DE-CIX Predictions: 4 trends for 2022

Unfortunately, the pandemic still won't loosen its grip on the world, and this winter again many activities will need to take place online – from Christmas shopping to events and celebrations. Reliable and fail-safe Internet connections with the lowest possible latency are thus becoming increasingly important – for our private lives, certainly, but above all for the economy as a whole. Here, a significant role is played by Internet Exchanges (IXs). They guarantee a smooth, secure, and fast exchange of data packets between networks of any size, ranging from city carriers to streaming providers and cloud service providers. Dr. Thomas King, CTO at DE-CIX, has identified 4 trends that will shape the connected world, the evolution of Internet trends, and the interconnection business in 2022:

1. Automation: Booking interconnection by click

Automation is no longer just a topic in manufacturing. More and more industries are developing solutions to automate routine IT tasks to become more flexible. Especially in uncertain times like we are currently experiencing, flexibility is a crucial asset. If, for example, a retailer's business activities suddenly shift from the physical store to the online store, they must be able to react quickly so as not to alienate their customers with downtime. Internet Exchange operators are responding by offering the chance to manage interconnection services via both API and self-service portals. This means that the services at the Internet Exchange can be booked just as easily as computing power can be at the well-known cloud providers. This is possible because a large portion of the infrastructure at an Internet Exchange is now virtualized. But there are also automation approaches in the area of physical infrastructure. In addition to an API and a sophisticated self-service portal, DE-CIX in Frankfurt, for example, now has three patch robots in operation, which reposition cables fully automatically in just seconds, at any time of day.

2. A new era of data exchange

Never before has more data been exchanged than today. But problems remain: For example, when it comes to the confidential, bilateral exchange of large data packets, these are sometimes still stored on hard disks and physically transported. In the future, in the context of Gaia-X, high-performance and confidential data channels will be developed to address this issue. The basic idea behind the Gaia-X project is to create a sovereign European system for secure data exchange based on decentralized,

interconnected infrastructure services. Another security-related service that will be increasingly in demand is Closed User Groups, which allow different actors to connect with their private networks via an IX. Closed User Groups enable enterprises to create their own interconnection environment – away from the public peering infrastructure. They can connect with select partners, suppliers, and customers present in multiple different locations, in order to share data securely and efficiently. The interconnection platform provides a direct connection between members of the Closed User Group, with optimized security measures and improved performance. This allows business partners or suppliers to quickly, securely, and directly exchange the data needed to develop or operate complex digital services – ranging from digital health services to autonomous driving. While cloud solutions facilitate data storage and handling, interconnection platforms are key to enabling many-to-many data exchange.

3. "Glocalization" is gaining traction

Various new technology applications such as virtual reality, cloud gaming, and e-health, not to mention connected and autonomous cars, are creating ever higher demands for the lowest possible latencies. Especially for mobility applications, extremely low latencies of less than one millisecond are crucial. Data does not move infinitely fast, so it is necessary for the nearest data center to be a maximum of around 80 kilometers away. A centralized Internet structure, where exchanges exist only in metropolitan areas, can no longer cope with these developments. So, we will see the hosting and processing of data move increasingly close to the edge. In other words, moving closer to the actual location of the consumers of this data and data processing. To some extent, this is already the case: An American streaming provider will host its new series in European data centers when it launches them there. Currently, however, this is only the case in large hubs. We are already seeing accelerated growth in Tier 2 and Tier 3 Internet Exchanges, such as the Ruhr-CIX in Germany, which will open up populous regions further removed from the existing digital hubs. In fact, Germany is leading the way here. However, this development will also continue globally, and Internet Exchanges will in future be found not only in the established digital metropolises, but also in regional centers, all over the world.

4. The car of tomorrow is connected

A stable data connection is becoming increasingly important for vehicles. Real-time information on the nearest charging station, for example, can be crucial for the operating radius of electric cars. At the same time, there are more and more advances in connected cars and autonomous driving, and these also bring high data demand and the need for low latency with them. Next year will therefore see a

continuation of a trend that we are already seeing today: Automakers are becoming digital companies. They then have to decide which systems and services to outsource to big tech companies and which to build and operate in-house. In both cases, what is needed is a framework for data exchange between car and server and between different partners. This data exchange needs to be as fast as it is secure.

The bottom line:

We cannot predict the further course of the global Covid-19 pandemic. But we can say, looking at the last two years, that the growth of digital services has increased massively. Where direct, physical exchange is not possible, these services take its place. Content providers, network operators, Internet Exchanges and, increasingly, individual companies that were not previously part of the tech sector are working to provide the infrastructure for these services not only to people in digitally developed centers, but also in previously less well-served regions. The guiding principles are the basic needs of our digital age: Flexibility, security and speed.

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About DE-CIX

DE-CIX (German Commercial Internet Exchange) is the world's leading operator of Internet Exchanges. In total, in its 32 locations in Europe, North America, the Middle East, and Asia, DE-CIX interconnects over 2400 network operators (carriers), Internet service providers (ISPs), content providers, and enterprise networks from more than 100 countries, offering peering, cloud, and interconnection services. The combined connected customer capacity of all DE-CIX locations worldwide exceeds 85 Terabits, making it the largest neutral interconnection ecosystem in the world. DE-CIX in Frankfurt, Germany, with a data throughput of more than 10 Terabits per second (Tbps) and over 1000 connected networks, is one of the largest Internet Exchanges in the world.
Further information at www.de-cix.net

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