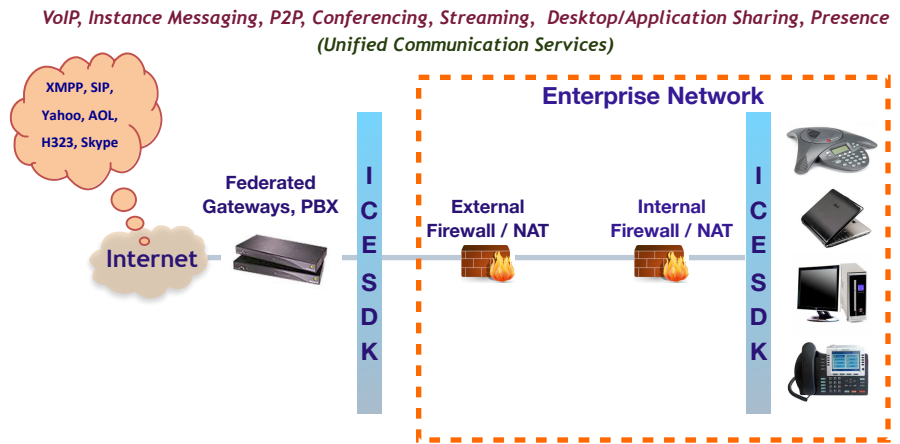


MindBricks ICE SDK For Enterprise

MindBricks ICE SDK for Enterprises is a comprehensive NAT traversal software development kit (SDK) based on the Interactive Connectivity Establishment (ICE) specification developed by the IETF's MMUSIC working group, which has been designed and developed especially to cater to the real-time and unified communications(UC) needs of the Enterprise applications. This SDK provides the most comprehensive implementation of the latest STUN, TURN and ICE specifications.

NAT and firewall traversal is an important component to facilitate communications involving devices and services on private enterprise network installations which are often located behind multiple layers of NATs and firewalls. Many of the leading unified communication solution/product vendors use ICE for NAT traversal and to provide seamless experience for the Enterprise customers and those on the Internet.



The MindBricks ICE SDK for Enterprises provides NAT traversal solution for packet based applications based on Voice over Internet Protocol (VoIP), Conferencing, Instant Messaging, desktop/application sharing and peer-to-peer communications. The MindBricks ICE for Handhelds SDK can be used in applications based on SIP, IMS, RTSP and MEGACO/H.248 protocols.

The ICE SDK is also appropriate for federated gateways and PBXs that connect to the enterprise network to extend and provide the services from the Internet to the enterprise customers.

Applications

ICE can help traverse the NATs for a wide array of packet based applications such as:

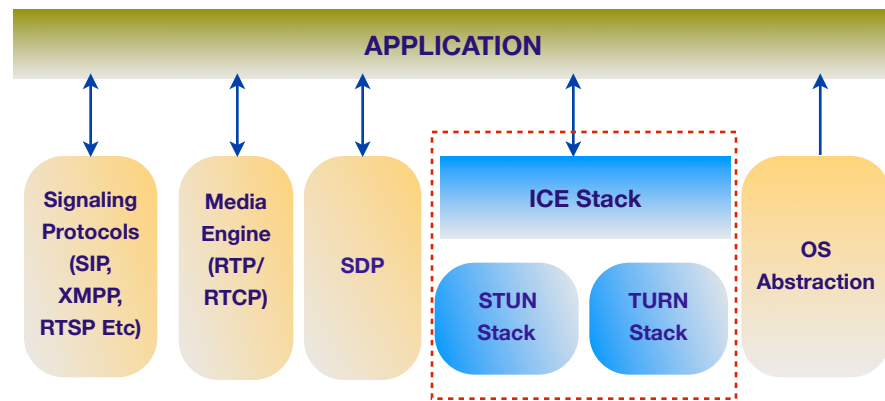
- Audio and Video multimedia (SIP/IMS) applications and soft clients
- Peer to Peer applications
- Instant messaging applications
- Conferencing applications
- Desktop sharing and collaboration applications

Features

- Support for latest ICE, STUN and TURN specifications
- Support for both ICE Full and ICE Lite modes
- Modular and can be easily integrated with any VoIP/SIP/IMS/RTP, streaming(RTSP), conferencing and messaging client
- Platform independent
- Support for both IPv4 and IPv6
- Dual-stack and multi-home support
- Multiple media stream support

Architecture

MindBricks ICE for Handhelds SDK has been architected in a layered manner with each layer having distinct interface and APIs which makes these layers highly re-usable.



The interface to the ICE stack is via API function calls. The ICE stack internally does not make use of or spawn any threads and does not block on any operation. Further, the OS related functionalities like timers and sending and receiving of STUN messages on sockets has been abstracted out to the application which makes the ICE stack to be easily ported to any platform in quick time.

In order to meet the scalability and performance requirements of the federated gateways, MindBricks ICE SDK provides complete control to the applications:

- For sending and receiving of the ICE/STUN messages
- Provides for distributed processing

Key Benefits

- Simple and well defined API for rapid application development and integration with 3rd party signaling (such as SIP, IMS, XMPP, RTSP etc) and media stacks as well as other packet based applications.
- Platform Independent code (easily ported to different platforms)
- Comprehensive implementation of the latest IETF standards STUN, TURN and ICE
- Highly modular architecture which enables easier customizations of the ICE stack to suit the requirements.
- Flexible business model and licensing options

Specifications and Compliance

- Interactive Connectivity Establishment (ICE): A Protocol for Network Address Translator (NAT) Traversal for Offer/Answer Protocols (RFC 5245)
- Session Traversal Utilities for NAT (STUN): RFC5389
- Traversal Using Relays around NAT (TURN): Relay Extensions to STUN (RFC 5766)
- Default Address Selection for Internet Protocol version 6 (IPv6) (RFC 3484)
- Cable Labs PacketCable 2.0 NAT and Firewall Traversal Technical Report.

(<http://www.cablelabs.com/specifications>)

About MindBricks

MindBricks is an engineering solutions and professional services company, offering excellence and expertise in the design, development and deployment for Internet-based electronics and communication devices incorporating connectivity, communication, entertainment and information technologies. We help customers effectively manage complex development and integration tasks while concurrently addressing your immediate product development challenges and ensuring your continued strategic success. Combined with our own products and extensive experience in the areas of product development, professional services, project management, quality process, and customer support, we help customers meet business objectives for quality, productivity, cost and time to market.