Cisco Next-Generation Signaling Solution

Increase Efficiency and Lower Circuit Costs with IP Next-Generation Signaling

The SS7 network functions as the nerve center that controls various critical network services and capabilities. As such, there is no aspect of the telecommunications infrastructure that has a greater need for network manageability, scalability, and reliable traffic delivery. With the growth of new value added data services, such as text messaging or short message service (SMS), operators are now faced with managing the additional data traffic on the SS7 network without risking performance of their traditional voice traffic. Today's mobile operators need a solution that balances the benefit of improving the average revenue per user (ARPU) for these services along with the need to maintain network reliability, service integrity and network security.

Mobility

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> "We face many challenges in serving a fast-growing and geographically dispersed customer base and we required a technology platform that offers us stability, reliability and a path to the future. After evaluating the different alternatives, we decided that Cisco's ITP solution backed by a Cisco IP backbone network was one of the best options."
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> –Wityasmoro Sih Handayanto
> Indosat Business Development Director

Cisco IP Transfer Point Enables Efficient Transport and New Services

The Cisco® IP Transfer Point (ITP) provides a solution that enables you to deploy and control future IP services through next-generation network technologies at SS7 service control points throughout the network. Using industry-standard IETF open protocols, it transports the Signaling System 7 (SS7) traffic over IP (SS7oIP) networks. This allows you to efficiently transport increasing volumes of SS7 traffic by offloading the traffic from the traditional Signal Transfer Point (STP) network to an IP-based SS7 network. To be clear, this IP-based SS7 network does not "replace" the high-availability features and functions associated with the SS7 network, but rather simply substitutes the underlying transport mechanism—thus preserving traditional SS7 reliability features. Cisco ITP also positions you for enhanced return on investment (ROI) and profits by providing the infrastructure for IP-enabled Service Control Points (SCP) and revenue-generating IP services.

Achieve Substantial Capital and Operational Efficiencies and Savings

Key features and benefits of Cisco ITP include:

Cisco ITP Frees Capacity and Ports on Costly SS7 Networks

Older signaling transfer points require a large footprint, have major power requirements, and are expensive to upgrade. The Cisco ITP is the only "one-box solution" for both traditional and next-generation signaling. It is a native IP device that gives mobile operators maximum flexibility and reliability by providing SS7, IP-based Signaling Transport (Sigtran), Quality of Service (QoS), and IP routing capabilities in one device. When using shared IP bandwidth, the Cisco ITP reduces bandwidth requirements by 50 percent over to the traditional TDM leased line.

Migrate to IP Next-Generation Network Signaling

Older signaling networks lack a seamless migration path to IP next-generation network signaling. They typically require a separate edge router to connect to an IP network. Cisco ITP reduces hardware requirements immediately. Additionally, through new technologies available for the service control layer—at the IP-enabled service control points of the signaling architecture—new, next-generation signaling applications may be rapidly deployed with bandwidth, capacity, and cost efficiencies not previously available using traditionally rigid SS7 architectural constraints.

Cisco ITP as a Core Signaling Replacement Has Compelling Benefits

When deployed as a signaling gateway, the Cisco ITP can reduce capital and operational costs by allowing mobile operators to realize as much as a 200 percent improvement in price and performance and as much as a 50 percent reduction in ongoing costs by offloading SS7 traffic to an IP network. Additionally, with the use of IP and its cost efficiencies, the IP-enabled services and end nodes that the Signaling Gateway enables can offer up to 350 percent capacity or transactions-per-second improvements at a much more cost-effective price point.

SMS Offload— An Example of How You Win with Cisco ITP

The Cisco ITP solution is ideally suited for managing peak SMS traffic loads, like those in televoting by a large audience. By enabling SMS connectivity through IP, Cisco ITP eliminates an additional layer of SS7 ports and stack licensing fees, reducing infrastructure costs by two-thirds. So you save money and reduce the number of events required to make a profit.

Cisco IP Transfer Point

Cisco ITP features include:

- Leading, integrated IP routing features, including IP WAN media support and QoS
- A traditional STP feature set, including global title translation (GTT) and gateway screening
- SS7 low-speed link (LSL) and high-speed link (HSL) support
- Open industry protocols, including Message Transfer Part 2 (MTP2) User Peer-to-Peer Adaptation Layer (M2PA), MTP3 User Adaptation Layer (M3UA), and Signalling Connection Control Part (SCCP) User Adaptation Layer (SUA)
- Mobile Application Part (MAP) gateway services for wireless LAN subscriber identity module (SIM) authentication and authorization
- Advanced SMS multilayer routing
- Gateway STP functions, including concurrent multiple variant and conversion
- Carrier-class QoS features prioritize SS7 traffic according to destination, service, or message type

IP Transfer Point (ITP)

Next-Generation Signaling and Messaging Architecture
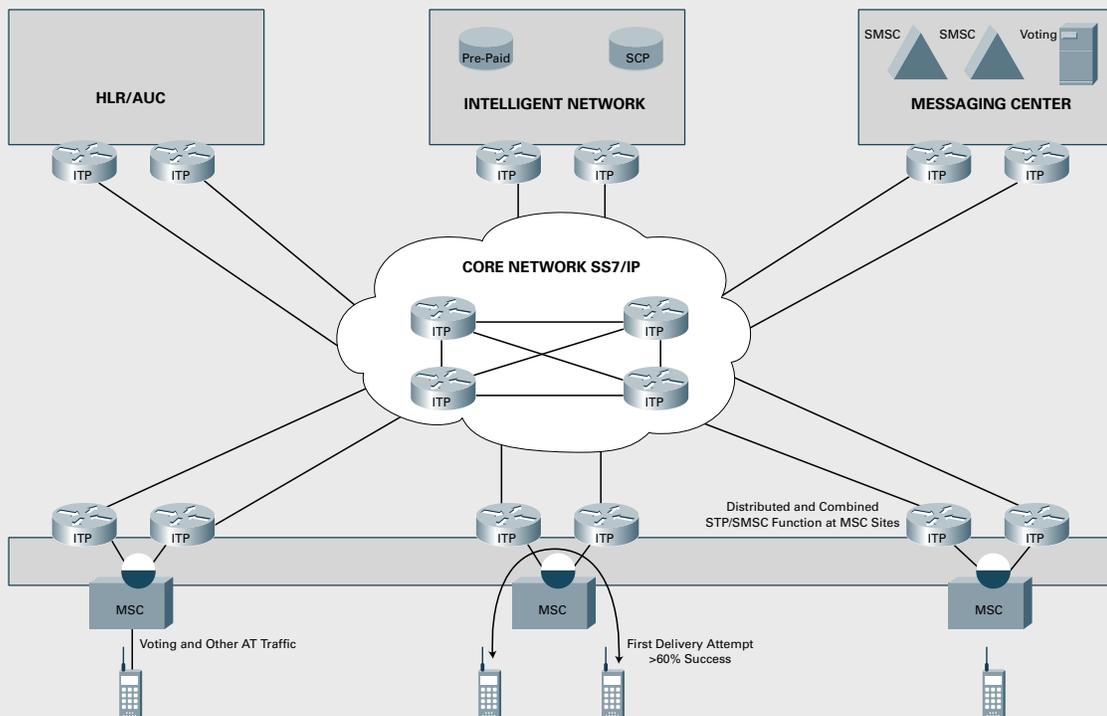
The IP Next-Generation Network (IP NGN)

As a key component of the IP Next-Generation Network (IP NGN) strategy, the Cisco ITP is the premier next-generation core signaling platform. The consolidation of signaling technologies using Cisco ITP can be efficiently accomplished with an IP/MPLS deployment to enhance the overall reliability of the signaling network.

Why Cisco

As the undisputed IP leader, Cisco Systems provides the technology, solutions, and expertise that mobile operators need as they transition to next-generation networks. Deploying solutions that deliver greater network intelligence, integration, and overall flexibility will not only give operators short-term relief but ultimately boost their competitive advantage.

For More Information

For more information on this solution go to **www.cisco.com/go/mobile/itp**

Learn more about Cisco Systems products and technologies for mobile operators by contacting your account manager or visiting us at **www.cisco.com/go/mobile**

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