



KLAS TELECOM



VOYAGER m-Series

COMMUNICATE MORE
CARRY LESS

Since its launch in 2012, Voyager has become the standard rugged, deployable communications solution for many US and partner nation special operations, traditional military, and first responder organizations. With a wide range of low SWaP, common form-factor network modules, including Cisco-based routing and switching, compute, cellular and radio integration, Voyager's scalability has proven ideal for supporting small to large team deployments using the various Voyager chassis options.

Measuring just half the height of a standard Voyager module, m-Series provides the same technology with lowered SWaP while remaining compatible with the standard Voyager form factor. The m-Series increases the flexibility and scalability of the Voyager system and users can better tailor its features to meet their requirements.

Communicate more, and carry *even* less with Voyager m-Series.

Voyager m-Series Modules



VoyagerERm



VoyagerERm router module

- Embedded Cisco 5915 ESR
- Full Cisco IOS support including routing, VPN, Call Manager Express, DLEP radio integration & WAAS Express WAN Acceleration

Options

- VoyagerERm-CP1: Cradlepoint IBR600NM wireless module with Wi-Fi LAN/WAN, 3G/LTE cellular client
- VoyagerERm-CP2: Cradlepoint IBR600P with two external modem antennas and two 2.4 GHz 802.11n Wi-Fi antennas with integrated 3G/4G modem
- VoyagerERm-NW: No wireless module. A blanking plate is provided
- VoyagerERm-WR: Persistent Systems Wave Relay mesh radio



VoyagerESm

VoyagerESm switch module

- Embedded Klas Layer 3 switch
- Port security, 802.1x, STP, IGMP, SNMP
- Voyager Ignition Key (VIK) functionality



VoyagerVMm

VoyagerVMm compute module

- Intel Processor
- Supports Virtualization
- Platform for Riverbed WAN Acceleration, Twisted Pair WAVE, Cisco IPICS, Cisco 5921 Software Router



VoyagerLMRm

VoyagerLMRm radio module

- E&M interface module for Land Mobile Radio integration
- Supports Harris, Motorola systems
- Multicast support for integration with Twisted Pair WAVE, Cisco IPICS
- Voyager Ignition Key (VIK) functionality

m-Series Key Features

- Half the height of standard Voyager modules at 7.4" wide x 5.7" deep x 1" high
- Low power consumption
- Cisco-based technology
- Lightweight extruded aluminum construction
- Data & power backplane to simplify cabling

Example Configurations



Red/Black Solution

- VoyagerERM black-core router providing connectivity over SATCOM but also commercial Wi-Fi & cellular
- Sled to power HAIPE encryption device. Supports KG-250X, KIV-54 or KG-175D (mounted separately)
- VoyagerESm on high-side including VIK functionality



Enclave with WAN Acceleration

- VoyagerVMm compute platform running Riverbed Virtual Steelhead
- VoyagerESm switch for user connection
- Enclave HAIPE device
- Optional Cisco 5921 routing on VoyagerVMm



Two Enclaves with Colorless Core

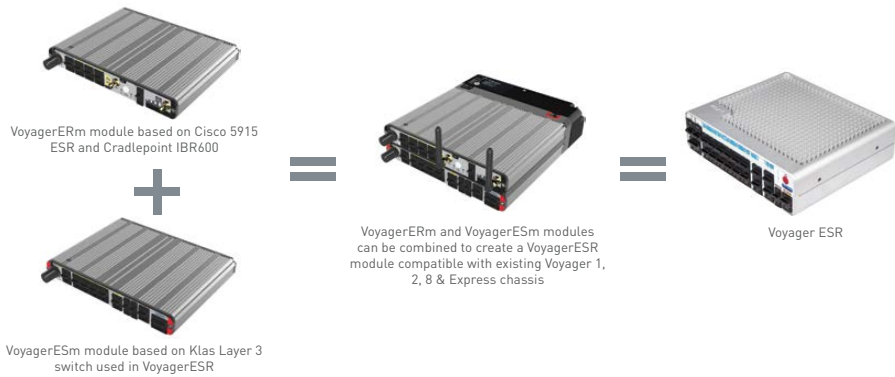
- Simultaneous dual enclave with colorless core
- SATCOM, cellular, Wi-Fi transport options



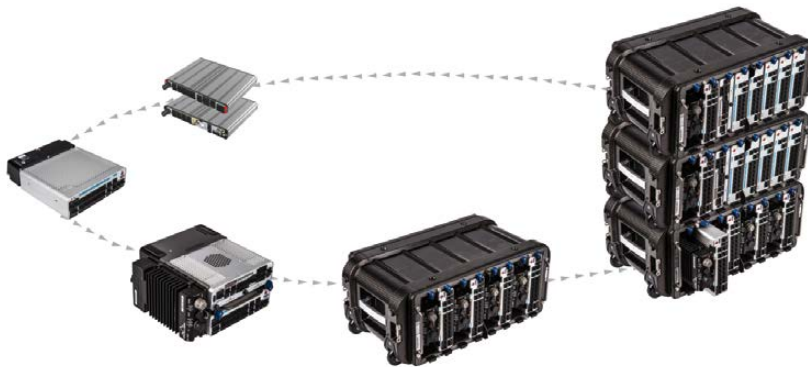
VoyagerECK

- Executive communications solution with VoSIP and multi-enclave data capability in a small, portable package
- Built-in cellular and Wi-Fi transport options
- Includes removable VoyagerERM and VoyagerESm modules

Compatibility



Any two Voyager m-Series modules combine into a unit with the same form factor as a standard Voyager network module



By maintaining compatibility with the standard Voyager form factor, m-Series modules can form the core of an increased capacity network system

Additional Components

- **Voyager Personality Bracket (VoyagerPB):** Mates two Voyager m-Series modules to make them compatible with a range of Voyager chassis.
- Two versions are available. One version couples the modules through the backplane, and the other exposes the modules' connectors for external use.



Specification

Common (unless otherwise stated)

- **Size:** 7.4" W x 5.7" L x 1.0" H (188 mm x 145.2 mm x 26 mm)
- **Operating Temperature:** -25°C to +60°C
- **Compliance:** MIL-STD-810G, IEC 60529, MIL-STD-461E, FCC Part 15B
- **Power:** 10-18 VDC Input

VoyagerERm

- **Weight:** 1.8 lb / 0.8 kg
- **Ports:** 1 x RJ-45 Console, 4 x Fast Ethernet, 1 x USB
- **Electrical:** 48 VDC input for PoE; 15 W power consumption
- **Router:** Cisco 5915 ESR (FIPS 140-2 level 1)
- **Management:** Cisco IOS; SNMP v1, v2, v3
- **Wi-Fi:** 802.11n
- **Cellular:** 4G LTE, 3G EVDO, WiMAX, HSPA+, LTE/HSPA+
- Optional modules available

VoyagerESm

- **Weight:** 1.8 lb / 0.8 kg
- **Ports:** 1 x RJ-45 Console, 4 x Fast Ethernet, 1 x Gigabit Ethernet, 2 x USB, 1 x FXS, 1 x VIK
- **Electrical:** 48 VDC input for PoE; 15 W power consumption
- **KRTv4 Switch:** Auto-sensing 10/100 BaseT; Cisco Discovery Protocol VLAN; IEEE 802.1Q port VLAN; Multiple Spanning Tree Protocol; Voice & Data VLAN; IEEE 802.1x MAC authentication; Layer 3 features include G.729 transcoding, NHRP, Multipoint GRE/DMVPN, OSPF
- **Removable Storage:** Voyager Ignition Key (VIK)
- **Management:** KlasOS 5; SNMP v1, v2, v3

VoyagerVMm

- **Weight:** 2.2 lb / 1.0 kg
- **Operating Temperature:** -30°C to +50°C
- **Ports:** 2 x Console, 2 x Gigabit Ethernet, 2 x USB 3.0, 1 x DisplayPort++, 1 x VIK, 1 x SSD
- **Electrical:** 20 W power consumption
- **CPU:** 5th Gen Intel® Dual-Core™ i5-5350U (1.8GHz); 32 GB DDR3 RAM; Intel vPro / IPMI; Intel Virtualization Technology; IPMI management
- **Storage:** Samsung 850 EVO 250 GB mSATA SSD; Up to 540 MB/s sequential reads; Up to 520 MB/s sequential writes

VoyagerLMRm

- **Weight:** 2.2 lb / 1.0 kg
- **Ports:** 4 x RJ-45 E&M PTT ports, Ethernet uplink and downlink, 1 x Console
- Configuration options for polarization of PTT (M) and squelch (E)
- **VOIP Protocols:** SIP 2.0, G.711, G.726, G.729A, G.723.1 (5.3/6.3kbps MP-MLQ), G.729 Annex A (8kbps CS-ACELP), G.726 (16-40kbps ADPCM), G.727 (16-40kbps E-ADPCM), G.711 (64kbps PCM) μ-law or A-law