Siklu
Magic in the air

EtherHaul™

Evolving Business Broadband Access: Best Strategies for Footprint Expansion

Siklu's EtherHaul™ Radio Links, with their Gigabit Capacity, Carrier Grade Features, and Lowest TCO are the Ideal Business Broadband Service Delivery Solution.

Challenge
Cost effective network footprint expansion, without compromising the optical network capabilities that business customers are demanding. Ultra-fast service activation times that is crucial for the competitive environment of business services.
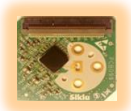
Solution
- Leverage EtherHaul™ wireless links for fast Gigabit extension of existing fiber network
- Expand connectivity and service options maintaining optical network standards
- When feasible and economically justifiable, extend fiber plant and move the EtherHaul™ link to a new location

Benefits
- Gradual pay-as-you-grow approach to network footprint expansion, starting with Gigabit wireless as a quick business needs response and progressing to fiber when profitable as a long term strategy.
- Carrier-grade capabilities at all stages.
- Gigabit capacity at the new site from day one.
- Integrated, adaptive & hitless, QOS scheme for reliable all-weather operation.
- Lightly licensed frequency band for profitable business model.

The Gigabit capacity and networking features of Siklu's EtherHaul™ radio links, enable Business Broadband Service Providers to use wireless backhaul to deliver a cost effective solution to one of the most challenging dilemmas: positive ROI expansion of the network's footprint to unserved businesses.

Siklu's Innovative All-Silicon Radio Card and Chip

The Challenge

Business Broadband Service Providers are looking for reliable and cost effective solutions to expand the footprint of their service offerings. Infrastructure expansion decisions need to be made fast. The heavy investment associated with servicing one building must be weighed against the potential for low client subscription from that building.

The common challenges Business Broadband Service Providers are facing while trying to build the infrastructure in business buildings are:

➢ **Market to setup time** for connecting an unreached business building. There are two main scenarios:
  1. Trying to close a deal with a multi-branched customer with pre-existing infrastructure present in only a percentage of branches may fail the whole opportunity.
  2. New business buildings that have unknown potential
➢ **Keeping the network's fiber based capacity and networking features** for assuring the SLA at wirelessly remote POP
➢ **CAPEX for establishing the new POP:**
  1. Work and materials for laying down the infrastructure for the new site
  2. Networking gear that enables seamless service delivery features and multiple ports
➢ **OPEX of the newly reached network POP:**
  1. Networking gear room and rental fee
  2. Power consumption

SOLUTION BRIEF

Siklu's Innovative Solution Leads Operators to a Profitable Network Expansion Strategy

An 'invest as revenue grows' approach, which perfectly expands a network's footprint in conjunction with revenue, is the most profitable strategy for enabling Gigabit capacity at unserved business buildings. Siklu's EtherHaul™ innovative all-silicon based millimeter-wave radios, operating in the uncongested lightly-licensed E-Band (70/80 GHz) spectrum, are the optimal solution.

Leverage the EtherHaul's networking and OAM capabilities and combine with your optical metro Ethernet network for premium SLA-based business services. Examples:

➢ Use link-trace messages for advanced e-line services that include transparent delivery of access port status
➢ Deploy loopback capabilities for fast professional remote troubleshooting including on-demand BW tests
➢ Enable L2CP transparency for L2 services business customers desiring it

The three phases for 'invest as revenue grows' deployment are:

1. Extend network's footprint with Gigabit capacity by installing Siklu's EtherHaul™ Gigabit radio at unserved business buildings.
2. As more customers gradually subscribe to the services at remote buildings, expand the service options and number of interfaces by adding your optical network's standard access multiservice router.
3. If and when capacities at the remote building justify fiber digging, the same standard access multiservice router will function now as the fiber demarcation unit, with minimal configuration adjustments.
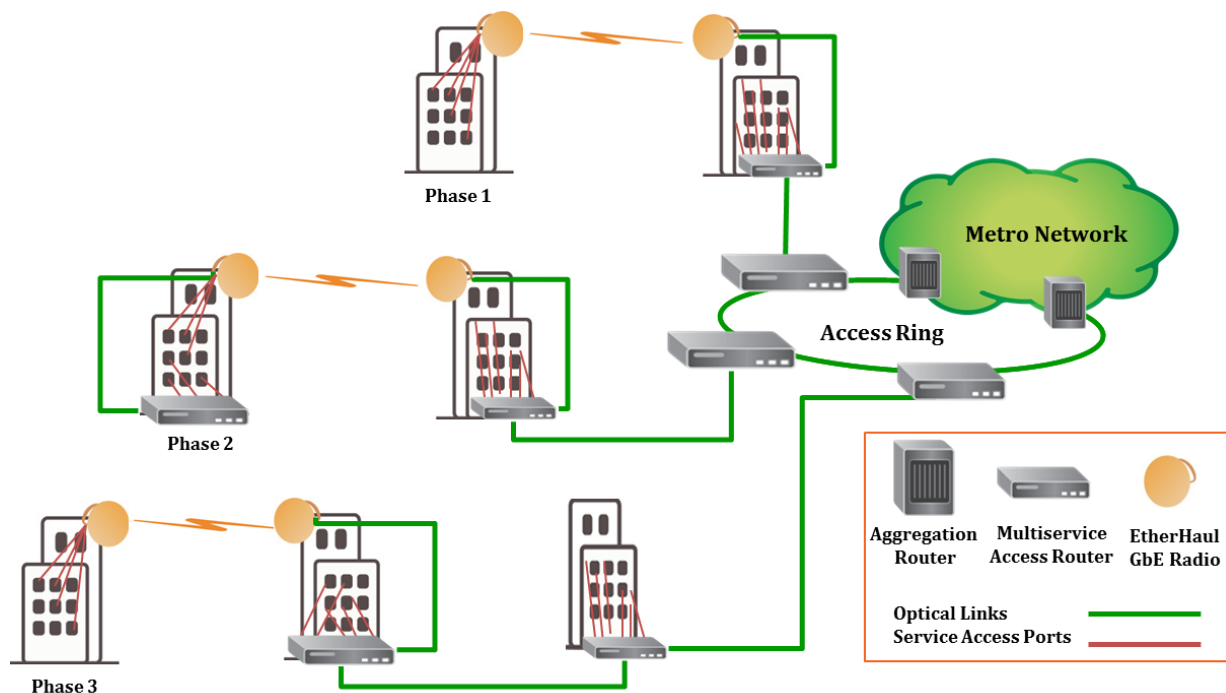

Figure 1: Evolving Remote Business Connectivity Solution

Solution's Benefits

At all phases:

- ➢ Full set of end-to-end metro network QOS and OAM capabilities for easier Service Level Assurance delivery
- o Advanced monitoring
- o Easier troubleshooting of network events
- o Differentiated services offering
- o Additional revenues options with Small-Cell backhaul capabilities supported
- ➢ Very low (or free) frequency license fees for the 70/80 GHz band.
- ➢ The narrow beams, light licensing scheme and the neglected reflation of MMW frequencies, ensure enhanced interference avoidance.

Figure 1 illustrates the potential phases:

First phase – install only EtherHaul™ link:

- ➢ Accelerated market-to-setup time (link can be installed within a few days) to match typical business customer demands
- ➢ The system is capable of delivering Gigabit capacity from day one
- ➢ All outdoor solution for reduced OPEX at initial phase

Second phase – Add standard access multiservice router
- ➢ Expanded, smoothly operating network footprint
- ➢ Advanced services delivery as part of the optical network at remote building
- ➢ The standard multiservice router expands the number of Gigabit access ports
- ➢ Optionally, the multiservice router may contain legacy TDM ports (E1/T1), leveraging EtherHaul's SyncE and 1588v2 capabilities, expanding the types of offered services

Third phase – Lay fiber to the business building
- ➢ Fiber investment is made at the time when capacity of already sold services justifies it
- ➢ Leveraging CAPEX investment:
  - o Connect the fiber to the already deployed multiservice router
  - o Relocate the EtherHaul™ link to enable new building servicing

Solution Components

The **Evolving Business Broadband Access Solution** is a unique integration of field-proven MMW radio technology-based EtherHaul™ from Siklu with any standards-based Ethernet network. Siklu's EtherHaul™ links includes the EH-1200TL*; EH-1200; EH-1200F transmission systems operating in the lightly licensed 70/80 GHz bands. The additional components may include Siklu's SikluView™ Management Platform.

Summary

The **Evolving Business Broadband Access Solution** from Siklu delivers cost-effective, field-proven MMW radio technology to expand your network footprint while utilizing your existing investment. This solution delivers the best ROI in the market while providing carrier-grade advanced features. The field proven Gigabit capacity links will render your network build future-proof.

EtherHaul™

Next Steps

To learn more about **Siklu's Evolving Remote Business Connectivity Solution** and the EtherHaul™ technology, please visit www.siklu.com or contact your local Siklu sales representative.

About Siklu

Siklu delivers Gigabit capacity millimeter wave wireless backhaul solutions operating in the 60, 70, and 80 GHz bands. The top choice of tier-1 operators worldwide, thousands of units have been deployed and deliver carrier grade performance.
Siklu's innovative all-silicon design has dramatically reduced prices and effectively opened the market for ultra-high capacity wireless links.

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Acronym

DSCP - differentiated services code point

EXP bits - experimental bits (currently known as TC)

MEF - Metro Ethernet Forum

MMW – Millimeter Wave. Refers to wireless links operating at the lightly licensed 71-76/81-86 GHz bands and 57-64 GHz unlicensed band.

MPLS - multiprotocol label switching

QOS – Quality of Service

OAM - operations, administration, and maintenance

TCO – Total cost of ownership

ToS - type of service

VLAN - virtual LAN

VPLS - virtual private LAN service