



PARIS

Organisation de Coopération et de Développement Economiques
Organisation for Economic Co-operation and Development

OLIS : 13-May-1998
Dist. : 15-May-1998

Or. Eng.

DIRECTORATE FOR SCIENCE, TECHNOLOGY AND INDUSTRY
STEERING COMMITTEE FOR THE PREPARATION OF THE OTTAWA MINISTERIAL
CONFERENCE "A BORDERLESS WORLD: REALISING THE POTENTIAL OF GLOBAL
ELECTRONIC COMMERCE"

OECD MINISTERIAL CONFERENCE

**"A BORDERLESS WORLD: REALISING THE POTENTIAL OF GLOBAL
ELECTRONIC COMMERCE"**

**OUTLINE AND DRAFT OF THE SYNTHESIS REPORT
Ottawa, 7-9 October 1998**

Delegates to the Steering Committee will find attached the first draft outline, prepared by the Secretariat, of the "Synthesis Document" for the Ottawa Conference. It is provided for the general guidance of delegates, who are referred to the introduction for further explanation of its provisional status. If the Canadian Proposal, "Blueprint for Conference Documents", approach is approved by the Steering Committee, future versions of this document will be restructured accordingly.

Action required: for discussion.

For further information, please contact Mr. Michael Osborne
Fax: (33 1) 45 24 93 32 Email: michael.osborne@oecd.org

65451

Document complet disponible sur OLIS dans son format d'origine
Complete document available on OLIS in its original format

ANNOTATED OUTLINE OF THE SYNTHESIS REPORT FOR OTTAWA

Introduction

1. The aim of the Conference at Ministerial level in Ottawa is to work towards consensus on certain important issues related to electronic commerce, through a process of review and possible approval of a number of documents (“deliverables”) which point to the problems and propose possible solutions. Following a review of the social and economic impacts of electronic commerce, the main areas covered are: ensuring access to the information infrastructure, including the “year 2000” problem, building user and consumer trust in information systems and electronic transactions and minimising regulatory uncertainty in the new electronic environment. This outline summarises the deliverables for the Ottawa meeting.

The social and economic impacts of electronic commerce

2. This document will address the *growth potential* of electronic commerce in different sectors and regions at present and in the future. It will discuss the impact on *transaction costs* and the effects on productivity, prices, business models, and firm organisation. It examines the implications for the structure and growth of *international trade*, notably in products such as services. Finally, it looks at how all these impacts are likely to affect the nature and growth of *employment*.

Improving access to and use of infrastructure

3. This document will address issues involving access to and use of communication infrastructures in the context of electronic commerce. It will examine the convergence of these infrastructures, since convergence will facilitate the development of electronic commerce. Areas which require new or modified policies will be discussed and potential solutions will be proposed.

Building user and consumer trust

Security and authentication

4. Secure technologies and a predictable regulatory environment to support them are needed to build business and consumer trust in electronic transactions. Governments should formulate policies that support the development of technology-neutral authentication and certification mechanisms, without limiting this fledgling industry or creating disparate regulations that will make secure transactions difficult in the global electronic environment. Recognising the need for urgent action, the Declaration on Electronic Signatures affirms the commitment of Member countries to continue to promote, at national and international level, trust in and use of authentication and certification mechanisms for electronic transactions. Inventories reviewing relevant instruments and initiatives, and discussion papers highlighting the issues in these areas, form the basis for information exchange as part of the OECD’s ongoing work on these topics.

Protection of privacy and personal data

5. Both the public and private sectors must work to protect privacy in the online environment, so as to ensure the benefits of electronic commerce that users value while at the same time fostering consumer confidence in the handling of their personal data. Current efforts focus on a number of key areas to enhance privacy protection on networks: education, technologies, self-regulation and redress. The OECD has undertaken a study of the practical application, on global networks, of the basic principles established in the 1980 OECD Privacy Guidelines, in order to facilitate the search for solutions that provide bridges between different approaches to privacy protection. On the basis of this review, the Supplementary Memorandum to the OECD Privacy Guidelines suggests “best practices” as guidance for the implementation of the Guidelines on global networks.

Consumer protection

6. In order help ensure consumer protection in this evolving commercial environment, the OECD is working to develop *Guidelines for Consumer Protection in the Context of Electronic Commerce*. The fundamental objective of the draft guidelines is to ensure that consumers participating in commercial activities through the use of global networks are afforded the same level of protection provided by the laws and practices that apply to other forms of commerce.

Minimising regulatory uncertainty

7. Key problems in this regard are customs and taxation, intellectual property issues, and the updating of commercial codes, in particular those dealing with issues of liability and jurisdiction, as well as related logistical problems. The OECD is addressing the taxation issue, while other international organisations are at this time dealing more particularly with other areas.

Taxation

8. Governments are aware of the need to remove tax barriers to the development of electronic commerce, but they are also concerned to protect the revenue base in this new environment. The tax system must ensure that electronic and conventional businesses engaged in comparable commercial activity are not subject to different taxation obligations, and framework conditions for the taxation of electronic commerce should be developed in consultation with the business community. The most pressing issues are tax administration issues and those associated with consumption tax. This document provides framework conditions for the taxation of electronic commerce, and at the same time identifies a post-Ottawa agenda.

Other areas

9. The other areas mentioned above are largely being dealt with by other international organisations: tariff-free zones (WTO); intellectual property issues (WIPO); and updating of commercial codes (UNCITRAL).

Reducing logistical problems

The “year 2000” problem

10. This report will present the results of a questionnaire sent to Member countries in order to develop an inventory of publicly available information on the “year 2000” problem and the means to resolve it and consider the economic consequences of the problem, including types of expenses and secondary costs (insurance/litigation), and examine the current status of readiness in Member countries (public/private sector). National/international issues and high/low risk sectors will be identified, and different scenarios and possible economy-wide effects (direct/indirect impacts) will be analysed. The report also addresses the role of government and the public management challenges, including issues of how best to raise awareness, create incentives to act appropriately, and organise to ensure that the problem is adequately addressed, both within the public and non-governmental sectors. Finally, it presents the conclusions of the conference devoted to this issue.

Other areas

The other areas mentioned above are largely being dealt with by other international organisations: electronic payment (BIS); delivery of physical goods (UPU/WCO).

**A BORDERLESS WORLD:
REALISING THE POTENTIAL OF GLOBAL ELECTRONIC COMMERCE
DRAFT SYNTHESIS DOCUMENT**

Introduction

11. Electronic commerce provides a fundamentally new way of conducting commercial transactions. It has potentially far-reaching economic and social implications for the nature of work, the role of governments, daily life, and even the environment. In terms of commercial transactions, it is clear that accepted ways of doing business will be profoundly modified: traditional intermediaries will be replaced, new products and markets will be created, new and more direct relationships will be forged between businesses and consumers. These changes require new procedures for conducting business and a questioning both of the effectiveness of government policies pertaining to commerce and of traditional commercial practices and procedures, most of which were set with a much different image of commerce in mind.

12. Many of these policies and practices can act as barriers to the full realisation of electronic commerce. A main objective of the conference is to discuss these barriers and seek to develop solutions. While the issues are dynamic and tend to overlap, four areas were targeted for attention at the preparatory conference, "Dismantling the Barriers to Global Electronic Commerce", held in Turku, Finland, in November 1997: *ensuring access* to the information infrastructure, *building user and consumer trust* in information systems and electronic transactions, *minimising regulatory uncertainty* in the new electronic environment, and *easing logistical problems* for payment and delivery. Discussion of these issues at Turku underscored the need for a better understanding of the *social and economic impacts* of electronic commerce, which play an important role in all these areas, and of issues such as employment turbulence, international trade movements, and firm organisation, which require further analysis.

13. This document will aim to build on that earlier work by updating the issues and, more importantly, by shifting the discussion from identifying and describing barriers to examining potential solutions, with a view to achieving consensus. It will point to some of the socio-economic impacts that may be associated with electronic commerce, before summarising the issues and recent work and work under way in these areas.

14. Given the breadth of the issues involved and the fact that solutions will emanate from various sources, this preliminary discussion will require further updating and refinement, along with more specific summaries of the documents to be delivered at the Ottawa conference. The present version concentrates disproportionately on work under way at the OECD. A later version will include inputs from sister international organisations such as the World Trade Organization (WTO), the World Intellectual Property Organization (WIPO) and UNCITRAL (UN Commission on International Trade Law). As work develops, this document should also include self-regulatory policies developed by the private sector, as many sources consider such initiatives to be the most practical and effective way to solve the problems that limit the development of electronic commerce.

The social and economic impacts of electronic commerce

15. The intense interest in electronic commerce's economic impact is linked to the fundamental fact that it shrinks the economic distance between producers and consumers. As a new way of conducting business, it may be a significant source of new products, jobs, and economic growth.

16. Although today's embryonic electronic commerce market is relatively small in comparison to other types of commerce, analysts typically predict growth by a factor of ten by the year 2000. Even so, it will still be a relatively minor part of most economies -- in the United States, about the size of mail order catalogue sales. To date, it has penetrated sectors unevenly. The biggest e-commerce market involves businesses supplying products to other businesses, where transactions of just a few firms exceed all estimates of the business-to-consumer market. Consumer sales are dominated by services and intangibles: travel and ticketing services, software, entertainment and financial services. This makes intuitive sense, given the convenience of electronic commerce for products that cannot be physically examined or those that consumers already purchase remotely. More generally, the digital nature of e-commerce effectively standardises transactions, making the information contained in them a commodity in its own right and vastly increasing opportunities for storing, searching and manipulating it.

17. For these sectors, and for other intangible products such as audio, video, information services, real estate services, and some business services, the economic impact of e-commerce may be great and relatively swift. Further out, any easily digitised economic activity -- including health, finance, education, and many government services -- will be affected. Analytical work exploring the impact of electronic commerce on OECD societies and economies is under way; a draft of this work is scheduled for review in early June. While the embryonic state of electronic commerce limits any comprehensive analysis of its wider impact, its potential influence on various facets of the economy will be explored. Some elements to be addressed are:

18. *The growth potential associated with electronic commerce.* This will be broken down into three segments: current growth, growth in two to five years, and growth beyond five years. Geographic regions and key sectors will be distinguished.

19. *The impact of electronic commerce on transaction costs.* In some sectors, this could affect productivity, prices, business models, and firm organisation. This section looks at the disintermediation and reintermediation associated with electronic commerce and the impact on the production function of business.

20. *The impact on the structure and growth of international trade.* Given the international nature of electronic commerce, this could be especially important for products that have not traditionally been exposed to international competition, such as services.

21. *The nature and growth of employment.* All these impacts -- growth, transaction costs and international trade -- will affect employment. It is important to begin to determine, by sector and skill level, the types of jobs that will be affected.

Improving access to and use of infrastructure

Communication infrastructure policies for electronic commerce

22. The growth and widespread diffusion of electronic commerce depends on the availability of high-speed communication infrastructures which provide the capacity, price, and quality necessary to support a wide range of applications for use on an everyday basis. The conditions of access and use of these infrastructures are important for business service providers and users as well. The needed increased infrastructure bandwidth is not only a function of the increasing complexity of electronic commerce applications, which integrate video, graphics and data; users are also demanding higher access speeds, elimination of network congestion, and access to high-quality network capacity at attractive prices. Service providers and customers need to be able to choose how they access services in terms of different network platforms. Encouraging convergence between different communication infrastructures will facilitate the availability of different platforms and will also provide the competition and incentives needed to ensure that required infrastructure capacity is made available for electronic commerce.

Extending competition and facilitating convergence

23. The high speed infrastructures required for electronic commerce will be formed from three main groups: public switched telecommunication networks, broadcasting infrastructures, and mobile infrastructures (both cellular and satellite networks). These potentially competitive infrastructures will provide the local loops which customers and service suppliers will rely on for access to electronic commerce services and applications. Competition provides the best incentives for rapid development of such high-speed communication infrastructures, elimination of congestion, and development of innovative pricing frameworks. Although significant progress has been made in the liberalisation of telecommunication markets in recent years, the process of regulatory reform in the telecommunications sector is entering a new phase, owing to the convergence under way in the information and communications sectors.

24. Competition among communication infrastructures is important for electronic commerce because it provides service suppliers with a choice of infrastructure platforms and allows them to select the best network architecture for their specific requirements, and because it provides users choices for access. It will help stimulate the building of infrastructure by enhancing infrastructure providers' economies of scope. Convergence, which is driven by digitalisation, allows infrastructures to switch and transmit data, content and voice in an undifferentiated way. Convergence also facilitates the development of new electronic commerce applications by combining the content of previously distinct communications, audio-visual and data services in interactive digital formats.

25. Convergence implies that specific communication services will no longer be tied to a particular infrastructure. Thus, allowing convergence in networks will require regulations to move away from specific regulations for particular infrastructures or services and towards frameworks that emphasise open access to all networks for all services. Network and service providers would also need to be subject to fewer regulatory restrictions than at present. This process will require significant rethinking of the premises underlying much regulation in the communications sector.

26. The process of convergence and the enhancement of competition in communication markets are interrelated. Governments therefore need to ensure that regulatory or other policy barriers do not impede the process of technical and service convergence already under way and thus allow the development and

integration of networks that can both provide and support all types of services, including entertainment, telephony, and electronic commerce. Lack of infrastructure competition can retard the growth and development of electronic commerce applications and limit the economic and social benefits which they provide.

27. It is also necessary to review, and eventually eliminate, line-of-business restrictions in order to allow firms in the different communication sectors to provide a range of services, irrespective of whether they are voice, video, or data. This requires a review of existing policies for cross-media ownership, as well as policies for vertical and horizontal integration in the communications sector.

28. Convergence, and enhancing competition in the communications sector, will also require streamlining of existing regulations to allow all market entrants freedom to provide different infrastructures and services, but also to ensure an even playing ground for all market participants. This will require increased forbearance by regulators and greater symmetry in the application of regulations between market competitors.

Price structures and regulation

29. With the development of new multimedia services and the changes they are bringing in terms of the pattern and duration of network usage, it has become evident that electronic commerce may require new pricing structures. Present policies of applying different pricing rules to different networks will no longer be maintainable. Although facility-based operators will need greater pricing flexibility, policy review will still be required to ensure that proper incentives are in place to facilitate the transition to new pricing structures and that dominant operators are not using pricing mechanisms to unfair advantage.

30. The withdrawal of price regulation for telecommunications becomes even more important in the context of electronic commerce and the convergence of networks. Innovative pricing packages must be allowed to play a key role in promoting new electronic commerce services and stimulating their wide take-up and use. Another reason why price regulation requires urgent attention is that several communication service areas do not apply price regulation. For instance, the information technology (IT) and on-line publishing markets are almost entirely free of price controls. Pay TV channels, including premium services, as well as the commercial free-to-air activities, are not generally subject to price regulation, but they are subject to competition from other market operators.

31. Communication infrastructure operators who provide a range of products will not be in a position to follow existing telecommunication methods of cost allocation to determine cost-based pricing, as cost allocation will become extremely difficult in a broadband environment where many services integrate voice, data and video.

Universal service in a multimedia environment

32. With the development of the Internet, governments have increasingly deemed it appropriate to extend the benefits of Internet services to schools, health institutions, and public entities such as libraries. The extension of universal service may also become important for widespread use of electronic commerce applications so as to ensure equitable access opportunities across all segments of society and all geographic regions of a country. This will require re-examining and redefining existing universal service concepts with regard to new facilities and services, such as broadband multimedia and Internet services.

Network access and interconnection pricing

33. Competition also increases the need for facility-based telecommunication operators, and above all incumbents, to provide access to their network facilities. In most cases, these served as a bottleneck that controlled access to customers by other suppliers. Commercial negotiations were viewed as the most appropriate way to ensure network access. However, it has been widely recognised that in commercial negotiations over access, small network operators are likely to be disadvantaged. Regulators in some countries have responded by formulating policies for “arbitration” of interconnection between carriers if voluntary negotiations fail. Specifying in advance the principles and approach to be taken in arbitrating disputes may assist commercial negotiations by narrowing the boundaries for those negotiations and ensuring that they conclude rapidly. Providing benchmarks has also been viewed as facilitating rapid agreement on fair terms.

34. As convergence proceeds, a preference for a negotiated outcome to access terms and conditions continues to apply. Access to conditional access systems or to specific content is also a matter for commercial agreement, subject to the rules of competition.

35. A problem emerges for convergence when an open access framework is applied to one set of communications infrastructure but not to others. This could create barriers and distort investment. It is important to try not to extend regulation applying to telecommunication to other network infrastructures, such as those that support the Internet. Rather, regulators should try as soon as feasible to avoid specific regulatory provisions in the telecommunications or broadcasting areas, so as to ensure a level playing field for all market participants.

36. Enabling traffic exchange between Internet service providers (ISPs) is important for electronic commerce and the continued growth of the Internet. There are several different mechanisms for traffic exchange, including peering and transit. Peering is akin to “sender keeps all” in the telecommunication world, and transit is akin to interconnect or access payment. Whatever the mechanism, traffic exchange should take place in a competitive environment based on a framework where all firms have equal opportunities, so as not to foreclose opportunities for new market entrants.

Market entry and licensing reform

37. Despite the blurring of industry segments, many regulators continue to license and regulate discrete services for certain carriers, while equivalent functions provided over other types of systems are less regulated, or not licensed at all. Convergence further complicates the licensing issue since there are differences within the telecommunications, media and IT sectors concerning the extent to which market entry is unrestricted, limited or subject to special rights. Computing, the IT sector, and most Internet services are not subject to licensing requirements at all.

38. In principle, where any network can potentially carry a service, regulation should not stop this from happening. Any use of licensing or any other regulatory limitation on market entry represents a potential barrier to service provision, investment and competition. If artificial regulatory restrictions on the use of networks are allowed, or if special rights are maintained when other parts of the converged environment are fully open to competition, access to innovative services is denied and there is unjustified discrimination.

39. To avoid the distortions that divergent licensing conditions may introduce, consideration needs to be given to developing a more consistent set of licensing principles. As global markets open further to competition, license conditions need to be similar across markets. Essentially, procedures for, and conditions attached to, licenses must be non-discriminatory and transparent and aimed at developing the least onerous system possible.

Addressing systems

40. A stable, secure and efficient addressing system is a fundamental requirement for developing electronic commerce. The domain name system (DNS) maps Internet addresses and enables communication routing to function. A routing policy indicates information (and thus traffic) is supposed to travel among interconnected ISPs. Efficient and equitable access, both for infrastructure providers and for users, to the resources needed for addressing and routing is essential for electronic commerce. In addition, as the Internet has developed, DNS addressing has assumed important identification functions for users in transactions such as e-mail and in signposting navigation on the World Wide Web. In this respect, DNS has a number of shortcomings that can create frustration and lack of confidence among business users and consumers. The problems range from intellectual property issues (e.g. trademark and other name disputes), insecure authentication (e.g. DNS address spoofing), problematic identification, as well as relatively inefficient directory capabilities (e.g. locating web sites by guessing domain names).

41. Future technological developments may provide better ways for users and consumers who rely on DNS addressing to meet their functional requirements for electronic commerce. Nevertheless, because electronic commerce is relatively immature, and because the technology and new applications are extremely dynamic, it is difficult to foresee all the functions that DNS may need to provide. For example, the requirements of Internet telephony should be given considerable thought. DNS registration processes should be made competitive, so that their administration is more responsive to the evolving needs of users. At the same time, effective self-governance must be evident in the administration of those elements of addressing systems that are not subject to competitive discipline.

42. Accordingly, as the Internet moves to become a network capable of supporting widespread electronic commerce, administration of the DNS needs to take into account issues that go beyond technical ones to include those relating to the for-profit sector, including businesses that build electronic commerce applications and firms that provide the enabling infrastructure, as well as to consumers. To ensure public confidence, the transition process itself should be subject to standards of openness, transparency, and public accountability, and so should the rules that bind the final authorities. These principles are also applicable to those entities emerging to administer the allocation of the various levels of domain names.

Carrier responsibilities

43. In a broadband environment, facility-based carriers will carry a wide range of services: telephone messages, data, content, and electronic commerce. However, this traffic will essentially be digital, and therefore difficult to differentiate. Public telecommunication operators have long abided by the precept that the messages they carry are secret, and this is also recognised in the International Telecommunication Regulations. Carriers should not become responsible for, or have minimum liability for, the third-party content they carry. Imposition of liability requirements on carriers, whether for copyright or other reasons, would constitute an undue burden and would have significant negative

implications for broadband development and the creation and diffusion of new services. In addition, any attempt to impose liability could be distortive, since carriers have various tasks: they can be initial carriers of information, transit carriers, or terminating carriers of information.

Institutional and regulatory structures

44. Electronic commerce and the process of convergence will have longer-term implications for how communications markets are regulated as well as for regulatory institutions and structures. Governments need to consider the form that these changes will take and appropriate mechanisms for transition.

International markets and co-operation

45. Electronic commerce will be world-wide and use global networks. International principles may be necessary to support the interoperability and interconnection of converging global networks. In this respect, it is important to build on and extend the pro-competitive principles contained in the WTO Reference Paper on Basic Telecommunications, concluded as part of the 1997 sectoral negotiations, to facilitate convergence of infrastructures, coverage, and consideration of new principles.

Conclusion

46. In sum, communication infrastructures policies for electronic commerce require:

- implementing regulatory frameworks for converging communication technologies, infrastructures and, where necessary, services;
- eliminating/reducing, in a concerted way, line-of-business restrictions on communication infrastructure operators and service providers;
- streamlining specific provisions in telecommunications regulations;
- streamlining market entry procedures, including licensing, to facilitate entry to converging markets;
- examining the appropriateness of existing institutional and regulatory structures and procedures for a converged communications sector;
- changing the appropriate basis for price regulation, where necessary, as cost allocation becomes even more difficult to attribute for users of broadband infrastructures;
- examining the need to redefine and ensure universal service with regard to new facilities and services, such as broadband multimedia and Internet services;
- determining appropriate policies for cross-media ownership and desirable vertical and horizontal integration;
- moving away from asymmetric regulatory policies that discriminate against incumbents in telecommunications;

- ensuring appropriate addressing systems to support electronic commerce;
- ensuring a transparent, non-discriminatory and open system of traffic exchange between Internet service providers.

Building user and consumer trust

47. Trust is central to any commercial transaction. Typically, it is generated through relationships between transacting parties, familiarity with procedures, or redress mechanisms. Developing new kinds of commercial activities in the electronic environment largely hinges on assuring consumers and businesses that their use of network services is secure and reliable, that their transactions are safe, and that they will be able to verify important information about transactions and transacting parties, such as origin, receipt and integrity of information, and identification of parties dealt with. Furthermore, consumers want to have control over the collection and use of their personal data and to have appropriate redress mechanisms available in the event of a problem.

Security and authentication

48. The importance of information systems for society and the global economy is intensifying as the value and quantity of data transmitted and stored on those systems increases. At the same time, systems and data are increasingly vulnerable to unauthorised access and use, misappropriation, alteration, and destruction. Proliferation of computers, increased computing power, interconnectivity, decentralisation, growth of networks and numbers of users, as well as the convergence of information and communications technologies, both enhance the utility of these systems and increase their vulnerability.

49. The lack of physical clues that permit identification and the ability to make perfect copies and undetectable alterations of digitised data complicate the matter. For example, hand-written signatures traditionally serve to authenticate an original document. In the electronic world, authentication technologies, such as “digital signatures” based on public key cryptography, can provide assurances about the identity of transacting parties. Moreover, the problem of “original” electronic documents can also be addressed through the use of digital signatures to verify data integrity. In that context, cryptography is one of the most important technological tools in an information security system, as it can verify data integrity and provide authentication and non-repudiation functions, as well as ensure the confidentiality of data. Secure technologies, such as cryptography, and a predictable regulatory environment to support them will form the basis for building business and consumer trust in electronic transactions.

Certification

50. Electronic authentication tools can be used to identify, in one way or another, individuals and entities in their operations in the electronic environment. Authentication may also need to be accompanied by a means of independently verifying information in the electronic world. Just as trusted institutions do in the physical world, a trustworthy party could “certify” information to provide assurances and reduce the uncertainty about electronic transactions and transacting parties. For instance, a certification authority (CA) could fill the need for a reliable way to determine that an electronic authentication tool (such as the public cryptographic key of a digital signature) is uniquely connected to a transacting party. In such a case, the CA would act as an independent trusted source to attest to the verifiable link between the authentication tool and the party. A trusted source acting as a certifier could

also verify other kinds of information in the electronic environment, such as the authority of an agent to act on another party's behalf, user attributes, or auditing for compliance with a particular business practice.

51. An internationally co-ordinated approach is necessary to facilitate the smooth development of an efficient, secure infrastructure to support electronic commerce. The OECD could play a role in this regard by clarifying the problems related to authentication and certification policy and their implications and by developing consensus on specific policy and regulatory issues as a solid basis for international co-operation in this area. Documents for the Ottawa meeting on authentication and certification, as well as on cryptography, work towards this goal and include the following.

52. *OECD Declaration on Authentication for Electronic Commerce.* At its meeting on 18-19 May 1998, the Group of Experts on Information Security and Privacy will consider a proposal for a Declaration on Authentication for Electronic Commerce for adoption by Ministers at the Ottawa Conference in October 1998. The text of the Declaration would recognise the urgent need for action in the area of electronic authentication and electronic signatures and would reaffirm the commitment of OECD Member countries to continuing their efforts at national and international level. The Declaration would also include a mandate for specific work to be undertaken in this area during the year ahead, specifically addressing the issue of international interoperability with a view to seamless global authentication mechanisms.

53. The *OECD Inventory of Approaches to Authentication and Certification in a Global Networked Society* lists instruments and initiatives related to authentication and certification on global networks, including laws, policies and related activities in the public and private sectors, at both national and international level. It will be presented to the Group of Experts at its May 1998 meeting for discussion and approval, and the Group will decide on follow-up or future work in this area.

54. The *OECD Discussion Paper: Approaches to Authentication and Certification in a Global Networked Society*, which highlights issues emerging from the inventory, seeks to clarify terminology and to identify obstacles to achieving interoperability. It will be presented to the Group of Experts at its May 1998 meeting for discussion and approval. The Group will consider follow-up or future work in this area and will decide whether to recommend declassification of the paper.

55. The *OECD Inventory of Controls on Cryptography Technologies* is a compilation of laws in OECD Member countries concerning cryptography technologies, focusing on domestic controls and import or export restrictions. It will be presented to the Group of Experts at its May 1998 meeting for discussion and approval, and the Group will decide on follow-up or future work in this area.

56. *OECD Discussion Paper: Controls on Cryptography Technologies.* A discussion paper could be drafted to accompany the inventory. It would examine issues related to cryptography controls and could provide a basis for a future agreement on the use of cryptography in the context of specific commercial applications. On the basis of decisions taken by the Group of Experts at its May 1998 meeting, this document may be drafted and approved by the Group of Experts through written procedure over the summer months. It could also be presented to the Group at its September 1998 meeting for discussion, when the Group will consider follow-up or future work in this area, and will decide whether to recommend declassification of the paper.

Protection of privacy and personal data

57. By drastically reducing transaction and search costs, electronic commerce permits businesses to target niches, develop individual customer profiles, and engage in marketing on a one-to-one basis. Realising this goal will largely hinge on the climate of confidence businesses create with consumers and protection of consumer privacy and personal data play an important role. Consumers want to know when and what personal data or information are collected about them and their on-line activities and electronic transactions and how they are used, and they want to have control over the collection and use of that information.

58. Both the public and private sectors must help protect privacy in order to obtain the benefits of electronic commerce. Some 20 years ago, OECD countries agreed upon principles for the protection of privacy and personal data. These principles include assurances to consumers that personal information will not be collected or used without their knowledge, made available to parties other than their initial correspondents, or linked to other data about them without their consent. Although much has changed in terms of technologies since these principles were drafted, experts from OECD Member countries have reaffirmed that the Privacy Guidelines are still applicable today, but they stressed the importance of applying the principles online. The OECD has undertaken a study analysing how these privacy guidelines are being applied in the on-line environment.

59. The *OECD Study of Instruments and Mechanisms to Implement the 1980 OECD Guidelines on Global Networks* was conducted on the basis of recent OECD work, following the conclusions of the February 1998 OECD Workshop on Privacy Protection in a Global Networked Society. It presents the results of a study reviewing current privacy initiatives and practices in the context of the implementation and practical application of the 1980 OECD Privacy Guidelines on global networks and forms the basis for the above-mentioned Supplementary Memorandum. The study will be presented to the Group of Experts at its May 1998 meeting for discussion and approval. The Group will consider follow-up or future work in this area and will decide whether to recommend declassification of the paper.

60. *Supplementary Memorandum to the 1980 OECD Privacy Guidelines*. This is based on the study described above and is to be added as an Amendment to the 1980 Recommendation of the Council concerning Guidelines on the Protection of Privacy and Transborder Flows of Personal Data. The Supplementary Memorandum would be presented as an annex following the "Explanatory Memorandum" portion of the Guidelines, and it would suggest "best practices" that would provide guidance for the implementation of the Privacy Guidelines on global networks, using a range of instruments and mechanisms.

Consumer protection

61. Electronic commerce has many qualities that consumers find attractive: variety, convenience, personalisation and sometimes lower prices. It also has properties that facilitate fraud and make prosecution difficult. In addition, its international nature means that the laws and regulations a consumer relies on for protection at home may not apply in the merchant's country.

62. Building consumer trust and confidence in a global electronic marketplace is essential to the development and growth of electronic commerce. In order help ensure that consumers are protected in this evolving commercial environment, the OECD Committee on Consumer Policy is working to develop *Guidelines for Consumer Protection in the Context of Electronic Commerce*. It expects to finalise and approve the guidelines by early September and hopes that they will be endorsed by Member governments

at the Ottawa meeting. The draft guidelines have been developed in consultation with Member governments, businesses and consumer representatives in order to provide guidance for developing a predictable, harmonised and transparent on-line environment for consumers.

63. The fundamental objective of the draft guidelines is to ensure that consumers participating in commercial activities over global networks are afforded the same level of protection provided by the laws and practices that apply to other forms of commerce. Because commercial activities conducted over global networks are a form of distance selling, transparency and disclosure are particularly important. The draft guidelines stress that consumers should be given clear and specific information about the business involved and the goods, services and/or software being offered. Consumers should also be provided with clear and complete contractual information and effective mechanisms to express unambiguous consent. In addition, in order to benefit fully from a transparent and predictable legal environment, consumers should also be informed of the law applicable to the contract and of the competent forum.

64. Once the details of a transaction have been confirmed, consumers and businesses alike must be assured that the information and payment mechanisms involved in electronic transactions are secure and reliable. Consumers must be confident that their payment information and other personally identifiable data cannot be intercepted or otherwise acquired by fraudulent or deceptive means. The draft guidelines seek to ease consumer concerns about security by encouraging the development of internationally interoperable security and authentication mechanisms.

65. The absence of face-to-face contact and the borderless nature of the electronic marketplace provide another potential hurdle for consumers should a business fail to deliver goods, services and/or software as promised, or when goods or software arrive flawed, broken or defective. The draft guidelines encourage businesses to develop effective mechanisms for consumer complaints, redress and dispute resolution. They also suggest that governments should encourage the implementation of international “chargeback” mechanisms.

66. Self-regulatory solutions to some of the questions and problems facing consumers in the electronic marketplace should set high standards for business compliance in order to earn consumers’ confidence and trust. The draft guidelines stress that for such self-regulatory efforts to be effective, they should both establish broad principles and guidance and include specific, substantive rules and enforcement mechanisms to ensure compliance.

67. Finally, the guidelines stress the importance of education and awareness and co-operation. Global networks offer an unprecedented opportunity to inform consumers and businesses alike of their rights and obligations in the electronic marketplace.

Minimising regulatory uncertainty

68. Associated with the issue of trust is general uncertainty about how existing regulatory frameworks will be applied or updated, and new regulations drafted, for this new realm. Both businesses and individuals want to know the expected consequences of on-line activities, and government action is one way to respond. Since electronic commerce is inherently international, some consensus must be found at international level. Some of the key problems in this regard are customs and taxation, intellectual property issues, and the updating of commercial codes, in particular those dealing with issues of liability and jurisdiction.

Taxation

69. Electronic commerce raises a number of tax policy and tax administration issues for governments. It was recognised at Turku that governments play a legitimate role in applying existing rules to electronic commerce. However, revenue authorities are aware that excessive obligations could stifle electronic commerce. At the same time, both government and business recognise the need to ensure that electronic and conventional businesses engaged in comparable commercial activity are not subject to different taxation obligations. The technological and commercial environment in which electronic commerce operates should not be distorted by tax considerations.

70. The characteristics of electronic commerce that create problems for revenue authorities are well documented (see the OECD's "The Communications Revolution and Global Commerce: The Implications for Tax Policy and Administration"). At the Turku meeting, it was agreed that framework conditions for the taxation of electronic commerce should be developed in consultation with the business community. It was felt that issues of tax administration and consumption tax are the most pressing and should be addressed first.

71. At the same time, the communication revolution offers tax administrations significant opportunities to improve the service provided to tax payers (e.g. by encouraging electronic filing and refunds) and reduce the dead-weight loss of tax systems in terms of compliance costs for business and administrative costs for Member country authorities.

72. The document to be drafted for Ottawa is a progress report. It identifies the broad principles of taxation that apply to electronic commerce, including the principle of equity (i.e. taxpayers in similar situations and carrying out similar transactions should be taxed in the same way), and discusses how consumption tax will need to evolve in response to electronic commerce. The implementation options have been developed in concert with formal consultations with the business community and with extensive discussions at national level. Most importantly, perhaps, the document identifies issues requiring further work. It is proposed that business and tax authorities establish a number of small working groups which focus on well-defined areas. Their results would form the basis of a report for Ministers.

Tariff-free zones

73. It has been suggested that products or services delivered electronically should be considered as transactions taking place in a tariff-free zone (i.e. free of customs duties). This would codify the current practice of WTO members. For computer software, for example, tariffs might continue to be imposed on the value of the carrier media (e.g. the value of the computer disk or tape), but not on the value of the software contained on it. Consequently, in electronic delivery of software, the medium is eliminated and tariffs should not be applied. However, for physical goods ordered electronically and delivered through conventional means, the transaction should be subject to any generally applicable duties, as if the goods had been ordered over the telephone or by mail. There is no intention to limit the application of value added tax/general sales tax (VAT/GST) to goods and services, as appropriate, by national tax administrations.

74. The WTO will be asked to provide an update on this proposal as it is elaborated and on a number of recently tabled trade policy proposals that are being considered.

Intellectual property issues

75. Intellectual property rights (IPRs) have been essential to providing security and trust with respect to investment and trade in ideas and cultural activities by guaranteeing commercial returns. The growing importance of intellectual content in the global information infrastructure-global information society (GII-GIS) means that such rights are crucial for the development of electronic commerce. Yet, the digital nature of the content and the availability of new technologies make it relatively easy to circumvent many controls, owing to the possibility of making exact duplicates. At the same time, new technologies (digital watermarking, encryption) can help protect against rights violations. In a number of cases, the private sector has made significant progress in agreeing to common standards for the protection of IPRs in new multimedia goods and services. Through the TRIPS (Trade Related Aspects of Intellectual Property Rights) and recent WIPO agreements on intellectual property rights, governments have also made progress in agreeing to common international standards of protection: it is important for the development of electronic commerce that countries move rapidly to implement these agreements in national legislation.

76. WIPO will be asked to describe the status of implementation of the WIPO accords.

Updating of commercial codes

77. Most rules and regulations for conducting business address a world of paper, physical products, and retailing within national borders. Electronic commerce calls for an evaluation and updating of the commercial codes that govern business transactions. Until these codes incorporate the digital world, electronic commerce will be hampered. The situation is complicated by the inconsistency of codes among countries, many of which are a reflection of cultural norms. International harmonisation of these laws will require drafting a model law for commercial practices at international level which can serve as a common framework. At a minimum, it should address issues such as the legal recognition of electronic signatures; acceptance of electronic documents for paper filing requirements; the formation, validity and enforcement of contracts; the harmonisation of rules that govern commercial communications (e.g. advertising, direct marketing) and commercial pricing practices (e.g. sales, coupons). Responsibilities need to be clarified across the chain of liability that extends from consumers to network access and service providers, software developers, intermediaries such as certification authorities and electronic payment providers, and finally, the electronic commerce merchants themselves.

78. UNCITRAL will be asked to contribute work under way or planned on these issues.

Reducing logistical problems

79. The growth of electronic commerce and its potential economic impact could be limited by a number of logistical problems. One is the “year 2000” problem, which requires urgent attention. Others relate to two necessary elements of any commercial transaction: payment and delivery.

The “year 2000” problem

80. Looming in the background as a potential barrier to access is the “year 2000” problem, which has led to a massive global effort to repair computer and communications systems, networks and chips that may malfunction when encountering the date change to 2000. Worst-case scenarios portray a world in which security systems shut down, systems guiding airline and automobile traffic fail to function, and

financial transactions world-wide are delayed or halted. More measured warnings suggest at least disruption of business transactions, government services, loss and/or distortion of data, and resulting negative impacts on the economy. While the issue is much broader than the impacts on electronic commerce, the problem must be addressed if the electronic commerce infrastructure is to continue to function properly.

81. The problem is already affecting the economy, as businesses and governments divert funding to plan, repair, and test systems to ensure that the problem is solved in advance, and the labour-intensive nature of the work exacerbates the shortage of information technology workers. When undertaking transactions involving post-2000 events, many systems have already experienced malfunctions. However, analysts, including in the insurance industry, have found it difficult to assess the level of future risks. Some economists predict negligible impacts, while others suggest the possibility of a world-wide recession. One mid-range estimate by the Gartner Group places the cost of a global fix, excluding significant losses from disruptions, at US\$ 300-600 billion, half of which involve exhaustive system testing.

82. A document will be prepared that assesses the economic consequences of the problem and the public sector impacts/actions and the public management challenges involved. It will examine readiness in Member countries (public/private sector) and types of expenses as well as secondary costs (insurance/litigation). It will identify national/international issues as well as high/low risk sectors. An analysis will be made of different scenarios and possible economy-wide effects (direct/indirect impacts) and make policy recommendations for governments. It will report on how the problem is being addressed and offer recommendations or at least conclusions on “best practices” and present the conclusions reached at a mid-summer conference on this issue. Although many governments and businesses have made substantial efforts to address the problem, the extent of activity to date varies significantly by country, by size of business, and by sector, and much work remains to be done. Awareness campaigns being carried out by most international organisations and national governments, along with extensive media coverage, are a first step towards bringing the problem to the attention of all. Many experts say, however, that for those just beginning to address the problem, it may already be too late to make their systems fully “year 2000 compliant”. The focus should therefore be on the most critical systems.

Delivery

83. For electronic commerce to thrive, efficient and low-cost distribution channels are needed, both for physical delivery of goods ordered electronically and, as discussed under the section on “access”, for timely delivery of digital goods and services over crowded information networks.

84. The World Customs Organization (WCO) will be asked to contribute work under way or planned on delivery issues.

Paying electronically

85. Wrapped up with issues of information infrastructure, user trust and confidence, and a predictable regulatory environment is the fundamental logistical problem of paying for electronic commerce transactions.

86. The Bank for International Settlements will be asked to contribute work under way or planned on these issues.