# Business Services

Carrier Ethernet for Business covers a wide variety of communication services offered to enterprises, SMBs, and corporate offices of all sizes.

The following are the areas in which high-bandwidth, low-latency and reduced-cost are enabling and improving applications.

- Site-to-site access
- Data center & server consolidation
- Business continuity/disaster recovery
- Service orientated architecture
- Software as a service
- Converged networking

Carrier Ethernet provides scalable, efficient and easy to manage solutions for enabling all of these services and applications.

**Business Services Application**
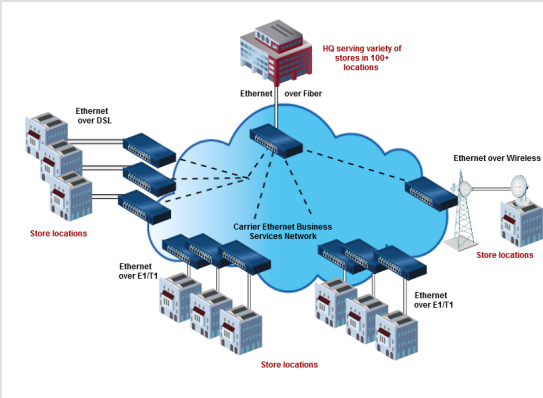


## Example

The following use case features a fashion retailer with over 200 store locations.

Limited bandwidth on legacy dial-up network required sending sales and stock information in batch uploads overnight. This delayed fulfilling restocking, resulting in the inability to quickly meet customer demand and poor utilization of resources. Security is a constant issue, but the CCTV is essentially an offline and reactive service.

The goals of the project in this use case are to increase capacity, improve network resiliency and scalability, provide the flexibility to simplify addition and removal of new stores matching retail environment and reduce cost by converging voice and data networks via VoIP and to improve security and fight stock shrinkage with national central CCTV monitoring ability.

The low cost solution is based on a mixture of enabling transport technologies. The EP-Tree service type is implemented to ensure separation between the divisional operations under the supervision of the corporate headquarters. This solution is based on standardized, certified, Ethernet Business Services and is shown in figure 1 at right.

EP-Tree is selected in order to facilitate a high-degree of transparency between the locations. It should be noted that each store location can communicate with any node designated as a root (HQ is this case), for example, enabling dual-homed UNI for additional resiliency, or enabling connectivity to a central storage location. The service will support two CoS levels: *H* for delay sensitive applications like VoIP and disaster recovery and *L* for any other type of traffic. *H* CoS is marked with PCP=5. *L* CoS is marked with PCP=0

In this use case the following attributes should be set at the HQ UNI:

**Status**

DRAFT

**Contributor(s)**

**Reviewer(s)**

**Source(s)**

| EVC per UNI Service Attribute | Recommended Value |
|---|---|
| CE-VLAN ID / EVC Map | All service frame are mapped to the Rooted multipopint EVC |
| Ingress Bandwidth Profile per EVC | CIR = 1 Gbps, CBS=250,000 bytes<br>EIR=0, EBS=0<br><br>CF=0, CM=0 |
| Ingress Bandwidth Profile per CoS ID | Not specified |
| Egress Bandwidth Profile per EVC | Not specified |
| Egress Bandwidth Profile per CoS ID | Not specified |

| EVC Service Attribute | Recommended Value |
|---|---|
| EVC Type | Rooted Multipoint |
| UNI List | UNI1 Root (HQ)<br>UNI2 Leaf<br>.<br>.<br>.<br>UNI 150 Leaf |
| EVC MTU Size | 1522 |
| CE-VLAN ID Preservation | Yes |
| CE-VLAN CoS Preservation | Yes |
| Unicast Service frame Delivery | Deliver unconditionally |
| Multicast Service frame Delivery | Deliver unconditionally |
| Broadcast Service frame Delivery | Deliver unconditionally |
| L2CP Processing | Tunnel all L2CPs |
| EVC Performance | For HP traffic, specify appropriate performance objectives |

## Multi-CEN Example
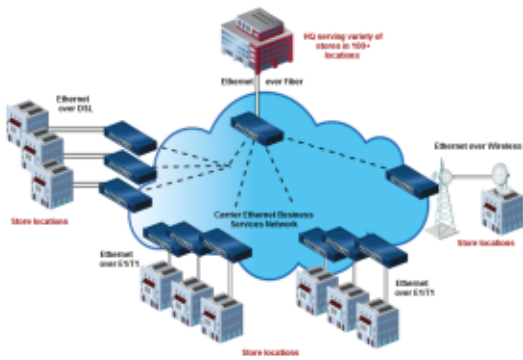
In some cases when an enterprise wishes to buy a site-to-site service from an SP, the reality is that the SP cannot reach all of the locations. This is because the SP does not have local facilities in the area to serve a site. In such a case, the SP contracts with another CEN Operator that has local facilities into these locations in order to provide the service.

In this following example (shown in figure 2 at right) we have two services:

- Point-to-point EVC between 2 subscriber sites (orange line)
- Multipoint to Multipoint service between 4 locations (red line)

The SP that also operates a CEN (right side) contracts Operator (left CEN) in order to reach all locations.

The Point to Point EVC is realized by 2 point-to-point OVCs (OVC A and OVC B) This can be an EVPL or EPL. For our example, we shall assume that the E-Line is EPL.

The Multipoint to Multipoint EVC is realized by 2 multipoint-to-multipoint OVCs (OVC C and OVC D).

However, the subscriber's UNIs are configured and the service is managed by the SP, with no customer awareness of the existence of the ENNI and OVCs.

The following attributes should be set for OVC A:

| Attribute Name | Recommended Values |
|---|---|
| OVC Identifier | OVC A |
| OVC Type | Point-to-Point |
| OVC End Point List | A list of OVC End Point Identifiers |
| Maximum Number of UNI OVC End Points | 1 |
| Maximum Number ENNI OVC End Points | 1 |
| OVC Maximum Transmission Unit Size | 1526 Bytes |
| CE-VLAN ID Preservation | Yes (in order to facilitate EPL) |
| CE-VLAN CoS Preservation | Yes (in order to facilitate EPL) |
| S-VLAN ID Preservation | No |
| S-VLAN CoS Preservation | No |
| Color Forwarding | No |
| Service Level Specification | Will be specified only in subsequent MEF 26.x versions |
| Unicast Service Frame Delivery | Deliver Unconditionally |
| Multicast Service Frame Delivery | Deliver Unconditionally |
| Broadcast Service Frame Delivery | Deliver Unconditionally |

**Example**

A *Request* refers to the act of asking that something be done and as such it is a type of Business Interaction. A specialized form a Request is a "Customer" *Order.*

A *Response* is a reply to a Request or an "Customer" Order and as such is a type of Business Interaction.

Further examples of *BusinessInteractions* are wholesale orders, information requests, and billing data inquiries.

**Related**

BusinessInteractionItem, Specification, Product, Service, Resource