

# 8 Ways to Reduce Costs and *Keep* *Reducing Costs in your Voice Network*



In an environment where voice revenues are flat or declining, a keen focus has been put on minimizing the cost of providing voice service. This can only be done if a good Quality of Experience is provided to customers through a high Grade of Service (GoS).

This document outlines 8 ways that you can save costs in your voice network.

## 1. Continually monitor and dimension inter-carrier trunk groups

Inter-carrier trunk groups are an expensive resource. Insufficient capacity lowers GoS, excess capacity wastes money. Furthermore, the load on these trunks changes without warning due to route changes introduced by inter-operating carriers.

By analyzing and visualizing the recent history of trunk group and route utilizations and congestion on an hourly basis, you can identify and adjust capacity according to load. The cost savings opportunity of this technique is so high that it's effective to do this on a continual basis.

## 2. Ensure Grade of Service through the proper sizing of network elements for the actual calling patterns

With an accurate view of the calling patterns and resulting traffic, Grade of Service can be ensured with minimal cost by modeling the traffic impact on the network Key Performance Indicators (KPIs) of the voice network elements such as Switches/tandems, call servers, media gateways etc. Where risk of congestion is identified, you can assess capacity enhancement or mitigation strategies such as load balancing.

## 3. Understand and plan for your network's sensitivity to changes in subscriber behavior

In addition to understanding immediate trunk group and network element sizing, you need to be able to determine the sensitivity of the network to changes in subscriber growth. You need a "what-if" analysis system to turn around answers to network-wide impact of these changes.

## 4. Optimize traffic donation between TDM and SIP networks

With the ongoing migration of voice networks from PSTN to VoIP, intra- and inter-carrier traffic handoff may require TDM to SIP or vice versa. The requirements for these continuous changes are described in the previous points.

You need a system that analyzes and visualizes the impact of traffic donations from TDM to SIP, SIP to TDM and between TDM trunks before the changes are actually implemented.

## 5. Defer CapEx through improving utilization by re-homing

Even with enough capacity, networks often suffer from Grade of Service decline through uneven utilization. Network consolidation and traffic rebalancing is a good way to improve network resilience to changes in demand as well as deferring capital expenditure.

You need to be able to assess the cost and utilization impact of re-homing voice subscribers to different switches, call servers, or indirectly through access devices such as base stations and RNCs to MSCs. You need the impact assessment on trunk groups and network elements as well as taking into account changes in subscriber population. You should expect to be able to assess subscriber re-homing granularity at the Rate Center level (for landline operators) or at base station level (for mobile operators).

## 6. Optimize trunk charging across regulatory boundaries with route analytics

With the regulation of voice service and trunk charging across LATA/Rate Center boundaries, you need to ensure that you are operating with least cost routing. For your traffic engineers, you need a system that can analyze and report on traffic load (Erlang) at the NPA-NXX level between different LATAs/RCs by inbound versus outbound versus the serving area of each tandem or MSC. An example of this type of analytics identifying cost leakage would be a report of unbalanced LATA participation among inbound, outbound or serving area of a MSC signals.

## 7. Reduce time to completion of large scale network changes such as merger & acquisition events

Occasionally, major network changes are imposed requiring a design and cost optimization view covering all points in this document. Examples include migration from leased facility to owned call handoff architecture or the absorption of additional traffic from an acquired operator. You need an environment that can cover all of these aspects as well as your daily activities.

## 8. Implement a system that allows continual cost monitoring and optimization with minimum user effort

Your planning and engineering staff can become much more efficient with a system that incorporates all of these capabilities. Through the implementation of a system like this, you can ensure that your network performs as it should at minimum cost, a win-win for you and your customers.