

MVNO

Mobile Virtual Network Operator



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A **mobile virtual network operator (MVNO)** is a company that provides mobile phone services but does not have its own licensed frequency allocation of radio spectrum, nor does it necessarily have all of the infrastructure required to provide mobile telephone service. Conversely, a company that has frequency allocation(s) and all required infrastructure to run an independent mobile network is known simply as a mobile network operator (MNO). MVNOs are roughly equivalent to the "switchless resellers" of the traditional landline telephone market. An MNO that does not have a frequency spectrum allocation in a particular geographical region may operate as an MVNO in that region.

An MVNO's roles and relationship to the MNO vary by market, country, and the individual situations of the MNO and MVNO. In general, an MVNO is an entity or company that works independently of the mobile network operator and can set its own pricing structures that are subject to the rates agreed with the MNO. Usually, the MVNO does not own any GSM, CDMA, or other core mobile network related infrastructure, such as mobile switching centers (MSCs) or a radio access network. Some may own their own home location register, or HLR, which allows more flexibility and ownership of the subscriber's mobile phone number (MSISDN); in this case, the MVNO appears as a roaming partner to other networks abroad, and as a network within its own region. Some MVNOs run their own billing and customer care solutions known as business support systems (BSS). Many use a Mobile Virtual Network Enabler.

Usually MVNO's do not have their own infrastructure and some providers are actually deploying their own Mobile Switching Centers (MSC) and even Service Control Points (SCP) in some cases. Some MVNO's deploy their own mobile Intelligent Network (IN) infrastructure in order to facilitate the means to offer value-added services. In this way, MVNO's can treat incumbent infrastructure such as radio equipment as a commodity, while the MVNO offers its own advanced and differentiated services based on exploitation of their own IN infrastructure. The goal of offering value-added services is to differentiate versus the incumbent mobile operator, allowing for customer acquisition and preventing the MVNO from needing to compete on the basis of price alone.

MVNO's have full control over the SIM card, branding, marketing, billing, and customer care operations. While sometimes offering operational support systems (OSS) and business support systems (BSS) to support the MVNO, the incumbent mobile operators most keep their own OSS/BSS processes and procedures separate and distinct from those of the MVNO.

Characteristics of an MVNO:

- MVNOs are new breed of wireless network operators who may not own the wireless spectrum, or wireless infrastructure (also termed pipe, in colloquial terms) but give a virtual appearance of owning a wireless network. These operators lease the pipe or wireless capacity from traditional operators and then repackage it for a specific vertical industry application.
- Main added value that MVNO provides is billing and customer care functions. In that sense MVNOs own the customers.
- MVNOs generally provide both voice and data services to end users through a paid up subscription agreement.
- To become an MVNO, one should cobble together a partnership that consists of a connectivity of a regular telco, a customer base, and a sales channel. Most important, they need unique and compelling data services.

MVNO Services

For now MVNO services have been limited, but analysts from EMC Research have predicted that as wireless services grow, so will the availability of niche MVNO applications. For instance, in the future a cell phone user may be able to subscribe to a network operator plus multiple MVNOs for specific data services over the same phone. One MVNO could provide sports news, another weather and traffic and still another could provide instant messaging capabilities.

MVNO's might also offer voluntary MVPN services based on the IPSec or Mobile IP VPN client to their customers, which allows to terminate the IPSec connection at a VPN gateway or HA in the MVNO data center and also supporting multiple access technologies.

In this way, each MVNO and the network operator could focus on their own niche markets and form customized detailed services that would expand their customer reach and brand.

Business Issues

- The major benefit to traditional mobile operators cooperating with MVNO's is to broaden the customer base (sell additional MOU's) at a zero cost of acquisition.
- It is likely that incumbent mobile operators will continue to embrace MVNO's as a means of deriving revenue to offset the enormous cost of building 3G networks.
- As more MNVO's expand in the marketplace, they are likely to first target prepaid customers as a means of low cost market entry themselves.
- Most regulating bodies are in favor of MVNO's as a means of encouraging competition, which would ultimately lead to greater choice and lower prices.
- With the advent of the MVNO, many incumbent mobile operators will evaluate the opportunity to offer supplementary MVNO services of their own. To do so, exiting mobile operators will use their established branding, service knowledge, and supplier relationships to compete against independent MVNO's.

Regulation

So far MVNOs have not been regulated in any country. The ITU has received several requests to study the issue, specifically to provide input on whether government intervention is necessary to allow MVNOs to offer services and applications at a lower price to consumers. This would help to ensure a more efficient use of the spectrum but some incumbent providers argue that the market is already competitive and intervention is not necessary.