Innovate your business with contextual communications
Communications service providers (CSPs) are rolling out voice over LTE and Wi-Fi services around the world (VoLTE and VoWi-Fi). However, OTT apps continue to gain market share with their own, usually free, communications, including text, voice, collaboration and video.

For CSPs it’s time to innovate. Consumers and businesses are ready to discover the power and value of communications offered in the context of performing other activities. The evolution from standalone communications services to features integrated into applications, websites and even IoT-connected objects requires a new network approach. By evolving to a self-aware cloud network with a powerful set of communication APIs to access the rich features of the network, CSPs can begin to innovate with contextual communications.
What is Contextual Communications?

Enriched communications using contextual info

1. Personal
   Device, online...

2. Enterprise
   CRM Records...

3. Big data
   Crowd-source, web site

4. Things
   Sensors, beacons...
Contextual communications will add significant value to our personal lives, but it may have the greatest value at work.

Whether at their desktop or on the move, according to the time of day, their location, the activity they are engaged in or any other relevant contextual data, the web app or website offers users the enriched communications service where and when they need it. Instead of interrupting what they’re doing in order to communicate, they stay right in the flow, adding communication as a natural part of the process.

Contextual communications will become a critical part of improving business processes and increasing employee productivity and efficiency as well as improving customer satisfaction and engagement with their brand.

These could include, for example:
- A help desk messaging app that offers how-to-assemble video chats
- Websites with push-to-talk-with-an-enterprise-representative buttons, where the rep can see exactly what the customer is doing and where the problem is occurring

The next wave of mobility will also see workers no longer tied to physical locations and desktops, developing specialized mobile apps that give them the information and tools they need to make decisions and take action as required. For example, a connected-car app for workers to connect and communicate safely with their management and customers while driving. Based on sensory data (number of fastened seat belts), the app will inform the calling party if the driver is alone or not.

The opportunities for enterprises to create new use cases and new value are exciting. The only limits are the imaginations of developers.
Nokia IMS, your next cloud communication platform

The demand for these types of contextual services will only grow. Consumers have moved rapidly from purpose-built communications devices, such as mobile feature phones, to smartphones and tablets, loaded with apps of every possible description. People expect to communicate inside these apps from any device or connected object they use.

Every enterprise is looking for ways to increase customer satisfaction and make their brands relevant. Maintaining a link with their customers is becoming challenging — especially as we watch social-based apps, such as Facebook Messenger, LINE and WeChat, become platforms for recommending, accessing and even purchasing goods and services. How do enterprises find compelling ways to get customers to go to their website or use their app? Contextual communications will help create a more engaging experience for their customers.

In this new world, Nokia IMS provides CSPs with a software-based communications platform to deliver compelling VoLTE, VoWi-Fi, video calling, messaging and content-sharing services on cloud.

And with Nokia Service Innovation solution developers can then access these rich features and embed them in workflows, applications, devices and objects. This is achieved using a powerful set of IMS communications APIs and SDKs for popular mobile platforms such as iOS and browsers such as Chrome.
Develop and plug in new services with Nokia APIs

Developers can easily create innovative applications and contextual communications services that integrate seamlessly into CSPs’ networks, using a complementary set of APIs based on web developers’ languages (JavaScript, Node.js and PHP):

- Nokia SBC provides a set of client-based WebRTC APIs allowing developers to add browser access to existing IMS services or to create new web-based services with a universal access from converged networks.
- Nokia TAS provides a set of network-based call management APIs allowing developers to create new voice and video services triggered from the network and instantly inserted into the subscriber’s call.

The solution helps CSPs deliver new services that will differentiate their retail offer and maximize the value of their IMS network, while also creating new wholesale opportunities by exposing APIs to developers and getting revenues from APIs usage.

Nokia IMS communications APIs

- In-browser communication
  - In-browser collaboration
  - In-browser device-switch
  - Call direction
  - Call control
  - Self care
  - Call notification
  - User interaction
  - Call history
Contextual communications in action

A Shanghai Telecom spokesperson said: “When we were introduced to Call Management APIs we were very impressed. The secret phone number service is promising. We look forward to more applications providing additional opportunities to monetize our IMS network.”

China Telecom Shanghai Branch is maximizing the value of their network, exposing their telecom resources to third-party developers using Nokia IMS communications APIs. This will help them expand into new wholesale markets and generate new revenues from the mobile Internet. For example, China Telecom partnered with a strategic partner, Alphauln.com, to create a disposable virtual phone number service that provides temporary virtual identities, avoiding the need for subscribers to disclose their personal phone number.

The service is available in two versions:
• The mobile application for the consumer market is downloadable from any mobile app store and enables subscribers to instantly get any number of virtual identities and provide them instead of their personal phone numbers when making new friends or during e-commerce transactions
• For businesses that offer mobile Internet services, Alphauln tailored the service per the business context, for example, embedded into the mobile application of Didi Dache’s taxi reservation or into the website of the 58.com online marketplace.
With VoLTE and VoWi-Fi gaining traction, CSPs are regarding multi-device services as a must-have offering for customers. Typically this requires providers and device OEMs to pre-integrate every device and client before launch, which limits reach, and for users activation is often not an easy process. In-browser communications provide an alternative and simpler way to enable multi-device services.

**What’s needed for in-browser communications?**

To integrate into a CSP’s network, in-browser communications need both Nokia Session Border Controller (SBC) that supports web real-time communications (WebRTC) and Nokia Telephony Application Server (TAS) that supports multiple devices under a shared public user identity.

In this configuration, the browser is essentially a twin device with secured IP connectivity, extending service reach to any web application — and potentially to billions of IoT devices.

For the end user, in-browser communications extend these multi-device services seamlessly into web applications and business process workflows, providing a feature-rich, contextual, second-screen mobile experience within the browser.
Expand your business and explore new markets with Nokia

With Nokia IMS all the parts come together

The foundational converged fixed (VoIP), mobile (VoLTE, VoWi-Fi) and web services for both consumers and enterprises

New, easy-to-use REST APIs for a more programmable network, rapid service creation and unlocking growth

A full cloud implementation using network functions virtualization (NFV) for operational efficiency, faster ways to deploy services and dynamic scaling of new services

A dynamic ecosystem of developers that will imagine and design the new services for tomorrow
About Nokia

Nokia is a global leader in the technologies that connect people and things. Powered by the innovation of Bell Labs and Nokia Technologies, the company is at the forefront of creating and licensing the technologies that are increasingly at the heart of our connected lives.

With state-of-the-art software, hardware and services for any type of network, Nokia is uniquely positioned to help communication service providers, governments, and large enterprises deliver on the promise of 5G, the Cloud and the Internet of Things. http://nokia.com

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