



WHITE PAPER

## Mind the gap

How we do away with  
the connectivity no  
man's land

[evolving.net.uk](http://evolving.net.uk)

# Mind the gap

## How we do away with the connectivity No Man's Land

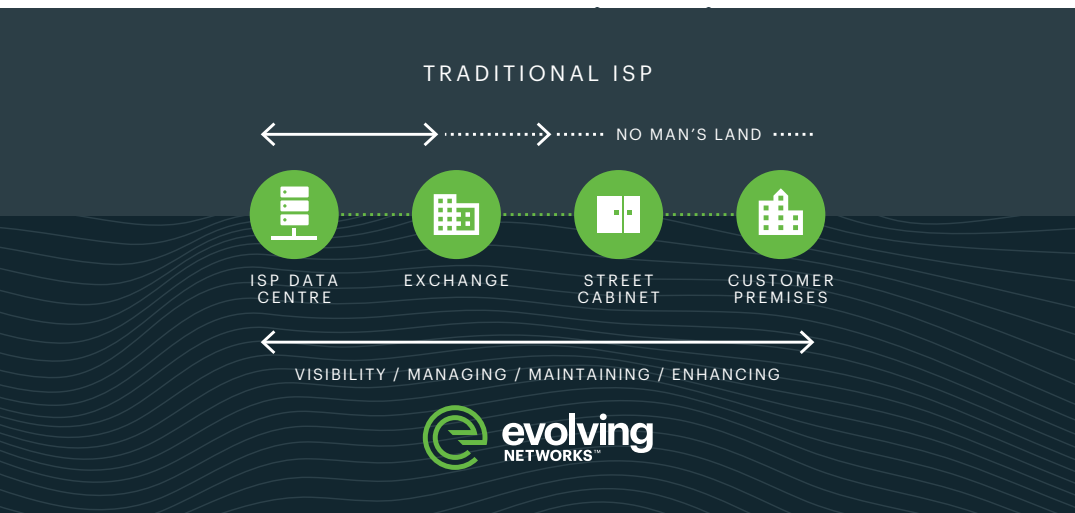
### 1 The edge of the network

Where is the edge of your ISP's network? It's an important question. ISPs and SD-WAN providers can only collect network health and performance data up to the edge of their network.

It's a fact they rarely mention – the entire market is focused on speed and price, not quality – but it's critically important. That's because, between the edge of the provider's network and your premises, there's a networking No Man's Land where faults, congestion, poor line quality and a host of other issues can arise, hidden, eating away at your bandwidth and reducing the quality of your connections.

#### White papers in this series:

- 1 Automating the Wide Area Network
- 2 Why your SD-WAN will fail
- 3 SD-WAN as a Service
- 4 Mind the gap**
- 5 One step at a time



This is a key issue with the UK's broadband infrastructure, which the Evolving Networks software-defined network ecosystem overcomes entirely. For over a decade, we have been taking the No Man's Land out of the equation, comprehensively monitoring and fully controlling every aspect of the WAN, from the datacentre right through to customers' premises.

It is on this foundation that our ecosystem and our SD-WANs are built. This white paper explains how we achieve it.

### 2 Unparalleled network visibility

Typically, UK ISPs have no network visibility beyond their core infrastructure: even visibility into the exchange is a rarity. This means that the only way they have of detecting faults and issues outside their core network is to wait for customers to report them.

A key feature of the Evolving Networks ecosystem is the moving of the edge of the network out from the core network, beyond the exchange and right into the customer's premises. This gives us significantly greater network visibility than that enjoyed by any other ISP or SD-WAN provider.

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## A yawning gulf of No Man's Land

Traditional UK ISPs gather network performance and health information within their own datacentres and across their core networks. Those with LLU presence in local exchanges can see as far as those exchanges, but no further, and only if they have the very latest hardware. Even for these, there is a yawning gulf of No Man's Land lying between the exchange and the customer's premises.

The only way they can detect faults, performance degradation and other issues in this No Man's Land is to listen when customers call with complaints: essentially, they crowdsource their network monitoring. It is perhaps not surprising that most communications problems arise in this section of the network, including dead links, bandwidth limitations and quality issues.

Every Evolving Networks customer site has at least one EVX. Unique to Evolving Networks, these devices are key to the over-arching strategy of the Evolving Networks ecosystem – bringing the technology and capabilities of the datacentre out onto the network and into customers' premises. As well as handling bandwidth aggregation, live data compression, failover, WAN virtualisation, and Quality of Service (QoS) they continually stream telemetry and diagnostic information.

This telemetry and other monitoring data is processed in the cloud by the ecosystem's powerful AI, feeding into the Direct Access Queuing System (DAQS) which in turn updates the EVXs' decision-making rules as necessary. The EVX, along with other components of the Access Network, feeds information into the AI, but it is the AI which does the heavy lifting.

## Functionality and power greatly in excess of the sum of its parts

The result is that the entire ecosystem benefits from the EVX data collection while the EVX appliances themselves remain lightly loaded. Much like the synapses in the human brain, they work in concert with the other components of the ecosystem, enabling it to deliver functionality and power greatly in excess of the sum of its parts.

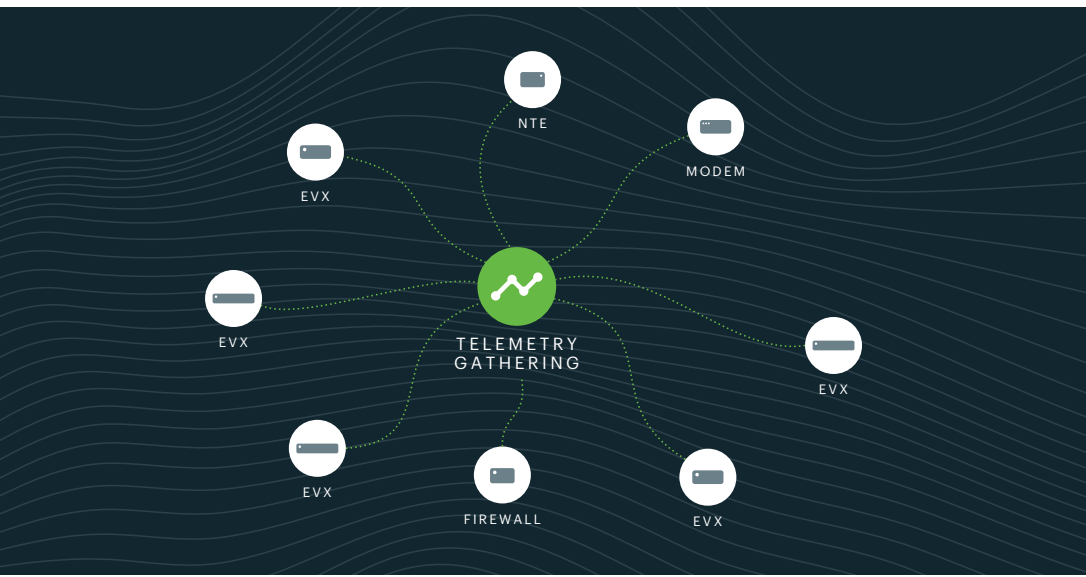
With telemetry and monitoring information gathered from every component of every connection, Evolving Networks technicians can see, in detail, every connection and every device, from our core network right through to the EVX on the customer's premises. The No Man's Land between the core network or exchange and the customer premises is bridged, and far from waiting to hear about faults from our customers, we see them, diagnose them, and deal with them, almost always before the customer is even aware of them, saving Evolving Networks customers an average of 24 hours downtime every month.

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This visibility extends beyond actual faults. One of the issues with the UK broadband infrastructure is that connections degrade gradually over time: a connection that started out delivering 20MB/s might over the course of a year or two degrade to 10MB/s. This is a serious loss of bandwidth, but most ISPs will do little or nothing to address it – it's just the way things are.

Evolving Networks stands apart from all other ISPs and SD-WAN providers in benchmarking connection performance on delivery, and then against that on-delivery benchmark, several times a day, every day of every year. We see and address any





Real time stream of telemetry data 24 hours a day from every customer node being fed into the Evolving Networks AI suite

performance degradation as soon as it begins, and just as we do with more obvious faults, we identify, diagnose and rectify it long before the customer becomes aware of it.

The information captured by the EVX is analysed along with that from the ecosystem’s core network monitoring tools, and displayed, in real time, in the Evolving Networks Network Operations Centre, providing an always up to date, detailed picture of the state of every aspect of our network.

Within seconds of an issue arising, Evolving Networks technicians will have noted it and be working to diagnose and rectify it. Meanwhile, the ecosystem automatically re-routes traffic around the problem area.

Evolving Networks engineers can log into any EVX, effectively putting them on a customer site, just as a remote desktop session would. This ability to use the EVX as “viewing platforms” to see exactly what is happening on the WAN, all the way from our core network through to the EVX on the customer site, is unique to Evolving Networks and gives us more extensive diagnostic and issue resolution capabilities than any other provider.

More extensive diagnostic and issue resolution capabilities than any other provider

### 3 Superior performance, quality and uptime

By moving the edge of the network from the network core right into customer premises, the Evolving Networks ecosystem delivers vastly more comprehensive telemetry and diagnostic information than any other ISP’s infrastructure.

Contact Evolving Networks to find out what that could mean for your organisation and your specific needs.

- 1
- 2
- 3
- 4
- 5

Next in the series:  
One step at a time



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