µFalcon

Network Termination Unit

- Carrier Ethernet demarcation device delivering business-class Ethernet services and mobile backhaul over fiber infrastructure

- MEF compliant, supporting Ethernet Private Line (EPL) and Ethernet Virtual Private Line (EVPL) services with flexible mapping of the user traffic into Ethernet flows

- Complete Ethernet OAM toolbox based on IEEE 802.1ag, ITU-T Y.1731 and RFC2544 for Opex reductions

- Unique Micro-Burst Detection (MBD) technology for microsecond granular SLA monitoring

- Advanced high speed protection mechanisms for link, path and ring service resiliency

Product Overview

The **µFalcon** is a dedicated, cost-effective Ethernet Access & Demarcation device delivering Metro Ethernet services. It is designed to work as an Ethernet Demarcation Device (EDD) or a Network Termination Unit (NTU) at the customer premises, providing a physical User Network Interface (UNI) for Ethernet based services.

With the **µFalcon**, Network operators can standardize on a single platform that covers their Next Generation Network access needs.

The **µFalcon** provides 4 x 10/100/1000BaseT user ports and 2 x 1000BaseX SFP PowerLink ports, as well as a console port.

DS7060R0412

Current MEF defined services (EPL, EVPL, ELAN, etc) can be delivered with the **µFalcon** series and can further be protected through use of high performance mechanisms for link, path, and ring resilience.

A **unique Micro-Burst Detection** (MBD) technology for microsecond granular SLA monitoring is incorporated in the system, helping to detect, alert, and report nearly invisible traffic anomalies, which is essential in highly QoS-sensitive applications, such as financial, healthcare, etc.

The system implements current OAM standards (802.3ah, 802.1ag, Y.1731) with HW assist as well as proactive measurements and alarming facilities.

To complete the OAM toolset, the **µFalcon** has a built in packet generator and analyzer to implement RFC2544 for quick service turn-up and verification

The **µFalcon** offers advanced Quality of Service (QoS) features including classification and mapping according to layer 2 to layer 4 attributes.

The **µFalcon** is housed in a highly compact, half-19", 1U chassis (150mm deep only), and has an integrated internal, wide range AC or DC power supply.

All the above result in highly capable, cost effective demarcation unit.

Technical Specifications

Interfaces & Indicators

- 4 x 10/100/1000BaseT (RJ45)
- 2 x 100BaseFX/1000BaseX (SFP, PowerLink)
- Supported SFPs: MM, SM, SFS, CWDM, DWDM, Copper
- 1 x RS232 (RJ45) Console
- *LEDs*:
  o Power
  o Alarm
  o Link/Activity (per port)
  o Speed (RJ45 ports)
  o In Use (SFP ports)
  o Tx Low (SFP ports)

Architecture & Forwarding

- Dual Hybrid Core (DHC) HW architecture
- Data plane upgradable (DPU)
- 64MB RAM, 32MB flash memory
- L2 forwarding
- Performance: wire-speed, on all ports, all frame sizes
- Total throughput: 6Gbps/FDX, non-blocking
- MTU: 9600 bytes per port
- MAC table: 8K addresses
- VLANs: 1K concurrent
- Provider bridging: 802.1ad (Q-in-Q)
- Private VLANs
- L1-L4 ACLs
- *Multicast*:
  o IGMPv3 snooping
  o Up to 8K MC groups

Quality of Service

- Classification based on L1-L4 info
- Ingress policing
- 5 HW queues/port
- Egress shaping
- Scheduling: SP,WFQ
- DSCP remarking
- Storm control: UC, MC, BC

Protection

- *Link:*
  o Link aggregation: static or LACP
  o Instant Link Protection (<100usec)
- Linear: <50msec
- Ring: <50msec
- *Fault propagation*:
  o Port, service, combinations
  o Inverse, block actions/logic
  o Multiple concurrent rules
- Spanning tree: STP, RSTP, MSTP

OAM & Diagnostics

- IEEE802.3ah link OAM
- IEEE802.1ag CFM
- ITU-T Y.1731 PM (HW based measurements)
- RFC2544 traffic generator & analyzer (up to wire speed)
- L2 loopback w/ MAC swap
- Micro Burst Detection (MBD) with logging and reporting
- Throughput metering
- Copper TDR
- SFP diagnostics (SFF-8472)
- Traffic mirroring

Management

- *Interfaces:*
  - CLI: Console (RS232), Telnet, SSH1/2
  - SNMP: v1/v2c/v3, extensive MIBs
  - Web: HTTP/HTTPS
  - Management VLAN
  - IPv6 management
- *Authentication:*
  - RADIUS, TACACS+
  - Multiple local users
  - User access levels (15)
  - Management ACLs
  - 802.1x (port/MAC based)
- *Operations:*
  - Remote System Update (TFTP or Web)
  - Configuration upload/download (TFTP or Web)
  - Auto-configuration
- *Alarms:*
  - SNMP traps
  - CLI events
  - Dying gasp (802.3ah or SNMP trap)
- Remote temperature reading & alarm
- DHCP client & relay (incl. option 82)
- Link discovery: LLDP, CDP snooping
- Per port and service detailed statistics
- NTPv4

Power & Environmental

- Internal power supply
- AC/DC: 100-240VAC, 50/60Hz or 125VDC
- DC: 20-60VDC
- *Power consumption:*
  - Maximum: <13W
  - Typical: <10W
- Passive cooling (no fans)
- *Operating temperature:*
  - Standard: -10°C ÷ +50°C
  - Extended: -40°C ÷ +65°C
- Storage temperature: -40°C ÷ +80°C
- Humidity: 10-90%, non-condensing
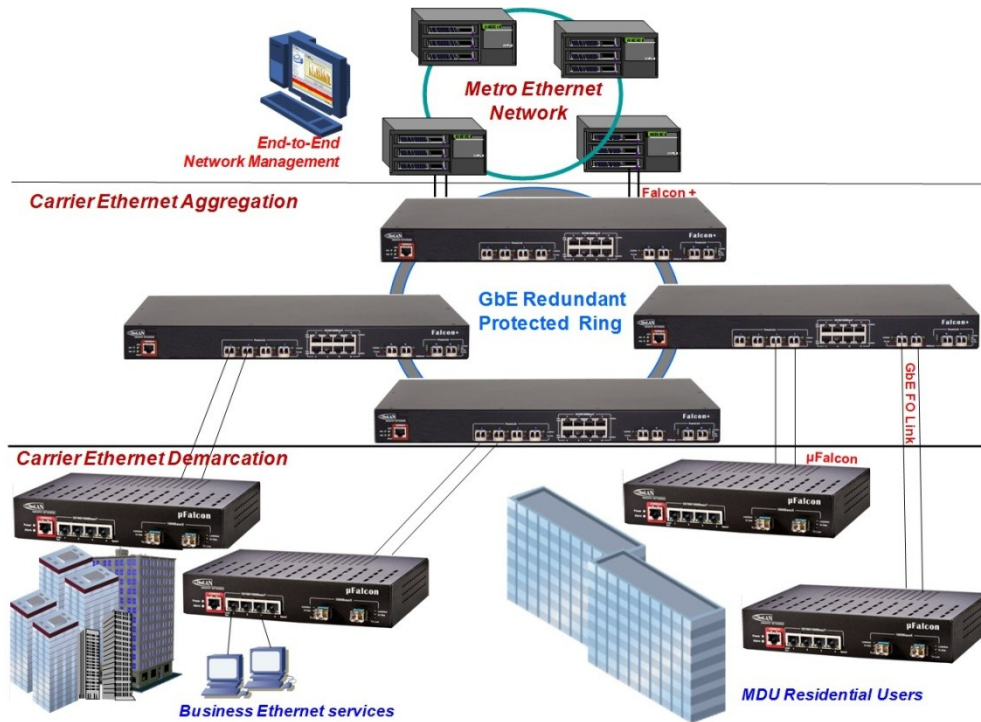
Physical

- Dimensions (HxWxD): 44x221x150mm
- Weight: ~650g
- *Mounting:*
  - Desktop
  - Rack
  - Wall
- *Accessories:*
  - Power cable
  - Console cable
  - Rack mounting kit (optional)

Regulatory & Compliance

- *Safety:*
  - IEC EN60950-1
- *EMC:*
  - EN 300 386 V1.3.3: Class B
  - AS/NZS CISPR22:06
  - FCC CFR 47 part 15, subpart B, Class A
- MEF: MEF9, MEF14
- CE
- RoHS

Typical Application: Business/MDU Access

Ordering Information

Model	Part#	Description
μFalcon	7060	Ethernet Demarcation Device, 4xRJ45 (10/100/1000BaseT) ports, 2xSFP (1000BaseX) ports, internal AC/DC (100-240VAC/125VDC) Power Supply
μFalcon/D	7061	Ethernet Demarcation Device, 4xRJ45 (10/100/1000BaseT) ports, 2xSFP (1000BaseX) ports, internal DC (20-60VDC) Power Supply
μFalcon/ET	7074	Ethernet Demarcation Device, 4xRJ45 (10/100/1000BaseT) ports, 2xSFP (1000BaseX) ports, internal AC/DC (100-240VAC/125VDC) Power Supply, Extended Temperature (-40°C ÷ +65°C)
μFalcon/D/ET	7075	Ethernet Demarcation Device, 4xRJ45 (10/100/1000BaseT) ports, 2xSFP (1000BaseX) ports, internal DC (20-60VDC) Power Supply, Extended Temperature (-40°C ÷ +65°C)

Specifications are subject to change w/o prior notice

Note: for a complete list of available Falcon models, please contact FibroLAN

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