Press release
Nota de prensa

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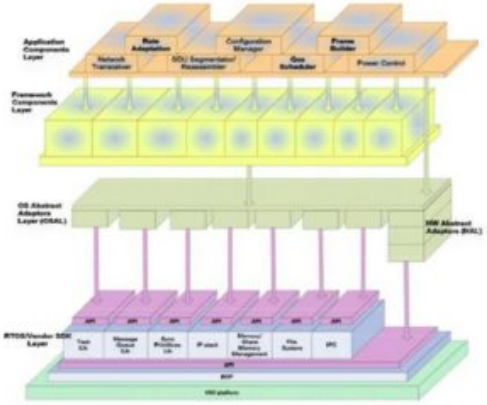
FLAVIA project set to build adaptability into the wireless Internet

Institute IMDEA Networks is to participate in FLAVIA, a new project that aims to enable wireless networks to rapidly evolve to suit new demands.

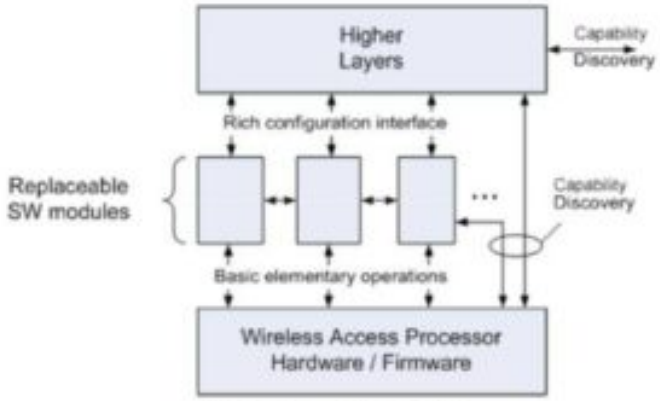
The importance of wireless networking for the future of the Internet is growing at a fast pace as the spread of mobile devices accelerates. But today's wireless networks are unable to rapidly adapt to constantly changing contexts and service needs, principally due to their rigid architectural design—in particular the reliance on a layer-based abstraction model based on pre-designed link services. With this in mind, Institute IMDEA Networks, a research institute backed by the Madrid Regional Government, has announced its participation in the FLAVIA project (FLexible Architecture for Virtualizable wireless future Internet Access), which involves a paradigm shift from pre-designed link services to programmable link processors. FLAVIA aims to expose flexible programmable interfaces, enabling service customization and performance optimization through software-based exploitation of low-level operations and control primitives.

Institute IMDEA Networks' contribution, carried out jointly with University Carlos III of Madrid, will concentrate on MAC configuration and design, with a particular focus on the specification and prototyping of 802.11 modules and programming interfaces, and on developing innovative approaches for enhancing contention-based system performance. The Institute's work will draw on its current involvement in the CARMEN project, which aims to improve the cost-effectiveness of deploying heterogeneous wireless mesh networks. The Institute is also contributing to the development of video-transport mechanisms in the recently announced MEDIEVAL project, and these are to be considered as examples of enhancements that could be implemented in the FLAVIA architecture.

FLAVIA's concept represents a significant improvement over the state-of-the-art, allowing operators, manufacturers, network designers, third-party solution developers and even end users to rapidly optimize and upgrade the network, prototype and test new protocols and adapt wireless access to new needs. The project, funded by the European Commission and planned for completion in June 2013, includes participation by a major operator, two wireless manufacturers, a mesh node manufacturer, two research centers and three academies.



A possible 802.16 architecture according to the FLAVIA vision



Wireless device modules in FLAVIA

Source(s): IMDEA Networks Institute

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About us

IMDEA Networks Institute, promoted by the Regional Government of Madrid, is a research organization on computer and communication networks whose multinational team is engaged in cutting-edge fundamental science and technology. As a growing, English speaking institute located in Madrid, Spain, IMDEA Networks offers a unique opportunity for pioneering scientists to develop their ideas. IMDEA Networks has established itself internationally at the forefront in the **development of future network principles and technologies**. Our team of highly-reputed researchers is designing and creating today the networks of tomorrow.

Some keywords that define us: 5G, Big Data, blockchains and distributed ledgers, cloud computing, content delivery networks, data analytics, energy-efficient networks, fog and edge computing, indoor positioning, Internet of Things (IoT), machine learning, millimeter-wave communication, mobile computing, network economics, network measurements, network security, networked systems, network protocols and algorithms, network virtualization (software defined networks – SDN and network function virtualization – NFV), privacy, social networks, underwater networks, vehicular networks, wireless networks and more…

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