appletalk event-logging

To log significant network events, use the **appletalk event-logging** command in global configuration mode. To disable this function, use the **no** form of this command.

appletalk event-logging

no appletalk event-logging

Syntax Description   This command has no arguments or keywords.

Defaults   Disabled

Command Modes   Global configuration

Command History

Release	Modification
10.0	This command was introduced.

Usage Guidelines   The **appletalk event-logging** command logs a subset of messages produced by **debug appletalk** command. These messages include routing changes, zone creation, port status, and address.

Examples   The following example enables logging of AppleTalk events:

```
appletalk routing
appletalk event-logging
```

Related Commands

Command	Description
debug appletalk	Displays information about routing changes, zone creation, port status, and address.
show appletalk globals	Displays information and settings about the AppleTalk internetwork and other parameters.

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appletalk free-trade-zone

To establish a free-trade zone, use the **appletalk free-trade-zone** command in interface configuration mode. To disable a free-trade zone, use the **no** form of this command.

> **appletalk free-trade-zone**

> **no appletalk free-trade-zone**

Syntax Description   This command has no arguments or keywords.

Defaults   Disabled

Command Modes   Interface configuration

Command History

Release	Modification
10.0	This command was introduced.

Usage Guidelines   A *free-trade zone* is a part of an AppleTalk internetwork that is accessible by two other parts of the internetwork, neither of which can access the other. You might want to create a free-trade zone to allow the exchange of information between two organizations that otherwise want to keep their internetworks isolated from each other or that do not have physical connectivity with one another.

You apply the **appletalk free-trade-zone** command to each interface attached to the common-access network. This command has the following effect on the interface:

- All incoming RTMP updates are ignored.
- All outgoing RTMP updates contain no information.
- NBP conversion of BrRq packets to FwdReq packets is not performed.

The GZL for free-trade zone nodes will be empty.

Examples   The following example establishes a free-trade zone on Ethernet interface 0:

```
interface ethernet 0
 appletalk cable-range 5-5
 appletalk zone FreeAccessZone
 appletalk free-trade-zone
```

appletalk getzonelist-filter

To filter GetZoneList (GZL) replies, use the **appletalk getzonelist-filter** command in interface configuration mode. To remove a filter, use the **no** form of this command.

> **appletalk getzonelist-filter** *access-list-number*

> **no appletalk getzonelist-filter** [*access-list-number*]

Syntax Description	*access-list-number*	Number of the access list. This is a decimal number from 600 to 699.

Defaults
No filters are preconfigured.

Command Modes
Interface configuration

Command History

Release	Modification
10.0	This command was introduced.

Usage Guidelines
GZL filters define conditions for zones only. They cannot use access lists that define conditions for network numbers or cable ranges. All network number and cable range information in the access list assigned to an interface with the **appletalk getzonelist-filter** command is ignored.

Using a GZL filter is not a complete replacement for anonymous network numbers. In order to prevent users from seeing a zone, all routers must implement the GZL filter. If there are any routers from other vendors on the network, the GZL filter will not have a consistent effect.

The Macintosh Chooser uses ZIP GZL requests to compile a list of zones from which the user can select services. Any router on the same network as the Macintosh can respond to these requests with a GZL reply. You can create a GZL filter on the router to control which zones the router mentions in its GZL replies. This has the effect of controlling the list of zones that are displayed by the Chooser.

When defining GZL filters, you should ensure that all routers on the same network filter GZL reply identically. Otherwise, the Chooser will list different zones depending upon which router responded to the request. Also, inconsistent filters can result in zones appearing and disappearing every few seconds when the user remains in the Chooser. Because of these inconsistencies, you should normally use the **appletalk getzonelist-filter** command only when all routers in the internetwork are our routers, unless the routers from other vendors have a similar feature.

Replies to GZL requests are also filtered by any **appletalk distribute-list out** filter that has been applied to the same interface. You must specify an **appletalk getzonelist-filter** command only if you want additional filtering to be applied to GZL replies. This filter is rarely needed except to eliminate zones that do not contain user services.

Examples
The following example does not include the zone Engineering in GZL replies sent out Ethernet interface 0:

```
access-list 600 deny zone Engineering
interface ethernet 0
 appletalk getzonelist-filter 600
```

Related Commands	Command	Description
	access-list additional-zones	Defines the default action to take for access checks that apply to zones.
	access-list zone	Defines an AppleTalk access list that applies to a zone.
	appletalk distribute-list out	Filters routing updates sent to other routers.
	appletalk permit-partial-zones	Permits access to the other networks in a zone when access to one of those networks is denied.

appletalk glean-packets

To derive AppleTalk Address Resolution Protocol (AARP) table entries from incoming packets, use the **appletalk glean-packets** command in interface configuration mode. To disable this function, use the **no** form of this command.

> **appletalk glean-packets**

> **no appletalk glean-packets**

Syntax Description   This command has no arguments or keywords.

Defaults   Enabled

Command Modes   Interface configuration

Command History

Release	Modification
10.0	This command was introduced.

Usage Guidelines   The Cisco IOS software automatically derives AARP table entries from incoming packets. This process, referred to as *gleaning*, speeds up the process of populating the AARP table.

Our implementation of AppleTalk does not forward packets with local source and destination network addresses. This behavior does not conform with the definition of AppleTalk in Apple Computer's *Inside AppleTalk* publication. However, this behavior is designed to prevent any possible corruption of the AARP table in any AppleTalk node that is performing MAC-address gleaning.

Examples   The following example disables the building of the AARP table using information derived from incoming packets:

```
interface ethernet 0
 appletalk address 33
 no appletalk glean-packets
```

appletalk ignore-verify-errors

To allow the Cisco IOS software to start functioning even if the network is misconfigured, use the **appletalk ignore-verify-errors** command in global configuration mode. To disable this function, use the **no** form of this command.

appletalk ignore-verify-errors

no appletalk ignore-verify-errors

Syntax Description   This command has no arguments or keywords.

Defaults   Disabled

Command Modes   Global configuration

Command History

Release	Modification
10.0	This command was introduced.

Usage Guidelines   Use this command only under the guidance of a customer engineer or other service representative. A router that starts routing in a misconfigured network will serve only to make a bad situation worse; it will not correct other misconfigured routers.

Examples   The following example allows a router to start functioning without verifying network misconfiguration:

```
appletalk ignore-verify-errors
```

appletalk iptalk

To enable IPTalk encapsulation on a tunnel interface, use the **appletalk iptalk** command in interface configuration mode. To disable IPTalk encapsulation, use the **no** form of this command.

appletalk iptalk *network zone*

no appletalk iptalk [*network zone*]

Syntax Description

network	AppleTalk network address assigned to the interface. The argument *network* is the 16-bit network number in decimal.
zone	Name of the zone for the connected AppleTalk network.

Defaults   Disabled

Command Modes   Interface configuration

Command History

Release	Modification
10.0	This command was introduced.

Usage Guidelines   Use the **appletalk iptalk** command to enable IPTalk encapsulation on a tunnel interface. This command encapsulates AppleTalk in IP packets in a manner compatible with the Columbia AppleTalk Package (CAP) IPTalk and the Kinetics IPTalk implementations. IPTalk is configured on a tunnel interface.

This command allows AppleTalk communication with UNIX hosts running older versions of CAP that do not support native AppleTalk EtherTalk encapsulations. Typically, Apple Macintosh users wishing to communicate with these servers would have their connections routed through a Kinetics FastPath router running Kinetics IPTalk software.

This command is provided as a migration command; newer versions of CAP provide native AppleTalk EtherTalk encapsulations, and the IPTalk encapsulation is no longer required. Our implementation of IPTalk assumes that AppleTalk is already being routed on the backbone; there is currently no LocalTalk hardware interface for our routers.

Our implementation of IPTalk does not support manually configured AppleTalk-to-IP address mapping (atab). The address mapping provided is the same as the Kinetics IPTalk implementation when the atab facility is not enabled. This address mapping functions as follows: The IP subnet mask used on the Ethernet interface on which IPTalk is enabled is inverted (ones complement). This result is then masked against 255 (0xFF hexadecimal). This is then masked against the low-order 8 bits of the IP address to obtain the AppleTalk node number.

Examples   The following example configuration illustrates how to configure IPTalk:

```
interface Ethernet0
 ip address 172.31.255.118 255.255.255.0
 interface Tunnel0
```

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```
tunnel source Ethernet0
tunnel mode iptalk
appletalk iptalk 30 UDPZone
```

In this configuration, the IP subnet mask would be inverted:

```
255.255.255.0 inverted yields: 0.0.0.255
```

Masked with 255 it yields 255, and masked with the low-order 8 bits of the interface IP address it yields 118.

This means that the AppleTalk address of the Ethernet 0 interface seen in the UDPZone zone is 30.118. This caveat should be noted, however: Should the host field of an IP subnet mask for an interface be more than 8 bits wide, it will be possible to obtain conflicting AppleTalk node numbers. For instance, consider a situation where the subnet mask for the Ethernet 0 interface above is 255.255.240.0, meaning that the host field is 12 bits wide.

Related Commands	Command	Description
	appletalk iptalk-baseport	Specifies the UDP port number when configuring IPTalk.
	tunnel mode	Sets the encapsulation mode for the tunnel interface.
	tunnel source	Sets the source address of a tunnel interface.

appletalk iptalk-baseport

To specify the User Datagram Protocol (UDP) port number when configuring IPTalk, use the **appletalk iptalk-baseport** command in global configuration mode. To return to the default UDP port number, use the **no** form of this command.

appletalk iptalk-baseport *port-number*

no appletalk iptalk-baseport [*port-number*]

Syntax Description

port-number	First UDP port number in the range of UDP ports used in mapping AppleTalk well-known Datagram Delivery Protocol (DDP) socket numbers to UDP ports.

Defaults   768

Command Modes   Global configuration

Command History

Release	Modification
10.0	This command was introduced.

Usage Guidelines   Implementations of IPTalk prior to April 1988 mapped well-known DDP socket numbers to privileged UDP ports starting at port number 768. In April 1988, the Network Information Center (NIC) assigned a range of UDP ports for the defined DDP well-known sockets starting at UDP port number 200 and assigned these ports the names at-nbp, at-rtmp, at-echo, and at-zis. Release 6 and later of the CAP program dynamically decides which port mapping to use. If there are no AppleTalk service entries in the UNIX system's */etc/services* file, CAP uses the older mapping starting at UDP port number 768.

The default UDP port mapping supported by our implementation of IPTalk is 768. If there are AppleTalk service entries in the UNIX system's */etc/services* file, you should specify the beginning of the UDP port mapping range with the **appletalk iptalk-baseport** command.

Examples   The following example sets the base UDP port number to 200, which is the official NIC port number, and configures IPTalk on Ethernet interface 0:

```
appletalk routing
appletalk iptalk-baseport 200
!
interface Ethernet 0
ip address 172.31.255.118 255.255.255.0
appletalk address 20.129
appletalk zone Native AppleTalk
appletalk iptalk 30.0 UDPZone
```

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Related Commands	Command	Description
	appletalk iptalk	Enables IPTalk encapsulation on a tunnel interface.

appletalk lookup-type

To specify which Name Binding Protocol (NBP) service types are retained in the name cache, use the **appletalk lookup-type** command in global configuration mode. To disable the caching of services, use the **no** form of this command.

> **appletalk lookup-type** *service-type*

> **no appletalk lookup-type** *service-type*

Syntax Description	*service-type*	AppleTalk service types. The name of a service type can include special characters from the Apple Macintosh character set. To include a special character, type a colon followed by two hexadecimal numbers. For zone names with a leading space character, enter the first character as the special sequence :20. For a list of possible types, see Table 3 in the "Usage Guidelines" section.

Defaults The entries from active adjacent Cisco routers are retained in the name cache.

Command Modes Global configuration

Command History

Release	Modification
10.0	This command was introduced.

Usage Guidelines You can issue multiple **appletalk lookup-type** commands. The Cisco IOS software does not query the entire zone, but instead polls only the connected networks. This reduces network overhead and means that the name cache contains entries only for selected services that are in a directly connected network or zone, not for all the selected services in a network or zone.

Table 3 lists some AppleTalk service types.

Table 3   AppleTalk Service Types

Service Type[1]	Description
Services for Cisco Routers	
ciscoRouter	Active adjacent Cisco routers. This service type is initially enabled by default.
IPADDRESS	Addresses of active MacIP server.
IPGATEWAY	Names of active MacIP server.
SNMP Agent	Active SNMP agents in Cisco routers.

Table 3   AppleTalk Service Types (continued)

Service Type[1]	Description
Services for Other Vendors' Routers	
AppleRouter	Apple internetwork router.
FastPath	Shiva LocalTalk gateway.
GatorBox	Cayman LocalTalk gateway.
systemRouter	Cisco's OEM router name.
Workstation	Macintosh running System 7. The machine type also is defined, so it is possible to easily identify all user nodes.

1. Type all service names exactly as shown. Spaces are valid. Do not use leading or trailing spaces when entering service names.

If you omit the *service-type* argument from the **no appletalk lookup-type** command, no service types except those relating to our devices are cached.

To display information that is stored in the name cache about the services being used by our routers and other vendors' routers, use the **show appletalk name-cache** command.

If a neighboring router is not our device or is running our software that is earlier than Release 9.0, it is possible our device will be unable to determine the name of the neighbor. This is normal behavior, and there is no workaround.

If AppleTalk routing is enabled, enabling Simple Network Management Protocol (SNMP) will automatically enable SNMP over DDP.

Name cache entries are deleted after several interval periods expire without being refreshed. (You set the interval with the **appletalk name-lookup-interval** command.) At each interval, a single request is sent via each interface that has valid addresses.

Examples   The following example caches information about GatorBox services, Apple internetwork routers, MacIP services, and workstations. Information about our devices is automatically cached.

```
appletalk lookup-type GatorBox
appletalk lookup-type AppleRouter
appletalk lookup-type IPGATEWAY
appletalk lookup-type Workstation
```

Related Commands

Command	Description
appletalk name-lookup-interval	Sets the interval between service pollings by the router on its AppleTalk interfaces.
show appletalk name-cache	Displays a list of NBP services offered by nearby routers and other devices that support NBP.
show appletalk nbp	Displays the contents of the NBP name registration table.

appletalk macip dynamic

To allocate IP addresses to dynamic MacIP clients, use the **appletalk macip dynamic** command in global configuration mode. To delete a MacIP dynamic address assignment, use the **no** form of this command.

> **appletalk macip dynamic** *ip-address* [*ip-address*] **zone** *server-zone*

> **no appletalk macip dynamic** *ip-address* [*ip-address*] **zone** *server-zone*

Syntax Description

ip-address	IP address, in four-part, dotted decimal notation. To specify a range, enter two IP addresses, which represent the first and last addresses in the range.
zone *server-zone*	Zone in which the MacIP server resides. The argument *server-zone* can include special characters from the Apple Macintosh character set. To include a special character, specify a colon followed by two hexadecimal characters. For zone names with a leading space character, enter the first character as the special sequence :20. For a list of Macintosh characters, refer to Apple Computer's *Inside AppleTalk* publication.

Defaults

No IP addresses are allocated.

Command Modes

Global configuration

Command History

Release	Modification
10.0	This command was introduced.

Usage Guidelines

Use the **appletalk macip dynamic** command when configuring MacIP.

Dynamic clients are those that accept *any* IP address assignment within the dynamic range specified.

In general, it is recommended that you do not use fragmented address ranges in configuring ranges for MacIP. However, if this is unavoidable, use the **appletalk macip dynamic** command to specify as many addresses or ranges as required and use the **appletalk macip static** command to assign a specific address or address range.

To shut down all running MacIP services, use the following command:

> **no appletalk macip**

To delete a particular dynamic address assignment from the configuration, use the following command:

> **no appletalk macip dynamic** *ip-address* [*ip-address*] **zone** *server-zone*

Examples

The following example illustrates MacIP support for dynamically addressed MacIP clients with IP addresses in the range 172.16.1.28 to 172.16.1.44:

```
! This global statement specifies the MacIP server address and zone:
appletalk macip server 172.16.1.27 zone Engineering
!
! This global statement identifies the dynamically addressed clients:
appletalk macip dynamic 172.16.1.28 172.16.1.44 zone Engineering
!
! These statements assign the IP address and subnet mask for Ethernet interface 0:
interface ethernet 0
ip address 172.16.1.27 255.255.255.0
!
! This global statement enables AppleTalk routing on the router.
appletalk routing
!
! These statements enable AppleTalk routing on the interface and
! set the zone name for the interface
interface ethernet 0
 appletalk cable-range 69-69 69.128
 appletalk zone Engineering
```

Related Commands

Command	Description
appletalk macip server	Establishes a MacIP server for a zone.
appletalk macip static	Allocates an IP address to be used by a MacIP client that has reserved a static IP address.
ip address	Sets a primary or secondary IP address for an interface.
show appletalk macip-servers	Displays status information about related servers.

appletalk macip server

To establish a MacIP server for a zone, use the **appletalk macip server** command in global configuration mode. To shut down a MacIP server, use the **no** form of this command.

appletalk macip server *ip-address* **zone** *server-zone*

no appletalk macip server *ip-address* **zone** *server-zone*

Syntax Description		
ip-address		IP address, in four-part dotted decimal notation. It is suggested that this address match the address of an existing IP interface.
zone *server-zone*		Zone in which the MacIP server resides. The argument *server-zone* can include special characters from the Apple Macintosh character set. To include a special character, specify a colon followed by two hexadecimal characters. For zone names with a leading space character, enter the first character as the special sequence :20. For a list of Macintosh characters, refer to Apple Computer's *Inside AppleTalk* publication.

Defaults   No MacIP server is established.

Command Modes   Global configuration

Command History

Release	Modification
10.0	This command was introduced.

Usage Guidelines   Use the **appletalk macip server** command when configuring MacIP.

You can configure only one MacIP server per AppleTalk zone, and the server must reside in the default zone. A server is not registered via NBP until at least one MacIP resource is configured.

You can configure multiple MacIP servers for a router, but you can assign only one MacIP server to a particular zone and only one IP interface to each MacIP server. In general, you must be able to establish an alias between the IP address you assign with the **appletalk macip server** command and an existing IP interface. For implementation simplicity, it is suggested that the address specified in this command match an existing IP interface address.

To shut down all active MacIP servers, use the following command:

no appletalk macip

To delete a specific MacIP server from the MacIP configuration, use the following command:

no appletalk macip server *ip-address* **zone** *server-zone*

Examples   The following example establishes a MacIP server on Ethernet interface 0 in AppleTalk zone Engineering. It then assigns an IP address to the Ethernet interface and enables AppleTalk routing on a router and its Ethernet interface.

```
appletalk macip server 172.19.1.27 zone Engineering
ip address 172.19.1.27 255.255.255.0
appletalk routing
interface ethernet 0
 appletalk cable-range 69-69 69.128
 appletalk zone Engineering
```

Related Commands

Command	Description
appletalk macip dynamic	Allocates IP addresses to dynamic MacIP clients.
appletalk macip static	Allocates an IP address to be used by a MacIP client that has reserved a static IP address.
ip address	Sets a primary or secondary IP address for an interface.
show appletalk macip-servers	Displays status information about related servers.

appletalk macip static

To allocate an IP address to be used by a MacIP client that has reserved a static IP address, use the **appletalk macip static** command in global configuration mode. To delete a MacIP static address assignment, use the **no** form of this command.

> **appletalk macip static** *ip-address* [*ip-address*] **zone** *server-zone*

> **no appletalk macip static** *ip-address* [*ip-address*] **zone** *server-zone*

Syntax Description

ip-address	IP address, in four-part, dotted decimal format. To specify a range, enter two IP addresses, which represent the first and last addresses in the range.
zone *server-zone*	Zone in which the MacIP server resides. The argument *server-zone* can include special characters from the Apple Macintosh character set. To include a special character, specify a colon followed by two hexadecimal characters. For zone names with a leading space character, enter the first character as the special sequence :20. For a list of Macintosh characters, refer to Apple Computer's *Inside AppleTalk* publication.

Defaults

No IP address is allocated.

Command Modes

Global configuration

Command History

Release	Modification
10.0	This command was introduced.

Usage Guidelines

Use the **appletalk macip static** command when configuring MacIP.

Static addresses are for users who require fixed addresses for IP name domain name service and for administrators who do want addresses to change so they can always know who has what IP address.

In general, it is recommended that you do not use fragmented address ranges in configuring ranges for MacIP. However, if this is unavoidable, use the **appletalk macip dynamic** command to specify as many addresses or ranges as required, and then use the **appletalk macip static** command to assign a specific address or address range.

To shut down all running MacIP services, use the following command:

> **no appletalk macip**

To delete a particular static address assignment from the configuration, use the following command:

> **no appletalk macip static** *ip-address* [*ip-address*] **zone** *server-zone*

Examples
The following example illustrates MacIP support for MacIP clients with statically allocated IP addresses. The IP addresses range is from 172.31.1.50 to 172.31.1.66. The three nodes that have the specific addresses are 172.31.1.81, 172.31.1.92, and 172.31.1.101.

```
! This global statement specifies the MacIP server address and zone:
appletalk macip server 172.31.1.27 zone Engineering
!
! These global statements identify the statically addressed clients:
appletalk macip static 172.31.1.50 172.31.1.66 zone Engineering
appletalk macip static 172.31.1.81 zone Engineering
appletalk macip static 172.31.1.92 zone Engineering
appletalk macip static 172.31.1.101 zone Engineering
!
! These statements assign the IP address and subnet mask for Ethernet interface 0:
interface ethernet 0
 ip address 172.31.1.27 255.255.255.0
!
! This global statement enables AppleTalk routing on the router.
appletalk routing
!
! These statements enable AppleTalk routing on the interface and
! set the zone name for the interface
interface ethernet 0
 appletalk cable-range 69-69 69.128
 appletalk zone Engineering
```

Related Commands

Command	Description
appletalk macip dynamic	Allocates IP addresses to dynamic MacIP clients.
appletalk macip server	Establishes a MacIP server for a zone.
ip address	Sets a primary or secondary IP address for an interface.
show appletalk macip-servers	Displays status information about related servers.

appletalk maximum-paths

To define the maximum number of equal-cost paths that the router should use when balancing the traffic load, use the **appletalk maximum-paths** command in global configuration mode. To restore the default value, use the **no** form of this command.

appletalk maximum-paths [*paths*]

no appletalk maximum-paths [*paths*]

Syntax Description

paths	(Optional) Maximum number of equal-cost paths to be used for balancing the traffic load. The *paths* argument is a decimal number in the range of 1 to 16.

Defaults

The default value is 1.

Command Modes

Global configuration

Command History

Release	Modification
11.2	This command was introduced.

Usage Guidelines

Use the **appletalk maximum-paths** command when configuring AppleTalk load balancing.

The **appletalk maximum-paths** command increases throughput by allowing the software to choose among several equal-cost, parallel paths. (Note that when paths have differing costs, the software chooses lower-cost routes in preference to higher-cost routes.)

When the value of *paths* is greater than 1, packets are distributed over the multiple equal-cost paths in round-robin fashion on a packet-by-packet basis.

Examples

The following example defines four equal-cost paths:

```
! Sets the maximum number of equal-cost paths to 4.
appletalk maximum-paths 4
```

The following example restores the default value:

```
! Restores the default value.
no appletalk maximum-paths 4
```

appletalk name-lookup-interval

To set the interval between service pollings by the router on its AppleTalk interfaces, use the **appletalk name-lookup-interval** command in global configuration mode. To purge the name cache and return to the default polling interval, use the **no** form of this command.

appletalk name-lookup-interval *seconds*

no appletalk name-lookup-interval [*seconds*]

Syntax Description	*seconds*	Interval, in seconds, between NBP lookup pollings. This can be any positive integer; there is no upper limit. It is recommended that you use an interval between 300 seconds (5 minutes) and 1200 seconds (20 minutes). The smaller the interval, the more packets are generated to handle the names. Specifying an interval of 0 purges all entries from the name cache and disables the caching of service type information that is controlled by the **appletalk lookup-type** command, including the caching of information about our routers.

Defaults   The default is 0, which purges all entries from the name cache and disables the caching of service type information.

Command Modes   Global configuration

Command History

Release	Modification
10.0	This command was introduced.

Usage Guidelines   The Cisco IOS software collects name information only for entities on connected AppleTalk networks. This reduces overhead.

If you enter an interval of 0, all polling for services (except ciscoRouter) is disabled. If you reenter a nonzero value, the configuration specified by the **appletalk lookup-type** command is reinstated. You cannot disable the lookup of ciscoRouter.

Examples   The following example sets the lookup interval to 20 minutes:

```
appletalk name-lookup-interval 1200
```

Related Commands

Command	Description
appletalk lookup-type	Specifies which NBP service types are retained in the name cache.
show appletalk name-cache	Displays a list of NBP services offered by nearby routers and other devices that support NBP.

appletalk permit-partial-zones

To permit access to the other networks in a zone when access to one of those networks is denied, use the **appletalk permit-partial-zones** command in global configuration mode. To deny access to all networks in a zone if access to one of those networks is denied, use the **no** form of this command.

> **appletalk permit-partial-zones**

> **no appletalk permit-partial-zones**

Syntax Description

This command has no arguments or keywords.

Defaults

Access is denied.

Command Modes

Global configuration

Command History

Release	Modification
10.0	This command was introduced.

Usage Guidelines

The permitting of partial zones provides IP-style access control.

When you enable the use of partial zones, the NBP protocol cannot ensure the consistency and uniqueness of name bindings.

If you enable the use of partial zones, access control behavior is compatible with that of Cisco IOS Release 8.3.

Examples

The following example allows partial zones:

```
appletalk permit-partial-zones
```

Related Commands

Command	Description
access-list additional-zones	Defines the default action to take for access checks that apply to zones.
access-list zone	Defines an AppleTalk access list that applies to a zone.
appletalk distribute-list out	Filters routing updates sent to other routers.
appletalk getzonelist-filter	Filters GZL replies.

appletalk pre-fdditalk

To enable the recognition of pre-FDDITalk packets, use the **appletalk pre-fdditalk** command in global configuration mode. To disable this function, use the **no** form of this command.

appletalk pre-fdditalk

no appletalk pre-fdditalk

Syntax Description   This command has no arguments or keywords.

Defaults   Disabled

Command Modes   Global configuration

Command History

Release	Modification
10.0	This command was introduced.

Usage Guidelines   Use this command to have the Cisco IOS software recognize AppleTalk packets sent on the FDDI ring from routers that are running Cisco software releases prior to Release 9.0(3) or Release 9.1(2).

Examples   The following example disables the recognition of pre-FDDITalk packets:

```
no appletalk pre-fdditalk
```

appletalk protocol

To specify the routing protocol to use on an interface, use the **appletalk protocol** command in interface configuration mode. To disable a routing protocol, use the **no** form of this command.

appletalk protocol {**aurp** | **eigrp** | **rtmp**}

no appletalk protocol {**aurp** | **eigrp** | **rtmp**}

Syntax Description

aurp	Specifies that the routing protocol to use is AppleTalk Update-Based Routing Protocol (AURP). You can enable AURP only on tunnel interfaces.
eigrp	Specifies that the routing protocol to use is Enhanced Interior Gateway Routing Protocol (EIGRP).
rtmp	Specifies that the routing protocol to use is Routing Table Maintenance Protocol (RTMP), which is enabled by default.

Defaults   RTMP

Command Modes   Interface configuration

Command History

Release	Modification
10.3	This command was introduced.

Usage Guidelines   You can configure an interface to use both RTMP and Enhanced IGRP. If you do so, route information learned from Enhanced IGRP will take precedence over information learned from RTMP. The Cisco IOS software will, however, continue to send out RTMP routing updates.

You cannot disable RTMP without first enabling AURP or Enhanced IGRP.

Enabling AURP automatically disables RTMP.

You can enable AURP only on tunnel interfaces.

Examples   The following example enables AURP on tunnel interface 1:

```
interface tunnel 1
 appletalk protocol aurp
```

The following example enables AppleTalk Enhanced IGRP on serial interface 0:

```
interface serial 0
 appletalk protocol eigrp
```

The following example disables RTMP on serial interface 0:

```
interface serial 0
 no appletalk protocol rtmp
```

Cisco IOS AppleTalk and Novell IPX Command Reference

Related Commands	Command	Description
	appletalk routing	Enables AppleTalk routing.

appletalk proxy-nbp

To assign a proxy network number for each zone in which there is a router that supports only nonextended AppleTalk, use the **appletalk proxy-nbp** command in global configuration mode. To delete the proxy, use the **no** form of this command.

> **appletalk proxy-nbp** *network-number zone-name*

> **no appletalk proxy-nbp** [*network-number zone-name*]

Syntax Description		
	network-number	Network number of the proxy. It is a 16-bit decimal number and must be unique on the network. This is the network number that will be advertised by the Cisco IOS software as if it were a real network number.
	zone-name	Name of the zone that contains the devices that support only nonextended AppleTalk. The name can include special characters from the Apple Macintosh character set. To include a special character, type a colon followed by two hexadecimal characters. For zone names with a leading space character, enter the first character as the special sequence :20.

Defaults No proxy network number is assigned.

Command Modes Global configuration

Command History	Release	Modification
	10.0	This command was introduced.

Usage Guidelines The **appletalk proxy-nbp** command provides compatibility between AppleTalk Phase 1 and AppleTalk Phase 2 networks.

Proxy routes are included in outgoing RTMP updates as if they were directly connected routes, although they are not really directly connected, since they are not associated with any interface. Whenever an NBQ BrRq for the zone in question is generated by anyone anywhere in the internetwork, an NBP FwdReq is directed to any router connected to the proxy route. The Phase 2 router, which is the only router directly connected, converts the FwdReq to LkUps, which are understood by Phase 1 routers, and sends them to every network in the zone.

In an environment in which there are Phase 1 and Phase 2 networks, you must specify at least one **appletalk proxy-nbp** command for each zone that has a nonextended-only AppleTalk router.

The proxy network number you assign with the **appletalk proxy-nbp** command cannot also be assigned to a router, nor can it also be associated with a physical network.

You must assign only one proxy network number for each zone. However, you can define additional proxies with different network numbers to provide redundancy. Each proxy generates one or more packets for each forward request it receives. All other packets sent to the proxy network address are discarded. Defining redundant proxy network numbers increases the NBP traffic linearly.

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Examples   The following example defines network number 60 as an NBP proxy for the zone *Twilight*:

```
appletalk proxy-nbp 60 Twilight
```

Related Commands

Command	Description
show appletalk route	Displays all entries or specified entries in the AppleTalk routing table.

appletalk require-route-zones

To prevent the advertisement of routes (network numbers or cable ranges) that have no assigned zone, use the **appletalk require-route-zones** command in global configuration mode. To disable this option and allow the Cisco IOS software to advertise to its neighbors routes that have no network-zone association, use the **no** form of this command.

appletalk require-route-zones

no appletalk require-route-zones

Syntax Description   This command has no arguments or keywords.

Defaults   Enabled

Command Modes   Global configuration

Command History

Release	Modification
10.0	This command was introduced.

Usage Guidelines   The **appletalk require-route-zones** command ensures that all networks have zone names prior to advertisement to neighbors.

The **no appletalk require-route-zones** command enables behavior compatible with Cisco IOS Release 8.3.

Using this command helps prevent ZIP protocol storms. ZIP protocol storms can arise when corrupt routes are propagated and routers broadcast ZIP requests to determine the network/zone associations.

When the **appletalk require-route-zones** command is enabled, the Cisco IOS software will not advertise a route to its neighboring routers until it has obtained the network-zone associations. This effectively limits the storms to a single network rather than the entire internet.

As an alternative to disabling this option, use the **appletalk getzonelist-filter** interface configuration command to filter *empty* zones from the list presented to users.

You can configure different zone lists on different interfaces. However, you are discouraged from doing this because AppleTalk users expect to have the same user zone lists at any end node in the internet.

The filtering provided by the **appletalk require-route-zones** command does not prevent explicit access via programmatic methods, but should be considered a user optimization to suppress unused zones. You should use other forms of AppleTalk access control lists to actually *secure* a zone or network.

Examples   The following example configures a router to prevent the advertisement of routes that have no assigned zone:

```
appletalk require-route-zones
```

appletalk route-cache

To enable fast switching on all supported interfaces, use the **appletalk route-cache** command in interface configuration mode. To disable fast switching, use the **no** form of this command.

appletalk route-cache

no appletalk route-cache

Syntax Description   This command has no arguments or keywords.

Defaults   Enabled on all interfaces that support fast switching.

Command Modes   Interface configuration

Command History

Release	Modification
10.0	This command was introduced.

Usage Guidelines   Fast switching allows higher throughput by switching a packet using a cache created by previous packets. Fast-switching is enabled by default on all interfaces that support fast switching, including Token Ring, Frame Relay, PPP, High-Level Data Link Control (HDLC), SMDS, and ATM. Note that fast switching is not supported over X.25 and Link Access Procedure, Balanced (LAPB), encapsulations, or on the CSC-R16, CSC-1R, or CSC-2R STR Token Ring adapters.

Packet transfer performance is generally better when fast switching is enabled. However, you may want to disable fast switching in order to save memory space on interface cards and to help avoid congestion when high-bandwidth interfaces are writing large amounts of information to low-bandwidth interfaces.

Fast switching of extended AppleTalk is supported on serial lines with several encapsulation types (for example, SMDS and HDLC). Fast switching of nonextended AppleTalk is not supported on serial lines.

Examples   The following example disables fast switching on an interface:

```
interface ethernet 0
 appletalk cable-range 10-20
 appletalk zone Twilight
 no appletalk route-cache
```

Related Commands

Command	Description
show appletalk cache	Displays the routes in the AppleTalk fast-switching table on an extended AppleTalk network.

appletalk route-redistribution

To redistribute Routing Table Maintenance Protocol (RTMP) routes into AppleTalk Enhanced Interior Gateway Routing Protocol (EIGRP) and vice versa, use the **appletalk route-redistribution** command in global configuration mode. To keep Enhanced IGRP and RTMP routes separate, use the **no** form of this command.

appletalk route-redistribution

no appletalk route-redistribution

Syntax Description   This command has no arguments or keywords.

Defaults   Enabled when Enhanced IGRP is enabled.

Command Modes   Global configuration

Command History

Release	Modification
10.3	This command was introduced.

Usage Guidelines   Redistribution allows routing information generated by one protocol to be advertised in another.

In the automatic redistribution of routes between Enhanced IGRP and RTMP, an RTMP hop is treated as having a slightly worse metric than an equivalent Enhanced IGRP hop on a 9.6-kbps link. This allows Enhanced IGRP to be preferred over RTMP except in the most extreme of circumstances. Typically, you will see this only when using tunnels. If you want an Enhanced IGRP path in a tunnel to be preferred over an alternate RTMP path, you should set the interface delay and bandwidth parameters on the tunnel to bring the metric of the tunnel down to being better than a 9.6-kbps link.

Examples   In the following example, RTMP routing information is not redistributed:

```
appletalk routing eigrp 23
no appletalk route-redistribution
```

appletalk routing

To enable AppleTalk routing, use the **appletalk routing** command in global configuration mode. To disable AppleTalk routing, use the **no** form of this command.

appletalk routing [**eigrp** *router-number*]

no appletalk routing [**eigrp** *router-number*]

Syntax Description	**eigrp** *router-number*	(Optional) Specifies the Enhanced Interior Gateway Routing Protocol (EIGRP) routing protocol. The argument *router-number* is the router ID. It can be a decimal integer from 1 to 2,147,483,647. It must be unique in your AppleTalk Enhanced IGRP internetwork.

Defaults   Disabled

Command Modes   Global configuration

Command History

Release	Modification
10.0	This command was introduced.
10.3	The **eigrp** keyword was added.

Usage Guidelines   If you do not specify the optional keyword and argument, this command enables AppleTalk routing using the RTMP routing protocol.

You can configure multiple AppleTalk Enhanced IGRP processes on a router. To do so, assign each a different router ID number. (Note that IP and IPX Enhanced IGRP use an autonomous system number to enable Enhanced IGRP, while AppleTalk Enhanced IGRP uses a router ID.)

If you configure a device with a router number that is the same as that of a neighboring router, the Cisco IOS software will refuse to start AppleTalk Enhanced IGRP on interfaces that connect with that neighboring router.

⚠️
Caution   When disabling Enhanced IGRP routing with the **no appletalk routing eigrp** command, all interfaces enabled for only Enhanced IGRP (and not also RTMP) lose their AppleTalk configuration. If you want to disable Enhanced IGRP and use RTMP instead on specific interfaces, first enable RTMP on each interface using the **appletalk protocol rtmp** interface configuration command. Then, disable Enhanced IGRP routing using the **no appletalk routing eigrp** command. This process ensures that you do not lose AppleTalk configurations on interfaces for which you want to use RTMP.

Examples   The following example enables AppleTalk protocol processing:

```
appletalk routing
```

The following example enables AppleTalk Enhanced IGRP routing on router number 22:

```
appletalk routing eigrp 22
```

	Command	Description
Related Commands	**appletalk address**	Enables nonextended AppleTalk routing on an interface.
	appletalk cable-range	Enables an extended AppleTalk network.
	appletalk protocol	Specifies the routing protocol to use on an interface.
	appletalk zone	Sets the zone name for the connected AppleTalk network.

appletalk rtmp jitter

To set the interval timer on a router between subsequent AppleTalk Routing Table Maintenance Protocol (RTMP) routing updates, use the **appletalk rtmp jitter** command in global configuration mode. To disable this mode, use the **no** form of the command.

> **appletalk rtmp jitter** *percent*

> **no appletalk rtmp jitter** *percent*

Syntax Description	*percent*	Ranges from 0 to 100.

Defaults
0 percent

Command Modes
Global configuration

Command History

Release	Modification
10.3	This command was introduced.

Usage Guidelines
The interval between subsequent routing updates is randomized to reduce the probability of synchronization with the routing updates from other routers on the same link. This is done by maintaining a separate transmission interval timer for each advertising interface.

The **appletalk rtmp jitter** command allows the user to stagger the routing updates and to avoid sending the updates every 10 seconds.

Examples
The following example sets AppleTalk RTMP updates to fluctuate 20 percent of the update interval time:

```
appletalk rtmp jitter 20
```

Related Commands

Command	Description
show appletalk globals	Displays information and settings about the AppleTalk internetwork and other parameters.

appletalk rtmp-stub

To enable AppleTalk Routing Table Maintenance Protocol (RTMP) stub mode, use the **appletalk rtmp-stub** command in interface configuration mode. To disable this mode, use the **no** form of the command.

> **appletalk rtmp-stub**

> **no appletalk rtmp-stub**

Syntax Description   This command has no arguments or keywords.

Defaults   Disabled

Command Modes   Interface configuration

Command History

Release	Modification
11.1	This command was introduced.

Usage Guidelines   This command enables routers running Enhanced IGRP and RTMP to reduce the amount of CPU processing that RTMP modules use. RTMP modules send "stub" packets instead of full RTMP packets when you enable stub mode.

A stub packet is only the first tuple of an RTMP packet. The first tuple indicates the network number range assigned to that network. End nodes use stub packets to determine if their node number is in the right network range.

Upon startup, an end node on an extended network uses stub packets to verify that its previous node number is still within the segment's network number range. If it is, the end node reuses the previous node number and stores the network number range information. If an end node learns upon startup that its previous node number does not fall within the segment's new network number range, the end node picks a new node number based on the new network number range and stores the new network number range information.

After startup, end nodes use subsequent stub packets to verify that the network number range sent in the stub packets precisely matches its stored network number range. In this way, stub packets keep end nodes alive.

When routers that have stub mode enabled receive full RTMP packets, they discard these packets because Enhanced IGRP (not RTMP) is expected to deliver routes. Discarding full RTMP packets when stub mode is enabled saves the overhead processing of RTMP routes.

You can also use stub mode on "end" networks. End networks are those to which no other routers attach. Because no other routers are listening for routes on these end segments, there is no need for the end router to send full RTMP packets to these end segments. The end router can send stub packets to keep end nodes alive.

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Examples   The following example turns on AppleTalk RTMP stub mode:

```
appletalk rtmp-stub
```

Related Commands

Command	Description
show appletalk interface	Displays the status of the AppleTalk interfaces configured in the Cisco IOS software and the parameters configured on each interface.

appletalk send-rtmps

To allow the Cisco IOS software to send routing updates to its neighbors, use the **appletalk send-rtmps** command in interface configuration mode. To block updates from being sent, use the **no** form of this command.

appletalk send-rtmps

no appletalk send-rtmps

Syntax Description   This command has no arguments or keywords.

Defaults   Routing updates are sent.

Command Modes   Interface configuration

Command History

Release	Modification
10.0	This command was introduced.

Usage Guidelines   If you block the sending of routing updates, an interface on the network that has AppleTalk enabled is not "visible" to other routers on the network.

Examples   The following example prevents a router from sending routing updates to its neighbors:

```
no appletalk send-rtmps
```

Related Commands

Command	Description
appletalk require-route-zones	Prevents the advertisement of routes (network numbers or cable ranges) that have no assigned zone.
appletalk strict-rtmp-checking	Performs maximum checking of routing updates to ensure their validity.
appletalk timers	Changes the routing update timers.

appletalk static cable-range

To define a static route or a floating static route on an extended network, use the **appletalk static cable-range** command in global configuration mode. To remove a static route, use the **no** form of this command.

> **appletalk static cable-range** *cable-range* **to** *network.node* [**floating**] **zone** *zone-name*

> **no appletalk static cable-range** *cable-range* **to** *network.node* [**floating**] [**zone** *zone-name*]

Syntax Description

cable-range	Cable range value. The argument specifies the start and end of the cable range, separated by a hyphen. These values are decimal number from 0 to 65,279. The starting network number must be less than or equal to the ending network number.
to *network.node*	AppleTalk network address of the remote router. The argument *network* is the 16-bit network number in the range 0 to 65,279. The argument *node* is the 8-bit node number in the range 0 to 254. Both numbers are decimal.
floating	(Optional) Specifies that this route is a floating static route, which is a static route that can be overridden by a dynamically learned route.
zone *zone-name*	Name of the zone on the remote network. The name can include special characters from the Apple Macintosh character set. To include a special character, type a colon followed by two hexadecimal characters. For zone names with a leading space character, enter the first character as the special sequence :20.

Defaults

No static routes are defined.

Command Modes

Global configuration

Command History

Release	Modification
10.0	This command was introduced.

Usage Guidelines

You cannot delete a particular zone from the zone list without first deleting the static route.

When links associated with static routes are lost, traffic may stop being forwarded even though alternative paths might be available. For this reason, you should be careful when assigning static routes.

Floating static routes are a kind of static route that can be overridden by dynamically learned routes. Floating static routes allow you to switch to another path whenever routing information for a destination is lost. One application of floating static routes is to provide back-up routes in topologies where dial-on-demand routing is used.

If you configure a floating static route, the Cisco IOS software checks to see if an entry for the route already exists in its routing table. If a dynamic route already exists, the floating static route is placed in reserve as part of a floating static route table. When the software detects that the dynamic route is no

longer available, it replaces the dynamic route with the floating static route for that destination. If the route is later relearned dynamically, the dynamic route replaces the floating static route and the floating static route is again placed in reserve.

To avoid the possibility of a routing loop occurring, by default floating static routes are not redistributed into other dynamic protocols.

Examples

The following example creates a static route to the remote router whose address is 1.2 on the remote network 100-110 that is in the remote zone *Remote*:

```
appletalk static cable-range 100-110 to 1.2 zone Remote
```

The following example creates a floating static route to the remote router whose address is 1.3 on the remote network 100-110 that is in the remote zone *Remote*:

```
appletalk static cable-range 100-110 to 1.3 floating zone Remote
```

Related Commands

Command	Description
appletalk static network	Defines a static route or a floating static route on a nonextended network.
show appletalk route	Displays all entries or specified entries in the AppleTalk routing table.
show appletalk static	Displays information about the statically defined routes.

appletalk static network

To define a static route or a floating static route on a nonextended network, use the **appletalk static network** command in global configuration mode. To remove a static route, use the **no** form of this command.

appletalk static network *network-number* **to** *network*.*node* [**floating**] **zone** *zone-name*

no appletalk static network *network-number* **to** *network*.*node* [**floating**] [**zone** *zone-name*]

Syntax Description

network-number	AppleTalk network number assigned to the interface. It is a 16-bit decimal number and must be unique on the network. This is the network number that will be advertised by the Cisco IOS software as if it were a real network number.
to *network*.*node*	AppleTalk network address of the remote router. The argument *network* is the 16-bit network number in the range 0 to 65279. The argument *node* is the 8-bit node number in the range 0 to 254. Both numbers are decimal.
floating	(Optional) Specifies that this route is a floating static route, which is a static route that can be overridden by a dynamically learned route.
zone *zone-name*	Name of the zone on the remote network. The name can include special characters from the Apple Macintosh character set. To include a special character, type a colon followed by two hexadecimal characters. For zone names with a leading space character, enter the first character as the special sequence :20.

Defaults

No static routes are defined.

Command Modes

Global configuration

Command History

Release	Modification
10.0	This command was introduced.

Usage Guidelines

You cannot delete a particular zone from the zone list without first deleting the static route.

When links associated with static routes are lost, traffic may stop being forwarded even though alternative paths might be available. For this reason, you should be careful when assigning static routes.

Floating static routes are a kind of static route that can be overridden by dynamically learned routes. Floating static routes allow you to switch to another path whenever routing information for a destination is lost. One application of floating static routes is to provide back-up routes in topologies where dial-on-demand routing is used.

If you configure a floating static route, the Cisco IOS software checks to see if an entry for the route already exists in its routing table. If a dynamic route already exists, the floating static route is placed in reserve as part of a floating static route table. When the Cisco IOS software detects that the dynamic

route is no longer available, it replaces the dynamic route with the floating static route for that destination. If the route is later relearned dynamically, the dynamic route replaces the floating static route and the floating static route is again placed in reserve.

To avoid the possibility of a routing loop occurring, by default floating static routes are not redistributed into other dynamic protocols.

Examples   The following example creates a static route to the remote router whose address is 1.2 on the remote network 200 that is in the remote zone *Remote*:

```
appletalk static network 200 to 1.2 zone Remote
```

The following example creates a floating static route to the remote router whose address is 1.3 on the remote network 200 that is in the remote zone *Remote*:

```
appletalk static network 200 to 1.3 floating zone Remote
```

Related Commands

Command	Description
appletalk static cable-range	Defines a static route or a floating static route on an extended network.
show appletalk route	Displays all entries or specified entries in the AppleTalk routing table.
show appletalk static	Displays information about the statically defined routes.

appletalk strict-rtmp-checking

To perform maximum checking of routing updates to ensure their validity, use the **appletalk strict-rtmp-checking** command in global configuration mode. To disable the maximum checking, use the **no** form of this command.

appletalk strict-rtmp-checking

no appletalk strict-rtmp-checking

Syntax Description   This command has no arguments or keywords.

Defaults   Maximum checking is provided.

Command Modes   Global configuration

Command History

Release	Modification
10.0	This command was introduced.

Usage Guidelines   Strict Routing Table Maintenance Protocol (RTMP) checking discards any RTMP packets arriving from routers that are not directly connected to the local router. This means that the local router does not accept any routed RTMP packets. Note that RTMP packets that need to be forwarded are not discarded.

Examples   The following example disables strict checking of RTMP routing updates:

```
no appletalk strict-rtmp-checking
```

Related Commands

Command	Description
appletalk require-route-zones	Prevents the advertisement of routes (network numbers or cable ranges) that have no assigned zone.
appletalk send-rtmps	Allows the Cisco IOS software to send routing updates to its neighbors.
appletalk timers	Changes the routing update timers.

appletalk timers

To change the routing update timers, use the **appletalk timers** command in global configuration mode. To return to the default routing update timers, use the **no** form of this command.

> **appletalk timers** *update-interval valid-interval invalid-interval*

> **no appletalk timers** [*update-interval valid-interval invalid-interval*]

Syntax Description

update-interval	Time, in seconds, between routing updates sent to other routers on the network. The default is 10 seconds.
valid-interval	Time, in seconds, that the Cisco IOS software will consider a route valid without having heard a routing update for that route. The default is 20 seconds (two times the update interval).
invalid-interval	Time, in seconds, that the route is retained after the last update. The default is 60 seconds (three times the valid interval).

Defaults

update-interval argument: 10 seconds
valid-interval argument: 20 seconds
invalid-interval argument: 60 seconds

Command Modes

Global configuration

Command History

Release	Modification
10.0	This command was introduced.

Usage Guidelines

Routes older than the time specified by the *update-interval* argument are considered suspect. Once the period of time specified by the *valid-interval* argument has elapsed without having heard a routing update for a route, the route becomes bad and is eligible for replacement by a path with a higher (less favorable) metric. During the period for the *invalid-interval* argument, routing updates include this route with a special "notify neighbor" metric. If this timer expires, the route is deleted from the routing table.

Note that you should not attempt to modify the routing timers without fully understanding the ramifications of doing so. Many other AppleTalk router vendors provide no facility for modifying their routing timers; should you adjust the Cisco IOS software AppleTalk timers such that routing updates do not arrive at these other routers within the normal interval, it is possible to degrade or destroy AppleTalk network connectivity.

If you change the routing update interval, be sure to do so for *all* routers on the network.

In rare instances, you might want to change this interval, such as when a device is busy and cannot send routing updates every 10 seconds or when slower routers are incapable of processing received routing updates in a large network.

Examples   The following example increases the update interval to 20 seconds and the route-valid interval to 40 seconds:

```
appletalk timers 20 40 60
```

appletalk virtual-net

To add AppleTalk users who are logging in on an asynchronous line and using PPP encapsulation to an internal network, use the **appletalk virtual-net** command in global configuration mode. To remove an internal network, use the **no** form of this command.

appletalk virtual-net *network-number zone-name*

no appletalk virtual-net *network-number zone-name*

Syntax Description		
network-number	AppleTalk network address assigned to the interface. This is a 16-bit decimal network number in the range 0 to 65279. The network address must be unique across your AppleTalk internetwork.	
zone-name	Name of a new or existing zone to which the AppleTalk user will belong.	

Defaults   No virtual networks are predefined.

Command Modes   Global configuration

Command History

Release	Modification
10.3	This command was introduced.

Usage Guidelines   A virtual network is a logical network that exists only within the Cisco IOS software. It enables you—and by extension anyone who dials into the router—to add an asynchronous interface to either a new or an existing AppleTalk zone.

Virtual networks work with both extended and nonextended AppleTalk networks. On Cisco routers, you can only set a virtual network on an asynchronous line on the auxiliary port.

If you issue the **appletalk virtual-net** command and specify a new AppleTalk zone name, the network number you specify is the only one associated with this zone. If you issue this command and specify an existing AppleTalk zone, the network number you specify is added to the existing zone.

The selected AppleTalk zone (either new or existing) is highlighted when you open the Macintosh Chooser window. From this window, you can access all available zones.

Examples   The following example adds a user to the virtual network number 3 and specifies the zone name renegade:

```
apple virtual-net 3 renegade
```

Related Commands

Command	Description
appletalk address	Enables nonextended AppleTalk routing on an interface.
appletalk cable-range	Enables an extended AppleTalk network.
appletalk client-mode	Allows users to access an AppleTalk zone when dialing into an asynchronous line (on Cisco routers, only via the auxiliary port).
appletalk zone	Sets the zone name for the connected AppleTalk network.
show appletalk zone	Displays all entries or specified entries in the zone information table.

appletalk zip-query-interval

To specify the interval at which the Cisco IOS software sends ZIP queries, use the **appletalk zip-query-interval** command in global configuration mode. To return to the default interval, use the **no** form of this command.

appletalk zip-query-interval *interval*

no zip-query-interval

Syntax Description	*interval*	Interval, in seconds, at which the software sends ZIP queries. It can be any positive integer. The default is 10 seconds.

Defaults   10 seconds

Command Modes Global configuration

Command History

Release	Modification
10.0	This command was introduced.

Usage Guidelines The software uses the information received in response to its ZIP queries to update its zone table.

Examples The following example changes the ZIP query interval to 40 seconds:

```
appletalk zip-query-interval 40
```

appletalk zip-reply-filter

To configure a ZIP reply filter, use the **appletalk zip-reply-filter** command in interface configuration mode. To remove a filter, use the **no** form of this command.

appletalk zip-reply-filter *access-list-number*

no appletalk zip-reply-filter [*access-list-number*]

Syntax Description	*access-list-number* Number of the access list. This is a decimal number from 600 to 699.

Defaults   No access lists are predefined.

Command Modes   Interface configuration

Command History

Release	Modification
10.3	This command was introduced.

Usage Guidelines

ZIP reply filters limit the visibility of zones from routers in unprivileged regions throughout the internetwork. These filters filter the zone list for each network provided by a router to neighboring routers to remove restricted zones.

ZIP reply filters apply to downstream routers, not to end stations on networks attached to the local router. With ZIP reply filters, when downstream routers request the names of zones in a network, the local router replies with the names of visible zones only. It does not reply with the names of zones that have been hidden with a ZIP reply filter. To filter zones from end stations, use GZL filters.

ZIP reply filters determine which networks and cable ranges the Cisco IOS software sends out in routing updates. Before sending out routing updates, the software excludes the networks and cable ranges whose zones have been completely denied access by ZIP reply filters. Excluding this information ensures that routers receiving these routing updates do not send unnecessary ZIP requests.

Examples

The following example assigns a ZIP reply filter to Ethernet interface 0:

```
interface ethernet 0
 appletalk zip-reply-filter 600
```

Related Commands

Command	Description
access-list additional-zones	Defines the default action to take for access checks that apply to zones.
access-list zone	Defines an AppleTalk access list that applies to a zone.
show appletalk interface	Displays the status of the AppleTalk interfaces configured in the Cisco IOS software and the parameters configured on each interface.

appletalk zone

To set the zone name for the connected AppleTalk network, use the **appletalk zone** command in interface configuration mode. To delete a zone, use the **no** form of this command.

> **appletalk zone** *zone-name*

> **no appletalk zone** [*zone-name*]

Syntax Description

zone-name	Name of the zone. The name can include special characters from the Apple Macintosh character set. To include a special character, type a colon followed by two hexadecimal characters. For zone names with a leading space character, enter the first character as the special sequence :20.

Defaults   No zone name is set.

Command Modes   Interface configuration

Command History

Release	Modification
10.0	This command was introduced.

Usage Guidelines   If discovery mode is not enabled, you can specify the **appletalk zone** command only after an **appletalk address** or **appletalk cable-range** command. You can issue it multiple times if it follows the **appletalk cable-range** command.

On interfaces that have discovery mode disabled, you must assign a zone name in order for AppleTalk routing to begin.

If an interface is using extended AppleTalk, the first zone specified in the list is the default zone. The Cisco IOS software always uses the default zone when registering NBP names for interfaces. Nodes in the network will select the zone in which they will operate from the list of zone names valid on the cable to which they are connected.

If an interface is using nonextended AppleTalk, repeated execution of the **appletalk zone** command will replace the interface's zone name with the newly specified zone name.

The **no** form of the command deletes a zone name from a zone list or deletes the entire zone list if you do not specify a zone name. For nonextended AppleTalk interfaces, the zone name argument is ignored. You should delete any existing zone-name list using the **no appletalk zone** interface subcommand before configuring a new zone list.

The zone list is cleared automatically when you issue an **appletalk address** or **appletalk cable-range** command. The list also is cleared if you issue the **appletalk zone** command on an *existing* network; this can occur when adding zones to a set of routers until all routers are in agreement.

Examples   The following example assigns the zone name Twilight to an interface:

```
interface Ethernet 0
 appletalk cable-range 10-20
 appletalk zone Twilight
```

The following example uses AppleTalk special characters to set the zone name to *Cisco:A5Zone*:

```
appletalk zone Cisco:A5Zone
```

Related Commands	**Command**	**Description**
	appletalk address	Enables nonextended AppleTalk routing on an interface.
	appletalk cable-range	Enables an extended AppleTalk network.
	show appletalk zone	Displays all entries or specified entries in the zone information table.