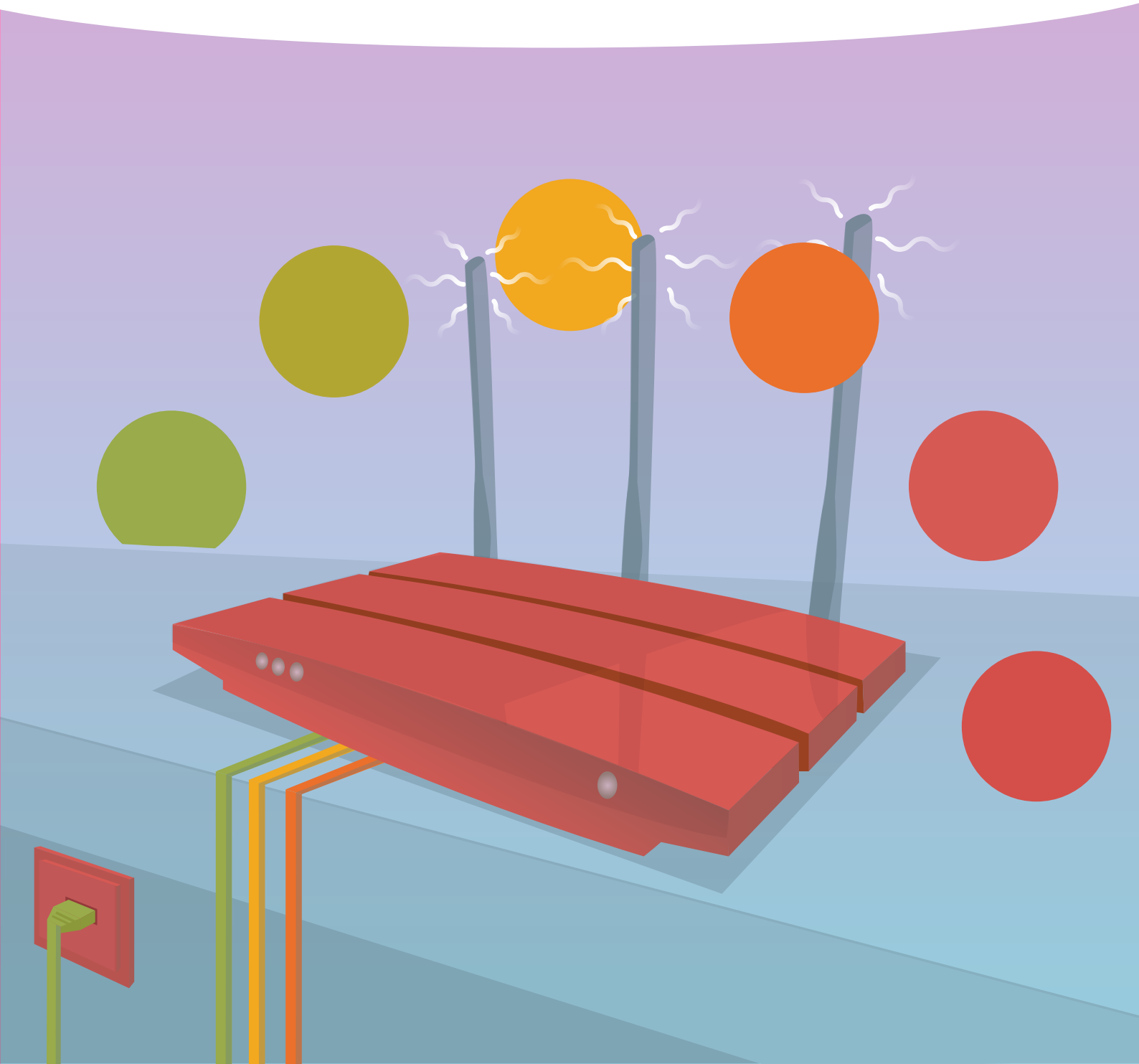
highlight

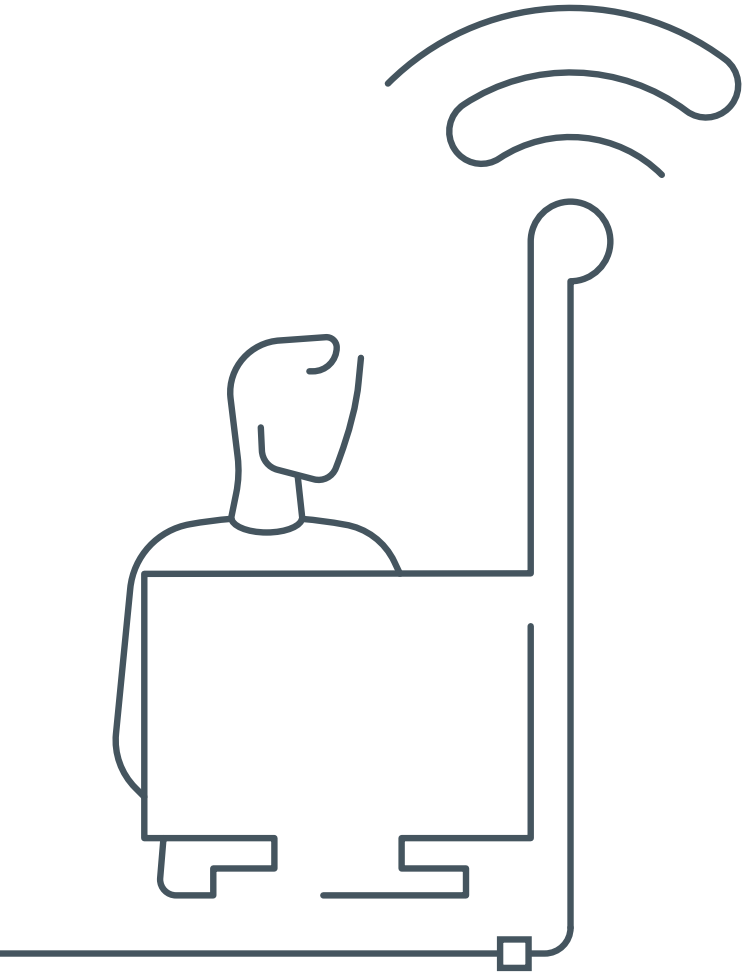
Transforming the value of broadband services



Introduction

Broadband services, where a copper or fibre networking service is installed in a location and the service is then used as part of a business network, has been a low cost and effective form of connectivity for several years.

Here, we will discuss the use cases of broadband connections. We'll talk about the problems that service providers and enterprises commonly have with these connections, and how a service provider can use the Broadband Clarity functionality in Highlight to build a valuable managed service that customers will love and trust — and so stand out from the competition.



Broadband use cases:

Here are four example use cases for broadband services in a provider's networking portfolio:

1. Primary connectivity for small locations

The main use of broadband in businesses is as a primary form of networking to connect a small site to the Internet or wider corporate network. Broadband services are cost effective and depending on the technology available can be quite high speed, especially in the downstream direction (from Internet to the site).

If an existing copper or fibre service is available in the building, broadband services typically only take a week or two to deliver, and although most broadband services are designed for residential customers with a focus on cost rather than reliability, business broadband services can have additional service levels applied to them to decrease the typical time to fix of an outage. Broadband connections also have shorter contract terms than dedicated Ethernet services, making them more suitable for estates that frequently change, such as retail or construction industries.

2. Secondary (or tertiary) backup service

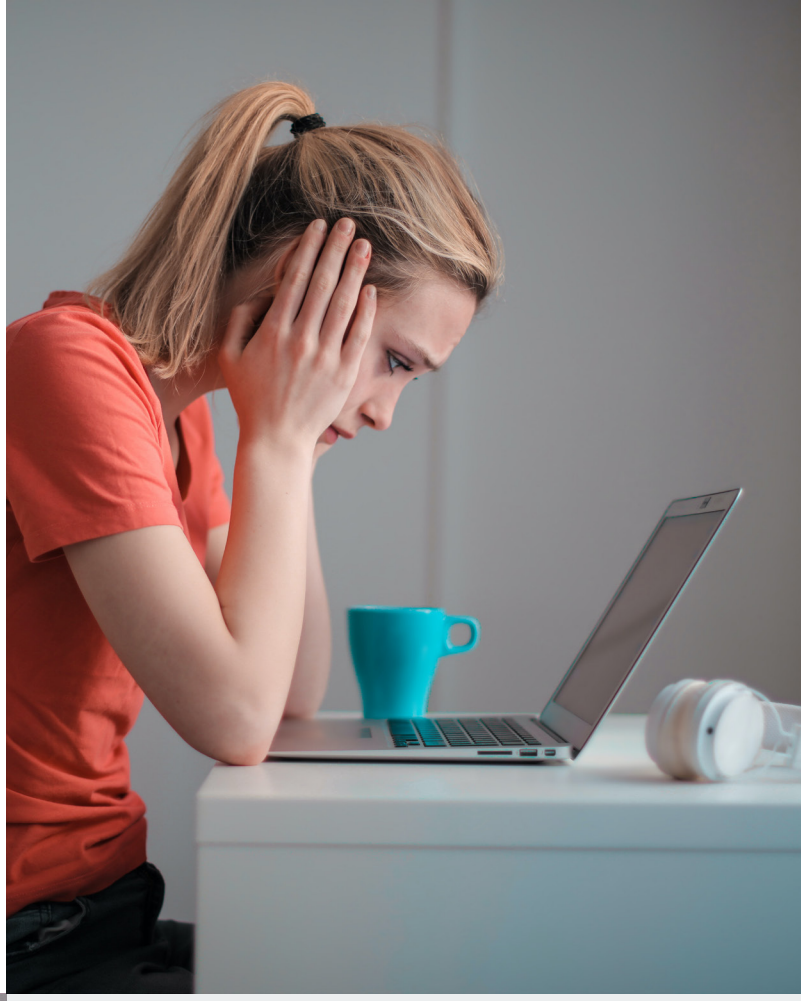
Broadband services are an effective backup to dedicated connectivity such as Ethernet.

Broadband data will pass over a network that's typically separate from the customer's Ethernet service, reducing the likelihood of both services failing at the same time due to a cable cut or power issue. Broadband services are also quicker to install than dedicated Ethernet services, so broadband can be used as a method of getting a site online more quickly, while the primary Ethernet service is installed.

3. Augmenting remote worker connectivity

Post the COVID-19 pandemic, remote working and home working practices are far more common than they used to be.

Home workers relying on their own residential broadband connection may struggle to work effectively if the connection runs slowly or occasionally disconnects. Businesses may want to install their own, private broadband connections to provide a primary path for work applications, using the existing home broadband service as a secondary path if the primary fails.



4. Hybrid connectivity

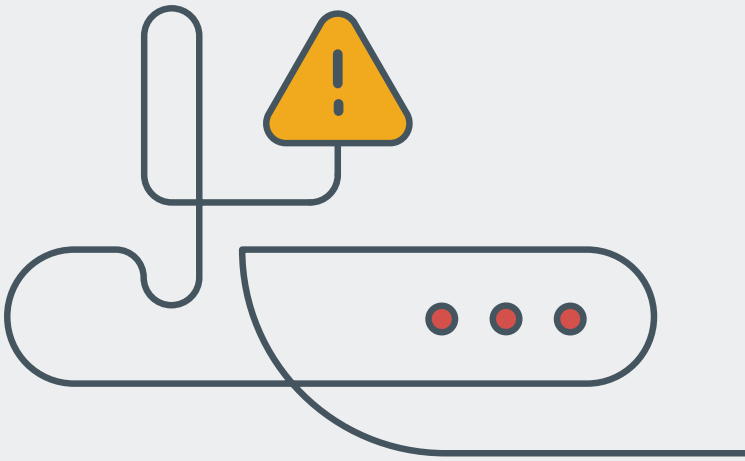
Hybrid connectivity is when multiple connections are used in a location and network traffic is load-balanced over the connections according to the best or most secure path for the application.

Broadband connectivity plays an important role in modern hybrid networks as in some circumstances it may be more cost effective to use multiple broadband connections in a location to deliver a similar level of speed and resiliency to more expensive dedicated Ethernet services.

"Broadband connectivity plays an important role in modern hybrid networks."

Problems with broadband services

Highlight conducted extensive research with its existing partners and enterprises and identified the following common problems with broadband services.



1. Variable speed of broadband connection

Most broadband services are based on copper line technologies which were originally designed for analogue telephone calls. Broadband modems convert digital data into high frequency waves which are then transmitted down the copper line to the modem at the other end.

Several factors can influence the available speed on a copper broadband connection:

Line length - The longer the copper line used (generally due to the distance of the site from the central exchange), the less able the line is to take high frequencies so the lower the available speed.

Wire quality - Poor quality wiring in the street or within the location can add additional constraints. This can be exacerbated by poor weather adding water to the equation.

Interference - Radio interference on any part of the route can be picked up on the copper line which will reduce the speed.

Speed reduction - Broadband networks will try to mitigate against unreliable networks by lowering the available speed.

A broadband service may start its life fast and reliable, but as time goes by the speed frequently drops, sometimes to a point that the users, at the location, experience poor network performance or complete unavailability.

Sometimes this can be mitigated against, by improving the wiring, but often improvements can't be made, meaning the service is as fast as it ever will be. It's therefore vital that the service provider and the enterprise have clear visibility of what the connection speed is on a broadband service — both at the time of installation and over time. Whilst also ensuring users can be alerted to any issues as and when they occur for prompt resolution.

2. Network congestion

In addition to speed problems with the underlying broadband connection, broadband services can also suffer from network congestion issues further up the chain, from the exchange to the service providers network and beyond. To keep broadband services as cost effective as possible, the national carrier networks 'over contend' the backhaul networks. There are a few things to consider here:

Contention is where the bandwidth available to a given connection is sometimes less than the full speed available because the local or national network is momentarily full.

Backhaul networks are the networks that connect the local exchange to the wider national network.They are expensive as they need to be high capacity and very reliable.

So limiting the amount of bandwidth available to a collection of broadband services is one of the main methods of keeping costs low. The result of this is, during peak periods, customers can receive significantly less bandwidth than the underlying broadband service can serve. If this peak period coincides with the time a business user is trying to access applications and data, the user may be prevented from working, causing frustration.

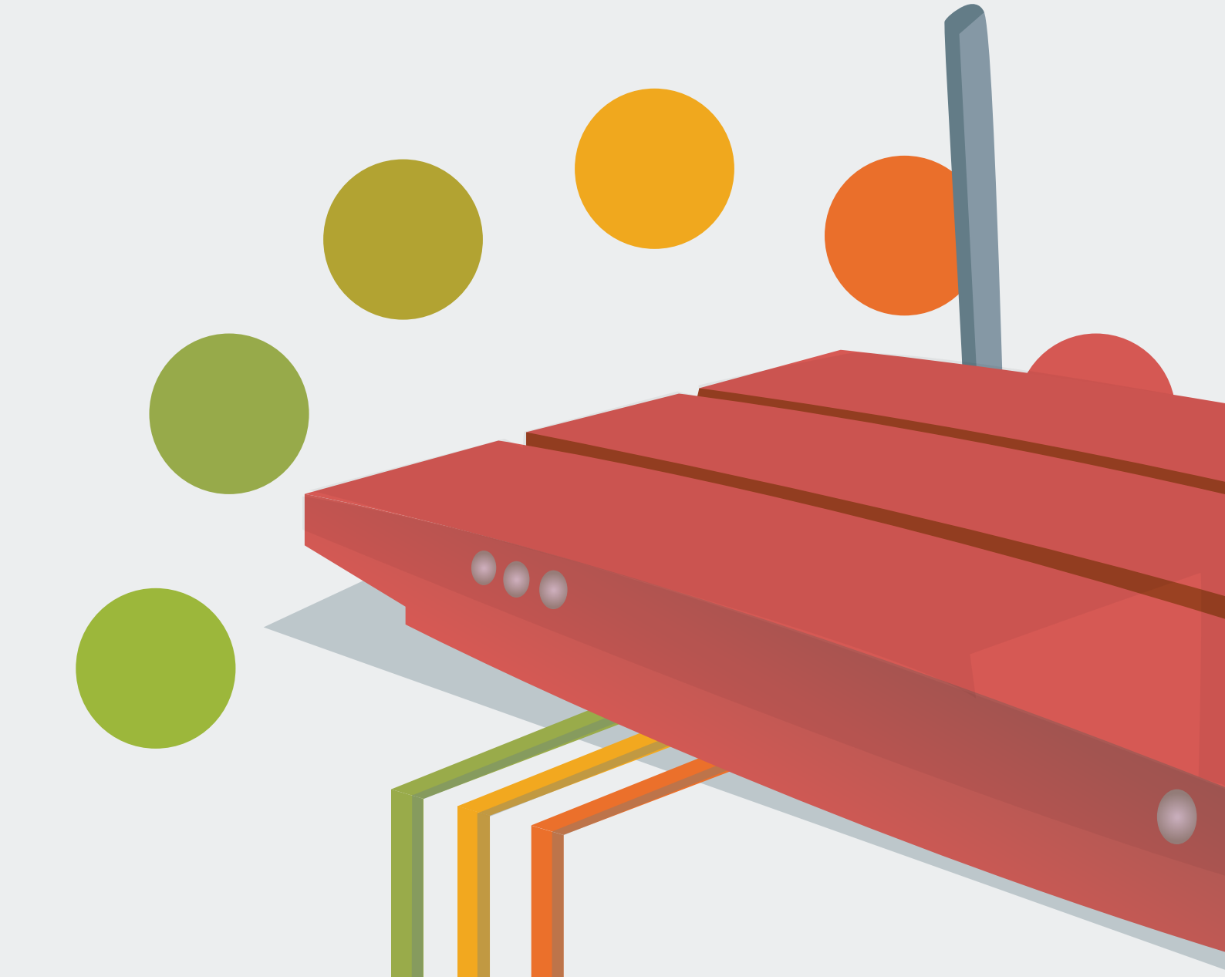
A typical broadband managed service

Broadband services are ordinarily sold as 'break fix supported' as opposed to proactively managed services. This is because broadband connections can be temperamental — the time of your support team can be wasted by this. For example, support teams can easily fall prey to false positive alarms being set off by broadband connections being tracked with traditional monitoring tools.

But, service provider support teams still need some form of monitoring, or they'll miss genuine service issues. It is unsustainable for teams to rely on their customers to flag and report any outages. While this reliance is unproblematic when connectivity isn't essential, in our current technological landscape that is predominately based in the cloud, businesses demand even low-cost connectivity like broadband should be reliable and proactively managed.

In addition to outright outages, service providers and their customers are also blind to speed issues within the broadband service — this can result in slow and unreliable application performance.

The result is that customers feel their provider doesn't have a proper grip on the network they bought, and they're sharing the burden of keeping that network "up and fast".



A vision of a valued broadband managed service powered by Highlight

Highlight exists to help service providers use network technology to create valuable managed services that customers love and want to keep buying.

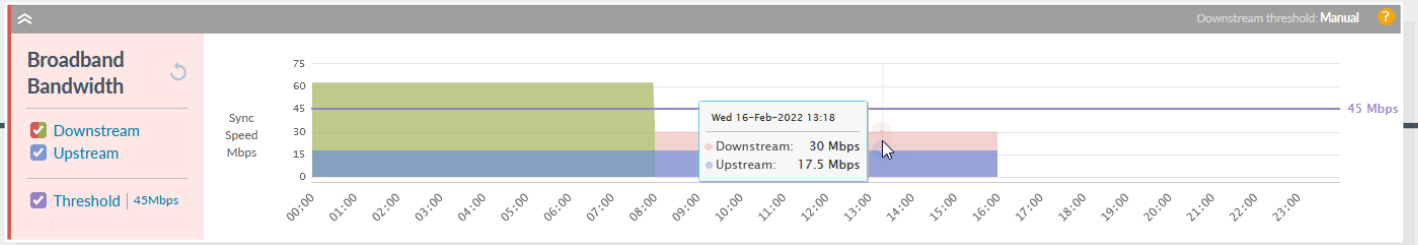
After extensive feedback from Highlight's service provider partners and their customers, Broadband Clarity was designed to solve the most common problem associated with broadband connections — speed issues.

Broadband Clarity enables a service provider to enhance their broadband offering from a simple break-fix support to a proper, managed service.

1. Broadband speed assurance

Highlight's flagship feature, Broadband Clarity:

- Collects broadband sync speed data from the network
- Stores the data with full granularity for more than a year
- Visualises the data in a clear and easy to understand way
- Automates alerts if the speed drops below an agreed level



The speed thresholding system in Highlight is particularly advanced and is designed with service providers in mind who typically manage tens of thousands of connections. There is no blanket speed threshold, or one-size-fits-all solution for broadband, as every connection is so different. Highlight uses machine learning to determine a 'stable speed' of the connection to further determine custom thresholds, line by line.

Broadband Clarity in a managed broadband service affords the service provider's team:

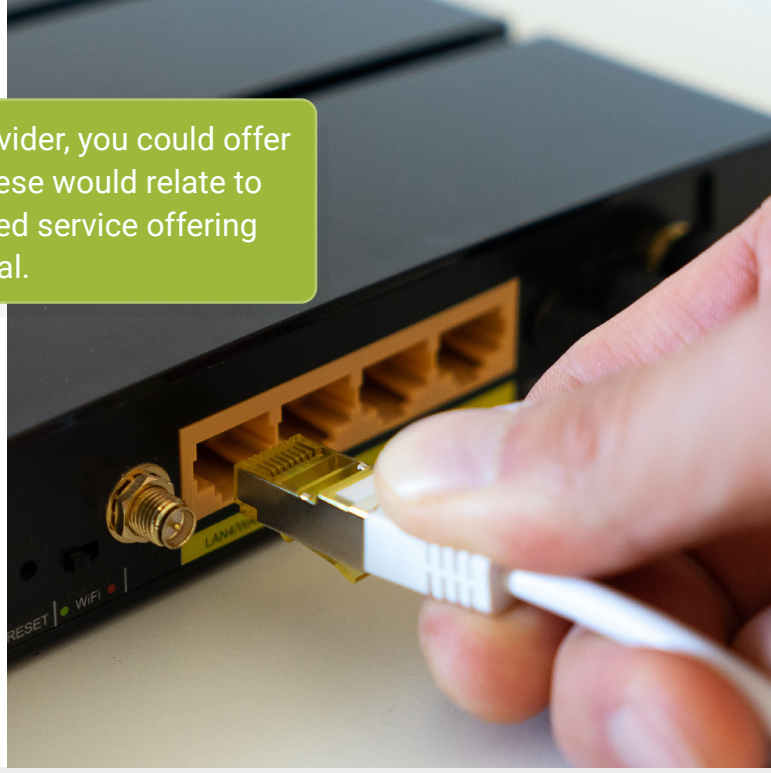
Visibility and alerting - Real-time updates and advice on broadband speed they need to offer an effective, proactive managed service.

Improved identification - Operations can scan large broadband estates to spot speed issues before they become a problem, and impress customers with proactive warnings.

Real-time response - Service teams can respond to a customer's support call about a specific site with accurate information, identifying issues caused by speed problems, spotting patterns, and providing reassurance they have the tools needed to support the client.

All of this allows customer success teams for service providers to review their estate of broadband connections and look for opportunities to evolve the network with the customer. Crucially, enterprise users have full visibility into the services they are paying for and be confident that the broadband services will work when needed. As a result you can expect improved trust and loyalty between users and service providers.

Pro tip: To go above and beyond as a service provider, you could offer your customers 'time-to-respond' guarantees. These would relate to low speed issues and will show that their managed service offering has some commercial value as well as operational.



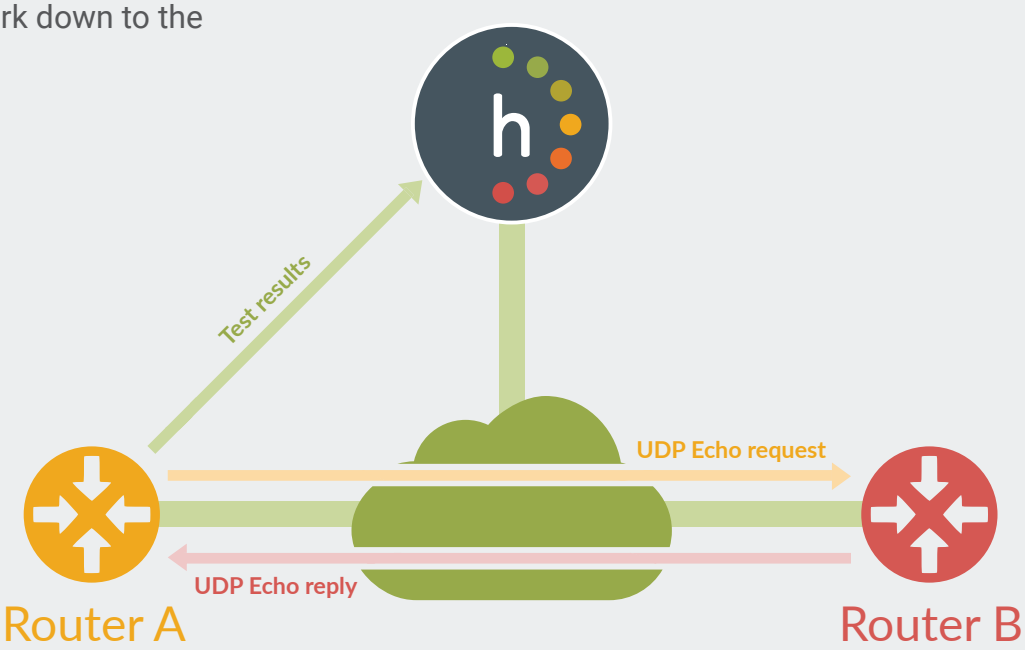
Additionally, because the customer has the same visibility of broadband speed as the provider, they can perform a certain level of self-diagnosis and improvement, perhaps investigating why the broadband speed has suddenly dropped and rechecking the internal wiring in the building to improve it.

2. Performance testing

In addition to tracking the speed of a broadband network, Highlight can also run periodic network tests to check for end to end connectivity and performance issues. Performance tests are run either from the router at the customer's site to the test point or another part of the network, or from a testing device in the network down to the customer's router.

Highlight performance tests range from simple 'ping' tests that check for network latency, packet loss and jitter, up to more advanced tests such as Voice over IP or web traffic tests that simulate application data and measure the performance of the network.

Pro tip:
Performance tests are an excellent way to demonstrate to the customer that the service provider's network and offering is high quality and superior to competitors in the market.



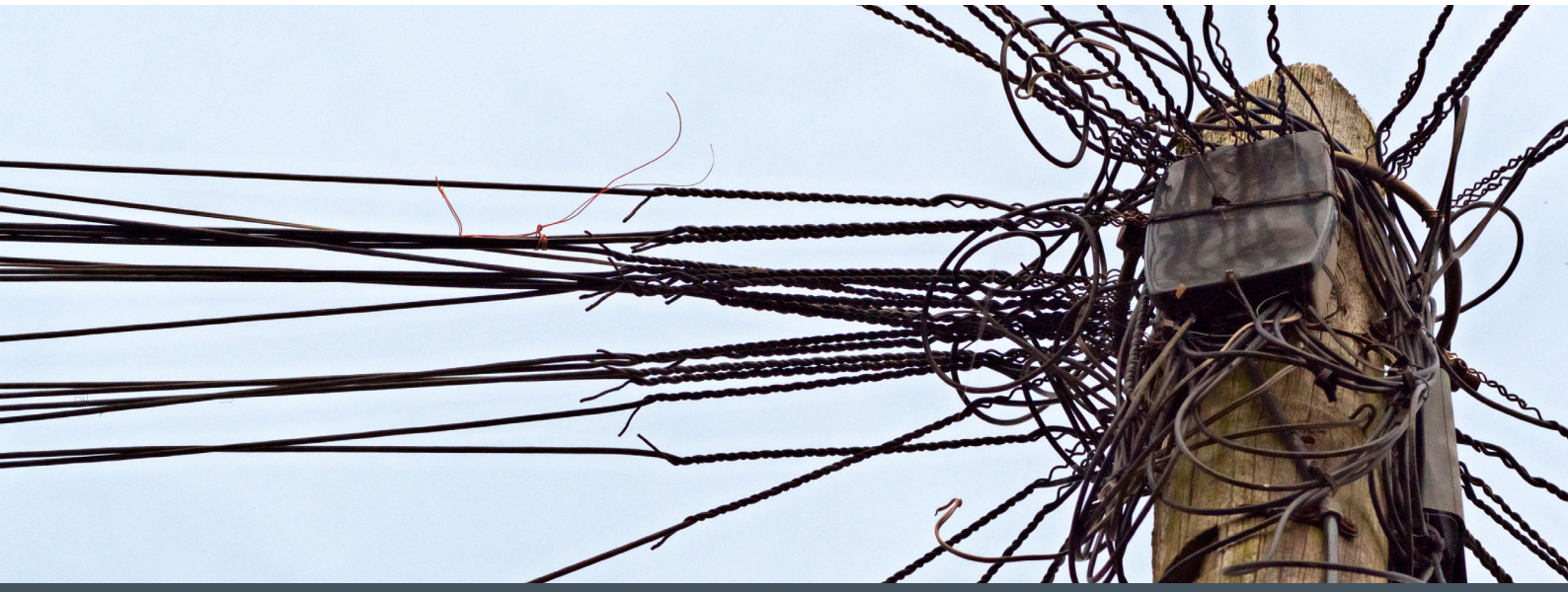
Service provider operations teams can use performance tests to see if the broadband network is over-congested and raise a fault with the supplying telco. Alternatively, they may find that poor performance is caused by customer traffic loads on the connection, where advising the account team to discuss upgrades may be the best next step.

3. Historical reporting

The provider's managed service doesn't just stop at in-life service assurance. Relationships with customers should last for years, and so it's just as important for the non-technical teams in service providers to keep the relationship as healthy as possible by regularly reviewing recent performance and agreeing with the customer how the networking service should change and evolve.

Service managers have a more complete view of a customer's entire network as they can pull historical reports on the speed, availability and performance of the broadband services. The report can be presented to the customer and potential issues discussed jointly along with how they could be resolved. Finance can use the same historical reporting to view the extent of the service provider's broadband estate and check that bills are correct from upstream telcos.

By adding Highlight Broadband Clarity and performance tests to the broadband managed service then adapting and moulding the service procedures around their functionality, service providers can offer a more valuable managed service which is clearly differentiated from the competition.



Why Highlight exists

Connectivity has been commoditised for too long. Bought for the lowest price and pushed to its limits, commoditised connectivity not only threatens the profitability of providers, it threatens the success of their customers. After all, in today's cloud enabled world, without the network nothing works.

But it doesn't have to be like this. There is a better alternative to commoditised connectivity, and that's why we created Highlight. Our platform unites providers with their customers through insights that help buyers buy - and keep buying - the best connectivity to power their organisation.

Highlight's goal is to enable service providers to build closer relationships with their customers, making it easier for those providers to win business, and subsequently build relationships which are longer-lasting, based on trust, and more profitable for both sides.

Highlight goes beyond traditional monitoring

Most technical monitoring tools are designed by engineers, for engineers — they collect data and then present information which is comprehensive and detailed but typically far more than a business- or commercially-focused service provider team, or their enterprise customers, want or need. By contrast, Highlight is designed to deliver relevant and understandable information that can be used and shared by a range of teams across and between businesses.

The result: Commercial teams and customers all benefit from Highlight. This valuable information is no longer siloed for engineers and can be used by the commercial teams within the provider to achieve customer relationships built on openness and trust.

Highlight therefore doesn't replace engineering tools, but supplements them, providing clear information to Operational and Sales/Service teams in a form tailored to both — with the multi-tenancy to share these views securely with customers.

The commercial benefits from making these insights available to a wider audience are significant. Providers that use Highlight expand new business, improve customer retention, increase upsell opportunities, enhance service delivery and develop stronger relationships with their customers built on transparency and trust.

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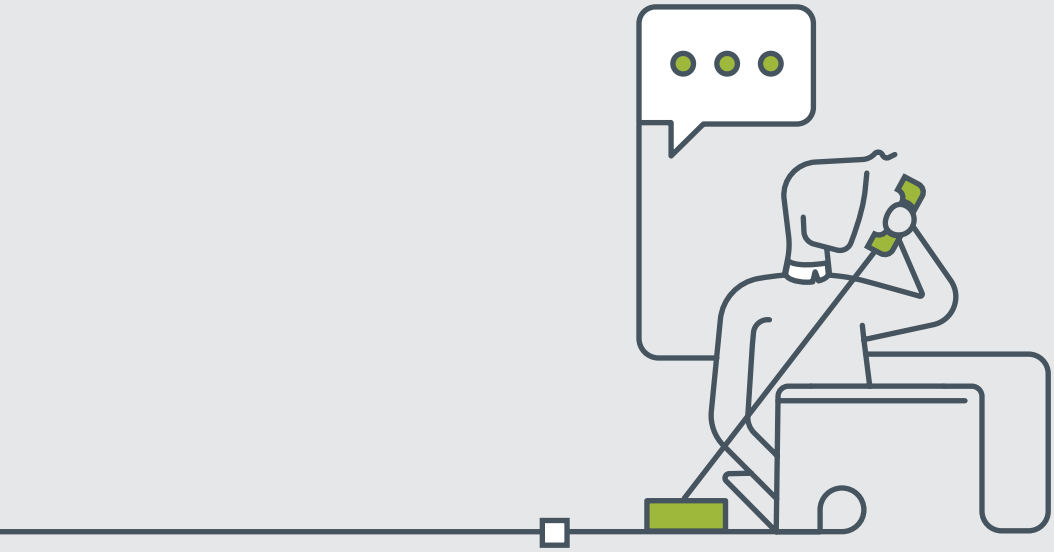

Transform your network and create more profitable customer relationships.

Talk to an expert

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