

Radical X-1100

Enabling a truly location independent enterprise infrastructure

BENEFITS

- Unprecedented Reach:**
 Extends high-speed local fabrics over global — and even satellite — distances
- Rapid Data Transfer:**
 Enables predictable, economical and lossless movement of data substantially faster than normal methods
- High Availability:**
 Offers carrier-grade redundancy that supports continuous operations
- Cost Savings:**
 Maximizes use of your existing infrastructure, leading to lower operational costs
- High Scalability:**
 Supports scalable interfaces, from Mbps to 100Gbps, and standard routing protocols for multi-point configurations



Major challenges created by astronomical growth of distributed data—global reach, capacity scalability, movement and access of large data and timely frequent delivery/access of the same—can be solved by creating a truly location-independent infrastructure. Vcinity’s Radical X™ (RAD X) family provides low latency, high performance connectivity—allowing businesses to take command of geographically dispersed compute and storage resources, with the immediacy of local access. Purpose-built for high performance data environments, RAD X-1100 creates an infrastructure that’s truly location independent by leveraging patented Global Fabric Extension technology. It supports a high density of speed-selectable interfaces delivering a scalable and power efficient system that is complimented by an open software architecture with standard interfaces/protocols for data, control and management functions.

Feature	Description / Benefit
High interface density	360Gbps interface density in a compact 1 RU form factor
Switching capacity	600Gbps non-blocking switching
Speed-selectable interfaces	From Mbps to 100Gbps terrestrial and satellite connections
ANY MAN/WAN service	Point-to-point optical datagram service, point-to-point/point-to-multipoint (E-Line/E-LAN) full-rate or partial rate Ethernet service, layer 2 Virtual Private Network (L2VPN) service, MPLS-TE service, legacy WAN service or dark fiber
Concurrent, multiple LAN fabrics	1/10/25/40/100G RoCE (RDMA over Converged Ethernet) and FDR/EDR InfiniBand interfaces aggregating concurrently to a single network service
Carrier grade redundancy	Field-replaceable and redundant power supplies and fan modules result in high availability and continuous operations
Modular platform design	Reuse of modules across different models of this product family reaching multiple Tbps of capacity
Enhanced buffer architecture	Deep buffers - unprecedented fabric reach (e.g., RTT from 2500ms @10Gbps to 250ms @ 100Gbps) Dynamic allocation of buffers for policy-driven flows - on-demand configurable data plane
Fabric routing	Standard routing protocol for connection of geo-diverse locations over topology-agnostic multi-point network configurations
Open control and management interfaces	SNMP v2/3, NETCONF, RESTCONF, HTTPS, SSH, CLI (console)
In flight encryption	AES256 ¹ from Vcinity™, MACsec

¹Governed by Export Administration Regulation under ECCN 5D002

Specifications

Systems Overview

Switching	600Gbps non-blocking switching capacity.
Interface	RAD X-series interface modules (RAD XM) to be plugged into three front pluggable slots on the system. 360Gbps total interface capacity.
Control	RAD X-series system controller module (RAD XC) with BITS timing interfaces, serial and Ethernet management interfaces to be plugged into one of the two rear pluggable slots on the system.
Processing	RAD X-series advanced processing modules (RAD XP) to be plugged into one of the two rear pluggable slots on the system.
Fabric Reach	Round-trip time (RTT) of 2500ms @10Gbps, 625ms @40Gbps, 250ms @100Gbps.

Chassis

Form Factor	1U, 19-inch standard rack mount
Dimensions	1.72" High x 17.27" Wide x 21.31" Deep (4.37 cm x 43.87 cm x 54.13 cm)
Weight	Fully configured, 20.0 lbs. (9.07 kg)
Ventilation	Forced air system with front-to-back airflow
Acoustics	Intelligent, speed-controlled fans for low-noise operation
Indicators	AC power input, system status, and link/activity LEDs
High Availability	Redundant, hot-swappable AC power supplies and fan modules
Warranty	1 year for hardware

Power and Environmental

Power Input	90-264 VAC (47-63Hz), auto-voltage sensing
Power Supplies	2 x 800 Watts, dual AC input, hot-swappable
Power Consumption	<600 Watts
Temperature	Operating: 32°F to 104°F (0°C to 40°C) Storage: -40°F to 158°F (-40°C to 70°C)
Humidity	Operating: 10% to 85% RH, non-condensing Storage: 5% to 95% RH, non-condensing

BITS Timing Interfaces

Interface	2x Stratum 3/3E BITS interfaces compliant to GR-1244-CORE (Issue 2), GR-253-CORE (Issue 3), ITU-T
Port Type	RJ point five connector
Physical Layer	T1/E1 framed input/output



Management and Monitoring

Ethernet:	RJ45 (Full Duplex 10/100/1000Base-T w/ auto MDI-X)
Serial:	RJ45 (RS-232)
Protocols:	HTTP/HTTPS, Secure Shell (SSH)
User Interface:	Web-based Graphical User Interface - GUI (HTTPS), Command Line Interface - CLI (Console and SSH)
User Authentication:	Supports multiple user accounts and privilege levels, LDAP
Remote Monitoring:	SNMP (v2/3) managed object support, Syslog
Configuration:	Plaintext file format with backup and restore capabilities, NETCONF, RESTCONF, SNMP
Software Upgrades:	Web-based image upload or URL-based image download

Interfaces



RAD X Interface Modules

- **XM-ETH-MR-12-S:** 12x 1/10GE ports
- **XM-ETH-40G-3-Q10:** 3x 40GE ports
- **XM-ETH-40G-2-Q28:** 2x 40GE, 2x 25GE, 4x 1/10GE
- **XM-IB-FDR-2-Q28:** 2x FDR, 2x 25GE, 4x 1/10GE
- **XM-ETH-100G-1-Q28:** 1x 100GE, 2x 25GE, 4x 1/10GE
- **XM-ETH-100G-1-C:** 1x 100GE port
- **XM-IB-EDR-1-Q28:** 1x EDR, 2x 25GE, 4x 1/10GE

* Any of the three slots can house any of the above RAD X Interface Modules.
** Contact sales@vcinity.io for availability.



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