

Information

OpenScape MobileConnect

OpenScape MobileConnect is an Enterprise Fixed Mobile Convergence (FMC) and Unified Communication (UC) integrated solution that extends SIP PBX features and presence to cellular handsets in both VoWLAN and cellular networks. Users advantages:

- True one number/one voicemail functionality; seamless and convenient
- Application integration via click to dial
- Unified Communications functionalities like Instant Messaging and Device Presence

This results in improved productivity and reachability. In addition, Enterprise benefits from greater control over mobile phones and communications costs.

Communication for the open minded

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Extend enterprise communications and UC integration

The ability for a single mobile device to be able to communicate on both the cellular network and the WLAN presents a considerable advantage in terms of access to communication and increased productivity. OpenScape MobileConnect takes these advantages even further by providing a bridge between VoIP, WLAN, and cellular so that the mobile device acts like another device on the corporate PBX whether in Wi-Fi or public cellular environments. This grants the mobile user access to the network from anywhere.

Because OpenScape MobileConnect controls all call sessions to and from the OpenScape Mobile Client – whether the user is on the corporate or public network – the mobile user can always be reached using a single phone number, voice mailbox, and Corporate Directory.

Furthermore, OpenScape MobileConnect is able to extend key PBX features out to the user when they are on the WLAN or even on the cellular network, making it possible, for example, to establish and control a conference call or to use internal PBX extension dialing.

Another advantage delivered by OpenScape MobileConnect is the ability to roam seamlessly between the enterprise and cellular networks. This ensures that users always profit from the lowest-cost network when it's in range. In addition, inconvenient call disruptions are prevented.

The integration of Presence and Instant Messaging into the solution over Wi-Fi and cellular data provides the possibility to users to stay in touch with colleagues in an efficient manner, resulting in improved productivity.

How does it work?

OpenScape MobileConnect Server

The OpenScape MobileConnect Server resides on the central corporate network next to the SIP PBX. The server registers on behalf of the user with the PBX during the start-up sequence. When the client establishes a connection to a valid Wi-Fi access point (corporate, home, or public), it automatically registers with the OpenScape MobileConnect Server. At this point, the user receives and makes calls using VoWLAN. Enhanced call security is supported for these scenarios.



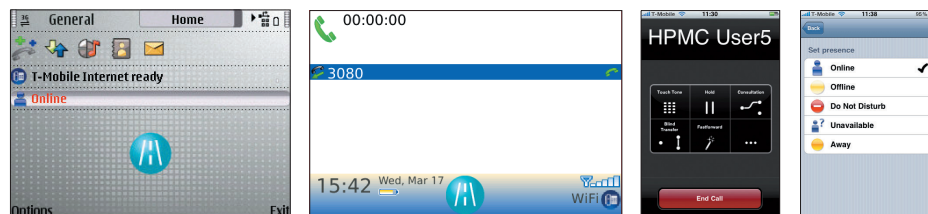
OpenScape MobileConnect Server

OpenScape Mobile Client

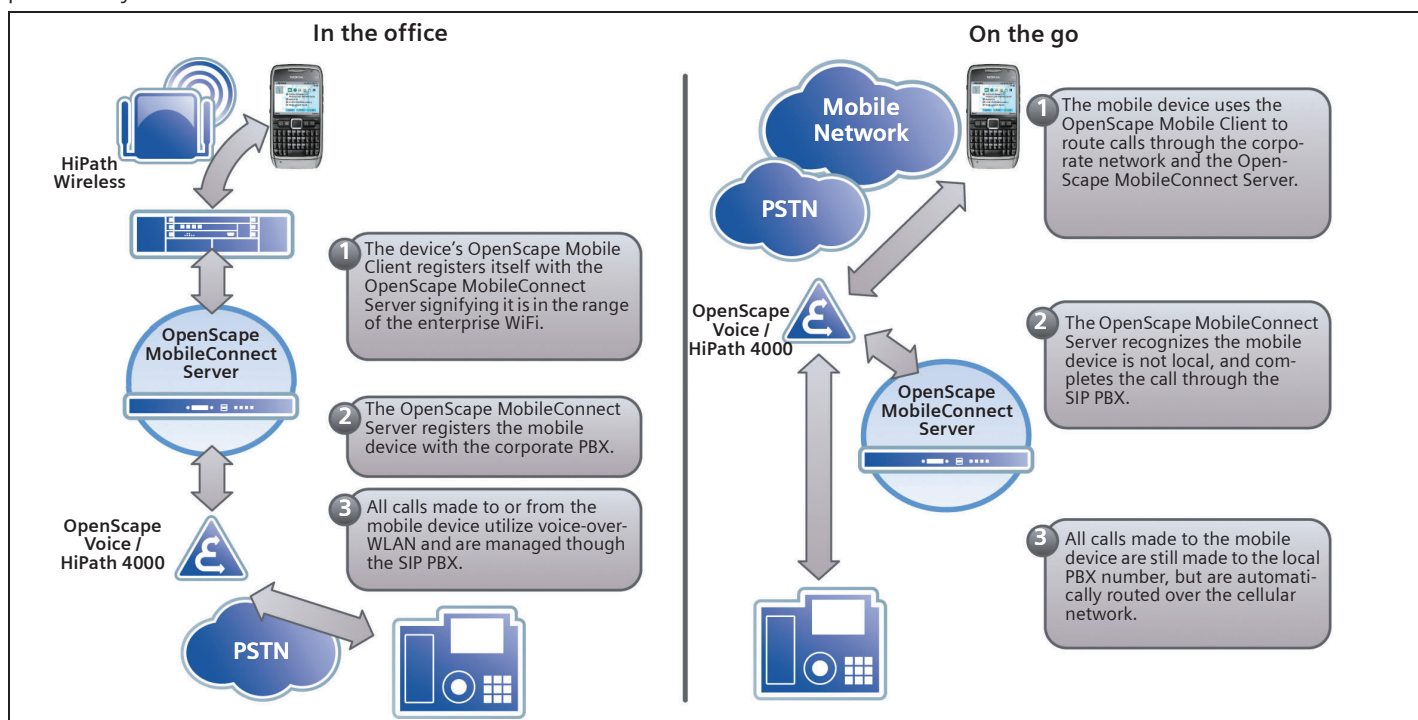
The OpenScape Mobile Client detects when it is leaving the WLAN coverage area, and communicates to the OpenScape MobileConnect Server that it will be roaming to the cellular network. If the user is engaged in a call during this process, the OpenScape MobileConnect Server initiates a cellular call to the user device and the call is transparently transferred from the corporate to the cellular network.

When a user is not connected over WLAN/VoIP, incoming calls are directed via the cellular network to the mobile device. Internal contacts only need to dial the mobile user's corporate PBX number to reach them at any time, regardless of where they are.

The Presence Service enables users to see the status of other contacts in real time. Users can see whether they are online, busy, away, or in other states. This information will help people to choose the right communication method (phone, Instant Messages, SMS or e-mail), saving time and effort to reach the right destination.



OpenScape Mobile Client on different phones



PBX extension features

Convenient, easy-to-use client

The OpenScape Mobile Client software runs on a number of common dual-mode devices and offers an intuitive interface. The client features a single interface for making calls regardless of whether the user is on the corporate or on the cellular network.

Internal dialing

OpenScape MobileConnect users can use internal PBX extensions to contact other employees from wherever they are making the call, and they can always be reached via their own PBX extension. Users can leverage low-cost corporate long distance trunks even while they are on the cellular network.

Simultaneous & serial ringing

In environments where the user has both a mobile and stationary phone, OpenScape MobileConnect can work in conjunction with OpenScape Voice or the HiPath 4000 to either ring both phones simultaneously, or in a hunt group sequence.

HiPath 4000, HiPath 3000* and OpenScape Voice calling features

OpenScape MobileConnect is able to extend many advanced features of OpenScape Voice or HiPath 4000 to the mobile user, even if they are on the cellular network. These include:

Supported Feature	HiPath 4000, HiPath 3000*, OpenScape Voice
System callback	✓
Group call pickup**	✓
Callback busy/free**	✓
Call toggle/transfer	✓
3-way conferencing	✓
Least-cost routing	✓
Call detail records	✓
Class-of-service	✓
Call waiting***	✓
Call forwarding** (centralized call forwarding, server-based and client-based call forwarding)	✓
Executive assistant**	✓
Call hold	✓
Hunt group**	✓
Calling name***/caller ID	✓
Voice mail & message waiting indicator**	✓
Corporate directory***	✓

- * On project-specific basis
- ** Currently only supported by OpenScape Voice
- *** Only in WLAN and datachannel mode

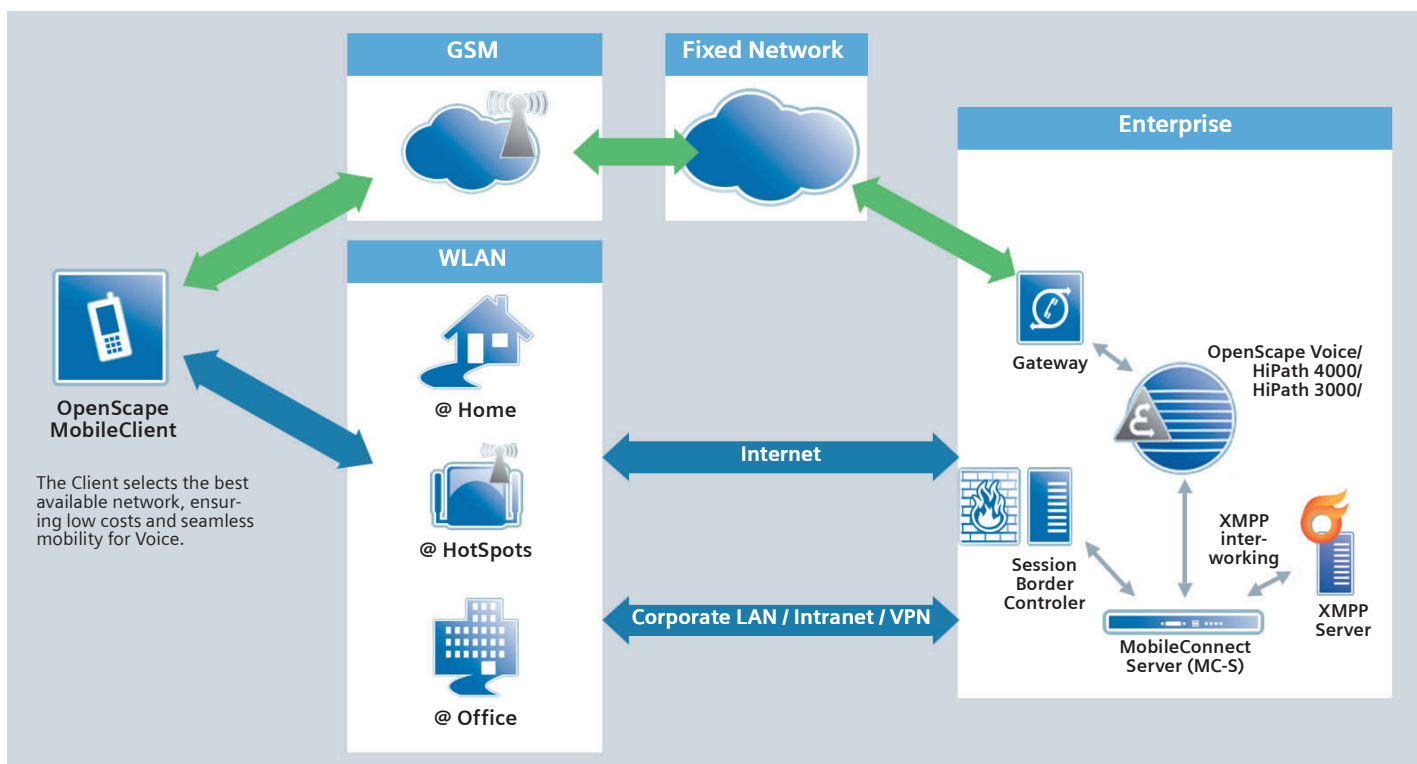
Seamless roaming and integration features

Cellular bypass

OpenScape MobileConnect uses the corporate WLAN whenever the mobile user is within range, providing exceptional cost savings. Settings for roaming between the WLAN and cellular network can be configured to ensure optimal call quality and performance. OpenScape MobileConnect users also benefit from improved network coverage in areas where cellular reception is poor.

Seamless roam-in roam-out

When a user is in a WLAN call, OpenScape MobileConnect solution senses when the user begins to move out of LAN coverage and automatically transfers the call to the cellular network. Similarly, OpenScape MobileConnect will seamlessly transfer a call from the cellular network to WLAN as soon as the user comes into range of the WLAN.



Supported features

System callback/ HTTPS callback

When the mobile user is on the cellular network, they have the option to "reverse" outgoing calls so that they are initiated by the corporate PBX. Calls of this nature are essentially "free", similar to the calls initiated in range of the corporate WLAN. System callback saves money for the enterprise. System callback works without data channel. By HTTPS callback, the client sends a request to the server via the data channel (similar to System callback the client via the cellular network). After this, the call to the far end is established. This method of callback is faster than making a call to a "callback number" of the OpenScope MobileConnect Server.

Using a local SIM card when travelling abroad

The user can select a SIM number from a set pre-configured by the administrator and is still reachable via his office phone number. It is used for cost saving reasons in global roaming scenarios.

Data channel support

This allows faster call setup and feature interworking within the cellular network. It also enables additional noncall-related services as in the Wi-Fi case (e.g. Presence and IM services)

Click-to-dial

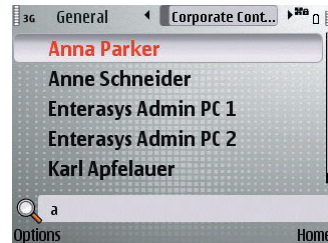
Users can highlight a phone number in the address book, call history, web browser, another application on the mobile phone, SMS message or calendar and click to dial directly from the application.

Session Border Controller/ NAT handling

Session Border Controller/NAT handling is easy and secure for connecting dual-mode devices via public hot spots or home WLANs to OpenScope MobileConnect. OpenScope MobileConnect supports internal Session Border Controller/NAT handling of the OpenScope MobileConnect Server or an external Session Border Controller.

Corporate directory integration

The corporate directory of an enterprise can be accessed via Microsoft Active Directory of the client and the OpenScope MobileConnect Server. The access is provided via WLAN and via data channel of the cellular network.



Corporate directory

Client server security (TLS/SRTP)

An encryption between the OpenScope Mobile Client and the OpenScope MobileConnect Server is supported via TLS/SRTP for secure SIP calls over Internet or over WLAN.

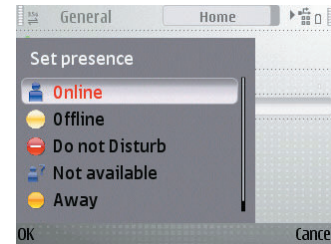
Multi-language support

If the language is available in the client, the OpenScope Mobile Client starts automatically in the language of the device. If this language is not available, the client starts in English. 15 different languages are supported.

Unified Communication integration

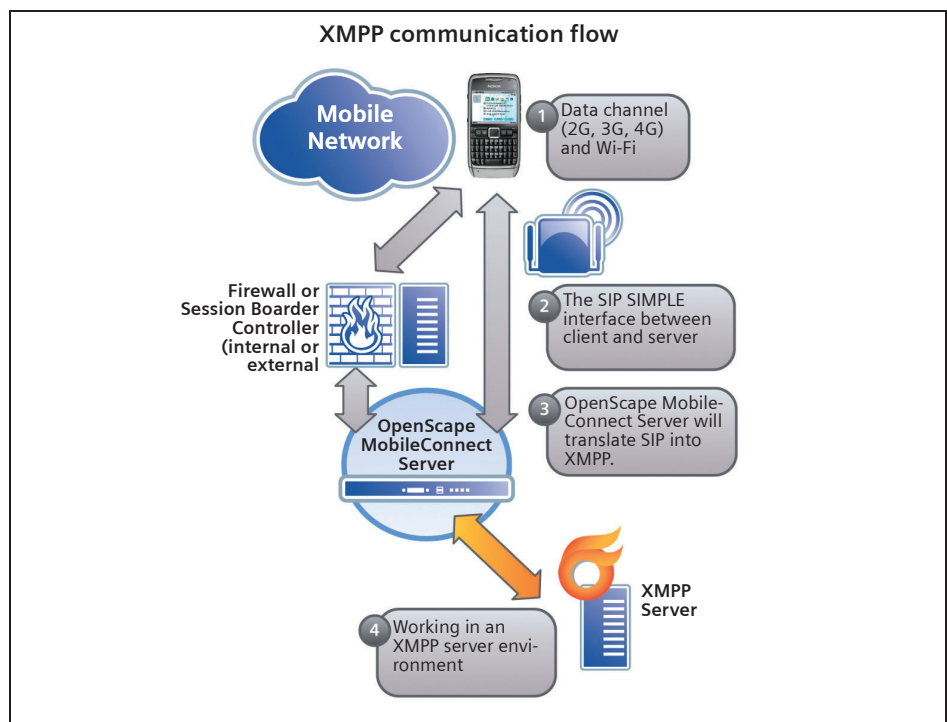
Functionalities for interworking with an XMPP IM Server

- **Presence Service:**
The Presence Service gives users the ability to see the status of other contacts in real time. They can see whether others are, e.g., online, busy or away.



Presence status

- **Availability:**
Users can manually change their personal presence status, i.e. the information other users will see when they have subscribed to Presence Service, anytime while registered to the system.
- **Instant Messaging:**
Instant Messaging is a powerful service providing fast exchange of information between a group of users. The information is transmitted instantly (e.g. faster than the traditional SMS service in cellular networks) and reliably. The user is alerted when a message is received from an Instant Messaging contact.



Overview of features supported by OpenScope MobileConnect

	Feature
Mobile device management/ Client provisioning	Client provisioning
	Web-based configuration
	Local console
	Secure remote console
	Administrator system tools: <i>tcpdump, nmap, hping, netcat</i>
	Redundancy
VoIP QoS	Bandwidth guarantees
	Bandwidth limits
	Traffic classification: <i>physical port, firewall rule, session, L7 protocol</i>
	Queuing disciplines: <i>Stochastic Fairness, Token Bucket, CBQ, IMQ, CSZ, Diffserv mark, RED</i>
Security	Stateful inspection firewall
	Network address translation (NAT)
	VPN termination: <i>IPSec, L2TP, TLS, SRTTP</i>
	Authentication: <i>X.509 digital certificates, shared secret</i>
	Encryption algorithms: <i>AES, 3DES, IDEA, Blowfish</i>
Networking	Codec support G.711, PCMA, PCMU, G.729* and iLBC
	Routing protocols: <i>OSPF, BGP, RIPv2, static</i>
	Source-based routing
	GRE tunneling
	Multicast routing
	Session Border Controller support
UC integration	Presence services
	Instant messages
	XMPP integration

* On project-specific basis

Mobile device management (optional)

Mobile device management enables the tracking and management of mobile devices in the field, including remote deployment and application updates. From a single console, the IT department can also enforce the mobile security policy across the broad range of devices deployed in the enterprise. Mobile workers are further empowered by having access to a self-service administration page where they can manage their own back-ups and theft/loss procedures, such as device lock and wipe, even on removable media.

OpenScope Mobile Client provisioning

The OpenScope Mobile Client can be deployed with settings by the OpenScope MobileConnect Server to the mobile device via SMS. An SMS service is required for the installation (Symbian and BlackBerry). For iPhone, the OpenScope Mobile Client is downloadable from the Apple Apps Store.

Support of IBM BladeCenter (on project-specific request)

OpenScope MobileConnect Server is also available as software for IBM BladeCenter, for large deployments, or for a hosted solution. OpenScope MobileConnect solution on BladeCenter supports Multi-Tenancy, faster reaction in failover cases, and scalability enhancements. The BladeCenter solution supports up to 2,000 users.

OpenScope Mobile Client device requirements

- Dual-mode cellular, WPAX support and 802.11 Wi-Fi functionality
- Hardware:
 - 195 MHz CPU
 - 1.4 MB ROM
 - 140 KB RAM
- Operating systems:
 - Symbian platform (S60 platform 3rd and 5th edition, Nokia, Samsung, SonyEricsson, LG)
 - RIM BlackBerry mobile phones (Pearl, Curve, Bold, Storm)
 - Apple iPhone 3G/3GS

Please contact Siemens Enterprise Communications for a detailed list of the supported devices.



OpenScope MobileConnect hardware specifications

	Model	MobileConnect 50	MobileConnect 250	MobileConnect 1500
Capacity	Maximum users	50	250	1500
	Concurrent voice sessions (with transcoding & DTMF)	25	50	400
	Network throughput	400 Mbps	2.2 Gbps	6 Gbps
Physical	Length	21.0 cm (8.3 in)	21.0 cm (8.3 in)	21.0 cm (8.3 in)
	Width	44.0 cm (17.3 in)	44.0 cm (17.3 in)	44.0 cm (17.3 in)
	Height	4.4 cm (1.7 in) - 1U	4.4 cm (1.7 in) - 1U	4.4 cm (1.7 in) - 1U
	Weight	2.8 kg (6.2 lbs)	2.8 kg (6.2 lbs)	2.8 kg (6.2 lbs)
Environmental	Operating temperature	5 – 40 °C (41 – 104 °F)	5 – 40 °C (41 – 104 °F)	5 – 40 °C (41 – 104 °F)
	Storage temperature	-20 – 80 °C (-4 – 176 °F)	-20 – 80 °C (-4 – 176 °F)	-20 – 80 °C (-4 – 176 °F)
	Humidity	5 – 85 % (non-condensing)	5 – 85 % (non-condensing)	5 – 85 % (non-condensing)
Mount	19" Rack mountable	Yes (standard brackets provided)	Yes (standard brackets provided)	Yes (standard brackets provided)
	Front or rear mount	Ports: Front Power: Rear	Ports: Front Power: Rear	Ports: Front Power: Rear
Ports	Data ports	4x Fast Ethernet	2x Gig Ethernet 2x Fast Ethernet	4x Gig Ethernet 2x Mini GBIC
	Other	<ul style="list-style-type: none"> 2x USB RS232 Serial Port 	<ul style="list-style-type: none"> 2x USB RS232 Serial Port 	<ul style="list-style-type: none"> 2x USB, 1 x VGA RS232 RJ45 Port 1x Fast Internet
Electrical	Nominal power rating	<ul style="list-style-type: none"> Internal PSU (60 W) Voltage 100 – 240 V Frequency 50 – 60 Hz 	<ul style="list-style-type: none"> Internal PSU (120 W) Voltage 100 – 240 V Frequency 50 – 60 Hz 	<ul style="list-style-type: none"> Dual PSU (460 W) Voltage 90 – 264 V Frequency 47 – 63 Hz
	Redundant power	No	No	Yes
Standards Compliance	Regulatory	<ul style="list-style-type: none"> EN 60950 	<ul style="list-style-type: none"> EN 60950 	<ul style="list-style-type: none"> EN 60950
	Emissions	<ul style="list-style-type: none"> FCC Part 15 Class A EN 55022 	<ul style="list-style-type: none"> FCC Part 15 Class A EN 55022 	<ul style="list-style-type: none"> FCC Part 15 Class A EN 55022
	Networking	<ul style="list-style-type: none"> SNMP v2 OSPF v2, RIP v2 SIP (RFC 3261) 	<ul style="list-style-type: none"> SNMP v2 OSPF v2, RIP v2 SIP (RFC 3261) 	<ul style="list-style-type: none"> SNMP v2 OSPF v2, RIP v2 SIP (RFC 3261)

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