

SIP Trunks for Payment Transactions

SOPHISTICATED SIP TRUNKING FOR DIAL POS AND ATM INITIATED TRANSACTIONS

Overview

Electronic card payment transactions volume as per industry reports is projected to exceed 726 Billion transactions globally in 2020. With global acceptance of electronic payment transactions, this volume is expected to continue double digit growth rates, especially in emerging markets and developing countries. A major portion of this transaction volume, estimated at two thirds of of total transactions worldwide, is transported currently over PSTN networks.

As the packet networks like Internet and wireless data networks become omnipresent and as the emergence of these networks offer significant advantages in terms of time and security for data exchanges, and with Telecom carriers slowly planning to phase out the dial PSTN networks, it becomes increasingly important to adopt the next generation evolution plans for the legacy dial based POS terminals. Session Initiation Protocol (SIP) based trunks is the global answer to the dial network evolution and SIP is proven to be capable to redefine the payment transactions from the legacy devices and in the process creating a seamless adaptation for the payment industry into the packet only network world of tomorrow.

NewNet Secure Transactions systems leverages vast experience in secure payment transport, remote access systems, universal port for voice & data access systems and the phenomenal expertise in the technology areas of payment standards and SIP implementations for modem data over IP systems in this solution. Extending from these core abilities, NST is offering the SIP based payment transaction transport solution to facilitate the SIP trunk terminations to our Total Control STG system.

SIP for Secure Transaction Solutions

SIP as a protocol for connecting traditional dial networks to packet networks enables it to be highly useful for payment transaction networks. Usage of high bandwidth packet networks enables the transmission of data to be swift and more accurate along with the ability to complete transactions faster. Uncompressed codec like G.711 is crucial towards ensuring the data integrity of the data from modems in the POS terminals sending the transaction data. It is important for the service providers to ensure that the QoS (Quality of Service) is maintained at very high levels so that the data integrity is maintained which is critical for payment transaction.

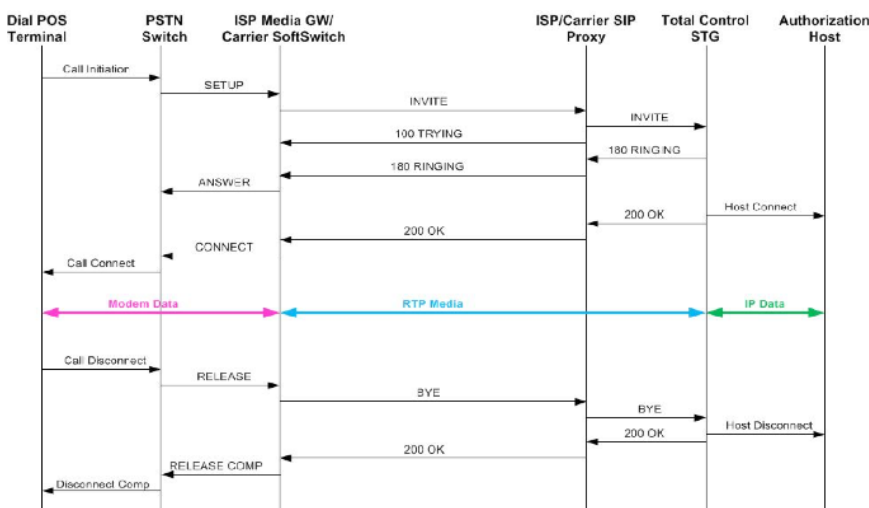
Controlling the packet latency, handling the modem modulations with suitable codecs which occurs with the PSTN-to-SIP network bridging, are other key factors related to supporting payment transactions over SIP networks. Ensuring sufficient bandwidths and provisioning traffic with adequate room to handle peak traffic volume will be mandatory to allow the payment transactions to be transported seamlessly across the SIP networks.



Total Control STG & SIP Traffic Based Payments

Total Control STG system supports the termination of SIP protocol with the ability to handle the traffic originating from regular PSTN based POS terminals. Transactions from POS devices are routed over the ISP/Carrier's SIP based infrastructure. STG systems work with ISP/Carrier SIP infrastructure and handle the transaction sessions and the transaction data from the POS devices. STG system performs the transcoding of RTP data to translate the received media data to the specific transaction protocol based data and further forward for authorization.

Similarly in the reverse direction the response data received from the authorization servers are translated back into RTP payload and send back to the SIP infrastructure of the ISP/Carrier. This data is then transported back over the Carrier's SIP infrastructure and finally bridged back into PSTN network with suitable data transcoding and passed on to the POS device.



Benefits of SIP Based Payment Systems

- Avoids costly PRIs (Primary Rate Interfaces)/E1/T1/Analog lines
- Saves additional fees including per call charges
- Eliminate need to invest in PSTN gateway systems
- Adding new links are typically cheaper than lines on corresponding PSTN gateway
- Optimal bandwidth utilization of the connection path
- Greater flexibility in capacity sizing
- No fixed restrictions on 30/23 channels as in E1/T1 PRI
- Option to select preferred providers
- Calls can be received from anywhere and no variable charges for local/long distance etc.
- Redundancy available by seeking service from multiple service providers
- High availability with having additional links

Key Features

- ✓ **SIP RFC Support**
 - SIP RFC 3261
 - Support for associated RFC suites for RTP, SDP, RTCP, RTSP
 - SIP User Agent Server
 - SIP via UDP/TCP with optional TLS support
- ✓ **SIP Entity Interfacing**
 - SIP Registrar, Proxy Server, Redirection servers
- ✓ **Codecs**
 - G.711 (u/a) Codec support
- ✓ **Modem Data Handling**
 - Powerful DSP processing for modem data transcoding
 - TDM bridging with PCM bus interconnection, 8.192 kB/s
- ✓ **High and Low Speed POS Modem Traffic Handling**
 - V.22, V.22bis, V.32, V.32bis, V.34, V.90 from POS
- ✓ **Efficiency and Performance**
 - Integrated support for SIP traffic and Payment transaction routing
 - Redundant systems for resiliency
 - High capacity system for volume handling



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