



# RINA Case Study

Transforming RINA's Mobile Core Network with Metaswitch

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## Executive Summary

The Rural Independent Network Alliance (RINA Wireless) is a mobile virtual network enabler (MVNE) providing LTE core hosting and CDMA switching to 26 rural wireless carriers across 17 states. As the industry migrates to Voice over LTE (VoLTE) and retires legacy networks, RINA Wireless's carrier members faced declining device availability and limited ability to differentiate services.

To future proof its network, RINA chose Metaswitch's cloud native Voice over LTE (VoLTE) and Voice over WiFi (VoWiFi) solution that not only supports virtualized IP Multimedia Subsystem (vIMS) based services, but also provides the foundation for a variety of Rich Communications Services (RCS). With Metaswitch, RINA has reduced costs with the implementation of a converged wireless and wireline vIMS core, increased revenue as well as optimized its network with the latest cloud native Network Function Virtualization (NFV) technology.



# RINA Combines Efficiency with Innovation

The Rural Independent Network Alliance (RINA Wireless) is a mobile virtual network enabler (MVNE) providing LTE core hosting and CDMA switching to 26 rural wireless carriers across 17 states.

The Rural Independent Network Alliance (RINA) was created in 2006 by two U.S. rural wireless carriers that were looking for ways to reduce costs without sacrificing their ability to innovate and enhance service offerings. They decided the best solution was to work together and consolidate switching at one site located in Roosevelt, Utah, rather than each company owning and operating a switch in their respective markets.

***RINA believes in rural America and in the virtues of independence, community, and family.***

Today, RINA Wireless provides LTE core hosting, CDMA switching and hosting services from its data center to 26 independent rural wireless carriers across 17 states. Altogether, RINA's members serve more than 25,000 wireless subscribers. By joining forces into a single alliance, RINA's members benefit from reduced roaming rates with national operators and better data roaming options. RINA also partners with leading technology firms and shares best practices to mitigate business and technology risk for its rural carrier members, enabling them to deliver innovative services in the most cost-efficient way.

## About RINA Wireless

RINA helps to mitigate business and technology risk to yield successful and profitable deployment of mobile network services. RINA believes in rural America and in the virtues of independence, community, and family. We also believe that irrespective of geography, every individual should have access to modern communications services that maintain those valuable connections.



## Mission Statement

To provide quality network switching and hosting services to our members in a prompt and complete manner.



## Vision Statement

RINA will provide the latest technology to our partners at the most affordable rates possible.



## Core Values

RINA is a Switching Company that enables other rural companies/customers to establish, maintain, and grow wireless services and provide these partners with great support.

# The Challenge: The Decline of CDMA

Many carriers have started to migrate voice services onto LTE networks, rather than supporting mobile voice services on circuit-switched 2G or 3G networks.

As U.S. wireless carriers have steadily expanded LTE coverage over the last decade and LTE has surpassed 2G and 3G to become the dominant mobile technology globally, many carriers have also started to migrate voice services onto LTE networks. Rather than supporting mobile voice services on circuit-switched 2G or 3G networks, carriers are running those services over the packet-switched 4G network.

With voice and data services running on the LTE network, wireless carriers can wind down legacy networks and free up the spectrum for new services. Verizon, for example, is on track to retire its 3G CDMA network by the end of 2019 and will no longer activate CDMA-only devices or smartphones that do not support VoLTE.

The industry-wide migration to VoLTE has affected CDMA handset supply. Carriers that do not yet support VoLTE have encountered fewer devices and little support for the advanced smartphone features that customers want. As a result, smaller carriers like RINA's members, were facing the prospect of stagnant revenue and customer growth because they were struggling to differentiate services and offer compelling alternatives to large Tier 1 wireless carriers.

***The industry-wide migration to VoLTE has affected CDMA handset supply.***

To keep up to date with the market and help its members deliver the most competitive and innovative services, RINA needed to offer affordable access to an IMS core for the delivery of voice and messaging services, such as VoLTE and VoWiFi. At the same time, the alliance needed to reduce the costs of running legacy 3G networks built with proprietary hardware appliances, which were becoming unsustainable. But launching VoLTE over its existing network infrastructure proved to be cost prohibitive.

## **New Services and Network Transformation**

True to its heritage of blending cost savings with innovation, RINA viewed the IMS core deployment as an opportunity to reduce operating costs and increase agility through the adoption of software-based networking solutions. The alliance recognized the power of network transformation and the advantages of NFV to achieve cost savings and bring revenue-generating services to market faster.

RINA required a cost efficient IMS core solution that would allow its members to deliver VoLTE/VoWiFi services and develop new revenue-generating services in future. The alliance also wanted to expand its service offerings with additions such as VoLTE as a service and broaden its portfolio of hosted services.

# The Solution: Metaswitch VoLTE Solution

RINA chose Metaswitch's VoLTE solution because it offered the most cost-effective way to support voice services over LTE and Wi-Fi while also providing a platform to rapidly develop and roll out new revenue-generating services.

The complete software solution comprises Metaswitch's Clearwater Core vIMS, Rhino Telephony Application Server (TAS) and Perimeta Call Session Control Function (CSCF) deployed in a geo-redundant configuration. With Metaswitch's solution, RINA has all the cost saving benefits of network virtualization as well as the latest advances in cloud native technology, including:

- Reduced CAPEX from commodity hardware
- Carrier-class reliability from an IT-grade cloud
- Reduced OPEX from small footprint and automated instantiation and lifecycle management
- Technology built using web and microservices methodologies
- Dynamic, granular, elastic scalability
- Support for network slicing for highly efficient Quality of Service and future 5G applications
- An agile environment that supports dynamic, lightweight Linux containers

The software vIMS solution allows RINA to get services up and running quickly. Unlike traditional, physical network appliances that take many months to deploy, Clearwater Core vIMS can be deployed in a matter of minutes. Metaswitch has partnered with VMware to develop setup wizards and automated processes that make the vIMS solution easy to con-

figure and implement. Even though NFV may be new to many carriers, they are likely to be familiar with VMware in their IT networks, which removes some uncertainty from the vIMS project.

The vIMS solution also supports wireline switching. This will allow RINA to achieve further cost savings by consolidating its wireless switching and the wireline switching of its parent company Strata Networks onto the same converged vIMS core platform.

The Rhino TAS and service creation platform enables carriers to rapidly create new IMS-based RCS services and modify existing ones. By exposing network capabilities – such as presence, location or subscriber profile data – via a set of open Application Programming Interfaces (APIs), carriers have simpler ways to do in-house application development and work with trusted third-party developers. Rhino TAS enables RINA to nimbly develop new services at a dramatically lower cost.

The solution also includes MaX by Metaswitch, the mobile native Unified Communications application that delivers group communications and multi-persona functionality from any smartphone. The app combines the ease of use of the smartphone's native dialer with the high quality of network-based voice and messaging to create a unique set of UC service experiences that can be marketed to family groups, small business users or independent producers, which are an underserved segment of the wireless market.

***“As an agile provider of wireline and wireless that is exceptionally competitive, we chose Metaswitch's solution to provide member companies with a best-in-class service, next-generation technology, expense savings and reduced time to market.”***

**–Dennie Mecham, COO, RINA Wireless**



### **Result: Rural Carriers Benefit from Successful VoLTE Deployment**

RINA Wireless has met its goals for efficiency and innovation with the deployment of Metaswitch's VoLTE solution. The cloud native solution enables RINA to provide affordable access to its IMS core network to support best-in-class VoLTE services and provides the foundation for new IMS-based services, such as VoWiFi and RCS services. Thanks to the Rhino Platform, RINA also now has an open service creation platform that facilitates the rapid development of revenue-generating services.

The converged solution supports wireline and wireless voice services with a far smaller footprint than the legacy solution which runs on a single rack in the data center, while the legacy appliances occupied an entire office. This has freed up space in the data center for RINA to offer additional hosted services.

RINA has achieved:

- Dramatic OPEX savings from converged vIMS platform for wireline and wireless.
- Increased revenue from VoLTE and IMS-based services.
- Expanded portfolio of hosted services, including MaX, which enables service differentiation.
- Increased agility due to cloud native vIMS and service creation platform.

### **About Metaswitch**

Metaswitch is the world's leading cloud native communications software company. We develop commercial and open-source software solutions that are constructively disrupting the way that service providers build, scale, innovate and account for communication services.

By working with Metaswitch, visionary service providers are realizing the full economic, operational and technology benefits of becoming cloud-based and software-centric. Metaswitch's award-winning solutions are powering more than 1,000 service providers in today's global, ultra-competitive and rapidly changing communications marketplace.