

## Banyan VINES Commands

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

**clear vines cache** [**interface** *interface* | **neighbor** *address* | **server** *network*]

To delete entries from the VINES fast-switching cache, use the **clear vines cache** EXEC command. If you do not specify any keywords or arguments, all entries in the fast-switch cache are deleted.

<b>interface</b> <i>interface</i>	(Optional) Deletes from the fast-switching cache table any entry that has one or more paths that go through the specified interface.
<b>neighbor</b> <i>address</i>	(Optional) Deletes from the fast-switching cache table any entry that has one or more paths via the specified neighbor router.
<b>server</b> <i>network</i>	(Optional) Deletes from the fast-switching cache table any entry whose network number part of the destination address matches the specified network address. The argument <i>network</i> can be either a 4-byte hexadecimal number or a 4-byte decimal number (if you have issued a <b>vines decimal</b> command).

**clear vines ipc** *number*

To delete VINES IPC connection blocks from the router, use the **clear vines ipc** EXEC command.

<i>number</i>	Hexadecimal number of the IPC connection to delete.
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**clear vines neighbor** {*network* | \*}

To delete entries from the neighbor table, use the **clear vines neighbor** EXEC command.

- network*      Network number of the neighbor whose entry should be deleted from the neighbor table. The argument *network* can be either a 4-byte hexadecimal number or a 4-byte decimal number (if you have issued a **vines decimal** command).
- \*              Deletes all entries from the neighbor path table except the entry for the local router.

**clear vines route** {*network* | \*}

To delete network addresses from the routing table, use the **clear vines route** EXEC command.

- network*      Network number of the entry to delete from the routing table. The argument *network* can be either a 4-byte hexadecimal number, a 4-byte decimal number (if you have issued a **vines decimal** command), or a host name (if you have issued a **vines host** command).
- \*              Deletes all entries from the routing table.

**clear vines traffic**

To clear all VINES-related statistics that are displayed by the **show vines** command, use the **clear vines traffic** EXEC command.

**ping** [**vines**] [*address*]

To determine basic network connectivity, use the **ping** EXEC command.

<b>vines</b>	(Optional) Specifies the VINES protocol. If you omit this keyword, the router prompts for it.
<i>address</i>	(Optional) Address of system to ping. If you omit the address, the router prompts for it.

**show vines access** [*access-list-number*]

To display the VINES access lists currently defined, use the **show vines access** EXEC command. If no access list number is specified, all access lists are displayed.

<i>access-list-number</i>	(Optional) Number of the access list to display.
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**show vines cache** [*address* | **interface** *type number* | **neighbor** *address* | **server** *network*]

To display the contents of the VINES fast-switching cache, use the **show vines cache** EXEC command. If no keywords or arguments are specified, all entries in the fast-switching cache are displayed.

<i>address</i>	(Optional) Displays the entry in the fast-switching cache for the specified station.
<b>interface</b> <i>type</i> <i>number</i>	(Optional) Displays all neighbors in the fast-switching cache that are accessible via the specified interface type and number.
<b>neighbor</b> <i>address</i>	(Optional) Displays all routes in the VINES fast-switching cache that have the specified neighbor as their first hop. The argument <i>address</i> is a 6-byte hexadecimal number in the format <i>network:host</i> , where <i>network</i> is 4 bytes and <i>host</i> is 2 bytes, a 4-byte decimal number in the same format (if you have issued a <b>vines decimal</b> command), or a host name (if you have issued a <b>vines host</b> command).

**server** (Optional) Displays all entries in the VINES  
*network* fast-switching cache that are in the specified logical  
network. The argument *network* can be either a  
4-byte hexadecimal number or a 4-byte decimal  
number (if you have issued a **vines decimal**  
command).

#### **show vines host** [*name*]

To display the entries in the VINES host name table, use the **show vines host** EXEC command. If no name is specified, all entries in the host name table are displayed.

*name* (Optional) Displays the entry in the VINES name  
table that has the specified name.

#### **show vines interface** [*type number*]

To display status of the VINES interfaces configured in the router and the parameters configured on each interface, use the **show vines interface** EXEC command. If no interface is specified, values for all interfaces are displayed.

*type* (Optional) Interface type.

*number* (Optional) Interface number.

#### **show vines ipc**

To display information about any currently active IPC connections, use the **show vines ipc** EXEC command.

**show vines neighbor** [*address* | **interface** *type number* | **server** *number*]

To display the entries in the VINES neighbor table, use the **show vines neighbor** EXEC command. If no keywords or arguments are specified, all entries in the neighbor table are displayed.

<i>address</i>	(Optional) Displays the entry for the specified neighbor.
<b>interface</b> <i>type number</i>	(Optional) Displays all neighbor paths in the neighbor table that use the specified interface.
<b>server</b> <i>number</i>	(Optional) Displays all entries in the neighbor table that have the specified network number.

**show vines route** [*number* | **neighbor** *address*]

To display the contents of the VINES routing table, use the **show vines route** EXEC command. If no keywords or arguments are specified, all entries in the routing table are displayed.

<i>number</i>	(Optional) Displays the routing table entry for the specified network.
<b>neighbor</b> <i>address</i>	(Optional) Displays all routes in the VINES routing table that have the specified neighbor as their first hop.

**show vines service** [**fs** | **nsm** | **ss** | **vs**]

To display information about the router's current time, use the **show vines service** EXEC command.

<b>fs</b>	(Optional) Displays file service information.
<b>nsm</b>	(Optional) Displays network and system management service information.
<b>ss</b>	(Optional) Displays server service information.
<b>vs</b>	(Optional) Displays security service information.

### **show vines traffic** [*type number*]

To display the statistics maintained about VINES protocol traffic, use the **show vines traffic** EXEC command. If no interface is specified, values for all interfaces are displayed.

*type number* (Optional) Displays values for a specific interface.

### **trace** [**vines** | **oldvines**] [*address*]

To determine the path that a packet takes when traversing a VINES network, use the **trace** EXEC command.

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|-----------------|---|
| <b>vines</b>    | (Optional) Specifies the VINES protocol. This trace is compatible with the Banyan VINES traceroute function.  |
| <b>oldvines</b> | (Optional) Specifies the VINES protocol. This trace is compatible with our <b>trace</b> function prior to Cisco IOS Release 10.2.                                 |
| <i>address</i>  | (Optional) Address of a node. This is a 6-byte hexadecimal number in the format <i>network:host</i> , where <i>network</i> is 4 bytes and <i>host</i> is 2 bytes. |

### **[no] vines access-group** *access-list-number*

To apply an access list to an interface, use the **vines access-group** interface configuration command. To remove the access list, use the **no** form of this command.

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| <i>access-list-number</i> | 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, <i>access-list-number</i> is a decimal number from 1 to 100. For extended access lists, <i>access-list-number</i> is a decimal number from 101 to 200. |
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## **Banyan VINES Commands**

**vines access-list** *access-list-number* { **deny** | **permit** } *protocol*  
*source-address source-mask* [*source-port source-port-mask*]  
*destination-address destination-mask* [*destination-port*  
*destination-port-mask*]  
**no vines access-list** *access-list-number*

To create an extended VINES access list, use this version of the **vines access-list** global configuration command. To remove an extended access list, use the **no** form of this command.

<i>access-list-number</i>	Number of the access list. This is a decimal number from 101 to 200.
<b>deny</b>	Denies access if the conditions are matched.
<b>permit</b>	Allows access if the conditions are matched.
<i>protocol</i>	VINES protocol ID number or name. The number can be a value from 1 to 255 or one of the following protocol keywords: <ul style="list-style-type: none"> <li>• <b>arp</b>—Address Resolution Protocol</li> <li>• <b>icp</b>—Internet Control Protocol</li> <li>• <b>ip</b>—VINES Internet Protocol</li> <li>• <b>ipc</b>—Interprocess Communications</li> <li>• <b>rtp</b>—Routing Update Protocol</li> <li>• <b>spp</b>—Sequence Packets Protocol 276</li> </ul>
<i>source-address</i>	Address of the network from which the packet is being sent. This is a 6-byte hexadecimal number in the format <i>network:host</i> , where <i>network</i> is 4 bytes and <i>host</i> is 2 bytes.
<i>source-mask</i>	Mask to be applied to <i>source-address</i> . This is a 6-byte hexadecimal value. Place ones in the bit positions you want to mask. These bits correspond to the bits in the address that should be ignored.

<i>source-port</i>	Number of the local port from which the packet is being sent. This argument is required when the protocol specified is IPC or SPP, and is not accepted when any other protocol is specified. It can be a number from 0x0000 through 0xFFFF. Well-known local port numbers have values from 0x0001 through 0x01FF. Transient local port numbers have values from 0x0200 through 0xFFFE. See this command in the <i>Router Products Command Reference</i> publication for a list of supported values.
<i>source-port-mask</i>	(Optional) Mask to be applied to <i>source-port</i> . This argument is required when the protocol specified is IPC or SPP, and is not accepted when any other protocol is specified. It can be a number from 0x0000 through 0xFFFF. These bits correspond to the bits in the port that should be ignored.
<i>destination-address</i>	VINES address of the network to which the packet is being sent. This is a 6-byte hexadecimal number in the format <i>network:host</i> , where <i>network</i> is 4 bytes and <i>host</i> is 2 bytes.
<i>destination-mask</i>	Mask to be applied to <i>destination-address</i> . This is a 6-byte hexadecimal value. Place ones in the bit positions you want to mask. These bits correspond to the bits in the address that should be ignored.
<i>destination-port</i>	Number of the local port to which the packet is being sent. This argument is required when the protocol specified is IPC or SPP, and is not accepted when any other protocol is specified. It can be a number from 0x0000 through 0xFFFF. Well-known local port numbers have values from 0x0001 through 0x01FF. Transient local port numbers have values from 0x0200 through 0xFFFE. See this command in the <i>Router Products Command Reference</i> publication for a list of supported values.



<i>destination-port-mask</i>	(Optional) Mask to be applied to <i>destination-port</i> . This argument is required when the protocol specified is IPC or SPP, and is not accepted when any other protocol is specified. It can be a number from 0x0000 through 0xFFFF. These bits correspond to the bits in the port that should be ignored.
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**vines access-list** *access-list-number* {**deny** | **permit**} *source-address*  
*source-mask*  
**no vines access-list** *access-list-number*

To create a simple VINES access list, use this version of the **vines access-list** global configuration command. To remove a simple access list, use the **no** form of this command.

<i>access-list-number</i>	Access list number. It is a number from 201 to 300.
<b>deny</b>	Denies access if the conditions are matched.
<b>permit</b>	Allows access if the conditions are matched.
<i>source-address</i>	Address of the network from which the packet is being sent. This is a 6-byte hexadecimal number in the format <i>network:host</i> , where <i>network</i> is 4 bytes and <i>host</i> is 2 bytes.
<i>source-mask</i>	Mask to be applied to <i>source-address</i> . This is a 6-byte hexadecimal value. Place ones in the bit positions you want to mask. These bits correspond to the bits in the address that should be ignored.

**vines access-list** *access-list-number* { **deny** | **permit** } *protocol*  
*source-address source-mask [source-port] destination-address*  
*destination-mask [destination-port]*  
**no vines access-list** *access-list-number*

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

<i>access-list-number</i>	Number of the access list. This is a decimal number from 1 to 100.
<b>deny</b>	Denies access if the conditions are matched.
<b>permit</b>	Allows access if the conditions are matched.
<i>protocol</i>	VINES protocol ID number or name. It can be a value from 1 to 255 or one of the following protocol keywords: <ul style="list-style-type: none"> <li>• <b>arp</b>—Address Resolution Protocol</li> <li>• <b>icp</b>—Internet Control Protocol</li> <li>• <b>ip</b>—VINES Internet Protocol</li> <li>• <b>ipc</b>—Interprocess Communications</li> <li>• <b>rtp</b>—Routing Update Protocol</li> <li>• <b>spp</b>—Sequence Packets Protocol</li> </ul>
<i>source-address</i>	Address of the network from which the packet is being sent. This is a 6-byte hexadecimal number in the format <i>network:host</i> , where <i>network</i> is 4 bytes and <i>host</i> is 2 bytes.
<i>source-mask</i>	Mask to be applied to <i>source-address</i> . This is a 6-byte hexadecimal value. Place ones in the bit positions you want to mask. These bits correspond to the bit in the address that should be ignored.

<i>source-port</i>	(Optional) Number of the local port from which the packet is being sent. This argument is required when the protocol specified is IPC or SPP, and is not accepted when any other protocol is specified. It can be a number from 0x0000 through 0xFFFF. Well-known local port numbers have values from 0x0001 through 0x01FF. Transient local port numbers have values from 0x0200 through 0xFFFFE. See this command in the <i>Router Products Command Reference</i> publication for a list of supported values.
<i>destination-address</i>	Address of the network to which the packet is being sent. This is a 6-byte hexadecimal number in the format <i>network:host</i> , where <i>network</i> is 4 bytes and <i>host</i> is 2 bytes.
<i>destination-mask</i>	Mask to be applied to <i>destination-address</i> . This is a 6-byte hexadecimal value. Place ones in the bit positions you want to mask. These bits correspond to the bits in the address that should be ignored.
<i>destination-port</i>	(Optional) Number of the local port to which the packet is being sent. This argument is required when the protocol specified is IPC or SPP, and is not accepted when any other protocol is specified. It can be a number from 0x0000 through 0xFFFF. Well-known local port numbers have values from 0x0001 through 0x01FF. Transient local port numbers have values from 0x0200 through 0xFFFFE. See this command in the <i>Router Products Command Reference</i> publication for a list of supported values.

**[no] vines arp-enable [dynamic]**

To enable the processing of ARP packets, use the **vines arp-enable** interface configuration command. To disable the processing of ARP packets, use the **no** form of this command. By default, the interface always responds to ARP and SARP requests.

**dynamic** (Optional) Respond to ARP and SARP requests on this interface only if there are no other VINES servers present.

**[no] vines decimal**

To display VINES addresses in decimal notation, use the **vines decimal** global configuration command. To return to displaying the addresses in hexadecimal, use the **no** form of this command. By default, addresses are displayed in hexadecimal.

**vines encapsulation [arpa | snap | vines-tr]**

**no vines encapsulation**

To set the MAC-level encapsulation used for VINES broadcast packets, use the **vines encapsulation** interface configuration command. To disable encapsulation, use the **no** form of this command.

**arpa** (Optional) ARPA encapsulation. This is the default encapsulation for Ethernet interfaces.

**snap** (Optional) SNAP encapsulation. This encapsulation uses an IEEE 802.2 SNAP header. This is the default encapsulation for all media except Ethernet and Token Ring.

**vines-tr** (Optional) Our VINES Token Ring encapsulation. This is the default encapsulation for Token Ring interfaces.

**vines host** *name address*

**no vines host** *name*

To associate a host name with a VINES address, use the **vines host** global configuration command. To delete the association, use the **no** form of this command. The default is to display hosts by address.

<i>name</i>	VINES host name. It can be any length and sequence of characters separated by white space.
<i>address</i>	Number of a VINES network. You enter it in the current VINES radix, in the format <i>network:host</i> , where <i>network</i> is 4 bytes and <i>host</i> is 2 bytes.

**vines input-network-filter** *access-list-number*

**no vines input-network-filter**

To filter the information contained in routing messages received from other stations, use the **vines input-network-filter** interface configuration command. To disable this filtering, use the **no** form of this command.

<i>access-list-number</i>	Number of the access list. It is a decimal number from 201 to 300.
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**vines input-router-filter** *access-list-number*

**no vines input-router-filter**

To filter received routing messages based upon the address of the sending station, use the **vines input-router-filter** interface configuration command. To disable this filtering, use the **no** form of this command.

<i>access-list-number</i>	Number of the access list. It is a decimal number from 201 to 300.
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**vines metric** [*whole* [*fractional*]]

**no vines metric**

To enable VINES routing on an interface, use the **vines metric** interface configuration command. To disable VINES routing, use the **no** form of this command.

*whole* (Optional) Integer cost value associated with the interface. It is optional for all interface types. If you omit *metric*, the router automatically chooses a reasonable value. See this command in the *Router Products Command Reference* publication for a list of supported values. If metric is zero, then a fractional portion must be supplied.

*fractional* (Optional) Fractional cost value associated with the interface expressed in 10,000ths. It is optional for all interface types, but may only be present if a whole number portion is specified. This number will be rounded to the nearest 1/16. If you omit *metric*, the router automatically chooses a reasonable value. See this command in the *Router Products Command Reference* publication for a list of supported values.

**vines neighbor** *address mac-address encapsulation* [*whole* [*fractional*]]

**no vines neighbor** *address mac-address*

To specify a static path to a neighbor station, use the **vines neighbor** interface configuration command. To remove a static path from the neighbor table, use the **no** form of this command.

*address* VINES IP address of the station to which to add or remove a static path.

*mac-address* MAC-level address used to reach the neighbor station.

<i>encapsulation</i>	Encapsulation type to use on the media. It can be one of the following values: <ul style="list-style-type: none"> <li>• <b>arpa</b>—Use ARPA encapsulation. This is recommended for Ethernet interfaces.</li> <li>• <b>snap</b>—Use an IEEE 802.2 SNAP header. This is recommended for FDDI interfaces.</li> <li>• <b>vines-tr</b>—Use our VINES Token Ring encapsulation. This is recommended for Token Ring interfaces.</li> </ul>
<i>whole</i>	(Optional) Delay metric to use on the neighbor. If you omit this argument, the metric used is that specified with the <b>vines metric</b> command for the selected interface.
<i>fractional</i>	(Optional) Fractional metric value associated with this neighbor. This number will be rounded to the nearest 1/16. If you omit both whole and fractional numbers, then the interface metric will be used.

**vines output-network-filter** *access-list-number*  
**no vines output-network-filter**

To filter the information contained in routing updates transmitted to other stations, use the **vines output-network-filter** interface configuration command. To disable this filtering, use the **no** form of this command.

*access-list-number*     Number of the access list. It is a decimal number from 201 to 300.

### [no] vines propagate [dynamic]

To modify how routers forward a broadcast packet, use the **vines propagate** interface configuration command. To return to the default dynamic forwarding scheme, use the **no** form of this command. If you omit the keyword, broadcast messages are always propagated on the interface.

**dynamic** (Optional) Propagates broadcasts on this interface only if there are no servers on any local network.

### vines redirect [*seconds*]

#### no vines redirect

To determine how frequently a router sends an RTP redirect message on an interface, use the **vines redirect** interface configuration command. To restore the default, use the **no** form of this command.

*seconds* (Optional) Interval, in seconds, that the router waits after sending a redirect message on an interface before it sends another redirect message on that same interface. If you specify a value of 0, the router never sends redirect messages on that interface. The default is 1 second.

### [no] vines route *number address [whole [fractional]]*

To specify a static route to a server, use the **vines route** global configuration command. To remove a static route from the routing table, use the **no** form of this command. By default, no static routes are specified.

*number* Number of the server to which to add or remove the static route.

*address* VINES IP address of the neighbor station to use to reach the server.

*whole* (Optional) Metric value assigned to this route.

*fractional* (Optional) Fractional cost value associated with this route.

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### **[no] vines route-cache**

To enable fast switching, use the **vines route-cache** interface configuration command. To disable fast switching, use the **no** form of this command.

### **vines routing** [*address* | **recompute**]

#### **no vines routing**

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

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| <i>address</i>   | (Optional) Network address of the router. You should specify an address on a router that does not have any Ethernet or FDDI interfaces. You also can specify an address in the unlikely event that two routers map themselves to the same address. |
| <b>recompute</b> | (Optional) Dynamically redetermine the router's network address.   |

### **[no] vines serverless** [**dynamic** | **broadcast**]

To configure a Banyan VINES network that does not have a server, use the **vines serverless** interface configuration command. To turn off this functionality, use the **no** form of this command. If all keywords are omitted, broadcasts are always forwarded toward one server.

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| <b>dynamic</b>   | (Optional) Forward broadcasts toward one server only if there are no servers present on this interface. This is the default. |
| <b>broadcast</b> | (Optional) Flood broadcasts out all router interfaces in order to reach all servers.   |

### **[no] vines split-horizon**

To use split horizon when sending routing updates, use the **vines split-horizon** interface configuration command. To disable split horizon, use the **no** form of this command.

### **[no] vines srtp-enabled**

To enable Sequenced Routing Update Protocol (SRTP), use the **vines srtp-enabled** global configuration command. To disable SRTP, use the **no** form of this command.

**vines time access-group** *access-list-number*

**no vines time access-group**

To control the servers from which the router will accept VINES network time, use the **vines time access-group** global configuration command. To accept VINES network time messages from any server, use the **no** form of this command.

*access-list-number*      Number of the access list. It is a decimal number from 201 to 300.

**vines time destination** *address*

**no vines time destination**

To control the servers to which the router sends VINES network time, use the **vines time destination** global configuration command. To send VINES network time messages to all servers, use the **no** form of this command.

*address*      Destination VINES address for the network time messages.

### **[no] vines time participate**

To enable the router's participation in the synchronization of time across a VINES network, use the **vines time participate** global configuration command. To disable the router's participation in time synchronization, use the **no** form of this command.

**[no] vines time set-system**

To set the router's internal time based upon the received VINES network time, use the **vines time set-system** global configuration command. To uncouple the router's time from VINES network time, use the **no** form of this command.

**[no] vines time use-system**

To set VINES network time based upon the router's internal time, use the **vines time use-system** global configuration command. To uncouple VINES network time from the router's time, use the **no** form of this command.

**[no] vines update deltas**

To modify the manner in which routing updates are sent, use the **vines update deltas** interface configuration command. To return to the default method, use the **no** form of this command.

**[no] vines update interval** [*seconds*]

To modify the frequency at which routing updates are sent, use the **vines update interval** interface configuration command. To return to the default frequency, use the **no** form of this command.

<i>seconds</i>	Interval, in seconds, between the sending of periodic VINES routing updates. This can be a number in the range 0 to $2^{32}$ and will be rounded up to the nearest 5 seconds. The default value is 90 seconds. If you omit <i>seconds</i> or specify a value of 0, the default value of 90 seconds is used.
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