Edge is the new Cloud

In the last two decades the Computing industry has evolved and continues to today, from Personal Computing to Cloud Computing to Edge Computing. Devices have become mere terminals to access, control and manage applications that are hosted somewhere on the cloud.

At every stage, applications have become more resource intensive and so demand greater computing infrastructure. Many factors have led to this shift from an on-premise server-based model to a cloud-based model --- Digitalization of Businesses, Need for Always-on applications, and growing demand for storage. Further, Infrastructure Scalability, Data Security and Accessibility are the other key driving factors in the adoption.
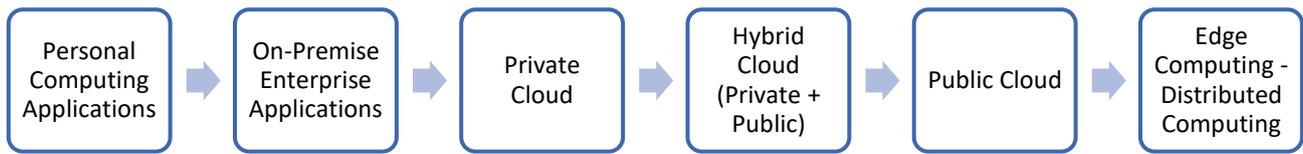
While cloud computing seems to be a no-brainer for managing IT infrastructure and automating business use-cases, there have been reluctance in two scenarios:

1. Data intensive applications that generate large volumes of records
2. Business critical applications where latency and response time is vital.

With Industry 4.0, which is all about smart, autonomous machines and systems, there will be increasing number of use-cases that will fall in the above two scenarios.

The underlying factor critical to success of these applications is network connectivity. 5G and Edge Computing, both address these challenges by solving for network connectivity and decision making at the network edge; respectively. Both technologies are in early stages of rollout and it would take a few years before we see ubiquitous adoption across geographies.

Evolution of Computing

| Personal Computing Applications | → | On-Premise Enterprise Applications | → | Private Cloud | → | Hybrid Cloud (Private + Public) | → | Public Cloud | → | Edge Computing - Distributed Computing |

Some of the top use-cases of Edge Computing, also heavily rely on Robust Network Connectivity. These include the following:

1. Video Content Delivery
2. Autonomous Vehicles
3. AR / VR / Gaming
4. Industrial IoT
5. Surveillance
6. Smart Cities

The ecosystem of edge solutions is vast, and several technology companies have found their niche and specialize in their area of expertise - Edge Hardware, Edge Software and Applications, Network Connectivity, Big Data & Analytics and AI & ML.

So, will Edge Solutions be limited to select verticals?

As enterprises continue their digital transformation journey, new use-cases and business verticals would realize the need for distributed computing, edge computing that brings more vertical specific players into the ecosystem. Further 5G deployments will only fuel adoption and open newer scenarios.

In the end, it is the ROI to be embraced, if enterprises see a value.