

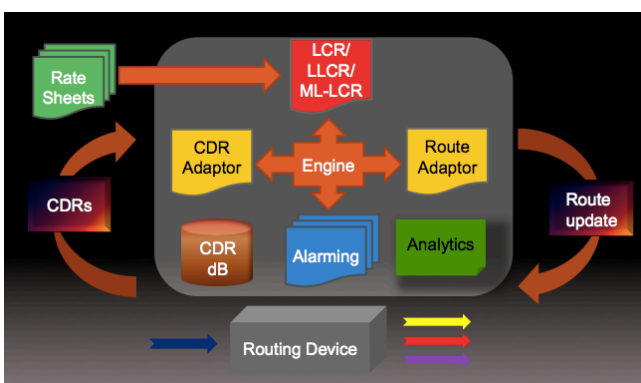
## Alarming Module

This is an Adaptiv sub-topic discussing the Alarming module. This should be read in conjunction with the General Product Brochure.

In today's competitive carrier environment of fast changing rates, each carrier needs an edge to ensure they extract the maximum amount of information from their routing systems. Simple reporting and Least Cost Routing is simply not enough any more.

One of the biggest challenges is "visibility" of the calls through the network in near real-time. Substantial revenue opportunities are missed in the complex interaction of suppliers and buyers routing calls based on ever changing rate sheets. It is difficult, if not impossible to predict the call flows based on the rate sheets used and this often result in a significant revenue loss when undetected.

To further complicate the situation, different management systems need to be used across different vendor equipment. Vendor implementations are usually focused on configuration of the particular vendor device and not a holistic performance view.

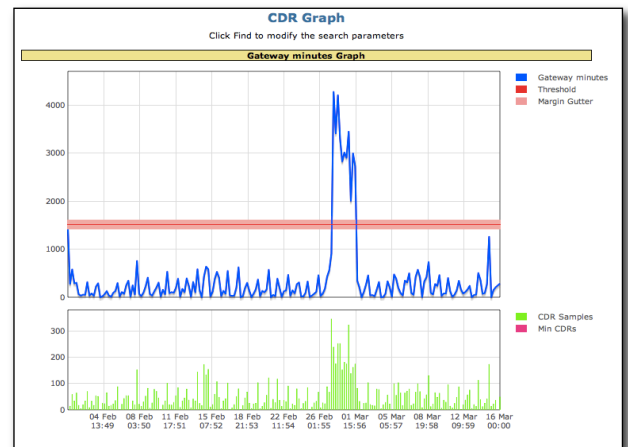


The IVSTel Adaptiv product suite offers an elegant multi-vendor solution by creating a near real-time vendor agnostic feedback environment based on call or event records.

**Alarming** offers a level of assurance and protection against poor network performance

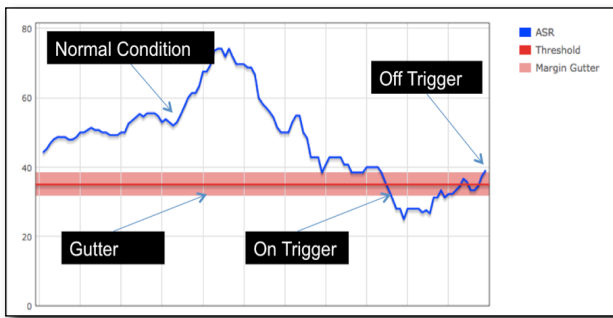
or even fraudulent activities. Using alarms, Adaptiv can respond to alarms via automatic route updates or use e-mail/SNMP based notifications to alert key personnel, allowing them to react to adverse conditions in the network rapidly and effectively.

Operational alarms look at the performance of the device and provides assurance that operational staff will be notified when the service degrades. Alarms such as **ACD & ASR** monitor average trends and performance. **CDR Count** is a simple yet effective alarm that ensures mis-configured devices are quickly identified, while **Error Count** looks at the reoccurrence of a particular type of call release such as no circuits for example.



Financial alarms look at the performance of the device, but with respect to the cost or price of a service. **Gateway Minutes** monitors the minutes to or from a particular carrier and is used to detect fraudulent activity. **Gateway Cost** is similarly used, but provides a dollar amount instead of minutes. This is most often used with new carriers where spend thresholds are set to alert account managers to visit the carrier for additional business.

The granularity of alarms can be varied from carrier gateway down to particular prefix(s). When setting up an alarm the user can select the direction to monitor (to or from a gateway), the metric they are interested in and also the prefixes if required.



Aptiv provides a **Gutter** setting, which counters the “Hysteresis effect” of sensitive alarms. The gutter allows the alarm to cross the threshold and return without triggering the alarm within a few percent of the threshold.

**Time periods** allow alarms to be established for very specific times of the year or even each day. The every day alarms may not be relevant during holiday periods and vice versa. This all provides fine grained control over the alarming process.

**Notification** is done using e-mail or SNMP actions. The user can establish multiple actions and assign the actions to the alarms as required. The severity of the alarm can also be customized.

The **Automated response** sets up Adaptiv to automatically alter the current routing based on predefined actions. This includes blocking or moving calls to different carriers or regions automatically to ensure continued service.

**History** provides a running record of when alarms triggered and recovered. Each record

provides the full detail of the alarm, including a graph to show the trigger event.

Date/Time	User	Action	Name	Status
2011-04-07 11:44:00.0	System User	Alarm - On Triggered	Chile 56	SUCCESS
2011-04-07 10:36:31.0	System User	Alarm - Off Triggered	Canada/USA 1	SUCCESS
2011-04-07 09:38:38.0	System User	Alarm - On Triggered	Canada/USA 1	SUCCESS
2011-04-06 22:53:31.0	System User	Alarm - Off Triggered	Cambodia 855	SUCCESS
2011-04-06 22:45:59.0	System User	Alarm - Off Triggered	Thailand 66	SUCCESS
2011-04-06 22:10:20.0	System User	Alarm - On Triggered	Thailand 66	SUCCESS
2011-04-06 22:01:05.0	System User	Alarm - Off Triggered	Hong Kong 852	SUCCESS

**CDR Searching** just got a whole lot simpler. Adaptiv allows users to search and filter **any** field in the CDR data of a particular device, allowing for very fine-grained searches of device specific errors. This is especially useful to find a particular call after an alarm has indicated an error

Using the CDR search and Filter, technical staff can pinpoint a particular call within seconds and provide detailed information to the caller.

### Conclusion

Adaptiv offers a real solution to network visibility across multiple routing devices. It allows for a uniform way to import rate sheet data and analyse CDRs. Adaptiv’s graphing provides the user with a simple and intuitive interface to understand the routing of calls through their systems.