

KPN Goes All IP with Help From Alcatel-Lucent

By J. Bann



For all legacy public telephone companies, the challenges are many in a world of overwhelming technological developments and increasing competition. The stakes are even higher if you are a legacy public phone company in the Netherlands, one of the most competitive markets in the world. KPN in the Netherlands didn't walk away from the challenge. Instead, it developed a comprehensive strategy to transform its network from legacy to all IP, explains Paul Hendriks, All IP Program Director Wholesale & Operations at KPN. And now they are the front-runner in the world with this project.

What were the main drivers for KPN to develop an IP strategy in the first place?

Paul Hendriks: "The communication market in the Netherlands is one of the most dynamic and competitive in the world. In the last few years, the penetration of mobile telephony and broadband communications has increased enormously. Around 18 percent of Dutch households have a mobile connection only; consumer broadband penetration has risen to 69 percent; and business broadband IP-VPN penetration is now 57 percent. In addition, over 95 percent of the population has a cable connection, and today we see more and more fiber-to-the-home initiatives. We also see a great deal of consolidation and new players in the market, for example Google with its VoIP offer, and eBay, which has acquired Skype. All these developments required KPN to develop a new and aggressive strategy to maintain its leadership in the Dutch market. Our All IP program is a major part and key enabler of this new strategy."

How does IP fit into this strategy?

Paul Hendriks: "We have developed what we call an Attack-Defend-Exploit strategy. 'Attack' stands for maintaining market leadership in the new world. We want to increase our market share in broadband; implement multi-play services including IP TV and Voice over IP (as a PSTN replacement); and implement managed ICT services and vertical solutions. 'Defend' means that we want to stop the loss of market share in the traditional sectors, including traditional voice. In addition, we want to defend our share in the mobile market, and implement simplified voice-only in IP networks. 'Exploit' means that we want to increase our market share, and decrease the level of operational costs. This can be done through the automation of processes, and by implementing a modern network. This new strategy of moving from legacy to IP is a major task, especially in the non-technical, cultural sense. We need to take a broad perspective and make some tough decisions about our portfolio. Some services, even profitable ones, may have to go, while others will stay. In essence, all services that are not based on IP and Ethernet will go. Only in very special cases will we consider emulated services, but this introduces legacy again in a new network, and that's something we want to avoid. For instance, there will be some customers who may want to hold on to leased lines. Whenever possible, we will go and look for an IP alternative, but not too long after 2010."

We also need to convince customers that they need to migrate to new, IP-based services. A smooth migration path is essential in this respect, as many customers are still worried about the quality and security of IP networks. We point out to customers that security is high on our agenda. All technology and processes are or will be certified, and in many cases also audited by an external party, making them compliant to the highest security standards now applicable. This not only applies to our business services, but also to the consumer market. In the end, all our customers are entitled to safe and reliable services.

All IP is also a complex technical project. We need to adapt or replace 1,300 local exchanges and 28,000 street cabinets, and also lay 15-30,000 kilometers of fiber. Some of this work has already started, but the major part has to be done between 2007 and 2010. In just four years, we will transform a network that took 125 years to build. Still, we have already reached some major milestones, including the introduction of IP-VPN, Voice over IP and IPTV services, and the implementation of Ethernet into our core network. We have also made the first All IP call in the test lab, connected some 'friendly' customers, and have rolled out new street cabinets in some cities. We are already beyond the design and development phase and into the deployment and integration phase. Because of regulatory reasons, friendly customers in VDSL2 areas come from our employee base. There are trials in Amsterdam and The Hague, where customers are connected to the VDSL 2 network. In Enschede, fiber-to-the-home is used. These customers get access to Triple Play services, including high-speed Internet, Voice over IP and IPTV. We contact them on a regular basis to talk to them about their experiences. The people are very enthusiastic, and very pleased with the quality of IPTV and high-speed Internet access. These trials with friendly customers enable us to check the service and network, to establish how users value the services they get, and to see if our processes are in place and working. We have until July for these trials, then we are allowed to roll out these services commercially."

What will the new network mean for businesses and consumers?

Paul Hendriks: "The most important thing is that we will in the end have one network for all services, with IP and Ethernet as new standards. Customers can access services regardless of the device, using one number. Services are delivered at high bandwidths and include voice, high-speed Internet access, and video and entertainment. They will be converged and blended, which will enable new business models. Healthcare organizations, for example, can monitor their clients' health through the network. A security company can offer remote security. The network will be open to different service providers to offer telecoms and non-telecom-specific services. That's an important difference from the old network, which could not offer a choice of service provider due to its architecture. Telecommunications are becoming a real commodity, just like water from the tap and electricity from the wall outlet. With growing bandwidth, there are probably services that have not yet been thought of. Just think of YouTube, which is a huge success thanks to broadband, and was unimaginable without broadband. KPN itself will be developing and offering new services, but we will also cooperate closely with partners and, of course, open up the network to anyone who wants to use it for delivering services. Essentially this offers a new environment for creative people."

What does it mean for KPN?

Paul Hendriks: “I think it’s fair to say that KPN is now at the forefront of technological developments in the telecom sector with this project. I get invitations from all over the world to explain how we are rolling out this network, and how we learn from growing pains that obviously are there. In my opinion, it is key to have good guidance and governance and a clear vision for the future. The next step is to get all those involved – employees and partners – committed. Until now, this has been mainly a technical project, but as we are rolling out the services commercially, marketing and sales people are getting more engaged. By the end of 2007, all KPN employees will be involved, one way or another, in making All IP fully ingrained in our organization.”

What is your view on the role of Alcatel-Lucent in this project?

Paul Hendriks: “First of all we needed next-generation equipment for this new network, and Alcatel-Lucent has been able to provide this. We have purchased Alcatel-Lucent next-generation DSLAM equipment for our street cabinets, which Alcatel-Lucent helped to design. Our Ethernet backbone is largely based on Alcatel-Lucent equipment, and a key element from Alcatel-Lucent is the IMS platform. We also needed knowledge and resources for system integration and program management, and for design and portfolio development, and saw the right partner for our needs in Alcatel-Lucent. In addition, Alcatel-Lucent can help migrate customers to the new network. This means Alcatel-Lucent is a major contributor to the new network, and a prominent and strategic partner. Implementing this new All IP network means a lot of extra work in the next few years, while reducing KPN staff. The size of the project makes it a quest, which I like to compare with Odysseus’ quest from Homer’s Odyssey. It took years for Odysseus to return home, and he had to overcome many obstacles before reaching his goal, but he had a tremendous journey. We therefore have to work in a true partnership with our suppliers to achieve our goal. You can write down all the responsibilities and tasks in detail, but in the end it’s the cooperation and partnership that counts.” ☒

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