

Omni-Q

Why carriers deploying VoIP need a monitoring solution

Introduction

Carriers that have begun to deploy VoIP in their network are being presented with a set of challenges that may be completely new to their business and engineering environment.

The Service Challenge

- ▶ How can we meet customer expectations of PSTN equivalency, or if offering tiered voice services, how do we manage the offering?
- ▶ How do we provide support, customer care and helpdesk functionalities?

The Engineering Challenge

- ▶ How do we perform advanced troubleshooting and provide tier3 and tier4 support?
- ▶ How do we verify that our network design meets reliability and consistency criteria?

The Management Challenge

- ▶ What exactly is our service offering--how can we qualify and quantify it?

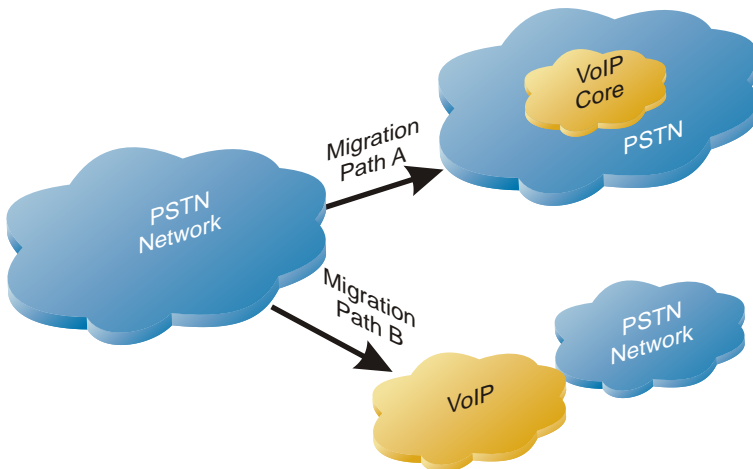
Monitoring challenges in a VoIP environment

The VoIP network presents unique monitoring challenges that were not present in the traditional PSTN environment. The signaling plane is much more complex than in the PSTN world, often involving multiple protocol types and multiple signaling legs. This complexity requires that the monitoring solution offer real-time correlation capabilities within the VoIP network and between the VoIP and PSTN networks. The user plane (media) involves new service quality issues, such as voice quality, echo and other intermittent phenomena that were not an issue in most PSTN networks.

RADCOM's Omni-Q Solution

RADCOM's Omni-Q solution is a unique services monitoring system that addresses multiple needs, covering performance analysis, detection and troubleshooting in one seamless operational flow. The Omni-Q is designed to allow multiple and diverse users, including NOC, engineering, customer support and management, who may be using the solution simultaneously, to smoothly meet all their needs with a single system.

The Omni-Q solution is designed to continuously collect, monitor and analyze traffic performance and quality. It consists of a comprehensive array of voice performance and quality measurement methodologies, all under one unified offering. These methodologies include a broad range of intrusive (active) and non-intrusive (passive) hardware and software probes, covering both PSTN and IP environments. Moreover, the Omni-Q solution provides an integrated approach to the signaling and user planes. The solution utilizes a distributed architecture enabling efficient coverage of real-time, near-real-time, ad hoc and dashboard reporting and display capabilities. A powerful user-friendly management layer offers many features, including northbound API to customer's OSS, service fault detection, online correlation (with unified ladder-diagram display), top-level to single-session view capabilities and diagnostic tools enabling one-click drilling from monitoring to troubleshooting.



Can the network elements provide the monitoring solution?

Only to a limited extent. A monitoring solution based on information collected and gathered from the network elements themselves can not provide service-level KQIs and KPIs that reflect the end-user's experience and perception. An independent probe-based solution, on the other hand, offers a session/service view as well as flexibility in meeting monitoring needs of new services. And it does not necessarily increase in complexity as the network elements are added to the network. Also important, an independent probe-based solution does not burden network performance by vying for resources, as may well be the case when the network elements need to perform their mission-critical tasks of routing and switching while at the same time collecting data and monitoring service parameters.

RAD COM
TEST-OF-THE-ART

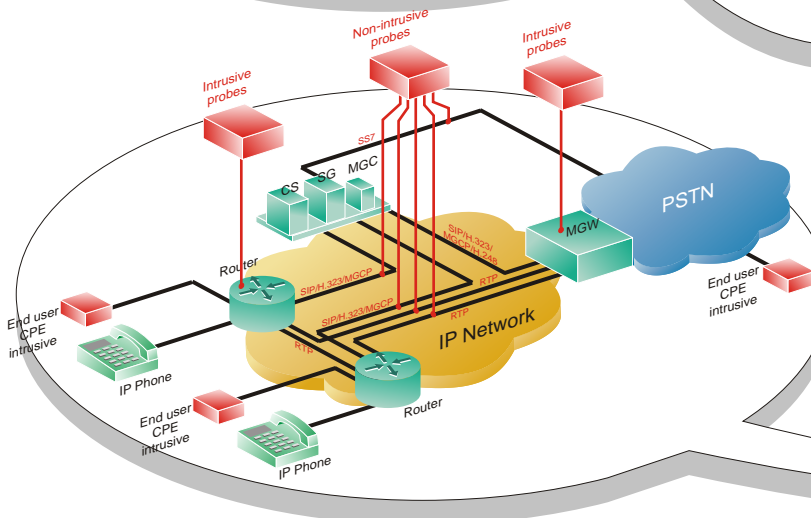
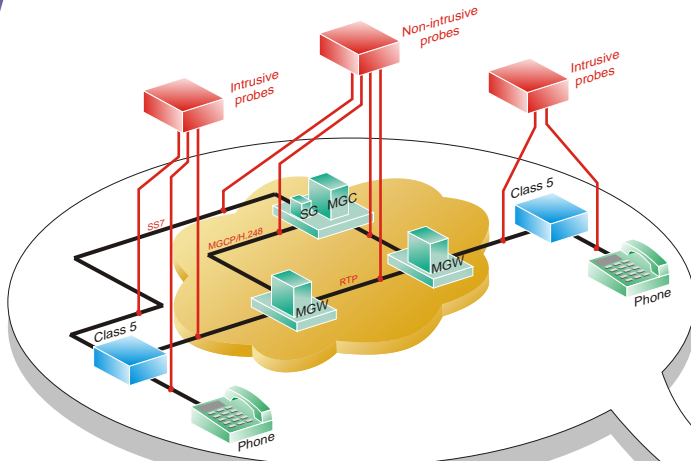
Network Architecture

Short of overhauling the complete infrastructure and creating a new NGN architecture, most carriers will be deploying one of the two types depicted in the illustration below.

In migration path A, the core of the PSTN network is replaced by a packet-based architecture. The E1/T1 trunks now feed into the gateways. Signaling may remain unchanged. The monitoring offering is based on end-to-end intrusive test calls from the PSTN side of the trunking GW (or from the class5 switch). Automated test call schedules are an important component of real proactive monitoring/testing, enabling operators to benchmark VoIP service quality, baseline TDM to IP voice services, and detect service degradation before their customers do. To provide visibility into the VoIP cloud, high-performance non-intrusive probes are deployed to provide full coverage of the entire signaling plane of live user traffic, allowing carriers to

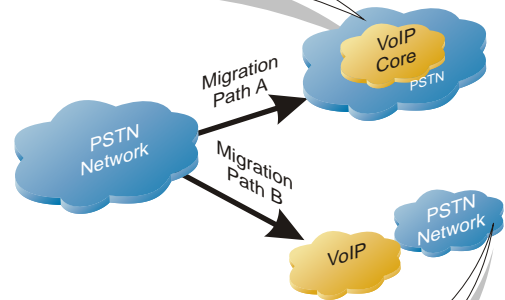
monitor and correlate service propagation from TDM to IP and to separate the end-user and core network perspectives.

In migration path B, a separate, managed VoIP network is created, typically to address the needs of the commercial sector. The monitoring offering is based on full non-intrusive coverage of both the signaling and user (media) planes. High granularity passive MOS results are obtained for every session, and together with other measured and collected performance parameters form the basis of a competitive SLA offering to discerning enterprise users. In addition to the unparalleled visibility into the VoIP network, correlated signaling and media sessions together with detailed signaling viewing and decoding capabilities allow the operator to provide advanced troubleshooting and tier3 and customer support services. Intrusive probes complement the monitoring deployment by verifying the availability of various PoP network elements and services.



Features

Intrusive test calls based on real voice traffic	✓
Alarms for KPIs and KQIs	✓
Non-intrusive call correlation	✓
Multiple PSTN interface types	✓
One-click monitoring to troubleshooting	✓
Near real-time and historical Web-based analysis and reporting tool	✓
Scalability	✓



US Office:
 RADCOM Equipment Inc.
 6 Forest Avenue
 Paramus NJ 07652 USA
 Tel: (201) 518-0033
 Fax: (201) 556-9030
 1-800-RADCOM-4
 e-mail: info@radcomusa.com

Israel Office:
 RADCOM Ltd.
 24 Raoul Wallenberg Street
 Tel Aviv 69719 Israel
 Tel: +972-3-6455055
 Fax: +972-3-6474681
 e-mail: info@radcom.com

China Office:
 RADCOM Ltd.
 Handerson Center, Office 506, Tower 3
 18 Jianguomennei Avenue,
 Beijing 1000005, P.R. China
 Tel: +86-10-65187723
 Fax: +86-10-65187721
 e-mail: china@radcom.com

United Kingdom Office:
 RADCOM UK
 2440 The Quadrant
 Aztec West, Almondsbury
 Bristol, BS32 4AQ England
 Tel: +44-145- 487 8827
 Fax: +44-145-487 8788
 e-mail: uk@radcom.com

RADCOM
 TEST-OF-THE-ART

Specifications subject to change without notice. MS-Windows is a trademark of Microsoft Corporation. Brand and product names are trademarks of the respective companies.