



CASE STUDY

London Luton Airport

UK international
airport

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evolving.net.uk

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The customer

One of the capital's six international airports, London Luton Airport (LLA) handles 16 million passengers each year, with 11 airlines flying to 149 destinations across 40 countries. The fifth busiest airport in the UK, LLA primarily serves Europe, with a few services to North Africa.

LLA is a 24/7/365 operation needing to deliver superlative service to staff, passengers and the many third-party businesses operating on its campus. Dependable, resilient, high performance Internet connectivity is key to its day-to-day operation.



The need

LLA approached Evolving Networks seeking enhanced bandwidth and true resilience, which its existing 100mbps leased lines, configured as an active/passive failover pair, could not provide.

The airport specified two 1gbps leased lines, supplied by different providers with separate backhauls, running into two different buildings on the airport campus, again configured as an active/passive failover pair.

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Quick facts

Major international airport 30 miles north of London.

IT environment

- Established on-campus fibre network
- Existing active/passive failover pair 100mbps leased lines

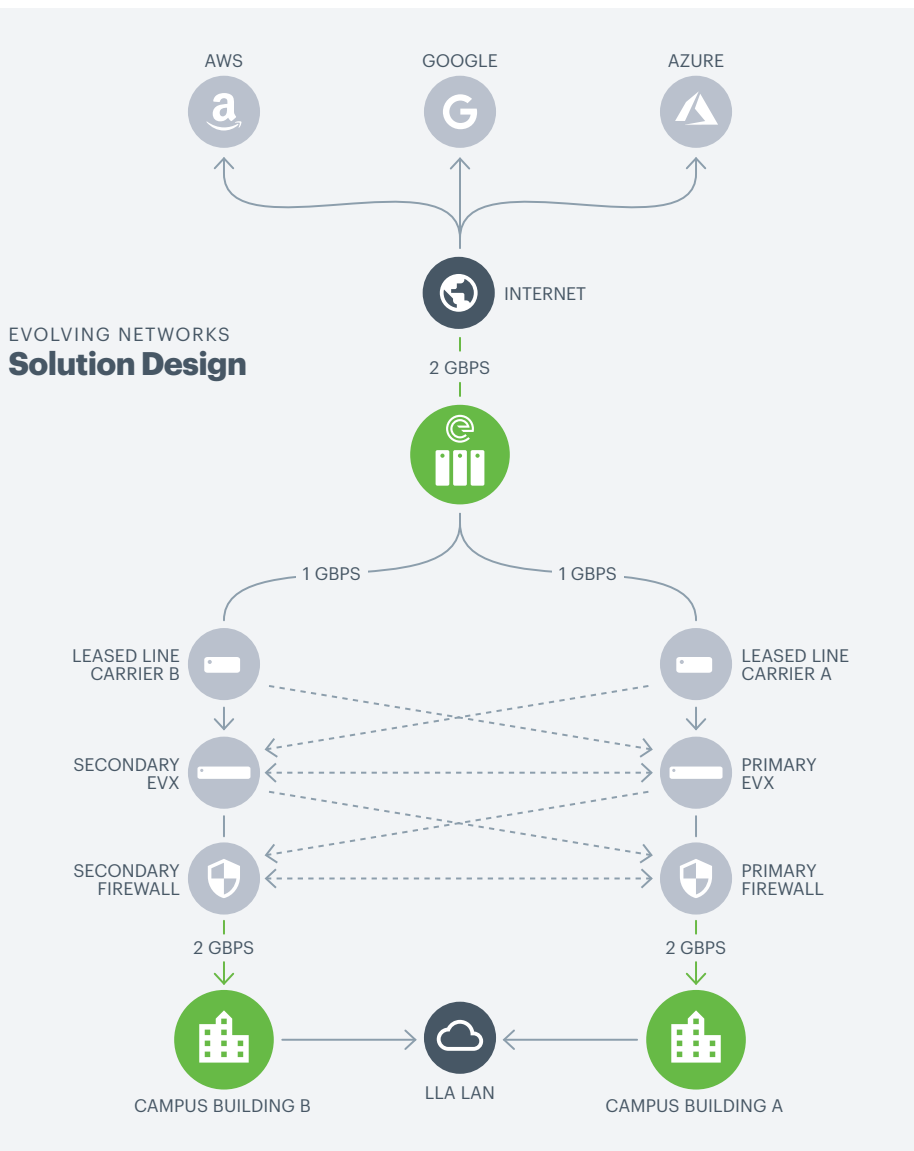
Challenges

- More bandwidth needed
- An absolute need for exceptional resilience
- Extensive flexibility and scalability required

The solution – Ultimate Ethernet

Evolving Networks proposed a more sophisticated solution offering more usable bandwidth, better resilience, and greater flexibility and scalability. Two 1gbps leased lines, configured not as an active/passive failover pair, but as a single 2gbps connection, delivered via the two separate buildings. Each circuit terminates at an Evolving Networks EVX appliance, these intelligent, versatile appliances communicating with each other locally over the existing on-campus fibre network.

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Working together, the HA pair of EVXs host a variety of Virtual Network Functions. These include combining the bandwidth of the two circuits to create a single virtual Ethernet connection, and using the redundancy inherent in the two physical circuits to deliver exceptional resilience.

Meanwhile the Evolving Networks multi-ISP Software Defined Network ensures ISP backhaul diversity, solving the problem of single points of failure in ISP infrastructures.

LLA can view the status of their Ultimate Ethernet connection in real time, using eView Live, a powerful network monitoring tool developed and managed entirely in-house by Evolving Networks. The most advanced monitoring platform in the industry, eView Live also gives Evolving Networks engineers detailed, end-to-end visibility of the connection, enabling them to provide the superlative support for which Evolving Networks is widely praised.

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The results

Traditional approaches to resilience often appear robust, but in reality remain inadequate, leaving single points of failure in place.

For example, the active/passive failover pair architecture requested by LLA eliminates various single points of failure, its two circuits terminating in separate buildings on the airport campus and backhauling to separate core network infrastructures.

However, while better than the “resilient” options offered by most ISPs, which almost always backhaul their dual lines to the same core network infrastructure, the approach remains problematic.

Waste, complexity and risk

Wasted resource is a key issue. Leased lines are costly, and the passive circuit in the active/passive failover pair would remain unused in normal circumstances, only being brought into play when the active circuit ran into problems. LLA would be paying for two circuits but only ever having the use of one.

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Should a problem arise on the active circuit, the airport’s IT team would need to unplug the failed circuit, connect the other line, and then reconfigure assorted services and systems to use it. Even having done so, they would have no guarantee that the reserve line would operate correctly, or continue to do so.

The problem with SLAs

It’s often assumed that leased line SLAs deliver such a guarantee, but in reality, they don’t. They merely set out response and fix times to be adhered to in the event of a fault, and financial compensation to be paid should those time limits be breached.

When faults are rectified within the time limits, the customer still loses productivity and customer goodwill during the downtime. When they are exceeded, well, which Network Manager wants to tell their MD that the business has been at a standstill all day, staff sent home and they have no idea when it will be back to normal, but that’s all fine because the ISP will pay a £250 compensation fee?

All the bandwidth, all of the time

The Evolving Networks solution manages traffic at the packet level across both physical circuits underlying the Ultimate Ethernet connection, always using all of the available bandwidth.

Should one of LLA’s 1gbps circuits fail, the Evolving Networks Intelligent Network Fabric (INF) will simply continue to use all of the remaining available bandwidth until the fault is rectified – no failover is required. In most such cases the customer is completely unaware that a fault has happened.

Flexibility

As well as delivering truly resilient Internet connectivity, the software-defined nature of the INF gives LLA unmatched flexibility. For example, instead of delivering a highly resilient 2gbps, the INF can easily be reconfigured to duplicate every packet across the two circuits. This would provide a 1gbps virtual connection over which there would be near zero chance of any individual packet ever being lost or corrupted.

Easy upgrades

Traditionally, upgrading from 1gbps has generally meant stepping up to 10gbps – a punitively expensive leap. By contrast, the Evolving Networks connection is simple and economical to upgrade.

Incremental growth, from 2gbps to 3gbps, 4gbps and more, will be easily achieved by simply adding further circuits to the multipath connection. On seeing a new circuit, the INF will incorporate its bandwidth into the multipath connection.

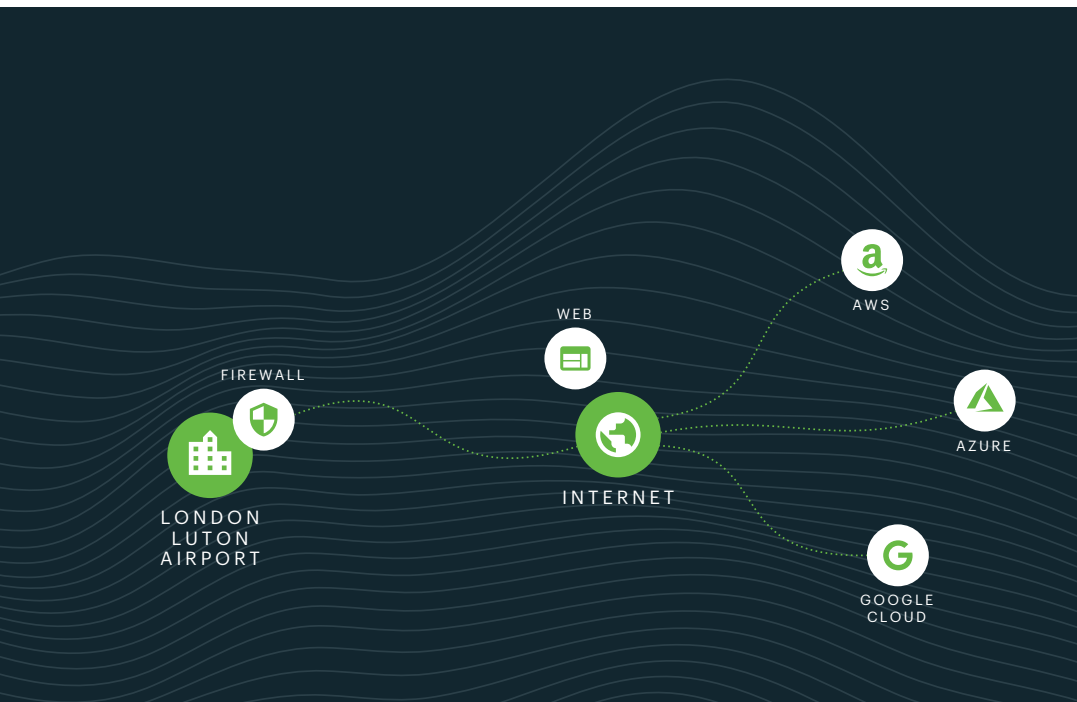
For customers with smaller bandwidth needs, the same approach can be taken with ADSL circuits, stepping up in increments of a few tens of mbps.

Looking to the future

The new Ultimate Ethernet connection is giving LLA the dependable Internet connectivity it needs to compete successfully, and offers a smooth and easy upgrade path for the future, allowing the airport to open up new opportunities such as the sale of bandwidth to other businesses operating on its campus.

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In Virtual Topography terms, what LLA need is simple – a connection to the internet. What our INF allows is this elegant pathway to exist, despite the complexity and sophistication of what is beneath

Why Evolving Networks?

The invitation to tender for the provision of a resilient Internet connection was a key component of an ongoing major transformation project at the airport.

LLA were impressed with the Evolving Networks proposal on several grounds. Firstly, the connection delivers twice as much usable bandwidth as they had expected from the originally proposed active/passive failover pair architecture.

Secondly, the Evolving Networks solution delivers true resilience, entirely removing the need for failover, and, by operating above the ISP, delivering true multi-carrier connectivity.

Ambitious for the future, LLA also value the exceptional scalability and flexibility of the Evolving Networks solution, as they look ahead to opportunities such as the resale of connectivity to third party businesses operating on the airport campus.

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