State of the Art Packet and
Optical Networking

ribbon

From Utility to UTelco

Business Models for Profitability

White Paper

Utilities — Next Move

UTelcos are competitive telecom operators owned by or related to a utility company (power, water, gas, oil, transportation). They usually begin as a group within the utility company in charge of delivering internal communication services. They can then become a competitive telecom operator under the utility-holding company or government entity.

Unique Positioning

Utility companies are exclusively positioned to become significant players in the telecom market from a few perspectives:

Right of Way
They are authorized to lay fibers across the country.

Infrastructure
The same infrastructure and equipment (fibers, towers, switches/routers, transmission equipment) that support the utility's operation (and which in many cases is underutilized) can be leveraged for developing a telecommunication business. In addition, utilities have established B2B and B2C relationships and infrastructure for billing and customer service.

Knowledge
The know-how and ability to build, operate, and maintain a telecom network is already in place. These were acquired while managing the network for the utility's internal services.

Still, there are a few more aspects that must be addressed for the transformation from potential to reality:

Regulation
Offering telecom services by utilities is allowed in the country where they operate.

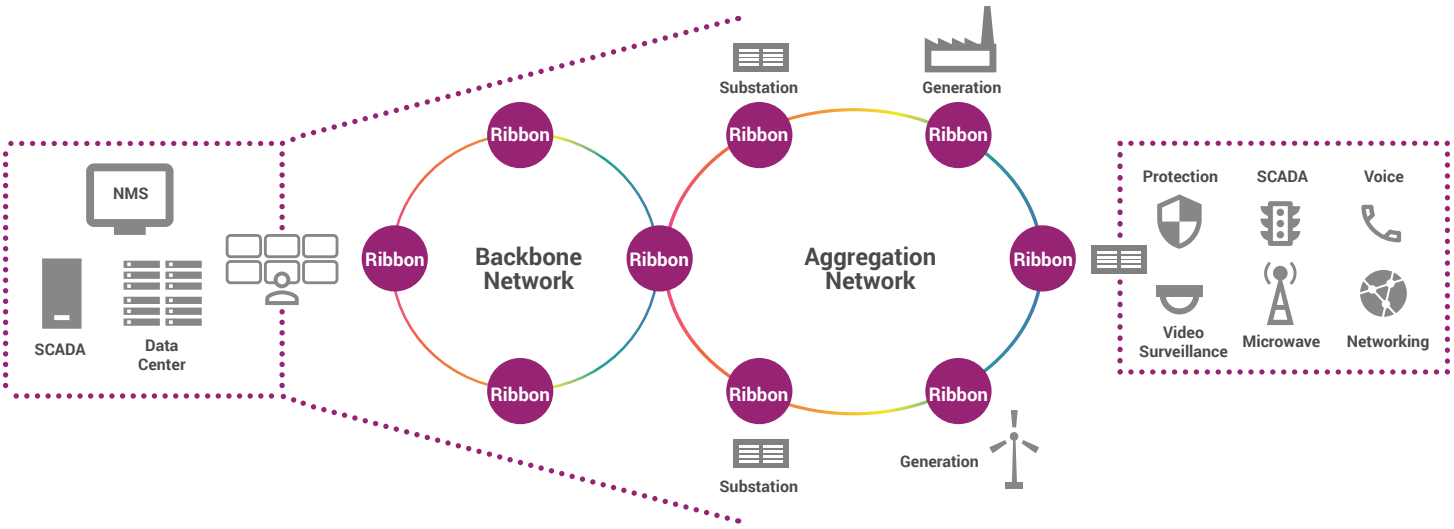
Finance
The utility's parent company is able to finance the process.

Competitive Landscape
The status of the telecom services, the level of competition, and whether there is room for an additional player.

Once these characteristics are met, many utility telecom operations decide to evolve from self-contained groups within an organization to competitive, revenue-generating telecom operators.

Internal Utility Networks

Utility companies build telecommunication networks to support their own communication needs and pay great attention to the functionality and reliability of these networks. Most of the communication information transmitted through the network enables the utility to control, monitor, and maintain its facilities and infrastructure.



From Monopoly to Competitive Landscape

The shift from Utility to UTelco is not entirely smooth sailing. First of all, a mindset shift is required to move from providing internal services to becoming a service provider.

This requires deep understanding of the competitive landscape off the local market and identification the right services and price points.

Ribbon's packet and optical solutions are contain all the necessary components for successful evolution from Utility to UTelco. Our pay as-you-grow architecture and extensive portfolio breadth ensure that your investments are linked to actual revenues. With multi service support for L1 to L3 services from metro access to the core, the solution can be scaled to support any traffic volume and service mix. Extensive,holistic, security schemes, protect both IT and OT networks, ensuring the new network will not jeopardize the utility's core business. With a proven global track record for serving both utility internal communication and UTelco business, Ribbon is well-positioned to help you take your business to the next level.

Facilities Wholesaler
Co-location services or dark fibers to other carriers.
- Unmanaged and hosting services
- Equipment is owned by customers

Carrier of Carriers (CoC)
Leasing bandwidth to other carriers or large enterprises.
- Managed services
- Equipment is owned by UTelco

Retail
Services for business and residential customers.
- Triple play for Enterprises and residential customers
- Equipment is owned by UTelco

Facilities Wholesaler Business Model

The initial UTelco venture into the commercial telecom market leverages its basic infrastructure like towers, buildings, and fibers. In most cases, the utilities network is underutilized, and additional traffic can be supported without upgrading it. Utilities provide co-location services for Competitive Local Exchange Carriers (CLECs), Internet Service Providers (ISPs), and Interexchange Carriers (IXCs). Services are managed by the respective carriers who also own the telecom equipment.

CoC Business Model

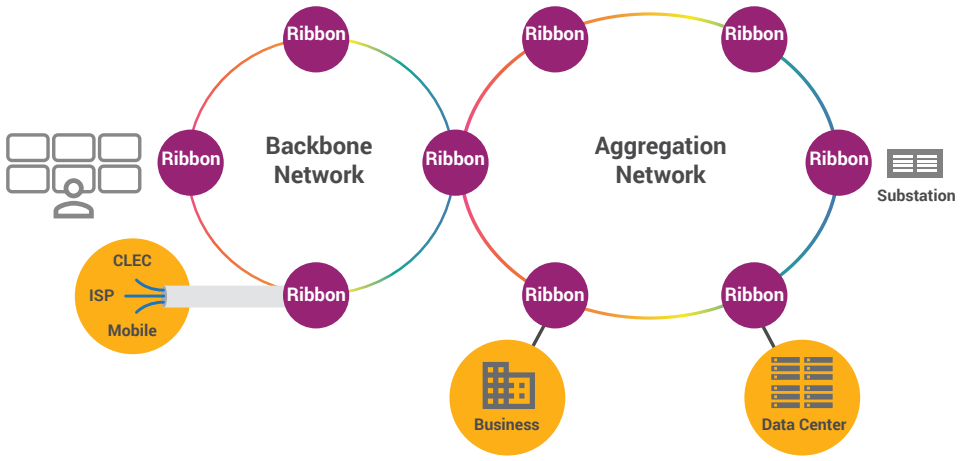
Instead of leasing dark fibers, utilities can sell bandwidth to other telecom operators. A good example is mobile operators who are willing to pay for effective backhaul infrastructure. Other potential customers include ISPs and large enterprises owning their own networks. In some cases, the UTelco will have to raise its investment as bandwidth requirements increase. When serving as a Carrier of Carriers (CoC), the utilities own and operate the telecom equipment and take full responsibility for the service. Since the infrastructure of many UTelcos reach all the way to national borders, many also provide international connectivity.

Thanks to the association with its parent company, the UTelco enjoys strong market positioning and is recognized as a stable and reliable company that can build and maintain complex and reliable telecom networks.

Retail Business Model

The next step in the UTelcos evolution is to become a competitive telecom operator, providing access to the enterprise market. The UTelco extends the network to key end-users in the community (municipal offices, utility facilities, schools, and hospitals) and to large corporate offices. Since the fibers that the utilities use for their internal needs usually don't reach end customers, it is important to consider the necessary investment to reach them, or leasing last-mile capability from local carriers.

The retail business model requires the UTelco to adjust its organizational structure accordingly. This includes creating sales channels for promoting and advertising sales and customer-care units for supporting these new customers.



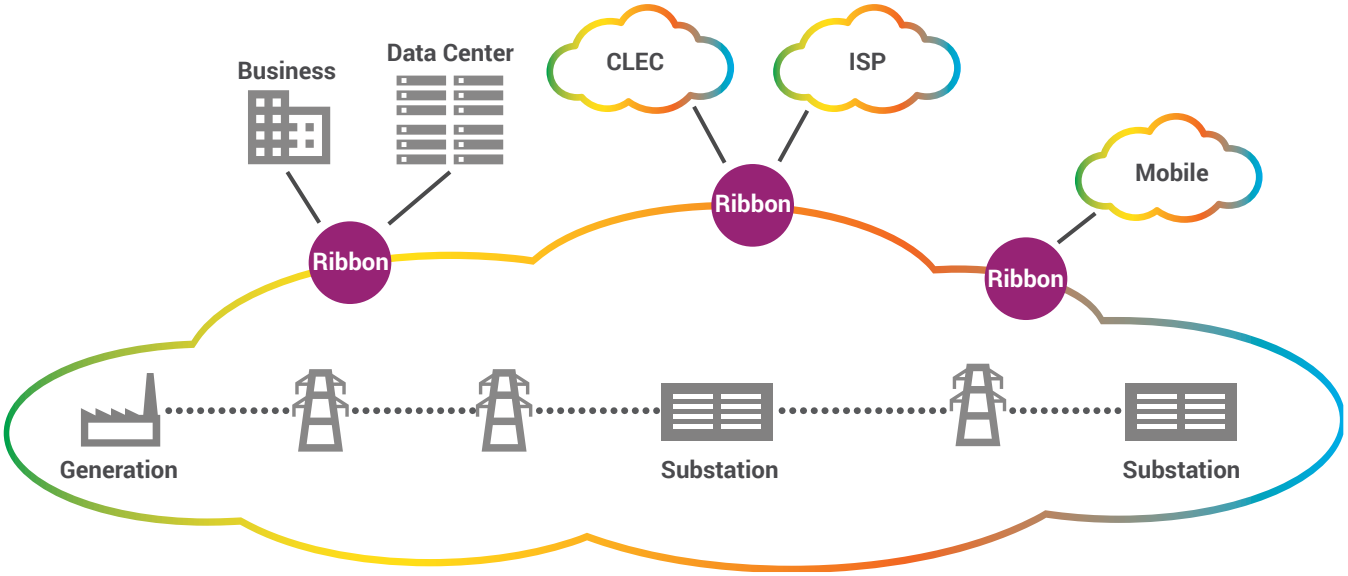
Business Model Evaluation

Each of these business models requires different levels of investment and involves different levels of complexity:

	Facilities	CoC	Retail
Customers	SPs, ISPs	SPs, ISPs, large Enterprises	Enterprises, residential
Services	Dark fiber, collocation	Leased lines	Triple play
Organization	Internal department	Daughter company	Independent company
Network	Leverage existing	Expand beyond internal requirements	Extend coverage to customer premise
Complexity	Low	Medium	High
Investments	$	$$	$$$

Successful Evolution

For successful evolution, it is important to select an appropriate business model and adopt clear target segments, with a gradual evolution strategy for reaching those targets. Becoming a CoC is probably the most convenient way to enter the market because you are dealing with a more limited number of customers. Gradual evolution means being able to link investments with actual revenues. No one wants to invest in an infrastructure that may not be well-utilized in the end. Therefore, utilities should plan around a scalable infrastructure that meets their future internal requirements, but that can also grow to meet future business targets. Elastic multiservice providers that meet the needs of a variety of customers and can introduce new services quickly will grab a better market share. Aside from competitive pricing, utilities should leverage their key assets of reliability and strict performance requirements and offer services with a high service level. To address security concerns, the new telecom business can leverage the core of the network. Here, it is easier to separate between information flows, instead of exploiting the operational network, which handles all mission-critical applications. In addition, a holistic approach should be used, which views the OT (Operations Technology) and IT (Information Technology) networks as one entity. In order to achieve this, utilities should team up with partners whose proven track record incorporates the support of both operation and service provider networks.



Ribbon's ElastiGRID contains all the necessary components for successful evolution from Utility to UTelco. Our pay-as-you-grow architecture and extensive portfolio breadth ensure that your investments are linked to actual revenues. Converged L1 to L3 from metro access to the core ensures support of any service and scale to support any traffic volume. ElastiGRID's extensive security schemes, incorporating holistic approach to protect both IT and OT networks, ensure that the initiative for new revenues will not jeopardize the utility's core business. With a proven global track record for serving both utility internal communication and UTelco business, Ribbon is well-positioned to help you take your business to the next level.

Contact us to discover how Ribbon can transform your Utility into a UTelco at rbbn.com

About Ribbon

Ribbon Communications (Nasdaq: RBBN), which recently merged with ECI Telecom Group, delivers global communications software and network solutions to service providers, enterprises and critical infrastructure sectors. We engage deeply with our customers, helping them modernize their networks for improved competitive positioning and business outcomes in today's smart, always-on and data-hungry world. Our innovative, end-to-end solutions portfolio delivers unparalleled scale, performance, and agility, including core to edge IP solutions, UCaaS/CPaaS cloud offers, leading-edge software security and analytics tools, as well as packet and optical networking leveraging ECI's Elastic Network technology.

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