

INTERNET SECURITY

FULLY SECURE ELECTRONIC COMMERCE BY THE YEAR 2000?

EUROPEAN COMMISSION ADOPTS INTERNET SECURITY AND ENCRYPTION POLICY

Security on the Internet - or today's current lack of it - is the primary obstacle to the widespread commercial use of information services. Once this question is adequately addressed, experts predict the rapid growth of commercial services of all types.

The European Commission has been following this debate closely. To help drive forward the creation of an Internet security framework and the market for encryption tools, it recently adopted a Communication 'Ensuring Trust and Security in Electronic Communication' that sets out the European Internet security policy.

The Communication calls for measures to be put in place throughout the Union by the year 2000 at the latest. To drive this process forward, it offers detailed proposals for action. Some of these actions will be put in place before end 1997, and others initiated in early 1998.

SECURITY BRINGS NEW COMMERCIAL OPPORTUNITIES

The crux of the Internet security question - and the core of the Communication's message - are that a common framework for digital signatures and encryption is urgently needed to make electronic commerce on the Internet more secure.

This policy will stimulate the development of cryptographic products and services in the European market, and encourage the creation of a European security and encryption industry.

New forms of business such as the

creation of the 'virtual company', which can do business around the world, with a drastically reduced infrastructure cost, is a commercial concept that is expected to explode on the market once the security and encryption standards are in place. Full-scale electronic tendering for government and public contracts, and government services to citizens will also become more widespread with a new security environment.

WHY CRYPTOGRAPHY?

But we're not there yet. Today the reality of exchanging commercial or personal information over the Internet is that messages can be intercepted and manipulated, the validity of documents can be altered or denied, and private data can be illicitly collected.

Cryptographic technologies, like digital signature and encryption, are widely recognised as essential tools for security and 'user trust' on open networks. Digital signatures can help to determine whether a document has been altered and to prove its origin in a way that the sender cannot deny having signed it.

Encryption can help to keep data (documents or messages) confidential. It is essential that cryptography - a concept that the average citizen only knows from movies - is recognised by people as the missing link that allows them to exchange information, do business and make electronic payments using their computer, with the same certainty as spending money in a shop.

In recent months, regulation or possible regulation of digital signatures and encryption has been the subject of a wide international debate. Several EU Member States have announced their intentions to introduce specific regulation. Some have already moved ahead, such as the German digital signature law.

CRYPTOGRAPHY: TWO KEY QUESTIONS

The need for regulation is motivated by two reasons: firstly, digital signatures have legal implications. The question of whether or not they should have the same legal value as hand-written signatures is at the centre of the debate. Secondly, increasing use of encryption may collide with concerns of law enforcement and national security agencies fearing that their capacity to prevent and investigate crime will be diminished.

The sooner there is a common European position on cryptographic standards, the sooner Europe's high-tech and innovation based companies can begin developing products - ahead of the world market. Entering this market on the 'ground floor' is a big opportunity for regional development and employment in many areas of the EU. ■



Editorial by
Alan Donnelly
Member of the European
Parliament

From its inception, the liberalisation of the telecommunications

market has been hailed as an essential ingredient in the successful construction of the Information Society in Europe. Increased competition, it is argued, will promote improvements in infrastructure while delivering reduced tariffs to the consumer.

Modernisation of infrastructure will provide faster, more reliable access to a wider range of on-line services such as the Internet, tele-medicine and distance learning. Lower prices - particularly on local calls - promise rapid increases in demand for these services, in turn generating enormous economic growth and new employment opportunities.

Statistics indicate that liberalisation in the sector will in time make good on its promises. In Great Britain, where competition was introduced in 1984, the market has seen an overall drop of 40% in phone prices: national calls have fallen by 48-80%, international calls by 56%, regional calls by 30-54%, and local calls by 33-42% or more. In Member States where full liberalisation will only be implemented on 1 January 1998, the situation is quite different. Tariff re-balancing is indeed bringing down long-distance rates, but at the price of increased charges for local phone service, particularly during peak periods.

Tariff policies are of great importance to Europe's future. Ultimately designed to create a fully competitive environment amongst telecoms operators, in the short term they are threatening to discourage the use of on-line services by budget-conscious consumers, both public and private.

As those positioned to benefit most from liberalisation, telecoms operators have an obligation to cooperate fully with national, regional and local authorities to offset these initial negative effects. Every effort must be made to accelerate the implementation of full competition to deliver substantially reduced local phone service to the public as quickly as possible.

In the meantime, a voluntary consortium could be created consisting of telecoms operators, hardware and software producers, internet service providers, and other interested bodies to equip every classroom, library, state-run hospital and other public service institution in Europe for free access to the Internet. The education and well-being of our citizenry must not be allowed to lag behind that of countries like the United States where over 65% of schools are wired to the Internet at a flat-rate monthly telephone charge. ■

ESIS SURVEY: A UNIQUE SOURCE OF INFORMATION ON EUROPE'S 'IS' DEVELOPMENTS

After only nine months the ISPO commissioned European Survey of Information Society projects and actions (ESIS) is already becoming the primary information source on who's doing what in the European Information Society (see article in *IS News* May 1997).

Through this ISPO supported project, specialist companies across the European Union have gathered a wealth of local details on information services, technologies and projects that exist today. The result is a unique snapshot of the European Information Society; who are the players and how it is evolving.

The data gathered by the ESIS examines four areas:

- A quarterly analysis of regulation developments in the Member States (already on-line)
- The continuous monitoring of Information Society promotion actions and initiatives (e.g. national calls for proposals - already on-line).
- The mapping of alternative networks offering Information Society infrastructure, services and applications - such as energy utilities, railways, water supply, cable TV, highways, etc. (already on-line)
- The European inventory of Information Society projects.

The core of this effort is the inventory of Information Society projects. Some 10,000 questionnaires have already been sent out to project teams in early 1997, and a steady flow of responses has been coming in since then. Already over 900 projects have replied.

Preliminary national and European qualitative and quantitative analyses based on the data received are now available. This information profiles: the types of project promoters; project focus and application areas; target groups; development of projects by

geographic area and user access; technologies used; sources of funding, forms of external funding, and related data.

The main barriers to project development identified by respondents are the costs of development and infrastructure. The third critical barrier is interestingly the lack of qualified people. Other problems are legal issues, particularly copyright, and inadequate levels of standards and security measures.

Interestingly, user resistance is at the bottom of respondents' list of concerns. More complete statistical results will be presented soon and the ESIS database of projects, accessible via a search engine, will go on-line over the coming months.

In the three other areas examined by ESIS - emerging IS regulations, promotional initiatives and alternative networks - a massive amount of information has already been collected and analysed. Detailed reports of the main events in regulations related to the Information Society have been compiled and are updated quarterly. Over 400 promotional actions have been collected.

The main findings of the ESIS work to date will be presented at the first ESIS conference, which is planned for the first quarter of 1998 in Brussels.

Following the conclusions of the 3rd EU/CEEC Information Society Forum (see article on page 3), ESIS will now be extended to include Central and Eastern European Countries. ■

*In the meantime, for all available ESIS data, or to promote your Information Society project - contact the ESIS project coordinator:
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or point your browser to
<http://www.ispo.cec.be/esis>*

YOU'VE GOT TO HAVE STANDARDS

Standards Conference hosted by the Commission brings together industry, international standardisation and government leaders from around the world. Some 500 representatives of industry, international standardisation bodies, information and communications technologies users, and government regulators from around the world met in Brussels in October to exchange views on the importance of standards to the future development of the Information Society. The Global Standards Conference examined the theme of standards in the Information Society from four perspectives: electronic commerce, services to the public, individual use, and communications infrastructure interoperability. Conference participants agreed on several priority issues that must be addressed so the Information Society can progress smoothly:

- **Removing technical barriers to free trade.** International standards are the best way to achieve free trade without technical barriers. Participants called upon international standardisation bodies to set a clear agenda for priority actions, with the primary aim of eliminating barriers to trade. Commissioner Bangemann's proposal for an International Standards Charter was received very positively, particularly by industry.
- **International standards bodies need to adapt their activities and procedures to respect the need for the**

rapid development of Information and Communication Technologies and electronic services. This is vital if they are to maintain their role in the reaching consensus on global standards.

- **Complementarity between regional and international standards.** Regional standards must not conflict with world standards; there is a need to open regional standards to participation by other countries.

- **Market-driven but public-focused.** Standardisation in the Information Society must be market driven; but the public interest must be taken into account as well. Important issues here are: *Consumer protection*: how to determine whether legal requirements have been met; *Privacy*: where standards can provide codes of practice; *Security*: where standards can contribute technical and management guidelines for encryption and digital signatures.

This conference is the first step in an ongoing dialogue between participants. A permanent international dialogue on standards and the Information Society will take place as a virtual conference, in the Global Standards Conference follow-up Forum, which is supported by the European Commission. Join the discussion on the conference Internet site, where conference conclusions, papers and discussion documents can be reviewed. ■

Point your browser to <http://www.ispo.cec.be/standards/conf97/>

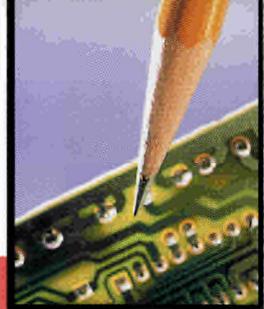
For all queries, please contact: glstdconf@dg3.cec.be

GLOBAL CONSENSUS: REGULATORS, INDUSTRY AND STANDARDS BODIES AGREE THAT

- Standards must focus on interfaces, not implementation, to create worldwide solutions for interoperating ICT products and services.
- Markets should be self-regulated and driven by the private sector.
- Standards interfaces should be open, techno-

logy neutral and able to accommodate innovation

- New standards should be defined for technological solutions that cannot use the existing interfaces.
- Governments' challenge is to provide stability and predictability through a harmonised legal and





EU/CEEC FORUM

BRINGING CENTRAL EUROPE ON-LINE

Third EU/CEEC Forum creates high-level business/political dialogue

Political and business leaders from eastern and western Europe came together in Brussels for the third time in two years to continue the work of joining Europe's new democracies to the Information Society (IS). The EU/CEEC Forum on the IS took stock of the progress of the IS in Central and Eastern Europe (CEEC) and asked for continuous efforts. Its primary focus is to achieve support for building an IS among these countries' political and business communities at the highest levels. This third Forum was a joint effort of the European Commission, 13 Central and Eastern European Countries and the European Parliament. It was attended by more than 200 participants, including ministers, industrialists and researchers. A highlight of the meeting was a review of results of working panels from the previous Forum, which were presented by Ministers from Estonia, Hungary, Slovenia, and the Czech Republic. These discussions covered: formulating national policy and strategy; the role of pilot projects in developing the IS; and how information and communication technologies can be applied in education and public administrations. A report on the implementation of the 30 ideas of the action plan, which was announced by Commissioner Martin Bangemann in Prague in 1996, was also given. The achievements to date were the success of CEECs in raising public awareness for the IS and good progress with actions targeting public administrations and services. Another important conclusion is that

most of these countries see the IS as a political priority. But participants agreed that there is still much to be done to bring the benefits of the IS to the citizens and economies of the CEECs. Some of the priorities for the immediate future are:

- The CEECs need to shape their national plans and strategies in line with EU activities.
- Telecom liberalisation needs to move forward in these countries, replacing monopolies with open and fair competition.
- Close consultation with industry is vital; there must be a level playing field for all industrial actors. A business round table was announced by the Commissioner.
- Improved education and training in subjects relevant to the IS is required to ensure a qualified labour force for industry and answer the emerging day-to-day social needs of the IS.
- The IS can play an important role in improving transparency in government; the CEECs should look closely at the options available to them.
- The creation of a light and simple framework, a global charter, for the IS.

As the Forum's dialogue continues, the next steps for the EU's Central and East European partners include active participation in the Information Society Awareness Day in 1998. It was also agreed that progress on this initiative should be reported at a ministerial event to be organised in 1999 which brings together EU and CEEC government representatives. ■

More information at: <http://www.ispo.cec.be/peco/peco.html>

rating and filtering.

- Standards bodies should adapt their processes to react rapidly to develop Information and Communications Technologies standards and provide a platform for building consensus between all players worldwide. These bodies should increase cooperation with counterparts to ensure better coordination.

FAIR PROJECT

WHAT IS THE BEST 'IS' SCENARIO ... FOR EVERYONE?

FAIR project proposes best solutions for a peoples' Information Society

As the Information Society gains momentum, the pace of technical innovation and the creation of a regulatory framework are proceeding more rapidly than other necessary social and economic changes. This creates the imminent danger of excluding people, regions and segments of Europe's population, if measures are not taken soon. These are the findings of the FAIR project, an EU-funded effort which recently completed the first-ever analysis of the Information Society's socio-economic impact. Based on these findings, FAIR has developed several scenarios that show different possibilities for the Information Society's development. Not all options guarantee the best outcome for reducing social inequality and supporting diffused welfare, the FAIR report stresses. In the most predictable scenario, the market will be held - probably until 2003 - by today's technology and infrastructure leaders, who will focus their services on the more profitable higher-income users and the most-developed economic regions. The FAIR study shows that the best chance for balanced economic growth and for reducing social exclusion lies with its Virtual Community Renaissance scenario. Virtual Community Renaissance calls for full market liberalisation through widespread and open access to infrastructures and services, with a variety of service and content providers from all sectors. Following this approach, the education and social services sectors will actively as a part of the Information Society, bringing direct benefits to all citizens at every household income level.

How to create a Social Information Society

The FAIR analysis highlights critical factors to building a balanced social and economic growth pattern for the Information Society in Europe:

Rapid and harmonised liberalisation across Europe's telecom markets; including the opening of the media/communication markets is essential to achieve economies of scale. Worldwide Web and Internet-based services are a powerful new source of direct and indirect employment, as today's figures from the United States prove.

Increase European content and software. To realise the employment and business potential of the Internet, strong Internet growth trends must continue and the European software programming and content industries need to rise to this challenge.

Rapid development of European copyright industries. The development of Europe's 'copyright industries' must be accelerated (computer software, motion picture, audio-visual and publishing). These sectors employ some five million people in Europe today, and further new opportunities rapidly emerging in the multimedia and communication services supply chains.

Affordable access for all. To reduce the threat of social exclusion in the European Information Society, the cost of access to information services may be reasonable. 'Middle ground' solutions must be developed to allow public Internet access via community and public access points, to stimulate the distribution of information and communication services. This will enable new education and training services to flourish.

Privacy, intellectual property, assessing social impact. Here, the most crucial areas are: managing intellectual property protection; assessing the social and cultural impact of new ways of working; and social interchange using the new services. Privacy and network security issues and building trust among commercial users are also necessary to encourage the widespread use of advanced information services.

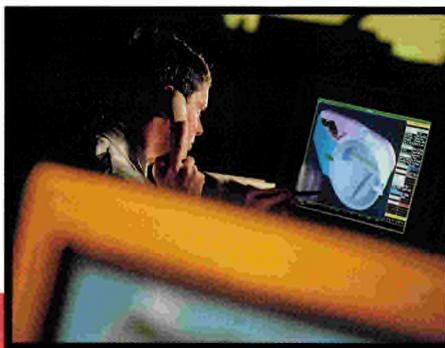
FAIR is part of the European Commission's ACTS Programme; the largest collection of user trials of advanced communications in Europe. Its role is to demonstrate the social and economic viability of Information and Communications Technologies and services. ACTS trials are helping to move Europeans onto the learning curve for new services, and contribute to the reduction of all barriers to the Information Society's development. ■

The FAIR project has published some 31 Working Papers that examine major socio-economic issues such as employment and new job creation, universal service and consumer aspects, sustainable development, regional development in the Information Society. Every year FAIR publishes its Main Report, which presents a scenario of developments and trends. Full details at: <http://www.analysys.co.acts/acts/fair/>

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regulatory framework. Unnecessary regulations that stifle the growth rate of the Information Society and electronic commerce should be avoided.

- Legal requirements and self-regulation combine with formal standards as valid ways to enable global communication and enhance public interests, especially in sensitive domains such as privacy, data protection,



ISPO CORNER

MAKING SCIENCE 'COOL' FOR THE NEW GENERATION

Can the high-tech tools used to make pop videos also dress up scientific and technological topics to attract kids' interest? It's never been tried, but the University of Münster, the British Film Institute and German publishing giant Der Spiegel are determined to make this novel concept work. This ISPO-funded collaboration brings together academics and media production specialists to present science in a sparkling new light. The project will develop a series of television programmes, but will also be available as on-line video that viewers and educators can access through an Internet site. The project boasts as much innovation in the presentation and content as in the technologies used for production and on-line 'broadcasting'. According to

project team members, the style of these programmes will be similar to the MTV pop video presentations, but with carefully researched and presented educational content. Three pilot programmes will be produced and aired during 1997. Among the first topics will be a look back into primate behavior and into the dawn of early civilisations and into the future of brain research and of space exploration ... which leads us to the next logical question: "Will there be normal student life after these programmes attract the interest of Europe's young people? Perhaps Captain, but not as we know it..." ■

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EITC CONFERENCE

INVESTMENT FORUM PRESENTS 30 EUROPEAN IT INNOVATING COMPANIES

Some 30 innovative small and medium-sized technology companies have been selected to present their innovations to a group of potential investors and financiers at the EITC Investment Forum in Brussels. Each company has been selected for the high quality of its proposed idea for Information Society products or services. At the Forum, these companies will be looking for seed capital to start a project, a corporate partner to take an equity stake, or an injection of venture capital. Companies have been chosen from across Europe, and from some EU Associated countries (Norway, Iceland and Israel). The Investment Forum will be held as a part of the annual European IT Conference organised by EC Directorate III (Industry). The conference will be held at the Brussels

Congress Centre on 25 November. The Investment Forum is organised by four European agencies: ENEA (Italian national agency on new technology, energy and environment - Italy), ANVAR (Agence nationale pour la valorization de la recherche - France), NHTMP (National High Technology Mentor Programme - Finland) and VDI/VDE-IT (Technologiezentrum Informationstechnik - Germany), who will coach the shortlisted SMEs to help them present an attractive exhibition and a strong business case. A catalogue will be distributed before the Forum to investors across Europe to illustrate the products and presentations of these SMEs. ■

A copy of these presentations and other up-to-date information on the IT Investment Forum can be found at:
<http://risc590.bologna.enea.it/Infinite/HomePage.html>
<http://www.cordis.lu/esprit/scr/inv97.htm>

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CALENDAR

Translating and the Computer

London (UK)
13-14 November
Association of Information Management (ASLIB)
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e-mail: nicole@aslib.co.uk
<http://www.aslib.co.uk/conferences/trans-comp.html>

Dismantling the barriers to global electronic commerce

OECD Turku, Finland
19-21 November
Ms. Elizabeth Lynch
Fax: +33 1 45249695
e-mail: Elizabeth.Lynch@oecd.org
<http://www.oecd.org/dsti/iccp/e-comm/index.htm>

12th Annual POLIS Conference Urban Transport Telematics Forum

Munich (DE)
19-21 November
Tel: +49 89 23323773
Fax: +49 89 23327686
e-mail: muenchen-kvm@t-online.de

European IT Conference & Exhibition EITC 97

Brussels (B)
24-26 November
EC DG III - ESPRIT
Tel: +32 2 2991926
e-mail: eitc97@dg3.cec.be
<http://www.cordis.lu/esprit/src/eitc97.htm>

3rd European digital Cities Conference

Berlin (D)
1-2 December
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e-mail: telecities@mcr1.poptel.org.uk
<http://www.edc.eu.int>

Le télétravail réinventé

Namur (B)
9 December
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European Telematics - Advancing the Information Society

Barcelona (E)
4-7 February 1998
European Commission
Telematics Applications Programme
Fax: +32 2 7213357
e-mail: conference@cscdc.be
<http://www.concord.cscdc.be/barcelona/announce.html>

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