Novell IPX Commands

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

[**no**] **access-list** *access-list-number* {**deny** | **permit**}
  source-network[.*source-nod*e [*source-node-mask*]]
  [*destination-network*[.*destination-node* [*destination-node-mask*]]]

To define a standard IPX access list, use the standard version of the **access-list** global configuration command. To remove a standard access list, use the **no** form of this command.

access-list-number	Number of the access list. This is a decimal number from 800 to 899.
deny	Denies access if the conditions are matched.
permit	Permits access if the conditions are matched.
source-network	Number of the network from which the packet is being sent. This is an eight-digit hexadecimal number that uniquely identifies a network cable segment. It can be a number in the range 1 to FFFFFFFE. A network number of 0 matches the local network. A network number of –1 matches all networks.
	You do not need to specify leading zeros in the network number. For example, for the network number 000000AA, you can enter AA.

source-node	(Optional) Node on *source-network* from which the packet is being sent. This is a 48-bit value represented by a dotted triplet of four-digit hexadecimal numbers (*xxxx.xxxx.xxxx*).
source-node-mask	(Optional) Mask to be applied to *source-node*. This is a 48-bit value represented as a dotted triplet of four-digit hexadecimal numbers (*xxxx.xxxx.xxxx*). Place ones in the bit positions you want to mask.
destination-network	(Optional) Number of the network to which the packet is being sent. This is an eight-digit hexadecimal number that uniquely identifies a network cable segment. It can be a number in the range 1 to FFFFFFFE. A network number of 0 matches the local network. A network number of –1 matches all networks. You do not need to specify leading zeros in the network number. For example, for the network number 000000AA, you can enter AA.
destination-node	(Optional) Node on *destination-network* to which the packet is being sent. This is a 48-bit value represented by a dotted triplet of four-digit hexadecimal numbers (*xxxx.xxxx.xxxx*).
destination-node-m ask	(Optional) Mask to be applied to *destination-node*. This is a 48-bit value represented as a dotted triplet of four-digit hexadecimal numbers (*xxxx.xxxx.xxxx*). Place ones in the bit positions you want to mask.

[**no**] **access-list** *access-list-number* {**deny** | **permit**} *protocol*
   [*source-network*][[[.*source-node*] *source-node-mask*] |
   [.*source-node source-network-mask.source-node-mask*]]
   [*source-socket*] [*destination.network*][[[.*destination-node*]
   destination-node-mask] | [.*destination-node*
   destination-network-mask.destination-nodemask]]
   [*destination-socket*]

To define an extended Novell IPX access list, use the extended version of
the **access-list** global configuration command. To remove an extended
access list, use the **no** form of this command.

access-list-number	Number of the access list. This is a decimal number from 900 to 999.
deny	Denies access if the conditions are matched.
permit	Permits access if the conditions are matched.
protocol	Number of an IPX protocol type, in decimal. This also is sometimes referred to as the packet type. The IPX protocol numbers table in the *Router Products Command Reference* publication lists some IPX protocol numbers.
source-network	(Optional) Number of the network from which the packet is being sent. This is an eight-digit hexadecimal number that uniquely identifies a network cable segment. It can be a number in the range 1 to FFFFFFFE. A network number of 0 matches the local network. A network number of –1 matches all networks.
	You do not need to specify leading zeros in the network number. For example, for the network number 000000AA, you can enter AA.

source-node	(Optional) Node on *source-network* from which the packet is being sent. This is a 48-bit value represented by a dotted triplet of four-digit hexadecimal numbers (*xxxx.xxxx.xxxx*).
source-network-ma sk	(Optional) Mask to be applied to *source-network*. This is an eight-digit hexadecimal mask. Place ones in the bit positions you want to mask. The mask must immediately be followed by a period, which must in turn immediately be followed by *source-node-mask*.
source-node-mask	(Optional) Mask to be applied to *source-node*. This is a 48-bit value represented as a dotted triplet of four-digit hexadecimal numbers (*xxxx.xxxx.xxxx*). Place ones in the bit positions you want to mask.
source-socket	Socket number from which the packet is being sent, in hexadecimal. The IPX socket numbers table in the *Router Products Command Reference* publication lists some IPX socket numbers.
destination-network	(Optional) Number of the network to which the packet is being sent. This is an eight-digit hexadecimal number that uniquely identifies a network cable segment. It can be a number in the range 1 to FFFFFFFE. A network number of 0 matches the local network. A network number of –1 matches all networks.
	You do not need to specify leading zeros in the network number. For example, for the network number 000000AA, you can enter just AA.

destination-node	(Optional) Node on *destination-network* to which the packet is being sent. This is a 48-bit value represented by a dotted triplet of four-digit hexadecimal numbers (*xxxx.xxxx.xxxx*).
destination-network -mask	(Optional) Mask to be applied to *destination-network*. This is an eight-digit hexadecimal mask. Place ones in the bit positions you want to mask. The mask must immediately be followed by a period, which must in turn immediately be followed by *destination-node-mask*.
destination-node-m ask	(Optional) Mask to be applied to *destination-node*. This is a 48-bit value represented as a dotted triplet of four-digit hexadecimal numbers (*xxxx.xxxx.xxxx*). Place ones in the bit positions you want to mask.
destination-socket	(Optional) Socket number to which the packet is being sent, in hexadecimal. The IPX socket numbers table in the *Router Products Command Reference* publication lists some IPX socket numbers.

[**no**] **access-list** *access-list-number* {**deny** | **permit**} *network*[**.***node*] [*network.node-mask*] [*service-type* [*server-name*]]

To define an access list for filtering Service Advertisement Protocol (SAP) requests, use the SAP filtering form of the **access-list** global configuration command. To remove the access list, use the **no** form of this command.

access-list-number	Number of the SAP access list. This is a decimal number from 1000 to 1099.
deny	Denies access if the conditions are matched.
permit	Permits access if the conditions are matched.

network	Network number. This is an eight-digit hexadecimal number that uniquely identifies a network cable segment. It can be a number in the range 1 to FFFFFFFE. A network number of 0 matches the local network. A network number of –1 matches all networks.
	You do not need to specify leading zeros in the network number. For example, for the network number 000000AA, you can enter AA.
node	(Optional) Node on *network*. This is a 48-bit value represented by a dotted triplet of four-digit hexadecimal numbers (*xxxx.xxxx.xxxx*).
network.node-mask	(Optional) Mask to be applied to *network* and *node*. Place ones in the bit positions to be masked.
service-type	(Optional) Service type on which to filter. This is a hexadecimal number. A value of 0 means all services. The sample IPX SAP numbers table in the *Router Products Command Reference* publication lists examples of service types.
server-name	(Optional) Name of the server providing the specified service type. This can be any contiguous string of printable ASCII characters. Use double quotation marks (" ") to enclose strings containing embedded spaces. You can use an asterisk (*) at the end of the name as a wildcard to match one or more trailing characters.

clear ipx accounting [**checkpoint**]

To delete all entries in the accounting database when IPX accounting is enabled, use the **clear ipx accounting** EXEC command. If the keyword is not specified, all entries in the active database are deleted.

    checkpoint   (Optional) Clears the checkpointed database.

clear ipx cache

To delete entries from the IPX fast-switching cache, use the **clear ipx cache** EXEC command.

clear ipx route [*network* | *****]

To delete routes from the IPX routing table, use the **clear ipx route** EXEC command.

    network   (Optional) Number of the network whose routing table entry you want to delete. This is an eight-digit hexadecimal number that uniquely identifies a network cable segment. It can be a number in the range 1 to FFFFFFFE. You do not need to specify leading zeros in the network number. For example, for the network number 000000AA, you can enter AA.

    *   (Optional) Deletes all routes in the routing table.

clear ipx sse

To have the Cisco 7000 series route processor (RP) recompute the entries in the IPX SSE fast-switching cache, use the **clear ipx sse** EXEC command.

clear sse

To reinitialize the route processor on the Cisco 7000 series, use the **clear sse** EXEC command.

[no] ipx access-group *access-list-number*

To apply a generic output filter to an interface, use **ipx access-group** interface configuration command. To remove the access list, use the **no** form of this command.

> *access-list-number*   Number of the access list. All outgoing packets defined with either standard or extended access lists and forwarded through the interface are filtered by the entries in this access list. For standard access lists, *access-list-number* is a decimal number from 800 to 899. For extended access lists, *access-list-number* is a decimal number from 900 to 999.

[no] ipx accounting

To enable IPX accounting, use the **ipx accounting** interface configuration command. To disable IPX accounting, use the **no** form of this command.

[no] ipx accounting-list *number mask*

To filter the networks for which IPX accounting information is kept, use the **ipx accounting-list** global configuration command. To remove the filter, use the **no** form of this command.

> *number*   Network number. This is an eight-digit hexadecimal number that uniquely identifies a network cable segment. It can be a number in the range 1 to FFFFFFFE.
>
> You do not need to specify leading zeros in the network number. For example, for the network number 000000AA you can enter AA.
>
> *mask*   Network mask.

[no] ipx accounting-threshold *threshold*

To set the maximum number of accounting database entries, use the **ipx accounting-threshold** global configuration command. To restore the default, use the **no** form of this command.

> *threshold*   Maximum number of entries (source and destination address pairs) that the router can accumulate. The default is 512.

ip accounting-transits *count*
no ip accounting-transits

To set the maximum number of transit entries that will be stored in the IPX accounting database, use the **ipx accounting-transits** global configuration command. To disable this function, use the **no** form of this command.

> *count*   Number of transit entries that will be stored in the IPX accounting database. The default is 0.

ipx delay *number*
no ipx delay

To set the tick count, use the **ipx delay** interface configuration command. To reset the default increment in the delay field, use the **no** form of this command.

> *number*   Number of IBM clock ticks of delay to use. One clock tick is 1/18th of a second (approximately 55 milliseconds). The default is determined from the delay configured on the interface with the **delay** command.

ipx down *network*
no ipx down

To administratively shut down an IPX network, use the **ipx down** interface configuration command. To restart the network, use the **no** form of this command.

> *network* Number of the network to shut down. This is an eight-digit hexadecimal number that uniquely identifies a network cable segment. It can be a number in the range 1 to FFFFFFFE. You do not need to specify leading zeros in the network number. For example, for the network number 000000AA, you can enter AA.

ipx gns-response-delay [*milliseconds*]
no ipx gns-response-delay

To change the delay when responding to Get Nearest Server (GNS) requests, use the **ipx gns-response-delay** global configuration command. To return to the default delay, use the **no** form of this command.

> *milliseconds* (Optional) Time, in milliseconds, that the router waits after receiving a Get Nearest Server request from an IPX client before responding with a server name to that client. The default time is 500 milliseconds (0.5 second). A value of zero indicates no delay.

[no] ipx gns-round-robin

To rotate using a round-robin selection method through a set of eligible servers when responding to Get Nearest Server (GNS) requests, use the **ipx gns-round-robin** global configuration command. To use the most recently learned server, use the **no** form of this command.

[no] ipx helper-address *network.node*

To forward broadcast packets (except type 20 propagation packets) to a specified server, use the **ipx helper-address** interface configuration command. To disable this function, use the **no** form of this command.

network	Network on which the target IPX server resides. This is an eight-digit hexadecimal number that uniquely identifies a network cable segment. It can be a number in the range 1 to FFFFFFFE. A network number of –1 indicates all-nets flooding. You do not need to specify leading zeros in the network number. For example, for the network number 000000AA you can enter AA.
node	Node number of the target Novell server. This is a 48-bit value represented by a dotted triplet of four-digit hexadecimal numbers (*xxxx.xxxx.xxxx*). A node number of FFFF.FFFF.FFFF matches all servers.

[no] ipx helper-list *access-list-number*

To assign an access list to an interface to control broadcast traffic (including type 20 propagation packets), use the **ipx helper-list** interface configuration command. To remove the access list from an interface, use the **no** form of this command.

access-list-number	Number of the access list. All outgoing packets defined with either standard or extended access lists are filtered by the entries in this access list. For standard access lists, *access-list-number* is a decimal number from 800 to 899. For extended access lists, it is a decimal number from 900 to 999.

[no] ipx input-network-filter *access-list-number*

To control which networks are added to the router's routing table, use the **ipx input-network-filter** interface configuration command. To remove the filter from the interface, use the **no** form of this command.

    access-list-number   Number of the access list. All incoming packets defined with either standard or extended access lists are filtered by the entries in this access list. For standard access lists, *access-list-number* is a decimal number from 800 to 899. For extended access lists, it is a decimal number from 900 to 999.

[no] ipx input-sap-filter *access-list-number*

To control which services are added to the router's SAP table, use the **ipx input-sap-filter** interface configuration command. To remove the filter, use the **no** form of this command.

    access-list-number   Number of the SAP access list. All incoming packets are filtered by the entries in this access list. The argument *access-list-number* is a decimal number from 1000 to 1099.

ipx ipxwan *local-node number local-server* [*retry-interval*]
  [*retry-attempts*]
no ipxwan

To configure the IPXWAN protocol on a serial interface, use the **ipx ipxwan** interface configuration command. To disable the IPXWAN protocol, use the **no** form of this command.

local-node	Primary network number of the router. This is an IPX network number that is unique across the entire internet. On NetWare 3.*x* servers, the primary network number is called the internal network number. The router with the higher number is determined to be the link Master.
number	The IPX network number to be used if this router is the one determined to be the link master. The number is an eight-digit hexadecimal number that uniquely identifies a network cable segment. It can be a number in the range 1 to FFFFFFFE.
	You do not need to specify leading zeros in the network number. For example, for the network number 000000AA you can enter AA.
local-server	Name of the local router. It can be up to 47 characters long, and can contain uppercase letters, digits, underscores (_), hyphens (-), and at signs (@). On NetWare 3.*x* servers, the local server is called the router name.
retry-interval	(Optional) Retry interval, in seconds. This interval defines how often the router will retry failed negotiation attempts. It can be a value from 1 through 600. The default is 20 seconds.
retry-attempts	(Optional) Maximum number of times the router will retry failed negotiation attempts. It can be a value from 1 through 100. The default is 3.

ipx maximum-paths *paths*
no ipx maximum-paths

To set the maximum number of equal-cost paths the router uses when forwarding packets, use the **ipx maximum-paths** global configuration command. To restore the default value of 1, use the **no** form of this command.

    paths   Maximum number of equal-cost paths which the router will use. The argument *paths* can be a value from 1 to 512. The default is 1.

[no] ipx netbios input-access-filter {**host** | **bytes**} *name*

To control incoming IPX NetBIOS messages, use the **ipx netbios input-access-filter** interface configuration command. To remove the filter, use the **no** form of this command.

    host   Indicates that the following argument is the name of a NetBIOS access filter previously defined with one or more **netbios access-list host** commands.

    bytes   Indicates that the following argument is the name of a NetBIOS access filter previously defined with one or more **netbios access-list bytes** commands.

    name   Name of a NetBIOS access list.

[no] ipx netbios output-access-filter {**host** | **bytes**} *name*

To control outgoing NetBIOS messages, use the **ipx netbios output-access-filter** interface configuration command. To remove the filter, use the **no** form of this command.

host	Indicates that the following argument is the name of a NetBIOS access filter previously defined with one or more **netbios access-list host** commands.
bytes	Indicates that the following argument is the name of a NetBIOS access filter previously defined with one or more **netbios access-list bytes** commands.
name	Name of a previously defined NetBIOS access list.

ipx network *number* [**encapsulation** *encapsulation-type* [**secondary**]]
no ipx network *number* [**encapsulation** *encapsulation-type*]

To enable IPX routing on a particular interface and to optionally select the type of encapsulation (framing), use the **ipx network** interface configuration command. To disable IPX routing, use the **no** form of this

command.

number	Network number. This is an eight-digit hexadecimal number that uniquely identifies a network cable segment. It can be a number in the range 1 to FFFFFFFE.
	You do not need to specify leading zeros in the network number. For example, for the network number 000000AA you can enter AA.

encapsulation *encapsulation-type*	(Optional) Type of encapsulation. It can be one of the following values:

- **arpa** (for Ethernet interfaces only)—Use Novell's Ethernet_II encapsulation. This encapsulation is recommended for networks that handle both TCP/IP and IPX traffic.

- **hdlc** (for serial interfaces only)—Use HDLC encapsulation.

- **novell-ether** (for Ethernet interfaces only)—Use Novell's "Ethernet_802.3" encapsulation, which consists of a standard 802.3 MAC header followed directly by the IPX header with a checksum of FFFF. It is the default encapsulation used by NetWare Version 3.11.

- **sap** (for Ethernet interfaces)—Use Novell's Ethernet_802.2 encapsulation, which consists of a standard 802.3 MAC header followed by an 802.2 LLC header. This is the default encapsulation used by NetWare Version 4.0.
  (for Token Ring interfaces)—This encapsulation consists of a standard 802.5 MAC header followed by an 802.2 LLC header.
  (for FDDI interfaces)—This encapsulation consists of a standard FDDI MAC header followed by an 802.2 LLC header.

- **snap** (for Ethernet interfaces)—Use Novell Ethernet_Snap encapsulation, which consists of a standard 802.3 MAC header followed by an 802.2 SNAP LLC header.
  (for Token Ring and FDDI interfaces)—This encapsulation consists of a standard 802.5 or FDDI MAC header followed by an 802.2 SNAP LLC header.

secondary   (Optional) Indicates an additional network configured after the first (primary) network.

[**no**] **ipx output-gns-filter** *access-list-number*

To control which servers are included in the Get Nearest Server (GNS) responses sent by the router, use the **ipx output-gns-filter** interface configuration command. To remove the filter from the interface, use the **no** form of this command.

access-list-number   Number of the SAP access list. All outgoing GNS packets are filtered by the entries in this access list. The argument *access-list-number* is a decimal number from 1000 to 1099.

[**no**] **ipx output-network-filter** *access-list-number*

To control the list of networks included in routing updates sent out an interface, use the **ipx output-network-filter** interface configuration command. To remove the filter from the interface, use the **no** form of this command.

access-list-number   Number of the access list. All outgoing packets defined with either standard or extended access lists are filtered by the entries in this access list. For standard access lists, *access-list-number* is a decimal number from 800 to 899. For extended access lists, it is a decimal number from 900 to 999.

ipx output-rip-delay *delay*
no ipx output-rip-delay

To adjust the delay between the individual packets sent in a multiple-packet routing update, use the **ipx output-rip-delay** interface configuration command. To return to the default value, use the **no** form of this command.

> *delay*   Delay, in milliseconds, between packets in a multipacket RIP update. The default delay is 0 (that is, no delay). The delay recommended by Novell is 55 ms.

ipx output-sap-delay *delay*
no ipx output-sap-delay

To set a delay between packets sent in a multipacket Service Advertisement Protocol (SAP) update, use the **ipx output-sap-delay** interface configuration command. To disable the delay mechanism, use the **no** form of this command.

> *delay*   Delay, in milliseconds, between packets in a multipacket SAP update. The default delay is 0 (that is, no delay). The delay recommended by Novell is 55 ms.

[**no**] **ipx output-sap-filter** *access-list-number*

To control which services are included in Service Advertisement Protocol (SAP) updates sent by the router, use the **ipx output-network-filter** interface configuration command. To remove the filter, use the **no** form of this command.

> *access-list-number*   Number of the SAP access list. All outgoing service advertisements are filtered by the entries in this access list. The argument *access-list-number* is a decimal number from 1000 to 1099.

[no] ipx pad-process-switched-packets

To control whether odd-length packets are padded so as to be sent as even-length packets on an interface, use the **ipx pad-process-switched-packets** interface configuration command. To disable padding, use the **no** form of this command.

ipx route *network network.node*
no ipx route

To add a static route to the routing table, use the **ipx route** global configuration command. To remove a route from the routing table, use the **no** form of this command.

network	Network to which you want to establish a static route.
	This is an eight-digit hexadecimal number that uniquely identifies a network cable segment. It can be a number in the range 1 to FFFFFFFE. You do not need to specify leading zeros in the network number. For example, for the network number 000000AA, you can enter AA.
network.node	Router to which to forward packets destined for the specified network.
	The argument *network* is an eight-digit hexadecimal number that uniquely identifies a network cable segment. It can be a number in the range 1 to FFFFFFFE. You do not need to specify leading zeros in the network number. For example, for the network number 000000AA, you can enter AA.
	The argument *node* is the node number of the target router. This is a 48-bit value represented by a dotted triplet of four-digit hexadecimal numbers (*xxxx.xxxx.xxxx*).

[no] ipx route-cache [cbus | sse]

To enable IPX fast switching and autonomous switching, use the **ipx route-cache** interface configuration command. To disable fast switching, use the **no** form of this command. If no keywords are specified, fast switching is enabled. By default, fast switching is enabled, and autonomous switching and SSE switching are disabled.

cbus	(Optional) Enables IPX autonomous switching.
sse	(Optional) Enables SSE fast switching.

ipx router-filter *access-list-number*
no ipx router-filter

To control the routers from which packets are accepted, use the **ipx router-filter** interface configuration command. To remove the filter from the interface, use the **no** form of this command.

access-list-number	Number of the access list. All incoming packets defined with either standard or extended access lists are filtered by the entries in this access list. For standard access lists, *access-list-number* is a decimal number from 800 to 899. For extended access lists, it is a decimal number from 900 to 999.

[no] ipx router-sap-filter *access-list-number*

To filter Service Advertisement Point (SAP) messages received from a particular router, use the **ipx router-sap-filter** interface configuration command. To remove the filter, use the **no** form of this command.

access-list-number	Number of the access list. All incoming service advertisements are filtered by the entries in this access list. The argument *access-list-number* is a decimal number from 1000 to 1099.

ipx routing [*node*]
no ipx routing

To enable IPX routing, use the **ipx routing** global configuration command. To disable IPX routing, use the **no** form of this command.

node	(Optional) Node number of the router. This is a 48-bit value represented by a dotted triplet of four-digit hexadecimal numbers (*xxxx.xxxx.xxxx*). It must not be a multicast address.
	If you omit *node*, the router uses the hardware MAC address currently assigned to it as its node address. This is the MAC address of the first Ethernet, Token Ring, or FDDI interface card. If no satisfactory interfaces are present in the router (such as only serial interfaces), you must specify *node*.

[**no**] **ipx sap** *service-type name network***.***node socket hop-count*

To specify static Service Advertisement Protocol (SAP) entries, use the **ipx sap** global configuration command. To remove static SAP entries, use the **no** form of this command.

service-type	SAP service-type number. The sample IPX SAP services table in the *Router Products Command Reference* publication lists some IPX SAP services.
name	Name of the server that provides the service.
*network***.***node*	Network number and node address of the server.
	The argument *network* is an eight-digit hexadecimal number that uniquely identifies a network cable segment. It can be a number in the range 1 to FFFFFFFE. You do not need to specify leading zeros in the network number. For example, for the network number 000000AA you can enter just AA.
	The argument *node* is the node number of the target Novell server. This is a 48-bit value represented by a dotted triplet of four-digit hexadecimal numbers (*xxxx.xxxx.xxxx*).
socket	Socket number for this service. The IPX socket numbers table in the *Router Products Command Reference* publication lists some IPX socket numbers.
hop-count	Number of hops to the server.

ipx sap-interval *interval*
no ipx sap-interval

To configure less frequent Service Advertisement Protocol (SAP) updates over slow links, use the **ipx sap-interval** interface configuration command. To return to the default value, use the **no** form of this command.

> *interval*   Interval, in minutes, between SAP updates sent by the router. The default value is 1 minute. If *interval* is 0, periodic updates are never sent.

ipx sap-queue-maximum *number*
no ipx sap-interval

To configure the maximum length of the queue of pending input SAP GNS requests and SAP query packets, use the **ipx sap-queue-maximum** global configuration command. To return to the default value, use the **no** form of this command.

> *number*   Maximum length of the queue of pending SAP requests. By default, there is no limit to the number of pending SAP requests that the router stores in this queue.

[**no**] **ipx source-network-update**

To repair corrupted network numbers, use the **ipx source-network-update** interface configuration command. To disable this feature, use the **no** form of this command.

[**no**] **ipx type-20-input-checks**

To restrict the acceptance of IPX type 20 propagation packet broadcasts, use the **ipx type-20-input-checks** global configuration command. To remove these restrictions, use the **no** form of this command.

[no] ipx type-20-output-checks

To restrict the forwarding of IPX type 20 propagation packet broadcasts, use the **ipx type-20-output-checks** global configuration command. To remove these restrictions, use the **no** form of this command.

[no] ipx type-20-propagation

To forward IPX type 20 propagation packet broadcasts to other network segments, use the **ipx type-20-propagation** interface configuration command. To disable both the reception and forwarding of type 20 broadcasts on an interface, use the **no** form of this command.

ipx update-time *interval*
no ipx update-time

To adjust the IPX routing update timers, use the **ipx update-time** interface configuration command. To restore the default value, use the **no** form of this command.

> *interval*   Interval, in seconds, at which IPX routing updates
>   are sent. The default is 60 seconds. The minimum
>   interval is 10 seconds.

[no] ipx watchdog-spoof

To have the router respond to a server's watchdog packets on behalf of a remote client, use the **ipx watchdog-spoof** interface configuration command. To disable spoofing, use the **no** form of this command.

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

To define an IPX NetBIOS access list filter, use the netbios access-list interface configuration command. To remove a filter, use the **no** form of the command.

host	Indicates that the following argument is the name of a NetBIOS access filter previously defined with one or more **netbios access-list host** commands.
bytes	Indicates that the following argument is the name of a NetBIOS access filter previously defined with one or more **netbios access-list bytes** commands.
name	Name of the access list being defined. The name can be an alphanumeric string.
deny	Denies access if the conditions are matched.
permit	Permits access if the conditions are matched.
string	Character string that identifies one or more NetBIOS host names. It can be up to 14 characters long. The argument *string* can include the following wildcard characters:

- *—Match one or more characters. You can use this wildcard character only at the end of a string.
- ?—Match any single character.

offset	Decimal number that indicates the number of bytes into the packet at which the byte comparison should begin. An offset of 0 indicates the beginning of the NetBIOS packet header, which is at the end of the IPX header.
byte-pattern	Hexadecimal pattern that represents the byte pattern to match. It can be up to 16 bytes (32 digits) long and must be an even number of digits. The argument *byte-pattern* can include the following wildcard character:

- **—Match any digits for that byte.

ping [**ipx**] [*host | address*]

To check host reachability and network connectivity, use the **ping** privileged EXEC command.

ipx	(Optional) Specifies the IPX protocol.
host	(Optional) Host name of system to ping.
address	(Optional) Address of system to ping.

ping ipx {*host | address*}

To check host reachability and network connectivity, use the **ping** user EXEC command.

ipx	Specifies the IPX protocol.
host	Host name of system to ping.
address	Address of system to ping.

show ipx accounting [**checkpoint**]

To display the active accounting or checkpointed database, use the **show ipx accounting** privileged EXEC command.

checkpoint	(Optional) Displays entries in the checkpointed database.

show ipx cache

To display the contents of the IPX fast-switching cache table, use the **show ipx cache** privileged EXEC command.

show ipx interface [*interface unit*]

To display the status of the IPX interfaces configured in the router and the parameters configured on each interface, use the **show ipx interface** privileged EXEC command.

interface unit	(Optional) Interface type and number.

show ipx route [*network*]

To display the contents of the IPX routing table, use the **show ipx route** user EXEC command.

network	(Optional) Number of the network whose routing table entry you want to display. This is an eight-digit hexadecimal number that uniquely identifies a network cable segment. It can be a number in the range 1 to FFFFFFFE. You do not need to specify leading zeros in the network number. For example, for the network number 000000AA, you can enter AA.

show ipx servers [**sorted** [**name** | **net** | **type**]]

To list the IPX servers discovered through SAP advertisements, use the **show ipx servers** user EXEC command.

sorted	(Optional) Sorts the display of IPX servers according to the keyword that follows.
name	(Optional) Displays the IPX servers alphabetically by server name.
net	(Optional) Displays the IPX servers numerically by network number.
type	(Optional) Displays the IPX servers numerically by SAP service type. This is the default.

show ipx traffic

To display information about the number and type of IPX packets transmitted and received by the router, use the **show ipx traffic** user EXEC command.