



cnMatrix ACL Parameters and Commands

Commands	Description	CLI Mode
<pre>ip access-list {standard <access-list-number (1-1000)> extended <access-list-number (1001-65535)> }</pre> <p>Available options:</p> <ul style="list-style-type: none"> <code>standard <access-list-number (1-1000)></code> - Configures a Standard access-list with the specified access list number. Standard access lists create filters based on IP address and network mask only (L3 filters only). This value ranges from 1 to 1000. <code>extended <access-list-number (1001-65535)></code> - Configures an Extended access-list with the specified access list number. Extended access lists enables specification of filters based on the type of protocol, range of TCP/UDP ports as well as the IP address and network mask (Layer 4 filters). This value ranges from 1001 to 65535. 	Configures IP ACLs and enters into the standard or extended Access-list configuration mode. Depending on the standard or extended option chosen by the user, this command returns a corresponding IP Access list configuration mode. ACLs on the system perform both access control and Layer 3 field classification.	Global Configuration
<pre>egress access-list mode {ip mac}</pre> <p>Available options:</p> <ul style="list-style-type: none"> <code>ip</code> - Configures the Egress access-list mode as IP which supports IP based PCL(Policy Control List) at egress <code>mac</code> - Configures the Egress access-list mode as MAC which supports MAC based PCL(Policy Control List) at egress . <div>  <p>Note: existing access list configurations should be deleted before setting Egress Filter Mode as IP.</p> </div>	Configures the default egress access-list mode as IP based or MAC based.	Global Configuration
<pre>permit {any host <src-ip-address> <network-src-ip> <mask>} [{ any host <dest-ip-address> <network-dest-ip> <mask>}] [redirect {interface <iftyp> <ifnum>} [priority <value (1-255)>]</pre> <p>Available options:</p> <ul style="list-style-type: none"> <code>any host <src-ip-address> <network-src-ip><mask></code> - Specifies the source IP address. The source IP address can be : <ul style="list-style-type: none"> <code>any</code> – Packets from any source are matched. <code>host <src-ip-address></code> - Packets from this IPv4 source address are matched. 	Configures the packets to be forwarded depending on the associated parameters.	Standard IP ACL Configuration

cnMatrix ACL Parameters and Commands

<ul style="list-style-type: none"> <ul style="list-style-type: none"> o <code><network-src-ip> <mask></code> - Packets are matched using this source IPv4 network and mask. • <code>any host <dest-ip-address> <network-dest-ip><mask></code> - Specifies the destination IP address. The destination IP can be: <ul style="list-style-type: none"> o <code>any</code> - Packets to any destination are matched o <code>host <src-ip-address></code> - Packets for this IPv4 destination address are matched • <code><network-src-ip> <mask></code> - Packets are matched using this destination IPv4 network and mask <code>redirect</code> - Redirects the packets to the destination interface or set of interfaces. <ul style="list-style-type: none"> o <code><iftype></code>- Redirects the packets to the specified type of interface. o <code><ifnum></code>- Redirects the packets to the specified interface identifier. This is a unique value that represents the specific interface. This value is a combination of slot number and port number separated by a slash, for interface types gigabitethernet, fastethernet and extreme-ethernet. • <code>priority <value(1-255)></code> - Configures the priority of the filter to decide which filter rule is applicable when the packet matches with more than one filter rules. Lower value of 'filter priority' implies a higher priority. This value ranges from 1 to 255. 		
<pre>deny{ any host <src-ip-address> <network-src-ip> <mask> } [{ any host <dest-ip-address> <network-dest-ip> <mask> }] priority <value (1-255)></pre> <p>Available options:</p> <ul style="list-style-type: none"> • <code>any host <src-ip-address> <network-src-ip><mask></code> - Specifies the source IP address. The source IP can be: 	<p>Denies traffic if the conditions defined in the deny statement are matched.</p>	<p>Standard IP ACL Configuration</p>


cnMatrix ACL Parameters and Commands

<ul style="list-style-type: none"> <ul style="list-style-type: none"> ○ <code>any</code> – Packets from any source are matched. ○ <code>host <src-ip-address></code> - Packets from this IPv4 source address are matched. ○ <code><network-src-ip> <mask></code> - Packets are matched using this source IPv4 network and mask. • <code>any host <dest-ip-address> <network-dest-ip><mask></code> - Specifies the source IP address. The source IP address can be : <ul style="list-style-type: none"> ○ <code>any</code> - Packets to any destination are matched ○ <code>host <src-ip-address></code> - Packets for this IPv4 destination address are matched ○ <code><network-src-ip> <mask></code> - Packets are matched using this destination IPv4 network and mask. • <code>priority <value(1-255)></code> - Configures the priority of the filter to decide which filter rule is applicable when the packet matches with more than one filter rules. Lower value implies a higher priority. This value ranges from 1 to 255. 		
<pre>permit { ip ospf pim <protocol-type (1-255)> } { any host <src-ip-address> <src-ip-address> <mask> } { any host <dest-ip-address> <dest-ip-address> <mask> } [{tos{max-reliability max-throughput min-delay normal <value (0-7)>}} dscp <value (0-63)>}] [redirect {interface <iftyp> <ifnum>} [priority <value (1-255)>]]</pre> <p>Available options:</p> <ul style="list-style-type: none"> • <code>ip ospf pim <protocol-type (1-255)></code> - Specifies the type of protocol for the packet. It can also be a protocol number. <div data-bbox="219 1705 311 1816">  </div> <div data-bbox="331 1705 747 1822" style="background-color: #e6f2ff; padding: 5px;"> <p>Note: Protocol type with the value 255 indicates that protocol can be anything and it will not be checked against the action to be performed.</p> </div>	<p>Configures traffic for a particular protocol packet if the conditions defined in the permit statement are matched.</p>	<p>Extended IP ACL Configuration</p>

cnMatrix ACL Parameters and Commands

<ul style="list-style-type: none"> • <code>any host <src-ip-address> <network-src-ip><mask></code> - Specifies the source IP address. The source IP address can be : <ul style="list-style-type: none"> ○ <code>any</code> - Packets from any source are matched. ○ <code>host <src-ip-address></code> - Packets from this IPv4 source address are matched. ○ <code><network-src-ip> <mask></code> - Packets are matched using this source IPv4 network and mask. ○ <code>mask</code> to use with the source IP address • <code>any host <dest-ip-address> <network-dest-ip><mask></code> - Specifies the destination IP address. The destination IP can be: <ul style="list-style-type: none"> ○ <code>any</code> - Packets to any destination are matched ○ <code>host <src-ip-address></code> - Packets for this IPv4 destination address are matched ○ <code><network-src-ip> <mask></code> - Packets are matched using this destination IPv4 network and mask. • <code>tos</code> - Matches the protocol packets based on the following type of service configuration: The options are: <ul style="list-style-type: none"> ○ <code>max-reliability</code>- Matches the protocol packets having TOS field set as high reliability. ○ <code>max-throughput</code> - Matches the protocol packets having TOS field set as high throughput. ○ <code>min-delay</code>- Matches the protocol packets having TOS field set as low delay. ○ <code>normal</code> - Allows all protocol packets. Does not check for the TOS field in the packets. ○ <code><value (0-7)></code>- Matches the protocol packets based on the TOS value set. This value ranges from 0 to 7. • <code>dscp <value (0-63)></code> - Configures the Differentiated Services Code Point value to be checked against the packet, This value provides the quality of service control. This value ranges from 0 to 63. 		
--	--	--

cnMatrix ACL Parameters and Commands

<ul style="list-style-type: none"> <code>redirect</code> - Redirects the packets to the destination interface or set of interfaces. <ul style="list-style-type: none"> <code><iftype></code>- Redirects the packets to the specified type of interface. <code><ifnum></code>- Redirects the packets to the specified interface identifier. This is a unique value that represents the specific interface. This value is a combination of slot number and port number separated by a slash, for interface types gigabitethernet, fastethernet and extreme-ethernet. <code>priority <value(1-255)></code> - Configures the priority of the filter to decide which filter rule is applicable when the packet matches with more than one filter rules. Lower value implies a higher priority. This value ranges from 1 to 255. 		
<pre>deny {ip ospf pim <protocol-type (1-255)>} { any host <src-ip-address> <src-ip-address> <mask>} { any host <dest-ip-address> <dest-ip-address> <mask>} [tos{max-reliability max-throughput min-delay normal <value (0-7)>}] [dscp <value (0-63)>]] [priority <value (1-255)>]</pre> <p>Available options:</p> <ul style="list-style-type: none"> <code>ip ospf pim <protocol-type (1-255)></code> - Specifies the type of protocol for the packet. It can also be a protocol number. <div data-bbox="217 1444 315 1558">  </div> <div data-bbox="331 1444 748 1570" style="background-color: #e6f2ff; padding: 5px;"> <p>Note: Protocol type with the value 255 indicates that protocol can be anything and it will not be checked against the action to be performed.</p> </div> <ul style="list-style-type: none"> <code>any host <src-ip-address> <network-src-ip><mask></code> - Specifies the source IP address. The source IP can be: <ul style="list-style-type: none"> <code>any</code> - Packets from any source are matched. <code>host <src-ip-address></code> - Packets from this IPv4 source address are matched. 	<p>Denies traffic for a particular protocol packet if the conditions defined in the deny statement are matched.</p>	<p>Extended IP ACL Configuration</p>

cnMatrix ACL Parameters and Commands

<ul style="list-style-type: none"> <ul style="list-style-type: none"> o <code><network-src-ip> <mask></code> - Packets are matched using this source IPv4 network and mask. • <code>any host <dest-ip-address> <network-dest-ip><mask></code> - Specifies the source IP address. The source IP address can be : <ul style="list-style-type: none"> o <code>any</code> - Packets to any destination are matched o <code>host <src-ip-address></code> - Packets for this IPv4 destination address are matched o <code><network-src-ip> <mask></code> - Packets are matched using this destination IPv4 network and mask. • <code>tos</code> - Matches the protocol packets based on the following type of service configuration: The options are: <ul style="list-style-type: none"> o <code>max-reliability</code>- Matches the protocol packets having TOS field set as high reliability. o <code>max-throughput</code> - Matches the protocol packets having TOS field set as high throughput. o <code>min-delay</code>- Matches the protocol packets having TOS field set as low delay. o <code>normal</code> - Allows all protocol packets. Does not check for the TOS field in the packets. o <code><value (0-7)></code>- Matches the protocol packets based on the TOS value set. This value ranges from 0 to 7. • <code>dscp <value (0-63)></code> - Configures the Differentiated Services Code Point value to be checked against the packet, This value provides the quality of service control. This value ranges from 0 to 63. • <code>priority <value(1-255)></code> - Configures the priority of the filter to decide which filter rule is applicable when the packet matches with more than one filter rules. Lower value implies a higher priority. This value ranges from 1 to 255. 		
<pre>permit tcp {any host <src-ip-address> <src-ip-address> <src-mask> } [{gt <port-number (1-65535)> lt <port-number (1-65535)> eq <port-number (1-65535)> range <port-number</pre>	Configures the TCP packets to be forwarded based on the	Extended IP ACL Configuration

cnMatrix ACL Parameters and Commands

<pre>(1-65535)> <port-number (1-65535)>}}{ any host <dest-ip-address> <dest- ip-address> <dest-mask> }[{gt <port- number (1-65535)> lt <port-number (1-65535)> eq <port-number (1- 65535)> range <port-number (1- 65535)> <port-number (1-65535)>}}[{ ack rst }}[{tos{max- reliability max-throughput min- delay normal <tos-value (0-7)>} dscp <value (0-63)>}}] [redirect {interface <ifXtype> <ifnum>}] [priority <value(1-255)>]</pre> <p>Available options:</p> <ul style="list-style-type: none"> • any host <src-ip-address> <network-src-ip><mask> - Specifies the source IP address. The source IP can be: <ul style="list-style-type: none"> ◦ any – Packets from any source are matched. ◦ host <src-ip-address> - Packets from this IPv4 source address are matched. ◦ <network-src-ip> <mask> - Packets are matched using this source IPv4 network and mask. • gt <port-number (1-65535)> - Matches the TCP packets having the TCP source port numbers greater than the specified port number. This value ranges from 1 to 65535. • lt <port-number (1-65535)> - Matches the TCP packets having the TCP source port numbers less than the specified port number. This value ranges from 1 to 65535. • eq <port-number (1-65535)> - Matches the TCP packets having the TCP source port numbers equal to specified port number. This value ranges from 1 to 65535. • range <port-number (1-65535)> <port-number (1-65535)>- Matches the TCP packets having the TCP source port numbers within the specified range. This value ranges from 1 to 65535. This value specifies the minimum port number and the maximum port number values. • any host <dest-ip-address> <network-dest-ip><mask> - Specifies the 	<p>associated parameters.</p>	
---	-------------------------------	--

cnMatrix ACL Parameters and Commands

<p>source IP address. The source IP address can be :</p> <ul style="list-style-type: none"> ○ <code>any</code> - Packets to any destination are matched ○ <code>host <src-ip-address></code> - Packets for this IPv4 destination address are matched ○ <code><network-src-ip> <mask></code> - Packets are matched using this destination IPv4 network and mask. <ul style="list-style-type: none"> • <code>gt <port-number (1-65535)></code> - Matches the TCP packets having the TCP destination port numbers greater than the specified port number. This value ranges from 1 to 65535. • <code>lt <port-number (1-65535)></code> - Matches the TCP packets having the TCP destination port numbers less than the specified port number. This value ranges from 1 to 65535. • <code>eq <port-number (1-65535)></code> - Matches the TCP packets having the TCP destination port numbers equal to specified port number. This value ranges from 1 to 65535. • <code>range <port-number (1-65535)> <port-number (1-65535)></code> - Matches the TCP packets having the TCP destination port numbers within the specified range. This value ranges from 1 to 65535. This value specifies the minimum port number and the maximum port number values. • <code>ack</code> - Matches TCP packets with the TCP ACK bit set. • <code>rst</code> - Matches TCP packets with the TCP RST bit set. • <code>eq <port-number (1-65535)></code> - Matches the TCP control packets having the TCP source port numbers equal to specified port number. This value ranges from 1 to 65535. • <code>tos</code> - Matches the TCP packets based on the following type of service configuration: The options are: <ul style="list-style-type: none"> ○ <code>max-reliability</code> - Matches the TCP packets having TOS field set as high reliability. ○ <code>max-throughput</code> - Matches the TCP packets having TOS field set as high throughput. 		
--	--	--

cnMatrix ACL Parameters and Commands

<ul style="list-style-type: none"> <ul style="list-style-type: none"> ○ <code>min-delay</code>- Matches the protocol TCP having TOS field set as low delay. ○ <code>normal</code> - Allows all TCP packets. Does not check for the TOS field in the packets. ○ <code><value (0-7)></code>- Matches the TCP packets based on the TOS value set. This value ranges from 0 to 7. • <code>dscp <value (0-63)></code> - Configures the Differentiated Services Code Point value to be checked against the packet, This value provides the quality of service control. This value ranges from 0 to 63. • <code>redirect</code> - Redirects the packets to the destination interface or set of interfaces. <ul style="list-style-type: none"> ○ <code><iftyp></code>- Redirects the packets to the specified type of interface. ○ <code><ifnum></code>- Redirects the packets to the specified interface identifier. This is a unique value that represents the specific interface. This value is a combination of slot number and port number separated by a slash, for interface types gigabitethernet, fastethernet and extreme-ethernet. ○ <code><iface_list></code>- Redirects the packets to the the list of interfaces • <code>priority <value(1-255)></code> - Configures the priority of the filter to decide which filter rule is applicable when the packet matches with more than one filter rules. Lower value of 'filter priority' implies a higher priority. This value ranges from 1 to 255. 		
<pre>deny tcp {any host <src-ip-address> <src-ip-address> <src-mask> } [{gt <port-number (1-65535)> lt <port- number (1-65535)> eq <port-number (1-65535)> range <port-number (1- 65535)> <port-number (1-65535)>}] { any host <dest-ip-address> <dest- ip-address> <dest-mask> } [{gt <port- number (1-65535)> lt <port-number (1-65535)> eq <port-number (1- 65535)> range <port-number (1- 65535)> <port-number (1-65535)>}] {</pre>	<p>Configures the TCP packets to be rejected based on the associated parameters.</p>	<p>Extended IP ACL Configuration</p>

cnMatrix ACL Parameters and Commands

<pre>ack rst }][tos{max- reliability max-throughput min- delay normal <tos-value(0-7)>} dscp <value (0-63)>]][priority <value(1- 255)>]</pre> <p>Available options:</p> <ul style="list-style-type: none"> • any host <src-ip-address> <network-src-ip><mask> - Specifies the source IP address. The source IP can be: <ul style="list-style-type: none"> ○ any – Packets from any source are matched. ○ host <src-ip-address> - Packets from this IPv4 source address are matched. ○ <network-src-ip> <mask> - Packets are matched using this source IPv4 network and mask. • gt <port-number (1-65535)> - Matches the TCP packets having the TCP source port numbers greater than the specified port number. This value ranges from 1 to 65535. • lt <port-number (1-65535)> - Matches the TCP packets having the TCP source port numbers less than the specified port number. This value ranges from 1 to 65535. • eq <port-number (1-65535)> - Matches the TCP packets having the TCP source port numbers equal to specified port number. This value ranges from 1 to 65535. • range <port-number (1-65535)> <port-number (1-65535)>- Matches the TCP packets having the TCP source port numbers within the specified range. This value ranges from 1 to 65535. This value specifies the minimum port number and the maximum port number values. • any host <dest-ip-address> <network-dest-ip><mask> - Specifies the source IP address. The source IP address can be : <ul style="list-style-type: none"> ○ any - Packets to any destination are matched ○ host <src-ip-address> - Packets for this IPv4 destination address are matched ○ <network-src-ip> <mask> - Packets are matched using 		
---	--	--

cnMatrix ACL Parameters and Commands

<p>this destination IPv4 network and mask.</p> <ul style="list-style-type: none"> • <code>gt <port-number (1-65535)></code> - Matches the TCP packets having the TCP destination port numbers greater than the specified port number. This value ranges from 1 to 65535. • <code>lt <port-number (1-65535)></code> - Matches the TCP packets having the TCP destination port numbers less than the specified port number. This value ranges from 1 to 65535. • <code>eq <port-number (1-65535)></code> - Matches the TCP packets having the TCP destination port numbers equal to specified port number. This value ranges from 1 to 65535. • <code>range <port-number (1-65535)> <port-number (1-65535)></code> - Matches the TCP packets having the TCP destination port numbers within the specified range. This value ranges from 1 to 65535. This value specifies the minimum port number and the maximum port number values. • <code>ack</code> - Matches TCP packets with the TCP ACK bit set. • <code>rst</code> - Matches TCP packets with the TCP RST bit set. • <code>tos</code> - Matches the TCP packets based on the following type of service configuration: The options are: <ul style="list-style-type: none"> ○ <code>max-reliability</code> - Matches the TCP packets having TOS field set as high reliability. ○ <code>max-throughput</code> - Matches the TCP packets having TOS field set as high throughput. ○ <code>min-delay</code> - Matches the protocol TCP having TOS field set as low delay. ○ <code>normal</code> - Allows all TCP packets. Does not check for the TOS field in the packets. ○ <code><value (0-7)></code> - Matches the TCP packets based on the TOS value set. This value ranges from 0 to 7. • <code>dscp <value (0-63)></code> - Configures the Differentiated Services Code Point value to be checked against the packet, This value provides the quality of service control. This value ranges from 0 to 63. 		
--	--	--

cnMatrix ACL Parameters and Commands

<ul style="list-style-type: none"><code>priority <value(1-255)></code> - Configures the priority of the filter to decide which filter rule is applicable when the packet matches with more than one filter rules. Lower value of 'filter priority' implies a higher priority. This value ranges from 1 to 255			
<pre>permit udp { any host <src-ip-address> <src-ip-address> <src-mask> } [{ gt <port-number (1-65535)> lt <port-number (1-65535)> eq <port-number (1-65535)> range <port-number (1-65535)> <port-number (1-65535)> }] { any host <dest-ip-address> <dest-ip-address> <dest-mask> } [{ gt <port-number (1-65535)> lt <port-number (1-65535)> eq <port-number (1-65535)> range <port-number (1-65535)> <port-number (1-65535)> }] [{ tos { max-reliability max-throughput min-delay normal <tos-value(0-7)> } dscp <value (0-63)> }] [redirect { interface <iftype> <ifnum> }] [sub-action { none modify-vlan <short (1-4094)> }] [priority <value(1-255)>]</pre> <p>Available options:</p> <ul style="list-style-type: none"><code>any host <src-ip-address> <network-src-ip><mask></code> - Specifies the source IP address. The source IP can be:<ul style="list-style-type: none"><code>any</code> – Packets from any source are matched.<code>host <src-ip-address></code> - Packets from this IPv4 source address are matched.<code><network-src-ip> <mask></code> - Packets are matched using this source IPv4 network and mask.<code>gt <port-number (1-65535)></code> - Matches the UDP packets having the UDP source port numbers greater than the specified port number. This value ranges from 1 to 65535.<code>lt <port-number (1-65535)></code> - Matches the UDP packets having the UDP source port numbers less than the specified port number. This value ranges from 1 to 65535.<code>eq <port-number (1-65535)></code> - Matches the UDP packets having the	Specifies the UDP (User Datagram Protocol) packets to be forwarded based on the associated parameters.	Extended IP ACL Configuration	

cnMatrix ACL Parameters and Commands

<p>UDP source port numbers equal to specified port number. This value ranges from 1 to 65535.</p> <ul style="list-style-type: none"> • <code>range <port-number (1-65535)> <port-number (1-65535)>-</code> Matches the UDP packets having the UDP source port numbers within the specified range. This value ranges from 1 to 65535. This value specifies the minimum port number and the maximum port number values. • <code>any host <dest-ip-address> <network-dest-ip><mask></code> - Specifies the source IP address. The source IP address can be : <ul style="list-style-type: none"> ○ <code>any</code> - Packets to any destination are matched ○ <code>host <src-ip-address></code> - Packets for this IPv4 destination address are matched ○ <code><network-src-ip> <mask></code> - Packets are matched using this destination IPv4 network and mask. • <code>gt <port-number (1-65535)></code> - Matches the UDP packets having the UDP destination port numbers greater than the specified port number. This value ranges from 1 to 65535. • <code>lt <port-number (1-65535)></code> - Matches the UDP packets having the UDP destination port numbers less than the specified port number. This value ranges from 1 to 65535. • <code>eq <port-number (1-65535)></code> - Matches the UDP packets having the UDP destination port numbers equal to specified port number. This value ranges from 1 to 65535. • <code>range <port-number (1-65535)> <port-number (1-65535)>-</code> Matches the UDP packets having the UDP destination port numbers within the specified range. This value ranges from 1 to 65535. This value specifies the minimum port number and the maximum port number values. • <code>tos</code> - Matches the UDP packets based on the following type of service configuration: The options are: 		
---	--	--

cnMatrix ACL Parameters and Commands

<ul style="list-style-type: none"> <ul style="list-style-type: none"> ○ <code>max-reliability</code>- Matches the UDP packets having TOS field set as high reliability. ○ <code>max-throughput</code> - Matches the UDP packets having TOS field set as high throughput. ○ <code>min-delay</code>- Matches the UDP packets having TOS field set as low delay. ○ <code>normal</code> - Allows all UDP packets. Does not check for the TOS field in the packets. ○ <code><value (0-7)></code>- Matches the UDP packets based on the TOS value set. This value ranges from 0 to 7. • <code>dscp <value (0-63)></code> - Configures the Differentiated Services Code Point value to be checked against the packet, This value provides the quality of service control. This value ranges from 0 to 63. • <code>redirect</code> - Redirects the packets to the destination interface or set of interfaces. <ul style="list-style-type: none"> ○ <code><iftyp></code>- Redirects the packets to the specified type of interface. ○ <code><ifnum></code>- Redirects the packets to the specified interface identifier. This is a unique value that represents the specific interface. This value is a combination of slot number and port number separated by a slash, for interface types gigabitethernet, fastethernet and extreme-ethernet. • <code>sub-action</code> - Configures the VLAN specific sub action to be performed on the packet. Options are: <ul style="list-style-type: none"> ○ <code>none</code> - Specifies that the actions related to the VLAN ID will not be considered. ○ <code>modify-vlan <short (1-4094)></code> - Modifies the VLAN ID to which the packet gets classified. The packet could be an untagged or VLAN tagged packet. This value ranges from 1 to 4094. • <code>priority <value(1-255)></code> - Configures the priority of the filter to 		
---	--	--

cnMatrix ACL Parameters and Commands

<p>decide which filter rule is applicable when the packet matches with more than one filter rules. Lower value of 'filter priority' implies a higher priority. This value ranges from 1 to 255.</p>		
<pre>deny udp { any host <src-ip- address> <src-ip-address> <src- mask> } [{gt <port-number (1-65535)> lt <port-number (1-65535)> eq <port- number (1-65535)> range <port- number (1-65535)> <port-number (1- 65535)>}] { any host <dest-ip- address> <dest-ip-address> <dest- mask> } [{ gt <port-number (1-65535)> lt <port-number (1-65535)> eq <port-number (1-65535)> range <port- number (1-65535)> <port-number (1- 65535)>}] [{tos{max-reliability max- throughput min-delay normal <tos- value(0-7)>}} dscp <value (0-63)>}] [priority <value(1-255)>]</pre> <p>Available options:</p> <ul style="list-style-type: none"> • any host <src-ip-address> <network-src-ip><mask> - Specifies the source IP address. The source IP can be: <ul style="list-style-type: none"> o any – Packets from any source are matched. o host <src-ip-address> - Packets from this IPv4 source address are matched. o <network-src-ip> <mask> - Packets are matched using this source IPv4 network and mask. • gt <port-number (1-65535)> - Matches the UDP packets having the UDP source port numbers greater than the specified port number. This value ranges from 1 to 65535. • lt <port-number (1-65535)> - Matches the UDP packets having the UDP source port numbers less than the specified port number. This value ranges from 1 to 65535. • eq <port-number (1-65535)> - Matches the UDP packets having the UDP source port numbers equal to specified port number. This value ranges from 1 to 65535. • range <port-number (1-65535)> <port-number (1-65535)>- 	<p>Configures the UDP packets to be rejected based on the associated parameters.</p>	<p>Extended IP ACL Configuration</p>

cnMatrix ACL Parameters and Commands

<p>Matches the UDP packets having the UDP source port numbers within the specified range. This value ranges from 1 to 65535. This value specifies the minimum port number and the maximum port number values.</p> <ul style="list-style-type: none"> • <code>any host <dest-ip-address> <network-dest-ip><mask></code> - Specifies the source IP address. The source IP address can be : <ul style="list-style-type: none"> ○ <code>any</code> - Packets to any destination are matched ○ <code>host <src-ip-address></code> - Packets for this IPv4 destination address are matched ○ <code><network-src-ip> <mask></code> - Packets are matched using this destination IPv4 network and mask. • <code>gt <port-number (1-65535)></code> - Matches the UDP packets having the UDP destination port numbers greater than the specified port number. This value ranges from 1 to 65535. • <code>lt <port-number (1-65535)></code> - Matches the UDP packets having the UDP destination port numbers less than the specified port number. This value ranges from 1 to 65535. • <code>eq <port-number (1-65535)></code> - Matches the UDP packets having the UDP destination port numbers equal to specified port number. This value ranges from 1 to 65535. • <code>range <port-number (1-65535)> <port-number (1-65535)></code> - Matches the UDP packets having the UDP destination port numbers within the specified range. This value ranges from 1 to 65535. This value specifies the minimum port number and the maximum port number values. • <code>tos</code> - Matches the UDP packets based on the following type of service configuration: The options are: <ul style="list-style-type: none"> ○ <code>max-reliability</code> - Matches the UDP packets having TOS field set as high reliability. ○ <code>max-throughput</code> - Matches the UDP packets having TOS field set as high throughput. 		
--	--	--

cnMatrix ACL Parameters and Commands

<ul style="list-style-type: none"> <ul style="list-style-type: none"> o <code>min-delay</code> - Matches the UDP packets having TOS field set as low delay. o <code>normal</code> - Allows all UDP packets. Does not check for the TOS field in the packets. o <code><value (0-7)></code> - Matches the UDP packets based on the TOS value set. This value ranges from 0 to 7. • <code>dscp <value (0-63)></code> - Configures the Differentiated Services Code Point value to be checked against the packet, This value provides the quality of service control. This value ranges from 0 to 63. • <code>priority <value(1-255)></code> - Configures the priority of the filter to decide which filter rule is applicable when the packet matches with more than one filter rules. Lower value of 'filter priority' implies a higher priority. This value ranges from 1 to 255. 		
<pre>permit icmp {any host <src-ip- address> <src-ip-address> <mask>}{any host <dest-ip-address> <dest-ip- address> <mask> [message-type <short (0-255)>] [message-code <short (0- 255)>] [redirect {interface <iftype> <ifnum>}] [sub-action {none modify- vlan<short (1-4094)>}] [priority <value(1-255)>]}</pre> <p>Available options:</p> <ul style="list-style-type: none"> • <code>any host <src-ip-address> <network-src-ip><mask></code> - Specifies the source IP address. The source IP can be: <ul style="list-style-type: none"> o <code>any</code> - Packets from any source are matched. o <code>host <src-ip-address></code> - Packets from this IPv4 source address are matched. o <code><network-src-ip> <mask></code> - Packets are matched using this source IPv4 network and mask. • <code>any host <dest-ip-address> <network-dest-ip><mask></code> - Specifies the source IP address. The source IP address can be : <ul style="list-style-type: none"> o <code>any</code> - Packets to any destination are matched 	<p>Configures the ICMP (Internet Control Message Protocol) packets to be forwarded based on the IP address and the associated parameters.</p>	<p>Extended IP ACL Configuration</p>

cnMatrix ACL Parameters and Commands

<ul style="list-style-type: none"> o <code>host <src-ip-address></code> - Packets for this IPv4 destination address are matched o <code><network-src-ip> <mask></code> - Packets are matched using this destination IPv4 network and mask. <ul style="list-style-type: none"> • <code>message-type <short (0-255)></code> - Configures the ICMP Message type to be checked against the packet. The packet is allowed if it matches with the message type. This value ranges from 0 to 255. Some of the ICMP message types are: <ul style="list-style-type: none"> o 0 Echo reply o 3 Destination unreachable o 4 Source quench o 5 Redirect o 8 Echo request o 11 Time exceeded o 12 Parameter problem o 13 Timestamp request o 14 Timestamp reply o 15 Information request o 16 Information reply o 17 Address mask request o 18 Address mask reply o 255 No ICMP type • <code>message-code <short (0-255)></code> - Configures the ICMP Message code to be checked against the packet. The packet is allowed if it matches with the message code. This value ranges from 0 to 255. Some of the ICMP message Codes are: <ul style="list-style-type: none"> o 0 Network unreachable o 1 Host unreachable o 2 Protocol unreachable o 3 Port unreachable o 4 Fragment need o 5 Source route fail o 6 Destination network unknown o 7 Destination host unknown o 8 Source host isolated o 9 Destination network administratively prohibited o 10 Destination host administratively prohibited o 11 Network unreachable TOS o 12 Host unreachable TOS o 255 No ICMP code • <code>redirect</code> - Redirects the packets to the destination interface or set of interfaces. 		
--	--	--

cnMatrix ACL Parameters and Commands

<ul style="list-style-type: none"> ○ <code><iftyp></code>- Redirects the packets to the specified type of interface. ○ <code><ifnum></code>- Redirects the packets to the specified interface identifier. This is a unique value that represents the specific interface. This value is a combination of slot number and port number separated by a slash, for interface types gigabitethernet, fastethernet and extreme-ethernet. • <code>sub-action</code> - Configures the VLAN specific sub action to be performed on the packet. Options are: <ul style="list-style-type: none"> ○ <code>none</code> - Specifies that the actions related to the VLAN ID will not be considered. ○ <code>modify-vlan <short (1-4094)></code> - Modifies the VLAN ID to which the packet gets classified. The packet could be an untagged or VLAN tagged packet. This value ranges from 1 to 4094. ○ • <code>priority <value(1-255)></code> - Configures the priority of the filter to decide which filter rule is applicable when the packet matches with more than one filter rules. Lower value of 'filter priority' implies a higher priority. This value ranges from 1 to 255. 		
<pre>deny icmp {any host <src-ip-address> <src-ip-address> <mask>}{any host <dest-ip-address> <dest-ip-address> <mask> }[message-type <short (0-255)>] [message-code <short (0-255)>] [priority <value(1-255)>]</pre> <p>Available options:</p> <ul style="list-style-type: none"> • <code>any host <src-ip-address> <network-src-ip><mask></code> - Specifies the source IP address. The source IP can be: <ul style="list-style-type: none"> ○ <code>any</code> - Packets from any source are matched. ○ <code>host <src-ip-address></code> - Packets from this IPv4 source address are matched. 		Extended IP ACL Configuration

cnMatrix ACL Parameters and Commands

<ul style="list-style-type: none"> <ul style="list-style-type: none"> o <code><network-src-ip> <mask></code> - Packets are matched using this source IPv4 network and mask. • <code>any host <dest-ip-address> <network-dest-ip><mask></code> - Specifies the source IP address. The source IP address can be : <ul style="list-style-type: none"> o <code>any</code> - Packets to any destination are matched o <code>host <src-ip-address></code> - Packets for this IPv4 destination address are matched o <code><network-src-ip> <mask></code> - Packets are matched using this destination IPv4 network and mask. • <code>message-type <short (0-255)></code> - Configures the ICMP Message type to be checked against the packet. The packet is allowed if it matches with the message type. This value ranges from 0 to 255. Some of the ICMP message types are: <ul style="list-style-type: none"> o 0 Echo reply o 3 Destination unreachable o 4 Source quench o 5 Redirect o 8 Echo request o 11 Time exceeded o 12 Parameter problem o 13 Timestamp request o 14 Timestamp reply o 15 Information request o 16 Information reply o 17 Address mask request o 18 Address mask reply o 255 No ICMP type • <code>message-code <short (0-255)></code> - Configures the ICMP Message code to be checked against the packet. The packet is allowed if it matches with the message code. This value ranges from 0 to 255. Some of the ICMP message Codes are: <ul style="list-style-type: none"> o 0 Network unreachable o 1 Host unreachable o 2 Protocol unreachable o 3 Port unreachable o 4 Fragment need o 5 Source route fail o 6 Destination network unknown o 7 Destination host unknown 		
---	--	--

cnMatrix ACL Parameters and Commands

<ul style="list-style-type: none"> ○ 8 Source host isolated ○ 9 Destination network administratively prohibited ○ 10 Destination host administratively prohibited ○ 11 Network unreachable TOS ○ 12 Host unreachable TOS ○ 255 No ICMP code • <code>priority <value(1-255)></code> - Configures the priority of the filter to decide which filter rule is applicable when the packet matches with more than one filter rules. Lower value of 'filter priority' implies a higher priority. This value ranges from 1 to 255. 		
<pre>permit ipv6 { flow-label <integer(1-65535)> {any host <ip6_addr> <integer(0-128)> } { any host <ip6_addr> <integer(0-128)> } } [redirect {interface <iftype> <ifnum> }][sub-action {none modify-vlan<short (1-4094)>}] [priority <value(1-255)>]</pre> <p>Available options:</p> <ul style="list-style-type: none"> • <code>flow-label</code> - Configures the Flow identifier in the IPv6 header. This value ranges from 1 to 65535. • <code>any host <ip6_addr> <integer (0-128)></code> - Specifies the source IPv6 address. <ul style="list-style-type: none"> ○ <code>any</code> - Packets from any source are matched. ○ <code>host <ip6_addr> <integer (0-128)></code> - Packets from this IPv4 source address and prefix length are matched. • <code>any host <ip6_addr> <integer (0-128)></code> - Specifies the source IP address. The source IP address can be : <ul style="list-style-type: none"> ○ <code>any</code> - Packets to any destination are matched ○ <code>host <ip6_addr> <integer (0-128)></code> - Packets for this IPv6 destination address and prefix length are matched • <code>redirect</code> - Redirects the packets to the destination interface or set of interfaces. <ul style="list-style-type: none"> ○ <code><iftype></code> - Redirects the packets to the specified type of interface. 	Configures IPv6 packets to be forwarded based on protocol and associated parameters.	Extended IP ACL Configuration

cnMatrix ACL Parameters and Commands

<ul style="list-style-type: none"> <ul style="list-style-type: none"> o <code><ifnum></code>- Redirects the packets to the specified interface identifier. This is a unique value that represents the specific interface. This value is a combination of slot number and port number separated by a slash, for interface types gigabitethernet, fastethernet and extreme-ethernet. • <code>sub-action</code> - Configures the VLAN specific sub action to be performed on the packet. Options are: <ul style="list-style-type: none"> o <code>none</code> - Specifies that the actions related to the VLAN ID will not be considered. o <code>modify-vlan <short (1-4094)></code> - Modifies the VLAN ID to which the packet gets classified. The packet could be an untagged or VLAN tagged packet. This value ranges from 1 to 4094. • <code>priority <value(1-255)></code> - Configures the priority of the filter to decide which filter rule is applicable when the packet matches with more than one filter rules. Lower value of 'filter priority' implies a higher priority. This value ranges from 1 to 255 		
<pre>deny ipv6 { flow-label <integer(1-65535)> {any host <ip6_addr> <integer(0-128)> } { any host <ip6_addr> <integer(0-128)> } } [priority <value(1-255)>]</pre> <p>Available options:</p> <ul style="list-style-type: none"> • <code>flow-label</code> - Configures the Flow identifier in the IPv6 header. This value ranges from 1 to 65535. • <code>any host <ip6_addr> <integer (0-128)></code> - Specifies the source IPv6 address. <ul style="list-style-type: none"> o <code>any</code> - Packets from any source are matched. o <code>host <ip6_addr> <integer (0-128)></code> - Packets from this IPv4 source address and prefix length are matched. • <code>any host <ip6_addr> <integer (0-128)></code> - Specifies the 	<p>Specifies the IPv6 packets to be rejected based on associated parameters.</p>	


cnMatrix ACL Parameters and Commands

<p>source IP address. The source IP address can be :</p> <ul style="list-style-type: none"> ○ <code>any</code> - Packets to any destination are matched ○ <code>host <ip6_addr> <integer (0-128)></code> - Packets for this IPv6 destination address and prefix length are matched • <code>priority <value(1-255)></code> - Configures the priority of the filter to decide which filter rule is applicable when the packet matches with more than one filter rules. Lower value of 'filter priority' implies a higher priority. This value ranges from 1 to 255 		
<pre>permit { any host <src-mac-address> } { any host <dest-mac-address> } [vlan <vlan-id (1-4094)>] [vlan-priority <value (0-7)>] [redirect { interface <iftype> <ifnum> }] [sub-action { none modify-vlan <short (1-4094)> }] [priority <value(1-255)>]</pre> <p>Available options:</p> <ul style="list-style-type: none"> • <code>any host <src-mac-address></code> - Specifies the source MAC address. The source mac address can be: <ul style="list-style-type: none"> ○ <code>any</code> - Allows all packets. Does not check for the source MAC address in the packets. ○ <code>host <src-mac-address></code> - Allows only the packets having the specified source MAC address. • <code>any host <dest-mac-address></code> - Specifies the destination MAC address. The destination mac address can be: <ul style="list-style-type: none"> ○ <code>any</code> - Allows all packets. Does not check for the source MAC address in the packets. ○ <code>host <src-mac-address></code> - Allows only the packets having the specified destination MAC address. • <code>vlan <vlan-id (1-4094)></code> - Specifies the vlan id to be filtered. This value ranges from 1 to 4094. • <code>vlan-priority <value (0-7)></code> - Configures VLAN priority value to 	<p>Configures the packets to be forwarded based on the MAC address and the associated parameters, that is, this command allows non-IP traffic to be forwarded if the conditions are matched.</p>	<p>Extended IP ACL Configuration</p>

cnMatrix ACL Parameters and Commands

<p>match against incoming packets. This value ranges from 0 to 7.</p> <ul style="list-style-type: none"> • <code>redirect</code> - Redirects the packets to the destination interface or set of interfaces. <ul style="list-style-type: none"> ◦ <code><iftype></code>- Redirects the packets to the specified type of interface. ◦ <code><ifnum></code>- Redirects the packets to the specified interface identifier. This is a unique value that represents the specific interface. This value is a combination of slot number and port number separated by a slash, for interface types gigabitethernet, fastethernet and extreme-ethernet. • <code>sub-action</code> - Configures the VLAN specific sub action to be performed on the packet. Options are: <ul style="list-style-type: none"> ◦ <code>none</code> - Specifies that the actions related to the VLAN ID will not be considered. ◦ <code>modify-vlan <short (1-4094)></code> - Modifies the VLAN ID to which the packet gets classified. The packet could be an untagged or VLAN tagged packet. This value ranges from 1 to 4094. • <code>priority <value(1-255)></code> - Configures the priority of the filter to decide which filter rule is applicable when the packet matches with more than one filter rules. Lower value of 'filter priority' implies a higher priority. This value ranges from 1 to 255 		
<pre>deny { any host <src-mac-address> } { any host <dest-mac-address> } <short (0-65535) }] [encaps-type <integer (1-65535)>] [vlan <vlan-id (1-4094)>] [vlan-priority <priority (0-7)>] [priority <value(1-255)>]</pre> <p>Available options:</p> <ul style="list-style-type: none"> • <code>any host <src-mac-address></code>- Specifies the source MAC address. The source mac address can be: 	<p>Configures the packets to be rejected based on the MAC address and the associated parameters.</p>	<p>Extended IP ACL Configuration</p>

cnMatrix ACL Parameters and Commands

<ul style="list-style-type: none"> <ul style="list-style-type: none"> ○ <code>any</code> - Allows all packets. Does not check for the source MAC address in the packets. ○ <code>host <src-mac-address></code> - Allows only the packets having the specified source MAC address. • <code>any host <dest-mac-address></code> - Specifies the destination MAC address. The destination mac address can be: <ul style="list-style-type: none"> ○ <code>any</code> - Allows all packets. Does not check for the source MAC address in the packets. ○ <code>host <src-mac-address></code> - Allows only the packets having the specified destination MAC address. • <code>vlan <vlan-id (1-4094)></code> - Specifies the vlan id to be filtered. This value ranges from 1 to 4094. • <code>vlan-priority <value (0-7)></code> - Configures VLAN priority value to match against incoming packets. This value ranges from 0 to 7. • <code>priority <value (1-255)></code> - Configures the priority of the filter to decide which filter rule is applicable when the packet matches with more than one filter rules. Lower value of 'filter priority' implies a higher priority. This value ranges from 1 to 255. 		
<p><code>ip access-group <access-list-number (1-65535)> {in out}</code> Available options:</p> <ul style="list-style-type: none"> • <code><access-list-number (1-65535)></code> - Specifies the IP access control list number which is to be enabled on the interface. This value ranges from 1 to 65535. • <code>in</code> - Apply the ACL on the ingress of the port. • <code>out</code> - Apply the ACL on the egress of the port. <div data-bbox="215 1749 313 1858">  </div> <div data-bbox="329 1749 747 1858" style="background-color: #e6f2ff; padding: 5px;"> <p>Note: Redirect action is not applicable when applying the ACL on the egress of a port.</p> </div>	<p>Applies the specified IP ACL on the port.</p> <p>The no form of this command removes all access groups or the specified access group from the port.</p>	<p>Interface Configuration</p>

cnMatrix ACL Parameters and Commands

<pre>mac access-group <access-list-number (1-65535)> {in out}</pre> <p>Available options:</p> <ul style="list-style-type: none"> • <code><access-list-number (1-65535)></code> - Specifies the MAC access control list number which is to be enabled on the interface. This value ranges from 1 to 65535. • <code>in</code> - Apply the ACL on the ingress of the port. • <code>out</code> - Apply the ACL on the egress of the port. <div data-bbox="215 751 313 861"></div> <div data-bbox="329 751 743 861"> <p>Note: Redirect action is not applicable when applying the ACL on the egress of a port.</p> </div>	<p>Applies the specified MAC ACL on the port.</p> <p>The no form of this command removes all access groups or the specified access group from the port.</p>	<p>Interface Configuration</p>
<pre>show access-lists [{ip <access-list-number (1-65535)> mac <access-list-number (1-65535)> <access-list-number (1-65535)> }]</pre> <p>Available options:</p> <ul style="list-style-type: none"> • <code>ip <access-list-number (1-65535)></code> - Displays the configurations for the specified ip access-list. This value ranges from 1 to 65535. • <code>mac <access-list-number (1-65535)></code> - Displays the configurations for the specified mac access-list. This value ranges from 1 to 65535. • <code><access-list-number (1-65535)></code> - Displays the configurations for the specified access-list. This value ranges from 1 to 65535. 	<p>Displays the access lists configuration.</p>	<p>Privileged EXEC</p>
<pre>show egress access-list mode</pre>	<p>Displays the egress filter mode configuration.</p>	<p>Privileged EXEC</p>