PRODUCT RIDER — ETHERNET AND WAN SERVICES

E-Line, E-LAN, E-Tree, Dual-homed and Transport · Ver.1 · Effective 2026-10-01

This Rider applies to the Ethernet and WAN transport Services stated on the Order Form and is part of the CSA. Capitalized terms not defined here have the meaning given in the Terms. In a conflict, the order of priority in Section 1.1 of the Terms applies. This Rider does not repeat the Terms; delivery, acceptance, charges, liability, Access Provider and Facility Operator provisions are in the Terms.

1. THE SERVICES

1.1 FiberFed carries Ethernet frames between Customer's Service Locations across the FiberFed Network. The Order Form states which of the following Customer has ordered, the Service Locations, the role of each Service Location, the bandwidth, the Service Tier and the charges.

Service on the Order Form	Shape	What it does
Point-to-Point (E-Line: EPL / EVPL)	two Service Locations	one Ethernet Virtual Connection between two Service Locations. EPL uses a dedicated port at each end; EVPL allows several connections to share a port.
Hub-and-Spoke WAN (Hierarchical E-LAN)	many-to-one, with transit	each Service Location connects to the **Hub Site**; Service Locations may also reach one another through the FiberFed Network.
E-Tree (EP-Tree / EVP-Tree)	many-to-one, isolated leaves	each leaf Service Location reaches the root **Hub Site** only. **Traffic between leaf Service Locations is blocked by design, and FiberFed does not carry it.**
Multi-root E-Tree (multi-hub WAN)	many-to-two or more	two or more **Hub Sites**, each a root. Each leaf Service Location is homed to the Hub Site stated on the Order Form and reaches the roots; **roots reach one another; traffic between leaf Service Locations remains blocked**, including between leaves homed to different Hub Sites.
Dual-homed WAN (Dual E-Access)	two circuits per site	each Service Location takes two access circuits, to two Hub Sites or two aggregation points, diverse where the building and available facilities allow.
Full-Mesh E-LAN (EP-LAN)	any-to-any	every Service Location reaches every other through the FiberFed Network, with no Customer hub.
Transport to a named hub (E-Line / EVPL)	per-site transport	per-Service-Location transport to a hub location Customer names, which may be a third-party or hosted facility.

1.2 DIA add-on. Dedicated Internet Access may be added at a Hub Site, at every Service Location, at two data centers, or not at all, as stated on the Order Form. DIA is governed by the **DIA Rider**.

1.3 Hub Site. A **Hub Site** is a Service Location designated as a hub on the Order Form. A Hub Site carries aggregated traffic for the Service Locations homed to it. Where a Service Location's traffic must transit a Hub Site, unavailability of the Hub Site is treated as stated in Section 4.4 of the SLA. Where Customer names a hub at a location FiberFed does not serve under this CSA, FiberFed delivers transport to that location's demarcation point only, and is not responsible for anything beyond it.

1.4 Hub sizing. Where FiberFed sizes a Hub Site circuit on an oversubscribed basis, the quote states the basis used. Oversubscription is a sizing assumption, not a service level; the committed bandwidth for each Service is the bandwidth stated on the Order Form.

2. SERVICE ATTRIBUTES

> ***For NOC and engineering validation.*** *The attributes in this Section state contractual defaults drawn from MEF service norms. They must be validated against FiberFed's current network configuration and the applicable Access Provider service descriptions before external use, and adjusted on the Order Form where a Service Location differs.*

2.1 UNI. The **User-Network Interface (UNI)** is the physical Ethernet port at which FiberFed delivers the Service at a Service Location, and is the demarcation point for that Service Location. The Order Form states the UNI speed and physical interface. The UNI is **1000BASE-LX, 1000BASE-T, 10GBASE-LR or 100GBASE-LR4**, as stated on the Order Form, full duplex, with **auto-negotiation enabled unless Customer requests it disabled**.

2.2 Port mode. A UNI carrying a single EVC is delivered untagged (Access) by default. A UNI carrying more than one EVC is delivered tagged (Trunk), with the VLAN identifier for each EVC stated on the Order Form. Where FiberFed is to tunnel Customer VLANs transparently, a QinQ port is required and must be ordered.

2.3 EVC. An **Ethernet Virtual Connection (EVC)** is the logical connection between two or more UNIs. The Order Form states each EVC, the UNIs it joins, and its bandwidth. Frames are delivered unconditionally, conditionally or not at all according to the service shape in Section 1.1; a multipoint EVC delivers broadcast, multicast and unknown-unicast frames to the other UNIs in the same EVC, subject to Section 2.7.

2.4 Bandwidth profile. Each EVC or UNI has a bandwidth profile stated on the Order Form as a **Committed Information Rate (CIR)**. Frames above the CIR are discarded. **FiberFed's Ethernet Services are sold flat-rate at the CIR and no excess information rate is offered.** Burstable billing applies only under the DIA — Data Center Rider.

2.5 Class of service. Unless the Order Form states a multi-class profile, the Service is delivered as a single class with no differentiation. Where a multi-class profile is ordered, the Order Form states each class, its CIR and its marking, and FiberFed maps Customer markings at the UNI as stated there.

2.6 MTU. The usable MTU for each Service Location is **the figure stated for that Service Location on the Order Form**. FiberFed's standard offering is a **usable MTU of 1,982 bytes**, in a 2,000-byte frame; **1,500, 4,000 or 9,000 bytes** are available where the path supports it, measured end to end. FiberFed does not carry frames above the figure stated for a Service Location.

A usable MTU above 1,500 bytes depends on the access circuit serving that Service Location carrying a frame larger than the usable figure, and **an Access Provider may limit the frame size at any Service Location**. Where FiberFed determines that a Service Location cannot carry the figure stated on the Order Form, FiberFed will notify Customer and the usable MTU for that Service Location is the largest size the path supports. **Frame size is a service attribute and not a service level**: no Service Credit arises from the frame size delivered at a Service Location, and Section 1.2(d) of the SLA applies.

2.7 Layer 2 control, broadcast and address limits. The Service is a transparent Layer 2 transport. FiberFed does not participate in Customer's spanning tree and may discard or tunnel Layer 2 control frames. **FiberFed may rate-limit broadcast, multicast and unknown-unicast traffic to protect the FiberFed Network. Point-to-point Services do not limit MAC addresses; for a multipoint Service, limits are stated on the Order Form.** Customer is responsible for loop prevention on its own network.

2.8 Aggregated access. FiberFed may deliver a Service Location over a dedicated interconnection or over an interconnection FiberFed engineers and shares across its own services. **How FiberFed aggregates access makes no difference to what Customer is owed**: every Service carries the Service Tier stated on the Order Form and the full SLA for that tier, and FiberFed sizes and manages its interconnections so that the tier is met. Where a Service Location cannot support an attribute — a multi-

class profile, a frame size above the default, or diversity — the Order Form states it for that Service Location.

2.9 Multi-site orders. Where a Service spans several Service Locations, FiberFed installs each as it becomes available and does not guarantee simultaneous delivery. **Billing for the Service begins when at least two Service Locations in the same EVC are installed and able to pass traffic**, and billing for each additional Service Location begins on its own Service Acceptance Date.

3. SERVICE LEVELS

3.1 Service levels, Service Credits, the chronic-outage termination right, and how availability is measured for multipoint Services (one Service Location down is not the WAN down) are in the **SLA**. Latency and packet-delivery commitments apply to DIA only.

3.2 Congestion from Customer traffic patterns. Where Customer's traffic pattern on a Service with a CIR above 2,000 Mbps causes verified excessive packet loss or congestion on the FiberFed Network, FiberFed will notify Customer. If FiberFed cannot resolve it, Customer may terminate the **affected Service only**, without a Termination Charge, by written notice within 30 days of the verification, and **that termination is Customer's sole remedy** for the impairment. FiberFed may also restrict or suspend a Service under Section 6.1(b) of the Terms where immediate action is needed to protect the FiberFed Network.

4. CUSTOMER COOPERATION

Customer's obligations for survey, access, escort, space, power and installation are in Sections 4 and 5 of the Terms and Section 6.3 of the SLA, and apply at **every** Service Location, including a Hub Site and any hub Customer names under Section 1.3. Failure to meet them at one Service Location does not suspend billing for Service Locations that are in service.