination.

show dlsw fastcache

Use the **show dlsw fastcache** privileged EXEC command to display the fast cache for FST and direct-encapsulated peers.

show dlsw peers [**interface** {**ethernet** *number* | **null** *number* | **serial** *number* | **tokenring** *number*} | **ip-address** *ip-address*]

Use the **show dlsw peers** privileged EXEC command to display DLSw peer information.

interface {**Ethernet** *number* | **Null** *number* | **Serial** *number* | **TokenRing** *number*}	(Optional) Specifies a remote peer by a direct interface.
ip-address *ip-address*	(Optional) Specifies a remote peer by its IP address.

show dlsw reachability

Use the **show dlsw reachability** privileged EXEC command to display DLSw reachability information.