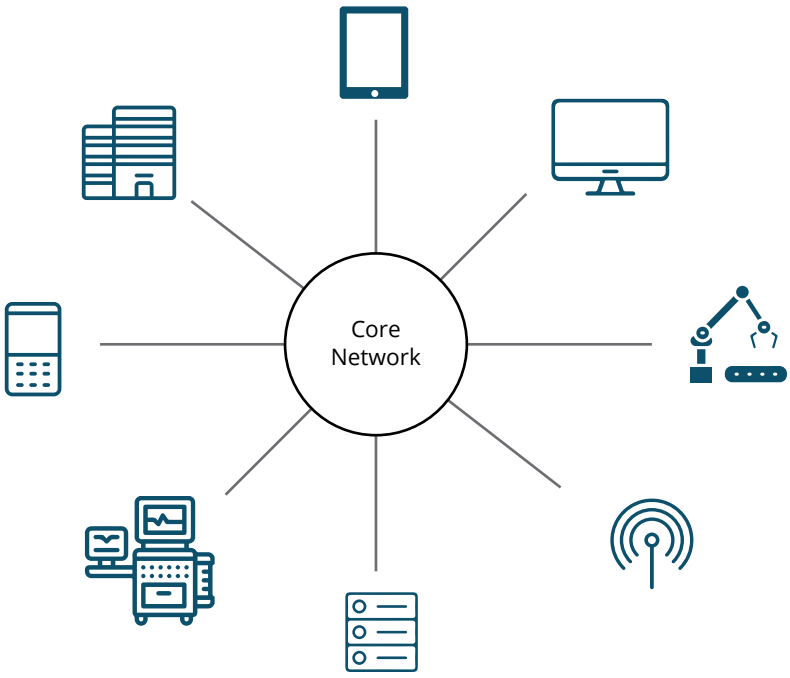
The Edge Network

Planning Your Most Effective Network in Today's Real-Time World

QOS NETWORKS

What is the Edge Network?

The “Edge” has been a trending keyword throughout 2018 going into 2019. It encapsulates a variety of components that a network may have, but really comes down to one main idea.



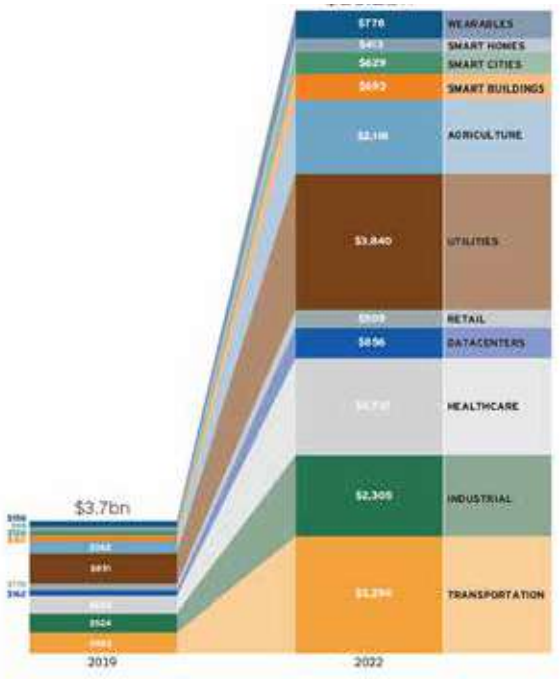
> The “Edge” is where an end point connects to the core network.

The formal definition is up for some debate as to how liberal you go or when you define it as a border network. For purposes of this guide, we’ll consider the edge network as any end point, whether it be machine, mobile device, computer, or otherwise, that processes or stores data and sends traffic back to the core network. IDC projects that by 2020, there will be over 5 billion connected devices that will need to operate on the edge network. Keeping that in mind, there are many different types of devices that can rely on the compute that will soon be delivered at the edge.

The Need for Compute at the Edge

Years ago companies began moving their compute to the cloud, away from on-premises equipment and toward a centralized data center structure. This created less of a footprint at edge locations like corporate offices, retail stores, gas stations, etc. because all of the major applications and compute were able to become centrally located. The cloud solved a lot of problems like management, lower hardware costs, the moved from a CapEx to an OpEx model making financial forecasting for IT more accurate, and more. The cloud changed the way we do business. There was one thing that struggled to keep up: the network.

With the development of more advanced technologies like Artificial Intelligence, Machine Learning, the Internet of Things, the compute model became more complex. No longer were edge locations just a source of fed data FROM the data center, but the source of data in general. Data points created by POS systems on a retail employee's iPad, intelligence learned from a machine-driven surgery in a hospital, or the user-generated data from a smart phone. Each of these data points now feed into the data center for processing and data is fed back by way of the network. This has caused connectivity to become a critical element in a business's operations. The machine operating on a human in a hospital can't wait for potential lag in the network in order to make the decision for its next move. It becomes more than just a processing delay when loading a web page. Real-time performance has turned into a critical need for many businesses.



So, how does compute at the edge make a difference? By keeping the concept of the old-school server room and combining it with the new-school way of the cloud, we begin to conceptualize the edge as a place where compute can reside and process real-time data inputs. We're reducing the distance between the data creation and the data processing, thereby reducing potential for latency and ultimately performance degradation from the smart object.

Edge Compute is Just Over the Horizon

The edge network is comprised of three layer including the infrastructure layer, management plane, and orchestration platform that ties the network functions together. Each of these components allow businesses to create a complete edge compute platform that can deliver better results more quickly.

The Need for Speed

No matter if you're working with a manufacturing plant, a smart automobile, a hospital machine, or any other smart device, the need for faster speeds than the cloud can provide will increase in need.

The Bandwidth Problem

One of the main problems that companies today have to address with more IoT connected platforms is the cost of bandwidth traffic to/from the cloud center. Establishing an edge compute strategy creates a local center that can store and process data can significantly reduce the amount of bandwidth spend and slowdown that would happen transporting data to the data center.

Furthermore, if bandwidth carriers are an issue or connectivity can be intermittent due to weather, location, or otherwise, having your data processed on-location can be a significant step toward carrier outage independence.

Network Security

Security is also a major benefit of having your generated data stay on-premises for processing. By not moving your critical data across a potentially dangerous network, you help keep compliances or security regulations in check.

The cloud will soon be just as important to businesses as the cloud has become. With millions of data points already sitting at the edge, companies will continue to move toward being able to get better control and better performance out of that data.

The QOS Solution

QOS has been pioneering the next generation of edge network platforms to help our customers get ahead of their growing needs. With our Edge as a Service offering, it's easier than ever to get the performance and optimization for your entire network.

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