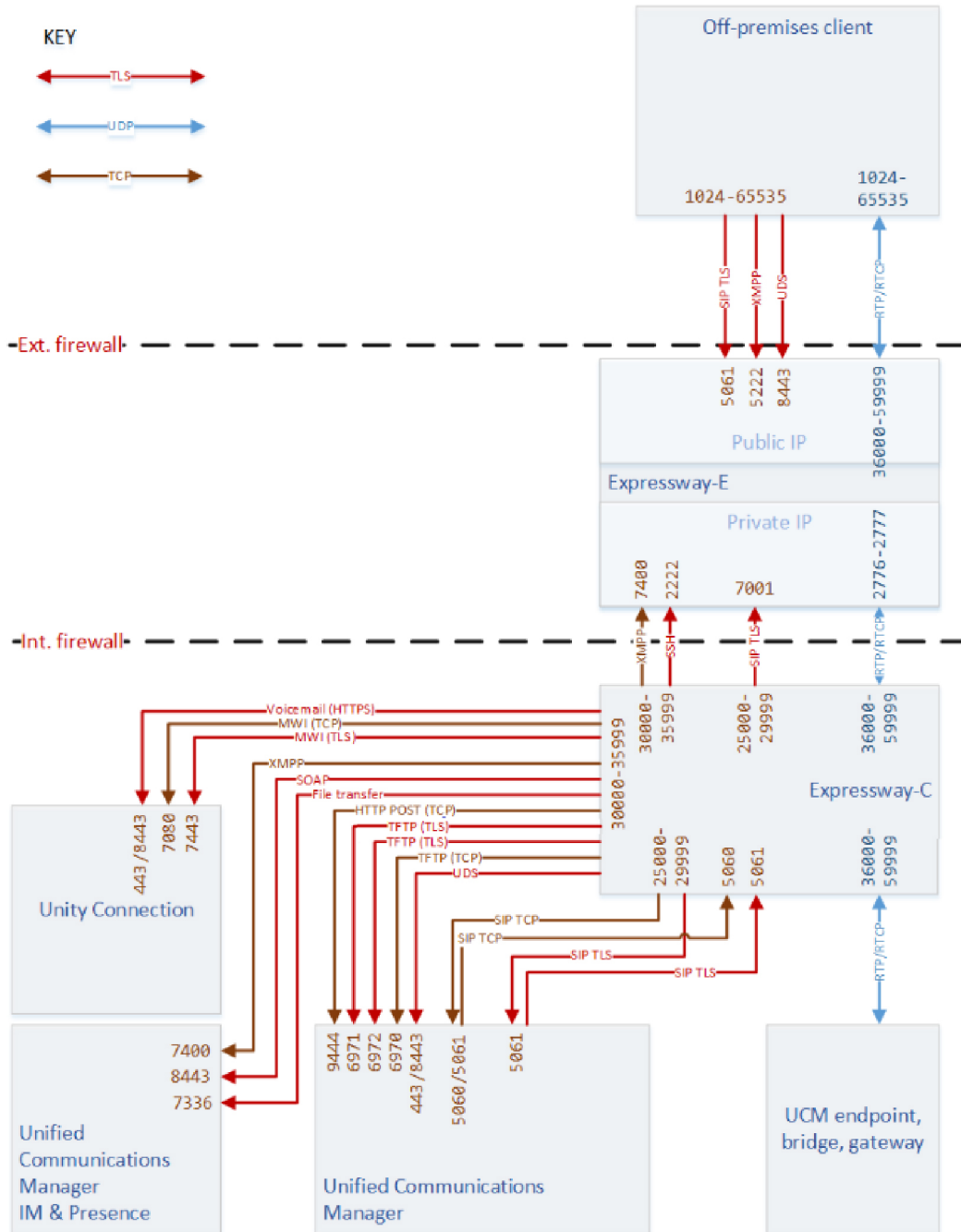




Mobile and Remote Access

- [MRA Connections, on page 2](#)
- [MRA Port Reference, on page 3](#)

MRA Connections



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MRA Port Reference

Table 1: ICE Passthrough Connections Between Off-premises Endpoints

Purpose	Src. IP	Src. Ports	Protocol	Dest. IP	Dest. Ports
RTP/RTCP (ICE passthrough media)†	Off-premises endpoint	Eph	UDP	Off-premises endpoint	Eph

† ICE passthrough calls are supported only between off-premises endpoints. Not supported between off-premises and on-premises endpoints.

Table 2: Connections Between Off-premises Endpoints and the Expressway-E

Purpose	Src. IP	Src. Ports	Protocol	Dest. IP	Dest. Ports
UDS (phonebook and provisioning)	Off-premises endpoint	1024-65535	TLS	Expressway-E Public IP	8443
SIP signaling	Off-premises endpoint	1024-65535	TLS	Expressway-E Public IP	5061
RTP/RTCP media	Off-premises endpoint	1024-65535	UDP	Expressway-E Public IP	36000-59999
RTP/RTCP media	Expressway-E Public IP	36000-59999	UDP	Off-premises endpoint	1024-65535
XMPP (IM and Presence)	Off-premises endpoint	1024-65535	TCP	Expressway-E Public IP	5222
TURN control (ICE passthrough)	Any IP address†	>=1024 (signaling port from endpoint or the firewall)	UDP	Expressway-E	3478 (Small/Medium) 3478-3483 (Large)
TURN media (ICE passthrough)	Any IP address‡	>=1024 Port of relevant ICE candidate: host IP port, server reflexive port (outside firewall port), or TURN server port	UDP	Expressway-E	24000-29999

† The request could be from any IP address, unknown to the TURN server. For example, assume that endpoint A and endpoint B (TURN clients) can use the Expressway-E TURN server. The actual IP address from which the TURN server receives the request could be the endpoint's firewall egress address (NATed).

‡ The media could go to any of the candidate addresses. For example, before ICE passthrough negotiation the TURN server does not know which of endpoint B's candidate addresses will be the highest priority.

Table 3: Connections Between Expressway-C and Expressway-E

Purpose	Src. IP	Src. Ports	Protocol	Dest. IP	Dest. Ports
SSH tunnels	Expressway-C	30000-35999	TLS	Expressway-E Private IP	2222
SIP signaling	Expressway-C	25000-29999	TLS	Expressway-E Private IP	7001
SIP media	Expressway-C	36000-59999	UDP	Expressway-E Private IP	2776/7 or 36000-11
XMPP (IM and Presence)	Expressway-C	30000-35999	TCP	Expressway-E Private IP	7400
TURN control	Expressway-C	>=1024	UDP & TCP	Expressway-E	3478 (Small/Medium) 3478-3483 (Large)

Table 4: Connections Between Expressway-C and On-premises Infrastructure

Purpose	Src. IP	Src. Ports	Protocol	Dest. IP	Dest. Ports
SIP signaling (TCP)	Expressway-C	25000-29999	TCP	Unified CM	5060†
SIP signaling (TCP)	Unified CM	Ephemeral	TCP	Expressway-C	5060
SIP signaling (TLS)	Expressway-C	25000-29999	TLS	Unified CM	5061*
SIP signaling (TLS)	Unified CM	Ephemeral	TLS	Expressway-C	5061
SIP signaling (OAuth)	Expressway-C	25000-29999	TLS	Unified CM	5091
SIP signaling (OAuth)	Unified CM	5091	TLS	Expressway-C	5061

Purpose	Src. IP	Src. Ports	Protocol	Dest. IP	Dest. Ports
HTTP Configuration file download (TFTP) (Pre 11.x Jabber and pre 11.x Unified CM)	Expressway-C	30000-35999	TCP	Unified CM Node	6970
HTTPS Headset Configuration file download (TFTP)	Expressway-C	30000-35999	TLS	Unified CM	6971
HTTPS Configuration file download (TFTP) (11.x or later Jabber and 11.x or later Unified CM)	Expressway-C	30000-35999	TLS	Unified CM Node	6972
HTTP for UDS (User Data Services) and AXL (Administrative XML Layer)	Expressway-C	30000-35999	TLS	Unified CM Node	443 or 8443
XMPP (IM and Presence)	Expressway-C	30000-35999	TLS	IM and Presence Service Node	7400
HTTPS SOAP (IM and Presence)	Expressway-C	30000-35999	TLS	IM and Presence Service Node	8443
File transfer (IM and Presence)	Expressway-C	30000-35999	TLS	IM and Presence Service Node	7336
HTTPS to visual voicemail	Expressway-C	30000-35999	TLS	Cisco Unity Connection	443 or 8443
MWI (Message Waiting Indicator)	Expressway-C	30000-35999	TCP	Cisco Unity Connection	7080
MWI (Message Waiting Indicator)	Expressway-C	30000-35999	TLS	Cisco Unity Connection	7443

Purpose	Src. IP	Src. Ports	Protocol	Dest. IP	Dest. Ports
HTTP for metrics POST (Headset Management)	Expressway-C	30000-35999	TCP	Unified CM	9444
Audio Video Media (RTP/RTCP)	Expressway-C	36000-59999	UDP	On-prem media destination	Destination media's range eg, 16384-32767 (DX Series)

† Unified CM can listen on 5061 for TCP SIP but we discourage it.

* If you have MRA connections to the Unified CM which are line-side connections to 5060/5061, avoid using 5060/5061 as the listening port for any SIP trunks you create on that Unified CM.

Table 5: Connections from Expressway-E to the Cloud

Purpose	Src. IP	Src. Ports	Protocol	Dest. IP	Dest. Ports
Subscription requests originating from Unified CM	Expressway-E	Ephemeral (30000- 35999)	TLS	fos-a.wbx2.com (onboarding service)	443
Authentication requests originating from Unified CM or IM and Presence Service	Expressway-E	Ephemeral (30000- 35999)	TLS	idbroker.webex.com (Common Identity Service)	443
Smart Licensing requests originating from Expressway-E	Expressway-E	Ephemeral (30000- 35999)	TLS	https:// fos-a.wbx2.com licservice/license	443