

## Dialogic® MSP 1010 Multi-Services Platform Enables Non-Intrusive SS7 Signaling Monitoring

### Overview

Increasingly tough competition in the wireless networking market is prompting service providers and network operators to offer new services and applications to attract and retain customers. However, implementing new services in wireless networks is neither inexpensive nor easy. It requires changing the SS7 network, adding new SS7 elements, and increasing cost and maintenance expenditures. One way to implement these services is by monitoring SS7 traffic in a non-intrusive way, without affecting the network performance or changing the SS7 network. Application developers can use the monitored SS7 traffic to interpret events in the network, and use them to trigger new applications.

The Dialogic® MSP 1010 Multi-Services Platform enables real-time SS7 Monitoring, filtering, and recording of signaling data. The MSP 1010 accomplishes SS7 Monitoring using a “tap and listen” mode with a high impedance interface on a live SS7 signaling link. The signaling data is captured and interpreted automatically, with no intervention by a service provider or intrusion into the SS7 network.

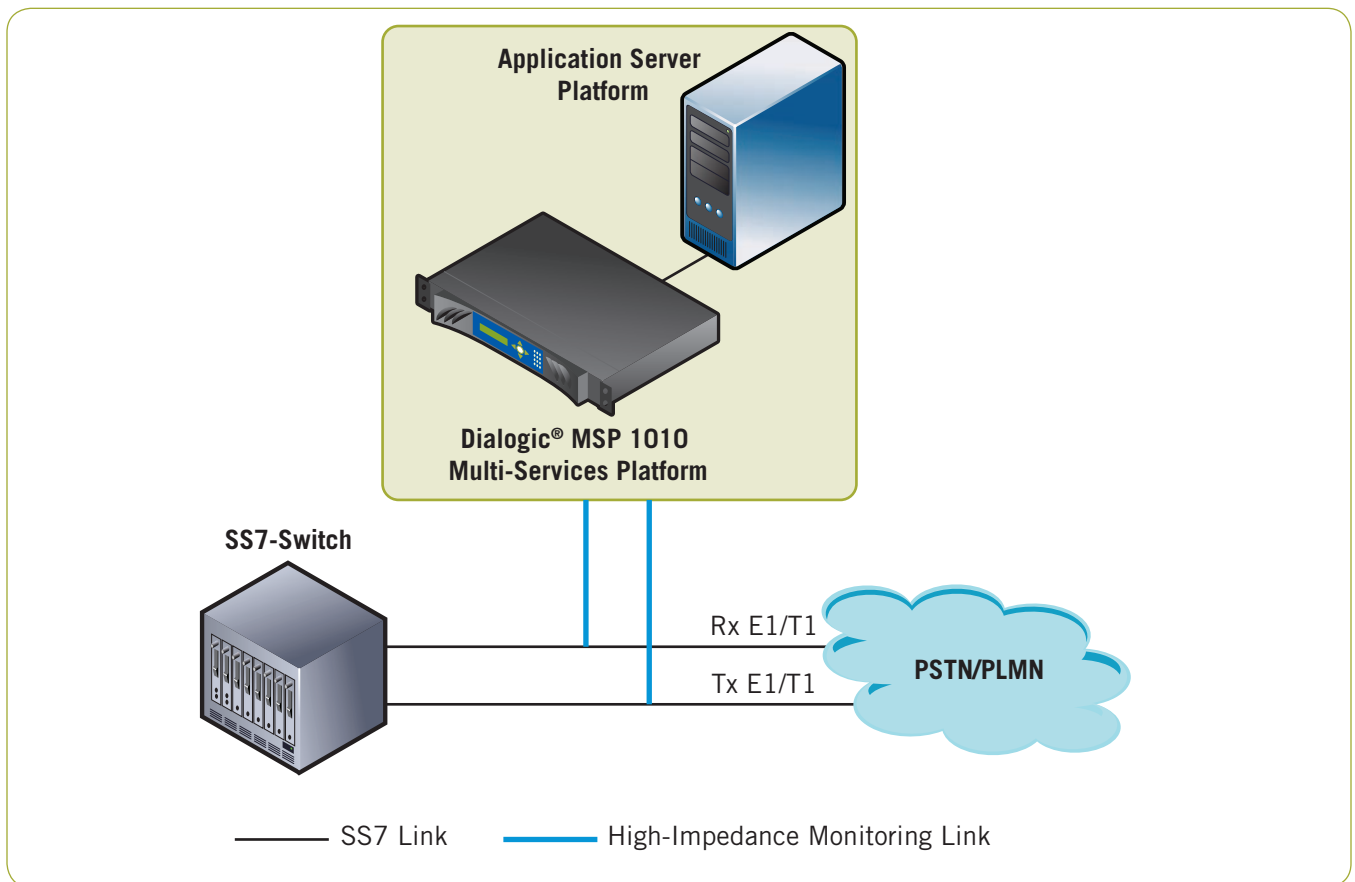


Figure 1. Dialogic® MSP 1010 Multi-Services Platform Performing Non-Intrusive SS7 Monitoring

## SS7 Monitoring — Notable Features

The MSP 1010 has the following features:

- Taps up to 64 duplex SS7 links or 128 unidirectional channels
- Offers large capacity: 21 E1s or 28 T1s, configurable as high impedance (for SS7 monitoring) or low impedance interface (for termination of live SS7 traffic)
- Monitors and/or terminates live SS7 links
- Taps MTP2 traffic and all the network management messages (this option is configurable)
- Filters non-acknowledged, FISU, and LSSU messages, and frees the application server from filtering these messages
- Filters any combination of User Parts (ISUP, TUP, SCCP or MTP management)
- Filters messages from a specific OPC to a specific DPC, or from a range of OPCs to a range of DPCs
- Supports 16 configurable filters — MSP 1010's flexible architecture can accommodate many applications with different filtering requirements
- Supports five different application servers — Enables five different application servers to receive the tapped traffic; this traffic can be routed from a single filter or from multiple filters
- Supports low and high impedance SS7 links on the same platform
- Offers high performance, up to one erlang per link of non-circuit-related signaling traffic

## SS7 Monitoring — Notable Benefits

The MSP 1010 can provide the following benefits:

- Flexibility for configuring and supporting multiple applications, enabling message filtering, and replicating monitored traffic
- High filtering capabilities for the advanced filtering of multi-parameters in different SS7 layers, which in turn can simplify the creation and design of new services
- Extended capacity, which can eliminate the need for cross-connect devices, and can enable 21E1/28T1 connections to multiple SS7 links in different spans
- By tapping the MTP2 traffic, the information about the events in the networks is available, allowing developers to create any type of application
- A flexible architecture allows the developer to implement many applications on a single platform, each with different filtering requirement

## Dialogic® MSP 1010 Multi-Services Platform Architecture

The flexibility of the MSP 1010 architecture is shown in Figure 2. The architecture enables the connection of each SS7 link to 16 filters — either to a single filter or in parallel to multiple filters. This flexibility allows developers to filter different events and messages on the same SS7 links. The output of the filters can be routed to a single application server, or in parallel to multiple servers. This feature allows developers to use the same events to trigger different applications. The application receives only the information it requires, allowing the system to scale to much higher densities for a lower initial investment.

The MSP 1010 supports both uni-directional monitoring links and bi-directional live SS7 links, which allows the application to take action in the SS7 network.

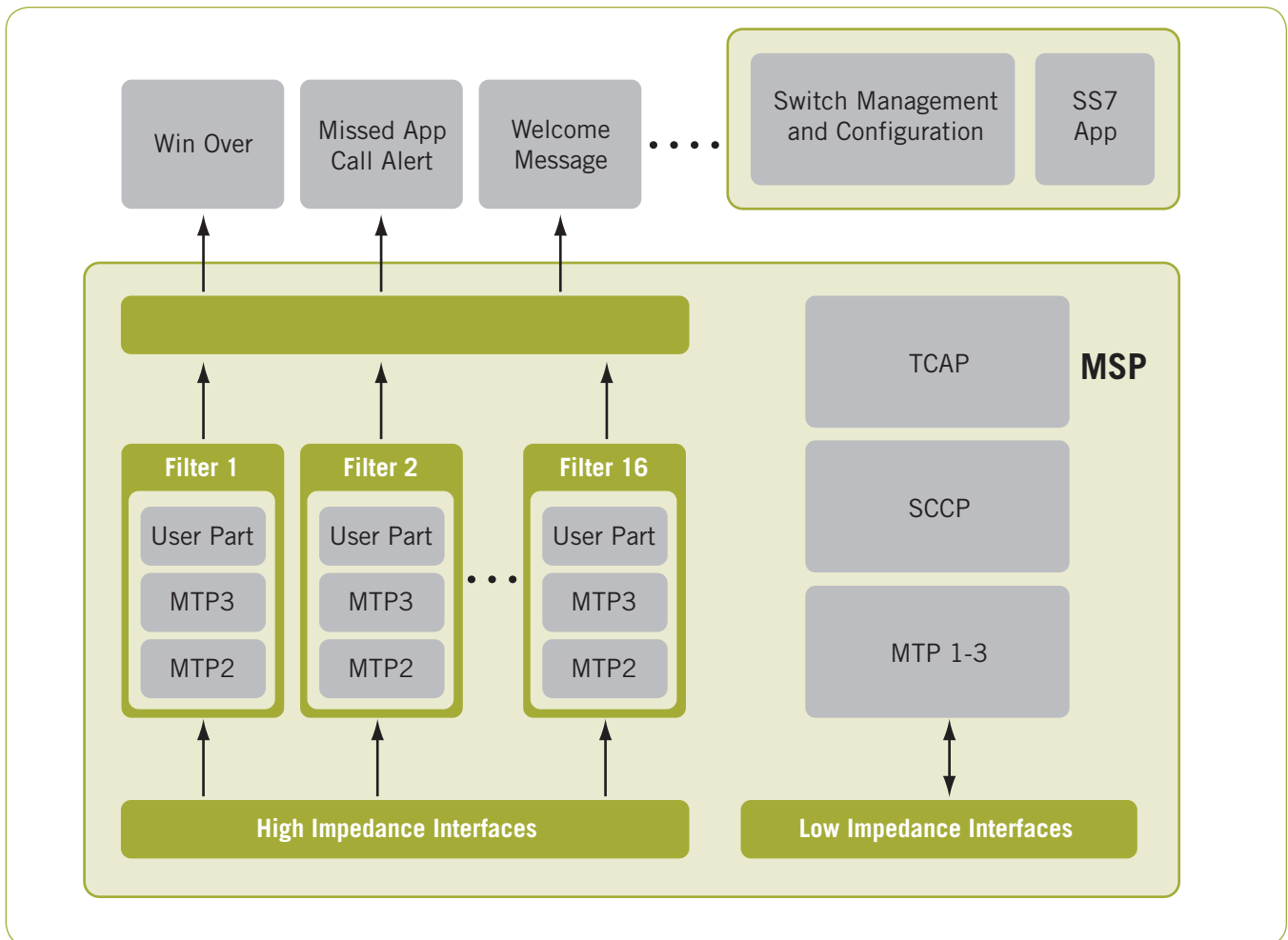


Figure 2. Dialogic® MSP 1010 Multi-Services Platform Architecture with SS7 Monitoring

## Applications

The MSP 1010 enables a variety of applications in landline and wireless networks. These applications can be utilized by service providers and operators seeking to increase the revenue (by enabling popular applications), reduce expenses (with billing applications), and improve quality of service (by monitoring the network performance). These applications include the following:

**Missed call alert** — A service that detects missed calls in a wireless network and sends an SMS message to alert the customer. The customer can then call the originator back and complete this call. This service can enable operators to increase revenue.

**Welcome roamers** — The welcome message is an attractive family of services because service providers can capture roamers and log them into their network. The welcome message can be sent periodically to the roamer during his/her stay in a visiting area, and can contain useful information such as weather forecasts, currency exchange rates, and local favorite restaurants. Service providers can reach out to both the inbound and outbound roamers with customized information in seeking to improve the service experience for the mobile roamers and to increase their loyalty toward the service provider.

**Win back** — A service that detects roamers that switch over to adjacent networks and offers them, through an SMS message, to log back into the network. This service allows wireless operators to retain customers in their network.

**Win over** — A service that allows wireless operators to attract foreign roamers to their networks. The service captures outbound SMS messages to roamers in adjacent networks, and sends them an SMS message to switch over to their networks.

**Optimal routing** — An innovative mobile service that encourages roaming subscribers from any foreign country to stay in the roamed mobile operator’s network. The application offers a more cost-effective way to make calls to an inbound roamer by bypassing the International Direct Dialing paths via the roamer’s home network.

**Location-based services** — Mobile operators can offer enterprises a chance to “push” their company’s presence to mobile subscribers who are in the same “area.” Whenever a mobile subscriber moves between two different “areas” of the mobile network, the Mobile Station (MS) sends a location update to the network. When the application detects the location update, it searches the database for advertisements to “push” to this customer.

**Traffic engineering and network traffic** — A service that provides continuous real-time measurements on SS7 traffic across the network, providing immediate warning of abnormal activity that could threaten network performance. An immediate alert is produced when any of the thresholds set by the operator are breached. This allows immediate action to be taken to avoid catastrophic failure.

**Network billing and Call Detail Recording (CDR) generation checking** — A telecommunication operator’s tool for arbitrating interconnections. This application can be used to arbitrate for voice traffic or SMS traffic. Some operators use it as an “auditing” tool for existing CDR or billing records generated from the network’s switches.

**Fraud detection** — A service that detects scenarios commonly recognized by the industry and network service providers as methods of attack, and allows administrative actions to act to prevent these attacks.

To learn more about Dialogic® products, go to [www.dialogic.com](http://www.dialogic.com)

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02/08 10865-01