TAX ADMINISTRATION ASPECTS OF ELECTRONIC COMMERCE:
RESPONDING TO THE CHALLENGES AND OPPORTUNITIES

A REPORT FROM THE FORUM ON STRATEGIC MANAGEMENT TO THE COMMITTEE ON FISCAL AFFAIRS

February 2001

DRAFT FOR PUBLIC COMMENT
Deadline: 30 April 2001
NOTE BY THE SECRETARIAT

1. This report details the work of the Forum on Strategic Management (FSM) over the past two years on the tax administration aspects of electronic commerce. The FSM’s principal conclusions and recommendations are set out in Part II of the Report.

2. The Committee on Fiscal Affairs has:
   - **Endorsed the report**, noting in particular the terms of the emerging conclusions.
   - **Approved the publication** (removing confidential document references and internal process matters) of the report, as part of the package of CFA material to be released in February.
   - **Mandated the FSM** to take forward that work, and to submit to the CFA in June 2001:
     - A summary and review of reactions to this report, particularly following the Montreal Conference (4-6 June 2001).
     - A comprehensive status report on the progress of the further work programme.

3. Comments are invited on this report **before 30 April 2001**, and may be sent to **Mr. Jeffrey Owens**, Head of Fiscal Affairs (daffa.contact@oecd.org).
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I. BACKGROUND TO THE WORK OF THE FORUM
ON STRATEGIC MANAGEMENT ON ELECTRONIC COMMERCE

General background

1. At the November 1997 conference entitled “Dismantling the Barriers to Global Electronic Commerce” held in Turku, Finland, government and business representatives met for informal discussions on the challenges posed by global electronic commerce to tax systems. Since that initial meeting much work has been done by the OECD and revenue authorities to provide greater certainty on how electronic commerce will be treated for tax purposes, clarifying the risks as well as identifying opportunities.

2. Less than a year after Turku, the Committee on Fiscal Affairs (CFA) had formulated the Taxation Framework Conditions¹ that were welcomed by OECD Ministers at the Ottawa conference, and that have since been generally accepted worldwide as providing a sound basis for ongoing work. The OECD, in co-operation with other international organisations, was acknowledged as the organisation best placed to co-ordinate and carry this work forward.

3. At Ottawa it was also recognised that greater business and non-member economy input would be needed to implement globally the broad taxation principles and the other elements of a Taxation Framework that had been identified.

4. An ambitious work programme was developed to maintain the momentum achieved at Ottawa. Each of the CFA’s subsidiary bodies was tasked with aspects of the Taxation Framework Conditions to study and develop. Five Technical Advisory Groups (Business Profits, Income Characterisation, Consumption Tax, Technology, and Professional Data Assessment) consisting of government (from both Member and non-member countries) and business participants were established to provide input into the deliberations.

Recapping the Ottawa conclusions

5. It is worth briefly recapping what was endorsed at Ottawa in October 1998 as it provides the foundation for the work of the last two years. At Ottawa it was agreed that the following broad taxation principles should apply to electronic commerce: neutrality, efficiency, certainty and simplicity, effectiveness and fairness, and flexibility.

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6. As was recognised at the earlier Turku conference, these broad taxation principles may conflict and governments and businesses may have different views on the balance and priority of their applications in particular contexts. That said, the principles do provide an important reference point against which to measure and develop taxation proposals, particularly those relating to tax administration.

7. The CFA used the taxation principles to draw the following conclusions, reflected in the Taxation Framework Conditions:

− The taxation principles that guide governments in relation to conventional commerce should also guide them in relation to electronic commerce.

− The CFA believes that existing taxation rules can implement these principles. This approach does not preclude new administrative or legislative measures, or changes to existing measures, relating to electronic commerce, provided that those measures are intended to assist in the application of the existing taxation principles, and are not intended to impose a discriminatory tax treatment of electronic commerce transactions.

− The application of these principles to electronic commerce should be structured to maintain the fiscal sovereignty of countries, to achieve a fair sharing of the tax base from electronic commerce between countries and to avoid double and unintentional non-taxation.

− The process of implementing these principles should involve an intensified dialogue with business and with non-member economies.

8. In the field of tax administration, these principles and conclusions were developed into the following Taxation Framework elements:

**Taxpayer service**

− Revenue authorities should make use of the available technology and harness commercial developments in administering their tax system to continuously improve taxpayer service.

**Tax administration, identification and information needs**

− Revenue authorities should maintain their ability to secure access to reliable and verifiable information in order to identify taxpayers and obtain the information necessary to administer their tax system.

**Tax collection and control**

− Countries should ensure that appropriate systems are in place to control and collect taxes.

− International mechanisms for assistance in the collection of tax should be developed, including proposals for an insert of language in the OECD Model Tax Convention.
9. Recognising that much remained to be done, the Taxation Framework Conditions mapped out an agenda for future work that included the following in relation to the field of tax administration:

*Taxpayer service*

- Developing an international consensus on ways to simplify taxation systems to minimise the cost of tax compliance, particularly for small to medium-sized enterprises (SMEs).

*Tax administration, identification and information needs*

- Adopting conventional identification practices for business engaged in electronic commerce.

- Developing internationally acceptable guidelines on the levels of identification sufficient to allow digital signatures to be considered acceptable evidence of identity in tax matters.

- Developing internationally compatible information requirements, such as acceptance of electronic records, format of records, access to third-party information and other access arrangements and periods of retention and tax collection arrangements.

*Tax collection and control*

- Designing appropriate strategies and measures to improve tax compliance with regard to electronic commerce transactions, including measures to improve voluntary compliance.

**Progressing the tax administration aspects – the Forum on Strategic Management’s role**

10. The Forum on Strategic Management (FSM) is a “virtual” forum of the Heads of Revenue Authorities, or their Deputies, from all OECD Member countries. It was formed in 1997 by the CFA to discuss strategic management issues of importance to tax administration. Electronic commerce was recognised as one of those strategic issues to be considered. The CFA has tasked the FSM with overseeing the tax administration work on electronic commerce arising from the Taxation Framework Conditions.

11. The FSM formed a Sub-group on Electronic Commerce (the “Sub-group”)² in February 1999 to progress work on the tax compliance, service and administration issues associated with electronic commerce. In particular, the Sub-group was tasked with consideration of the various tax administration “implementation options” identified in the CFA report “Electronic Commerce: A Discussion Paper on Taxation Issues” (which was released at Ottawa together with the Taxation Framework Conditions).

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² The members of the Sub-group are: Australia, Canada, Denmark, France, Germany, Ireland, Italy, Japan, Netherlands, Portugal, Spain, Switzerland, United Kingdom (Chair) and the United States.
12. These “implementation options” were intended to stimulate discussion on the mechanisms open to governments to implement the Taxation Framework Conditions. The proposed implementation options relating to taxpayer service and tax administration were:

1) Revenue authorities may consider developing Internet web sites where information, such as tax legislation, rulings, case law, revenue statistics and forms can be viewed and downloaded.
2) Revenue authorities may consider interactive telephone answering systems for many standard inquiries.
3) Revenue authorities may consider a single e-mail access point for highly mobile taxpayers.
4) Revenue authorities may consider receiving and responding to taxpayers’ service enquiries by e-mail.
5) Revenue authorities may consider direct deposit programs for tax payments and refunds.
6) Revenue authorities may consider accepting tax return data and other information by use of the new technologies.
7) Revenue authorities may consider automated payments of social security, payroll taxes and other similar deductions.
8) Revenue authorities may consider working with other arms of government to investigate the benefits of single government registration points on the Internet.
9) Revenue authorities may consider requiring that businesses engaged in electronic commerce identify themselves to revenue authorities in a manner that is comparable to the prevailing requirements for businesses engaged in conventional commerce in a country.
10) Revenue authorities may consider encouraging business practices that identify businesses engaged in electronic commerce.
11) Revenue authorities may consider mechanisms facilitating tracing, for tax purposes, of inadequately identified web sites and other electronic places of business.
12) Revenue authorities may consider making their views on user identity known to other bodies with a role in determining the identity of parties engaged in electronic commerce.
13) Revenue authorities should express their views to the appropriate bodies to ensure that features of electronic payment systems do not exacerbate the challenges associated with the cash economy.
14) Revenue authorities should co-operate with businesses developing codes of practice or other instruments which would encourage the widespread application of appropriate technologies, such as message digests and digital notarisation, to ensure the integrity of electronic records.
15) Revenue authorities may consider expressing their views on information requirements to appropriate bodies developing standards or protocols for electronic commerce.
16) Revenue authorities may consider encouraging taxpayers that utilise encryption or security technology to also consider key recovery, trusted third party or other arrangements to guard against the inadvertent loss of encryption keys.
13. These “implementation options” have now been reviewed by the Sub-group with input from two of the joint government/business Technical Advisory Groups (TAGs): the Technology TAG and the Professional Data Assessment TAG, both of which reported to, and informed the broader work of, the Sub-group.

The focus of the work of the FSM Sub-group on Electronic Commerce

14. In early 1999, the FSM Steering Group established that, in taking forward the work on the implementation options, the Sub-group should also:

   a) Determine whether the tax compliance and administration implementation options contained in the October 1998 paper “Electronic Commerce: A Discussion Paper on Taxation Issues” would, if implemented, provide tax administrations with an appropriate and effective response to some of the challenges of electronic commerce.

   b) Determine which implementation options could be progressed by revenue authorities without policy change, which options would require policy change, and which would require work involving other arms of government.

   c) Examine special administrative challenges posed by electronic commerce in the area of harmful tax competition.

   d) Manage the work of the Professional Data Assessment (PDA) and Technology TAGs.

   e) Manage relations with other subsidiary bodies of the CFA.

   f) Involve non-member economies in the work of the Sub-group.

15. It is the FSM’s conclusions and recommendations to carry forward the OECD’s work on taxpayer service and tax compliance and administration issues, based on the work undertaken by the Sub-group, that are set out in the next part of this report.
II. CONCLUSIONS AND RECOMMENDATIONS

Summary of key recommendations in this report

- That Member countries actively pursue the options set out in this report to implement the Taxation Framework Conditions in relation to taxpayer service.

- That revenue authorities continue to facilitate the exchange of practices and knowledge between administrations, both Member and non-member, via the use of targeted meetings, including appropriate expert meetings; the FSM Electronic Discussion Group; and the ongoing development of the FSMKE web site.3

- That specific attention be focused on assisting s-SMEs to attain and maintain compliance, and that this be incorporated into the Sub-group’s future workplan.

- That revenue authorities actively examine, and appropriately pursue, options to implement the Taxation Framework Conditions in relation to tax administration and compliance.

- That consideration is given to the establishment of an expert Technology Panel, with business, government (Member and non-member) and OECD Committee for Information, Computer and Communications Policy (ICCP) participation, so that, for example, appropriate tax administration input into “standard setting” bodies can be provided in a more timely fashion. This Panel would take on the Technology TAG’s outstanding work and would incorporate some Technology TAG members.

- That a new TAG dealing with tax administration be created. Its role would expand on that of the PDA TAG to cover a broader range of business/tax administration issues. Its membership could encompass some of the existing PDA TAG participants, and some additional participants.

- That other ways of obtaining active non-member involvement in the development of electronic commerce taxation arrangements be pursued, such as additional joint meetings and work with other international tax fora -such as OECD, CIAT (Inter-American Center of Tax Administrations), CATA (Commonwealth Association of Tax Administrations), IOTA (Intra-European Organisation of Tax Administrations), and CREDAF (Le Centre de Rencontres et d’Etudes des Dirigeants des Administrations Fiscales).

- That other activities to raise awareness of the issues associated with the taxation of electronic commerce with non-members be pursued as part of the OECD/CFA Outreach programme during 2001.

3. The FSM Knowledge Exchange (FSMKE) is an initiative to provide an Internet-based mechanism for the sharing of information and knowledge amongst OECD Member tax administrations.
− That a small number of key non-member economies be invited to participate in the Sub-group.

− That the Sub-group prepare a work plan, building on its achievements to date, to progress these recommendations and the future work proposals identified in Part III of this report.

Items a) and b) - tax implementation options

16. To address the tasks given to it, the Sub-group, at its inaugural meeting in June 1999, proposed an ambitious work plan to advance not only the tax compliance and administrative implementation options, but also the taxpayer service options identified in the discussion paper.

17. At the time there was some debate amongst delegates about the wide-ranging agenda. However, it was decided that the Sub-group should encompass all aspects of the OECD’s work in the area of taxpayer service as well as tax compliance and administration. The delegates did note that since taxpayer service issues and tax compliance and administration issues are usually dealt with by different people in most revenue authorities a different set of attendees would be required to properly address the taxpayer service options. This approach was adopted successfully.

18. The Sub-group began its work by considering whether the tax compliance and administration implementation options raised in the discussion paper would provide revenue authorities with an effective response to some of the challenges of electronic commerce. The Sub-group also considered which implementation options could be progressed by revenue authorities without policy change, which options would require a policy change, and which would require work involving other arms of government.

19. As it was apparent that many of the options on the tax administration side would need technical input, the Sub-group tasked the Technology and PDA TAGs with providing such input. The Sub-group also tasked several members with providing the Technology TAG with a context paper on the tax issues.

20. To progress the taxpayer service implementation options, the Sub-group organised a meeting of relevant specialists, and undertook a survey of what electronic service techniques were being used by Member countries. The former took place in March 2000, when taxpayer service specialists met in Copenhagen to share experiences in the use of electronic service delivery and to learn from other members how they were using the new technologies to improve taxpayer service. The latter was initiated in May 2000 when a survey of taxpayer service initiatives using new technology was conducted among Member countries. -A paper on emerging trends is found in Appendix I.

21. The Sub-group also tasked a number of its members to prepare a paper profiling the characteristics and special challenges that SMEs face, and present, in relation to electronic commerce, as compared with larger enterprises. Building on such the profiling of SMEs, the Sub-group also commissioned some of its members, co-ordinated by the United Kingdom, to draft a paper exploring the potential for offering guidance on taxation matters to SMEs engaged in electronic commerce. To illustrate evidence how such guidance could be provided the United Kingdom has included a guidance area for SMEs on the Inland Revenue web site (www.inlandrevenue.gov.uk).

4. Australia, Canada and the United Kingdom.
22. In the compliance field several Member countries\(^5\) were asked by the Sub-group to develop a generic OECD manual for tax administration staff on gathering information from the Internet. This will be made available at the June 2001 conference in Montreal and for use by staff in other revenue authorities to assist them in their compliance work on businesses engaging in e-commerce.

23. To gain a greater understanding of the potential compliance risks, the Sub-group asked France to co-ordinate the identification of web sites associated with facilitating aggressive tax planning in tax havens.

24. The Sub-group also commissioned an initial listing of Internet “standards” bodies with a view to influencing the development and implementation of Internet protocols and practices in a way that might better support revenue authorities’ access to relevant taxpayer information or might facilitate cost-effective systems of tax collection.

25. The FSM notes that during the past 18 months, several Member countries have devoted time and effort to special projects designed to advance the OECD’s work in the area of tax compliance and administration issues and commends them for this. Such work is a powerful illustration of the value of the Forum as a mechanism for sharing experience.

26. The FSM welcomes the growing number of spontaneous bilateral and multilateral collaborations occurring between delegates of the Sub-group with good results. From the outset of the creation of the Sub-group, it was readily apparent that Member countries could benefit from the advice of members from countries more advanced in their e-commerce work. This has led to a heightened awareness in many countries as to the significance of the issues, utilizing the OECD’s pre-eminent position to advance these global efforts.

**Conclusions and recommendations**

*Regarding the taxpayer service implementation options*

27. On taxpayer service initiatives, the survey undertaken by the Sub-group found encouraging signs of the widespread adoption of new technologies by revenue authorities. Almost all respondents to the survey had established web sites that allowed the downloading of forms, and provided answers to commonly asked questions. The majority of sites allowed for online form filing. Appendix I is a summary paper on developments and emerging trends in taxpayer service, based upon the survey.

28. A number of electronic service delivery trends were clearly evident. and are set out in Table 1 below. These included a shift:

<table>
<thead>
<tr>
<th>From</th>
<th>To</th>
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<tbody>
<tr>
<td>Paper based communications</td>
<td>Electronic communications</td>
</tr>
<tr>
<td>Preparer / assessor</td>
<td>Self help / expert systems</td>
</tr>
<tr>
<td>Cash / Cheques</td>
<td>Electronic Funds Transfer (EFT)</td>
</tr>
<tr>
<td>Personalized responses</td>
<td>Automated voice mail</td>
</tr>
<tr>
<td>Administration data input</td>
<td>Taxpayer data input</td>
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<tr>
<td>Segmented service</td>
<td>Integrated / one-stop shop</td>
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\(^5\) Australia, United Kingdom and the United States.
29. Some obstacles remain to the greater utilisation of electronic technology. Two of these, electronic security and electronic signatures, are in various stages of development and deployment. Another obstacle identified was the availability of computers to taxpayers. Several countries have compensated for this by allowing “form-filing” over the phone, by establishing “kiosks” in public places that allow for filing and by using third parties such as the postal authorities and agents. The new generation of relatively cheap mobile Internet-enabled devices (e.g. WAP phones) may also help bridge the current digital divide in this respect.

30. The FSM has found that there was considerable value in multilateral exchange of practices and experience in the area of utilising electronic means to improve service.

31. The FSM recognises that in implementing the taxpayer service options, set out below, each country will need to adapt its implementation strategy to reflect its own domestic legislation and policy environment. Nevertheless, the FSM recommends that member countries actively pursue the following options to implement the Taxation Framework Conditions in relation to taxpayer service:

1) To develop Internet web sites where information, such as tax legislation, rulings, case law, revenue statistics and forms can be viewed and downloaded.

2) To develop interactive telephone answering systems for many standard inquiries.

3) To examine the feasibility of a single e-mail access point for highly mobile taxpayers.

4) To examine the feasibility of receiving and responding to taxpayers service enquiries by e-mail.

5) To explore the use of direct deposit programs for tax payments and refunds.

6) To develop systems for accepting tax return data and other information by use of the new technologies.

7) To develop systems for automated payments of social security, payroll taxes and other similar deductions.

8) To work with other arms of Government to investigate the benefits of single government registration points on the Internet.

32. The work of the FSM has underlined the growing importance of electronic means of delivering service to taxpayers and in reducing compliance costs. The FSM welcomes the marked trend towards greater use of electronic mechanisms such as e-mail; web based tax knowledge repositories, electronic funds transfer, etc. to improve taxpayer service by administrations.

33. The FSM recommends that revenue authorities continue to facilitate the exchange of practices and knowledge between administrations, both member and non-member, via the use of targeted meetings, including appropriate expert meetings; the FSM Electronic Discussion Group; and the ongoing development of the FSMKE web site. In particular the FSM will be encouraging member countries to participate in an “expo” of electronic taxpayer service initiatives at the June 2001 Montreal conference on e-commerce.

34. Noting the particular compliance difficulties faced by smaller Internet-based businesses operating in a global market, the FSM suggests specific attention be focused on assisting these businesses to attain and maintain compliance and that this be incorporated into the Sub-group’s future activity.

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6 . Wireless Application Protocol. A mechanism that allows mobile devices, such as phones, to access the Internet.
work plan. In this respect the FSM notes and welcomes the proposed evaluation by the University of Bath UK, co-sponsored by the OECD, on web site information provided by revenue authorities from the perspective of SMEs.

Regarding the tax compliance administrative implementation options

35. Whilst considerable work remains to be done on the administrative options, the FSM believes that it is already in a position to encourage revenue authorities to actively examine and appropriately pursue the following options for implementing the Taxation Framework Conditions in relation to tax administration. It is recognised that progress made in implementing these options will vary between countries depending upon their policy and legislative environment and their administrative practices:

9) Businesses engaged in electronic commerce should identify themselves to revenue authorities in a manner that is comparable to the prevailing requirements for businesses engaged in conventional commerce in a country.

10) Revenue authorities should encourage business practices that identify businesses engaged in electronic commerce.

11) Revenue authorities should examine mechanisms to facilitate tracing, for tax purposes, of inadequately identified web sites and other electronic places of business.

12) The CFA should make its views on user identity known to other bodies with a role in determining the identity of parties engaged in electronic commerce.

13) Revenue authorities should express their views to the appropriate bodies to ensure that features of electronic payment systems do not exacerbate the challenges associated with the cash economy.

14) Revenue authorities should co-operate with businesses developing codes of practice or other instruments which would encourage the widespread application of appropriate technologies, such as time-based message digests and digital notarisation, to ensure the integrity of electronic records.

15) The CFA should make its views on information requirements known to appropriate bodies with a role in developing standards or protocols for electronic commerce.

16) Taxpayers that utilise encryption or security technology should be encouraged to consider key recovery, trusted-third-party or other arrangements to guard against the inadvertent loss of encryption keys.

36. The FSM believes that while Option 9 can be developed domestically by revenue authorities, there would be compliance cost benefits, for taxpayers engaging in cross border e-commerce, by striving for greater consistency of approach and practice amongst administrations.

37. In relation to the remaining tax compliance and administration options (items 10-16), the FSM concludes that whilst they could be also advanced domestically, faster progress will be made in their implementation by international co-operation between revenue authorities.
38. The FSM believes that implementation Option 10, regarding the encouragement of business practices that would provide easier identification, will require that revenue authorities work closely with other bodies, such as those associated with consumer protection and corporate registration, to develop compatible views.

39. In the case of implementation Options 11 through 16 inclusive, the FSM will provide a forum where revenue authorities can work together to share experiences. In the case of Options 12 through 16 inclusive, the FSM will integrate the collective views of revenue authorities and will provide the most appropriate means of communicating their views to other bodies associated with electronic commerce. The FSM recommends that revenue authorities continue to facilitate the exchange of compliance practices and knowledge between administrations, both Member and non-member, via the use of targeted meetings, including appropriate expert meetings; the FSM Electronic Discussion Group; and the ongoing development of the FSMKE web site.

40. Some initial progress has been made (by the Sub-group with the advice of the Technology and PDA TAGs) towards the identification of parties associated with the formation of Internet standards and practices. While a list of relevant standard bodies was developed by the Sub-group it was not possible for the Sub-group to maintain a watching brief over new standard proposals, nor prepare suitable input to those bodies on tax administration views.

41. The FSM notes that some administrations have maintained an ad hoc awareness of developing standards. However, it is unlikely that an approach from an individual or a revenue authority to a standards body would have the same degree of influence as an approach from the OECD/ CFA, representing the combined input of Member (and, if possible, non-member) administrations.

42. Hence the FSM recommends that consideration be given to the establishment of an expert Technology Panel, with business, government (Member and non-member) and OECD Committee for Information, Computer and Communications Policy participation, so that appropriate revenue authority input can be provided in a more timely fashion. This panel would take on the Technology TAG’s outstanding work and would incorporate some Technology TAG members. It is clearly important that appropriate government policy input occur prior to the standard becoming “fixed” and widely deployed.

Item c) - Special administrative challenges posed by electronic commerce in the area of harmful tax competition

43. It is recognised that the mobility of electronic commerce and its geographic sensitivity to tax differentials may exacerbate harmful tax competition. Already a large number of web sites facilitating aggressive tax planning have been identified, and it is noted that a number of these sites are becoming more “professional” in their approach to soliciting clients.

Conclusions and recommendations

44. While a large number of web sites facilitating aggressive tax planning were identified, many of these appeared to be associated with a few promoting organisations, often based in tax havens. Most sites were physically located on servers in Member countries, most likely due to bandwidth considerations and the availability of reliable telecommunication facilities.
45. The FSM concludes that the ongoing development of electronic commerce underlines the importance to all countries, both Member and non-member, of curbing harmful tax competition.

**Item d) - Manage the work of the PDA and Technology TAGs**

46. The Sub-group, together with the Working Party 9 Sub-group on Electronic Commerce, managed the work of the Technology TAG since its inception. Full details of the work output of the Technology TAG are contained in the Technology TAG report.

47. The FSM notes that the Technology TAG provided valuable input on jurisdictional identifiers that might be associated with electronic commerce transactions and on the practicality of proposed collection mechanisms for indirect taxes. (A summary of the main findings of the Technology TAG is found in Appendix II.)

48. The Sub-group also managed the work of the PDA TAG, full details of which are contained in the PDA TAG report.

49. The PDA TAG carried out valuable research in the following areas: electronic commerce audit standards and protocols; data authenticity and reliability mechanisms; remote access to taxpayer data, encryption key management and recovery mechanisms; and desirable data elements for electronic commerce. The TAG also analysed the specific audit risks associated with Internet electronic commerce trading.

50. The FSM notes the PDA TAG’s conclusions, a summary of which is annexed (Appendix III), and recommends that member administrations consider them and provide comments back to the Sub-group at its next meeting.

**Conclusions and recommendations**

51. The FSM thanks both the Technology and PDA TAGs for the valuable input into its work. The FSM considers that business input into the policy development process has proved very important and that a mechanism to ensure widely considered business views on the practical implications of policy options is needed. The FSM found that while both the PDA and Technology TAGs provided valuable input to the Forum’s and Working Party No. 9 (WP9) Sub-group’s deliberations, the initial expectations from the process were overly optimistic. Not all members of the TAGs were able to provide the same level of quality input and it was found that face-to-face meetings and telephone conference calls were often the best way of moving the analysis forward, rather than by e-mail or the Electronic Discussion Group. The existing TAG process, while providing valuable business input, proved somewhat cumbersome and unable to provide timely input into developing Internet standards (such as IOTP, ebXML, IPv6 etc).

52. The FSM recommends that the input of business and non-member countries should continue and that for technology matters an “expert panel” approach be adopted, with business, government (Member and non-member) and OECD Committee for Information, Computer and Communications

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7. See <http://www.oecd.org/daf/fa> for a link to the separately published “Report by the Technology Technical Advisory Group (TAG)”.

8. See <http://www.oecd.org/daf/fa> for a link to the separately published “Report by the Consumption Tax Technical Advisory Group (TAG)”.
Policy participation for future input into policy decisions. It is expected that some participants of the Technology TAGs would be incorporated into this panel. This Technology Panel would provide requested technical input at Working Party, Sub-group and TAG levels.

53. It is also proposed that a new TAG dealing with tax administrations be created. Its role would expand on that of the PDA TAG’s scope somewhat to cover a broader range of business/tax administration issues. Its membership would encompass some existing PDA TAG participants and some additional participants may be sought. Having broader membership and a wider scope would enable teams to be formed within the TAG around topics without the formal structure of several separate TAGs. New issues arising could be dealt with more quickly from within the wider group of participants. The TAG would report to the FSM Sub-group.

**Item e) - Manage relations with other subsidiary bodies of the CFA**

54. In progressing its mandated work, the Sub-group established close relationships with the other subsidiary bodies of the CFA, particularly the WP9 Sub-group on Electronic Commerce. Several overlapping meetings were held to facilitate this work while minimising costs. These meetings proved the most successful mechanism to consider TAG input, and to provide directions for future work.

**Conclusions and recommendations**

55. The importance of face-to-face meetings was highlighted, as was the need to closely co-ordinate the timing of meetings to facilitate joint meetings between the different groups. The FSM recommends that the practice of joint meetings between the WP9 and FSM Sub-groups be continued as a mechanism for ensuring that each group remains informed of the other’s activities.

**Item f) - Involve non-member economies in the work of the Sub-group**

56. A number of non-members were invited to join the Technical Advisory Groups and the Sub-group. While the level of active involvement within the TAGs from non-member countries was lower than what was envisaged, several non-member participants made valuable contributions to the work of the TAGs. (The Secretariat is reviewing the lessons learned from the process to date so that the dialogue and involvement of non-member countries can be enhanced.)

**Conclusions and recommendations**

57. The FSM considers that input of non-member countries’ views on the taxation of global electronic commerce is very important. It recommends that other ways of obtaining active non-member involvement in the development of electronic commerce taxation arrangements be pursued. It notes that as part of the process of strengthening non-member involvement, over 100 countries and eight international organisations will be invited to part of the June 2001 Montreal conference “Tax Administrations in an Electronic World” being jointly organised by the OECD, CIAT, CATA, IOTA, CREDAF and Canada’s CCRA. This will be the first such global gathering of revenue authorities and it will be important to use this process to establish and enhance the “voice” of revenue authorities in relation to electronic commerce activities. The FSM suggests that more such meetings and joint working arrangements be organised.
58. The FSM also recommends that other activities to raise awareness of the issues associated with the taxation of electronic commerce with non-members be pursued as part of the OECD/CFA Outreach programme.

59. The FSM also proposes that a small number of key non-member economies should be invited to participate in the Sub-group.
III. FUTURE WORK PROPOSED

60. Important first steps have been made towards greater co-operation by revenue authorities on a global scale. The electronic commerce work is an excellent example of the changing role of the CFA and its relationship with revenue authorities in a global context.

61. Revenue authorities now have a much deeper understanding of the implications for them of “borderless” electronic commerce. The work of the FSM Sub-group and the Technical Advisory Groups has helped to nurture this understanding. Significant progress on moving the Ottawa tax administration implementation options forward towards an agreed revenue authority/CFA position has also been made. The FSM commends all those who have helped progress this work. There is growing realisation and acceptance by all parties of the need to derive solutions that address the global policy issues, but that can be implemented locally.

62. Much remains to be done. The FSM believes that the positive work of the FSM Sub-group needs to continue and that, without repeating the detail of the recommendations in Part II, there are several main strategic strands to this future work:

Understanding the electronic commerce environment better

- The FSM recommends that further work on understanding and quantifying the risks posed by electronic commerce is warranted and that the Sub-group should continue to co-ordinate and facilitate activities in the area between members.

- The FSM recommends that the Sub-group review and report on the organisational structures and approaches used by the revenue authorities of Member countries to deal with the tax issues raised by global electronic commerce, with a view to sharing member practices.

- The FSM recommends that the Sub-group should also commission, and continue to co-ordinate, further research into areas where a more detailed understanding of the technology and trading environment is needed, such as into jurisdictional verification methods available in an electronic commerce environment.

- The FSM recommends in particular that the Sub-group co-ordinate further examination of desirable data elements associated with electronic commerce transactions, identified by the PDA TAG, in co-operation with the business community (including major accounting firms), accounting standard-setting bodies, and the International Standards Organisation (ISO).

Improving taxpayer service

- The FSM recommends that revenue authorities actively pursue the taxpayer service implementation options identified at Ottawa, recognising that each country will need to adapt its implementation strategy and timetable to reflect its own domestic legislation and policy environment.
− The FSM recommends that a long-term goal of greater consistency of revenue authority filing requirements would assist in lowering cross-border compliance costs and recommends that the Sub-group facilitate this, building on the experiences of the Copenhagen meeting.

− The FSM recommends that the Sub-group draw up guidance for businesses on how the new technologies may be used to reduce compliance costs by, for example, establishing the reliability and authenticity of electronic data and good management of encryption keys.

Progressing the Ottawa Taxation Framework Conditions

− The FSM recommends that revenue authorities actively examine and appropriately pursue the administrative and compliance implementation options put forward for discussion at Ottawa. The options should now be worked into agreed revenue authority positions, and statements of good practice, that can be published as such. This would involve, in some instances, spelling out the detail of what is proposed as a revenue authority “standard” in co-operation with other interested parties.

− The FSM recommends that the Sub-group co-ordinate tax administration input to “standards” bodies and similar technological leaders associated (particularly with the WP9 Sub-group) with electronic commerce, appropriately advised by the proposed Technology Panel.

− The FSM recommends that the Sub-group co-ordinate discussions with software developers as to how accounting packages might be enhanced to provide both business and revenue authorities with the assurances they need as to the integrity, reliability and authenticity of electronic data and so help to reduce compliance costs (e.g. via the inclusion of mandatory journal entries for account balance changes, automatic time base message digests, the use of WORM technology, etc.)

− The FSM recommends that the Sub-group continue to facilitate the good work of administrations in collaborating and co-operating in the development of training and tools, such as computer-assisted auditing, in an electronic commerce environment.

63. The FSM expects that the Montreal conference will provide important input into its discussions on the future work required by revenue authorities.

64. The FSM asks the Sub-group to prepare a work plan, building on its achievements to date, to progress the recommendations and the future work proposals identified in Parts II and III of this report. This should be available to the CFA in June 2001.

9. Write Once, Read Many – DVD/CD technology that can only be recorded (burnt) once.
APPENDIX I

EMERGING TRENDS IN TAXPAYER SERVICE INITIATIVES USING NEW TECHNOLOGY

Overview of emerging trends

1. The Survey of Taxpayer Service Initiatives Using New Technology was distributed to all 29 OECD Member countries in May 2000. It was conducted to catalogue technology initiatives that are providing better service and improving tax administration. The following narrative presents the results of the portion of that survey that dealt with the reduction of taxpayer burden and costs of tax administration.

2. The Internet and its attendant technologies have transformed the way the world transacts business. This transformation has not only made it easier to navigate in the ever-increasing global economy but it has also raised the expectations of the customer. Customers are becoming familiar with the new capabilities and they are expecting innovative concepts to be employed in all areas of their life, including taxes. It is interesting to note that while the public’s expectations have risen their use and acceptance of electronic alternatives to paper have not grown as rapidly as once hoped. Some of the listed initiatives have addressed this concern and seek to establish a comprehensive plan to remove barriers, increase benefits and broaden the appeal of electronic transactions.

3. While many of the projects undertaken by the Member countries have been enabled by the existence of the Internet and its emergent technologies some of these initiatives have arisen as a direct result of viewing the taxpayer as a customer. This new perspective offers a whole new approach to tax administration. Using methods employed by the private sector to better serve their customers has spawned a plethora of new ideas for revenue authorities.

4. This paper documents the trends detected in the world class initiatives promulgated by the countries of the OECD to reduce taxpayer burden and tax administration costs. It should be noted that many of the initiatives perform the dual function of reducing taxpayer burden and reducing the administration costs of the revenue authorities.

5. In general terms the trends detected are as follows:

| Paper communications | to > | Electronic communications |
| Preparer/assistor | to > | Self-help/expert systems |
| Cheques/cash | to > | Electronic funds transfer |
| Manual responses | to > | Automated voice/mail |
| Reactive programs | to > | Proactive programs |
| Segmented service | to > | Integrated/one-stop service |
| Taxpayer | to > | Customer |
6. Overall the human and paper elements are being removed and replaced with automated responses and expert systems employing artificial intelligence. Where the human element remains, efforts are being employed to improve efficiency and to empower employees to take actions, which can resolve the inquiry/problem at a single point of contact. Such initiatives involve allowing employees to access mainframe computers storing total taxpayer data, providing expert systems to quickly find the answer for the taxpayer, accessing electronic correspondence to provide timely response and integrating all revenue systems to communicate with each other.

**Paper communications to electronic communications**

7. Revenue authorities have introduced in their tax administrations processes that use electronic media as a substitute for paper forms and manual methods currently in use. In conjunction with this, technology to facilitate privacy and security is in various stages of testing and employment. Currently a revenue authority has a functional program that permits businesses to file employment tax returns electronically. Additionally there is a program that allows individuals to file their income tax returns via the telephone.

**Preparer/assistor to self-help/expert systems**

8. There is a trend toward empowering taxpayers with the ability to research tax-related inquiries and to complete returns on their own with minimal or no assistance necessary. One example is the testing being performed by a revenue authority on “touch panel” public computers that taxpayers will use in the preparation of their own returns. The system will use screen prompts and guides.

**Cheques/cash to electronic funds transfer**

9. Utilising the technologies developed for retail sales transactions, revenue authorities are enabling taxpayers to satisfy their tax obligations by electronic transmissions.

**Manual responses to automated voice/mail**

10. Increased use of artificial intelligence software, centralised call systems and Internet resources to improve service rather than increasing staff years to meet customer needs are manifestations of a growing trend. One such initiative uses an automatic e-mail management system to read, route and respond to e-mail inquiries.

**Reactive programs to proactive programs**

11. Anticipating the needs and wants of customers has generated a host of initiatives. Rather than trying to remedy situations as they arise revenue authorities are planning in advance to try and eliminate future problems. For example, resources are being expended to develop tax interactive web sites for teens and planning web sites specifically tailored to the young (animation, etc.) and the elderly (large format, etc.).
**Segmented service to integrated/one-stop service**

12. In an effort to reduce taxpayer burden revenue authorities are exploring ways to minimise the number of contacts with customers and to decrease the time required for such contacts. Methods such as establishing a single register, via the Internet, of business information for use by government departments and public sector partnerships are being investigated.

**Taxpayer to customer**

13. There is a growing trend toward providing more services to the ultimate user, the taxpayer. By formulating strategy and structuring the tax administration to better serve their customers revenue authorities are becoming more responsive to their market. Citizen advocacy panels, workdays devoted exclusively to taxpayers with chronic problems, and offering incentives for e-filing are only a few examples of this tendency.

**Summary of specific initiatives**

14. The initiatives submitted by the Member countries have been categorised in the order listed in Part A above. Many of the initiatives qualify under more than one category. For this paper those initiatives have been listed under the trend in which that initiative was most strongly associated.

15. The following summary of initiatives provides a wealth of excellent ideas to reduce taxpayer burden and tax administration costs. However, it is possible that due to legal and/or policy concerns not all tax administrations are in a position to implement these initiatives in the same manner or degree. Yet, it is obvious from the responses that much effort is being directed toward these objectives.

**Paper communications to electronic communications**

- Planning an electronic version of integrated tariff and a knowledge-based expert classification system for customs.
- A major modernisation program for all government agencies to enable all transactions with the government to be electronically done by 2005.
- E-filing of individual tax returns.
- Use of the Internet to provide practitioners/taxpayers the latest in tax-related news and information. The idea is to leverage access to the site to promote e-filing.
- Tax forms by fax.
- Use of customer numbers and home computers to avoid sending any paper to revenue authorities.
- The use of a Personal Identification Number (PIN) as the taxpayer’s signature, thus eliminating the need to file the paper signature jurat.
- Public-switch telephone networks followed by encrypted transactions over the Internet.
- Contracting with a private vendor to conduct a test with revenue authority employees using advanced technology, which will provide electronic signatures and enhanced security for e-mail transactions. This will introduce the revenue authority to Public Key Infrastructure (PKI) technology and will help to determine whether and how the revenue authority might use PKI to electronically secure and verify two-way transactions with taxpayers and their representatives.

- Developing electronic customised tax forms for businesses based upon entity information and prior filing history.

- Using a PAYE (pay as you earn) system which electronically withholds the proper amount of taxes from wages, pensions and public benefit payments, and sends a prepared return to the taxpayer to sign (or make changes).

- A plan to use financial entities in order to allow the public to file electronically.

- Online service for companies to file their tax returns.

- Payroll service providers filing of employment tax returns electronically.

- Tax practitioners that are authorised to electronically file tax returns with the revenue authority for others. The revenue authority recognises, manages and motivates these practitioners as product and service distributors. In support of this vital channel, the revenue authority seeks to support these practitioners by establishing an Extranet consisting of a management information system, account resolution and tax law capabilities; expanding the marketing support available to them including national advertising and promotional kits; implementing a programme of product and service incentives, rewards and special recognition depending upon their success in marketing electronic tax products and services; and establishing account management programs.

- Implementation of a correspondence management system that scans in taxpayer correspondence, classifies it and automatically assigns it on a nation-wide basis. Work is processed electronically and a management reports system is also integrated into it.

**Preparer/assistor to self-help/expert systems**

- Self-assessment returns over the Internet.

- Software application for the presentation of complex tax rules in an easily accessible format with comprehensive online help.

- Computer validation of basic keying errors and acknowledgement of receipt for tax returns.

- Web sites that provide information and help on tax matters to customers.

- Tax manuals with online availability.

- Interactive questions and answers online.

- Individual taxpayers filing over the telephone.
− Small business filing of employment tax returns over the telephone.

− A revenue authority Internet site that includes message boards, interactive chat and customer care, an online learning lab, and large-scale database support.

− Calculators and online forms: this initiative will continue to develop online calculators to ease burden and reduce errors.

− A Frequently Asked Questions and Answers (FAQ) Database: E-mail tax law questions and answers will be the primary feed for this system. E-mail will be examined and standard answers developed for a searchable base. This base will be used in three ways; first for assistor research and in serving customers (provides consistent and accurate answers). Second, the base will be continuously fed to electronic media for public use. Third, the FAQ’s will be fed back to appropriate revenue authority business functions to immediately improve the quality of products and services.

− An Interactive Help Desk: Under this initiative, the revenue authority will provide help desk services with “triage” capability. The revenue authority will test the capability to interact live with taxpayers on the Internet to resolve problems.

− An “expert” (artificial intelligence) system to allow taxpayers and revenue employees to lookup answers for most tax questions.

− A plan to establish “touch panel” public computers for taxpayers to use in preparation of their own electronic returns. The system uses screen prompts and guides.

− Planning a sub-site for major life tax events: marriage, living together, registered partner and home purchase.

− Cheques/cash to electronic funds transfer

− An Internet-payment service.

− Electronic depositing of tax deposits.

− Electronic paying of balance due returns.

− A private vendor processing credit card payments over the telephone. After e-filing by computer – either from home or through a tax preparer – or by telephone, a taxpayer will be able to charge the balance due with a toll-free phone call.

− A web site for electronic tax payment enrolments, payments and customer service.

**Manual responses to automated voice/mail**

− Allowing practitioners to resolve client’s cases via e-mail.

− Call centres with toll free telephone assistance – 24 hours a day, 7 days a week. The system distributes calls where capacity is available.
- An automated tax information line with recorded information on 148 tax subjects and automated refund information.

- A revenue authority home page that is used to provide information and to promote initiatives such as e-mail customer service, etc.

- E-mail newsletter type services covering agency wide topics in addition to a local newsletter component that deals with regional issues.

- Virtual communities of interest for Information Exchange Partners such as a service for tax professionals. The services will begin with CD and Internet services and will expand to become increasingly interactive, allowing for electronic exchange of information and ideas and allowing for more immediate feedback and improvement of services.

- An automatic e-mail management system to read, route and respond to e-mail inquiries.

- The use of “list servers” for the automatic registration and delivery of electronic forms publications and bulletins to electronic enrolled clients.

- An inventory of standardised tax letters that can be accessed and then personalised for specific taxpayer responses.

- A plan to allow taxpayers to secure a status report on their tax accounts via automated teller machines (ATMs).

- A plan to send tax news via e-mail.

**Reactive programs to proactive programs**

- Co-operation with private sector producers (software houses, accountancy firms, their clients) to look at encouraging Internet use, challenges to tax administration, etc.

- Software companies offering of free or very low cost federal/state tax preparation and electronic filing services over the Internet.

- Exploring additional security and privacy safeguards to help promote the use of the Internet.

- A committee of private sector stakeholders that provides input on future initiatives.

- A tax interactive web site for teens.

- Outreach programs for targeted audiences.

- Systemic issue resolution.

- An online learning lab: Under this initiative, the revenue authority will improve taxpayer education programmes, particularly for first time taxpayers and students aged 13-18 who learn about taxes in school. An online learning lab has been developed which covers, among many topics, the reasons why individuals pay taxes and how taxpayers can meet their tax obligations.
Particularly important is the availability of electronic filing options and teaching electronic filing with electronic filing.

- Planning web sites specifically tailored to the young (animation, etc.) and the elderly (large format, etc.).
- Planning a business centre specifically tailored to new business start-ups.

**Segmented service to integrated/one-stop service**

- One electronic application/registration used by multiple government agencies.
- Business assistance centres. An interactive web-based service encompassing development of portals as a single, integrated means of access to different types of government information and services. Single standard presentation via Internet with appropriate authentication to enter.
- Planning a common e-business infrastructure for all government departments to facilitate taxpayer inquiries, responses and notification to multiple agencies.
- Establishment of an organisation within the revenue authority that exclusively deals with and is responsible for being the focal point of management of existing and planned programmes.
- Consolidating operations at fewer sites; replacing outdated computers.
- Public sector partnerships.
- The revenue authority working with other federal agencies and the local taxing authorities to reduce employer burden by improving customer service, establishing a harmonised wage code database, and developing a pilot for single point filing of federal and local employment returns.
- All customer service employees having mainframe access, allowing one-stop service for taxpayers. Individual notes and customer contact history can be entered.
- Central and local authorities working together to provide customers with the right services.
- A single register of business information for use by government departments, available primarily over the Internet.
- A small business CD-ROM: The revenue authority will be undertaking a number of cross-government initiatives for one-stop service starting with a cross-government CD-ROM for start-up businesses. The CD will be useful for anyone who is starting a new business and will provide information from a variety of government agencies.

**Taxpayer to customer**

- A discount of tax paid on returns filed over the Internet.
- Aggressive marketing by the revenue authority - paid advertising, broadening its trade show agenda, launching a business product marketing strategy.
− Incentives for e-filing.
− Operating more like the private sector.
− Private sector partnerships.
− Saturday walk-in assistance.
− Volunteer programmes.
− Taxpayer advocate programme.
− Citizen advocacy panels.
− Problem solving days.
− Allowing the taxpayer to check a box on the return to permit the revenue authority to contact the preparer of the return directly in the event of any questions.
− Increasing the monetary threshold required for tax deposits.
− Making available, through libraries, schools and community centers, public access to the Internet, for those taxpayers that do not have personal access.
− A corporate partnership programme: This program provides CD-ROMs of revenue authority tax products to large businesses which place the CDs on their internal networks and offer free access to their employees. Other federal and local government entities may also join the programme.
− Public and private library services: The library programme currently provides revenue authority CD-ROMs to public libraries. The revenue authority plans to add web-based and e-mail services to assist librarians in distributing tax information.
− Planning use of assisted chat sessions and “push” technology to ensure that clients using/browsing the web site can receive personalized service.
− A tax program disc for distribution to the public that calculates and estimates annual income and taxes.
− Planning a major multimedia audio/visual tax campaign to “target groups” using TV, radio, discs, videotapes, Internet, etc., in multiple languages.
APPENDIX II

SUMMARY OF FINDINGS OF THE TECHNOLOGY TECHNICAL ADVISORY GROUP

1. The FSM did not have sufficient time to consider these findings in detail, but believes that they provide a sound starting point for the next stage of the exercise.

2. The Technology TAG undertook a range of work with the Consumption Tax TAG and the WP9 Sub-group on Electronic Commerce in examining the technological implications of the various collection models considered for collecting taxes on cross-border electronic commerce transactions. This work is brought together in this appendix to summarise the Technology TAG’s conclusions at this point in time.

Conclusions of the Technology TAG regarding consumption tax collection models

3. The Technology TAG sees the self-assessment model as impractical for business to consumer transactions.

4. The remaining proposals have strengths in particular areas and inherent weaknesses. For example, the registration model is strong in minimising government administration costs, but business is left with a large burden in being able to correctly identify the consumer’s jurisdiction to correctly levy a consumption tax. The costs involved in potentially registering and complying with up to 120 jurisdictions’ tax systems are also abhorrent to businesses facing this prospect. The registration model is seen as a damper on the growth of e-business. This weakness from a business perspective is seen as a strength of the tax and transfer model.

5. The work of the Technology TAG on the modules or activities required to calculate and collect consumption tax led to them identifying a hybrid model with elements of the collection models being appropriately combined to result in a more practical collection model. The work to develop this hybrid would involve a further analysis of the technological alternatives for successfully implementing each of the six broad activities or modules identified.

Proposed future work

6. Members of the Technology TAG have had some discussions around where the TAG’s work should progress in the future. They believe that there are a number of factors which should underlie future work in this area:

− There is little tax revenue at stake currently in end-to-end (B2C) online downloads.

− Technology, as existing and commercially diffused today, does not provide robust jurisdictional identification or verification methods for such downloads. Promising technologies have been identified which are likely to be deployed in the medium term.
There is a need to keep working on these issues as a priority in order to assure a level playing field for all market participants in cross border transactions and the ability to collect revenue when such trade becomes more substantial.

The emphasis needs to be on identifying solutions that could be deployed for cost effective compliance. TAG participants cautioned strongly against solutions that are incapable of robust verification, that are overly burdensome in terms of cost or complexity or not supported by independent commercial rationales for the collection of information.

7. This background and participants experiences to date led to the TAG identifying the following areas as offering potential and warranting further examination:

- Examine viable short-term solutions which may not be ‘technological solutions’ as such (e.g. the use of a merchant’s internal databases).

- Further study of global IPv6 numbering including examination of the potential for geographic links to be inherent to IPv6 numbers.

- Complete a catalogue of third party tax services providers to document what is currently available and to provide this information to merchants.

- Need for further study of digital certificates and what models may make sense for use by tax authorities.

- Issues related to use and recognition of digital certificates in cross border situations; roles of government and private sector in providing certification authority (CA) and registration services.

- More detailed review of the impact of wireless technologies and the impact of greater bandwidth availability.

- Ongoing monitoring to ensure that:

  - OECD directions correlate with changes in technology and commercial business models; and

  - new technologies that could be harnessed to help address the taxation challenges of electronic commerce is identified.
APPENDIX III

SUMMARY OF RECOMMENDATIONS OF THE PROFESSIONAL DATA ASSESSMENT TECHNICAL ADVISORY GROUP

1. Set out below are the recommendations made by the PDA TAG. The FSM did not have sufficient time to consider these recommendations in detail, but believes that they provide a sound starting point for the next stage of the exercise. It also expects and encourages comments from both Government and private sector on the desirability and feasibility of the PDA TAG proposals.

Data access

2. There should be continued monitoring of remote access technologies by public sector and private sector auditors with a view to incorporating discussion of remote access into appropriate standards or training material.

3. In order to alleviate the concern that confidential data could be compromised, all relevant parties, including auditors and management, should be trained on best practices for e-commerce and web security, particularly regarding mechanisms to minimise the risks associated with accessing business data.

4. Businesses should be encouraged to use prudential systems for the management of encryption keys.

Internal control

5. In the context of Small and Medium sized Enterprises, tax administrations should work with software developers to encourage the incorporation of internal controls in their products for use in e-commerce trading.

6. Tax administrations should encourage the use of new assurance technologies such as time stamping on the grounds that its adoption can give greater assurance over the integrity of data when combined with other systems controls.

7. Tax administrations should also engage with software developers to encourage the adoption of time stamping technologies within their software design.

8. Tax administrations should encourage business to adopt strong authentication measures using technologies such as PKI.
Substantive tests

9. In clients with good internal controls, fiscal auditors should consider placing greater reliance on the system controls and the use of less intrusive tests.

10. In clients with weak internal controls, fiscal auditors should examine the use of computer assisted audit techniques where these will give reasonable audit assurance at a reduced compliance cost to the client.

Current auditing standards and guidelines

11. Tax administrations should continue to monitor new standards from standard setting bodies, best practices from the private sector and any emerging protocols.

12. Tax administrations should provide input, as appropriate, to standard setting bodies and other relevant parties.

Approach to audits and auditor training and development

13. Public Sector and Private Sector auditors working in the electronic environment of e-commerce must be provided with the requisite training in order to understand that environment, to employ the correct computer-assisted audit tools and techniques, including web-based technologies and, to conduct systems audits.

14. Public Sector and Private Sector auditors need to be trained in data assurance mechanisms and understand what assurances these mechanisms provide in an audit context and they must also know how to audit the relevant mechanisms.

15. Consideration should be given by the OECD to conducting a further survey at some future stage to assess the level of experience of auditors in the e-commerce environment.

Desirable data elements

16. The list of desirable data elements for tax invoices should be provided to the appropriate fora considering Consumption Tax issues at the OECD and elsewhere, as an aid in the furtherance of their work.

17. The list of elements should be issued by the OECD in the form of an information or best practice note.

18. The list of elements should be refined and incorporated into a de facto protocol such as XML or other protocols.

19. Tax administrations should approach software developers and standards bodies with a view to ensuring that the list of elements is considered in the development of appropriate systems and standards.