State of the Art Packet and
Optical Networking

ribbon®

Combating the Revenue Drain
From OTT Applications

In the early days of web and Internet commerce, Robert Rodin, then CEO of Marshall Industries, wrote what many call a seminal book on the topic: Free, Perfect and Now.

How Times Have Changed

Today, as Communications Service Providers know all too well, a new book could be written entitled **Free**, **OK** and **Whenever**.

Think specifically about the OTT (over the top) Cloud applications that run on the infrastructure you provide: Facebook, WhatsApp, Skype, Google Maps and more. You provide the infrastructure, the satellite links, the entire spectrum of network services (security, backup, bandwidth and more) . . . and OTT apps use it all to siphon revenue from you with lower-quality and often-free apps—from messaging to navigation to telephone. That represents a revenue drain that Ovum estimates will reach $380 billion by 2018. It may be true that your own, for-fee applications offer features that aren't part of free offerings. But, as you've very likely learned, users are more than willing to give up the extras if they can get the basics for nothing.

The Response from CSPS to This Loss Of Revenue Has Varied

1 Some have thrown in the towel. Simply accepting the fact that they can't compete for SMS or VoIP or GPS, they've adopted a price elimination strategy, bundling in those services at lower and lower rates. Consider that in the US, all of the top ten carriers now offer unlimited text plans— generally as part of every plan.

2 Others try the "can't beat, em join, em" approach. They essentially stop offering a competitive app at all, and simply cede the market to the OTT upstarts.

3 The third approach is just the opposite: double down on the issue and try to compete head to head with the OTTs.

None of these work in the effort to recover the revenue lost in the Cloud to Free, OK and Whenever. To grow revenue, CSPs need to uncover and develop markets that have high expectations of performance and low tolerance for delay or failure. And they have to find ways to offer new services, new capabilities, better levels of performance and response that meet those customers' needs.

ribbon

Categories Of Connectivity

Over time, Cloud connectivity has congealed into two basic categories:

Casual Cloud Connectivity

Streams, social media, email, many hosted applications and other likeprofiled apps don't demand immediacy or even continuous availability. They share low, if any, concern over latency expectations, low data volume, and low frequency of network access. A person sending an e-mail message doesn't care if the recipient gets it immediately or in five minutes beyond the inconvenience. A performance lag in many hosted applications is easily tolerated.

This is the OTT sweet spot. They carry no network burden: you do that for them. Their own infrastructure is modern, lean and agile, since it's all focused on providing only their app's functionality. They're able to bring specific expertise to bear they don't need a security apparatus or a NOC, they can just focus their talent on one thing. They can create applications nimbly, and get to market rapidly and regularly because they can concentrate only on application functionality—you're handling all the network heavy lifting. Often, they can give their product away, since their business model derives revenue from elsewhere. And, since latency and performance are not at issue, they can house their data in the most remote and cheapest locations in the world.

Critical Cloud Connectivity

A wearable heart rate monitor, municipal traffic control, trading and many other use cases demand peak network performance. They share high expectations: high—generally instant—response, high data volume, and high, often nonstop, frequency of access.

This is the CSP sweet spot. Critical Cloud connectivity demands the most advanced services and features that drive the highest levels of performance and availability. You own the network, from the core to the edge: you can deliver on that demand. You have the ability to enhance the network, deploy value-added services, implement advanced and custom policies and more.
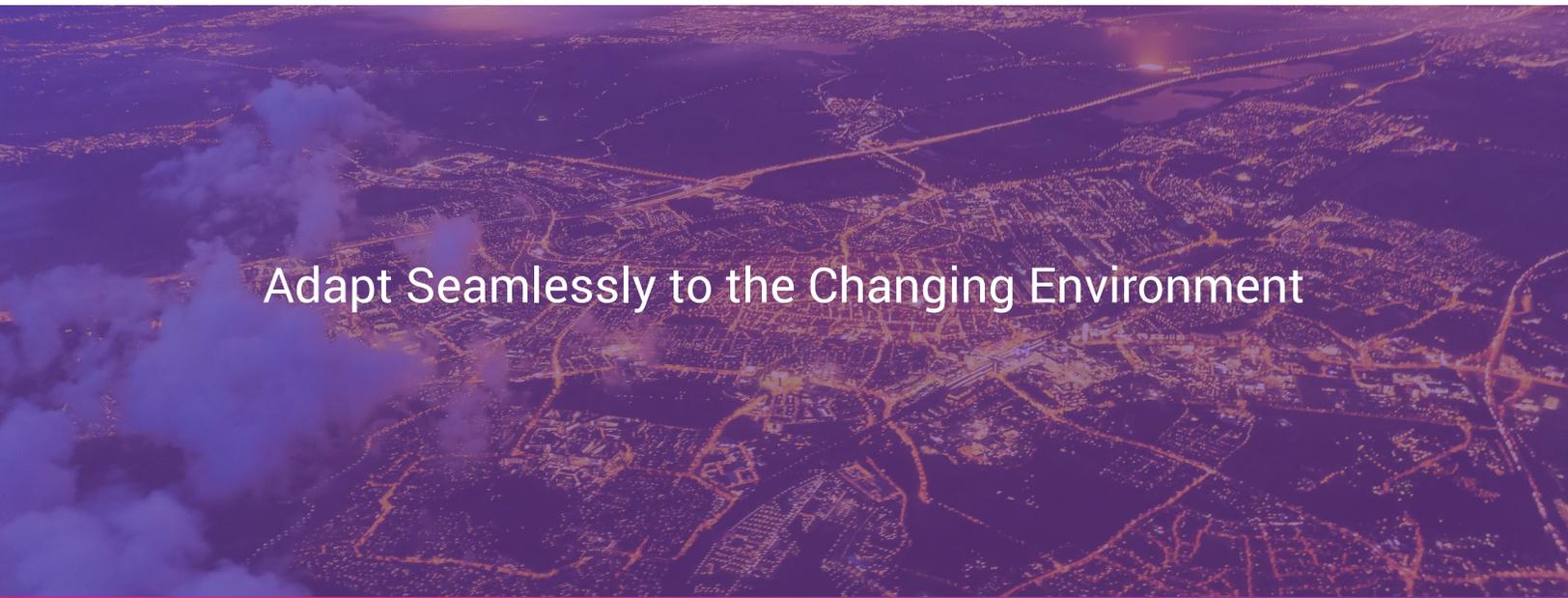
Adapt Seamlessly to the Changing Environment

ribbon

Inventory Your Strengths

Forget about trying to compete in a market you may have already lost. Don't battle where you're weakest. More and more, as vital products and services are being moved to the Cloud, they will require the highest level of networking capabilities and services. Turn your attention to those markets, and take ownership of them by focusing on your strengths.

Your Infrastructure

You own the infrastructure — the central offices being transformed into data centers and the servers and systems they house, as well as a multitude of cabinets even closer to the end users. Although, as you'll read below, the equipment may need an upgrade, you have a significant presence in urban centers, close to the customers.

Your Customer Base

You have a large, ready-made customer base: your subscribers. No, not all of your customers will require high-speed, low-latency connections. But many will — and the cost of reaching existing customers with new offerings is significantly less than reaching new customers.

Your Guarantee

And you stand by your service. If a Facebook post doesn't get there or a Skype call drops, it's simply caveat emptor (or, since it's free, caveat utilitor, let the user beware). You work at a higher standard, since you have the infrastructure to offer and honor strict SLAs.

ribbon

Who Needs Your Strength?

Here are a few examples of markets and industries where those strengths are vital.

SMART CITIES will need an infrastructure that can operate without fail and without delay, as it controls traffic lights and other automated services that keep city life in order. Frost & Sullivan calls this a $1.5 trillion market by 2020.

MACHINE TO MACHINE communication—IoT, inventory replenishment, machine sensor monitoring and more—is projected to grow to $1.2 trillion by 2020 (Machina Research).

IOT SERVICES IDC predicts that this will be a $1.7 trillion market in 2020.

REMOTE SURGERY In 2001, Operation Lindbergh was the first remote operation, with the surgeon in New York and the patient in Strasbourg, France. It's obvious that this kind of application requires a telecommunications and computing infrastructure of the highest QoS.

TRADING APPLICATIONS The biggest trading firms are only just beginning to stick their toe in the Cloud, and only for routine, non-critical tasks like messaging or non-secure VoIP. They're waiting for security and performance to meet their standards.

In other words, there is an abundance of opportunity for carriers who can deliver enhanced network services and enhanced network performance in the Cloud.

Markets You Can Win

Augmented Reality

Automotive

Enterprise

Gaming

Government

Medical

Research

Retail

Manufacturing

ribbon®

But There's Work to be Done?

You may not be ready to do this. Your transport infrastructure may be good enough to handle text messages, but not to take on the significant challenges and exploit the market opportunities for high performance network services.

All of those legacy servers, devices and proprietary appliances were put in place with one goal: to be fast carrying data from point to point. Everything else about the infrastructure is slow—and slow spells barrier to entry. Provisioning a service with aging systems is a slow, often manual, often frustrating process. Once provisioned, service turn up can also happen at a plodding pace. And proprietary systems become an obstacle to rapid, continual improvement and innovation.

Open Up

Sitting in a central Cloud data center, closed systems are impediments to reaching—and satisfying these new markets. An open system can allow you seamless connection to any of the applications, storage, databases—any technology— that a customer could have. With open systems, provisioning is rapid—often instant and often self-served through a catalog. And when you eliminate the closed, proprietary interfaces, you allow the transport network to be controlled from different applications in different locations across the Cloud, and to be managed on the fly.

But just using open systems is not enough.

Integrate and Disaggregate

Once you open your infrastructure, you have to decide which functions to centralize, and which to disaggregate. Some of those functions are best handled in an integrated system and in a central location. For instance, core optical transport functions belong in a shared, centralized Cloud. This includes shared backplane and equipment, and centralized network management. Take that optical transport network, however, and apply it to the focused task of interconnecting data centers, and the value of shared systems and services evaporates. Now, you're better off disaggregating that function, using purpose-built, best-fit open solutions to carry and manage that traffic.

But just integrating and disaggregating services is not enough.

Virtualize

Network Function Virtualization is a proven way to cut the costs of providing network services—just as virtualization slashes CAPEX across the board and across industries. Both rudimentary (for example, domain name services) and complex (load balancing or DDOS protection) functions can be pulled from purpose-built appliances to software-defined models.

But just NFV is not enough.

Move to the Cloud's Edge

Virtualization lowers the cost of providing services— they make the loss of revenue less painful, but they don't make up for the loss of revenue. NFV alone doesn't by definition improve your top line. That's particularly the case when those NFV services are provided from the central Cloud. Users aren't any closer to those services—which means that the delays, transmit time, latency and more remain essentially the same.

Those services and systems have to be located at the edge of the Cloud: as close to the customer as possible. Now you move from NFV to the more servicesfocused NFV. These edge Clouds, providing purposebuilt, highly focused services, significantly offload the network and processing loads at the central Cloud. Because they're close to the customer, low latency allows you to deliver high-value services and enhanced quality of experience.

What Can It Do?

With an open, purpose-built network infrastructure, separated from the Cloud data center, significantly virtualized and located at the edge of the Cloud so it's closest to your customers, you're in an ideal position to offer critical networking services.

Dynamic VPNs

With VPNs created on the fly, at the edge, you're able to create dynamic overlays for applications, IoT devices, between remote users and more. These VPNs are created instantly, and since there's little latency, become ideal for mission and even life-critical functionality (think tracking a pacemaker), retail operations, and more.

Security With Connectivity

Connectivity to centralized or edge network cloud applications needs to be secured—and they need to be secured in a way that protection doesn't degrade performance. If services are delivered at the edge, security must be there as well. With NFV at the network edge, you can provide encryption, DDOS protection, firewalls, traffic monitoring, anomaly detection, and more.

Virtualized Evolved Packet Core

One of the most popular applications for NFV is its ability to take the entire EVP, package it in software form, and then deliver it to the edge of the Cloud. This opens revenue opportunities to adopt Mobile Edge Computing standards to support IoT and M2M devices and services. MVNO installations, supporting a mobile core in remote rural services areas and network expansion in general, are all made easier with EVP at the edge. Offloading Internet traffic at the first insertion point allows you to have much greater control and much better transition of your mobile network.

Broadband Network Gateway

Inserting virtual BNGs at the edge of the Cloud gives you provisioning and configuration flexibility. With appliances, you have to purchase and configure your gateway for a specific user count. If you configure for 4,000 users, you have to purchase a new gateway to accommodate 10,000. Virtualization creates unlimited scalability, load balancing and decentralized control over the gateway. This means you can insert new services and protocols instantly and—again—most efficiently at the edge of the Cloud, nearest to the customer.

And More

Many other services are equally suited for NFV at the edge of the Cloud.

- Virtual Enterprise Customer Premises Equipment
- Content Delivery Networks
- Radio Access Networks
- Service Gateway Interfaces
- Virutal Routers
- Wireless LAN Controllers

At the Edge of Profit

OTTs have found a way to ride on your infrastructure and take revenue away from you. Let them have it. There's a great deal of opportunity that no one can take from you. Bringing open infrastructure to the edge of the Cloud allows you to establish a powerful NFV architecture capable of providing advanced network services that meet the needs of companies considering critical Cloud computing. From comprehensive security to content delivery networks to gaming, moving transport services to the edge will open up new revenue and new markets, provide the most efficient and effective use of your infrastructure, and—most importantly—increase existing customer satisfaction and loyalty.

The consumer window may not be as wide-open to you as it once was. But the door that has opened now, through which only innovative CSPs can enter, will lead you to strong, sustainable profitability for years to come.

Contact Ribbon today to learn more about our solutions 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.