

Enabling Interconnect for NextGen Carriers

OSP enables NextGen carriers to interconnect with other carriers using OSP at a low cost.

Service providers interconnect with carriers and other service providers to complete calls that originate on their network. Hence at both ends of a call, the originating carrier and the terminating carrier have a stake and an obligation in the provision of the call. The service providers and carriers pay their interconnecting partners for completing the calls. As such it becomes very important how a carrier interconnects with other carriers and how they take care of their settlements. The need for control over interconnect operations is highlighted by the fact that interconnect operations can account for 15% to 60% of carrier's operating costs. Interconnect billing is competitive service differentiator and should be treated as part of a holistic RPA approach.

The current issues that were being faced by the carrier were: high cost of PSTN expansion geographically, differing protocol, incompatibility in network telephone equipment and bridging between the PSTN and VoIP environments. There are two major protocols being used for VoIP. Both protocols define ways for devices to connect to each other using VoIP. The first protocol is H.323, a standard created by the International Telecommunications Union (ITU). An alternative to H.323 emerged with the development of Session Initiation Protocol (SIP) under the auspices of the Internet Engineering Task Force (IETF).

In lieu of multiple protocols and heterogeneous VoIP networks and different implementation, it was not easy for the carrier to be interoperable with other carrier. Also it requires a significant investment. To address the issue of interoperability ETSI came up with an open standard for settlement and reporting for VoIP carriers called OSP or Open Settlement Protocol. The Open Settlement Protocol or OSP is the industry standard for Inter-Domain pricing, authorization and usage exchange of IP communications.

The major benefit from OSP for VoIP carriers is it provides a single, highly secure mechanism for managing diverse VoIP networks. OSP provides a common interface between VoIP networks and the operations and business support systems (OSS/BSS) used to manage VoIP networks. By using a global VoIP to OSS/BSS interface, carriers are now enabled to build and manage multi-vendor, multi-protocol networks without impacting their central routing and billing operations.

This gives rise to the concept of a VoIP clearing house. A VoIP clearinghouse acts a single point of contact for local and regional carriers for termination of telephony minutes worldwide. It saves the carrier from getting into complex and time consuming traffic – sharing agreements with hundreds of service providers in different countries and cities across the globe. But a clearinghouse is more than just a termination point as it offers various services, like enhanced applications, mixed portfolio of termination, financial services. A clearinghouse is also responsible for settlement of accounts between carriers, credit risk assessment between carriers, receivable processing or financial settlement between carriers. The benefits are greater flexibility, vendor independence and lower operating costs.

In telecommunications, “settlement” is generally conducted between carriers’ for exchanging the traffic through other’s networks to terminate the calls based on agreements. Interconnect settlement has often been incorrectly perceived as an area where traffic has either balanced out between operators or, where there have been imbalances, invoices have generally been paid out in the belief that they are accurate – often with no verification by the carrier.

OSP server offer call authorization, call accounting and settlement, including all the complex rating and routing tables necessary for efficient and cost effective interconnections.

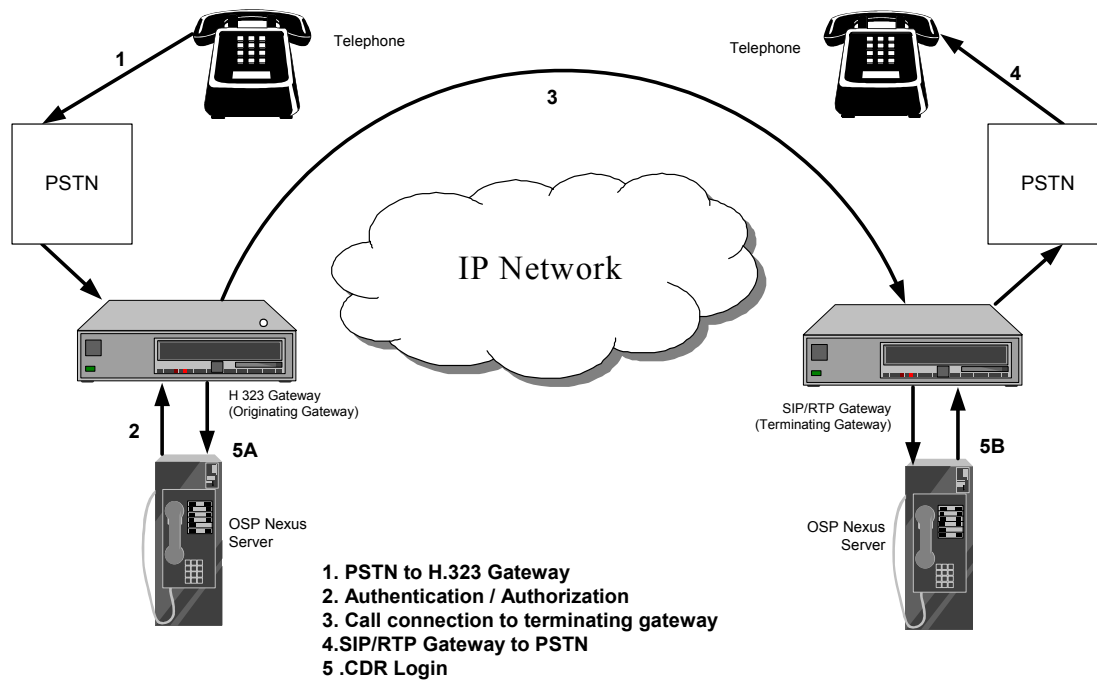
The progression together

Transnexus and Infozech have come together to provide a complete end-to-end solution to manage IP Interconnect and offer related wholesale and prepaid billing services to new and emerging carriers. This solution brings together the industry leading open IP interconnection solutions from TransNexus and Carrier Access Billing & Settlement solution from Infozech. The integrated solution allows Carriers and ITSPs to manage their Interconnect in a secure fashion and be able to bill for it in near real time and be their own clearinghouse.

Solution Overview

Integrated solution platform Nexus - CDR Manager and iCAS system provides interconnect solution to carriers and different heterogeneous networks.

Whenever an originating network device receives a call it connects to Nexus OSP server. This server authorizes the authorization device and sends a list of terminating gateway with authorization token. The authorization token is verified at the terminating gateway and once the clearinghouse knows that the information is genuine the authorization list is sent back. The originating gateway receives the list of termination authorization and tries different termination gateways till a successful call is made. At the same time Nexus OSP server sends a query to iCAS database for the authorization of the carriers balance update required for wholesale prepaid.

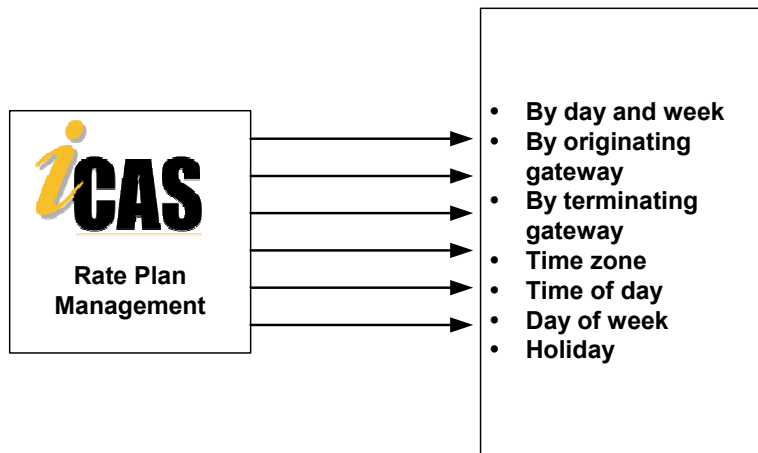


(Figure 1 – Working of OSP)

The Nexus OSP server maintains routing tables that help in reducing the complication, which rises from the configuration requirement needed for each network device. For each originating network device to a terminating device, when a setup is attempted, an OSP CDR is created and sent from respective network device to the OSP server and then stored locally. In some cases for carrier –grade availability multiple OSP servers maybe used, hence the usage reports will be generated from multiple OSP servers.

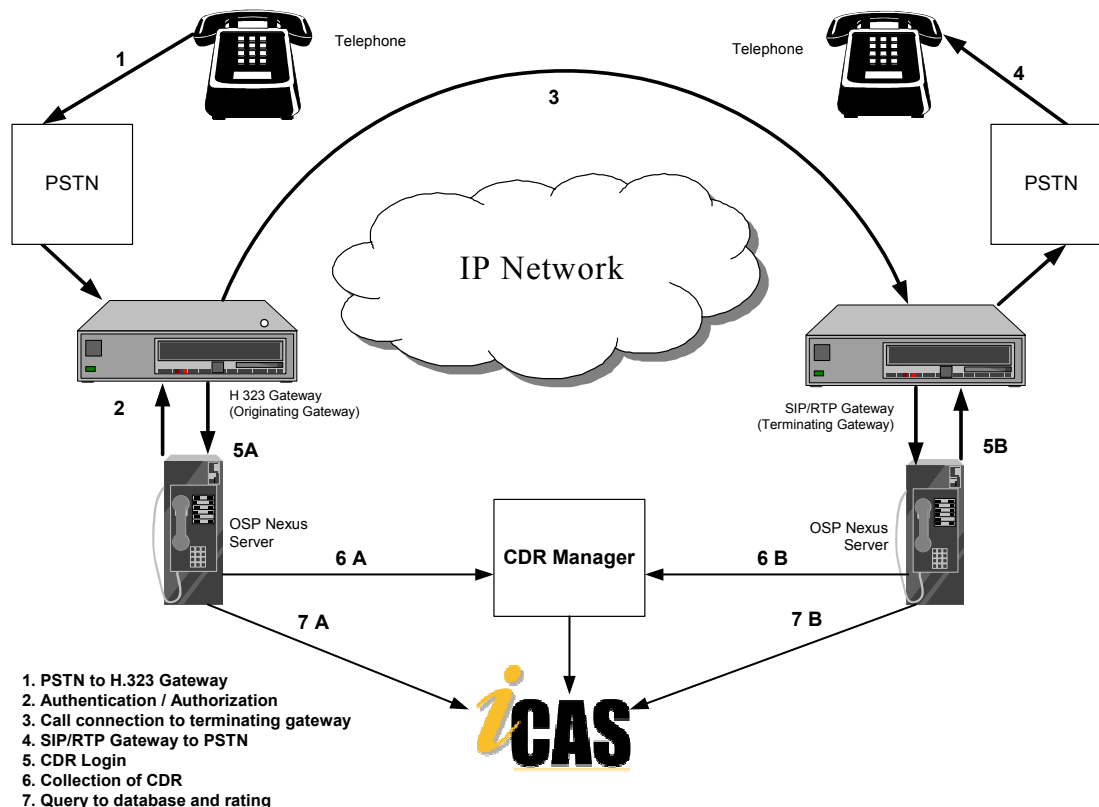
The CDR manager is a central point for collection and correlation of all CDRs generated. First the Nexus OSP servers collect all the usage details from Access Servers available on the network. Then the Nexus CDR Manager retrieves them. The CDR manager gathers all the reports for rating and billing.

Once Nexus - CDR Manager gathers the CDR; the iCAS solution imports the CDRs from CDR Manager for validation, rating, billing and settlements. After importing and sorting out the CDRs, the process of rating commences. It enables complex real time rating models such as group based rating and scheduled or deferred rate plans. The application provides interface to managing rate plans at origination area, termination area and termination gateway level. Rates can be differentiated based on time of day, day of week and access type. While rating, iCAS also provides a way to re-rate the already rated CDRs thus rate discrepancy, if any can be corrected and applied to take effect for invoicing/billing.



(Figure 2 – Rate Plan Management)

iCAS defines separate rates for costs (originating) and incomes (terminating). This helps carriers to consistently and accurately capture the costs of interconnect. . Billing is done on the basis of the fixed and variable charges, duration of the usage and on other measurable parameters as are configured. Through iCAS carriers can generate invoices on the basis of customers and customer groups. Non-usage based charges can be applied as per agreements.



(Figure 3 – Working of OSP & iCAS solution)

iCAS allows users to pass settlement entries in the form of payments, receipts, debit notes and credit notes. All settlements can be done at individual/customer account level thereby providing flexibility to manage multiple accounts per customer. iCAS also updates the balance as per query from the Nexus OSP Server per carrier for completion of the prepaid billing cycle.

About TransNexus:

TransNexus is a leading provider of open IP Interconnect Solutions for the VoIP market. Founded in 1997, TransNexus pioneered the development of commercial OSP solutions with telephony equipment partners such as Cisco, 3 Com, Lucent Ericsson, Alcatel, Nuera and others. TransNexus provides the OSP Nexus server, the OSP Toolkit, and other commercial products for the VoIP world.

For more information please visit:

www.transnexus.com

About Infozech:

As a leader in Telecom services and billing solutions, Infozech is focused on providing complete ecommerce automation and integration for any Telecom Service provider. An ISO 9001 company, Infozech's solutions have been deployed across five continents and are being used to bill for IP fax, IP telephony, long distance resale, direct access, web based telecom superstore and wireless access. Infozech's products are eBILL a complete billing and CRM suite, iCAS a inter carrier access settlement solution and Precall a prepaid management system.

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