

# SinTech SCS Overview

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SinTech offers professional software solutions based on IMS - IP Multimedia Subsystem. IMS is the next-generation telephony platform, which enables the network technology over an IP-based infrastructure. With IMS, Operators are able to launch multimedia services that connect users in mobile and fixed networks.

SinTech provides services and software that enable multimedia communication over IP networks. The software gives an efficient solution for communication between end-users but also for access to devices or services via next-generation mobile phones. In addition, SinTech offers value-added modules that give unique capabilities to the IMS applications. The services from SinTech can rapidly provide further customisation of the applications to meet specific Customer needs.

## TARGETED SOLUTIONS BASED ON EXPERIENCE

SinTech has extensive experience of mobile devices specialising in IMS and walkie-talkie solutions. By also incorporating services that share the location and availability of people using GPS-enabled phones, we have an expanding portfolio of targeted solutions for

the following market segments:

*Transportation:* track and optimise the position of an entire fleet of vehicle couriers or taxis from a map-based application on a central PC. Gain advanced walkie-talkie and text capability - all via simple key presses on a mobile phone.

*Infrastructure:* Using standard GPS-enabled mobile phones, SinTech's unique and extremely cost-effective solution replaces the traditional mix of on-site walkie-talkies and mobile phones in one unit. A foreman or supervisor can coordinate the entire workforce from a mobile phone or PC using flexible voice and text communication to groups or individual workers. IMS for Infrastructure lets your foreman keep track of every worker; enabling complete



coordination that boosts efficiency and makes your project more profitable.

*Security:* Centrally coordinate security guards to cover an entire facility, including vulnerable areas. Provides flexible two-way communications, including regular PIN-coded status reporting and rapid emergency notification. A special ‘Ambient Control’ feature allows a dispatcher to remotely manage the microphone, camera or positioning device on the guard’s mobile phone.

*Social:* Use the SinTech IMS Client application on mobile phones, PCs, or both, to provide an enhanced, presence-aware contacts list. Using only this list, calls, texts and multimedia messages and instant messaging can easily be launched and can now be enhanced with live video, images or sound clips. Flexibility across devices, operators and instant messaging communities make IMS for Friends the ultimate one-stop solution for keeping in touch.

#### WHAT KIND OF APPLICATIONS ARE INVOLVED?

SinTech’s IMS solutions are based on combinations of applications for mobile phones and desktop computers as required. These are:

- SinTech IMS Client: enables phones to share presence information and use the communications features relevant to the market segment solution.
- Mobile or PC-based Dispatch Application: used by the dispatcher or supervisor to coordinate and monitor all mobile phone users.
- Communication Service Application Server: collects user position information which it provides for the Tracker Web Service.
- Tracker Web service: log on to view presence information and routes on maps, send messages and configure groups and contacts.

#### SINTECH IMS SOLUTIONS ARE:

- very low overhead in terms of hardware and software investment.
- designed on modular architecture around generic software components, written in ANSI C.
- designed for embedded devices.
- highly compliant to OMA, GSMA and 3GPP standards

#### BUILDING BLOCKS FOR FLEXIBLE SOLUTIONS

Basing the IMS solutions on modular architecture means that SinTech can bolt on value-added features and services to the core IMS Client, all within the required integration domain. In this way we can perfectly tailor solutions to meet the specific needs of an expanding range of market segments.

Since IP Multimedia Subsystem (IMS) is used as the underlying bearer, it merely requires access to an operator with IMS infrastructure (including Push-to-talk over Cellular (PoC), XML Document Management (XDM) and presence services).

The following sections describe each of the client framework and value-added feature and services modules:



#### *IMS Core Engine - access to the IMS Infrastructure:*

This module is the foundation for the IMS solutions from SinTech. The IMS Core Engine contains the protocol stacks required by the IMS infrastructure and is the module upon which all other modules are based.

#### *The key IMS Core features are:*

- 3rd Generation Partnership Project (3GPP) compliant Session Initiation Protocol (SIP) stack including signal compression.
- Supports Real-Time Transport Protocol

(RTP/RTCP) for real time multimedia.

- Send and receive files with the Message Session Relay Protocol (MSRP).
- Adaptive solution. If the target platform already has an IMS protocol stack, the IMS Core Engine can use it instead of its own implementation.



**Presence** - see which friends and services that are online:

The Presence module supports management of the contact list (and other lists) of the mobile phone user. It also uses the SIP protocol to publish the user's own presence information and to subscribe to other users' presence data and available services.

*The key Presence features are:*

- Presence Client based on Open Mobile Alliance (OMA) Presence 1.0.
- Group and List handling based on OMA XDM 1.0.
- Network efficient handling of presence data. All standardised optimisations supported.



**Positioning** - send real time information about a phone's location to another terminal or a dispatcher:

The Positioning module enables a mobile phone to transmit location data. Position determination could be handled, for example, by satellite-based methods such as GPS; cellular network based methods or short-range positioning methods like Bluetooth Local Positioning.

From a phone, the location data can be used to retrieve a map showing the location with surroundings. A desktop Dispatch application contains additional features such as defining 'GeoFences' that trigger alerts when the tracked

person enters or leaves a pre-defined area.

*The key Positioning features:*

- Determine the position of the terminal using internal or external GPS device.
- Transmit the location data on regular (configurable) intervals.
- The location data can be included in presence data or sent in real time sessions to improve accuracy.
- Analyses data and provides parameters such as speed and distanced travelled.
- Connects to navigation services to get an accurate map of the phone's position.
- Define geographic perimeters (GeoFences) and be alerted when the area is entered or exited.



**Presence Enhanced Phonebook** - display the contacts with presence information and launch IMS services:

The Presence Enhanced Phonebook (PEP) module provides the start application for IMS-based services for supported platforms. A user interface displays contacts with presence information. The PEP also supports the most common operations of the contact list, group management and presence handling. Launching an IMS service with a friend or colleague is a matter of a few clicks.

*The key PEP features are:*

- Basic IMS application available on multiple platforms.
- Displays the contact list and groups for the user.
- Presence information is shown for the contacts that publish it.
- Manage groups for Push-to-talk over Cellular (PoC)

and Instant Messaging (IM) sessions.

- Sets up IMS sessions to contacts that have services in common.
- Fully commercial and professional look and feel.
- Intuitive and user friendly Graphical User Interface.



**Push-To-Talk** - adds walkie-talkie capabilities to mobile phones:

The Push-To-Talk module enables PoC in mobile phones. PoC is a voice service that allows one speaker at a time. A typical Push-To-Talk session connects almost instantly. Another significant advantage is that a single person is able to reach a group of persons with a single button press - no need to make several calls to coordinate a group of people.

*The key Push-To-Talk features are:*

- Supports OMA PoC 1.0.
- DirectTalk: starts a PoC session with one or more contacts.
- GroupTalk: starts a PoC session with a pre-defined group of contacts.
- ChatTalk: joins a chat-enabled PoC session, where users can enter and leave at will.
- DispatchTalk: a PoC session to a group with a special participant, the Dispatcher. Everyone in the group hears what the Dispatcher says, but when the ordinary group members speak, only the Dispatcher hears them. Included in use cases with dispatch centres.



**IMS Messaging** - chat and exchange files with IMS-enabled contacts:

The IMS Messaging module enables chatting between two or more users. It is also possible to exchange

objects between the participants in a chat.

*The key IMS Messaging features are:*

- Instant Messaging Client.
- Supports OMA IM SIMPLE 1.0.
- One-to-one Chat Sessions.
- Send and receive objects (such as images and audio/video clips) in the IM session with the MSRP protocol.



**Voice over IP (VoIP)** - make voice calls to IMS-enabled contacts using IMS as a bearer:

Traditional IP-based telephony created by the Internet Engineering Task Force (IETF). The service is further refined by 3GPP into Voice Call Continuity (VCC), which allows seamless handover between Wireless Local Area Network (WLAN) and packet switched data in an ongoing VoIP call.

*The key VoIP features are:*

- Start IP-based voice calls with other persons carrying the SinTech IMS Client or supervisors running the SinTech Dispatch application; all based on SinTech's IMS Core Engine.
- Compatible with existing PBX systems.
- Suitable for integration with a phonebook.
- Prepared for Voice Call Continuity



**Ambient Control** - remotely monitor a mobile phone's surroundings:

With the Ambient Control module, a remote individual is able to manage the microphone, camera or positioning device on the mobile phone without the owner's knowledge. The remote request to initiate a Control Session is authenticated before it

starts. High security is incorporated to make sure that no one is eavesdropping.

*The key Ambient Control features are:*

- Ambient Listening allows remote control of audio recording of a mobile phone.
- Ambient Video enables remote control of video recording of a mobile phone.
- Ambient Positioning allows remotely locating the mobile phone.
- No acknowledgement on the remote device is needed. Everything is handled discretely.



**Video Sharing** - spontaneously transmit video during a voice call:

The Video Sharing module allows a user to enrich a circuit-switched voice call with streamed video. Any of the voice call parties can initiate a video streaming session. There can be multiple video streaming sessions during a voice call, which can be initiated by any party. The video source can be either the camera on the phone or a pre-recorded video clip in the file system.

*The key Video Sharing features are:*

- Allows users engaged in a circuit switched voice call to add a unidirectional video stream.
- Supports GSM Association (GSMA) Video Share.
- Simple Application Programming Interface (API) for integration with circuit-switched calls.



**Security** - prevent interception by someone that is not part of the conversation:

The Security value-added module adds a higher level of inter-device security to the IMS-based

applications.

*The key Security features are:*

- A Security API that enables encryption of outgoing content and authentication of the remote party.
- Encrypted audio data in RTP sessions.
- Encryption of data sent in SIP MESSAGE requests.
- Encryption of data sent in MSRP sessions.
- Authentication of the remote party in SIP sessions. This ensures that both participants in a conversation can be sure who they are talking to.



**Optimisation** - tweak the mobile phone to achieve maximum efficiency:

The Optimisation value-added service module brings additional techniques to get the most out of a mobile phone's performance. By improving the networking characteristics, the Quality of Experience metrics of IMS services (mainly PoC) is greatly enhanced.

*The key Optimisation features are:*

- Minimal setup time on SIP sessions.
- Short delay of PoC talk bursts.

## Key benefits of SinTech's IMS Solutions

*Targeted Solutions:* SinTech draws upon proven experience to deliver real-life solutions tailored to the specific requirements of market segments.

*Increase efficiency by a modern, integrated means of communication:* Solutions combine real-time position and availability information with advanced capability communications ranging from walkie-talkie style calls, Voice over IP (VoIP) or Instant Messaging (IMS); as well as traditional phone calls and text



messages (SMS).

*Reduce your communication costs:* SinTech IMS Solutions work with standard mobile phones with GPS support - no expensive hardware is needed. The mobile network (for example, 3G, GPRS or WCDMA) is used as communication bearer.

*A complete digital solution:* IMS is available where there is mobile phone coverage. So there are no more limitations with analogue radio systems and walkie-talkie. The digital audio gives clear and secure conversations.

*Finally, the best news of all...* in addition to the immediate efficiency boost that SinTech's IMS solutions provide for targeted market segments, none of them require a huge and expensive investment.

**AT THE MOST, ALL YOU NEED IS:**

Access to a mobile phone operator that has an IMS-enabled infrastructure,

Standard mobile phones based on Symbian or Windows Mobile with GPS support,

Any ordinary desktop PC for solutions that run the Dispatch application.

## Customized to your requirements

Because SinTech's IMS solutions are based on a modular building block architecture, we are able to easily customize features to exactly match your operational requirements - providing you with the solution you would have designed!

## Want to know more?

If you want to know more about how SinTech's IMS solution can be rapidly and cost-effectively applied, including any further technical information, contact us on:

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SinTech - Sindarin Technologies AB is supporting governments and corporations by creating a more efficient, safer and more cost efficient communication solution by utilizing the latest communication technology standard: IMS, IP Multimedia Subsystem. SinTech's communication suite is based on open standards and includes means of communication such as Voice over IP (VoIP), Walkie Talkie, Messaging/Chat, Video Communication and File Sharing. The communication suite can be further enhanced with support for encryption as well as positioning.

SinTech's communication suite is available and downloadable for a large number of mobile devices as well as desktop computers.

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