A second
wave

As head of product management for Mobile World with Deutsche Telekom ICSS, **Christian Wollner** has to work hard to keep customers and partners happy. The carrier's investment in IPX provides vital support in a number of ways.

Today's global roaming and interconnect market can be a jungle for mobile service providers. The sheer variety of networks, interfaces and services cries out for a simple, common platform for the delivery of high bandwidth traffic around the globe with quality of service. IPX is that platform, and it's a platform that Deutsche Telekom ICSS leverages in many ways to ease pressure on its customers and partners, says Christian Wollner, the carrier's head of product management for Mobile World.

One of the issues that IPX is ideally equipped to solve, he believes, is the dramatic growth in roaming volumes generated by the success of LTE. In fact, he sees the marriage between LTE and IPX as mutually beneficial, each feeding off the growth of the other.

"LTE is really taking IPX to the next stage, which is something we've seen develop over the last couple of years," he says. "Volumes are going up so much, and with LTE everything is IP-based so there are fewer difficult questions."

Wollner believes that the evolution of IPX and the march of the industry to an all-IP landscape mean that a lot of the education and reassurance that used to be necessary is no longer needed: "IPX was a buzzword, but people didn't really understand it much," he reflects.

"That's turned around completely and IPX is on everybody's mind. IPX makes best sense when it's used multi-service, and now we're seeing so many different services going over it we're really seeing the hoped for synergies happen. We're seeing data roaming and voice go over IPX, as well as different kinds of signalling. Now it starts being fun."

Rising roaming volumes

Wollner expects to see significant growth in roaming volumes over the coming years, driving the value of IPX to new highs. "Roaming is being used more and more, now that there is hardly any 'bill shock'," he says. "It's got cheaper and much more convenient for consumers as operators anticipate regulatory changes and market demand. By summer 2017, mobile subscribers will not be charged extra for roaming in Europe anymore. That's one of the principles of Europe – everywhere you go should feel like home. Of course, this is a largely European development, but also offers that cover territories outside of the EU are more and more included into the "roam like at home" idea."

He believes LTE's larger bandwidth means we should also expect more roaming video traffic between networks: "Just two years ago this was not happening unless you were on WiFi," he points out.

With no barrier to roaming, Wollner foresees people will come to rely on it in unprecedented ways, precipitating increasing volumes of traffic over IPX: "IPX is about connectivity between networks, and there will be more traffic between networks than ever before,"

problem has not been particularly high. Finally it has come to the attention of mobile operators that there is large revenue potential going untapped."

He says he has long been amazed by the lack of attention to the grey route issue: "Perhaps it is because there has historically been large growth from SMS in volumes and revenues, particularly in P2P traffic," he speculates. "Now that has changed and P2P is not in the growth phase any more, and the traffic is shifting to over-the-top applications. We've got the opposite trend in A2P messaging because there is still growth in that."

Wollner says that now the extent of the grey route issue has dawned, operators are turning to ICSS for a solution: "They are asking us to do something to help, to protect them," he explains.

"They want to generate revenues that are untapped today."

ICSS's response has been to launch SMS+, described by Wollner as a 'twofold solution': "It's a response to the operator which wants us to look into this challenge and help them to analyse their SMS stream, and protect them," he explains. "The second part is about helping them to generate revenues, by addressing traffic that used to go through grey routes and collecting the termination fee."

In a broad sense, he sees IPX as central in the battle to manage SMS traffic: "The main weak point in the SMS ecosystem, in terms of A2P, is actually the international roaming links which go through signalling. Our signalling platform is something that is well addressed through the IPX, as a multi-service platform."

A new dawn for IoT
The Internet of Things (IoT), believes Wollner, is one of the biggest opportunities for the mobile sector, and another area where IPX can smooth the way. "I've been in the industry for quite a while, and I've seen how GSM and mobile network services have grown and evolved over the years," he says. "Now with M2M we're seeing a whole second wave, you might say a renaissance, of that evolution. In the developed economies at least, we've equipped all the humans with at least one SIM card each. There are limitations to further growth. Now we can see how all these machines and objects are going to be equipped with connectivity, much of it going through cellular networks. And of course much of this traffic will need to go through roaming. Already today in terms of roaming connects, a lot of those are already machines and we can see that the share of the machine traffic is bound to increase tremendously over the next years."

One of the strengths that IPX brings to the IoT party is its suitability as a platform for interconnect between multiple players, says Wollner. "As long as everything is IP-based, you can provide for classes and quality of service between these different players," he adds. "I see at least three different types of interconnect in the M2M area. Within our own group, we have a pan European strategy and part of that is looking for synergies so we don't have to deploy the same thing multiple times in different markets. We want one platform, and all the markets to benefit. That's better for cost and efficiency. For M2M, we can use IPX for that. It's a very efficient tool for that kind of task. For players outside our group, we're looking to connect with a lot of different partners, and there again IPX is a good platform. The third case is for permanent roaming, and this is an important use case for M2M. It's very simple to equip a lot of machines that come out of one factory

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> **Christian Wollner**, head, product management, Mobile World, Deutsche Telekom ICSS

and go to different markets with the same SIM card. A factory producing cars can equip them with the one card and send them to a lot of different countries."

IPX should, he says, be particularly valued as an IoT asset on account of its ability to manage different classes of traffic, and prioritise between different types that might be more or less critical: "You can handle critical and non-critical traffic, voice or data, and you can also have security as well as dedicated bandwidth according to different streams of traffic," he adds.

Outside of work, and the pressure of the fast evolving mobile ecosystem, Wollner likes to keep as active as possible to offset time spend at his desk: "I like all sport," he explains. "I'm into running, which I do maybe three times a week. I love to swim and work out in the gym – to do something almost every day is important to me. After a long day of working in front of a screen, it's vital to compensate. I love to travel too, and cooking at home for family and friends." ☕

he predicts. He claims that ICSS has, to meet this challenge, invested heavily in the area of IPX.

"It's up to carriers like us to anticipate the growth that's coming," he says.

"At ICSS, we need to invest on behalf of our own affiliates, but most of all for external customers, like the Vimpelcom Group or other operators around Europe and the globe."

The grey route issue
Roaming is not the only challenge that ICSS can solve for the hard-pressed mobile operator, with a little help from IPX. As revenues from person-to-person (P2P) SMS traffic decline, these are being helpfully offset by application-to-person (A2P) traffic. But so-called grey routes mean that all too often operators are carrying this traffic with no termination fee.

"Grey routes are a problem that has been around for more than a decade," says Wollner. "But the awareness of the