

DE-CIX: From the interconnection of three Internet Service Providers back in 1995 to the world's leading Internet exchange

In 2015, the Internet exchange DE-CIX in Frankfurt celebrated its 20th anniversary. What began 20 years ago with the simple interconnection of three Internet Service Providers (ISPs), is now the Internet exchange with the highest data throughput worldwide.

The beginning: Three ISPs interconnect

In 1995, three German ISPs, EUnet from Dortmund, Xlink from Karlsruhe, and Hamburg-based MAZ, interconnected their networks for the first time: The hour of birth for DE-CIX. With a joint market share of about 90 percent, the Internet pioneers connected almost all commercial Internet connections in Germany at that time. However, in the modest dimensions of 1995: Each network was connected with a bandwidth of only 10 Megabit per second (Mbps) to the first DE-CIX switch, if it could even be considered a switch at all, rather than just a hub.

Soon after its inception, DE-CIX found its legal umbrella in eco – Association of the Internet Industry e.V. and opened for new members. The foundation stone for further growth

Harald A. Summa,
CEO



“Back in 1995, we had no idea of the dimensions the Internet and the associated market would take. It took us 15 years to reach the peak of 1 Terabit per second in data throughput. In 2015, we achieved this increase in data throughput in a single year.”

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was laid and DE-CIX grew steadily by roughly 20% per year. After five years, in 2000, 60 ISPs were exchanging their traffic at DE-CIX.

The stage of professionalization

The growth was accompanied and facilitated by the setup of new DE-CIX enabled sites and new switches in the following years: DE-CIX moved its switch from an old post office to the Interxion data center in 1998 and set up a second switch with redundant fiber and electricity connection at Interxion in 2001. In 2003, the setup of an additional DE-CIX switch at the TelecityGroup data center followed, and the company DE-CIX Management GmbH was founded as wholly owned subsidiary of eco – Association of Internet Industry e.V.. The management of the technical infrastructure was professionalized and marketing and sales on international basis was pushed. After setting up a fourth DE-CIX switch at the Kleyer campus in Frankfurt in 2006, DE-CIX became the second largest Internet exchange worldwide in 2007, with a peak of 300 Gigabits per second (Gbps) and 230 connected customers (in terms of data throughput). In 2010, DE-CIX Frankfurt connected 350 customers and reached the record traffic peak of 1 Terabit per second (Tbps).

Internationalization starts with UAE-IX in Dubai and DE-CIX New York

In 2012, DE-CIX took its specific know how and experience in establishing and operating Internet exchanges abroad: The Internet exchange UAE-IX in Dubai (United Arab Emirates), managed by DE-CIX, became operational. UAE-IX reduces latency times by up to 80 per cent and reduces costs by up to 70 per cent for GCC providers.

One year after the successful establishment of an international Internet exchange, DE-CIX took the next logical step of internationalizing its business: The DE-CIX International AG (a wholly owned subsidiary of eco) and the DE-CIX North America Inc. (a wholly owned subsidiary of DE-CIX International AG) were founded. DE-CIX New York, the fastest growing carrier and data center-neutral Internet Exchange in the metro, went operational in December 2013. In an effort to offer customers more reliable and flexible service options, DE-CIX New York offered more than 100 access points to its exchange from the most relevant data centers around the region from the very beginning.



Arnold Nipper,
**Chief Technology Evangelist and
Co-Founder**

When DE-CIX came into operation in May 1995, at first, nothing happened. But there were several commercial providers very keen on connecting as soon as DE-CIX was ready for that. One provider even contacted Germany's cartel office, afraid the three providers wanted to build a monopoly. That was the moment when we realized that it was going to be important.

In the beginning, you needed to have the approval of 15 percent of existing members to join DE-CIX. We used to have long discussions on the list and during member meetings about who should be allowed to join, whether someone counted as a service provider, and whether a company was someone else's customer. One provider rented a room directly beside the DE-CIX room in the old post office, and he wanted to drill a hole in the wall and just put a cable through it. Someone else said: Do it, and I will personally go and cut the cable. So literally everybody realized how important it was to get connected at DE-CIX.

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DE-CIX Apollon: Platform milestone at DE-CIX Frankfurt

In 2012, DE-CIX Frankfurt reached the peak traffic record of 2 Terabits per second with 465 connected customers and took over the leading position as Internet exchange with the highest data throughput worldwide.

In the following year, 2013, the complete technical infrastructure of DE-CIX Frankfurt was replaced during operation. The Interconnection platform DE-CIX Apollon has a total capacity of 48 terabits and is able to grow tenfold without requiring major changes. DE-CIX Frankfurt has had a 100 percent uptime since 2007.

Five new Internet exchanges in one year

In DE-CIX's 20th anniversary year, five new Internet exchanges were announced. With DE-CIX Marseille (France) and DE-CIX Palermo (Italy), two new Internet exchanges in the Mediterranean Basin were established, operated by the DE-CIX International AG.

The third new Internet exchange is located in Istanbul (Turkey), operated by the DE-CIX Istanbul Network Connections LLC, a new subsidiary of DE-CIX International AG.

In addition, a new Internet exchange in Dusseldorf (Germany) and Dallas (US) were announced. These new exchanges will become operational in 2016, as will a third exchange: DE-CIX Madrid (Spain).

And while internationalization was moving forward, DE-CIX Frankfurt cracked the 4 Tbps and 5 Tbps traffic records in 2015. Recognition from the Industry

In 2013, DE-CIX received the Capacity Award for Best Global Service for its DE-CIX Apollon platform, and the 2014 Capacity Award for Best North American Project for DE-CIX New York. In 2015, DE-CIX won the Capacity Award for Best Internet Exchange. The recognition confirms DE-CIX's outstanding expertise in operating Internet exchanges globally for over two decades.



**Wolfgang Tremmel,
Director Customer Relations**

“Back in 1995, I worked for Xlink as a network engineer. It was my first job in the industry. I was given the task to go to Frankfurt and put the Xlink cable into the DE-CIX switch. I had read something before about Internet exchanges, with the Internet Society, I think. At that time, there were only three or four commercial ISPs in Germany, Xlink was one of them. When we did send traffic to one of the other German providers, our traffic was routed via the UK or even the USA. At that time, a 2 Megabit per second connection was a really fast connection.”



**Daniel Melzer,
CTO**

“I had two babies in 2013: My son Michel, born in September 2013, and DE-CIX Apollon, the biggest hardware replacement and topology redesign ever, finished in December 2013. And there was just one thing left: the transformation of four 7950 XRS-20 into two XRS-40. With this, we built the world's largest IXP nodes in 2014.”