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XURA

Digital Communications
Navigating the RCS Journey in the Google Age

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By evolving to the digital world, cellular service providers can move up in the value chain, becoming players and influencers in the digital life of their subscribers, and opening up new business opportunities.

The developing promise of RCS

The increasingly digital lifestyle of the modern consumer is seen in virtually every aspect of their lives; the way they socialize and keep in touch with friends and family, the way they shop and pay bills, how they consume news and multimedia, from music to movies – all are becoming more and more digital. In general, consumer communications have been shifting more towards text and less to voice. Although, younger generations may be changing that trend as the impersonal nature of text is increasingly augmented with voice communications where engaging in a voice call is worthy of the investment in time if both parties agree beforehand. In fact, for many younger subscribers, voice calls are now considered a very personal option. As advancements in network technology combine with devices such as smartphones, tablets and e-readers, the digital world becomes more mobile and the handset device is the central means through which we live our digital lives.

Network operators realize the importance they play as enablers and influencers in the digital life of their subscribers. In order to become even more influential, network operators are working to move up the value chain to provide additional services to their subscribers and open up new business opportunities. This is critical in order to position themselves against over-the-top service providers (OTTs) as well as against other competitive network providers.

Rich Communications Services (RCS) enables the delivery of communication experiences that move beyond voice and SMS providing operators with an evolutionary path. RCS allows them to jump start the transition of messaging and voice capabilities from Circuit Switched technology to an all-IP world.

The journey begins

Through the implementation of RCS, operators can deliver the messaging service step-change the consumer is seeking. Fortunately, at the same time, it allows the continuation of operator-centric messaging services and retains operator messaging as a key entry-point into operator voice and video services. RCS provides consumers with instant messaging or chat, one to one or group chat, as well as live video and file sharing across devices on any network. Subscribers can see when others are typing, when their messages are delivered, and even when they are read. Considering the proliferation of tablets and the fact that the average user has almost three devices, extending the user experience to include multiple devices is an important differentiator.

The mobile operator can leverage several key advantages that only they can provide and that should be emphasized when delivering an RCS service. These include network reliability, global interoperability, service ubiquity and subscriber trust enabled by security and privacy management.

Interoperability and the universal RCS profile

One challenge that impeded widespread RCS service adoption was the lack of a standardized implementation of RCS services across different networks and geographies. Without a universal RCS service profile, configuration, feature set and deployment varied enough by operator to become an interoperability concern between networks, geographies, and handset technologies. So, not only was the operator challenged to modernize the service portfolio and deliver a richer user experience leveraging existing legacy services (voice, SMS, MMS and voicemail), the operator faced the fundamental hurdle of ensuring 100% service reach on any device and any network.

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This universal RCS profile challenge was addressed by the recent agreement announced between GSMA, Google and a number of key mobile operator groups. The intent of the agreement is to ensure that the more than one billion android users will be enabled with a common profile for RCS services providing a consistent and interoperable messaging experience between all android devices across all operators worldwide.

A common profile will assist in moving operators to IP messaging with a common subset of features that will interwork across operator networks. RCS service will interwork across operator networks to operate seamlessly when subscribers are roaming (similar to SMS). Ultimately, success of the universal profile will be largely dependent upon the level of adoption by the client operating system (Apple, Android, Microsoft Windows etc.) and availability of suitable native or downloadable RCS handset clients.

Google and the GSMA

While this latest RCS boost by Google is an android-only initiative, Google clearly states that this universal RCS profile may be implemented by other operating systems as well. This will require companies such as Apple, Microsoft and the others to sign up and support the formal GSMA accreditation process.

With over one billion android users, this moves the RCS initiative forward and closer to the stated goal of enhancing the messaging experience for the more than 4 billion SMS users worldwide with features such as group chat, high-res photo sharing, read receipts, and more. Future and later phases will include Google support for additional functionality such as GSMA RCS advanced calling features.

Google and the RCS handset client

To enhance the RCS client experience and help boost service adoption, Google also announced that they will provide an open source version of an RCS client based on the universal profile specification as well as provide developer APIs to enhance the RCS client experience.

The combination of a universal profile and a standardized handset client will provide greatest consistency and interoperability between all android devices across all operators worldwide partially fulfilling the GSMA's promise of maximum service availability and optimum long term results.

Google and the mobile operator's RCS service

Google's acquisition of Jibe in 2015 provided them with the ability to offer mobile network operators an RCS platform as a hosted cloud service for individual operators or as a hub to interconnect different operator RCS networks.

However, Google's recent initiative creating a common universal profile does not imply that the mobile operator is required to use the Google RCS cloud to deliver an RCS service. It simply means that any in-network RCS solutions to be deployed by operators will need to be compliant to the universal RCS profile for all clients to be able to connect and interoperate seamlessly.

Mobile operators wanting to deploy an RCS service using the universal provide may still use their own in-network infrastructure or have the option to use a hosted RCS service, one of which is provided by the Google platform. Operators are not required to use the Google RCS solution in order to support interworking for specific features.

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Considerations of selecting a hosted OTT RCS service

There are several consideration to evaluate when exploring the option of using an over-the-top hosted RCS service. The specific advantages or disadvantages must be balanced against the operator's strategic goals.

IP messaging evolution

Although the evolution to RCS has been a long slow process, it appears inevitable that IP based messaging will achieve ubiquity at some point in the future. Operators who choose to engage a standardized over-the-top hosted RCS solution essentially remove themselves from managing the service and diminish their ability to create market differentiation. In addition, funneling messaging traffic off the network increases the risk of eroding their position with the operator simply becoming a data pipe provider. These two considerations may be mitigated by using RCS services that are dedicated specifically to the operator either as a managed service or hosted service.

Multi-tenant security

The commercial business model of a hosted service is largely dependent upon the maximum efficiencies of providing a standardized service in multi-tenant mode. For some operators, the opportunity for security breaches inherent in multi-tenant services would be perfectly acceptable but for others the security risk would be unacceptable

Data mining

If the OTT hosted RCS service is provided by a company whose primary business model relies upon data mining and analytics to inject advertising or promotional information, it would be a reasonably safe bet that the stream of RCS messaging data would be used in the same manner. This is because RCS interactions provide a wealth of information regarding usage, habits, demographics and other highly personal discoverable data. Operators using an OTT RCS service could lose the opportunity to use this data for themselves or in a monetizable manner.

Network interoperability

One of the primary advantages emphasized by hosted OTT RCS service providers is fundamental interoperability. This is not a compelling or unique position. An operator's network based RCS service based on the universal profile and using the standardized android RCS client should be, by design, fully interoperable with other networks that are likewise compliant. Interoperability is dependent upon the adoption of the universal profile in its entirety to be successful.

Alternative business models

Operators maintaining control over the RCS infrastructure have the opportunity to leverage the assets in monetizable ways using secured access key APIs to enable a role as a Data as a Service provider and an important secondary revenue stream. Data that may be exposed via APIs include everything from functions such as location, address book voice control, identity management or other rich communication.

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Laying a foundation for the RCS future

Operators should evaluate both network and cloud-based solutions choosing whichever option best fits their requirements. The goal is to transition smoothly, rapidly and cost-effectively to an all IP-network. Operators seek to ensure the continued viability of their existing services, establish themselves as relevant players within the digital world and build a critical mass of users for these and other IP-based services. Moreover, by offloading messaging traffic from circuit switched to cost-effective IP networks, operators will be able to lower their total cost of operation (TCO).

As options are evaluated, several key requirements should be carefully considered with a focus on long term benefits. These include the following:

— Maintaining full control over message traffic and revenues

— Selecting a vendor that can deliver a fully integrated and standards compliant RCS solution

— Choosing a solution that provides seamless interworking with the operator network

— Choosing a solution that is easy to integrate with existing infrastructure

— Maintaining control over data analytics

Xura's RCS solution

Xura's RCS solution offers network operators a rich, robust and scalable portfolio of new IP communication services for in-network or cloud deployment:

— RCS Application Server (RCS-AS) – Provides the complete range of RCS5 & RCS6 services and extends these services to visual voicemail and multi-content archiving.

— Xura Presence Server – Provides capability discovery and social presence capabilities to support RCS services

— Xura Converged Address Book – Consolidation of the subscriber's contacts from multiple data sources as well as synchronization across devices

— Xura RCS API Gateway – Supports RCS monetization capability with rich API support for third party applications

Xura's RCS solution offers the following benefits:

— **Operators maintain full operational control of messaging traffic:** With Xura's RCS Solution operators continue to maintain full control over their messages traffic and revenues. The solution provides an evolution path for existing legacy services (voice, SMS, MMS and voicemail) to IP-based services empowering operators to become an integral part of the digital lifestyles of their subscribers. Xura's RCS solution enables operators to optimize their networks, modernize service portfolios and deliver a richer user experience.

— **A complete end to end solution:** Xura can deliver a fully integrated and standards compliant RCS solution to operators including the following products:
  — RCS Application Server based on Xura's Communication Suite Platform
  — Presence server
  — Converged address book
  — RCS API gateway

The Xura RCS solution will be enhanced to support Google's proposal for a universal RCS profile (after final approval by GSMA and operators).

- **Common storage and converged inbox capability:** Xura's RCS solution is based on a common message store (called Multi-Content Store) which can also store other message types e.g. MMS and VM. This allows our RCS solution to offer a converged inbox feature to operators where all messages for a contact are visible in a single conversation view.

- **Operator control over data analytics:** With the introduction of Multi-Content Store (common storage) for services the messaging data stored is of tremendous value to operators. With analytics operators may be able to utilize the data for CRM, advertising and to offer or develop new services.

- **Seamless service level interworking within network:** A Xura RCS solution implementation within an operators' network does not require any external network interactions for interworking with SMS, MMS or VM systems and IMS traffic. This enables utilizing synergies to combine functional services into unique offers such as visual voicemail for RCS users, message archiving and central address book. A consolidated messaging platform also provides a unified point of management for these scenarios and so if there is an error/fault or issue it is easier to diagnose instead of having to check multiple nodes for failure root cause.

- **Available in the cloud:** Xura RCS solution is available as a cloud service to help reduce costs and provides many of the same benefits as Google hosted solution but the operator remains in full control of the messaging data.

- **Ease of integration with existing infrastructure:** Integration of the RCS service with the rest of the operator ecosystem (provisioning, billing, statistics and customer support) will be simplified. Xura's RCS solution is based on the same platform used by other mVAS services which makes it easier for operators to integrate the service.

- **Monetization A2P using RCS API Gateway:** An RCS API gateway allows operators to monetize RCS messaging with A2P services. The API Gateway supports deploying services on top of RCS by creating virtual clients following the UNI approach (User to Network Interface). A2P services like connected home, customer care/CRM, social media connector, banking etc. can be deployed using the API Gateway.

Why Xura?

Chosen by more than 450 operators around the world, Xura is the ideal partner for RCS evolution to the digital world.

Market Leader in Messaging

- Operators deploying RCS primarily for advanced messaging today
- RCS advanced messaging complements VoLTE/ViLTE voice & video services

Innovator in enabling multi-device experience

- Xura driving VVM in the RCS standards

Comprehensive RCS Solution

- RCS Application Server, RCS Client, RCS API Gateway, IMS in a box (for small deployments)

Innovative RCS API gateway offering

– Only GSMA certified RCS API product

– Powers the official GSMA RCS Developer Portal (joyn Accelerator)

Cost effective launch of RCS with IMS in a Box (IMS Enabler)

– Facilitates small scale deployment of RCS before migrating to large scale

Summary

Operators need a complete RCS solution with a rich portfolio of products that comply with RCS specifications. With RCS, operators will be uniquely positioned to take advantage of the increasingly digital lifestyle of their subscribers, by offering rich digital services on any device and any network. The ideal solution will allow operators to evolve their existing legacy services (SMS/MMS) to IP-based services while maintaining full operational control. In this way, operators are able to ensure the continued viability of their existing services, while establishing themselves as relevant players within the digital world.

We are Xura

We offer our customers a pathway to next generation digital technology. Our thinking unlocks the possibilities of no boundaries communications.

For over 20 years, we have been working with mobile network operators and enterprises all over the world, helping them to meet the needs of tomorrow's multi-device, multi-services consumers.

We offer clever ways to financially realize opportunities from existing technology, while guiding customers to richer communications solutions by creating innovative products and services to disrupt digital.

We help 8 out of the top 10 global operators reach over 3 billion endpoints.

We are the enabler making the future of digital communications services happen.

Xura. We think beyond.

XURA

For more information
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