



Ecosystem evolution series

Seven building blocks to map out an ecosystem for any given use case

Main message

A central part of ecosystem conversations is how to connect end users, with the variety of clouds. These relationships can be clearly mapped using a proposed framework with seven key building blocks.

Target audience

CSP ecosystem owners
Enterprise digital transformation owners

Talking points

A player-centric framework to identify potential partners

- Allows the visualization of relationships and transactions between players as well as ecosystem dynamics and characteristics.
- Assess the ecosystem evolution in your market to identify opportunities and take a more favorable role.

Three main layers

- A solution to digitalize products and services involves capabilities from three layers:
- Front-end: players providing professional services, front-end applications and devices.
 - Communication: players providing connectivity and networks.
 - Back-end: players providing storage and compute of data.

The front-end layer is defined by

1. **Professional services:** integration carried out by system integrators and consultancies. Typical players include HCL and Accenture. System integrators expanding their position to take an aggregator role to become a “one-stop-shop” for customers.
2. **Applications:** end user applications such as mobile apps and enterprise software applications, services to support the applications and other related solutions. Typical players include SAP and SharePoint. Intensifying application platform battles where the “winner takes it all”, for example consumer VR standards leveraging open APIs & SDKs.
3. **Devices:** 24 different types [1] of 5G device. There are more than 1,000 different devices commercially available including smartphones, tablets, laptops, fixed wireless access, modules, industrial or enterprise routers, gateways, modems, in-vehicle routers, USB dongles, drones, HMD, cameras, robots, vending machines and more.

The communication layer is defined by

4. **Connect:** connectivity provisioning and connectivity services, delivered by communication service providers. Typical players include Verizon, AT&T, Deutsche Telekom and Vodafone. Hyperscale cloud providers (HCPs) moving into private networks. [2]
5. **Network:** provision of network equipment and maintenance. Typical players include Ericsson and Nokia. HCPs move into edge computing [3] in the network layer, leveraging their cloud competence.

The back-end layer is defined by

6. **Storage:** storage services and cloud solutions. Typical players include HCPs like Microsoft Azure, Amazon Web Services, Google Cloud and other data center operators.
7. **Compute:** computation and processing of data and related products and services. Typical players include HCPs but also technology providers like Qualcomm.

1- GSMA 5G Device Ecosystem, July 2022 <https://gsacom.com/paper/5g-ecosystem-member-report-july-2022/>

2- AWS private networks <https://aws.amazon.com/private5g>

3- MS Azure edge computing <https://azure.microsoft.com/sv-se/blog/microsoft-partners-with-the-industry-to-unlock-new-5G-scenarios-with-azure-edge-zones/>