5G and cloud computing technology: Impact on future of healthcare system

By EH News Bureau — On May 16, 2023

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Dr Niket Gupta, Chief Strategist-Healthcare and Life Sciences Practice, SourceFuse highlights the impact of 5G technology and cloud computing on Indian healthcare

5G technology and cloud computing technology are two significant advancements that can work together to deliver a wide range of benefits for various industries. 5G technology, or the fifth generation of cellular networks, is poised to revolutionise the way we live and work, and healthcare is no exception. With its ability to deliver faster speeds, lower latency, and more reliable connections, 5G technology has a wide impact from the perspective of the Indian Healthcare system.

Cloud computing technology, on the other hand, refers to the delivery of computing services, such as storage, databases, and software applications, over the internet. This allows organisations to access, manage, and store their data and applications remotely, rather than having to maintain their physical infrastructure.

When 5G technology and cloud computing are combined, they can deliver a wide range of benefits, including

Improved connectivity: with 5G networks, devices can communicate with the cloud in real time, enabling new use cases, such as real-time control of robotic systems during surgery and real-time analytics.

Enhanced scalability: cloud computing allows organisations to scale their resources up or down as needed, which can help reduce costs and improve efficiency. With 5G networks, organisations can also take advantage of the increased bandwidth and lower latency to handle more data and support more devices.

Greater flexibility: with 5G networks and cloud computing, organisations can access, manage, and store their data and applications remotely, which can enable new use cases, such as telemedicine and remote monitoring.

Increased security: cloud computing providers typically invest heavily in security to protect their customers' data, and 5G networks can also provide enhanced security features, such as network slicing and virtualisation to protect against cyber-attacks.

Use cases in healthcare: An Indian perspective

India is one of the world's fastest-growing healthcare markets, and 5G technology has the potential to play a major role in driving innovation and improving care outcomes in the country. From remote monitoring and telemedicine to medical imaging and robotic surgery, 5G technology can enable a wide range of use cases that can help to improve access to care, reduce costs, and increase the efficiency and effectiveness of the healthcare system.

Remote monitoring and telemedicine: One of the most significant use cases for 5G technology in Indian healthcare is in remote monitoring and telemedicine. With 5G networks, medical professionals can remotely monitor patients' vital signs and other health data in real-time, which helps to improve the accuracy and timeliness of care, especially in rural areas where access to healthcare is often limited. This can be particularly useful for patients with chronic conditions that require close monitoring, such as diabetes or cardiovascular diseases.

Medical imaging: With its ability to deliver faster speeds and lower latency, 5G networks can enable the real-time transmission of large, high-resolution medical images, such as CT scans and MRI images. This can help to improve the accuracy and timeliness of diagnoses and treatment plans and can also reduce the need for patients to travel for in-person appointments.

Robotic surgery: Again, the speed and low latency mean 5G networks can enable real-time control and monitoring of surgical robots, which can help to improve the accuracy and precision of procedures. Additionally, 5G networks can support the use of telepresence robots, allowing medical professionals to control surgical robots and perform procedures remotely.

Bottom line

Overall, the adoption of 5G technology and cloud computing has the potential to transform the entire healthcare ecosystem in India, leading to the accessibility of healthcare services in the remotest areas, faster and more accurate diagnosis, real-time monitoring of health conditions and the use of advanced technologies to improve care outcomes.