

Although IPX specifications have been around since at least 2007, the concept is finally seeing widespread adoption and is a lively discussion point for network operators around the world, writes Carlos DaSilva

IPX moves beyond theory to become a new market reality

Today, the industry is at a tipping point. While it is still in the very first phase of IPX adoption, it is already at a stage where the benefits of IPX are very tangible to a growing number of operators. That's not to suggest that every operator is at the same stage of network and market development, neither will every operator gain the same benefits from moving into IPX.

The leaves the telecoms industry with some hard work still to do to explain what IPX really is and to clarify much of the confusion that surrounds it.

IPX is not in itself a service but it is rather a concept that describes a set of services. IPX is defined as an open architecture model between a set of interconnected IP networks with managed quality of service, security and service level agreements. The IPX-enabled network is used to carry upper layers of services which will benefit from the quality of service and ubiquity created with underlying IPX networks.

Whilst it is not possible to buy IPX as a standalone service, operators can buy services which ride on top of IPX, such as voice over IPX (VoIPX), signalling over IPX, LTE data roaming over IPX and others. They don't have to buy all services encapsulated in the IPX service which makes sense because not all operators offer all the supported services. They can simply use IPX to support the services they need to.

This variety of services means that the performance of the IPX backbone, and its reach, are what really delivers the value to operators, and adds value to the services which ride on top of it.

The GSMA has some clear language on the IPX technical specifications and says that, in order for customers to fully benefit from IPX quality of service, the distance of the interconnection between the customer point of presence (PoP) and the IPX provider's PoP should not be more than a few kilometres. Essentially, that designates that the point of interconnect should be via an in-country connection.

PCCW Global has taken the GSMA's core requirements for IPX to heart, and has developed its IPX network over its MPLS network, ensuring that service providers can already connect to the PCCW Global IPX in 230 countries - and in more than 3,000 cities.

In addition, PCCW Global offers VoIPX to more than 40 destinations in 25 countries. This is not a

theoretical IPX adoption; it is the beginning of a new market reality.

Although IPX specifications have been available since 2007, until now, the service was probably available too early for market demand to have developed. Today, the market remains in the first phase of adoption but is growing in importance and recognition.

The reasons that IPX is becoming more important now is because of the very rapid transition to a world in which IPX is a must have. Services such as LTE data roaming, LTE voice and high definition voice will all require IPX in order to scale up and enable mobile operators to offer retail products with differentiated qualities of service.

However, IPX is not the only solution available to operators. Some of their services can be delivered using other means, although scalability may eventually become an issue. LTE data traffic, for example, could ride over the global roaming exchange (GRX) network, and some may be tempted to use that solution today.

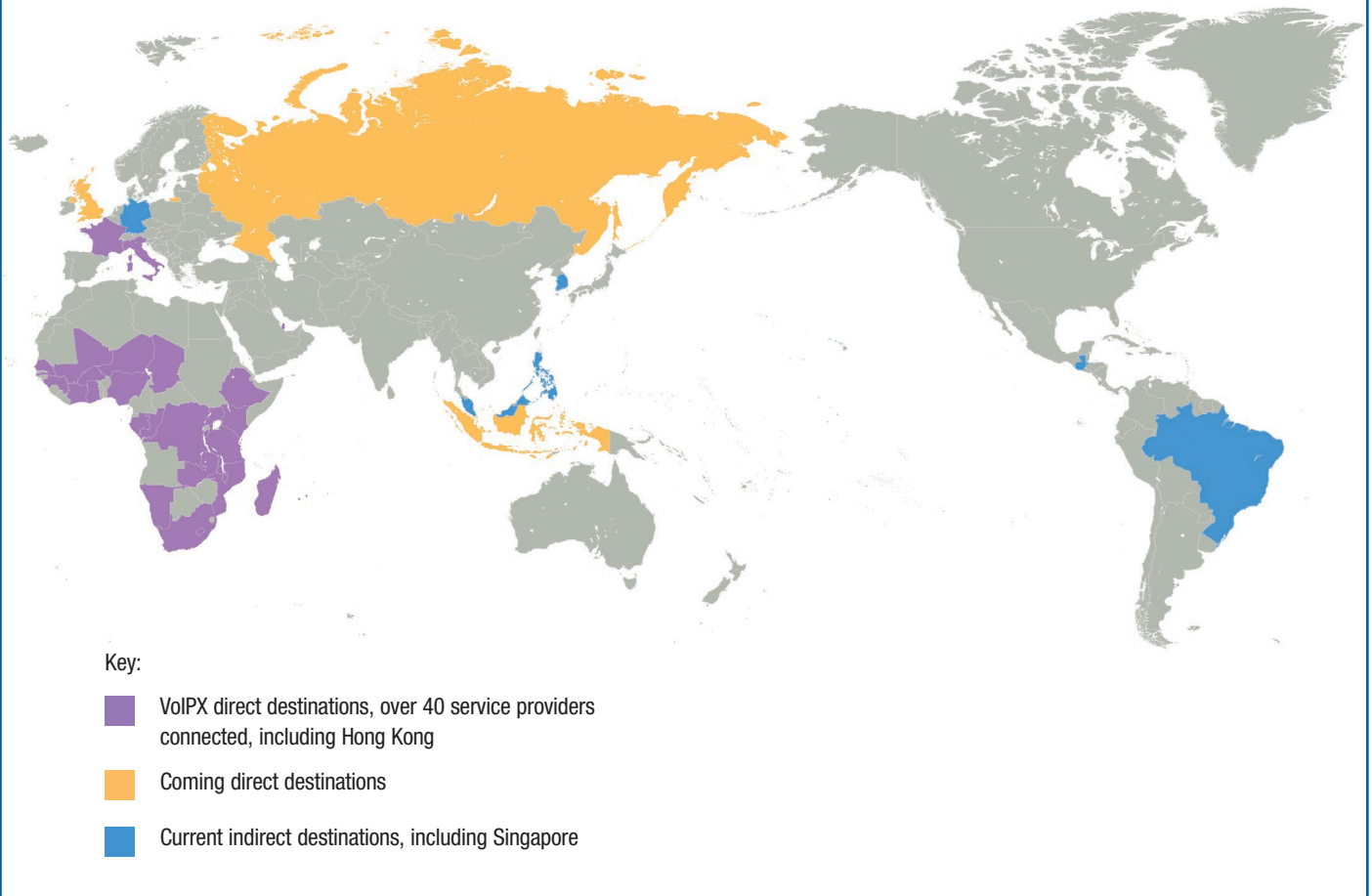
However, unlike GRX which only offers best effort quality of service - like the internet, IPX offers differentiated classes of service which provide greater business flexibility to meet the demand for differentiated services and different customer segments. LTE does not only provide greater speeds, it enables differentiated quality of service. IPX therefore becomes the logical extension of LTE to enable mobile operators to do more than offer just a connection.

PCCW Global believes that now is the right time for operators to interconnect using IPX because doing so now allows them sufficient time to make preparations and get ready to ride the LTE wave in the near term. That's important because learning new practices and technologies under the time pressures imposed by predicted, explosive demand presents a far greater challenge than engaging with a new approach when under less pressure.

Making the move now means operators can scale up their IPX usage in line with the acceleration in consumption of new services that IPXs can support.

PCCW Global has made use of a full IP voice backbone from the outset of its network development. In addition, the acquisition of Gateway Communications in 2012 allowed PCCW Global and Gateway to combine their respective voice strengths, thereby further entrenching PCCW Global's position as a

PCCW Global's IPX footprint



“New, purely IP-based services such as high definition voice and high definition video communications will also drive IPX development.”

top-quality provider of wholesale voice services into and out of Africa.

PCCW Global has already connected African customers to the IPX, directly within their own country. The operator has more than 40 voice destinations which are IPX compliant, meaning that the voice traffic is already carried by PCCW Global over a private and managed quality of service aware IP network directly to the end operator.

For PCCW Global, that has resulted in its African customers forming the customer base in the region in the world with the most VoIPX reachable on-net destinations. PCCW Global customers are also, as a result of these developments, able to quickly transition multiple services onto a single IPX pipe, which helps to drive significant transport cost savings, better quality of service and speedier access to new and innovative services such as HD voice and HD video communications.

The future of IPX will be driven by the growth of IP services at the edge. LTE data roaming will continue to grow at an exponential rate, not only because of the bandwidth and speed available via LTE, but also because of price decreases for data roaming which are driven by regulatory pressures in some regions of the world, and of course by increased competition too.

IPX is the only solution currently available that allows operators, including PCCW Global, to manage the very rapid growth in data traffic that the industry is seeing while providing the required quality of service and necessary interconnectivity. IPX also ensures the levels of efficiency required to operate within this more competitive and challenging environment are met at the same time.

The stimulus for increase IPX traffic is also assured because older technologies such TDM voice will also migrate towards Voice over LTE at the edge of the network over the next decade. However, in order for that to be able to happen, operators' interconnections will need to be ready well in advance. For that reason, an increase in VoIPX interconnections even for networks that are still using TDM for mobile or fixed line access is to be expected.

In addition, new, purely IP-based services such as high definition voice and high definition video communications will also drive IPX development. These new services demand to ride on a managed quality of service network and IPX provides the capability to address that demand. ■

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