IT REQUIREMENTS - LOGICAL LAYOUT

NOTE: If firewall rules are domain dependant, please allow current and future domains:
*.imseismology.org
*.imsi.org

Data Transfer (24/7 real time connections)

IP	DNS Name (URL)	Port	Protocol
196.44.37.99 (South Africa)	portal1.imseismology.org	443	https
41.0.209.203 (South Africa)	portal2.imseismology.org		
196.22.244.59 (South Africa)	portal3.imseismology.org		
120.29.243.116 (Australia)	portal5.imseismology.org		
14.1.74.190 (Australia)	portal6.imseismology.org		
142.115.255.58 (Canada)	portal7.imseismology.org		

Software Update Centres & Services

IP	DNS Name (URL)	Port	Protocol
120.29.241.81 (Australia)	updates5.imseismology.org devupdates5.imseismology.org software5.imseismology.org downloads5.imseismology.org - services.au.imseismology.org licensing5.imseismology.org	443	https
184.149.7.253 (Canada)	updates7.imseismology.org devupdates7.imseismology.org software7.imseismology.org downloads7.imseismology.org		
196.44.37.98 (South Africa)	updates.imseismology.org devupdates.imseismology.org software.imseismology.org downloads.imseismology.org - www.imseismology.org mobile.imseismology.org		
196.44.37.100 (South Africa)	issues.imseismology.org licensing1.imseismology.org		
196.44.37.101 (South Africa)	myservices.imseismology.org		
13.248.203.52 (primary) 35.71.138.35 (backup)	nexus.imseismology.org		

Remote Access

Option 1) Direct ssh access restricted to IMS public IPs

Source IP	DNS Name (URL)	Destination Port	Protocol
196.44.37.100 (South Africa)	access1.imseismology.org	remote port	ssh
41.0.209.204 (South Africa)	access2.imseismology.org		
196.22.244.60 (South Africa)	access3.imseismology.org		
120.29.241.81 (Australia)	access5.imseismology.org		
184.149.7.253 (Canada)	access7.imseismology.org		

Option 2) VPN setup to customer network

VPN account allowing access to all the ports of the seismic server

institute of mine seismology

IMS Firewall

Internet

Firewall / Proxy Server / VPN server

Software Update Centres & Services only

Customer Workstations or VPN Jumpbox

Communication between VPN Jumpbox/Workstations and Seismic server

Function	Port	Protocol
Ping	-	ICMP
SSH connection between workstation and server	22	ssh
Ports to interface Software application with seismic server (all required)	8001 - 8099 8101 - 8199	http https
File Sharing	137, 138, 139, 445	tcp, udp, smb,cifs

Seismic Server

Or via dedicated jumpbox

Communication between Seismic Server and Seismic Equipment

Function	Port	Protocol (tcp & udp)
Ping	-	ICMP
Remote administration	80	http
Communication protocol between seismometers and seismic server	8001 8101	http https
SSH connection between server and equipment	22	ssh
Telnet session between server and equipment	23	telnet
File transfer	69,20-21	tftp, ftp
Moxa Nport Device server	950-981,4900 4800	tcp, udp
Timing protocols to seismic equipment	123,319-320	udp,ntp,ptp
- PTP system require IP multicast		

Network Time server (NTP) [for system without GPS]

IP or URL	Port	Protocol
Internal or external Time server address	123	tcp,udp, ntp

Seismic equipment (incl. IMS branded devices)

Customer

Non-IMS external sources

IP	DNS Name (URL)	Port	Protocol
Country specific	archive.ubuntu.com	80	http
Country specific	https://*.googleapis.com https://*.gstatic.com *.google.com *.googleusercontent.com	443	https
Country specific	ntp.ubuntu.com (Unless locally available)	123	ntp

- Outbound connections from customer to IMS
- Outbound connections from customer to non-IMS source
- Inbound connections to customer from IMS
- Local traffic in customer network

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