

Linux® Firewalls

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Robert L. Ziegler

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Misprint	Correction
Page 3, an ASDL line	a DSL line
Page 6, Subnet layer Copper wire, fiberoptic cable, microwave	Subnet layer Copper wire, fiberoptic cable, microwave, & radio.
Page 11, Protocol: UDP Source address: 192.168.10.30 Source port: 14000 Destination address: 10.10.22.85 Destination port: 14000	Destination port: 123(ntp)
Page 11, Protocol: UDP Source address: 10.10.22.85 Source port: 123	Source port: 123(ntp)
Page 12, The combination of the client's IP address and port number defines the client's socket.	The combination of the client's IP address, port number, and transport protocol defines the client's socket.
Page 12, On the server side, the combination of host IP address and the server's famous port number forms the server's socket.	On the server side, the combination of host IP, address, the server's famous port number, and transport protocol, forms the server's socket.
Page 12, Each individual connection between a given client and server, possibly just one in a set of simultaneous connections to that server (e.g., a Web server), is uniquely identified by both the source address and port number of the client in conjunction with the server's IP address and assigned port number.	Each individual connection between a given client and server, possibly just one in a set of simultaneous connections to that server (e.g., a Web server), is uniquely identified by the source address and port number of the client in conjunction with the server's IP address, assigned port number, along with the transport protocol used by the application.
Page 21, Physical layer Copper wire, fiberoptic cable, microwave	Physical layer Copper wire, fiberoptic cable, microwave, & radio.
Page 75, Table 3.2 Numeric Type	Table 3.2 Type Code
Page 88, Allowing Your DNS Lookups as a Peer-to-Peer Server	Allowing Your DNS Lookups as a Peer-to-Peer Forwarding Server
Page 114, Table 3.17 lists the local client to remote server connection protocol...	Table 3.17 lists the complete client/server exchange protocol...
Page 118, ntpdate is the client program and uses a client-to-server relationship.	ntpdate is the client program, and can use either client-to-server or peer-to-peer communication.
Page 124, ...the important thing to remember is that named must be running before the firewall script executes.	...the important thing to remember is that DNS traffic must be enabled before the hostnames are encountered in the script.
Page 166, Table 4.9 Description: Choke client query In/Out: In Description: Bastion server response In/Out: Out	Description: Choke client query In/Out: Out Description: Bastion server response In/Out: In

Page 169, Table 4.13 Choke SMTP Mail Protocol on a DMZ Client	Table 4.13 Choke Client SMTP Mail Protocol to a DMZ Server																																																																													
Page 174, Table 4.19 <table border="1"> <thead> <tr> <th>Remote Address</th> <th>Remote Port</th> <th>In/Out</th> </tr> </thead> <tbody> <tr><td>NEWS_SERVER</td><td>119</td><td>In</td></tr> <tr><td>NEWS_SERVER</td><td>119</td><td>Out</td></tr> <tr><td>NNTP clients</td><td>1024 : 65535</td><td>Out</td></tr> <tr><td>NNTP clients</td><td>1024 : 65535</td><td>In</td></tr> <tr><td>NEWS_FEED</td><td>119</td><td>Out</td></tr> <tr><td>NEWS_FEED</td><td>119</td><td>In</td></tr> <tr> <th>Local Address</th> <th>Local Port</th> <td></td> </tr> <tr><td>CHOKE_DMZ_IPADDR</td><td>1024 : 65535</td><td></td></tr> <tr><td>CHOKE_DMZ_IPADDR</td><td>1024 : 65535</td><td></td></tr> <tr><td>NEWS_SERVER_DMZ_IPADDR</td><td>119</td><td></td></tr> <tr><td>NEWS_SERVER_DMZ_IPADDR</td><td>119</td><td></td></tr> <tr><td>NEWS_SERVER_DMZ_IPADDR</td><td>1024 : 65535</td><td></td></tr> <tr><td>NEWS_SERVER_DMZ_IPADDR</td><td>1024 : 65535</td><td></td></tr> </tbody> </table>	Remote Address	Remote Port	In/Out	NEWS_SERVER	119	In	NEWS_SERVER	119	Out	NNTP clients	1024 : 65535	Out	NNTP clients	1024 : 65535	In	NEWS_FEED	119	Out	NEWS_FEED	119	In	Local Address	Local Port		CHOKE_DMZ_IPADDR	1024 : 65535		CHOKE_DMZ_IPADDR	1024 : 65535		NEWS_SERVER_DMZ_IPADDR	119		NEWS_SERVER_DMZ_IPADDR	119		NEWS_SERVER_DMZ_IPADDR	1024 : 65535		NEWS_SERVER_DMZ_IPADDR	1024 : 65535		Table 4.19 <table border="1"> <thead> <tr> <th>Remote Address</th> <th>Remote Port</th> </tr> </thead> <tbody> <tr><td>CHOKE_DMZ_IPADDR</td><td>1024 : 65535</td></tr> <tr><td>CHOKE_DMZ_IPADDR</td><td>1024 : 65535</td></tr> <tr><td>NEWS_SERVER_DMZ_IPADDR</td><td>119</td></tr> <tr><td>NEWS_SERVER_DMZ_IPADDR</td><td>119</td></tr> <tr><td>NEWS_SERVER_DMZ_IPADDR</td><td>1024 : 65535</td></tr> <tr><td>NEWS_SERVER_DMZ_IPADDR</td><td>1024 : 65535</td></tr> <tr> <th>In/Out</th> <th>Local Address</th> <th>Local Port</th> </tr> <tr><td>In</td><td>NEWS_SERVER</td><td>119</td></tr> <tr><td>Out</td><td>NEWS_SERVER</td><td>119</td></tr> <tr><td>Out</td><td>NNTP clients</td><td>1024 : 65535</td></tr> <tr><td>In</td><td>NNTP clients</td><td>1024 : 65535</td></tr> <tr><td>In</td><td>NEWS_FEED</td><td>119</td></tr> <tr><td>Out</td><td>NEWS_FEED</td><td>119</td></tr> </tbody> </table>	Remote Address	Remote Port	CHOKE_DMZ_IPADDR	1024 : 65535	CHOKE_DMZ_IPADDR	1024 : 65535	NEWS_SERVER_DMZ_IPADDR	119	NEWS_SERVER_DMZ_IPADDR	119	NEWS_SERVER_DMZ_IPADDR	1024 : 65535	NEWS_SERVER_DMZ_IPADDR	1024 : 65535	In/Out	Local Address	Local Port	In	NEWS_SERVER	119	Out	NEWS_SERVER	119	Out	NNTP clients	1024 : 65535	In	NNTP clients	1024 : 65535	In	NEWS_FEED	119	Out	NEWS_FEED	119
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Page 203, Table 4.50	Table 4.50	
Remote Address	Remote Port	Remote Address
ANYWHERE	43	CHOKE_DMZ_IPADDR 1024:65535
ANYWHERE	43	CHOKE_DMZ_IPADDR 1024:65535
Local Address	Local Port	Local Address
CHOKE_DMZ_IPADDR 1024:65535	1024:65535	ANYWHERE 43
CHOKE_DMZ_IPADDR 1024:65535	1024:65535	ANYWHERE 43
Page 204, Table 4.52	Table 4.52	
Remote Address	Remote Port	Remote Address
ANYWHERE	70	CHOKE_DMZ_IPADDR 1024:65535
ANYWHERE	70	CHOKE_DMZ_IPADDR 1024:65535
Local Address	Local Port	Local Address
CHOKE_DMZ_IPADDR 1024:65535	1024:65535	ANYWHERE 70
CHOKE_DMZ_IPADDR 1024:65535	1024:65535	ANYWHERE 70
Page 205, Table 4.54	Table 4.54	
Remote Address	Remote Port	Remote Address
ANYWHERE	210	CHOKE_DMZ_IPADDR 1024:65535
ANYWHERE	210	CHOKE_DMZ_IPADDR 1024:65535
Local Address	Local Port	Local Address
CHOKE_DMZ_IPADDR 1024:65535	1024:65535	ANYWHERE 210
CHOKE_DMZ_IPADDR 1024:65535	1024:65535	ANYWHERE 210
Page 207, Table 4.56	Table 4.56	
Remote Address	Remote Port	Remote Address
ANYWHERE	1024:65535	ANYWHERE 554
ANYWHERE	1024:65535	ANYWHERE 554
Local Address	Local Port	Local Address
BASTION_EXTERNAL_IPADDR 554	554	BASTION_EXTERNAL_IPADDR 1024:65535
BASTION_EXTERNAL_IPADDR 554	554	BASTION_EXTERNAL_IPADDR 1024:65535
BASTION_EXERNAL_IPADDR 6970:7170	6970:7170	BASTION_EXTERNAL_IPADDR 6970:6999
		An additional row should be added to the end of the table.
		Description: Choke client request
		Protocol: UDP
		Remote Address: ANYWHERE
		Remote Port: 1024:65535
		In/Out: Out
		Local Address: BASTION_EXTERNAL_IPADDR
		Local Port: 6790:6999
Page 208, Table 4.57	Table 4.57	
Remote Address	Remote Port	Remote Address
ANYWHERE	1024:65535	CHOKE_DMZ_IPADDR 1024:65535
ANYWHERE	1024:65535	CHOKE_DMZ_IPADDR 1024:65535
ANYWHERE	1024:65535	CHOKE_DMZ_IPADDR 7070:7071
ANYWHERE	1024:65535	CHOKE_DMZ_IPADDR 7070:7071
ANYWHERE	1024:65535	CHOKE_DMZ_IPADDR 6970:6999
Local Address	Local Port	Local Address
CHOKE_DMZ_IPADDR 554	554	ANYWHERE 554
CHOKE_DMZ_IPADDR 554	554	ANYWHERE 554
CHOKE_DMZ_IPADDR 7070:7071	7070:7071	ANYWHERE 1024:65535
CHOKE_DMZ_IPADDR 7070:7071	7070:7071	ANYWHERE 1024:65535
CHOKE_DMZ_IPADDR 6970:7170	6970:7170	ANYWHERE 1024:65535
		An additional row should be added to the end of the table.

<p>Sidebar “RealAudio / QuickTime in a Masqueraded Environment”</p> <p>/sbin/modprobe ip_masq_radio.o ports=554, 7071, 6970, 6971</p>	<p>Description: Choke client request Protocol: UDP Remote Address: CHOKE_DMZ_IPADDR Remote Port: 6970:6999 In/Out: In Local Address: ANYWHERE Local Port: 1024:65535</p> <p>Sidebar “RealAudio / QuickTime in a Masqueraded Environment”</p> <p>/sbin/modprobe ip_masq_radio.o ports=7071, 6970, 6971</p>																																																								
<p>Page 210, Table 4.58</p> <table border="1"> <thead> <tr> <th>Remote Address</th> <th>Remote Port</th> </tr> </thead> <tbody> <tr> <td>ANYWHERE</td> <td>1024:65535</td> </tr> <tr> <td>ANYWHERE</td> <td>1024:65535</td> </tr> <tr> <th>Local Address</th> <th>Local Port</th> </tr> <tr> <td>CHOKE_DMZ_IPADDR</td> <td>554</td> </tr> <tr> <td>CHOKE_DMZ_IPADDR</td> <td>554</td> </tr> <tr> <td>CHOKE_DMZ_IPADDR</td> <td>6970:7170</td> </tr> </tbody> </table>	Remote Address	Remote Port	ANYWHERE	1024:65535	ANYWHERE	1024:65535	Local Address	Local Port	CHOKE_DMZ_IPADDR	554	CHOKE_DMZ_IPADDR	554	CHOKE_DMZ_IPADDR	6970:7170	<p>Table 4.58</p> <table border="1"> <thead> <tr> <th>Remote Address</th> <th>Remote Port</th> </tr> </thead> <tbody> <tr> <td>ANYWHERE</td> <td>554</td> </tr> <tr> <td>ANYWHERE</td> <td>554</td> </tr> <tr> <th>Local Address</th> <th>Local Port</th> </tr> <tr> <td>CHOKE_DMZ_IPADDR</td> <td>1024:65535</td> </tr> <tr> <td>CHOKE_DMZ_IPADDR</td> <td>1024:65535</td> </tr> <tr> <td>CHOKE_DMZ_IPADDR</td> <td>6970:6999</td> </tr> </tbody> </table> <p>An additional row should be added to the end of the table.</p> <p>Description: Choke client request Protocol: UDP Remote Address: ANYWHERE Remote Port: 1024:65535 In/Out: Out Local Address: CHOKE_DMZ_IPADDR Local Port: 6970:6999</p>	Remote Address	Remote Port	ANYWHERE	554	ANYWHERE	554	Local Address	Local Port	CHOKE_DMZ_IPADDR	1024:65535	CHOKE_DMZ_IPADDR	1024:65535	CHOKE_DMZ_IPADDR	6970:6999																												
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<p>Page 212</p>	<p>The following sidebar should follow “Bastion IRC Client Conduit DMZ Configuration” section:</p> <p>IRC in a Masqueraded Environment If the LAN machines are masqueraded, the following line is needed:</p> <p>/sbin/modprobe ip_masq_irc.o</p>																																																								
<p>Page 213, Table 4.60</p> <table border="1"> <thead> <tr> <th>Remote Address</th> <th>Remote Port</th> </tr> </thead> <tbody> <tr> <td>ANYWHERE</td> <td>6667</td> </tr> <tr> <td>ANYWHERE</td> <td>6667</td> </tr> <tr> <td>ANYWHERE</td> <td>1024:65535</td> </tr> <tr> <td>ANYWHERE</td> <td>1024:65535</td> </tr> <tr> <td>ANYWHERE</td> <td>1024:65535</td> </tr> <tr> <td>ANYWHERE</td> <td>1024:65535</td> </tr> <tr> <th>Local Address</th> <th>Local Port</th> </tr> <tr> <td>CHOKE_DMZ_IPADDR</td> <td>1024:65535</td> </tr> <tr> <td>CHOKE_DMZ_IPADDR</td> <td>1024:65535</td> </tr> <tr> <td>CHOKE_DMZ_IPADDR</td> <td>1024:65535</td> </tr> <tr> <td>CHOKE_DMZ_IPADDR</td> <td>1024:65535</td> </tr> <tr> <td>CHOKE_DMZ_IPADDR</td> <td>1024:65535</td> </tr> <tr> <td>CHOKE_DMZ_IPADDR</td> <td>1024:65535</td> </tr> </tbody> </table>	Remote Address	Remote Port	ANYWHERE	6667	ANYWHERE	6667	ANYWHERE	1024:65535	ANYWHERE	1024:65535	ANYWHERE	1024:65535	ANYWHERE	1024:65535	Local Address	Local Port	CHOKE_DMZ_IPADDR	1024:65535	CHOKE_DMZ_IPADDR	1024:65535	CHOKE_DMZ_IPADDR	1024:65535	CHOKE_DMZ_IPADDR	1024:65535	CHOKE_DMZ_IPADDR	1024:65535	CHOKE_DMZ_IPADDR	1024:65535	<p>Table 4.60</p> <table border="1"> <thead> <tr> <th>Remote Address</th> <th>Remote Port</th> </tr> </thead> <tbody> <tr> <td>CHOKE_DMZ_IPADDR</td> <td>1024:65535</td> </tr> <tr> <td>CHOKE_DMZ_IPADDR</td> <td>1024:65535</td> </tr> <tr> <td>CHOKE_DMZ_IPADDR</td> <td>1024:65535</td> </tr> <tr> <td>CHOKE_DMZ_IPADDR</td> <td>1024:65535</td> </tr> <tr> <td>CHOKE_DMZ_IPADDR</td> <td>1024:65535</td> </tr> <tr> <td>CHOKE_DMZ_IPADDR</td> <td>1024:65535</td> </tr> <tr> <th>Local Address</th> <th>Local Port</th> </tr> <tr> <td>ANYWHERE</td> <td>6667</td> </tr> <tr> <td>ANYWHERE</td> <td>6667</td> </tr> <tr> <td>ANYWHERE</td> <td>1024:65535</td> </tr> <tr> <td>ANYWHERE</td> <td>1024:65535</td> </tr> <tr> <td>ANYWHERE</td> <td>1024:65535</td> </tr> <tr> <td>ANYWHERE</td> <td>1024:65535</td> </tr> </tbody> </table>	Remote Address	Remote Port	CHOKE_DMZ_IPADDR	1024:65535	CHOKE_DMZ_IPADDR	1024:65535	CHOKE_DMZ_IPADDR	1024:65535	CHOKE_DMZ_IPADDR	1024:65535	CHOKE_DMZ_IPADDR	1024:65535	CHOKE_DMZ_IPADDR	1024:65535	Local Address	Local Port	ANYWHERE	6667	ANYWHERE	6667	ANYWHERE	1024:65535	ANYWHERE	1024:65535	ANYWHERE	1024:65535	ANYWHERE	1024:65535
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Page 269 • 22/UDP—PC Anywhere (old version) input DENY eth0 PROTO=17 10.10.22.85:14386 192.168.10.30:2	• 22/UDP—PC Anywhere (old version) input DENY eth0 PROTO=17 10.10.22.85:14386 192.168.10.30:22
Page 274 This section looks at two of those enhancements:	This section looks at two of those enhancements: shadow passwords and MD5 hashing.

shadow passwords and MD5 encryption.	
Page 328 tiger is widely available, including from http://metlab.unc.edu/pub/Linux/system/security/tiger-2.2.4tgz and http://www.net.tamu.edu/ftp/security/TAMU/tiger-2.2.4p1tar.gz .	tiger is widely available, including from http://metlab.unc.edu/pub/Linux/system/security/tiger-2.2.4tgz and http://www.net.tamu.edu/ftp/security/TAMU/tiger-2.2.4p1tar.gz .

This errata sheet is intended to provide updated technical information.
Spelling and grammar misprints are updated during the reprint process,
but are not listed on this errata sheet.