Press Release

Europe's largest Internet Exchange DE-CIX Frankfurt sets new traffic record: 15 Terabits per second

Frankfurt (Germany), 20 September 2023. Europe's largest Internet Exchange DE-CIX Frankfurt has set a new record for data throughput. On 19 September at 9:26 pm (CEST) in parallel to the start of the UEFA (Union of European Football Associations) Champions League season 2023/24 and the software update of a renowned smartphone manufacturer, peak traffic of over 15 terabits per second (Tbit/s) was recorded for the first time, hitting 15.29 Tbit/s. 15 terabits per second corresponds to 5 million videos in HD quality being streamed simultaneously. In total, the data traffic at one of the largest Internet Exchanges in the world has increased by almost 40 percent since the beginning of 2022, and by 150 percent over the last five years. In the analog world, the flood of data is even more impressive: If one bit equaled one milliliter of water, 15 Terabits would fill 400 Olympic-sized swimming pools (50m x 25m x 2m) every second. That would correspond to the amount of water flowing over 385 Niagara Falls per second.

"In future, data records will not only be set in parallel to software and gaming releases or major sporting events. The increasing use of digital and AI services (e.g. text and voice applications), cloud services and other data-intensive applications, which are becoming part of everyday life not only in companies but also in private use, will also be responsible for growth in data throughput. To be prepared for this immense flood of data, we regularly increase our capacities at DE-CIX, so that in the future we will also be able to guarantee redundant and low-latency connectivity," said Dr. Thomas King, Chief Technology Officer at DE-CIX.

DE-CIX is the world's leading operator of Internet Exchanges, and since the beginning of the commercial Internet the company has had a decisive influence in a range of leading global bodies on co-defining guiding principles for the Internet of the present and the future. As the operator of critical IT infrastructure, DE-CIX bears a great responsibility for the seamless, fast, and secure data exchange between people, enterprises, and organizations at its locations around the globe. DE-CIX offers its peering, cloud, and other interconnection services in close to 50 metro regions in Europe, Africa, North America, the Middle East, and Asia. The interconnection ecosystem is accessible from data centers in over 600 cities world-wide and interconnects thousands of network operators (carriers), Internet service providers (ISPs), content providers and enterprise networks from more than 100 countries. DE-CIX Frankfurt (Germany), with 34 Exabytes of

annual traffic in 2022 and close to 1100 connected networks, is one of the largest Internet Exchanges in the world.

What is a terabit per second? How much data is a throughput of 15 terabits per second?

- A terabit per second, Tbit/s or Tbps, is a dimension for the transmission speed of data.

- 1 terabit per second is 10^3 Gbit/s, 10^6 Mbit/s, 10^9 kbit/s, or 10^{12} bit/s, or 1,000,000,000,000 bit/s.

- The next lower data rates are specified in gigabits per second (Gbit/s) and megabits per second (Mbit/s).

- 15 terabits per second is equivalent to over 5 million HD-quality videos streamed simultaneously. In the analog world, it corresponds to about 3.4 billion written A-4 pages, a stack almost 350 kilometers high – 40 times higher than Mount Everest.

- If one bit equaled one milliliter of water, 15 Terabits would fill 400 Olympic-sized swimming pools (50m x 25m x 2m) every second, or the equal the amount of water flowing over 385 Niagara Falls per second.

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About DE-CIX
DE-CIX is the world's leading operator of Internet Exchanges (IXs). DE-CIX offers its interconnection services in close to 50 metro-markets in Europe, Africa, North America, the Middle East, and Asia. Accessible from data centers in over 600 cities world-wide, DE-CIX interconnects thousands of network operators (carriers), Internet service providers (ISPs), content providers and enterprise networks from more than 100 countries, and offers peering, cloud, and interconnection services. DE-CIX in Frankfurt, Germany, is one of the largest Internet Exchanges in the world, with a data volume of almost 34 Exabytes per year (as of 2022) and close to 1100 connected networks. More than 200 colleagues from over 30 different nations form the foundation of the DE-CIX success story in Germany and around the world. Since the beginning of the commercial Internet, DE-CIX has had a decisive influence – in a range of leading global bodies, such as the Internet Engineering Task Force (IETF) – on co-defining guiding principles for the Internet of the present and the future. As the operator of critical IT infrastructure, DE-CIX bears a great responsibility for the seamless, fast, and secure data exchange between people, enterprises, and organizations at its locations around the globe. Further information at www.de-cix.net

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