



White Paper

# Get a grip on your local IT with Edge Computing



## Edge Computing provides a reliable, easy to manage and affordable infrastructure for your remote locations.

New technologies, such as the Internet of Things (IoT), are changing the IT landscape. IoT deployments enable businesses to make more intelligent decisions, help streamline business processes, and improve the customer experience. These developments force organizations to critically review their technical architecture. This is particularly true for businesses with various remote locations. For these organizations, IoT technology requires local data processing, as direct-to-cloud communication may not be reliable or

fast enough to process vast amounts of time-sensitive data. Therefore, the local IT infrastructure is becoming just as critical as the IT resources located at central locations or in the data center.

Unfortunately, the resiliency, scalability, security, and availability at central locations do not inherently exist remotely. In addition, remote locations often lack skilled IT staff.

# To innovate, local infrastructures need to evolve to match the criticality of the new workloads.

Regardless of size, businesses need a solid and simple infrastructure that is scalable and easy to manage, both remotely and locally.

**Edge computing** can make this happen. In this white paper, you will learn what edge computing is, how it helps you modernize your infrastructure, and how it enables you to **get a grip on your remote IT resources**.



## What is Edge Computing?

Edge computing is a physical computing infrastructure intentionally located outside the four walls of the data center. Therefore, storage compute resources can be placed where they are needed.

Running on a small hardware footprint, an edge computing infrastructure collects and processes vast quantities of data, which can then be uploaded to a centralized data center or the cloud. Edge computing acts as a high-performance bridge from local compute to both private and public clouds.

# Reasons to consider Edge Computing

With emerging technologies such as **IoT**, local infrastructures must house applications that process large amounts of data. As a result, they are becoming more and more critical for the business. Organizations with any number of remote locations often lack the necessary local IT resources in technology knowledge and staff. This is an undesirable scenario for various reasons.



## ● Lack of IT staff

In a central data center, an IT professional is alerted when there is a system error. They then follow the steps required to bring the system back online. At the edge, however, the luxury of immediate alerting followed by action is not always an option, as there may be no skilled IT professionals available locally.

## ● Mishmash of solutions

Because edge locations previously only ran a few critical applications, the existing infrastructure may be a mishmash of different point solutions, server types, and infrastructure software components because they were deployed, modified, and added over time. Delivering high availability and efficiency with such complex deployment is impossible.

## ● Rigid and inflexible infrastructure

When your business grows (or shrinks), traditional data centers cannot always scale up or down accordingly. Local applications may rely heavily on resources and data storage. Others may need to run a few less intense applications. This situation requires a solution possessing the core functionalities of a data center, but that can scale up and down when needed.



# The 5 key advantages of Edge Computing

Although centralized data centers and cloud solutions play an essential role in today's multisite IT infrastructures, the advantages of processing (e.g. IoT) data closer to the source, force businesses to rethink their IT infrastructure. Edge computing delivers these advantages for your **company's IT strategy**:

## No human intervention needed

Scale Computing enables you to identify, mitigate, and correct infrastructure problems in both hardware and software in real-time, using machine learning and automation. This way, you keep applications running without any human intervention. This capability is especially critical in distributed enterprises, retail, and SMB deployments.

## Simplified deployment and management

With the right edge deployment, functions such as compute, storage, backup, disaster recovery, and application virtualization, are consolidated into a single, integrated platform. This eliminates hardware and software silos. Additional resources are added without downtime. Sites can be managed individually or centrally, with complete flexibility in how sites are grouped, orchestrated, and monitored.

## No on-site expertise required

Edge computing systems can be deployed in minutes, and preconfigured to avoid lengthy on-site resources during initial deployment. Usually, no specialized training or on-site IT expertise is required. Edge computing platforms are designed to be as intuitive as a smartphone and as powerful as a full data center.

## Reduced management costs

Typically, edge deployments reduce ongoing management costs by 60 to 80 percent, primarily due to automation, machine learning capabilities, savings on staff resources and the reduction of virtualization licensing costs. Edge computing also eliminates the cost of multiple infrastructure hardware and software silos.

## Seamless scalability

A good edge infrastructure strategy is based on flexibility. After all, new applications, devices, data sources, and needs emerge continuously. Edge computing generally offers far more scalability compared to the traditional data center. You can grow from the smallest edge location (single node or very small cluster) to the largest centralized data center. In addition, the management interface can typically handle from one to thousands of deployments.

# Which organizations benefit from Edge Computing?

Edge computing is effective in nearly every industry where remote sites are present. These are some frequent use cases where edge computing is needed:



## Retail

With dozens or hundreds of retail locations, retailers need reliable computing across the edges of their networks. Applications and systems for Point of Sale (POS), inventory management, and security need maximum uptime.



## Manufacturing

Manufacturing and other industrial processes could span from a single to multiple sites with high-tech computing needs for equipment and personnel. Industrial IoT devices, like sensors, require on-site computing performance.



## Maritime

Shipping vessels, ocean liners, offshore platforms, military vessels, and remote construction sites have computing needs that can go beyond the edge of most networks. Mobile systems must be autonomous, not reliant, and always connected through stable external networks.



## Remote / Branch office

Any remote or branch office locations and staff at the edge of the network require computing resources that keep productivity online.



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