

# The Case for Colocation in Enterprise Edge IT Strategy

## The 451 Take

Many people think of ‘the Internet of Things’ as a technology of the future – e.g., if/when self-driving cars become commonplace. However, IoT projects and data are here now. In 451 Research surveys, a large number of enterprises say they already have IoT projects deployed or being tested.

Millions of devices are generating data, and enterprises are dealing with questions about where to best analyze and store that data. In our surveys, 45% of enterprises are still storing and processing IoT data using in-house non-cloud infrastructure. However, only 36% of respondents intend to still use in-house non-cloud infrastructure in two years. As firms evaluate where to store, process and analyze IoT workloads, they will need to keep various options and factors in mind.

In a recent survey, enterprises were asked what the top factors were when determining where to process IoT workloads. More than half said *security* was the top factor, with *cost* and *networking connections* also ranking among top concerns.

## Most Influential Factors in Determining Best Execution Location or Venue for IoT Workloads

Source: 451 Research’s Voice of the Enterprise: Internet of Things, The Operational Technologies Perspective, 2H 2018

Q: Which factors are most influential when determining the best execution location or venue (i.e., edge vs. near-edge vs. core/cloud) for an IoT workload?

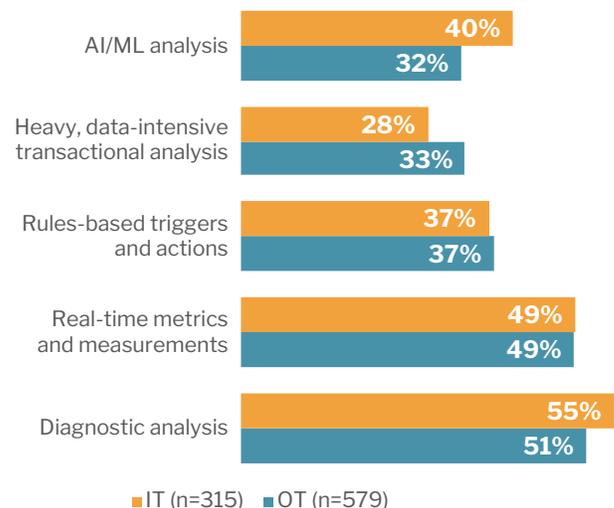
Q: What types of data analysis does your organization currently undertake for IoT at the network edge/perimeter?

### FACTORS IMPACTING BEST IOT VENUE

	OT (n=588)	IT (n=557)
Security	57%	57%
Cost	50%	54%
Networking connections	43%	45%
Availability of staff/expertise	41%	40%
Infrastructure resiliency	34%	38%
Latency considerations	27%	28%

OT and IT are closely aligned on the factors that cause an IoT workload to be deployed in one venue – edge-to-cloud – versus another.

### TYPE OF ANALYSIS AT IoT EDGE



Although IT is somewhat more likely to see AI/ML as an edge analytics option versus OT.

## Business Impact

Clearly, enterprises are nervous about data security. Regulatory requirements for enterprises in verticals such as healthcare and mobile payments contribute to this overall security concern, which is one of the reasons why enterprises have kept IoT data in-house. But for many firms, it will not be practical to store data completely in-house for much longer, as the amount of data continues to grow. Firms will need to consider options – specifically colocation services – for storing data close to end devices while keeping it secure and accessible to the public cloud for analytics.

Cost is also an important factor when determining where to store and/or process IoT data, and one of the key costs besides the cost of actual storage devices is the cost of network resources to move the data around. It is expensive to transport large amounts of data from the source to regional/national core sites. By leveraging colocation services near the device or end user to store and process data, enterprises can significantly reduce connectivity costs.

Networking is a key challenge as well, and can contribute significantly to cost. Often edge markets lack the carrier density of larger markets, and enterprises are challenged with bringing multiple carriers into self-built facilities. Deploying IoT data storage and processing away from devices increases latency and can negatively impact application and device performance. Carrier-neutral colocation providers are well versed in acquiring necessary connectivity and are able to disperse the cost among several customers, reducing the overall cost to enterprises.

Creating a geographically diverse datacenter footprint that leverages multiple facilities to support core and edge deployments is often the best strategy to overcome cost, networking and security concerns. Cost to self-build this diversity is prohibitive for most businesses, with enterprises seeking colocation options in each market.

Working with a single colocation provider across several markets can afford enterprises consistency in contracts, services and expectations.

## Looking Ahead

The Internet of Things is already here, and enterprises are starting to deal with large amounts of data from various devices. There will be several years ahead where firms are determining how best to store and analyze that data in order to improve business intelligence. Issues of security, cost and latency are likely to remain challenging, particularly as enterprises seek to store/process some of the data in the public cloud or use advanced analytics that require connecting to public cloud or software-as-a-service providers. This will likely bring new challenges around network capacity and cost, some of which may be eased by using colocation in order to improve connectivity and latency while still meeting security and compliance requirements for many firms. Enterprises may want to consider colocation options in cities that are relatively close to where their current enterprise datacenters are or where the IoT data is generated – particularly those colocation facilities that can offer multiple network options and cloud connectivity.



With IoT ultimately giving way to broader deployments of edge computing, industry has acknowledged the essential needs for distributed infrastructure and digital twin technologies. To enable this evolving edge ecosystem, leaders must not overlook the naturally combined requirements of technology and real estate in comprehensive edge scenarios. Connected buildings, infrastructure and real estate, which Stream brings to the forefront, will position commercial real estate companies like Stream as connected real-estate vanguards across this evolving industry. Learn more at <https://www.streamdatacenters.com/>