Cisco Systems

An Internet Business Solutions Group case study

T-MOBILE AND CISCO SYSTEMS JOIN FORCES TO OFFER PUBLIC WIRELESS LAN SERVICES

EXECUTIVE SUMMARY

T-Mobile is a wholly owned subsidiary of Deutsche Telekom and, as one of its four strategic divisions, is a key contributor to the Group's earnings. In launching a public wireless LAN service across Europe, T-Mobile is working in close technical and strategic partnership with Cisco Systems. Two dedicated T-Mobile and Cisco groups – an architecture and a business group – are working together to bring the service to market

The T-Mobile public wireless LAN service is built upon Cisco Mobile Exchange (CMX) and Cisco Service Selection Gateway (SSG) at the network core – creating a central service platform for the whole of T-Mobile in Europe – with Cisco Aironet wireless access points and routers in the HotSpots at the network periphery. This architecture supports T-Mobile's goal to provide a public wireless LAN service offering seamless and simple connectivity to its customers.

In August 2003, the chief executives of T-Mobile and Cisco Systems – René Obermann and John Chambers – signed a MOU (memorandum of understanding). The MOU marks the starting point of a much broader and deeper co-operation in areas such as new access technologies, creating alternative channels to market, and driving the adoption and usage of new services.

STRATEGIC INTENT

"AT T-MOBILE WE ARE COMMITTED TO PROVIDING SEAMLESS MOBILE CONNECTIONS TO OUR CUSTOMERS. IN THE CONTEXT OF SEAMLESS MOBILITY, PUBLIC WIRELESS LAN PLAYS AN IMPORTANT ROLE BECAUSE WE BELIEVE IT PERFECTLY COMPLEMENTS EXISTING MOBILE DATA TECHNOLOGIES."

Nikesh Arora, Chief Marketing Officer
T-Mobile

Dynamic markets

T-Mobile International is one of the world's leading companies in mobile communications. As one of Deutsche Telekom's four strategic divisions, T-Mobile concentrates on the most dynamic markets in Europe and the United States. By the end of 2003, about 90 million people were using the mobile communications services provided by companies in which T-Mobile or Deutsche Telekom have a majority or minority stake. And all that over a common technology platform based on GSM, the world's most successful digital wireless standard. This also makes T-Mobile the only mobile communications provider with a seamless transatlantic service.

Revenue generator

Public wireless LAN services are viewed by some MNOs as a threat to the growth of the already-slow 3rd generation mobile market. T-Mobile has been quick to see the complementary nature of such access technologies both as revenue generators in their own right and as a way of introducing customers to the rich content and applications available in a 3rd generation mobile environment.

Nikesh Arora, Chief Marketing Officer, T-Mobile, says: "At T-Mobile we are committed to providing seamless mobile connections to our customers. In the context of seamless mobility, public wireless LAN plays an important role because we believe it perfectly complements existing mobile data technologies like 2.5G and 3G. Whereas public wireless LAN is high bandwidth and low mobility, 3G has medium bandwidth and high mobility."

In mid-2002, T-Mobile opened discussions with Cisco Systems on the possible benefits of making an entry into the developing European public wireless LAN market. Cisco responded by offering the consultative expertise of its Internet Business Solutions Group (IBSG) to assist T-Mobile in scoping and shaping its potential European public wireless LAN offer.

"CISCO CONTRIBUTED SIGNIFICANTLY TO THE SPEED AND SUCCESS OF THE PUBLIC WIRELESS LAN DEPLOYMENT, PROVIDING BOTH TECHNOLOGICAL AND MARKETING INPUT. OUR COLLABORATION WITH CISCO HAS ALSO LED TO INITIATIVES THAT ARE HELPING TO INFORM AND EDUCATE THE MARKET."
Martin Witt, Executive Vice President Wireless LAN
T-Mobile

Favouring early entrants

IBSG organised a series of workshops and plenary sessions. From Cisco the exercise involved IBSG consultants as well as global experts in the wireless and mobile arenas. From T-Mobile there were representatives from marketing and product development. Integrating the Cisco input with the analytical work that T-Mobile had already undertaken, quickly reinforced the fact that a considerable opportunity was open to T-Mobile, but only if it acted quickly.

The European public wireless LAN market was about to take off. Expectations were for rapid growth and an explosion in turnover, with revenues exceeding €1 billion by the end of 2006, showing real favour to early entrants. One of the main factors identified was dynamism in the US market, which was developing ahead of the European market.

Recognising these imperatives, the workshop series split into two streams:

- **An architecture group**
  This team addressed not only the hardware and software issues involved in delivering the service but also the functionality that the service would need to provide. It also covered the technical implications of integrating the public wireless LAN environment with T-Mobile's existing European infrastructure.

- **A business and go-to-market group**
  This team undertook the tasks of defining partnership and business models, the product and its supporting services, setting the pricing strategy, and the logistical planning around the rollout.

Martin Witt, Executive Vice President Wireless LAN, T-Mobile, explains: "Cisco contributed significantly to the speed and success of the public wireless LAN deployment, providing both technological and marketing input. From a broader perspective, our collaboration with Cisco has also led to initiatives that are helping to inform and educate the market."

Seamlessness and simplicity

The public launch of T-Mobile's European public wireless LAN service took place at the CeBIT trade fair in Hanover in March 2003. The rollout covers initially T-Mobile's five key European countries: Germany, Austria, The Netherlands, Czech Republic, and the UK. Further European countries would be added directly or through partnerships.

Nikesh Arora says: "T-Mobile today has over 4,000 HotSpots in the USA and somewhere over 700 across Europe. We believe this gives us a global leadership position and we think that the European HotSpots rollout, which we plan to extend over the coming months, is going to continue to strengthen our global position."

The service launched by T-Mobile had the following characteristics:

- The primary target audience would be business people on the move, and the product would be available through partnerships with real estate owners in – for example – hotels, airports, coffeehouses and convention centres. Synergy would be created with T-Mobile's existing business by offering SMS sign on procedures, under which the mobile user would simply send an SMS message to a T-Mobile short dial number and receive their user name and password in return.

- Billing would be to the user's existing T-Mobile account and, in order for non-T-Mobile customers to use the service they can pay by credit card billing.

RESULTS

"WE HAVE AN END-TO-END CISCO SOLUTION, WHICH PROVIDES OUR CUSTOMERS WITH TOTAL AVAILABILITY AND THE HIGHEST LEVEL OF SECURITY. WITH CISCO MOBILE EXCHANGE MANAGEMENT TOOLS WE CAN REMOTELY CONTROL AND MANAGE THE WHOLE NETWORK EVEN TO THE FURTHEST ACCESS DEVICES IN REMOTE HOTSPOTS."

Martin Witt, Executive Vice President Wireless LAN
T-Mobile

Central service platform

T-Mobile's intention was that its public wireless LAN service should offer seamlessness and simplicity to its customers. In pursuit of that aim, the T-Mobile public wireless LAN architecture has Cisco Mobile Exchange (CMX) and Cisco Service Selection Gateway (SSG) at the network core – creating a central service platform for the whole of T-Mobile in Europe – with Cisco Aironet wireless access points and Cisco routers in the HotSpots at the network periphery.

Martin Witt says: "We have an end-to-end Cisco solution, which provides our customers with total availability and the highest level of security. With Cisco Mobile Exchange management tools we can remotely control and manage the whole network even to the furthest access devices in remote HotSpots."

Partnerships in deployment

In terms of the technical and logistical aspects of HotSpot deployment, T-Mobile works in partnership with systems integrators such as IBM and T-Systems. Hotel chains such as Starwood – as well as the Starbucks chain of coffee houses – are working in partnership with T-Mobile to provide HotSpot locations. In Austria as an example, T-Mobile has taken over public wireless LAN pioneer metronet, and in so doing has gained 300 operational HotSpots.

In early 2004, T-Mobile, Cisco Systems, IBM and Intel announced a joint programme to set up wireless LANs for universities – forming positive market behaviour towards the technology in tomorrow's business people. The Cisco and T-Mobile sales forces are working together to strike strategic public wireless LAN partnerships with major bodies such as airport authorities and national train operating companies

Cementing co-operation

In August 2003, with the European rollout well under way, the chief executives of T-Mobile and Cisco Systems – René Obermann and John Chambers – signed a memorandum of understanding (MOU). The executive sponsors of the MOU are Nikesh Arora, the Chief Marketing Officer for T-Mobile, and Massimo Migliuolo, Global Vice President of Cisco's mobile business.

The MOU is a powerful signal to the marketplace. It formalises the two companies' co-operation in the development of public wireless LAN services in:

- joint marketing
- joint product development
- and hotspot site acquisition.

The MOU marks the starting point of much broader and deeper co-operation in areas beyond wireless LAN such as exploiting new access technologies, creating alternative channels to market, and driving the adoption and usage of new services.

Nikesh Arora, Chief Marketing Officer, T-Mobile, concludes: "Cisco and T-Mobile chose each other because T-Mobile is committed to providing seamless mobile connections to our customers, agnostic of technology, with public wireless LAN playing a key role in that. Cisco supports our strategy with its leading brand, the strong product road map that it has in place, and a clear vision on how this technology and other such technologies will become critical to partners like us in providing seamless connectivity."

TECHNOLOGY BLUEPRINT

"CISCO SUPPORTS OUR STRATEGY WITH ITS LEADING BRAND, THE STRONG PRODUCT ROAD MAP THAT IT HAS IN PLACE, AND A CLEAR VISION ON HOW THIS TECHNOLOGY AND OTHER SUCH TECHNOLOGIES WILL BECOME CRITICAL TO PARTNERS LIKE US IN PROVIDING SEAMLESS CONNECTIVITY."

Nikesh Arora, Chief Marketing Officer
T-Mobile

Mobile broadband

Public wireless LAN technology (also known as Wi-Fi and IEEE 802.11) enables users to browse the Internet using a wireless laptop or PDA without needing a traditional network connection. It achieves data speeds of up to 11Mbps, way above the GPRS (general packet radio service) or CDMA (code division multiple access) mobile telecommunications data standards, which offer around 1Mbps.

Teamed with GPRS or CDMA, public wireless LAN technology provides ubiquitous Internet access for business travellers on the move. Dual-mode devices are already starting to make an appearance into the market and, apart from the obvious customer benefits, enable mobile service providers to – where appropriate – seamlessly offload high-overhead data transmission in favour of servicing more voice traffic.

Core to periphery

The T-Mobile public wireless LAN architecture is exclusively based upon Cisco technology. At the network core, Cisco Mobile Exchange (CMX) and Cisco Service Selection Gateway (SSG) create a central service platform for the whole of T-Mobile in Europe.

At the network periphery, the HotSpots use a combination of Cisco Aironet 1200 or 1100 Wireless Access Points and Cisco 2600 or 1700 Series Routers.

The combination of CMX and SSG enables T-Mobile to offer a continuum of branded services, supporting the seamless handoff from one radio technology to another and forming an interface to the IP world.

That carries with it enormous advantages, such as the ability to maintain a VPN (virtual private network) session while on the move. CMX also provides management tools that, for example, enable T-Mobile to remotely configure the network even to the furthest access devices in the HotSpots. Critically it allows the customer to use an in-house security solution (such as IPSec or SSL) or CMX will provide that security functionality where required.

Internet switching intent

T-Mobile's intention is to have a consistent service framework encompassing the worlds of public wireless LAN and GPRS/UMTS, enabling users to switch their Internet access simply and seamlessly between, say, a mobile telephone and a wireless-enabled laptop. At a T-Mobile HotSpot, when the Internet browser is opened, the T-Mobile HotSpot portal automatically appears. Due to the integrated nature of the T-Mobile public wireless LAN offering, the same user name and password can be used at any T-Mobile HotSpot around the globe.

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