

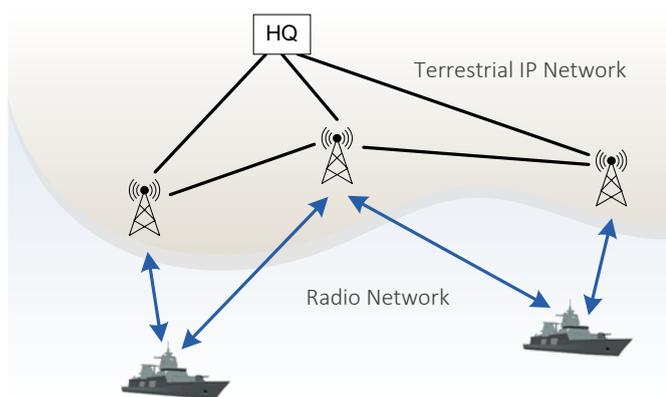
THE **MULTI-GATEWAY ROUTING CAPABILITY** is included with the **RAPIDM COMMANDPOINT XL** and **GATEPOINT** Software.

Introduction To Multiple Gateways

The Multi-Gateway routing capability drastically improves HF radio network connectivity by allowing existing transmit and receive stations to be interconnected. Messages and data can thus be routed through multiple possible shore stations in an intelligent mechanism using the best available path.

FEATURES & BENEFITS:

- Interconnect existing shore / static stations
- Drastically improve network connectivity
- Spatial & Frequency Diversity
- Ultra-Robust Modem support
- Redundancy
- Network capacity improvement
- Fixed Infrastructure / Shore Station routing capability
- Multi-path Data Routing
- Message Compression, Resumption, Prioritization, Delivery Notification



Multiple Gateway Route Example

Multi-Gateway Routing Capability

Reliable connectivity is a core requirement of every Military communication system. However, traditional radio networks are notoriously unreliable. Especially so for High Frequency (HF) radio networks that continually change characteristics at the whim of the ionosphere.

Besides the massive connectivity improvement that RapidM RT Modems make by functioning in severely degraded channels and at negative signal-to-noise ratios (SNR), RapidM has further boosted connectivity by enhancing the Fixed Infrastructure / Shore Station routing capability.

This Multi-Gateway capability, which is part of the **COMMANDPOINT XL** and **GATEPOINT** software, allows multiple gateway stations to interconnect with TCP/IP over existing IP network infrastructure. This allows Fixed/Shore Station Gateways to communicate and coordinate with each other. This creates the option of multiple possible routes for messages and data to be delivered to end recipients and visa-versa. Vessels at sea or mobile land units can deliver messages and data to any Fixed/Shore Gateway and from there they will be routed to their final destination. This greatly increases the connectivity as typically multiple possible routes may exist. If one route is not available, another route can be tried. This multi-gateway capability provides geographic spatial diversity to the radio network.

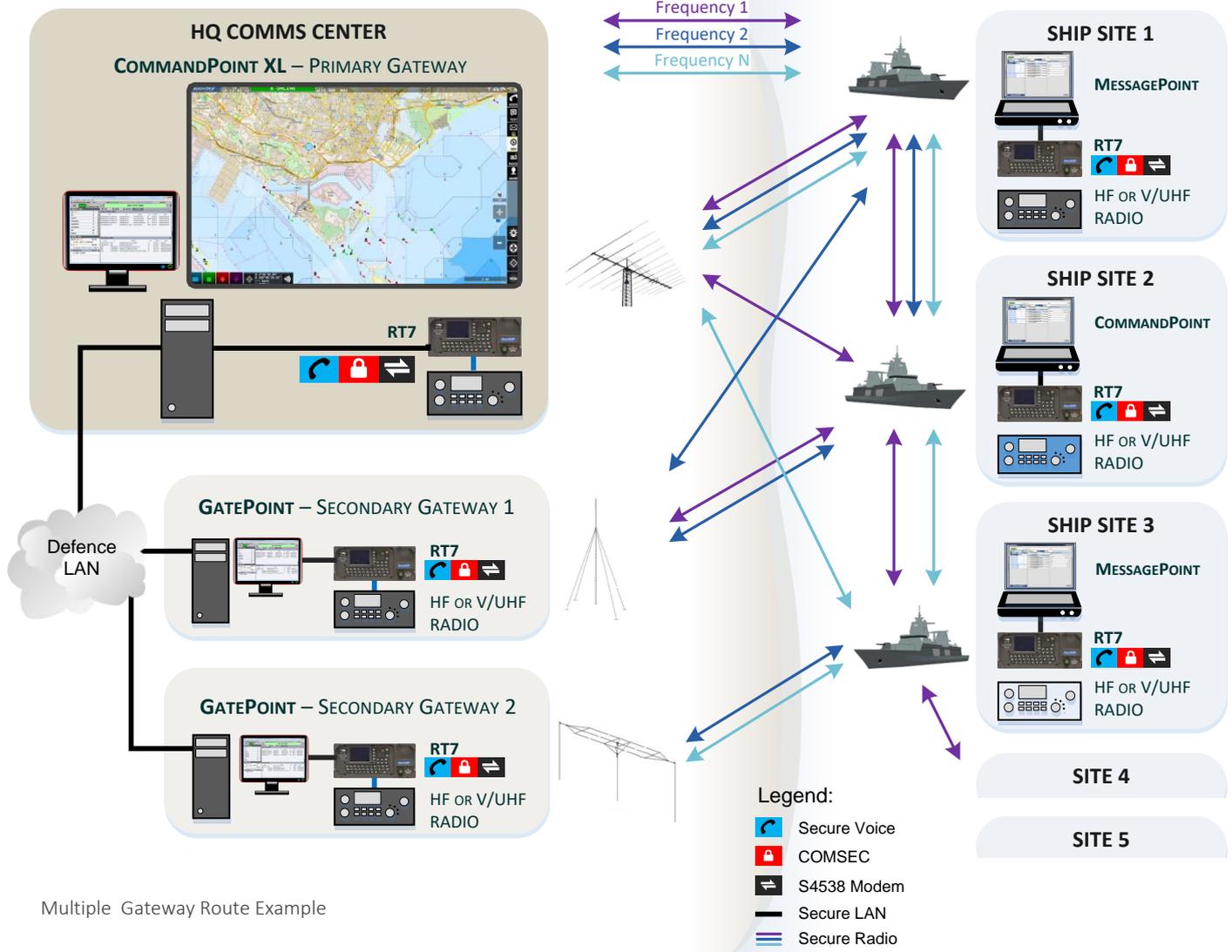
Combined with the STANAG 4538 3G ALE capability of the RT Modems, multiple-frequencies can also be incorporated to provide further frequency diversity.

Multiple potential routes for data delivery also provide redundancy. A single point of failure is no longer catastrophic as alternate routes can be used.

Multiple potential routes also increases the overall network capacity because single resources will no longer bottleneck the network.

This combination of ultra-robust modems, spatial diversity, frequency diversity and redundancy greatly increases the connectivity of a network. In recent naval deployments, a connectivity improvement of 40% was seen by interconnecting four spatially diverse shore stations.





Multiple Gateway Route Example

MULTI-GATEWAY CAPABILITY	
MULTI-GATEWAY	Max 8 Gateway nodes per network 1x Primary gateway 7x Secondary gateways Broadcast repeater capability Multi-hop routing
SECURITY	Elliptic Curve Diffie-Hellman key exchange over TCP/IP network AES-256 encryption over TCP/IP network
GATEWAY FUNCTION	Interface between Radio Network and Fixed Network (TCP/IP), Multiple Gateway support, GSM SMS Gateway
VOICE SUPPORT	Secure Digital and Analogue voice support. Point-to-point (Private Line) or Broadcast calls. No voice routing capability.
OPERATING SYSTEM	Windows 7, 8 and 10.
MINIMUM SYSTEM REQUIREMENTS	512 GB Storage. SSD recommended. 8GB RAM Memory 10/100 Ethernet Port
2 Displays with a Minimum Resolution of 1024x768 each (CP XL only) Compatible GSM Modem (for SMS gateway functionality) Email Relay Server for email Gateway function: MS Exchange, HMail, etc	
GATEPOINT & COMMANDPOINT XL INTERFACES	
MODEM / RADIO	Ethernet TCP/IP
FIXED NETWORK	Ethernet TCP/IP: SMTP, POP3
SUPPORTED MODEMS	RT7, RT5, RT3

ORDERING INFORMATION	STOCK NUMBER	DESCRIPTION
PC S/W: COMMANDPOINT XL VER 4	RAP-PC-CXSWC4	CommandPoint XL Software Version 4
PC S/W: GATEPOINT VER 4	RAP-PC-GPSW-VE4	GatePoint Software Version 4
PC S/W: GATEPOINT VER 4 – EIGHT LICENSES	RAP-PC-GP08-VE4	GatePoint Software x8 Version 4

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Revision: MGW_EN_01C