



CERTAINTY

How to Capitalize on the
Edge Computing Opportunity

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by Schneider Electric

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The Edge Computing Opportunity

Forward-looking managed service providers (MSPs) and value-added resellers (VARs) are recognizing that edge computing is now driving a new wave of business growth opportunities.



Through expansion of new offerings and by assisting end users in their attempts to navigate the complexities of digital transformation, VARs and MSPs establish the groundwork for new long-term customer relationships. This e-guide outlines a process by which MSPs and VARs can grow their edge computing expertise and footprint. The process includes identifying solutions that complement existing portfolios, understanding the required capabilities and sales approach, accessing helpful tools that enable edge planning and deployments, and leveraging a new ecosystem of partnerships. In short, this e-guide provides a roadmap for successful identification and implementation of physical infrastructure enabling end-to-end edge computing projects.

Edge computing opens door to new services

Digitization of process and experiences through trends like the Internet of Things has led to a need for edge computing. This has opened the door to new growth opportunities for those IT solution providers who can help their end users achieve digital transformation. The global edge computing market¹ alone is expected to hit \$3.24 billion (USD) by 2025. Major advances in connectivity and analytics have spurred the development of new service-oriented offerings. Even the smallest of products can be tracked and analyzed alone or in conjunction with other data sources, to allow for more comprehensive data gathering, thereby permitting more advanced cloud analytics.

Around **10% of enterprise-generated data** is created and processed outside a traditional centralized data center or cloud. By 2025, Gartner predicts this figure will reach **75%.**²

This e-guide shares the latest market research and key findings and provides IT solution providers a better understanding of edge market trends. Part of this research includes the findings of a recent survey commissioned by APC™ by Schneider Electric and conducted by Canalys. In the survey, 366 IT channel partners were asked to share their perspectives regarding edge computing opportunities and challenges. One-third of survey respondents anticipated a profit and revenue increase of 10% or more, thereby validating an expectation to diversify their product and services offerings.

¹ Grand View Research, "Edge Computing Market Size Worth \$28.84 Billion by 2025 | CAGR 54%," June 2019.

² Smarter with Gartner, "What Edge Computing Means for Infrastructure and Operations Leaders," October 3, 2018.

Partners are looking for differentiation

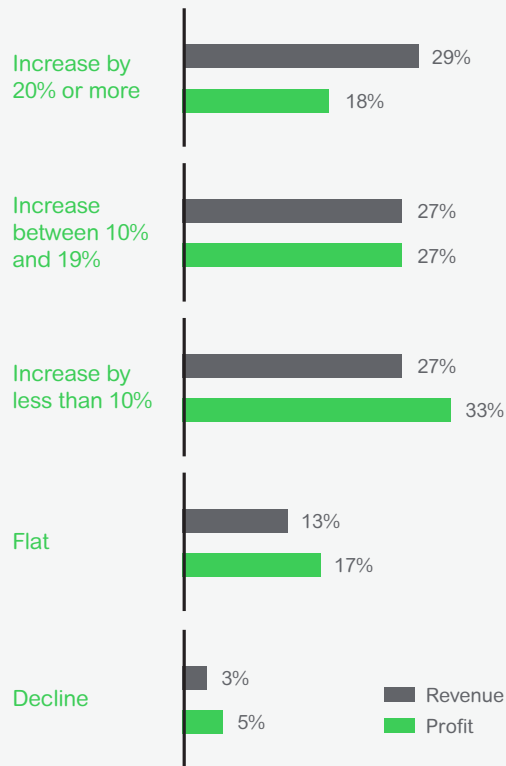


Figure 1. How do you expect your revenue and profit to change in 2018 compared with 2017? (Choose One)

Source: Canalys, Candefero partner survey, August 2018 (366 IT channel responses)

As MSPs and VARs adjust their business models to better accommodate digital transformation-driven opportunities, the edge computing solutions that they propose must be reliable, secure and resilient. APC's experience in the field has shown that most successful edge computing implementations rely on three key pillars:

1. Standardization and efficiency of products and deployment methodologies
2. A high degree of physical security (and related cybersecurity)
3. Sophisticated remote management capabilities

Oftentimes, end users require rapid deployments which are only made possible through standardized designs and solutions. In addition, since many edge computing sites are remote, local workers often have little or no access to IT staff, and physical security is often an afterthought. IT solution providers can address this knowledge gap by proposing solutions that remotely monitor human and environmental threats. By helping end users to build a robust remote monitoring strategy, solution providers can help ensure uptime and even provide predictive maintenance capabilities. These three edge computing pillars of standardization, security and remote management are critical building blocks to helping businesses achieve digital transformation success.

Remote management and security are important

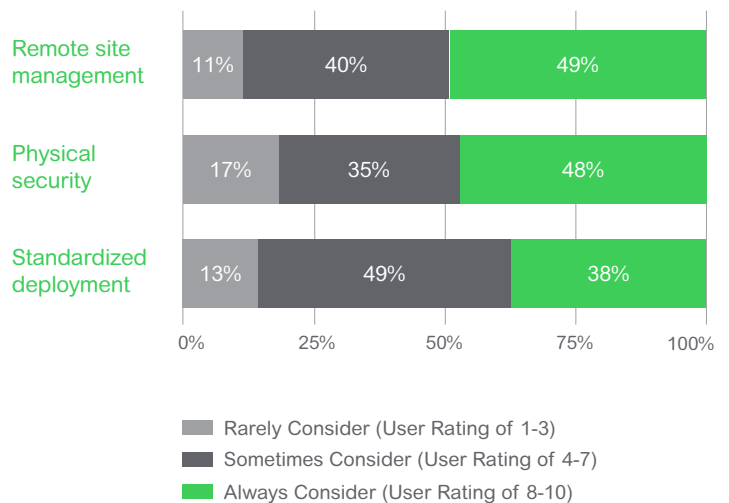


Figure 2. How important are the following features of physical infrastructure when you configure or sell edge computing solutions? Please rate on a scale of 1 (rarely consider) to 10 (always consider).

Source: Canalys, Candefero partner survey, August 2018 (366 IT channel responses)

This e-guide offers strategies for addressing these three edge computing pillars. In addition, the e-guide presents methods for ensuring that the proper tools and partnerships are in place to capitalize on new digitization-driven growth opportunities.

01

Best practices for selling
into edge environments

Capitalizing on the Edge Opportunity

MSPs and VARs emerge as key edge implementers

As the Internet of Things (IoT) accelerates the volume and variety of local devices capturing data, systems need to process and analyze that data in order to drive more informed business decisions. IDC predicts that by 2025,¹ the number of devices connected to the internet will grow to 41.6 billion. In these digitized environments, applications that cannot be served by the cloud because of either latency, bandwidth, or regulation issues require edge computing solutions. In these cases, IT systems are located physically near to the points where data is being generated. Buildings, factories, oil rigs and retail outlets are just some of the examples of newly digitized segments where edge computing solutions are required. Some of the industries experiencing the most growth in these types of IoT investments are manufacturing, retail, transportation and the utilities sectors according to IDC which projects global spending on IoT investments to hit \$726 billion US in 2019.²

“Edge computing encompasses proven distributed computing topologies paired with IoT, emerging stacks and devices.” – Gartner³

Lead verticals for IoT solutions

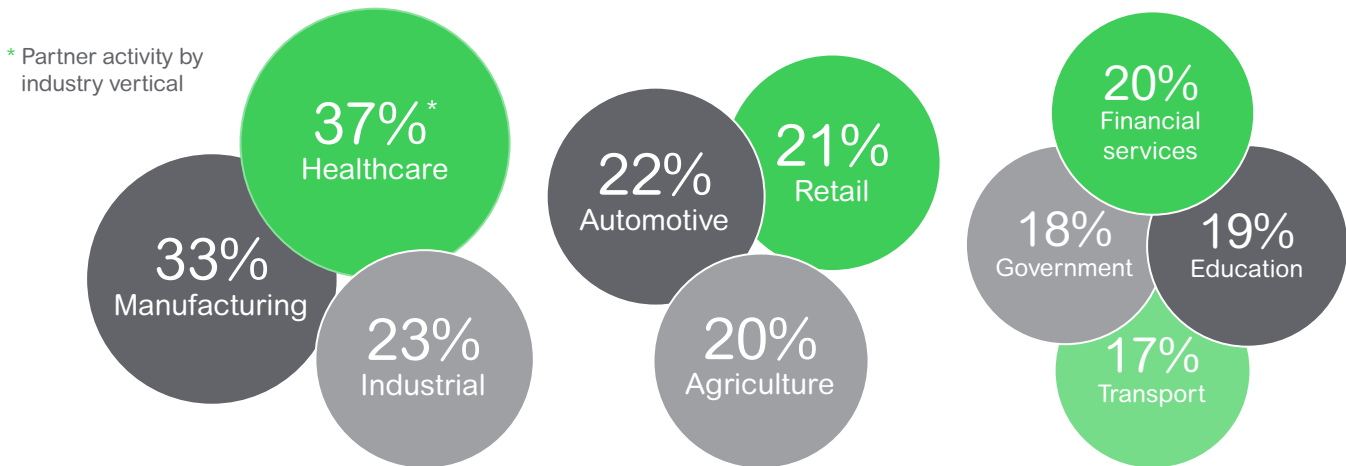


Figure 3. From your customers’ perspective, from which verticals do you see the most focus on IoT solutions? Select three, starting with your highest- to lowest-ranking choice.

Source: Canals, Candefero partner survey, August 2018 (366 IT channel responses)

¹ IDC, “The Growth in Connected IoT Devices Is Expected to Generate 79.4ZB of Data in 2025, According to a New IDC Forecast,” June 18, 2019.

² IDC, “Steady Commercial and Consumer Adoption Will Drive Worldwide Spending on the Internet of Things to \$1.1 Trillion in 2023, According to a New IDC Spending Guide,” June 13, 2019.

³ Gartner Research, “Hype Cycle for Edge Computing, 2019.” Thomas Bittman , Bob Gill , Chirag Dekate, August 9, 2019.

Identifying critical edge computing solution elements

When crafting a solution that addresses the needs of edge computing environments, resellers and MSPs should consider a number of significant factors:

1. Systems availability

Edge implementations have become part of the corporate business value generation engine and, therefore, these environments require a higher level of availability (much like a data center). In retail environments, for example, if the local edge system is down, the entire service aspect of the store is disrupted. Cash registers and displays are down, sales come to a grinding halt, and the customers leave in a frustrated mood.

Therefore, edge computing solutions need to be planned, configured and installed with a high degree of systems availability (including backup plans) in mind. An Uninterruptible Power Supply (UPS), for example, should be configured in edge computing solutions in order to support the required runtimes necessary to keep the mission critical aspects of the edge system functioning. Some potential solutions that drive availability are scalable rack-based UPSs and power system assessment services.

“Channel partners report that an average of **75% of their end users** cite downtime as detrimental to their business.”

– Canalys partner edge survey

2. Security

Within edge environments, both cybersecurity and physical security represent major requirements. In the Canalys survey report, 91% of IT providers cited that protection of their customers' IT assets was either “important” (21%) or “very important” (70%). These results mirror IDC's March 2018 Enterprise Data Center Edge Survey⁴ findings which highlight cyber and physical security as top concerns for businesses exploring edge computing deployments.



Edge environments often have few security measures in place and are subject to more intrusion-influenced outages than larger, more sophisticated data center spaces. In most cases, no trained staff is on site to assure security of the systems. Therefore, remote access control (via sensor-driven door locks and rack locks), video surveillance, and monitoring software all play a critical security enhancement role.

To manage security risks, IT solution providers can access and offer camera systems, humidity and motion detection devices as well as security monitoring services.

3. Management and monitoring

End users with little IT knowledge need expert monitoring of their systems so that performance is optimized. Remote systems administrators need to monitor changes within critical equipment such as Uninterruptible Power Supplies (UPS) so that system uptime can be maintained.

Administrators can set thresholds that generate alarms via text message, email, or system postings when conditions such as temperature and humidity rise beyond acceptable levels. In scenarios where multiple edge computing systems are being monitored, the ability to mass configure similar system characteristics (e.g., rack locks, temperature thresholds) to similar devices, all at once, can generate significant time and cost savings.

⁴IDC, “Managing Edge Datacenter Infrastructure Will Challenge Most Organizations,” Doc # US44279518, Jennifer Cooke, September 2018.



MSPs can offer a much-needed service in order to address these situations. Trending and notification information can provide not only alarm status, but also important historical data that can be used to predict and prevent failures.

Monitoring software packages can be delivered either as SaaS (software as a service) or on-premise through a rack-mounted server with preloaded software. The monitoring system can be installed either remotely or in a central data center (if, for example, dozens or hundreds of edge computing systems need to be managed). Once the management server is plugged in, the software can be downloaded onto a laptop so that the operator can begin the process of identifying the power, cooling and environmental equipment, and the human activity that needs to be monitored.

Intelligent rack outlets also provide an essential element for enabling remote management. These long electrical outlets mounted to the inside back of a rack (also known as “rack-mounted PDUs”) can be managed by allowing systems managers to remotely recycle power to locked-up equipment. Examples of solutions for improved systems management and monitoring include rack-mount PDUs and cloud-based monitoring systems and services.

4. Solution standardization

In the Canalsys survey, nearly 90% of survey respondents shared that a consistent method of IT system installation and deployment was “important” or “very important” to them. Such an approach is particularly relevant in edge computing environments. Failure to adopt standardization as an edge design strategy is costly on multiple fronts, as it can lead to unnecessary expense, avoidable downtime, and lost business opportunity. Standardization spawns wide ranging benefits that streamline and simplify every process from initial planning to daily operation, with significant positive effects on availability, agility, and total cost of ownership.

The key to harnessing the power of standardization within a changeable environment is modularity – pre-engineered, standardized building blocks that can be configured as the user wishes. The ability to quickly assemble standardized components into the required configuration is one of the primary benefits of edge computing standardization.

01 BEST PRACTICES FOR SELLING INTO EDGE ENVIRONMENTS

Pre-configured, pre-integrated micro data centers, capable of interoperating with 3rd party hardware and software solutions, offer a simple solution for IT solution providers striving to standardize their edge computing deployment approach.

5. Rapid delivery and start-up of integrated solutions

Within edge environments, end users cannot be taxed with the burden of having to assemble and integrate their solutions on site. In IDC's 2018 Enterprise Edge Datacenter Study,⁵ end users highlighted a significant skills gap, with more than 1/3 of organizations reporting that they lack the internal competencies, including technical, to deploy edge successfully. They are looking for help from IT solution providers, as well as solutions that provide simplification. Hardware, software and services need to be packaged as one offering and then be rapidly delivered as a plug-and-play solution.



Unplanned downtime costs result in an approximate loss of **\$700 Billion (USD) per year** according to IHS Markit.⁶

A good example of a plug-and-play solution is a **micro data center**. These offer a highly secure, cost-effective, and simple-to-deploy solution for the edge environment. IT solution providers should look for micro data centers that come with customizable designs that include the physical enclosure, UPS, PDU, cooling, software, environmental monitoring and security all tested.

APC offers a tool called the Local Edge Configurator which allows IT solution providers to plan and design integrated, customized, and highly reliable edge solutions for their end users. It also serves as a sales tool showing the physical space and layout to a prospective customer on a portable handheld device. The drag and drop interface automatically calculates the power load of the components being configured and helps size the appropriate power and cooling configurations. Additional outputs include the amount of battery runtime in minutes that can be expected within a particular configuration and a detailed bill of materials.

6. Maintenance support service

According to IDC, 59.4% of organizations that are planning edge deployments in 2019 are concerned about their ability to monitor and maintain equipment remotely.⁷ Successful edge deployments will require remote monitoring and maintenance and the ability to flag potential problems in advance, using predictive maintenance tools. This means that service can be scheduled in advance when data indicates that failure of equipment is imminent. The elimination of costly and time-consuming emergency maintenance services ensures uptime is maximized while costly unplanned maintenance can be virtually eliminated. Over time, as more and more edge computing performance data is gathered into a cloud-based pool, more precise and effective analytics can be run. Such diagnostics can inform the systems administrator that "x" piece of equipment will experience "y" number of cycles operating at "z" temperature, just before it will fail. In this way, accurate predictive assessments can be executed. Cloud-based monitoring helps IT solution providers ramp up their ability to provide life cycle services and use data driven insights to optimize their customers' IT operations.

Each of the critical elements listed above represents multiple opportunities for growing a solution proposal that includes additional hardware, software and services beyond a simple server solution.

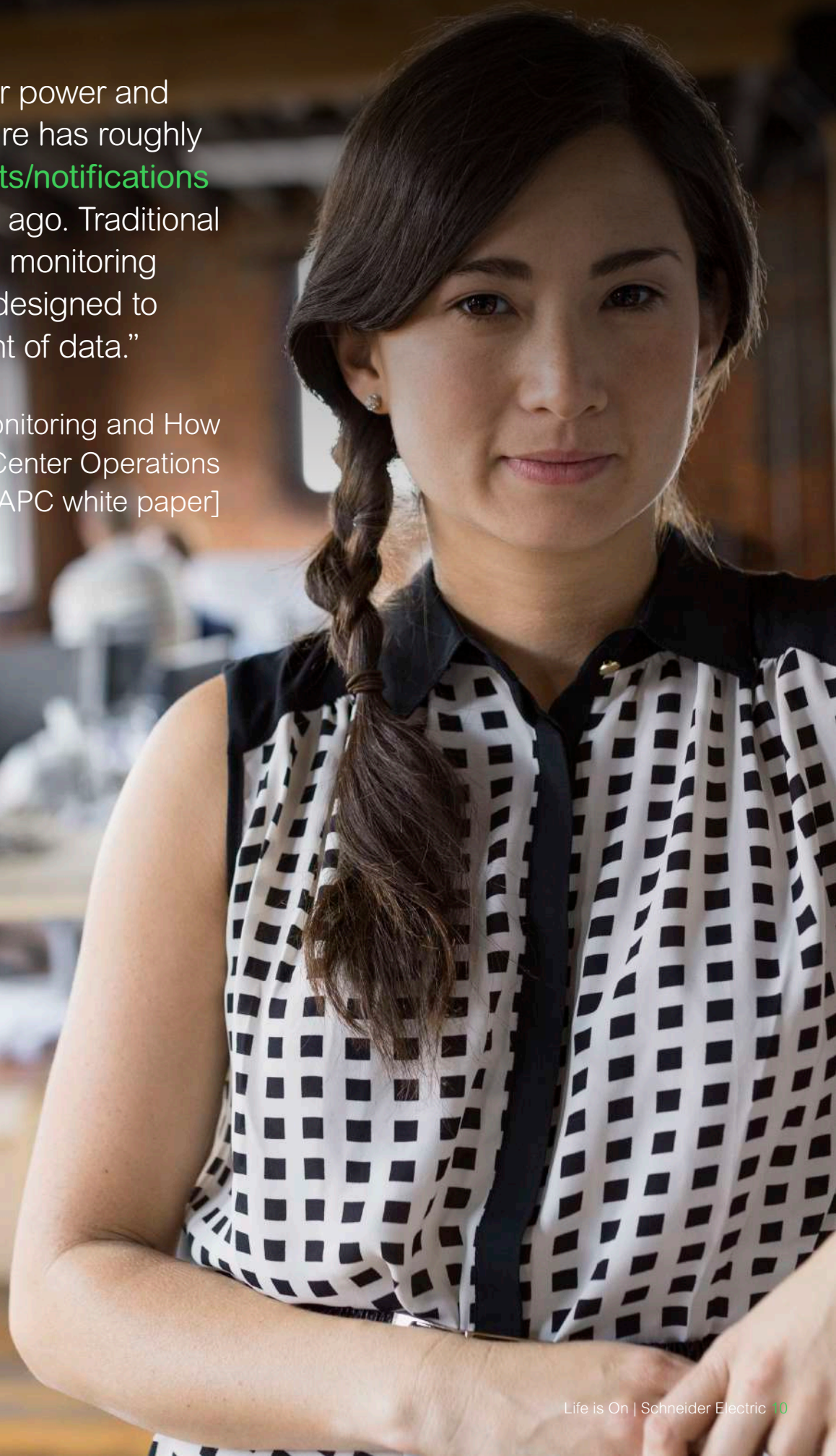
⁵ IDC, "Managing Edge Datacenter Infrastructure Will Challenge Most Organizations," Doc # US44279518, Jennifer Cooke, September 2018.

⁶ IHS Markit, "Businesses Losing \$700 Billion a Year to IT Downtime, Says IHS," Matthias Machowinski, January 25, 2016.

⁷ IDC, "Edge Computing: The Next Stage of Datacenter Evolution," Doc # US43727418, Jennifer Cooke and Richard L. Villars, April 2018.

“Today’s data center power and cooling infrastructure has roughly **3x more data points/notifications** than it did 10 years ago. Traditional data center remote monitoring services were not designed to support this amount of data.”

– Digital Remote Monitoring and How it Changes Data Center Operations and Maintenance [APC white paper]



02

Capabilities needed to
address edge computing
requirements

How to Resource the Edge Opportunity

How the right combination of skills and products breeds success



The Internet of Things (IoT), cloud computing and, now, edge computing, all create new selling opportunities above and beyond standard IT equipment sales. When it comes to edge computing, no one company can do it alone and many moving parts need to be properly coordinated. Those IT solution providers who succeed in building the right ecosystem of partners will create a competitive advantage in the edge computing space. Key partners will include edge computing infrastructure solution providers, server manufacturers and integrators, all of which can provide a stable of tools and corresponding business value. Manufacturers like APC, for example, offer training and education at multiple levels of the edge computing implementation cycle, including hundreds of free award-winning online courses, white papers, and partner technical resources.

Successful resellers and MSPs can leverage these resources to develop skills and competencies in the following areas:

Project skills

Beyond the ordering, delivery, and installation of hardware, edge computing projects depend upon a well-defined project management process as insurance against surprises, delays, and frustration. Resellers and MSPs can offer standardized orderable services that align with elements of the project process model used by the customer. Such services may span from simple provisioning of equipment, to various levels of responsibility in managing elements of the process, and to complete turnkey management of a major installation and support of that installation once the system is deployed.

The ideal situation is for project management activities to be structured and standardized like interlocking building blocks, so that all parties communicate using a common language, avoid responsibility gaps and duplication of effort, and achieve an efficient process with a predictable outcome.

Most edge computing projects rely on successful collaboration among several parties. The end user, hardware, software or service providers, systems integrators and IT and OT stakeholders all can potentially play a role in the management of edge computing project activity. Small upfront changes in plans can have major cost consequences downstream when the edge computing assets are eventually deployed.

Planning should include not only the IT aspects of the project (i.e., IT hardware configuration and software integration), but should also address the edge computing site's physical infrastructure which includes the assets that power, cool, house, and protect the IT system.

02 CAPABILITIES NEEDED TO ADDRESS EDGE COMPUTING REQUIREMENTS

Special tools can be used to understand trade-offs between capital cost, criticality, power sizing, energy efficiency, and capacity. The goal of such planning is to produce a realistic project budget and growth plan.

Capacity planning skills

While the number of digital processes at the edge is steadily increasing, advances in virtual machines (VMs), human-computer interaction (HCI) and embedded appliances is shrinking the power footprint at the edge. These trends make capacity planning even more challenging given the evolving nature of IT technology and business requirements. A system capacity plan assures that there will always be enough power and cooling capacity in place to support the IT load. Such a plan should take into account the maximum projected load at any point in the lifetime of the edge computing installation.

Overbuilding at the outset can be a wasteful approach as it often results in higher than necessary capital expense of unused equipment and additional operational expense. The cost of electricity to power unneeded capacity, and the cost of service to maintain and repair it, can be substantial over the lifetime of the installation. Resellers and MSPs wishing to build a long-term relationship with their edge computing clients should opt for pragmatic capacity planning.



Reference design provisioning

Reference designs are libraries of pre-built edge computing solutions characterized by different voltages, power densities, sizes, and redundancy combinations to help end users save time and money. Reference designs can be used by resellers and MSPs to quickly configure, assemble and integrate solutions for rapid delivery and rollout.

A reference design serves as a shortcut along the path to the user's final design, with most of the engineering built in but with enough variability to satisfy the specific requirements of a range of user projects. A library of reference designs is available from APC and has been created as a result of edge computing systems design best practices and through knowledge of available products.

Product skills

Edge computing introduces new elements of IT into environments within buildings, factories, remote operations (like mines and drill sites), retail operations, and transportation systems among many others that have, until now, never experienced the significant presence of IT solutions. In these locations, IT converges with operations technology (OT) including devices such as meters, sensors, SCADA systems, safety systems, manufacturing production lines, medical devices and more.

Therefore, resellers and MSPs should expand their relationships with vendors that provide both IT and OT solutions, thereby growing and updating their own portfolio of product offerings. Listed below are several new groups of hardware, software and services products that can lend themselves to expansion of solutions applicable to edge environments.

- **Data gathering solutions** - The modern data gathering infrastructure consists of devices that detect and respond to environmental inputs (such as heat, vibration, or other event-driven state changes) and then send a signal communicating that state change data to a human-readable display. This provides MSPs and VARs the opportunity to gain data analytics competency (either in-house or through partnerships), which will then allow them to offer a badly needed service to their customers.

02 CAPABILITIES NEEDED TO ADDRESS EDGE COMPUTING REQUIREMENTS

- Data analysis services** - Once data is gathered, analytics leverage that data to identify improvements, gaps and problems, and to increase process efficiency. Within edge environments data analytics can offer both decision support and benchmarking advantages. Services can be provided to analyze the data being captured so that trending and performance information can help drive higher efficiency and productivity.
- Life cycle services** - In edge environments, remote expertise will be required to manage the system throughout its life cycle. End users are interested in business growth, and if IT and OT experts can handle the technical side of their edge computing implementations, so much the better. Therefore, resellers and MSPs can play a crucial role in managing how edge computing systems are set up, distributed, maintained, upgraded and, eventually, decommissioned. System design services, performance tuning services, infrastructure management services, security services and remote monitoring services can all be proposed to end users who are in the process of deploying edge computing solutions.

Additional considerations

In order for resellers and MSPs to succeed in generating edge computing-driven business, more flexibility will be needed when engaging new business contacts. Whereas traditional contacts may reside within IT organizations, resellers and MSPs will need to extend their contacts to building facilities and manufacturing operations and other lines of business personnel.

New contacts responsible for digitized industrial and building technologies with relationships to IT personnel will require support in their edge implementations. Building such relationships will grow both existing and new business opportunities for MSPs, resellers and integrators.

Resellers and MSPs can also benefit by partnering with a manufacturer that offers not only a broad portfolio of IT and OT products, but that can also provide a pre-built architecture that allows for secure, yet open, connectivity and integration. **Digitization platforms** link the elements of digitization (digitized and connected products, edge control, and apps, analytics and services) so that engagements with end users are simple, profitable, repeatable and scalable.

Many stakeholders in edge decisions

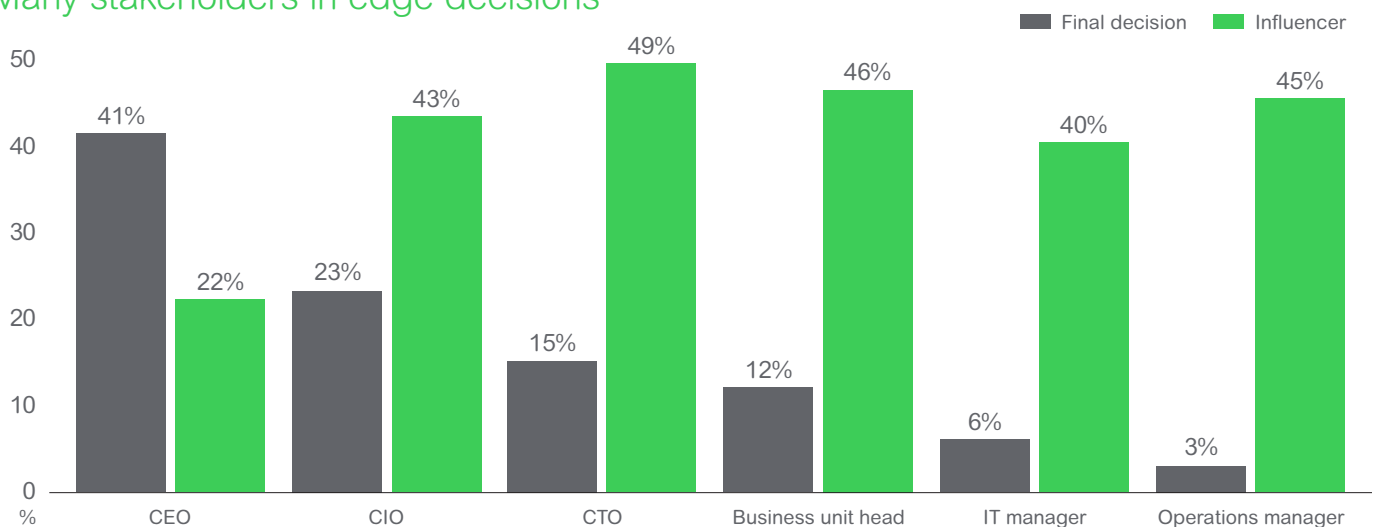


Figure 4. Who typically makes the final buying decision in your edge computing deployments and who typically influences the decision making process? Choose one for final decision; chose all that apply for influencer.

Source: Canalys, Candefero partner survey, August 2018 (366 ITT channel responses)

03

Tools that help to achieve
new edge opportunity
business goals

An Edge Computing Toolkit

Traditional distributed computing environments are now evolving into edge environments that are becoming highly critical, requiring more availability, security, redundancy and resiliency at the access layer.



As a result, specifying, building and ensuring component compatibility within these systems is becoming expensive and time-consuming. Fortunately, some new tools are emerging that help MSPs and resellers to quickly build new revenue streams and achieve their goals of profit, ease of support, and access to new customers.

Increase in profits

With each engagement it becomes critical to probe end user requirements so that a more complete solution can be offered—one that produces both short-term profit and long-term revenue generation. Many end users traditionally go through the tedious and expensive exercise of assembling various parts and pieces in order to integrate a solution on site. However, IT solution providers now have easy access to pre-integrated edge computing solution packages, which means the end user can now be shipped a standardized solution that works right out of the box. Thus, the single IT provider, instead of simply proposing a \$3,000 UPS to protect an edge server,

IT solution providers now have easy access to **pre-integrated edge computing solution packages**, which means the end user can now be shipped a standardized solution that works **right out of the box**.

can now, through the use of design tools, easily configure a \$13,000 micro data center solution instead.

Such a scenario can easily involve software, physical security, management and monitoring services, installation services, and remote maintenance services as well. Offerings such as **EcoStruxure IT** can identify potential uptime threats before any downtime occurs. These new services will reward resellers and MSPs with a gradual build-up of an annual, predictable revenue stream.

03 TOOLS THAT HELP TO ACHIEVE NEW EDGE OPPORTUNITY BUSINESS GOALS

Decrease in effort

Rapid design, delivery and implementation become critical success factors for those resellers and MSPs hoping to capture a greater share of the edge computing opportunity.

The APC Local Edge Configurator (LEC) helps partners to physically lay out their edge computing site. It incorporates a library not only of APC products but also of third-party devices. For example, servers, networking hardware and software, converged and hyperconverged systems and storage devices (from companies like IBM, HPE [Hewlett Packard Enterprise], Cisco, Nutanix, Dell EMC, among others) are included. In this way the entire environment (racks, cooling, power distribution, power protection, environmental monitoring) can be planned and configured.

Extension of reach

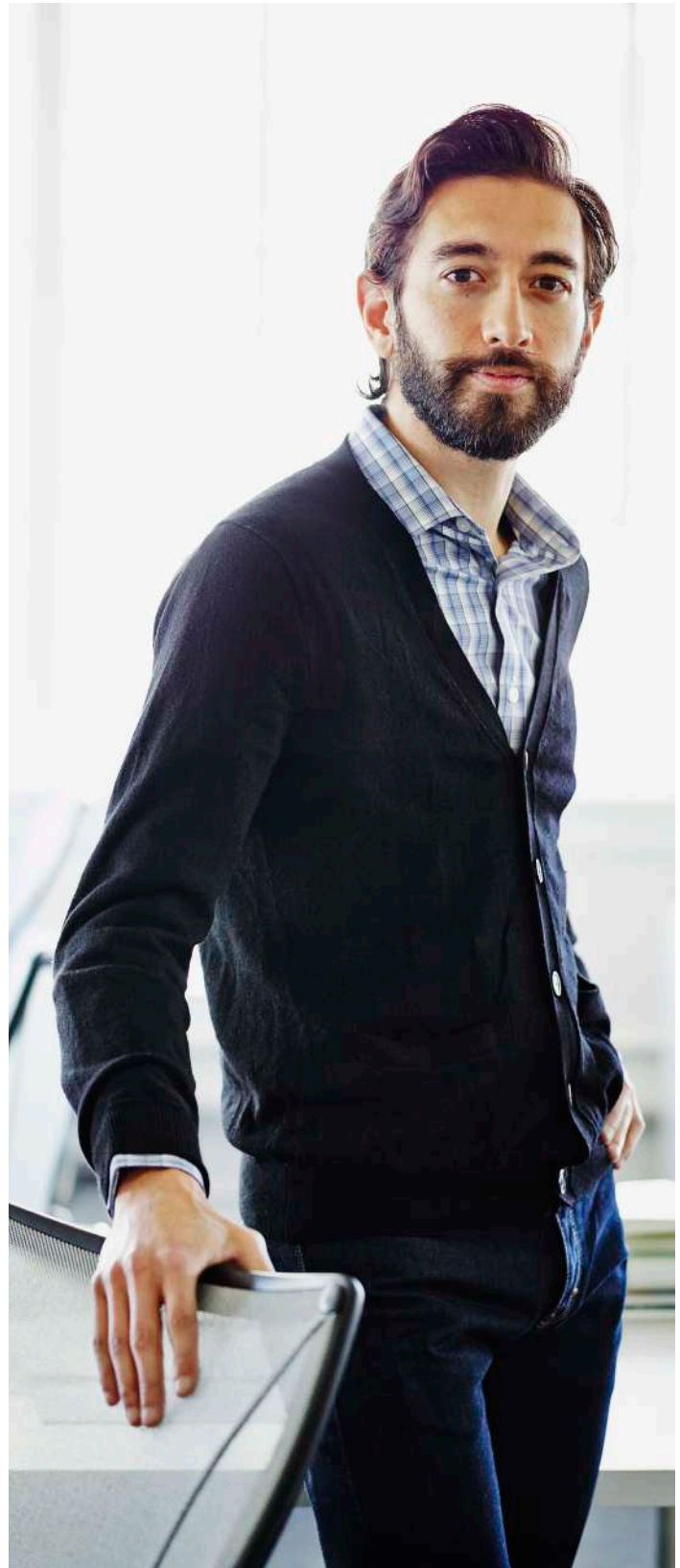
In order to capture more of the edge computing business growth opportunity at a faster rate, APC has developed an Edge Certification program specifically for its partners. The program enriches the extension of business opportunities in three ways:

1. New product categories are introduced

Additional personas that the partner can target within existing customer sites are proposed (where operations technology stakeholders have IT needs).

A broader scope of new customer sets is enabled through the establishment of specialized practices that address changing market needs.

Resellers, MSPs, and integrators are all eligible to participate in the program. This certification has been created to help educate partners regarding the edge computing trend, edge opportunity detection, and on how to sell the edge computing value proposition.



04

Strong partnerships
grow business

An Edge Ecosystem of Partners Drives Value

When resellers and MSPs align with manufacturers with expertise in both the IT and OT arenas, they benefit from both innovation and integration.



As intelligent devices move into operational areas that used to be “dark,” edge applications are designed to provide local workers (think of machine operators and on-site engineers) with the power and intelligence, artificial or otherwise, to respond faster and to make better decisions.

A manufacturer with knowledge across the domains of IT and buildings, within key industries such as manufacturing, healthcare, food & beverage, oil & gas, power and water/wastewater utilities, offers the capacity to design solutions that connect, communicate and integrate in an efficient fashion. VARS and MSPs benefit from access to subject matter experts across these industrial domains in order to better understand client requirements and solutions that address those requirements.

Core criteria for selecting an appropriate edge computing partner include the following:

A vendor that already works with core IT solution providers

Many of the environments that will provide the greatest opportunities to IT solution providers will be at companies

where heterogenous equipment and platforms already exist. Solutions must easily fit into this mosaic and vendors must have strong working connections with each other. For example, APC has worked hard to create industry specific alliances with leading firms such as IBM, HPE, Cisco and Microsoft to ensure interoperability. These relationships serve as a basis for growing business across enterprise accounts and small/medium business environments. In working closely with HPE on micro data center solutions, for example, APC has integrated all software at the basic level so that both the IT components of the solution (server, systems software and applications software) can link and interact smoothly with the OT aspects of the solution (power, UPS, cooling, environmental monitoring, enclosure technology and physical security).

Open architecture technology platforms

EcoStruxure has helped to accelerate the digitization and connectivity trend by offering an entire three-layer open architecture. The openness of the platform extends to both APC and to any other third-party manufacturer of physical infrastructure as long as their product is equipped with network

“Studies consistently show that people are directly responsible for **60% of data center downtime** through accidents and mistakes.”
– APC white paper #82

connectivity. Each of the architecture layers (connected products, edge control, and apps, analytics and services) is populated with an entire refresh of connected, digitized products and services that radically shorten business turnaround cycles. As a result, new approaches to IT support that were not affordable or technically feasible in the past, are now possible, and at low cost. This new stable of digitized solutions can now be applied across the entire edge computing life cycle.

The scope of EcoStruxure can extend beyond the traditional edge computing “white space.” Building elements (heating and cooling) and power elements (large power equipment in the electrical room) can also be factored in. Such an open platform also expands the universe of products that can be maintained and serviced.

Innovative offerings

Pre-assembled, pre-configured and pre-tested micro data center solutions offer rapid delivery solutions that support end user time-to-market business goals. According to 451 Research, micro data centers on the edge of the network are growing in popularity with a compound annual growth rate of 42% over the last three years.

In addition to micro data centers, cloud-based software that sources and analyzes data from many data gathering points allows for more precise and easier remote management enabling monitoring and advanced maintenance services (such as predictive maintenance). When using a product such as EcoStruxure IT for Partners, the systems manager knows where each micro data center is located, can visualize the specific configuration of each micro data center and can see a detailed message of health of the system. In some cases, the management system will even recommend a course of action and generate service tickets for the local managed service provider (MSP).


Power and cooling monitoring can be added into service contracts, or the software can simply be resold as a service tool for the end users, if they wish to manage their own “lights out” installations through one simple interface.

Highly secure offerings

Data protection and uptime are more important than ever, particularly in situations where stringent requirements such as GDPR, HIPPA and other government regulations need to be met. Just recently a data breach in the healthcare industry which exposed 79 million customer records resulted in a **\$16 million US fine for the healthcare provider**. IT solution providers now have access to modern security-focused solutions that include monitoring and automation software integrated with video surveillance and sensors. These solutions can reduce the occurrence of security and human error-related downtime problems in these small, distributed edge environments.

IT solution providers should consider the Secure Development Life Cycle (SDL) process, a framework for secure product design, that establishes, from the very beginning, the kind of security needed for any particular product. Within the context of SDL, secure architecture reviews are performed, threat modeling of the conceptual security design takes place, secure coding rules are followed, specialized tools are utilized to analyze code, and security testing of the product is performed. These actions help to “harden” products, making them more resilient against cyberattacks. In this way, as new products replace old, entire systems evolve to become more cybersecure.





“Of organizations that are planning edge deployments in 2019, 46.2% are concerned about their ability to monitor and maintain equipment remotely.”

– IDC Enterprise Edge Datacenter Study¹

¹ IDC, “Managing Edge Datacenter Infrastructure Will Challenge Most Organizations.” Doc # US44279518, Jennifer Cooke, September 2018.

05

A sensible approach for
getting started

Getting Started with Edge Opportunities

Why partnerships set the bar for business growth

Those MSPs and VARs who view edge computing as a business growth opportunity, will enhance their prospects for success if they can carefully access a reliable ecosystem of vendors who can contribute to the sourcing, delivery, installation and/or support of the edge solution. If properly executed, an edge strategy can help to generate the following business benefits:

- **High potential for profit and revenue generation** – Digitization enables IT solution providers to go beyond offering their customers simple point products. In edge environments, customers are looking for pre-integrated, third-party managed systems like micro data centers. The potential for more lucrative and longer-term revenue streams is now much higher.
- **Ease of customer service and support** – Edge implementations need to be made easy to support. Manufacturer supplied engineering, integration and configuration tools are critical for driving increased solution delivery speed and efficiency while simplifying maintenance procedures.
- **Access to more customers and new opportunities** – Manufacturers with both IT and OT (operations technology) expertise are in a better position to share increased new business opportunities. Partners can be introduced to OT customer sets with new IT-related requirements.

In the end, edge computing is a response to the accelerated use of digital technologies across industries. The need to capture more local data is being generated by the desire to create revenue, improve business, replace/transform business processes and create an environment for digital business, whereby digital information is at the core. As MSPs and



resellers move forward in their planning and implementation to tap into this new marketplace, the steps outlined below can serve as a guideline for how to get started:

1. Identify the business needs

Identify the primary business pain points that need to be addressed in edge environments. Systems configuration, systems management and monitoring, IT systems communications, and security are all key areas where support and expertise will be required.

2. Document a roadmap

A roadmap makes it easier to determine what kind of tools, equipment and software will be needed to achieve future milestones along the journey. Information on logistics,

05 A SENSIBLE APPROACH FOR GETTING STARTED

delivery schedules, pre-packaged configurations and remote management can all help the end user to forecast both budgets and organize a logical roll-out plan.

3. Recognize that new open architectures have already been built that facilitate hardware and software integration

New digitalization architectures such as EcoStruxure have been created to link smart machines, edge computing, and software apps and analytics so that OT sites, like buildings or factories, can leverage the advanced connectivity inherent to digitalization.

4. Look to others who have already piloted digitalization projects

By observing how projects have progressed, APC has assimilated the lessons learned in order to optimize future edge computing implementations and transferred that knowledge into AI tools such as [EcoStruxure IT for Partners](#).

Final Thoughts

It's an exciting time of change for both distributed IT and edge environments. We've moved from corporate data centers to specialized companies that build hyperscale and colocation data centers. Now a second great pillar, the edge computing environment is emerging. MSPs and resellers will play a critical role in deploying edge solutions to better support the high speed of global business.

To ensure success in this market, IT solution providers need to consider the key elements highlighted in this e-guide which include understanding the capabilities, tools and resources required in the edge marketplace and ecosystem. APC is here as your partner to help you navigate through this growing opportunity presented by digital transformation. To begin capitalizing on the edge computing opportunity, [access our Partner Portal for information and certifications](#).



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