



THE EDGE IN ASIA

A Report on Edge Computing and Micro Data Centers in the region



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Executive Summary

Edge computing remains to be a high-interest topic in IT discussions, given its potential to unlock new business opportunities – from delivering digital services to discovering innovative disruptions to maintain their competitive advantage. It has been embraced as a critical piece to digital transformation, and a number of industries have begun integrating this technology in their operations, such as banking and financial services, telecommunications, and manufacturing. Meanwhile, the changing consumer dynamic is adding pressure to businesses to ensure a seamless customer experience; thus, it is important that they set-up the necessary enabling infrastructure to keep them attuned to client requirements.

Vertiv conducted a regional study in order to understand how customers and partners understand “the edge of the network”. The survey revealed that the edge computing is still in the nascent stage of adoption in Asia Pacific, where micro data centers are primarily used as a preventive measure against data loss despite the drive to adopt to emerging technological trends.

Two-fifths of all respondents showed a comprehensive understanding of the concept of edge computing, but only one-third have set up the necessary infrastructure to implement the technology. These companies usually have one to two micro data centers in place, generally located in the main headquarters or regional offices. Generally, these centers are equipped with one to five racks carrying data servers. In terms of support infrastructure, most micro data centers surveyed have the basic equipment: UPS, as well as cooling and monitoring equipment.

Respondents prioritize a vendor’s service capabilities and price points before procuring necessary infrastructure, given that financial limitations remain a top constraint for companies to implement new technologies. Other issues include compatibility with incumbent systems, as well as concerns on security and compliance.

Senior management remains to be priority audience, as they serve as the main decision maker in technology strategy. Respondents also believe that edge computing projects will pick up after three years, once there is more clarity on the benefits of this technology to businesses.

Methodology

Vertiv conducted an online survey in January 2017 of 8,500 respondents consisting of C-level executives, IT and data center professionals, and facility managers in Southeast Asia, North Asia and Australia and New Zealand. The purpose of the survey was to determine general understanding on edge computing, including adoption, infrastructure needs, and future outlook. Close to 200 responses were received across different industries (see below).

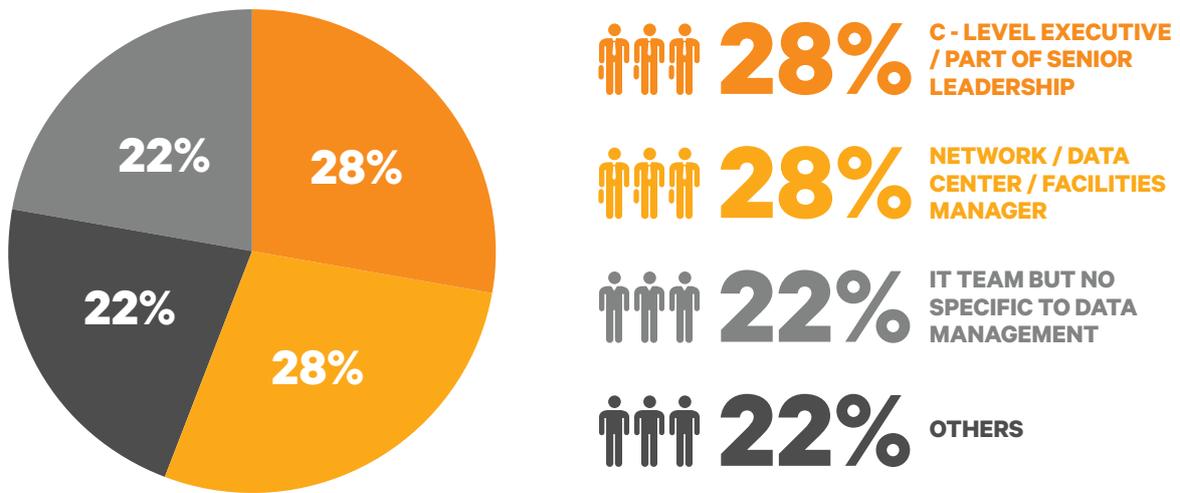


Figure 1: Organizational Responsibility of Survey Respondents

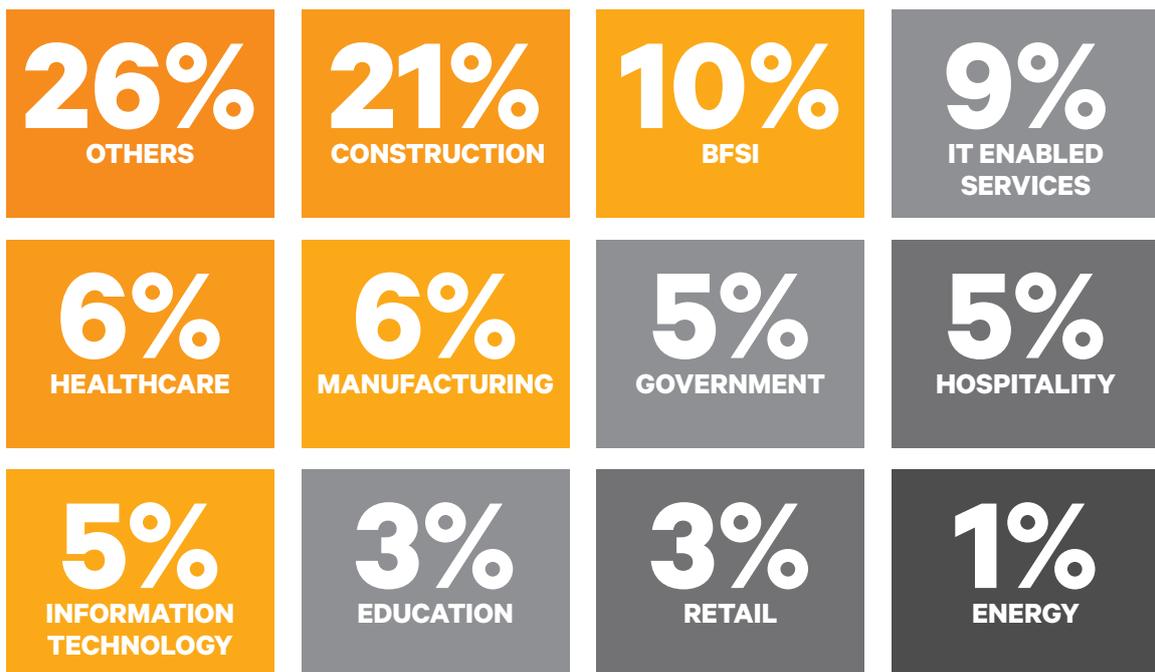


Figure 2: Industry Profile of Survey Respondents

Key Findings

1. Understanding and Adoption of Edge Computing.

Survey respondents were asked about their perception and understanding of “edge computing.” Forty percent (40%) of the respondents agree with the industry definition of edge (ie. moving computing power away from the core and to the edges of the network, closer to where customers are), while 14% relate it to technologies such as the cloud and Internet of Things (IoT). Notably, 30% of respondents said they are not fully aware of this trend/technology.

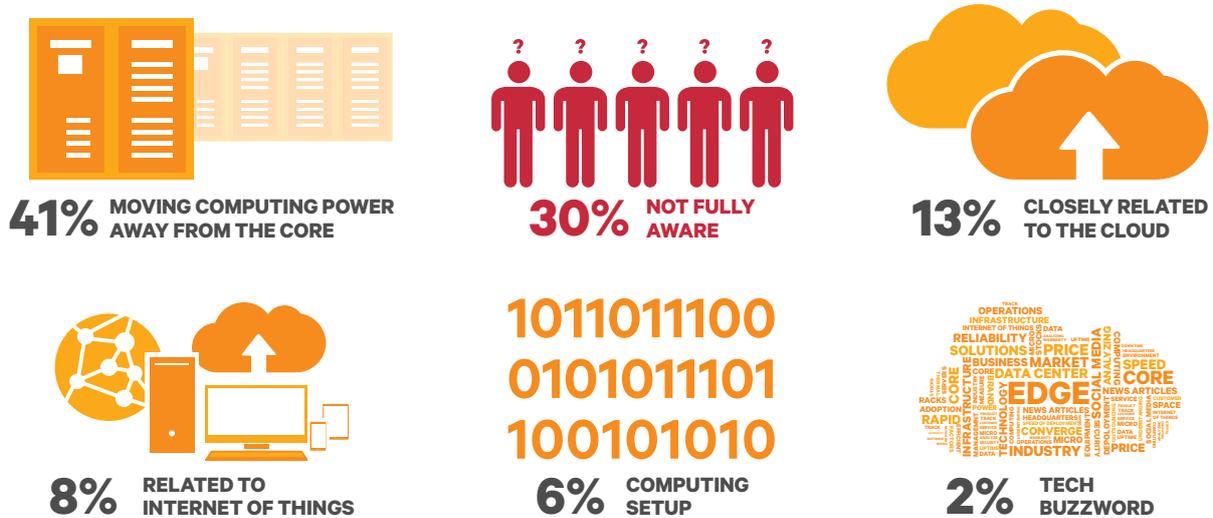


Figure 3: Response to the question: “How do you define edge computing?”

Countries that are most knowledgeable of edge computing are Australia, Singapore and Indonesia, while countries such as South Korea, New Zealand and Cambodia have very little to no understanding of edge computing.

Respondents were also asked about the adoption edge computing in their business operations. A majority of the respondents believe that the market is on the midpoint of adoption regardless of industry.



Figure 4: Rating of edge adoption, according to respondent opinion.

2. Infrastructure at the Edge.

Survey respondents were also asked about the type of infrastructure they have at the edge, specifically micro data centers. Only 1/3 of the respondents said they currently own and operate a micro data center in their businesses.

Of those who own micro data centers, almost 50% said these were located either at the branch or in their regional offices. Only 1/3 said these were located near their main headquarters. Respondents indicate that they own an average of **one to two micro data centers with less than five racks containing data servers and equipped with thermal management and power solutions.**

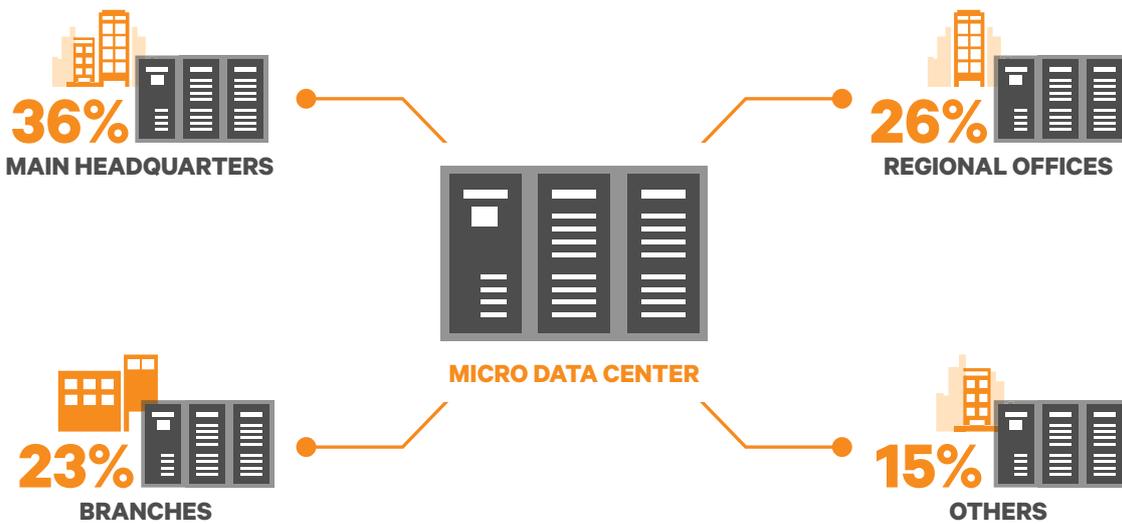


Figure 5: Deployment of micro data centers, according to location.

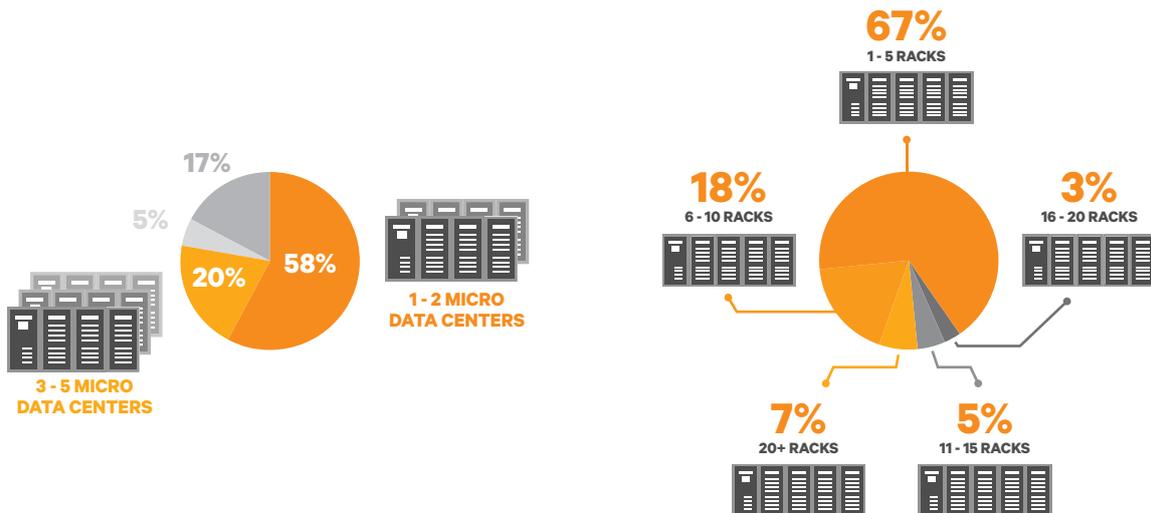


Figure 6: Number of micro data centers per business.

Figure 7: Number of racks in a micro data center.

Notably, however, majority of the survey respondents primarily use micro data centers as a **preventive measure** – either as back-up to their core data center or as part of their disaster recovery initiatives. Only a third of the respondents have micro data centers for their edge initiatives.

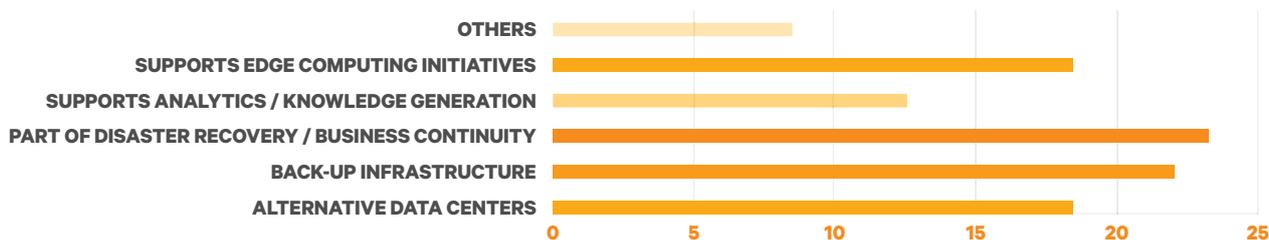


Figure 8: Response to the question: "Why did you set up micro data centers as part of your network?"

3. Factors in procuring micro data centers.

When asked to identify the factors in purchasing a micro data center, majority of survey respondents identified **service reliability (81%)** and **price (75%)** as their main consideration.



Figure 9: Factors considered important in procuring infrastructure for their edge computing projects

Additionally, respondents identified **power and monitoring equipment** as their priorities in supporting their micro data center.

4. Challenges in micro data center deployment.

Financial constraints remain an important issue among majority of respondents when it comes to deploying micro data centers, followed by system compatibility issues and security concerns.

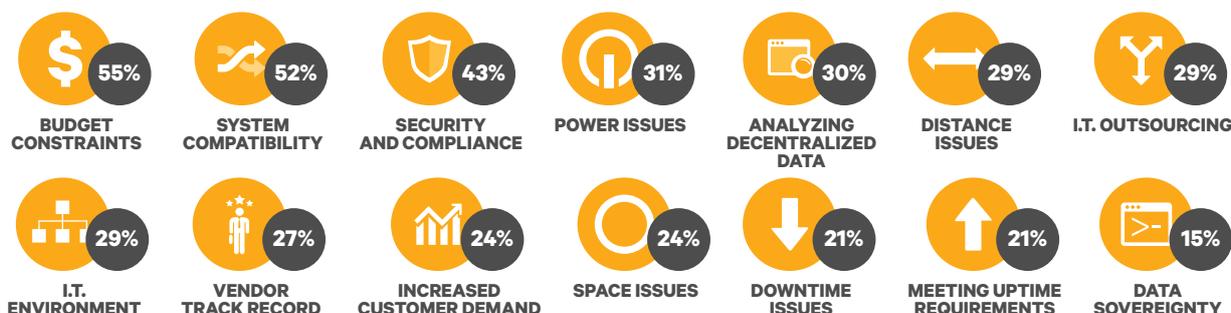


Figure 10: Top challenges encountered by respondents in deploying edge computing initiatives, in terms of infrastructure

5. Future outlook on edge computing.

While understanding and overall adoption of edge computing remains relatively low at this point, 60% of survey respondents revealed that they are looking to deploy edge strategies within the next three (3) years. In addition, most of the respondents believe that edge computing will be fully relevant to their business after three years.

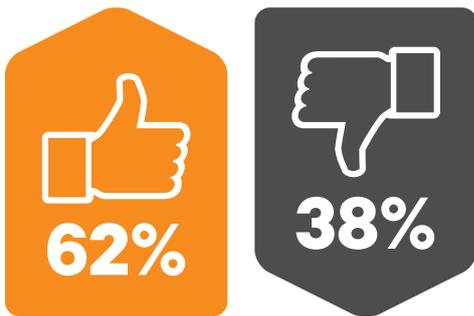


Figure 11: Response to the question: "Do you have plans to deploy edge initiatives in the near future (1-3 years)?"



Figure 12: Response to the question: "Do you think that the edge will be a relevant part of your business and IT strategy in the mid-to-long run (beyond 3 years)?"

The survey also identified senior management (e.g. Chairman, Board of Directors, CxOs) as "champions" of edge computing initiatives, serving as decision-makers for these projects.

Conclusion

While IT and data center professionals have a general understanding of edge computing, overall adoption remains low in Asia Pacific. This is reflected in their business strategies, deploying micro data centers mainly as a back-up infrastructure or as part of their disaster recovery initiatives. Market outlook, however, is positive as respondents indicate that they are looking to adopt some form of edge initiative within the next three years.

Vertiv believes that edge computing has the potential to become more than just a digital trend here in Asia due to the positive outlook many businesses have with regards to the technology. In this regard, businesses must invest in micro data centers that have integrated power, thermal and monitoring solutions, which are ideal for edge spaces. Investing in micro data centers will not only allow managers to cut costs, but also allow them to deliver digital services faster to their customers.



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