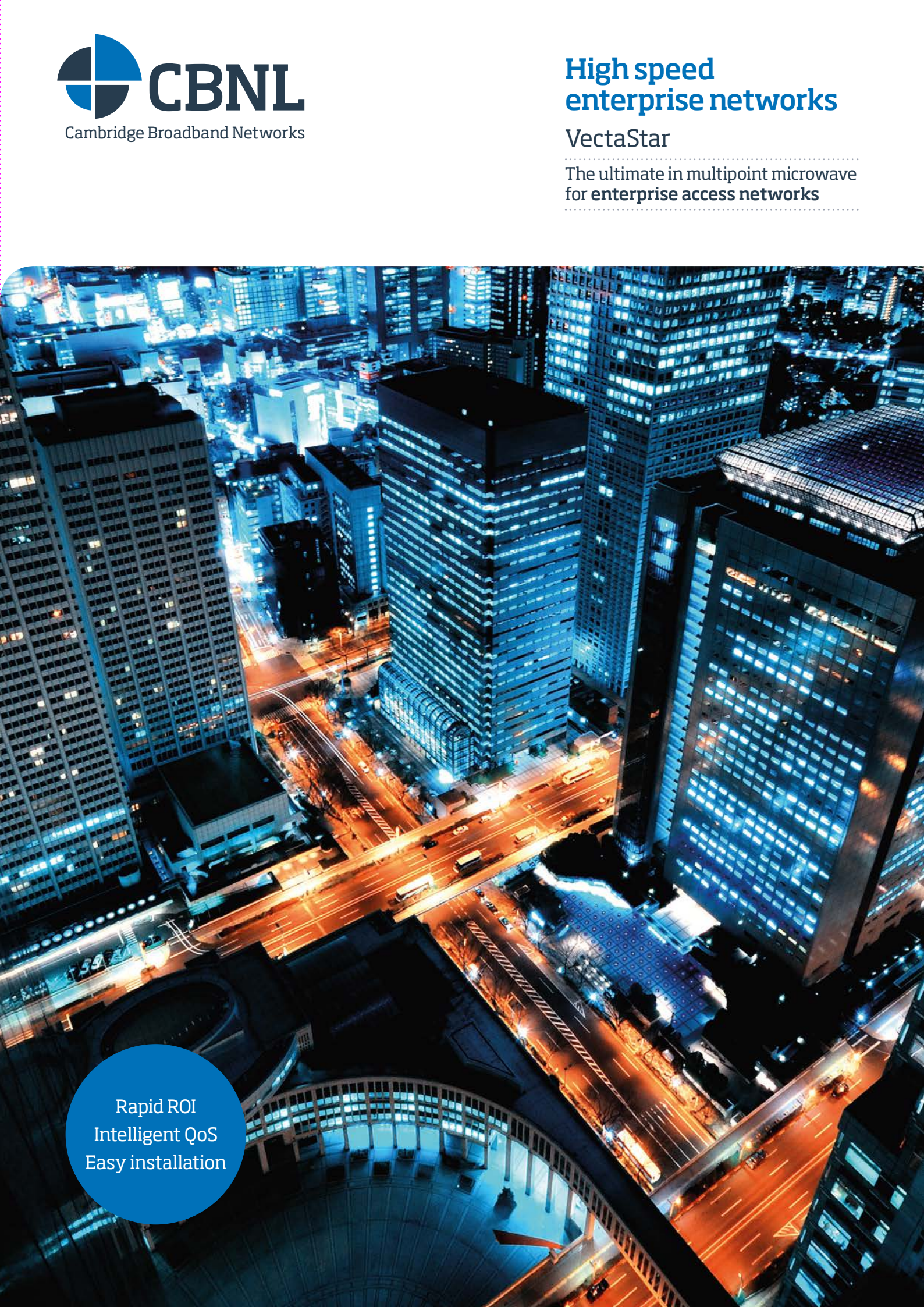




High speed enterprise networks

VectaStar

The ultimate in multipoint microwave
for enterprise access networks



Rapid ROI
Intelligent QoS
Easy installation

High speed enterprise networks



High performance

Custom bandwidth profiles

1Mb/s - 600Mb/s

<1ms round-trip latency



Rapid return on investment

Total cost of ownership
savings up to 50%



Fast time to market

Almost half the radios

compared to point-to point

Next generation thinking



CBNL

Cambridge Broadband Networks

cbl.com

VectaStar

The ultimate in multipoint microwave for enterprise access networks

VectaStar is the market leading multipoint microwave platform and is proven across the globe in delivering high speed and ultra efficient enterprise access networks.

Offering high capacity and unrivalled speed of deployment, VectaStar can be rapidly deployed to meet immediate customer needs as an enterprise grade Ethernet and TDM data network.

VectaStar networks also provide the flexibility to expand as requirements grow, offering customers outstanding quality of service with industry leading total cost of ownership savings.

Highlights

High performance

- High capacity: supporting 1Mb/s - 600Mb/s per link and up to 14.4Gb/s per hub site
- Tiered service capabilities, including dedicated bandwidth to selected customer sites
- Future proof and guaranteed quality of service compared to non line of sight technologies
- Low latency: sub 1ms round-trip
- Ethernet as default configuration (TDM optional for legacy service provision)
- Future proofed Gigabit Ethernet and 10 Gigabit Ethernet interfaces
- Intelligent network visualisation - easily identify spare network capacity to support more customers

Range

- 10.5GHz: 28.6km (typical), 26-28GHz: up to 20km (typical) with 30 degree sector antenna

Outstanding efficiency

- Multipoint sector aggregation proven to improve spectral efficiency by at least 40% when compared to point-to-point**

Current frequencies supported

- ETSI: 10.5, 26, 27, 28GHz
- Anatel: 27GHz
- FCC: 28GHz

Low total cost of ownership

- Independently proven to deliver savings of up to 50% over competing technology*

Fast time to market

- Quick to deploy - almost half the radios compared to point-to-point
- Rapid coverage

Intelligent design

- Designed for quick and easy installation
- Unique zero indoor footprint covering both access points and remote terminals

Industry proven

- The market leading multipoint microwave backhaul product, deployed by over 70 leading operators and used in the world's largest multipoint microwave enterprise access network
- Deployed in over 40 countries and serving seven of the top ten largest global operators.

* Senza Fili (2011) Crucial economics for mobile data backhaul

** CBNL (2011) The Effect of System Architecture on Net Spectral Efficiency for Fixed Services

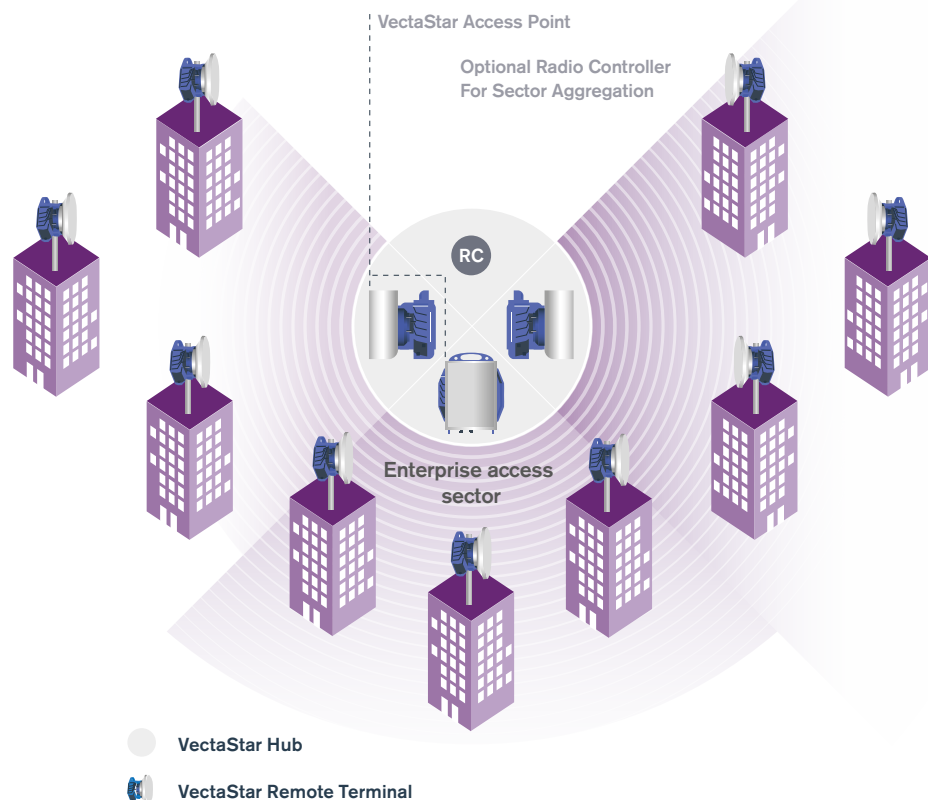
How VectaStar works

VectaStar creates a sector of coverage from a single access point which backhauls a number of remote terminals collocated at multiple sites.

Through aggregating bandwidth across all sites, VectaStar allows operators to deliver high speed wireless networks with outstanding efficiency - improving spectral efficiency and reducing costs.

Sector coverage provides the flexibility to add new sites quickly by a single installation team, without a visit to the access point or the need of additional spectrum.

This allows for rapid network expansion at minimal costs and with no disruption to service or revenues.



Deliver high speed enterprise networks with outstanding efficiency

Applications

Alternative wireless networks

Deploy carrier-class access networks, providing a secure and reliable all-IP or IP TDM-based service for internet and wide area network connectivity.

Suitable for:

- Enterprise Access
- Government
- Utilities
- Municipal services.

Last mile fibre extension

Rapidly and cost effectively extend fixed fibre networks through a high capacity last mile microwave link - providing a single link or sector coverage to multiple end users.

Efficiency through sector traffic aggregation

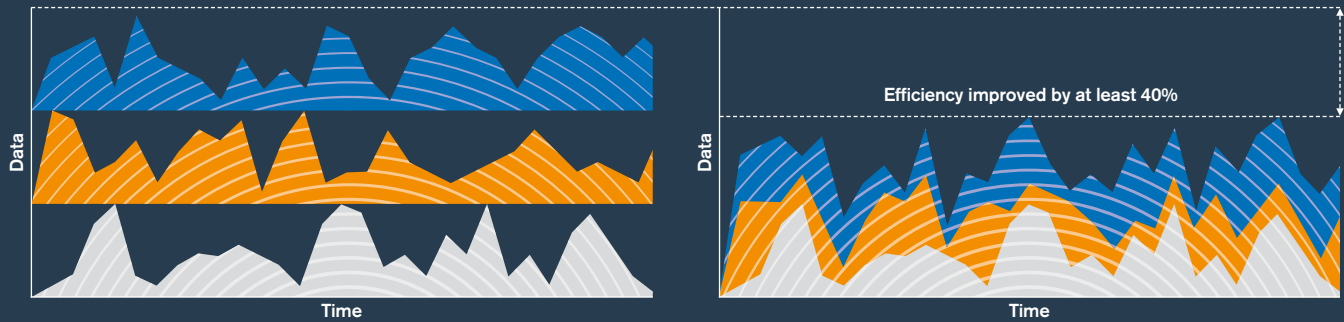
By aggregating traffic, VectaStar can improve spectral efficiency by at least 40% when compared to point-to-point, providing the capacity for current needs and leaving headroom for future growth.

By sharing bandwidth across all sites in the sector, multipoint microwave allows the 'troughs' of one site's demands to be filled by the 'peaks' of another. This reduces the total backhaul required and lowers associated costs.



Images from the top:
VectaStar Access Point & VectaStar Remote Terminal

**VectaStar's traffic aggregation improves
spectral efficiency by at least 40%**

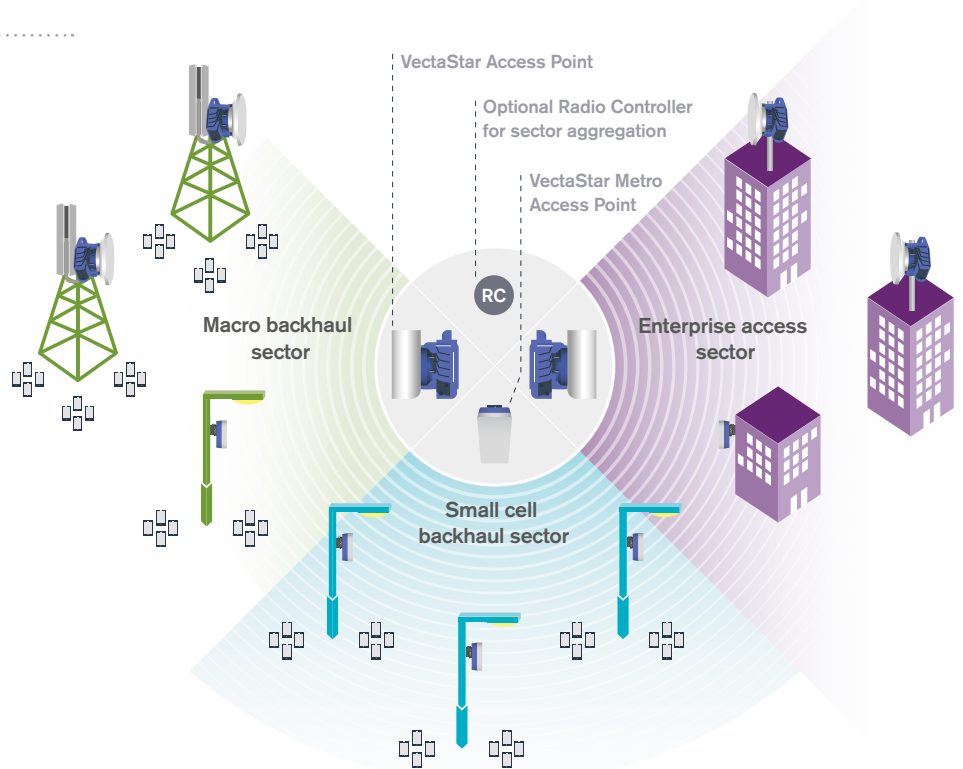


- Customer site 3
- Customer site 2
- Customer site 1

VectaStar: a complete network solution

The VectaStar portfolio offers operators a carrier-class backhaul, enterprise access and small cell network solution, or any mixed configuration.

-  VectaStar Hub
-  VectaStar Remote Terminal
-  VectaStar Metro Remote Terminal
-  Mobile data devices



Planning
& Design

Deployment

Operation
& Support

Managed services

VectaStar can be deployed within our managed services portfolio. This is delivered directly by our team of highly-skilled engineers and through partnerships with the industry's leading system integrators. Through technical expertise, proven methodology and local market knowledge, we offer customers the reliability and guarantee of complete network delivery and support.

Welcome to next generation thinking Welcome to CBNL

Pioneering the development and deployment of next generation microwave transmission equipment since 2000, CBNL is the global market leader in multipoint microwave backhaul and access solutions. Our carrier-class VectaStar platform serves over 70 communication providers in over 40 countries, including 7 of the top 10 world's largest mobile operators.

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