Once separate, recent advances have brought the Web 2.0 and telecommunications worlds closer together than ever before. This trend towards technological convergence brings benefits to both users and businesses, says **Noël Crespi**, of the SERVERY project

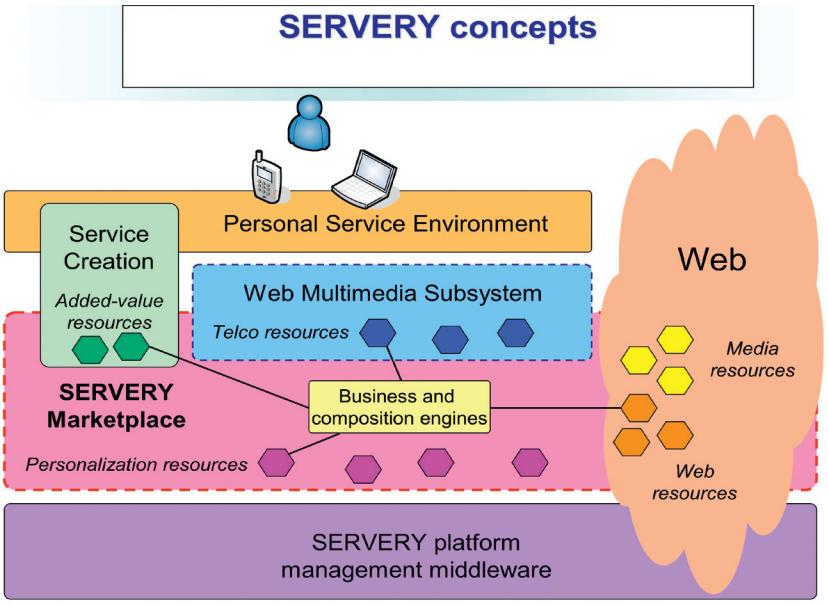
Converging Web 2.0 with telecommunications

The advent of the Internet has fundamentally changed the way we work and communicate. The ability to gain instant access to information allows businesses to respond rapidly to emerging trends, while the general public also benefits from the enhanced commercial and political transparency encouraged by the Internet, as well as its comprehensive coverage of world news and current events. Advances in telecommunications have had a similarly seismic impact, and although initially developed on an entirely separate basis from the Internet, recent years have seen a progression towards technological convergence between the two. This is a trend on which the SERVERY (Advanced Service Architecture and Service Delivery Environment) project – an EU-funded initiative researching, prototyping and evaluating an open European service marketplace – aims to build. "The objective of the SERVERY project is to create an environment that merges the telco world with the Web 2.0 world," says Noël Crespi, the project's dissemination coordinator. "However, when we speak of merging the two we have to be very careful about how we do it. If we don't pay close attention to the technical specifics then we may end up with architectures which cannot be implemented, or where implementation is so complex that they will never be used – combining the best of the two worlds within one environment is a complex task. As such we are looking at several high-level technical possibilities."

Coupling between Web and Telco

The initial stages of this work involved taking the positive aspects of the Web 2.0 and telco environments by enabling the convergence between NGN-IMS, Web and Media service technologies. The IMS itself has been adapted to provide access to a number of networks, including 3G, DSL, cable and WLAN, and while this is of great interest to SERVERY, Crespi is keen to stress that this project is not slavishly following a pre-determined path. "One of the ways we could potentially merge Web and communications services is by having a tight coupling with the IMS, which would involve pushing the Web into the IMS standards," he explains. "However, one potential drawback to tight coupling is that it is likely to have a significant impact on the IMS, and it will also take a long time to get it standardised. We believe that convergence at service level, which will involve not tight coupling but rather a loose coupling between the Web and IMS, is a solution which might prove effective, and which would also be easier to implement. The idea is that convergence would be at the service level, and that we would specify and implement interworking with the IMS, but with limited impact on the IMS standard itself, which would make it easier for the manufacturers to comply with our specifications. This approach, that we nicknamed Web Multimedia Subsystem, provides a convergent access to the platform with the Personal Service Environment which is the user point of entry."

The project is also working to provide an intelligent business environment – the service marketplace – to create new business opportunities, models and roles, a goal which makes specific demands on the architecture. "With corporate users there are some different issues which we have to take into account, because you cannot deploy tools like SERVERY in a company without first interacting with its business processes," explains Crespi. "We have to take business processes into account – we do not provide the same service environment Web-pages for the secretary as we do for the CEO of a company for example



– so the integration of business processes is an essential issue. What is important for us is that at the end, in the service environment, the user will see something simple which they can easily adopt. For instance we are working on natural language, so that the user will be able to create the tools they need to make an enquiry for a service in their own natural language. We want to create something simple which could potentially be developed further, and also to allow users a real role in creating and publishing their own services." Mathieu Boussard, technical leader of the project, further adds that, "using a Marketplace approach enables users of the platform, be they end-users or professional to take part in the business relations that can be realised there – resources that are present on the marketplace can be discovered, sold and used by different actors, enabling a new ecosystem."

service architecture which does not integrate with web services, or in a very limited way. The world is moving towards technological convergence, as social networks vividly demonstrate. If we don't provide an integrated platform, and if we don't provide more flexibility to the users, then NGN and IMS architectures might only be deployed in quite a limited way in the future."

This of course has severe commercial implications, and ensuring the longevity of the SERVERY environment is thus an important objective for the project partners. The rapidly evolving nature of the commercial landscape means technologies have to continually prove themselves relevant to contemporary needs if they are to survive; to this end SERVERY has been designed to not only be easily deployable, but also easily manageable, both crucial attributes in the modern context. "Time-to-market for platforms like SERVERY is very important. Our research must meet the needs of technical solutions, so it has to be deployable," acknowledges Crespi. "We have incorporated change management principles within the architecture, which means that each component will have some self-managed principles which we call autonomic services. As a consequence we believe that it will be more easily manageable, and also that it will require very few human interventions to manage the whole platform. This will play a key role in the deployment of the architecture, as well as in future upgrades. We expect users to be key actors in the further development of SERVERY, but we also need manufacturers, operators and service providers to be involved. We could potentially merge SERVERY with SOA's (Service Oriented Architectures) in the near future; however, at the moment individual partners are focused more on the long-term perspective." ★

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User Generated Services

While it might be assumed that this goal of allowing users to create their own services is aimed primarily at individuals with great technical expertise, in fact it extends well beyond those with prior knowledge of service development, and mimics Internet development. In Web 2.0 users already have the ability to upload content and create their own services, an attribute Crespi says the project will bring to the world of telecommunications. "When a user creates their own service, it is available in what we call the SERVERY marketplace. When you want to create your own service you can access any service or resource in the SERVERY marketplace, including Web resources, communication services and service components. SERVERY is not primarily a business tool, it is something which is here to fill a big gap in communications services," stresses Crespi, outlining the broad relevance of this work. "If we stick with what we have in existing standards there will be knock-on effects. For instance, the IMS is a pure communication

At a glance

Full Project Title

Advanced SERVice Architecture and Service DelivERY Environment (SERVERY)

Project Objectivess

SERVERY's overall goal is to create a Service Market Place that bridges the Internet and Telco worlds by merging the flexibility and openness of the former with the trustworthiness and reliability of the latter. To achieve this, the project will develop mechanisms to enable both end-users and professionals to create and deliver converged NGN-IMS / Web / Media services.

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Noël Crespi holds a Masters from ENST and a PhD from Paris VI University. He worked from 1993 in CLIP, Bouygues Telecom and joined France Telecom R&D in 1995 where he led the Mobicarte prepaid service project and took an active role in various standardisation committees. In 1999, he joined Nortel Networks as Telephony Program manager. He joined Institut TELECOM in 2002 and is currently professor and programme Director, leading the Core Network and Service Architecture group. He is appointed as coordinator for the standardisation activities in ETSI and 3GPP. He is also a Visiting Professor at Asian Institute of Technology. He is a senior member of IEEE.