

Tellabs® Plays Key Role in Wireless Carrier's 3G Network Upgrade

Tellabs® Global Services helps wireless carrier meet aggressive deployment schedule.

Introduction

The dramatic growth of wireless data is straining wireless carrier backhaul networks. One U.S. carrier experienced such rapid growth in data services on its 3G network. It had to launch an ambitious plan to increase its backhaul capacity in several metropolitan markets. The deployment plan called for replacing the company's existing radio network controllers (RNCs) with a new, higher-capacity model. To meet its aggressive schedule, the carrier enlisted Tellabs® Global Services to deploy and commission the new RNCs throughout two of the nation's largest markets.

During an 18-month engagement, Tellabs Global Services deployed the Tellabs® 8800 Multiservice Router (MSR) series to support 70 new RNCs. Each RNC connects to a single Tellabs® 8860 MSR, controlling nearly 5000 Node Bs. (Node B is the term used for the base transceiver station in third-generation Universal Mobile Telecommunications System, or UMTS, networks.)

Tellabs' responsibilities included:

- Installing and commissioning the MSRs
- Moving the Node Bs from the old RNC to the new one
- Handling a hot cutover
- Decommissioning the old RNCs
- Freeing up port assignments on the Tellabs MSR for re-use by the new RNCs.



Tellabs engineers are key resources for 3G network upgrades.

Project Details

When the wireless carrier embarked on the plan to upgrade its backhaul network capacity, decision-makers recognized that they did not have the resources or skill-set to handle the project internally.



Access to experts when you need it most.

Since Tellabs Global Services specializes in network migration and hot cut-overs, they were the logical choice to handle the project. Tellabs has a well-established team focused on this work and has handled traffic migration projects for numerous carrier clients worldwide. "We have proven methodologies and processes for projects just like this," commented Brian Micene, professional services sales director for Tellabs. "Plus we were already familiar with re-homing Node Bs and this was pretty similar."

Initially, Tellabs worked with the carrier's CTO and his team to create an implementation guide. Tellabs then began the migration process and devoted nearly a dozen full-time engineers for the entire 18-month project.

Tellabs engineers divided the project into numerous smaller tasks, with migrations taking place on a weekly basis. The first step in the migration process was to make sure that the new RNC could support live traffic. Then they developed a migration plan, involving clusters of Node Bs in a geographic area on a nightly basis.

Tellabs Global Services created scripts to automate the pre-provisioning process. Next, they conducted an audit to ensure that data and parameters matched between the old and new vendors. Each night, Tellabs Global Services made a "go" or "no go" call. When everything was in place for a "go," Tellabs engineers performed the actual cut-over. If a subscriber was on a call at the moment of cut-over, the call temporarily reverted to

the carrier's 2G wireless network. As engineers completed the 3G network migration, the traffic shifted to the 2G network was unlocked and shipped back over to the 3G network.

Upon completion of each cut-over, Tellabs personnel addressed any issues with the site. They modified every site to accommodate future growth, or if not previously engineered in an optimal manner. Tellabs also performed any required troubleshooting and made sure the site met pre-established key performance indicators. "After a 24-hour soak period, engineers cleaned up and decommissioned the Node B portion on the Tellabs MSR," said Micene.



Plan your network upgrade quickly and cost-effectively.

After moving the Node Bs off the old RNC, Tellabs engineers began to decommission the RNC. They wrote a script to audit the Tellabs 8860 MSR that connected the RNC to the backhaul network. Then, decommissioning scripts removed links to other RNCs and also removed programmed links to individual Node Bs. Finally, Tellabs removed route summaries pertaining to the old RNC and freed up port assignments on the Tellabs MSR for re-use.

Tellabs engineers had to complete the decommissioning process promptly so the new RNCs could reuse the MSR port assignments. Sometimes they completed the process for an individual RNC in one night. "We had to get it done quickly to keep up with network growth," said Micene.

In just one of the two major metropolitan markets, Tellabs Global Services turned up 47 new RNCs and decommissioned 49 of the old RNCs. Those RNCs now control a total of 3600 Node Bs. In the other market, Global Services turned up 23 new RNCs controlling a total of 1350 Node Bs. Tellabs also decommissioned 21 of the old RNCs.

Tellabs Global Services completed the carrier's aggressive network migration schedule on time. And despite the enormous project scale involving thousands of Node Bs over an 18-month period, the carrier did not experience any interruption of service.

Executive Summary

Client

A major U.S. wireless carrier

The Tellabs Role

Deployed 70 new RNCs throughout two major metro markets. Each RNC was connected to a Tellabs 8800 Multiservice Router. Together, the RNCs controlled nearly 5000 Node Bs. The Tellabs responsibilities included installing and commissioning the RNCs, moving the Node Bs from the old RNC to the new one, handling a hot cut-over, decommissioning the old RNCs and freeing up port assignments on the Tellabs MSR for re-use by the new RNCs.

Business Results

- Client was able to meet its aggressive schedule for increasing backhaul network capacity in the two metro markets
- Cut-over of nearly 5000 Node Bs was completed without disruption of service

North America

Tellabs
One Tellabs Center
1415 West Diehl Road
Naperville, IL 60563
U.S.A.
+1 630 798 8800
Fax: +1 630 798 2000

Asia Pacific

Tellabs
3 Anson Road
#14-01 Springleaf Tower
Singapore 079909
Republic of Singapore
+65 6215 6411
Fax: +65 6215 6422

Europe, Middle East & Africa

Tellabs
Abbey Place
24-28 Easton Street
High Wycombe, Bucks
HP11 1NT
United Kingdom
+44 871 574 7000
Fax: +44 871 574 7151

Latin America & Caribbean

Tellabs
1401 N.W. 136th Avenue
Suite 202
Sunrise, FL 33323
U.S.A.
+1 954 839 2800
Fax: +1 954 839 2828