



8 edge computing pricing models

Customers are in the process of learning about edge computing and its benefits. However, a key component of their decision-making process is how to pay for the edge. In the article, we outline potential pricing models for accessing edge computing.

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Edge computing pricing models are still evolving, however there are trends emerging. Some models look to replicate pricing models from the cloud and IT, others seek to provide new ways to allow customer to access edge computing infrastructure, platforms and applications by creating new economic models for a distributed, edge cloud. Here are ten example pricing models that STL Partners has come across through our research and consulting work in edge.

1. IaaS

In many cases, edge computing is an extension of the cloud, or at least an extension of cloud business models. As with the cloud, edge computing can be charged for as-a-service at different levels, depending on how much the customer wants to control the stack. Some service providers are opting for an infrastructure-as-a-service (IaaS) model, which allows customers to pay only for the physical and virtual infrastructure they use and the infrastructure is operated and maintained by the service provider. Public edge IaaS models are emerging with AWS Wavelength, Azure Edge Zones, and private edge IaaS models driven by companies such as telecoms service providers, e.g. Cox Edge. Consumption-based IaaS models become much more complicated in an edge computing paradigm, given that there is finite resource at each edge and customers' workloads moving between edge nodes, therefore edge IaaS providers must have sophisticated charging engines to track this.

2. PaaS

A platform-as-a-service (PaaS) model is another cloud usage-based model, however at a higher level than infrastructure. Within the context of edge computing, there are two main PaaS models emerging. One is a software platform that allows the customer to monitor and orchestrate its applications across different underlying edge infrastructure platforms. A second model is a platform that allows a customer to deploy on edge infrastructure, without having to control and manage the infrastructure itself. An example PaaS in the cloud world include Force.com; developers create applications on Force.com's platform, but Force.com manages the underlying infrastructure. A PaaS model is often charged as a subscription, with prices ranging depending on usage and number of tools being used by the customer (e.g. amount of infrastructure that needs to be managed). Cloud has been dominated by business customers, however companies such as Shadow (Blade) are allowing consumer (gamers) to pay for a subscription to access a gaming PC in an edge data centre.

3. SaaS

The other typical cloud as-a-service model is software-as-a-service (SaaS). This is where the customer accesses an edge application, but does not control or manage any of the underlying data or infrastructure. Although the market is nascent, independent software vendors (ISVs) are already exploring how they can leverage edge computing to improve their customer experience, continuing to offer their applications in an as-a-service model. Some ISVs may be able to charge a premium to customers for offering this super experience.

4. Hardware-as-a-Service

Much of the edge will be at customer premises, rather than in a third-party data centre, therefore the customer is responsible for its own infrastructure, whether it is in its on-premise data centre or in a smaller, containerised environment. Given the trend towards OPEX-based models to help customers avoid the need to invest large amount of capital to set up their edge computing infrastructure, hardware companies are offering their servers in an as-a-service, consumption-based model too. For example, HPE offers GreenLake, which is

charged for through a monthly subscription fee. In fact, HPE's CEO claims that all of the vendor's products will be available as a service by 2022.

5. CDN

Many CDN (content delivery network) service providers are expanding their offering through edge, as outlined in our article [CDN: what is edge CDN and virtual CDN \(vCDN\)?](#) This is a combination of them caching at point of presence deeper in the edge, but also incorporating more compute-based services, alongside the storage/caching-focused services. CDN pricing models are often consumption-based models, using bandwidth as a key driver. However, some edge CDN companies are providing alternatives, such as Section.io, who charges by page view.

6. Licence models

Software has traditionally used a licence model, which is usually a fixed fee per month or year, based on the number of users, seats or devices. Although the trend is now towards more consumption-based models, licencing is still preferred for some organisations. It allows customers to spread the cost over time, rather than pay upfront, but still ensure a level of certainty. Consumption-based models have a degree of volatility, for example if your application experienced a sudden surge in demand, thus skyrocketing demand for its underlying edge/cloud infrastructure, this would be incurred as a huge spike in cost for the customer (the application provider in this instance). A similar more is fixed monthly charges, which AWS offers for its [Outposts racks](#) on a 3-year term.

7. Managed service

Service providers, including telecoms operators, prefer offering an edge computing solution as a managed service offering, combining the infrastructure, applications, networking, plus the maintenance/servicing of these, in one bundle. This is then billed to the customer on a monthly or yearly basis, depending on the level of service they need, e.g. in terms of availability, security, responsiveness, etc.

8. Co-location

The co-location pricing model is a traditional model for providing space, power, cooling and bandwidth services to customer who want access to a data centre, built and run by a third-party. Space is often leased by the rack, cabinet, cage or room. The key difference in edge computing vs. central/cloud data centres is that edge data centres are much smaller. Therefore, the economics for the co-lo provider are dramatically different; an average co-lo data centre can hold about 800 racks of servers, whereas an edge data centre could have only 4-10. However, innovation in this space is emerging. For example, Vapor IO, a startup creating a distributed edge across metropolitan cities in the US, provides an edge-to-edge co-location service.

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