

Intelligence on the Web to boost the e-service economy

How can we automatically clear music rights for artists over the Web, when there are millions of Internet radio stations in the world?

How can customers and suppliers collaborate on the Web to tailor design industry events and conference packages, so that all participants' needs are automatically satisfied?

How can we integrate millions of renewable energy sources across Europe into the grid, and offer them to the market as attractive electronic services that manage supply and demand, reduce cost, and improve sustainability alike?

These are some of the innovation challenges we face in expanding Europe's electronic service economy. EU research projects such as OBELIX provide new intelligent solutions.

The future Web

The Web is a world-wide infrastructure for the Information Society. But its development has not yet come to an end.

Today, it's a passive storage place of electronically linked documents. The next generation of the Web, coined the Semantic Web by Web inventor and W3C director Tim Berners-Lee, will be pro-active: an intelligent platform for the creation of electronic services.

Key to this intelligent Web is a recent knowledge-based method by information scientists known as *ontologies*. They are reusable information models that contain the concepts and knowledge people share about a work domain, in Web standard form (RDF, OWL).

OntoServer systems then supply this knowledge to many Web applications, as an integrated basis for intelligent reasoning about what users want from these applications.

E-services, a collaborative business

The future intelligent Web offers combined human and computer understanding. OBELIX has taken this idea several steps further to create novel electronic services. First, its intelligent ontology tools equip the Web with real-world business knowledge about services. Second, it has defined the basic "Lego block" components that together make up e-services. Then, one can automatically configure complete multi-party services or even service bundles over the Web. As the application areas show, this idea succeeds for a wide range of different services.

Thus, the future Web becomes the electronic mirror of the dynamic knowledge economy that Europe strives to be. Electronic services are in fact microcosms of networked knowledge economies - due to intelligence on the Web.

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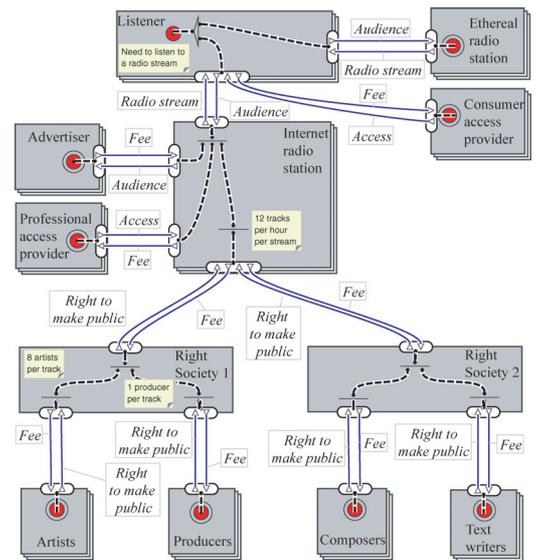


Fig. 1: Digital music rights are a collaborative e-business service, as this Internet radio "value web" shows that has been produced by one of the OBELIX tools.



Fig. 2: This looks like a farmer's barn, but it's actually a small hydropower plant in Mid Norway. The future Web makes it possible that such renewable energy sources collaborate and sell their power to the market electronically.



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