

# 25-26 ACLs

Number Range for Standard ACLs	1-99, 1300-1999
Number Range for Extended ACLs	100-199, 2000-2699
Where in the network should Standard ACLs be placed?	Near Destination
Where in the network should Extended ACLs be placed?	Near source
Protocols that Extended ACLs can filter on	<ul style="list-style-type: none"> <li>• IP</li> <li>• TCP</li> <li>• UDP</li> <li>• ICMP</li> </ul>

TCP Port	UDP Port	Application	ACL Keyword
20		FTP Data	ftp-data
21		FTP Control	ftp
22		SSH	
23		Telnet	telnet
25		SMTP (mail servers)	smtp
53	53	DNS	domain
	67	DHCP Server	bootps (dhcp uses bootp)
	68	DHCP Client (client calls from)	bootpc
	69	TFTP	tftp
80		HTTP (web)	www
110		POP (Post Office Protocol) version 3	pop3
	161	SNMP	snmp
443		SSL (often web)	
	514	Syslog	
	16,384 - 32,767	RTP (ip telephony & video) range	

Routing Protocol	Protocol	Port	Destination Address
RIPv2 Hellos	UDP	520	224.0.0.9
RIPv2 Updates	UDP	520	224.0.0.9 (same)
EIGRP Hellos	EIGRP	—	224.0.0.5
EIGRP Updates	EIGRP	—	224.0.0.6
OSPF Hellos	OSPF	—	224.0.0.10
OSPF Updates	OSPF	—	224.0.0.10 (same)

Filtering Ability	Standard ACL	Extended ACL
Source Address	X	X
Source Port		X
Destination Address		X
Destination Port		X
Protocol		X
Established		X
Able to Log hits	X	X

### Standard Numbered ACL Permit Statement

The network 172.16.0.0 255.255.0.0	<code>access-list 2 permit 172.16.0.0 0.0.255.255</code>
The subnet 10.0.0.0 255.255.255.252	<code>access-list 2 permit 10.0.0.0 0.0.0.3</code>
The network 192.168.0.0 /24	<code>access-list 2 permit 192.168.0.0 0.0.0.255</code>
The subnet 192.168.0.0 /29	<code>access-list 2 permit 192.168.0.0 0.0.0.7</code>
The supernet 192.168.96.0 255.255.240.0	<code>access-list 2 permit 192.168.96.0 0.0.15.255</code>
The classful network for 153.16.78.1	<code>access-list 2 permit 153.16.0.0 0.0.255.255</code>
The class A address space of Apple Computer	<code>access-list 2 permit 17.0.0.0 0.255.255.255</code>
Any host	<code>access-list 2 permit any</code>

### When Given Address & Wildcard, Find Matching Address Range

21.0.0.0 0.255.255.255	21.0.0.0 - 21.255.255.255
172.16.24.0 0.0.0.255	172.16.24.0 - 172.16.24.255
192.168.1.128 0.0.0.63	192.168.1.128 - 192.168.1.191
192.168.8.0 0.0.7.255	192.168.8.0 - 192.168.15.255
208.58.12.9 0.0.0.255	208.58.12.0 - 208.58.12.255
172.30.58.2 0.1.255.255	172.30.0.0 - 172.31.255.255