

Backhaul breakthrough
VectaStar: the ultimate in
point-to-multipoint performance



Innovation requires patience

Or ruthlessness. You either have to wait while everyone else catches up. Or leave them behind.

Welcome to Cambridge Broadband Networks. Welcome to next generation thinking.

Data, data, data

It's not going away. At the end of 2009, data passed voice as the dominant mobile traffic component and that trend is only headed one way.

We all know the issues. Data and voice traffic have very different characteristics. As a Mobile Network Operator, your traditional point-to-point (PTP) solutions are a legacy of voice-dominated networks – and they're creaking under the pressure of ever more data demands. It's a backhaul nightmare.

You're ploughing millions into your networks every day to deliver against smartphone users' expectations.

You're having to rethink the way you engineer both your Radio Access Networks (RANs) with more network densification, and your backhaul networks to deliver more bandwidth at most locations.

Backhaul needs an overhaul – but how?

So we all know the problems. Great. Now show me the solution. Show me a solution that delivers against the critical criteria that are losing me sleep:

- Convincing ROI.
- Reduced capital and operational expenditure.
- Proven robust and reliable performance.
- Fast deployment.
- Reduced environmental impact.
- Reduced energy consumption.
- Future-proofed scalability.

Well, fibre isn't going to cut it. Just when you think you've lit up all your sites, it's time to densify and another crop of uncovered sites is on your list of problems. Even where land access is available, laying new fibre routes is capital intensive, time consuming and environmentally disruptive.

And whilst some people claim to have seen the future of backhaul, their crystal ball is peering backwards rather than forwards. It's the same old PTP patchwork – relying on behind the curve thinking for next generation challenges.

So it's back to the sleeping pills. Until now.

“More than 60% of mobile networks operate from A to B, using conventional microwave backhaul technology. It's massively expensive to set up and even more so to run. It's inefficient and it won't be long before we see a car crash of consumer dissatisfaction.”

**Lance Hiley,
VP Market Strategy,
Cambridge Broadband Networks**

Everything points to multipoint

Multipoint means VectaStar

Point-to-multipoint (PMP) is the forward-facing LTE backhaul solution the industry has been crying out for.

With frequency bands for PTP links becoming saturated (and moving to really high microwave frequencies being inherently problematic), PMP is the cost-effective solution for expanding microwave backhaul capacity. And VectaStar is simply the world's highest performance, most cost-efficient PMP platform.

Designed not just to maintain but to significantly improve your customers' backhaul QoE, VectaStar PMP delivers all the advantages of an inherently efficient technology:

- Less than half the radios required by PTP – saving up to 40% of energy and carbon emissions from manufacture and shipping.
- Dynamic bandwidth allocation – uses spare capacity to enhance peak rates to the mobile network.
- Fast backhaul network design and deployment.
- Less complex network configuration.

- Inbuilt capacity to handle current and predicted data loads.
- Proven to deliver results in the most demanding network environments.
- Minimises property and environmental impact.
- Delivers immediate CAPEX savings relative to legacy PTP solutions.
- Ensures ongoing OPEX savings relative to legacy PTP solutions – up to 60% over the first five years.
- Deployable in the vast majority of situations where PTP is currently being considered.

“PMP is the way to feed ever-rumbling, data-hungry appetites. It's compatible with what you run now. It can expand to meet your needs tomorrow. And it'll significantly reduce capital expenditure and operational costs.”

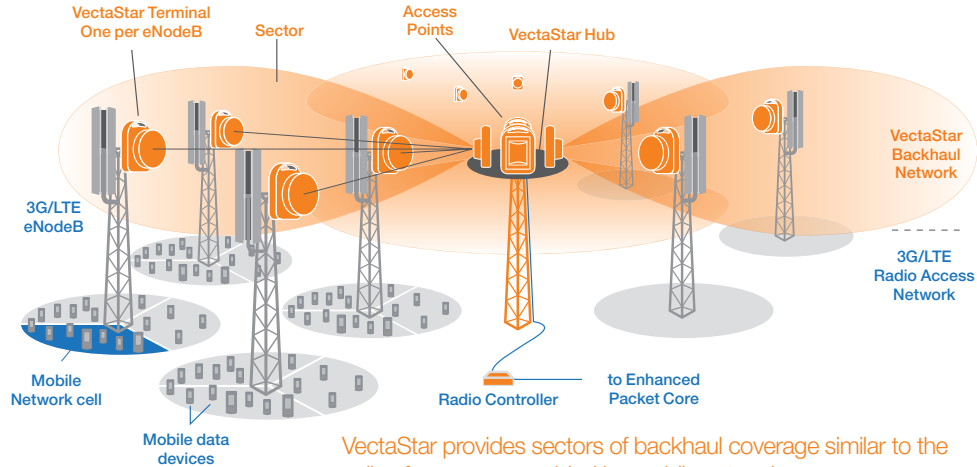
Graham Peel,
Chief Executive Officer,
Cambridge Broadband Networks



Smarter thinking, smarter solution

Mobile networks are themselves based on a PMP topology, where each base station connects to many user devices.

Now VectaStar microwave PMP provides an effective way to share backhaul resource between several eNodeBs, each generating packet traffic:



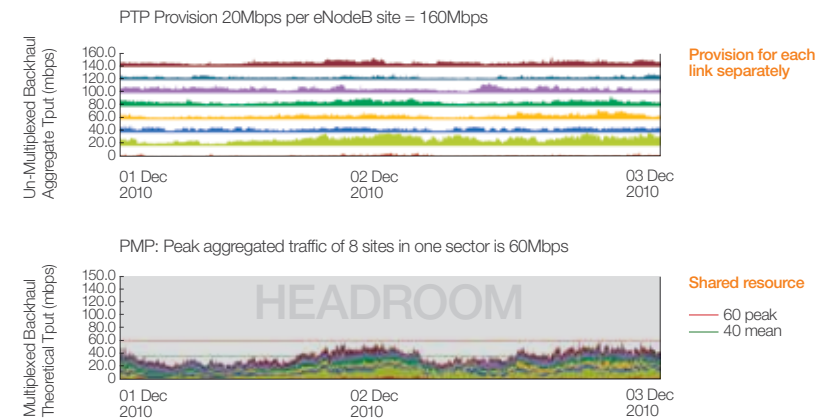
VectaStar provides sectors of backhaul coverage similar to the cells of coverage provided by mobile networks.

In the same way that many devices connect to one cell of an eNodeB, many Vectastar Terminals can connect to one Sector of a Vectastar Hub. The sector of coverage is provided by an Access Point, and each Hub can control several Access Points.

Just like end-user data traffic, backhaul traffic from eNodeBs is uncorrelated and bursty in nature. So why not have several eNodeBs sharing a fat backhaul pipe, rather than provisioning a fixed bandwidth circuit to each one? It means you can satisfy the peak demands of the LTE marketing department and still ditch the PTP backhaul topologies used in your legacy circuit-switched network. And it's a crucial breakthrough in meeting increasing data demands by ensuring you have the headroom to cope with future growth – an evolution to a better customer Quality of Experience in both the mobile and backhaul networks.

Sector Traffic Aggregation

Two days's backhaul traffic measured from 8 HSPA+ eNodeB sites:



VectaStar enables sharing of backhaul bandwidth between the eNodeB sites, leaving headroom for future growth.

Company information

For more information,
contact info@cbnl.com

Our portfolio of
services includes:

- Network planning and design
- Integration and deployment
- Spares management
- Technical support
- Training

Pioneering the development and global deployment of next generation microwave transmission equipment since 2000, our services include RF planning, network design, project management, site preparation and network management system integration. Our VectaStar platform is deployed by more operators, in more markets, than any other PMP solution and operates at the heart of the world's busiest mobile data network.

Support and design services

Cambridge Broadband Networks in-house design and support services group gives customers access to a comprehensive portfolio of professional services including network design and implementation.

The end result accelerates our customers return on investment by transforming their networks quickly and reducing risk and total cost of ownership.

Partner programme

The Cambridge Broadband Networks partner programme gives partners access to a carrier class product in a growing market space, with the added benefit of full technical support and a focussed R&D organisation. Regular symposiums provide opportunities to discuss specific customers' needs with product management and development staff.

Ranging from in-country systems integrators and agents to global telecoms equipment vendors, our partners have access to standardised reseller (VAR) price lists, product documentation, roadmap updates, senior management support and targeted marketing expertise.

Corporate Headquarters Cambridge Broadband Networks

Selwyn House,
Cambridge Business Park,
Cowley Road, Cambridge,
CB4 0WZ, UK

T +44 1223 703000

F +44 1223 703001

E info@cbnl.com

www.cbnl.com