

Operator choices for cloud and hosting: a framework for assessing different options

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The requirements for connectivity are changing as the market demand for cloud services is increasing; this will often lead to revenue growth for operators. However, as operators are aware, the increase in cloud services spending far outstrips the growth in connectivity spending, and as such, operators are tempted to take a greater role in cloud services. They are experimenting with a variety of different approaches, as outlined in this article.

No approach is ideal, and each has clear downsides in both the short term (most obviously the initial investment requirement) and the long term. Operators need to understand the implications of each strategy, and must understand how each course of action will affect, and often restrict, future options.

Operators have many options for cloud

Operators have a choice of four different cloud or hosting products to offer, and two basic delivery options. These options pass over much of the complexity of cloud services; they are meant to form a framework, rather than an exhaustive catalogue of choices. Also, the focus here is on selling compute and storage, not on applications or software-as-a-service (SaaS). Operators could follow a different approach to SaaS independently of the options discussed below.

The four product options are the following.

- **Co-location.** The customer buys a rack and provides their own server. The co-location facility provider offers the space, power and connectivity options. This option gives customers the most control, but also places heavy demands on them, as they need to buy and manage the service.
- **Private cloud or managed hosting.** The customer gains access to a server in a data centre which is fully managed by the provider. This option is simpler for the customer than the co-location option, but as a result, they have less control. This option includes both dedicated private or virtual private cloud depending on whether the enterprise has a server reserved for their own use, or whether a multi-tenant server is used. The data centre itself can either be on-premises (but managed by a third party) or at a third-party data centre.
- **Public cloud/infrastructure-as-a-service (IaaS) – operator-owned infrastructure.** The customer gains access to virtual capacity in a data centre owned by the operator as a part of a fully managed service. The customer has limited influence over the service, but the offering is simpler and cheaper.
- **Public cloud/IaaS – third-party infrastructure.** As above, but the infrastructure is provided by a third party, typically AWS or Microsoft Azure, or occasionally Alibaba, Google Cloud or others.

For a telecoms operator, there are two delivery options for the above products.

- **Operator-delivered.** The operator delivers a service directly (though it may not own the infrastructure).

- **Partner-delivered.** The operator does not deliver the services itself. Instead, potential customers are passed to a preferred partner. In turn, the preferred partner may use either its own data centres, infrastructure provided by a third party or (as in many cases) a mixture of both.

An operator offering is formed from a combination of these product and delivery options (Figure 1).

Figure 1: Most common operator options for cloud services (not exhaustive)¹

Product	Co-location		Private cloud/ managed hosting ²		Public cloud/laaS – operator-owned Infrastructure		Public cloud/laaS – third-party Infrastructure	
	Operator	Partner	Operator	Partner	Operator	Partner	Operator	Partner
No cloud services	x	x	x	x	x	x	x	x
Partner	x	✓	x	✓	x	✓	x	✓
Focus on public cloud	x	x	x	x	x	x	✓	x
Managed hybrid cloud	Sometimes offered	x	✓	x	✓	x	✓	x
Sell internal proprietary cloud	✓	x	✓	x	✓	x	x	x

Source: Analysys Mason, 2019

None of the options are perfect

Each of the options listed in Figure 1 has advantages and disadvantages. Not one of them stands out as the best option, and the relative merits will depend on the operator, its position in the market, its existing customers, its existing assets and what it wants to achieve.

Each option is discussed below.

- **No cloud services.** The operator simply provides connectivity to customers, and does not offer other cloud services. The operator retains neutrality in cloud services and sticks to its core strengths. The operator avoids the cost of creating its own cloud offering, as well as the complexity of forming partnerships. However, this option limits the operator to generating revenue solely from connectivity services. It will lose connectivity business from customers that want a combined connectivity offering (for example, if they want a single SLA) unless connectivity is offered on a wholesale basis to cloud service providers. This approach is [being pursued by Colt](#).

¹ Other options are possible in theory (for example, offering co-location and public cloud, but not private cloud) but are not common.

² Includes virtual private clouds for simplicity.

- **Partner.** The operator does not offer cloud services but has a preferred partner to whom the business is referred. The operator again sticks to its core strengths but gains some share of the cloud revenue, either from a referral fee or through an agreed revenue share with the partner. If the partnership is deep enough, the operator can also offer customers the benefits of a single contract, set of SLAs and account team. The disadvantage for the operator is that it does not gain expertise in cloud services, thereby potentially limiting its future options. [Vodafone is following this strategy](#) with its partnership with IBM.
- **Focus on public cloud.** The operator focuses on providing cloud services based on infrastructure provided by others. This strategy allows the operator to take a greater share of revenue without investing to build and develop infrastructure. The operator can also combine connectivity and cloud services under a single contract and SLA, which can be an appealing proposition for enterprises. The strategy is designed to be ‘futureproof’, as the public cloud is increasingly the default solution for hosting and compute services. The drawbacks of this option are that the operator needs to invest in new capabilities, such as professional services, typically through acquisitions. This strategy may not be successful as the operator will be competing against many different players to provide cloud services (for example, internal teams, systems integrators and cloud specialists such as Rackspace, as well as smaller managed service providers (MSPs)). [KPN is following this approach, broadly speaking](#), though it does still offer some co-location services and semi-public clouds of its own for healthcare and local government customers.
- **Offer managed hybrid cloud.** The operator combines offering cloud services from third parties (such as AWS and Azure (described in the bullet above)) with its own data centre services (which could include co-location and private and public cloud). For example, its own data centres would be used for applications that require data to be stored locally (for example, financial services and healthcare), and other applications would use public cloud from third parties. The benefits of this approach are that all potential customer demand can be met. It also allows the operator to offer a migration path between different solutions, or to offer a mix of solutions for customers that want both co-location and public cloud services. It gives the operator a differentiator against competitors that only provide co-location or public cloud services. The disadvantages are that there is a high cost associated with building and managing data centres, as well as managing public cloud services. Longer term, the operator may lose its ability to differentiate from other service providers as AWS and Azure continue to build nodes in more countries. [Deutsche Telekom, Telefónica and Telstra are all offering a full suite of hosting and cloud services](#).
- **Focus on internal proprietary cloud.** The operator ignores the market for public cloud from providers such as AWS and only sells services (co-location and private and public cloud) using its own infrastructure. This offer targets customers that require more control over their hosting and cloud services. The operator can specialise in areas where the barriers to entry are high (due to the capex required) and can focus on those clients with specific requirements that cannot be met by cloud generalists. The downsides are that the operator will probably not have the scale required to compete against the larger global data centre providers, such as Equinix. The operator will also miss the opportunity to earn revenue from the biggest public clouds, such as AWS and Azure, which are hosting an increasing share of applications. A few smaller operators (such as [Citynet in Sweden](#)) are following a version of this approach. Citynet is trying to make use of its local strengths rather than compete head on with global players, though it does stress that it also facilitates a multi-cloud approach for enterprises.

Which option is chosen will depend on the operator

Determining which option is the right one will depend on the operator and the market in which it operates. There is no one correct answer, but some general rules apply.

- **The relationship with connectivity is essential.** In all of the options described above (other than ‘no cloud services’), the relationship between selling cloud services and selling connectivity is crucial; operators think that a combined cloud services and connectivity offering is a valuable differentiator. They believe that most customers (or, at least, a substantial portion of customers) are likely to require a combination of both services, under a single contract, with a single account manager and a single set of SLAs. The connectivity offering should ideally be a complete end-to-end service including last-mile access and both private and Internet-based connectivity to cloud platforms. Operators need to make sure that this combination is being offered; if the solution does not remove some of the complexity for customers (for example, if there are two account managers), the operator will lose any potential benefit. In the worst case, the operator could lose both the cloud business and the connectivity business.
- **Operators may need to accept lower margins from cloud services than connectivity.** The appeal of offering cloud services (that is, greater revenue) is obvious, but operators need to have a broader sense of what they are trying to achieve. Cloud services are likely to have lower margins than the core connectivity business due to the inclusion of professional services and the strong market competition. Operators may need to accept this possibility and understand how to plan their businesses using [cloud services as a complement to connectivity](#).
- **Geography matters.** The benefits of having a local data centre versus connecting to an overseas cloud are likely to be limited in any country with good international fibre links; any performance improvements will be marginal. However, there are benefits of being local in terms of complying with regulations and perceived data security. These factors will matter more in some countries than in others. Also, the large public cloud providers are focused on higher income markets; even [AWS does not yet have any capacity in Africa, the Middle East or Latin America \(excluding Brazil\)](#). This will change over time, but smaller countries in poorer regions will be protected for longer. For example, AWS is planning to launch in South Africa in 1H 2020.
- **The global public cloud providers need local service providers.** Some companies can work directly with AWS and Azure, but most will need an intermediary, such as an operator, MSP or systems integrator. Operators can therefore work with AWS or Azure instead of competing with them.

As this article suggests, there is not just one option for operators regarding cloud services. Perhaps more than anything, operators are revealing their long-term visions through their approaches to cloud. Some want to be full-stack providers of IT services. Others are content to focus on connectivity. At the most basic level, each operator needs to make sure that its cloud strategy is aligned with this long-term vision.