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Mediacom 2004

ITU drives Forward Key Multimedia and IP Projects

There is a fast-growing interest in multimedia communication services.

ITU's Telecommunication Standardisation Sector (ITU-T) is driving forward new multimedia and IP projects to continue fostering seamless interconnection of the world's communication networks and systems. This article highlights the new "Mediacom 2004 Project", which is directed by Study Group 16 (Multimedia services, systems and terminals) and the "IP Project" under Study Group 13 (Multiprotocol and IP-based networks and their internetworking).

Mediacom 2004 is the brainchild of Study Group 16 and aims to establish a framework for a harmonised and coordinated development of global multimedia communica-

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tion standards. The project was created recognising that:

- there is a fast-growing interest in multimedia communication services and capabilities and that the rapid increase in diversity of services and systems may well increase the possibility of confusion amongst users;
- global standards and harmonised regulations are essential for an effective and democratic information society, and that consistent multimedia systems and services are part of the core in this information revolution;
- with the on-going convergence of the telecommunications, broadcasting and information technology (IT) industries, many standards organisations and industry forums are developing multimedia

standards and this could lead to unnecessary duplication of work;

- the present convergence trends in applications tend to bring further overlaps in standardisation work, introducing the need for costly and complex gateways to maintain end-to-end interoperability amongst the emerging services on differing network and platform types.

Against this background, Mediacom 2004 seeks to provide solutions by developing a standards framework for multimedia applications, services and systems. In October 2001, the project won the support of the World Telecommunication Standardisation Assembly (WTSA-2000) in Montreal. As its name suggests, Mediacom 2004 will focus on the four-year period up to the next WTSA in 2004. Mediacom 2004 is being developed with the support of relevant Study Groups of the ITU-T and of the Radio-communication Sector (ITU-R). Similarly, project implementation is taking place in close cooperation with key relevant regional and international standards developing organisations (SDO) to coordinate emerging standards, with the intent of introducing some consistency and easing, for users, the task of understanding and using these new applications. Among these SDOs are the International Organisation for Standardisation (ISO), the International Electrotechnical Commission (IEC), the Internet Engineering Task Force (IETF) and the European Telecommunications Standards Institute (ETSI).

Seven "framework study areas", have been identified, and Study Group 16 has appointed rapporteurs to each of these topics highlighted below to drive the work of Mediacom 2004.

Architecture

The objective is to define the architectural framework for future multimedia services and applications. With the concept of an open network architecture the means of ensuring new multimedia applications can be readily configured, using available network resources, to meet user needs in a network-independent way.

Applications and Services

Today we observe convergence in the fields of IT, telecommunications, radio-communications, broadcasting and the interactive computing environment, which is coupled with the development of new networks, especially those based on IP technology and mobile networks. This convergence is fuelling the roll-out of all types of new multimedia services with the prospect of the concept of total multimedia mobility becoming a reality in the near future. The objective is to generate a "convergence roadmap" to show how diverse existing and planned multimedia services and applications can converge so as to provide seamless interworking from the user viewpoint.

Interoperability

Interoperability can be considered in terms of reliable end-to-end multimedia operation across a number of different networks. However, this has to be viewed further in terms of different applications and services that are either network or end system-based interoperating efficiently and reliably in a given multimedia environment. The concept of gatekeepers is a vital element in ensuring that legacy systems can interoperate or interwork with new IP-based networks. Study Group 16 is set to manage the

process of harmonising new multimedia systems and services to achieve their end-to-end interoperability.

Coding

Work in the media coding area begins with identifying emerging services and applications and the corresponding information elements (media) that need to be encoded/decoded. Existing and planned media coding technologies are being identified and interworking issues addressed. Once again, the project aims to draw a "roadmap" for convergence in this area and to develop new coding methodologies where appropriate, taking full account of quality of service (QoS) requirements.

QoS and Performance

The objective is to ensure that the QoS levels required for the various media types are established and defined; and that the necessary mechanisms and protocols for delivering these multimedia QoS levels are provided. This focus is on the end-to-end performance as perceived by an end-user of a multimedia service or system, and seeks to identify appropriate methods and guidelines for measuring the quality of media coding and the end-to-end quality of multimedia services.

Security

There are a number of security considerations that need to be addressed when developing an architecture for the multimedia information infrastructure. Such considerations include end-to-end privacy of data, user identification, access control and encryption. Within a telecommunications context, security issues can be grouped in terms of four roles: user, network operator, third party and government. The objective is to try to ensure maximum consistency and interoperability across the range of multimedia services and applications.

Accessibility

The capabilities of users of telecommunications and multimedia services to handle different information media and control actions vary within boundaries. This variation may be age-related or may be due to some natural or illness-related disability. With the ageing populations in large parts of the world, many telecommunication users have sensory and motor limitations. It is important to meet these wide-ranging capabilities in the design of telecommunication services so that more users can benefit from them. The objective is to ensure that standardised solutions, which improve human accessibility to communi-

cations, are identified, designed and promoted.

As an important part of the coordination role, Study Group 16 has established a Steering Committee involving the key standards-setting bodies working in this domain. The Steering Committee met, for the first time, in April during a Media-com 2004 workshop attended by many SDO representatives. As well as involving ITU-T representatives, the Steering Committee enjoyed the participation of Scott Bradner, Transport Area Director in the IETF, Leonardo Charigleone, Convenor of the well-known MPEG committee in ISO/IEC, and Gerry Lawrence, Vice Chairman of the ETSI Board. In particular, this meeting reviewed the activities of each of the standards-setting bodies represented and the areas requiring multilateral coordination. 9

Brian W. Moore, Chairman of ITU-T Study Group 13 and John Magill Vice-Chairman of ITU-T Study Group 16

Source: ITU News

FORSCHUNG UND ENTWICKLUNG

Displays mit «Systems-on-Glass»

Wie zuvor Sharp hat nun auch Sony angekündigt, dass man Anfang 2003 flache LCDs mit Polysilizium-Dünnschichttransistoren auf dem Trägerglas fertigen will. Ausgewählt wurde ein 3,8-Zoll-Display, das sieben Chipkomponenten zusätzlich trägt: Treiberbausteine, ein 6-bit-RGB-Interface, Taktgeber, einen DC/CD-Konverter und anderes. Das Display löst 320 (RGB) x 480 Pixel auf. Ohne das erforderliche Rücklicht nimmt das Display 110 mW Leistung auf. Gefertigt werden soll das LCD bei ST-LCD, einem 50:50-Joint-Venture mit Toyota Industries. Unabhängig von der Fertigungsaufnahme seines integrierten Displays noch in diesem Jahr hat Sharp an dem Thema «Systems-on-Glass» weitergearbeitet. Gemeinsam mit der Semiconductor Energie

Laboratories Co. hat man einen historischen Z80-Prozessor mit 13 000 Transistoren zusammen mit einem LCD auf Glassubstrat realisiert. Damit konnte man zeigen, dass auch komplexere Bausteine in dieser Technologie machbar sind. Noch weiter ist NEC gegangen. Das Unternehmen hat gemeinsam mit Samsung ein organisches Elektrolumineszenz-Display mit 2-Zoll-Bildschirmdiagonale fertig gestellt. Es löst 176 (RGB) x 184 Pixel auf, wobei jeder Pixel 65 (RGB) x 195 µm misst. Das OEL-Display bringt es auf eine Helligkeit von 100 cd/m². Auf dem Glas-träger wurden zusätzlich Strom- und Spannungskonverter integriert sowie benötigte Pufferspeicher. Wie auch bei Sony können 264 144 Farben dargestellt werden. Ein Fertigungstermin wurde allerdings noch nicht genannt.

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