

# Fixed Network Transformation

## Overview Paper

As rapidly-aging fixed-line networks approach the limits of their designed lifespan, telecommunications carriers the world over face a very real challenge. TDM costs are rising, revenues are falling, and the pressure is on to migrate towards IP-based networks capable of delivering wireless, voice and other enhanced services. What carriers need now is a fixed-line transition approach that reduces immediate and long-term costs, that creates new service and revenue opportunities, and that opens a proven, low-risk pathway to a modernized network. A Ribbon Fixed Network Transformation delivers that needed solution.

### Overview

When it comes to traditional TDM-based central offices, doing nothing is simply no longer an option. Service providers are serving fewer and fewer fixed lines, but those TDM COs often require the same switch counts to serve a higher percentage of business customers. Voice ARPU is flat or declining, and with migration to Voice over IP and mobile offerings, TDM voice is rapidly becoming an island in many networks.

As operating cost saving opportunities are exhausted, TDM equipment is also increasingly difficult and expensive to maintain. Users continue to migrate to wireless and other technologies, further depressing revenue-per-CO.

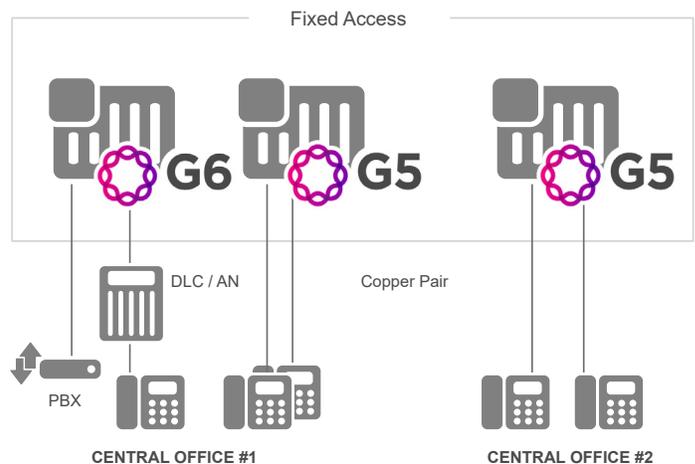
As TDM switches reach the end of their expected lifespans, service providers run a growing risk of major service interruptions. Declining levels of service and support translate directly into higher costs, more failures, and dissatisfied subscribers. By transforming their local networks, service providers can reduce cost and obsolescence, boost revenue and profits, and migrate smoothly to VoIP and IMS technologies. To enable this, they need best in breed physical infrastructure, experienced and global service support, and a proven and logical strategy for network transformation.

### Solution Features

Ribbon's Fixed Line Network Transformation Solution allows service providers to replace multiple TDM switch cores with a centralized service delivery node. This proven transformation approach helps service providers avoid a complete replacement and leverage their installed TDM infrastructure to reduce the time, cost and disruptions associated with migrating to IP.

The Solution incorporates a comprehensive portfolio of services designed specifically to support fixed line network transformation. Ribbon offers business and solution consulting, including network design and planning, a virtualized solution architecture, and the development of proof of concept. Ribbon can also provide network analytics and optimization, and tools to manage the customer experience in a transformed network.

### Centralized and Consolidated IMS/Pre-IMS Core



The Solution provides full system integration and deployment, with gateway products to interconnect existing line access equipment. The solution can also include API integration and adaptation services, OSS/ BSS integration, and the branding of applications and soft clients.

Ribbon enables transformed networks across virtualized or cloud environments, including hardware/software platforms, switching transport/analytic/optimization infrastructure, and end-user applications. Ribbon also provides world-class managed care services to support transformed networks. Services can include software migrations, provisioning and staff augmentation, database and technical support, managed spares and repair services.

### Benefits of a Network Transition

A well-planned, professionally-supported fixed network transformation:

- **Significantly reduces risk** – by eliminating the most vulnerable TDM Central Office equipment and by modernizing the network with IP-based, SIP-centric and IMS-compliant technologies.
- **Saves money** – reducing both capital costs and one-time and recurring operating expenses by leveraging existing line access equipment and by streamlining support and maintenance of legacy systems.
- **Attracts and frees capital** – with potential low-interest funding from world banks and foundations, and by redirecting substantial savings on power and cooling, maintenance, and property taxes.
- **Drives higher ARPU** – leveraging existing sales models and SIP-functional TDM lines to enable new, non-disruptive sales, including IP voice, multimedia, Unified Communications, and other advanced business and enhanced narrowband services.
- **Improves subscriber stickiness** – via service convergence and high-value business and residential applications delivered to the TDM customer base.
- **Future-proofs networks** – delivers a seamless transition to a long-term fixed solution, scalable from First Office Application to millions of subscribers in an open, customizable, resilient and fully IMS-compatible approach.
- **Re-allocate or re-purpose** freed Central Office space for new initiatives including remote data centers
- Open standards that help avoid proprietary hardware and vendor lock-in
- A graceful migration path that includes physical, virtual and NFV cloud options to avoid “rip and replace” network transformations
- Flexible element management and analytics functionalities
- Network licensing plans for elastic services and on-demand applications for new operator business models

Ribbon's VNFs on Red Hat OpenStack Platform enable high performing and highly reliable solutions for CSPs. Red Hat OpenStack Platform software uses open standards to provide highly resilient NFV infrastructure capabilities, all contributing to a high-performance and high-reliability telco cloud. Ribbon and Red Hat have collaborated to fine tune NFVI and Open Stack performance to ensure the best quality secure real time communications. Ribbon VNF solutions are designed to be cloud native, with micro services architectures and elastic scalability for optimal data center resource utilization. Ribbon VNFs are geo-distributable in core and edge data centers for deployment flexibility, and offer enhanced resiliency and georedundancy compared to traditional appliance models.

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