



data communications

MiRiCi-155 Version 1.0B

Intelligent SFP-Format Remote Bridges

The innovative SFP-format MiRiCi is a remote bridge connecting LANs over SDH circuits. Housed in a small form-factor, pluggable (SFP) enclosure, it is designed for quick and simple insertion into any Ethernet device port with a compatible SFP socket. These unique devices are perfect for providing transparent LAN services over leased lines and remote branch connectivity over STM1//OC3 circuits. MiRiCi forwards Gigabit Ethernet packets to a TDM-based WAN at full-duplex wire-speed, fully utilizing the expensive TDM bandwidth.

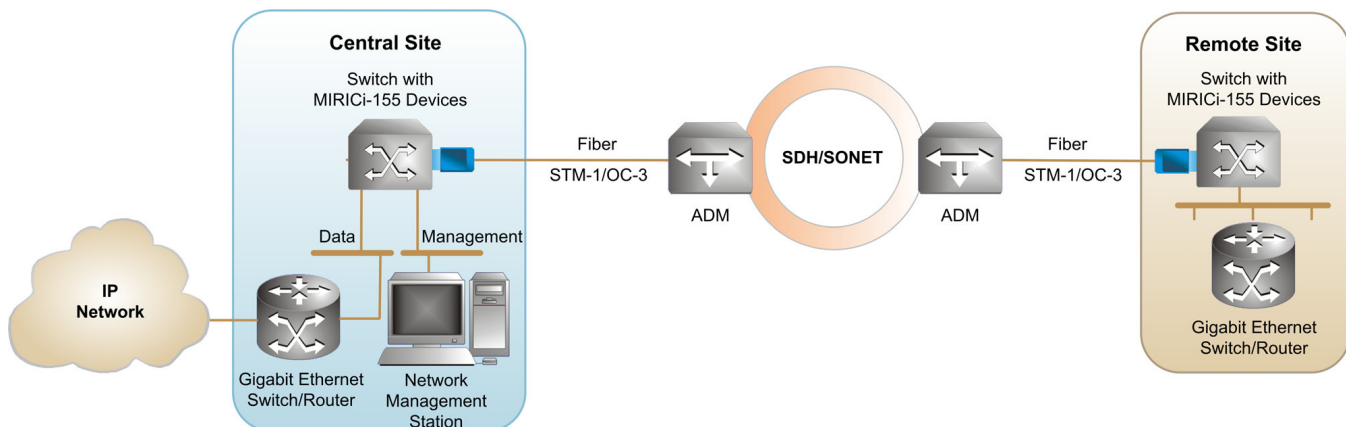
Enhanced management for control status is supported via inband Ethernet packets and out-of-band I²C.



Market Segment

MiRiCi SFP-format bridges are simple and cost-effective alternatives to external, standalone bridge units or expensive line cards. They simplify management and save space, power consumption and cabling. The compact SFP plug format is an ideal and flexible solution for carriers and service providers who want to bridge their Ethernet LANs over TDM-based WANs. MiRiCi SFP-format bridges are suitable for applications in private enterprise and campus networks, and permit easy adaptation of routers or switches for transmission over TDM-based infrastructures. If the transport network changes to Ethernet, the MiRiCi devices can be quickly removed and reused elsewhere.

Typical Application



RELEASE NOTE



Main Features

Feature	Description
Providing Gigabit Ethernet connectivity over SDH/SONET networks.	-Full-duplex 1000Mbps Ethernet remote bridge over STM1/OC3 -MiRiCi-155 uses standard GFP encapsulation according to ITU-T G.7041/Y.1303 requirements.
QoS	-For prioritizing user traffic, MiRiCi-155 features up to four separate queues. -The queues handle traffic with different services based on VLAN priority (802.1p), enabling mapping the 8 priority levels of VLAN to 4 traffic classes.
SNMP TRAPS	-Enables sending traps to up to 8 management stations. -The traps will include also the "Sys location" parameter, which enables the user to indicate and identify the trap from the specific MiRiCi (in case of many ports/MiRiCi units on one switch) -The sys location can be updated via Web or SNMP, and will be attached to trap messages.
Remote SW Download by TFTP	-SW download and File CFG download via I2C and/or TFTP.
DHCP Support	-Supports DHCP client to obtain IP address, mask and default gateway.
Support Ethernet OAM based 802.3ah	-Ethernet link OAM based on 802.3-2005 (formerly 802.3ah)
Support for QinQ	-Programmable Carrier VLAN tag insertion.
Statistics	-Ethernet Statistics
Loop Detection	-Enables detecting loop on LAN side or WAN side by sending special frame (with VLAN). When loop is detected on one side, the MiRiCi blocks the data traffic forward to the same direction. -Loop detection on WAN and LAN side by sending special VLAN frames, blocking data traffic in that direction. -On WAN-side loops, traffic is blocked, traps and alarms are sent. -On LAN-side loops, traffic is not blocked.
Inband Management	-Inband via the Ethernet port using a Web browser.
Fault Propagation	-Fault propagation to LAN link (according to several alarms)
Diagnostics	-Remote (RLB) and local loopbacks (LLB) are used for physical layer. -Troubleshooting
LAN Traffic	-LAN traffic transported transparently
Flow Control	-Flow control mechanism for LAN and WAN traffic.
Traffic Management	-Pause frames are generated whenever the internal buffer reaches its high-water mark.
MSA Compliance	-Bridges support Multisource Agreement (MSA) product identification codes
Hot-Swappable	-Bridges are hot-swappable, with special release mechanism
Inter-operability	-Operates opposite remote MiRiCi units or any Ethernet switch that supports standard GFP.

RELEASE NOTE

Management

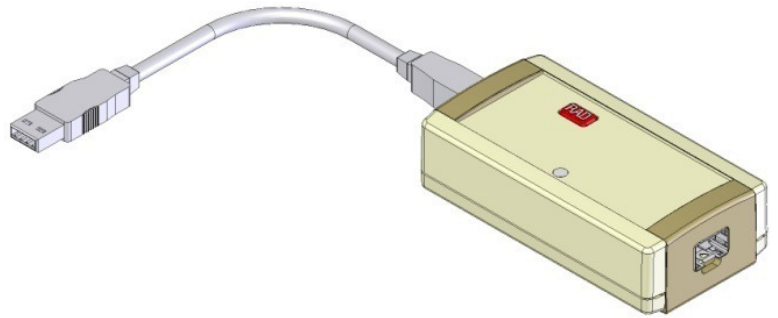
The unit can be monitored, configured and tested:

- Out-of-band via the IC channel (of the SFP edge connector)
- Inband via the Ethernet port using a Web browser.

SFP Configuration Adapter

SFP-CA is an optional adapter module used to configure MiRiCi by connecting it to a PC via a USB port.

The configuration adapter is used for preliminary configuration, such as assigning an IP address for initial use or specifying the mode of operation. It is also used to download software to the MiRiCi units.



Compatibility

MiRiCi-155 operates opposite the following devices using standard encapsulation:

- RAD's RICI-155GE (Central Ethernet gateway)
- RAD's FCD-155GE
- Third-party devices that support standard GFP encapsulation.

Limitations

- Power Consumption: 1.5 watt limitation