

International Trade Single Window



a new conceptual model

Version 1.1

24 July 2009

1. Overview

1.1. Executive summary

The traditional approach to the International Trade Single Window has been to think of it as a Government-owned IT application, which would be capable of accepting single declarations from Trade and then distributing the data to all Government agencies concerned. This would be in conformance with [UN/CEFACT Recommendation 33 on Single Windows](#).

However, there are several practical problems with this approach, especially in a developed country where already many different systems are in existence and delivering good service to their users. The costs to Government are likely to be great, while the benefits are hard to assess. There are logical and practical issues with the timing of submissions relative to the availability of data, and the sheer scope and transaction volumes for the application makes a “Big Bang” approach infeasible.

This paper instead recommends a phased introduction of an International Trade Single Window, in order to minimise Government expenditure and also the disruption to existing practices. It defines the ITSW as being a set of interface specifications for the interaction between government and trade systems, rather than as a large government-operated IT application. It proposes the increased use of digital signatures, in order to guarantee the authenticity and integrity of documents in electronic form, and it looks forward to Government, wherever possible, making use of existing commercial data on a “pull” basis as and when it is required, rather than having specifically compiled data “pushed” to it by Trade.

By adopting this model, the main responsibility for systems development ends up on the Trade side of the interface. This means that only those systems which bring an actual benefit in excess of the cost will be built, and Government does not need to involve itself in hypothetical calculations of the benefits to “UK plc”. Because the interface specifications will be open and public, competition among suppliers of different solutions will be encouraged, further driving down the costs for the ultimate users. There will be no need to impose a single systems architecture on Trade – any style of system and distribution of operations will be acceptable, as long as it complies with the data definitions and other protocol specifications. Finally, because the implementation is gradual and stepwise, early benefits can be demonstrated, therefore growing the appetite both in Trade and in Government for continued development.

It is fair to say that this model for interaction between the public and the private sector, where Government sets out the specifications for data interchange, but allows the private sector to develop (most of) the systems and provide different, competing solutions, might have other applications, too. Using the ITSW project as a prototype for a new form of public/private partnership, however, is beyond the scope of this short paper.

In addition, experiences from this project could most usefully be fed back to the European Commission, which is now considering difficult issues related to the implementation of the Modernised Customs Code, due to be completed by 2013.

To take the new ITSW concept further, the paper recommends the establishment of a technical group to develop the ITSW specifications; continued and enhanced liaison with international ITSW projects; and the creation of a number of simple demonstrator projects to showcase the methodology. The aim would be to include these recommendations in the [PBR Action Plan](#), and to start the specifications work and demonstrator projects as soon as possible, preferably this summer. In this way, when the PBR Action Plan is published, the very real benefits of an ITSW taking this approach can be demonstrated in practice and Government can be persuaded to start work on the first modules of the long-term implementation.

1.2. How the document is organised

Chapter 2 demonstrates the environment for Trade/Government interaction with respect to border-crossing trade and introduces the concept of scenarios, which are groupings of different type of interaction by their logical message flow. It also highlights some of the generic problems with the current environment which inhibit a move towards an ITSW.

Chapter 3 presents a possible end-game for the ITSW, showing the characteristics of the Trade/Government environment when all the enhancements recommended in this paper have been introduced.

In Chapter 4, then, we review the intermediate steps that can be taken to get from the present state to the proposed end state. The chapter lists some IT concepts that can be put to use, and shows the potential impact on the scenarios, as well as highlighting some modules for possible early implementation.

Chapter 5 describes the proposed next steps, how to build up a project team, and what its tasks, timescales, deliverables and governance should be.

The business case for introducing an ITSW has been extensively reviewed, and a summary of the findings is presented in Chapter 6.

To assist in explaining some of the terms used, as well as the many abbreviations and acronyms in use in this field, Chapter 7 contains a set of definitions as well as a glossary.

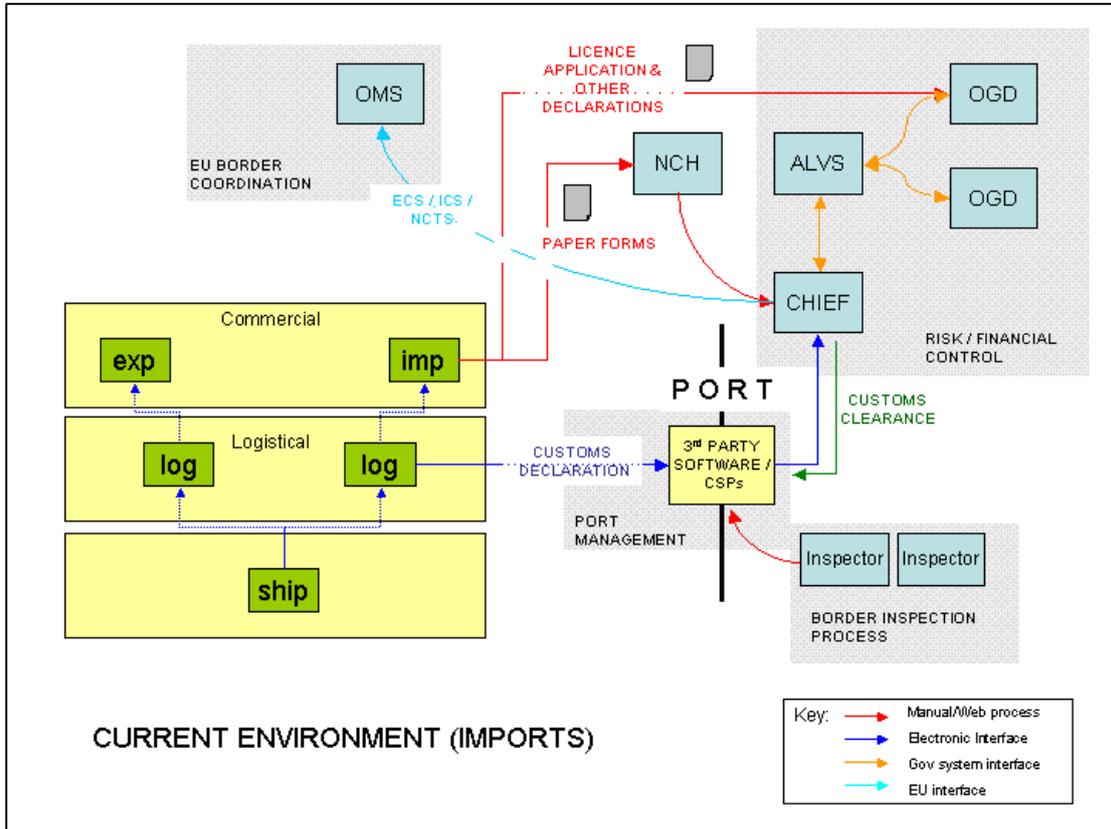
Finally, Chapter 8 contains acknowledgements of the assistance received in preparing this paper, as well as a quick reference to the Customs Blueprint recently launched for business consultation.

There is also an appendix showing current volumes of documents currently crossing the Trade/Government interface and how they fit with the scenarios described herein.

2. Present situation

2.1. Overview

The diagram below attempts to show in schematic, simplified form the current environment for imports. For exports, the situation is not dissimilar though perhaps somewhat simpler.



The main features of the current environment from a systems point of view are:

- Practically all customs declarations are made electronically at time of import
- Applications for licences and other declarations are made to stand alone systems or manual
- Paper is extensively used to support declarations and applications
- Some integration of PEACH, SPIRE and CHIEF through ALVS
- Multiple agencies inspecting at the border
- There is some coordination and standardisation of multiple EU customs systems, with more to come over the next 5 – 10 years
- Financial/statistical and security regimes are integrated within declaration messages.
- Obligation for most firms to declare at the time of import rather than be permitted to use periodic self-assessment.

2.2. Scenarios

Although there are, at first sight, very many different forms and procedures under which Trade and Government interact in respect of border-crossing trade, this

model views the interactions as grouped into a number of scenarios, each requiring a different logical sequence of events for clearance, and each containing all those interactions following the same logic. (Note that the scenarios are cumulative – each consignment may require one or more scenarios.) Proposed continued work includes a review of these scenarios with a view to establishing the minimum number of scenarios covering all forms of Trade-Government interaction in relation to border-crossing cargo movements.

The appendix contains an initial attempt on classifying current trade procedures for export and import.

Scenario 0: Pre-shipment notification

For some countries, a notification is required at some point (e.g., 48 hours) before the consignment is loaded on the main conveyance.

Scenario 1a: CHIEF declaration

The majority of consignments require nothing more than an export or import declaration in order to move. The declaration is also used to create trade statistics and to assess the duty payable, if any.

Scenario 1b: Other declarations at the time of export/import

Other simple declarations may have to be made for particular types of cargo, e.g. to the Forestry Commission for imported wood products.

Scenario 2a: Third-party certificate for domestic use

In some cases, calculating the duty payable requires additional verification from a third party. For example, the duty rate may depend on the ultimate origin of a consignment, and this may have to be proved by a Certificate of Origin, typically issued by a governmental or quasi-governmental organisation in the country of origin.

Scenario 2b: Government certificate for external use

Just as Government here may require a certificate from an overseas agency, the reverse is also true. Trade may require Government to issue various types of certificates in relation to export consignments. Whether these can be in electronic form evidently depends on the overseas jurisdiction for which they are intended.

Scenario 3a: Licence on a per-consignment basis

As mentioned above, certain types of cargo require a licence to be moved. This licence needs to be obtained in advance of shipment and can either be valid for a single consignment only, or...

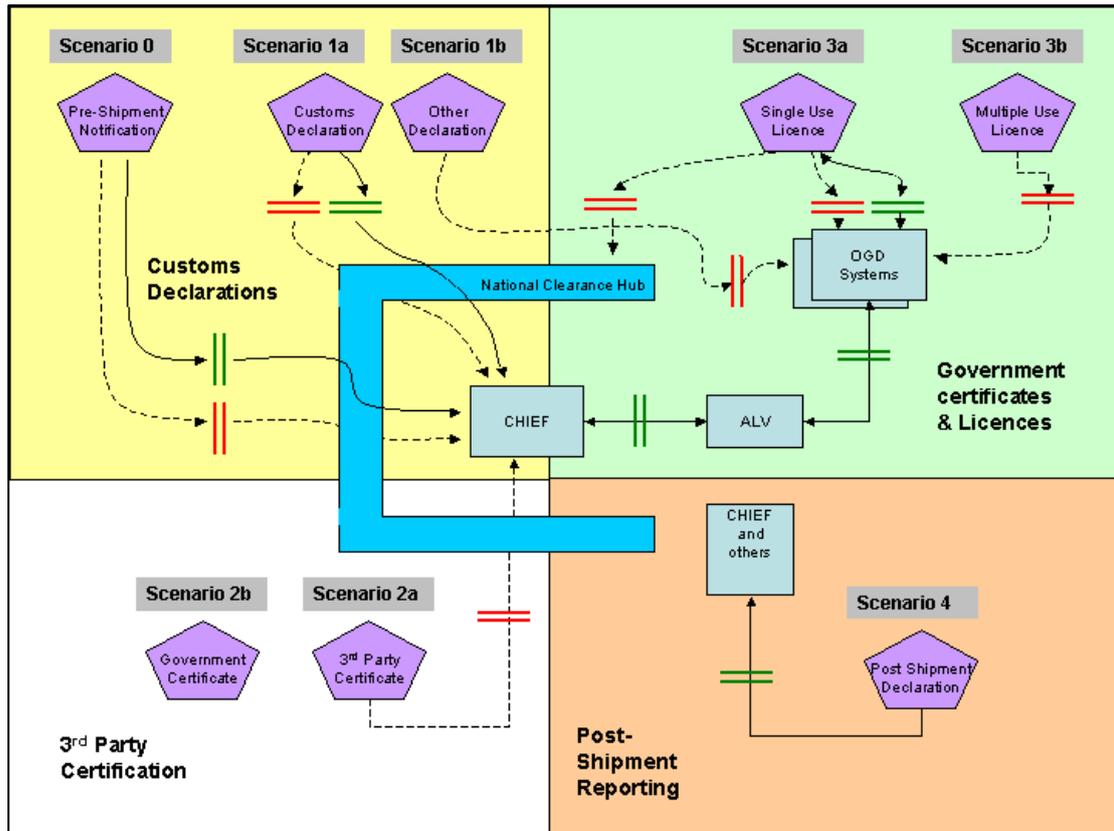
Scenario 3b: Licence valid for multiple consignments

...for more than one consignment, either over a given period, or up to a given volume of cargo.

Scenario 4: Post-shipment declarations

This concerns, for example, Intrastat and other periodical declarations.

Schematic depiction of scenarios



In the above diagram, manual interfaces are symbolised by red double lines across the path of communication, while computerised interfaces are indicated with green double lines.

2.3. Generic issues

Some present obstacles to the implementation of an ITSW are generic and affect several scenarios. These are the issues which should be addressed with priority in any continued ITSW work.

Paper required to support declarations & licence applications

In many cases, supporting paper documents are required even where the main declaration or licence application can be made in electronic form. This removes much of the benefit of being able to communicate electronically, and since it may require the trader to maintain dual paper and electronic systems, may even negate the benefit entirely. Examples of such documents are certificates of origin, preference documents and phytosanitary certificates. In some cases (e.g. for preference documents), paper is explicitly required by legislation, but mostly the need for paper arises from a lack of technical infrastructure to produce and authenticate electronic documents with sufficient certainty.

Multiple entry of data on customs declarations & Other Government Systems (licences & certificates)

For some goods, the same data needs to be entered in more than one government system; for example certain agricultural goods will require entries of similar data sets in both CHIEF and PEACH.

This is not a problem where data can be entered automatically, under software control (Straight-Through Processing), but where this is not possible, additional manual labour may be required.

Matching of licences to declarations

In the past, the trader in goods requiring a licence had to apply for the licence from the relevant Government agency, receive it in hardcopy, and then present the hardcopy to the NCH in conjunction with making the normal Customs declaration. The NCH would then match the licence to the declaration for clearance.

The ALV (Automated Licence Verification) systems now introduced for some licences simplifies this process by automatically matching the licence reference given in the declaration to the OGD record of licences issued. However, this process is as yet only available for some types of licences (HMI, CAP licences and Export licences) and, wherever possible, should be extended to other types of licences, too. A problem in this regard is that smaller OGDs do not have suitable computerised back-office systems to keep track of licences issued.

Post movement statistical reporting and data collection

The need to submit post-movement data, for example for Intrastat declaration, represents a further multiplication of data entry, especially as data formats, grouping and sorting may be quite different from other submissions.

Matching of declarations to physical goods

Although data processing systems easily can perform the task of matching one electronic document to another, or looking up the relevant data from a database, physically matching the data to an actual consignment in the real world mostly has to be done by human intervention, which may be slow, error-prone and expensive. There are technical solutions to this, for example the use of RFID tags or even containers with a GPS locator device, but no single standard system has yet emerged, even though there are many projects piloting various such solutions.

In addition, it is said that up to 4% of all containers off-loaded from ships at the UK's main ports actually carry a different identification number than that listed in the documentation (ship's manifest, as well as consignment documents). Often, this is due to a simple mis-keying of digits (which could be spotted sooner if full use were made of the container number's control digit), but sometimes, one container has been substituted for another at a late stage.

In the circumstances, the expression of a consignment's manifestation in the document world may not always be so easy to reconcile with its physical manifestation, even using automatic means of recognition (such as RFID tags). However, automated checks at several stages in the process could at least lead to errors being spotted earlier in the process.

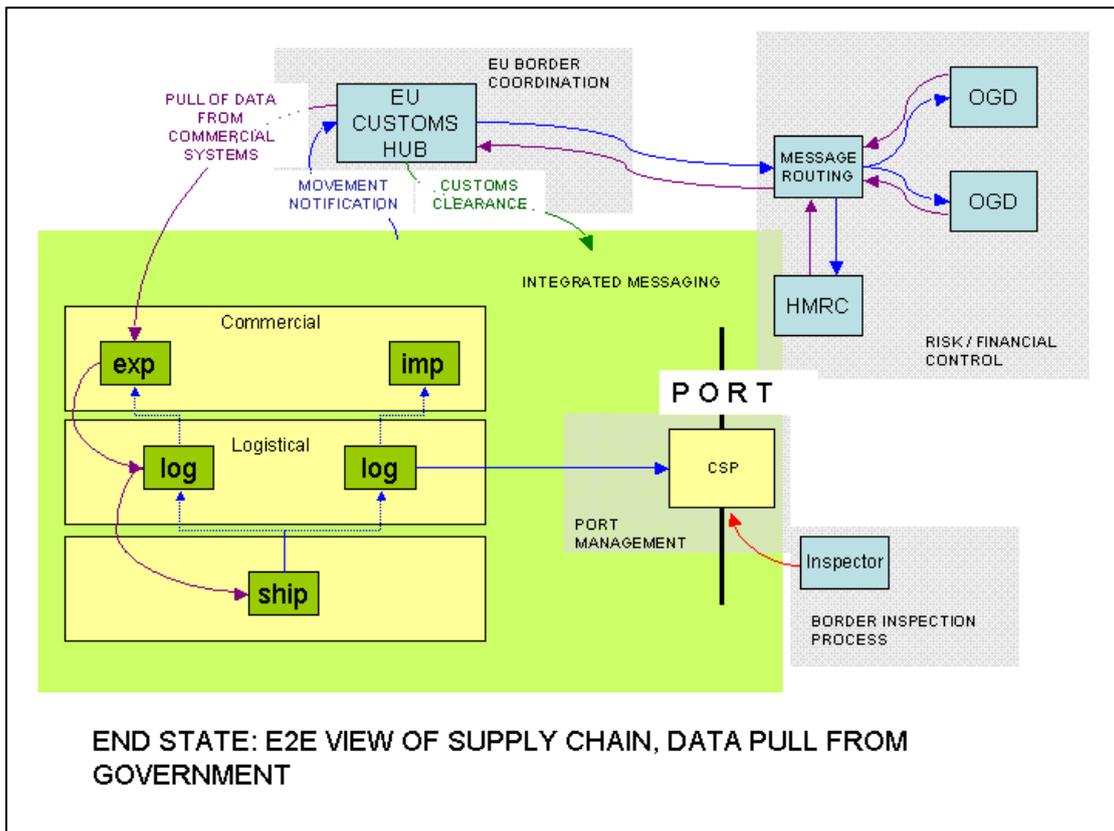
While at first sight, this issue might not seem to have much bearing on the Single Window concept, there are ways in which accurate matching of data and goods would be helpful. For one thing, it could help establish facts of fiscal relevance (such as goods definitely having crossed a border) and for another, it would reduce the inevitable confusion arising from consignments and containers being referenced with different identities in different data sets.

3. Aim for the future

Traditionally, the interface between Trade and Government has been following a “push” model, whereby Trade prepares the data Government requires in the form Government requires, and then takes the initiative to send the data at the appropriate time. For the future, probably 10 or more years hence, it may be possible to achieve a “pull” model, where Government gains access to Trade’s computing infrastructure and collects the data it requires directly from the systems already in use for commercial purposes.

Naturally, the decision to move a consignment is made by the individual trader, and it cannot be expected that Government systems should be able to guess when a consignment is about to be moved and then pull all the data without prompting. Some form of declaration will therefore have to be made, perhaps triggered automatically by normal commercial events (e.g. the decision to ship), but – in an ideal scenario – this could consist merely of a declaration that trader X wishes to move a consignment with UCR (Unique Consignment Reference) 999 on date D. The Government system(s) could then access the trader’s commercial data and, using the UCR, collect all the relevant data to decide whether to permit the movement.

At this stage, it is possible that sufficient agreement between EU Member States has been reached that the transactions can be carried out through a common EU transactions hub. Importantly, however, the systems on the Trade side of the interface do not all have to be the same, as long as they comply with the common set of interface specifications which forms the Single Window (as defined in this paper). Some traders may operate their own systems, some may elect to have their systems hosted by IT providers, and some may buy in the complete functionality from a service provider.



The characteristics of this end state are:

- Integrated supply chain systems with government pulling data on notification of movement by exporter.
- Goods cleared before arrival.
- Electronic certificates used to support declarations and applications
- All agencies working through centralised hub using trade data to conduct risk assessment
- Rationalised inspection process at the border using electronic identification of containers and data from further up the supply chain
- Single EU customs systems hub.
- Financial/statistical and security regimes separated, with more self assessment for financial control.

4. Intermediate development

In order to get from the present situation, depicted in Chapter 2, to the aimed-for end state, as described in Chapter 3, there are many intermediate steps that can be taken. There are also some powerful reasons why it is desirable, if not outright necessary to take these steps. This chapter examines some of the external drivers for change, and seeks to highlight some such intermediate steps, but it is worth pointing out that these steps do not necessarily have to be taken in the order described here. Depending on the resources available, and the appetite for change in both Trade and Government, steps can be taken in parallel, as long as they are designed to be modular.

This method of progress also ensures that there can be early achievements with demonstrable benefits both to Government and Trade, which should maintain interest and eagerness for further progress. It will also demonstrate to the wider, global community that the UK is moving towards goals set by the European Commission and the WCO with regard to modernised procedures, as well as aid UK representatives in setting the agenda for continuing international debate and implementation.

A key feature of this type of development is the early agreement on a set of interface specifications – the Single Window. This enables Trade and Government to work on new systems and the stepwise introduction of new concepts in harmony with each other and with the future end goal.

4.1. External drivers for progress

De-materialisation of trade documentation

Increasingly, business is looking to do away with the traditional paper documents used in border-crossing trade, and replacing them with data interchange. This process has been under way for at least 25 years and, despite some substantial inertia is now generally considered unstoppable. In many cases, Trade is also working towards integrated data processing, where all parties to a transaction share data on a common platform. If Government were to insist on retaining paper processes, it would hinder this progress to the detriment not only of Trade but also its own efficiency.

Coordinated border management

The WCO has started discussing what it calls CBM, which it defines as follows:

“Coordinated Border Management (CBM) represents an approach to manage borders involving public service agencies working across portfolio boundaries in a coordinated manner to achieve a shared goal thus providing a cohesive government response to the challenges of border management.”

It is avoiding to refer to Integrated Border Management, which would more strongly imply a single border agency in each country (or indeed customs domain), instead recommending a co-ordinated approach. This is, of course, precisely what this paper also recommends.

At a recent conference (Brussels, 29-30 June 2009) the WCO Secretary General positioned CBM as a key aspect of the WCO's strategy for Customs in the 21st century. It is therefore certain to become an increasingly important driver for change in this field.

Modernised Customs Code

The MCC was brought into force on 24 June 2008 and is being implemented between now and 2013. The changes from the previous Customs Code are summarised as

- rationalisation of the legal framework and the definition of customs rules and procedures - in particular there are now fewer procedures
- greater standardisation of customs rules and their implementation, through increased "communitisation" of economic operators' rights and obligations, in particular as regards decisions, simplifications and guarantees
- simplification of customs procedures - especially through computerisation and the possibility of managing them at EU level ("centralised customs clearance")
- computerisation of all declarations and data exchange
- interoperability of national customs computer systems - facilitating trade while ensuring tight control through common management of risks and easier cooperation between customs authorities
- the basis is laid for new facilities such as self-assessment by operators and single interfaces or one-stop services.

Looking at the actual code itself, the following Articles stand out as of particular relevance:

5(1) – All exchanges of data, accompanying documents, decisions and notifications between customs authorities and between economic operators and customs authorities required under the customs legislation, and the storage of such data as required under the customs legislation, shall be made using electronic data-processing techniques.

107(1) – The customs declaration shall be lodged using an electronic data-processing technique. The customs authorities may allow the customs declaration to take the form of an entry in the declarant's records, provided that the customs authorities have access to those data in the declarant's electronic system and that the requirements for any necessary exchange of such data between customs offices are met.

108(1) – Customs declarations shall contain all the particulars necessary for application of the provisions governing the customs procedure for which the goods are declared. Customs declarations made using an electronic data-processing technique shall contain an electronic signature or other means of authentication. ...

and

108(3) – When a customs declaration is lodged using an electronic data-processing technique, the customs authorities may also allow supporting documents to be lodged using that technique. Customs authorities may accept, instead of the lodging of those documents, access to the relevant data in the economic operator's computer system.

The implementation of the MCC is still being considered, but clearly the provisions quoted (and others) will drive both Government and Trade towards the kind of solutions envisaged in this paper.

4.2. Generic concepts for development

It is not possible to reach an ideal ITSW system in one go. Instead, this paper recommends a stepwise approach. In the first instance, it should be possible to introduce ITSW concepts (as described in this paper) without any additional Government IT development at all.

The introduction of generic systems concepts will help driving the development forward. Some such concepts are listed below, together with schematics showing their potential impact on the overall environment.

STP

Straight Through Processing: some Licensing Agency systems can only accept Trade input via a web application, which provides screens for human operators to enter data. (However, PEACH does have a bulk upload function which does make it capable of STP in this respect.) If these systems were extended to accept automated input, for example via a so-called web services interface

(perhaps based on the popular SOAP format), it would be possible to achieve STP.

Standard Declarations/Licence application message

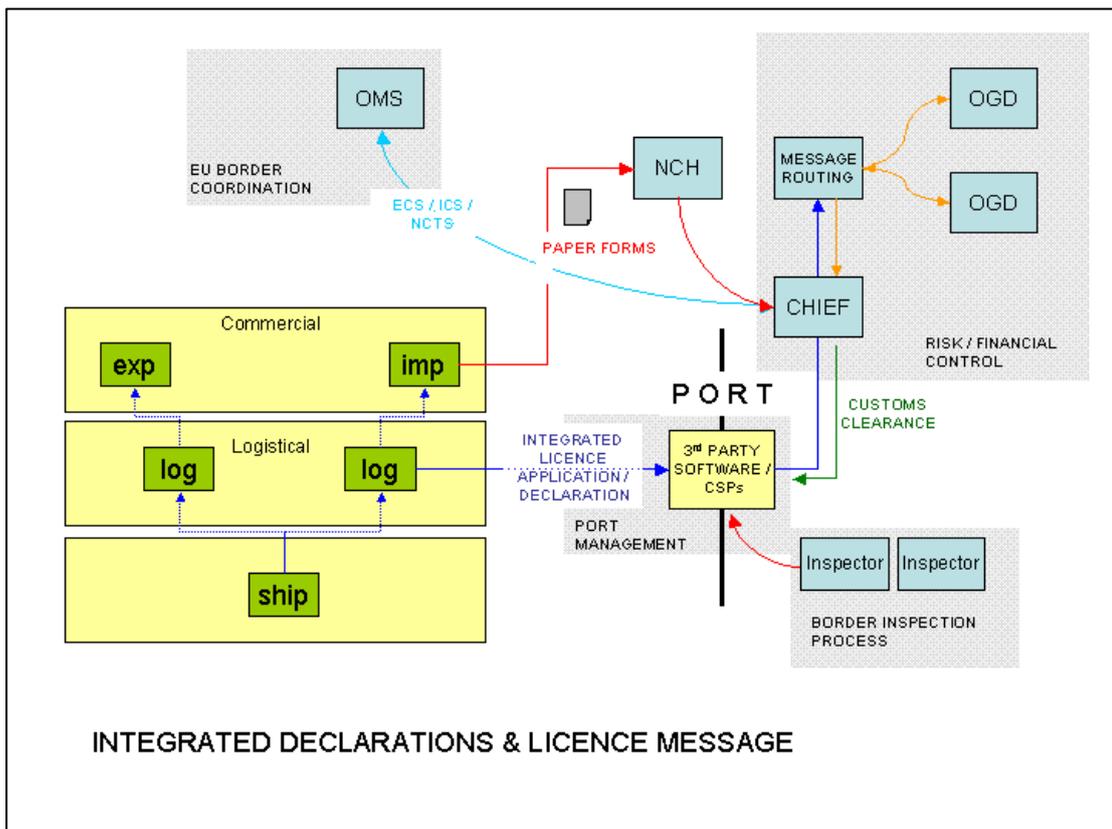
Much work has gone into defining the data set required for Customs messages, for example the WCO data model lists 27 specific data elements, to which can be added the “10+2” data sets required by US CBP.

U.S. Customs and Border Protection’s 10+2 interim final ruling became effective on January 26, 2009. The regulation requires importers and ocean carriers to electronically submit additional data to CBP on vessels destined to the United States.

Importers are responsible for 10 additional data elements which are: Manufacturer, Seller, Consolidator, Buyer and Ship to names and addresses, Container stuffing location, Importer and Consignee record numbers, Country of origin of goods and the Commodity Harmonized Tariff Schedule number. The Carrier will need to submit 2 additional data sets which are: Vessel Stowage Plan (or BAPLIE), and Container Status Messages.

Based on all this work, it should be possible to construct a single message to be used for submissions by Trade to Government, which would simplify the design of the overall interface specifications. (However, the existence of a single message does not necessarily mean that all data can be sent at the same time – more than one submission may be required where, for example, a licence needs to be granted before the actual shipment can be booked.)

On 17th June, WCO announced that a new EDIFACT message fulfilling this function has been approved. It will be known as the Government Cross-Border Regulatory (GOVCBR) message.



Standard web applications

With some minor Government IT investment, simple applications now entirely paper-based could be given a way of being handled in electronic form, probably

through a simple web application which could be a customisable standard system available to all OGDs.

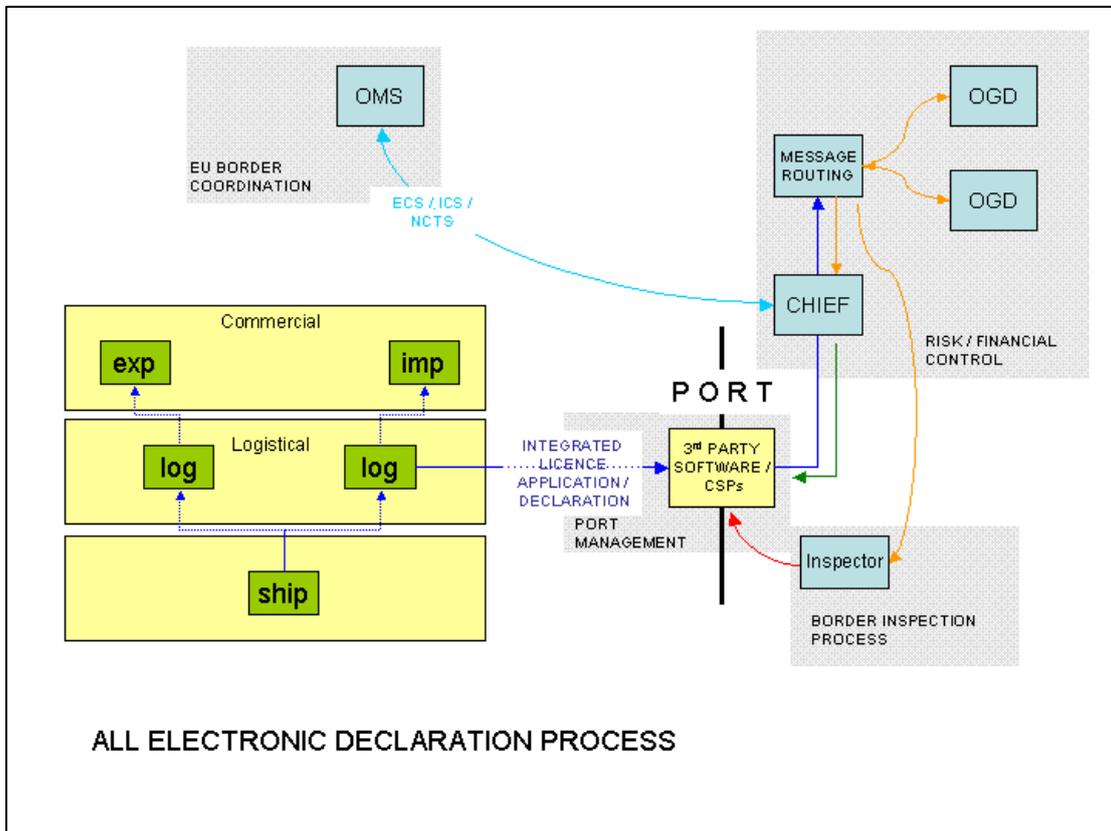
Digital signatures

When licences can be issued in electronic form with a digital signature, both Trade and Government systems can verify their authenticity and integrity without human intervention.

RFID tags on cargo and/or conveyances

One continuing problem is the matching of paper documents with the physical cargo or container. A globally (or at least EU-wide) accepted system of RFID tagging would go some way towards resolving this problem.

Once these concepts have been introduced, a fully electronic environment can be envisaged:



4.3. Modular approach

In this section, three potential modules for early implementation have been identified and are highlighted in yellow. The definition of further modules needs further work, and this version of the paper only seeks to highlight some of the major considerations.

Scenario 0: Pre-shipment notification

Where possible, the traders' systems should be capable of "looking ahead" and identifying shipments due to be made at set times in the future; and should therefore be able to send off pre-shipment notifications as necessary.

It is also possible that, subject to the different timescales involved, this scenario could be merged with 3a.

However, this area is still somewhat fluid in terms of standardisation and cross-border harmonisation and may need to settle down before any definitive interface recommendations can be made.

Scenario 1a: CHIEF declaration

CHIEF already supports EDI messages and has well-defined interface specifications for these. In the early stages, the traders' systems should carry on submitting declarations by EDI and receiving responses in the same manner.

If possible, however, the traders' systems should be used to exchange data between exporter and importer (and other parties in the chain, in particular the freight forwarders) so that the data can be reused in creating the EDI messages.

Note also that what is an export declaration at one end of a transaction, ought to morph seamlessly into an import declaration at the other end. Until customs authorities worldwide can exchange this information with each other, going via the traders' systems may be an easier way of achieving the same end. (Note that, in some parts of the world, less hampered by incompatible legacy systems, such exchanges are already happening. For our part, this will have to be addressed at an EU level.)

Once digital certificates have been brought into widespread use, the security of the declarations could be enhanced by the trader adding its digital signature to each declaration (this would guarantee that the declaration could not be tampered with in transmission, and would bind the trader more firmly to the contents).

This might necessitate a move from EDI to a more modern messaging standard, e.g. ebXML. Such a migration has already been stated as an aim for the not-too-distant future (by the JCCC CSTEP – service transformation – sub-group).

When CHIEF is re-written, it will certainly be able to support ebXML or similar messaging standards. This would also be a time to determine the proportion of “push” and “pull” involved in making a simple export or import declaration.

Scenario 1b: Other declarations at the time of export/import

These are mostly paper-based at the moment, and there are (in many cases) no Government IT systems to handle them by electronic means.

Potential module for early implementation

It would be worth exploring if a simple, standard application could be put in place for Government agencies currently only accepting paper declarations. Such an application would be easily programmable to accept different data items for different declarations, and would provide certain standard functions:

- An option to receive input through a human-operated web form
- An option to receive STP input through a simple web-app standard (e.g. the REST format used by many e-commerce sites)
- An option (for the agency) to view the declarations on a set of web pages
- An option to download submitted declarations in a suitable format (XML or even basic comma-delimited)
- An option to have each declaration e-mailed to a specific account on receipt

Alternatively, these declarations could be generated from the main customs declaration and transmitted directly from CHIEF to the relevant agency.

Scenarios 2a and 2b: Third-party certificates

Again, these are mostly paper-based and, without the ability to create and verify digital signatures, probably can't be handled electronically.

Potential
module for early
implementation

However, in a pilot project involving a Hong Kong exporter and a UK importer, electronic Certificates of Origin are successfully handled by the UK importer's application, and verified by Customs at audit time, using a separate application (in fact, a simple e-mail client).

Once the Government agencies have the ability to validate digital signatures, they should be able either to accept fully electronic submissions of these certificates, or alternatively, to inspect them remotely by having access to the relevant Trade systems.

Scenarios 3a and 3b: Licences

ALV systems should be used for all licences of this type.

(It might be possible to construct a system for Trade which mimics the actions of a human operator and connects to systems such as PEACH and SPIRE automatically, thus achieving a kind of STP by stealth. But it would be better, and not terribly expensive, to introduce the module described in the following paragraph.)

Potential
module for early
implementation

Once Government web applications have acquired the ability to accept automated input, using a SOAP/ebXML protocol, or perhaps a simple REST protocol, Trade systems can connect as necessary, and remove the need for a human operator to enter the same data twice.

When Government systems are able to deal with digital signatures, the licence can be sent by the relevant agency as a digitally signed message to the Trade system. When the licence is required for a consignment, it can be submitted by the Trade system to the NCH or equivalent, which can then just verify the digital signature (and perhaps note that the licence has now been utilised). Where convenient, such a procedure could be an alternative to ALV systems, as well as adding a further layer of security.

In the fullness of time, licences can be issued with a digital signature as described above, and then "pulled" in for inspection by the new Customs system at the time the export or import declaration is made.

Scenario 4: Post-shipment declarations

We recognise that there is a wide variety of these and that it may be difficult to agree a common interface specification. Some of these, such as the import CFSP or export SDP or LCP supplementary declarations under simplified procedures already have well-established specifications – the trick will be to harmonise what can be harmonised, and identify those which can't be.

Initially, declarations should be made by electronic means wherever possible, using Trade systems to compile them from pre-existing trade data and diarise them for submission at the appropriate time.

In the later stages, the security can be enhanced by adding digital signatures, and finally, this scenario can be handled with "pull" methods whereby Government accesses the data when it needs to, directly from the Trade system.

5. Proposals for continued work

5.1. Project team

Resource restrictions

We propose to carry the project further in (at least) two phases: the first a small exploratory/feasibility study project during the present (2009/10) financial year, followed by a full implementation project from April 2010. It is recognised that public funding is currently extremely restricted, and may well remain so for several years to come. However, as the project is structured to be modular and to introduce new developments one step at a time, it is flexible and can easily be adapted to suit its financial circumstances.

In particular, this means that the number of resources allocated to the project can be varied over the time. It may also be possible to sub-contract distinct sub-projects to private sector teams, provided that the project management skills of the core team are strong.

At least the work on preparing the interface specifications should be funded from a commercially neutral source. For these specifications to have the desired effect, they must be open and available to all, as well as technologically neutral – not giving an advantage to any particular proposed solution. If they are even perceived to be biased in favour of any commercial entity, they will not gain the desired acceptance in the marketplace, thus negating many of the hoped-for benefits from this approach to the ITSW.

Skills required

The core team will require project management and co-ordination, business and systems analytical skills and technical skills.

For the first task, developing interface specifications, the team requires technical expertise with strengths in communication protocols (chiefly HTTP - the web protocol, but also SMTP - the e-mail protocol and perhaps others, too); in messaging standards (e.g. EDIFACT and ebXML); in data definitions and code sets (such as the WCO data model); and perhaps also in digital security matters. Additionally, it would need some expertise in analysing current practice as well as the implications of future plans from the EU and elsewhere - a "business analyst" resource.

For the liaison task, the resources required are of a diplomatic nature, as well as good communications and analytic skills (could be combined with the business analytics above).

The development of demonstrator projects requires either general-purpose technical abilities, if the projects are to be developed "in-house", or strong project management if they are to be outsourced (especially bearing in mind the timescales). In addition, however, strategic and business analysis skills will be required to determine which projects to pursue and with what priority.

In addition, general project management and governance skills for the overall project will be a necessity.

Governance

Assuming that the project team is of a cross-governmental nature, its natural reporting home would be the International Trade Theme Board. The ITTB itself might perhaps be strengthened with further Trade representation, but this is a question beyond the scope of this paper.

5.2. Tasks

Interface specifications

The core project activity consists of work on the Single Window itself, now defined as a set of Government/Trade interface specifications. The objectives of this activity are:

- defining the smallest possible set of interface scenarios
- pulling together all relevant existing specifications
- grouping the specifications together by scenario
- deciding on the best protocols and standards to use for each scenario at each stage of development
- creating new specifications where none are currently defined
- reducing the number of specifications to the minimum possible

Specific sub-tasks include:

- Examine WCO data model version 3 and compare with data dictionaries for OGD systems (PEACH, SPIRE, TRACES etc) and commercial software used in ports.
- Investigate options for exposing a single interface to Government that can be accessed by CSPs and third-party software suppliers – possibly developing the ALV system already in use.
- Review business processes around the timing of applications and declarations and granting of certificates, establish need to extend ALV.
- Investigate options for making electronic declarations where there is currently only a manual process
- Review any legal issues such as data protection, competition rules etc.
- Review handling of paper certificates to support declarations and applications

The specifications should take into account the need for UK developments to remain compatible with, in particular, developments in the rest of the EU; the progress of WCO initiatives to standardise Trade/Government interaction on a global basis; and the continuing trend towards increasing pre-shipment data requirements.

While the specifications will be directed towards Straight-Through Processing, they should where possible allow for human-to-machine interfaces as well, in recognition of the many small or occasional traders for whom dedicated trade IT systems would not be cost-effective.

For this task in particular, it would be helpful to establish some form of standing advisory committee with representatives from Trade systems providers (such as CSPs and software houses) as well as Government departments and IT providers.

Liaison with EU and international SW projects

The European Commission (DG_TAXUD) has recently requested Member States to provide input on existing Customs systems and projects, such as ECS, ICS and NCTS. It is clear from recent discussions about the MCC implementation that the Commission is in need of some assistance, if it is to achieve its goals for e-Customs and the MCC by the 2013 deadline. With suitable governance and team composition, the ITSW project could be well placed to provide such feedback and help the UK set the agenda for continued EU work in this field.

There are many SW projects in existence, at various levels of abstraction, practicality and development. An attempt should be made at identifying these, determining which are of particular importance to SW developments in the UK, and then maintaining continuous liaison for exchange of ideas, experiences and results.

Useful contacts are already in existence with many of these, for example ITAIDE, INTEGRITY and the WCO SAFE framework.

Demonstrator projects

In order to show the potential of a modular approach to the ITSW, some demonstrator projects should be established to showcase the concepts. Some existing pilot projects could perhaps be developed into ITSW demonstrators; others may have to be set up from scratch. It should also be noted that some projects already planned for within the current ITSW project, as implemented through Business Link, might be related to the work considered in this paper. One such example is the “short forms” project, which is related to the “standard web application” project here. Undoubtedly, experiences from SW projects abroad will also be helpful.

The projects should be small and well-defined, so as not to confuse the issues. The aims of each project should be to

- test the practicality of proposed interface specifications
- provide experience and understanding for the development of future systems
- assess the costs and benefits of the ITSW approach for each scenario, so that the right priorities can be established

In particular, projects are required to address the generic issues mentioned above (under Generic Issues):

Paper required to support declarations & licence applications

Where there is no explicit legal requirement for paper form, digital certificates and signatures can provide the required certainty of document authenticity and integrity. ALV systems also reduce the need to submit paper certificates and licences already produced by one government agency for verification by another.

Multiple entry of data on customs declarations & Other Government Systems (licences & certificates)

A partial solution would be to introduce “web services” interfaces for OGD systems which do not have them at present. The development and implementation of a single Standard Declarations/Licence application message would also assist, as would the transformation of Trade/Government interaction from “push” to “pull”.

Matching of certificates to declarations

The extension of ALV to more licences, as well as the introduction of a cheap, standard computer application as described in the section on a Modular Approach.

Post movement statistical reporting and data collection

When “pull” interaction becomes possible, Government can simply extract the data it requires when it is required, so this type of reporting becomes less of an issue. In the meantime, aligning the data required for post-movement declarations with that used for movement-related declarations (which would be part of the interface specifications design) will certainly alleviate the issue for Trade.

Matching of declarations to physical goods

Various projects based on RFID and similar technology are already underway.

Second phase planning

Bearing in mind the timescales (see below), one of the first tasks of the first phase project team will be to establish a project plan for the continued work (in 2010/11 and onwards), determine the resource requirements and put forward a proposal to Treasury for continued funding.

5.3. First phase timescales

In its early stages, the first phase of this project links closely with the PBR Action Plan work. This document will be finished by 17th July 2009 and, we hope, approved for inclusion with the other Action Plan material by the ITTB on 24th July and by the PBR Action Plan Steering Board on 31st July. The final Action Plan must be delivered to Treasury ministers by the end of September, so that it can be in some form included with the 2009 Pre-Budget review, to be presented later in the autumn.

It follows that the first phase of this project cannot start before August, but that it should be in a position to demonstrate some deliverables, notably the Second phase plan and ideally some simple demonstrator projects in October/November.

The first phase is unlikely to run longer than until the end of the current financial year and by that time, it must have produced at least some demonstrator projects and a solid draft of the overall interface specifications, and preferably one or two fully functional steps towards the ultimate SW implementation (e.g. those early modules highlighted in the Modular Approach section).

5.4. First phase deliverables

Second phase project plan

A detailed project plan for the continuation of the project needs to be completed and agreed in time to secure funding for the 2010/11 financial year. The exact timing for this needs to be agreed with the ITTB (or whichever Board will look after the project), but presumably this means before December 2009.

Demonstrator projects

The first phase should deliver two demonstrator projects during 2009 and two more before April 2010. These do not need to be fully operational systems, but they do need to be detailed and functional enough to prove the concepts tested.

Interface specifications

By the end of the first phase, there should be a solid first draft of the ITSW specifications, which should be agreed with the standing advisory committee, and should have been submitted to the concerned Government departments. If practical, this draft may also have been submitted to external bodies such as the WCO, DG TAXUD and UN/CEFACT.

Liaison

The project team should have established its presence and, where appropriate, joined relevant committees or (where protocol prevents direct participation) have identified a liaison in the WCO, DG TAXUD and UN/CEFACT, as well as in the JCCC; and also be represented as appropriate in relevant projects such as those identified in the Acknowledgements chapter. A specific deliverable for the end of the first phase will be a report highlighting the impact the project has had on external developments, as well as insights learned and acted upon.

5.5. Benefits from the first phase

The next chapter details the economic benefits of the overall project. We recognise that the first phase, as described here, will bring few, if any, direct financial gains. However, there are many good reasons why starting the project now will bring benefits to the overall cause of trade facilitation.

Practical demonstration

The project will show, together with existing related developments such as ALV, in a direct way the benefits of trade facilitation and the ITSW. The concepts themselves are somewhat abstract, but the actual technical implementation of a demonstrator project can show its intentions to an interested but non-expert reviewer, prove the concept, and act as a test platform for determining the real costs and benefits of a full-scale system.

Leadership in Europe

As mentioned above, the continued implementation of the Modernised Customs Code will require a great deal of work, and the Commission appears to be looking for guidance and assistance from the Member States. Many of the ideas in the ITSW project have a direct bearing on MCC implementation and the experiences from this first phase can feed straight into the UK's contribution to this work.

Opportunities for simplification

The work of analysing current Trade-Government interactions in order to draw up the simplest possible set of interface specifications is in itself certain to put a spotlight on rules and formats which could be enhanced, simplified or perhaps even abolished. It is thus precisely in line with the work for the PBR Action Plan.

Good news stories

Because the first phase will be concerned with identifying and prioritising "quick wins", the project should be able to deliver good news stories and will bring new impetus to the whole field of trade facilitation. It will also deliver a much strengthened business case for trade facilitation activities, which may have uses well beyond the scope of the project itself.

5.6. First phase budget

Based on a team starting work in September and growing from 3 full-time individuals at the outset to 6.3 full-time equivalent individuals by December, we estimate the project requires a budget of £535,000 in the current financial year. Of this sum, £508,000 represents staff costs and the remainder is accounted for by office space, IT infrastructure and travel.

These figures are based on all team members working as contractors and the project being set up from scratch; obviously, the budget could be smaller if some staff can be seconded, space can be found within existing premises etc.

6. Business case

6.1. Overview

Much work has already been put into assessing the potential benefits of an ITSW. Building on previous efforts, we have concentrated specifically on identifying and quantifying the benefits which can be obtained by addressing the generic issues identified earlier in this paper.

Based on the findings of the overall PBR Action Plan research, there are four key benefit types to be achieved from an ITSW:

- Reduced administrative costs for Trade
- Reduced administrative costs for Government
- Improved clearance speed and reduced spoilage
- Improved compliance and risk management

With input from HMRC detailing the volumes of declarations and other submissions, we have been able to relate these to each of the five generic issues. The matrix below indicates where each of the benefit types occurs in relation to each of the issues, together with an estimated value of the benefit.

From this analysis the total quantified benefit is estimated to **£260M** per annum, which is split in the ratio **£188M** to the Trade (a further breakdown by sector is included in [section 6.3](#)) and **£72M** to Government. It should be noted that, so far, we have not attempted estimating the benefit to be accrued from improvements to post-shipment processes (including statistical reporting, VAT accounting and duty refund claims), nor from improvements in compliance and risk management.

If the calculated benefit were distributed across the total annual volume of customs declarations (the estimates are based on 2007 volumes) this would equate to an average saving of **£5.60** per declaration.

<i>(amounts in £ million per annum)</i>	Reduced admin costs Trade	Reduced admin costs Government	Improved clearance speed & reduced spoilage	Improved compliance & risk management
Paper required to support declarations	66	62	6	Not quantified
Multiple data entry	80			Not quantified
Matching of licences to declarations	2	5	16	Not quantified
Matching of declarations to goods		5	19	Not quantified
Post shipment reporting and reclaim processes	Not quantified	Not quantified		Not quantified

6.2. Benefit Types

The four benefit types are described in the following sections. It should be noted that the scope of the benefits described relate purely to the implementation of the single window and do not include related processes such as improvements in border inspection processes and service levels.

Reduced administrative costs for Traders

Traders will save effort by avoiding manual processing of:

- applications for licences/certificates;
- supporting data and documents to support customs declarations;
- post-shipment declarations.

This will be achieved by eliminating duplicate entry of data onto multiple systems and removing the need to provide hard-copy documentation by fax, post, or in person.

Reduced administrative costs for Government

Government will save effort by avoiding manual processing of licences and certificates received at the National Clearance Hub (NCH) and matching these to automated declarations.

In addition, improved matching of declarations to physical goods through automated tracking will save effort at border inspection posts.

Improved clearance speed and reduced spoilage

Traders will save money by having their goods released more quickly and predictably. In some cases, especially for perishable goods, delays in clearance can result in a reduction of value, due to shortened shelf life – in extreme circumstances, such goods may have to be destroyed if they pass their sell-by date.

Improved compliance and risk management

Government will achieve a higher rate of compliance and improved detection through use of more automated technologies that reduce errors and enable more accurate targeting of high-risk shipments or traders. These benefits also translate to

6.3. Benefits by sector

The following table provides a breakdown of the Trade benefits by sector.

Sector	Annual Benefit (£M)
Agriculture	45
Manufacturing	56
Minerals and Chemicals	11
Textiles	76
TOTAL	188

6.4. Detailed assumptions

These benefits have been calculated from a 2008 listing of declarations, certificates and licences processed by CHIEF, analysed into scenarios, trade

sectors and impacts. In addition, experiences from the ALV pilot projects have been used, and some new assumptions have been made. These data and assumptions relate to

- (a) the average time taken to process paper documents (both for Trade and Government) and to correct errors when found, the average time of customs clearance when using different Routes (these are the modes of clearance, ranging from full goods and documentary inspection through to instant clearance without inspections) and the impact of ALV systems;
- (b) the proportions of documents with and without errors, of consignments being cleared by different Routes, and of consignments which may be susceptible to spoilage if delayed;
- (c) the costs of time for a Trade employee, a Government employee, and of goods in transit (waiting times for staff and vehicles, capital tied up etc), as well as the average cost of spoilage to sensitive consignments.

Where no data is currently available, new assumptions have been made. These can fairly easily be checked against reality and, where we have not yet been able to do so, additional research will further strengthen the business case.

Further, we have tested the business case for its overall sensitivity to changes in these assumptions. For example, if the 10 minutes assumption for handling one document is increased by 10%, then the total benefit from the ITSW implementation increases by 1.6%. It appears that, after the cost of labour, the factors with the greatest impact are those related to manual data entry and paper handling.

The business case has also been “reality-checked” against other similar exercises and common-sense evaluation (for example, the benefits appear to be in the region of £5-6 per declaration, which is at least not an unrealistic result).

Obviously, these assumptions should be further tested and validated. However, the exercise already shows that the benefit of a full implementation of the ITSW will be several hundred million pounds per annum.

6.5. Detailed benefits preview

An advantage of the model used is that benefits can be analysed down to individual scenarios, and even to individual documents. It is probably too early to draw any definitive conclusions, but it appears likely that the greatest benefits can be had from automating the processing of third-party certificates – Scenario 2 in this paper. This scenario accounts for about half the total benefits identified so far.

By some considerable margin, the documents incurring the most costs – on our current understanding – are the Certificates of Origin (Certificate of origin Form A and Textile documentary Proof of origin). The processing of these represents about a third of all the costs calculated.

Once all assumptions have been validated, we can use this method to identify areas to tackle. Combined with an assessment of the difficulties involved, this will quickly provide a list of priorities and “early wins”.

7. Definitions and glossary

7.1. Definitions

In this model, certain simplifications, assumptions and definitions are used in order to make the rather complex real-life picture manageable. These are explained in the following definitions listing.

The Single Window

In this analysis, the ITSW can be defined as the set of interface specifications, which makes it possible for different systems in Trade and Government to communicate with each other. The drawing up of these specifications will be the most important action that can be taken to move the concept of ITSW forward. It is worth noting that such specifications already exist for many aspects of Trade/Government interaction – the work required is bringing them together and adding such new components as may be required to cover all scenarios.

Actors

Trade

Trade is the exporter, importer or his/her agent; i.e. the person who must make licence applications, declarations etc. to Customs and other government agencies

CSP

The Community Systems Provider provides IT support, typically to a port community. Most ports (and airports) in the UK are serviced by a CSP. (though there are some so-called non-inventory ports which are not).

The prime purpose of the CSP is to manage the inventory of goods passing through the port so that the port/terminal operator(s) can know what and where each consignment is. Because no cargo can move in or out of the port without the CSP knowing about it, Customs and other agencies rely on the CSP system to hold cargo that needs inspection, or for which duty needs to be paid. Equally, the carriers rely on the CSP to hold cargo for which freight remains due.

Government

The counterparty to Trade in this context is Government. However, Government consists of many different agencies with different responsibilities (and this gives rise to the ITSW problem). Although these agencies all have different characteristics, it is sufficient for the purposes of this model to divide them into two:

Customs

The main Government agency concerned with the movement of cargo across the UK border is Customs. Its many roles include

- revenue collection
- statistics gathering
- prevention of banned goods from entering or leaving

Licensing Agency

Many Government agencies have specialist roles in relation to certain types of cargo. These include

- Veterinary, plant health and food standards agencies, usually falling under Defra but sometimes under the Department of Health – they are

concerned with the quality of live animals, plants and food moving across the border

- ECO, BIS's export control organisation – it issues licences for certain types of cargo (e.g. arms) to be exported

Seen from the point of view of the trader and trade systems, these agencies all operate in the same manner, that is, the trader is required to obtain a licence (in advance) from the relevant agency in order to move certain types of cargo across the border.

Systems

Trade systems

For the purposes of this model, we will assume that each trader has its own computer system used for interacting with Government. This system will be able to receive trade data and use it to interact with government in certain set ways.

However, it is by no means necessary for each trader physically to own and operate its own system – these systems can be hosted elsewhere and managed on behalf of the trader by an agent. It is nonetheless important that each trader is responsible for, and has exclusive jurisdiction over its own data.

CSP systems

The CSPs each operate their own systems which, as mentioned above, also have functions beyond the scope of the model. For our purposes, it is sufficient to note that the CSP systems have a database with one record for each consignment having passed or due to pass through the port serviced by that CSP. Before a consignment is released from the port, it must have cleared all Government requirements and all carrier requirements; the CSP system handles this.

It may be helpful to think of the CSP's operations like a very large card register. Each time a new consignment is entered into the system, a new card is drawn up with details of the consignment, together with two empty check boxes. Once Government notifies the CSP that its requirements are satisfied, that box is checked, and equally, once the carrier's requirements are satisfied, that box is checked. The CSP system will not allow the consignment to be loaded on board the conveyance that will remove the consignment from the port until both boxes have been checked.

Customs systems

The main Customs system is CHIEF, which is by now fairly venerable and due for revision in the next few years. It is extremely capable but hard to extend so that it can accept new forms of data input.

Again, you may think of CHIEF as a (quite intelligent) card register. When a new consignment comes to its attention, a new card is created, together with a list of check boxes, which is determined by the type of cargo, the origin and destination, the exporter and importer and other factors. CHIEF will not send a clearance signal to the CSP (so that it can tick the Government box on its record) until all CHIEF's boxes have been ticked.

CHIEF can also signal the CSP system that the cargo can be released, but not until it has been inspected.

In addition to data input from Trade and the CSPs direct into CHIEF, some types of data can only be input by Customs officers themselves, now centrally based in the National Clearing Hub (in Salford). For example, a cargo of flowers will require a phytosanitary health certificate from the country of origin, before it can be moved. CHIEF will set up a "phytosanitary health certificate" box to be ticked when the consignment is first registered; but it cannot take a paper or fax

certificate as input. Therefore, the actual certificate must be conveyed to the NCH, whose officers then can verify the certificate and cause the relevant box to be ticked.

For the purposes of systems analysis, we can thus consider the NCH a form of intelligent front-end to CHIEF.

Licensing agency systems

These are many and varied. Some agencies have no IT systems at all and simply manage with manual review of applications, giving their approvals, conditional approvals (subject to inspection) or refusals through the NCH to CHIEF. Others have sophisticated risk management systems which correspond directly with CHIEF and/or the CSP systems and/or the Trade.

It is worth drawing special attention to the ALV systems (Automated Licence Verification). These systems work like this:

If a trader wishes to move a consignment which requires some form of licence, the trader will first apply for that licence from the relevant agency. Assuming a licence is granted, the trader goes ahead and organises the movement of the cargo. At some stage, a record will be created in CHIEF, and this record will indicate that a licence is required (to continue the simile, an empty check-box for this licence will be created).

Non-automated systems require a copy (or sometimes the original) of the licence to be transmitted to the NCH, which will then manually tick the relevant box. With ALV, however, the trader just includes the reference number of the licence in the Customs declaration. CHIEF then refers to the ALV, which in turn uses the Licensing agency's internal system to verify the licence and, if all is in order, issues an electronic instruction to CHIEF to tick the relevant box.

7.2. Glossary and list of abbreviations

ALV, ALVS	Automatic Licence Verification [System] The ALV process matches specific data associated on a licence with information held on the CHIEF system when an import or export declaration is made.
BIS	Department for Business Innovation & Skills Responsible for trade in general and specifically also for certain Government processes relevant to ITSW, including export control and certificates of origin.
CAP	Common Agricultural Policy (of the EU) Relevance in this context: CAP import licences, without which some agricultural goods cannot be brought into the EU, or which restrict imports by imposing quantitative limits, or allow a reduced rate of duty.
CFSP	Customs Freight Simplified Procedures CFSP allows authorised traders to gain accelerated removal or release of most third country imports by making a simplified declaration containing the minimum of details at the frontier.
CHIEF	Customs Handling of Import and Export Freight According to the HMRC website, "CHIEF is one of the largest and most advanced Customs declaration processing systems in the world, providing a sound technological platform for Customs & Excise and international trade."

CITES	<p>Convention on International Trade in Endangered Species of Wild Fauna and Flora</p> <p>The import, export and use for commercial gain of certain species requires a CITES permit.</p>
CSP	<p>Community Systems Provider</p> <p>CSPs operate computerised inventory systems which control the movement of export and import freight at most major UK ports and airports. There are currently six CSPs in the UK: Cargo Community System-UK (CCS-UK), Community Network Services (CNS), DHL, Maritime Cargo Processing (MCP), Pentant and Port of Dover.</p>
CSTP	<p>Customs Services Transformation Programme</p> <p>In this paper, referring to the JCCC (q.v.) sub-group on that subject.</p>
Defra	<p>Department for Environment, Food and Rural Affairs</p> <p>It is, in this context, the department responsible for Government processes concerning plant and animal health and welfare, and food safety</p>
DG TAXUD	<p>The Directorate-General for Taxation and Customs Union of the European Commission</p> <p>The UD part of TAXUD stands for Union Douanière, but annoyingly, the name of the DG in French is Fiscalité et Union Douanière. So it isn't a straight acronym.</p>
ebXML	<p>Electronic Business using eXtensible Markup Language</p> <p>A family of XML based standards sponsored by OASIS and UN/CEFACT, aiming to provide an open, XML-based infrastructure enabling the global use of electronic business information.</p>
ECO	<p>Export Control Organisation</p> <p>An agency of BIS, responsible for issuing export licences for specific categories of controlled goods.</p>
ECS	<p>Export Control System</p> <p>The ECS is the first implementation of the European Community's eCustoms project and at the same time the second customs procedure beside the NCTS (q.v.) for which a Europe-wide IT-solution is applicable. It went live in the UK on 1 July 2009.</p>
EDI	<p>Electronic Data Interchange</p> <p>The structured transmission of data between organisations by electronic means; the term mostly refers to messaging using an earlier generation of STP (q.v.) standards such as EDIFACT and X.12 (quod non vide).</p>
EDIFACT	<p>Electronic Data Interchange For Administration, Commerce and Transport</p> <p>Strictly, UN/EDIFACT. It is an international EDI standard developed under the auspices of the United Nations. It has also been adopted as ISO standard ISO 9735</p>

GPS	<p>Global Positioning System</p> <p>A US global navigation satellite system (GNSS), by far the most widely used for transport and other applications – in this paper used as a better understood synonym for GNSS.</p>
HMI	<p>Horticultural Marketing Inspectorate</p> <p>Part of the Rural Payments Agency and responsible for the enforcement of the EC Marketing Standards for fresh fruit, vegetables, salad crops, nuts and cultivated mushrooms throughout England and Wales.</p>
HMRC	<p>HM Revenue & Customs</p> <p>Does not require further explanation for the audience of this paper.</p>
ICS	<p>Import Control System</p> <p>The security amendment to the European Community (EC) Customs Code requires member states to introduce systems capable of handling a number of new initiatives. One of these projects is the Automated Import System (AIS), which aims to ensure that import operations starting in one member state can be completed in another without re-submitting the same information. The Import Control System (ICS) is the first phase of AIS. Its key feature is the ability to handle pre-arrival information. Expected to be introduced in the UK towards the end of 2010.</p> <p>Despite the similarity in name with the ECS, it is (or will be) quite a different kind of system, dealing with advance information for targeting purposes, rather than with goods control.</p>
Intrastat	<p>Intrastat is the method of collecting information and producing statistics on the movement of goods between Member States of the European Union.</p>
ITSW	<p>International Trade Single Window</p> <p>In UN/CEFACT and internationally, generally known as just the Single Window. See UN/CEFACT Recommendation 33 (http://www.unece.org/cefact/single_window/welcome.htm)</p>
ITTB	<p>International Trade Theme Board</p> <p>A cross-government steering board overseeing the UK ITSW project.</p>
JCCC	<p>Joint Customs Consultative Committee</p> <p>Established in 1969 to exchange views on and discuss proposed changes to Customs procedures and documentation relating to the entry and clearance of goods. It gives the opportunity for HMRC to consider representations from over 20 member organisations representing Trade on a face-to face basis.</p>
LCP	<p>Local Clearance Procedure</p> <p>A procedure facilitating trade for CFSP (q.v.) traders.</p>
MCC	<p>Modernised Customs Code, or perhaps Modernised Community Customs Code</p> <p>Regulation (EC) No 450/2008 – to be fully implemented by 24 June 2013</p>

NCH	<p>National Clearance Hub</p> <p>A single national HMRC site replacing Entry Processing Units (EPU) previously located at all major (air-)ports. It handles customs entries which can't be handled automatically by CHIEF.</p>
NCTS	<p>New Computerised Transit System</p> <p>A Europe-wide computer system that enables traders to submit Community/Common Transit (CT) declarations electronically.</p>
OGD	<p>Other Government Department</p> <p>In this context, any Government agency other than Customs.</p>
OMS	<p>Other Member State</p> <p>In this context, any EU member state other than the UK.</p>
PBR	<p>Pre-Budget Report</p> <p>A PBR is delivered by the Chancellor to the House of Commons in the autumn. It provides a progress report on what has been achieved so far, gives an update of the state of the economy and public finances, and sets out the direction of Government policy in the run up to the spring Budget.</p> <p>In the 2008 PBR, the Chancellor instructed BERR (now BIS) and HMRC to undertake the work on an Action Plan which eventually provided the impetus for this paper.</p>
PEACH	<p>Procedure for Electronic Application for Certificates from the Horticultural Marketing Inspectorate</p> <p>A Defra computer system.</p>
REST	<p>Representational State Transfer</p> <p>Strictly, "a style of software architecture for distributed hypermedia systems" – in this context, a (simple) protocol for automated exchange of data between computer systems.</p>
RFID	<p>Radio-Frequency Identification</p> <p>The use of a small electronic device programmed to broadcast an identifying data tag. Active RFID devices broadcast their ID continuously, while passive devices only respond when activated by a radio signal.</p>
SAFE	<p>Framework of Standards to Secure and Facilitate Global Trade</p> <p>(no, it's not the best acronym ever)</p> <p>A WCO (q.v.) framework, adopted in 2005, containing international standards for both customs administrations and the business community to improve supply chain security and facilitate legitimate international trade.</p>
SDP	<p>Simplified Declaration Procedure</p> <p>A procedure facilitating trade for CFSP (q.v.) traders.</p>
SITPRO	<p>Simpler International Trade Procedures (but definitions vary!)</p> <p>An NDPB (q.n.v.) delivery partner of BIS, dedicated to trade facilitation.</p>
SOAP	<p>Simple Object Access Protocol</p> <p>A standard for exchanging data between computer systems, using XML (see ebXML, which is a form of SOAP).</p>

SPIRE	BIS's export licensing system
STP	Straight Through Processing The concept of having data generated by one computer transmitted and processed by another computer, without human intervention at any stage.
SW	Single Window See ITSW.
TRACES	Trade Control and Expert System A Defra web-based service for the application for, and issuing of, Intra Trade Animal Health Certificates and Common Veterinary Entry Documents for intra-Community trade in live animals, their products and germplasm. (A germplasm is a collection of genetic resources for an organism.)
UCR	Unique Consignment Reference In 2004, the World Customs Organization (WCO) adopted the Unique Consignment Reference as the reference number specifically for Customs use. The UCR was developed to facilitate international trade and to provide Customs with a means for effective risk assessment and audit-based controls.
UKTI	UK Trade & Investment The Government organisation responsible for marketing the UK overseas, promoting British exports and attracting inward investment.
UN/CEFACT	United Nations Centre for Trade Facilitation and Electronic Business A body of United Nations Economic Commission for Europe responsible for global trade facilitation.
WCO	World Customs Organization (sic) Pretty much just exactly what it says.

8. Acknowledgements

8.1. Customs Blueprint

At the time of producing this document, the new Customs Blueprint was launched for consultation. It is instructive to see how closely the two documents are aligned and, while the Blueprint naturally is concerned primarily with Customs matters, whereas the Single Window must consider the needs of all government departments with a regulatory function in international trade, the considerations involved are largely the same.

In a paper on the underlying concepts of the Customs Blueprint, its main architect David Hesketh says:

“We need to shift our emphasis away from import data to data captured electronically at the start of the international commercial transaction. That data will grow with carrier, location and scanning details as the movement becomes an export then an import. We need to de-couple the fiscal risk from the admissibility and security risk in order to cater for commercial sensitivities supported by more sophisticated systems and business methodologies in Customs and tax administrations. The technological and systems development in these areas must be driven by commercial incentives in the private sector but within effective partnerships between international traders and the governmental sector including health, standards, agriculture and, of course, Customs.

So within the long term strategy for UK Customs that we call the Blueprint the requirement of the future will be something like this:

- Less transaction based customs controls at import and export, with a combination of centralised clearance and self assessment making best use of existing trade based data
- A seamless integrated data and logistics ‘pipeline’ focussing on the international trade supply chain and the movement of goods along it rather than an import or an export or goods in transit
- The use of a unique consignment reference number concept to identify the goods, the people associated with the goods and the movement status of the goods
- Data retrieval and risk assessment as early in the chain as possible, and whenever this is deemed necessary, for security and admissibility and providing an effective interface with regulatory requirements such as the Import and Export Control Systems (ICS, ECS)
- Full visibility on the integrity of the chain (parties involved, responsibilities, tampering, inspection activities, routing, accurate data relating to the goods, the geographic position of the goods, security of the goods at all times),
- Development of a single window concept for communication between the entire tradelane and customs and other supervision organisations,
- Arrangement on the responsibilities for signalling of and responses to security relevant events in the tradelane
- Strategic alignment of international Customs developments and UN standards such the WCO Data Sets, UN/CEFACT, SAFE Framework of Standards, Smart and Secure Trade Lanes, the EU Multi Annual Strategic Plan and the US Safe Port Act including 10+2.”

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Paul Hiscock
Malcolm McKinnon
Peter MacSwiney

UKTI

Andrew Strachan

8.3. Documents received and reviewed

(not an exhaustive list)

Draft Customs Blueprint for Trade Consultation, June 2009

Deloitte Globally Networked Customs presentation, Marrakech April 2009

Evaluation of the Single European Authorisation (Philips) between the United Kingdom and the Netherlands, 19 September 2002

HMRC: ITSW: Automatic Licence Verification System (ALVS) for Horticultural, Planting Material & Plant related Products of interest to HMI and PHSI, (undated, early 2009)

ICC Customs Guidelines, 2 June 2003

Integrity Project Newsletter, April 2009

ITSW Phase 3 Business Case, 15 November 2007

ITSW Delivery Options v.1.2

SITPRO's Report on the International Trade Single Window and the Potential Benefits to UK Business, February 2005

TAXUD/1614/2009 EN: Customs Policy Group (Deputies) Single Window: Follow-up of the Prague High Level Seminar on the Future of Electronic Customs, 15 April 2009 (with annexes)

TAXUD/A2/ID D(2009) 100467: Letter to the members of the TCG concerning development of a "mock-up" customs information portal, 28 April 2009

WCO Inter-Agency Forum on Coordinated Border Management, Background Paper, 29 June 2009

8.4. External projects identified

INTEGRITY

<http://www.integrity-supplychain.eu>

Intermodal Global Door-to-door Container Supply Chain Visibility

INTEGRITY is funded by the European Commission in the 7th Framework Programme for Research & Development and liaises with several EU Directorates. Its aim is the development of the so-called Shared Intermodal Container Information System (SICIS) allowing authorised companies and authorities to access planning and status information of selected transports.

The consortium partners include HMRC and the Dutch Customs Administration.

ITAIDE

<http://www.itaide.org/>

Information Technology for Adoption and Intelligent Design for e-Government

ITAIDE addresses issues related to eCustoms: How can customs documents and procedures be redesigned and supported by ICT? What are the drivers and barriers for adoption? It is funded by the 6th Framework Information Society Technology (IST) programme.

Consortium partners include the Dutch, Danish and Finnish Customs authorities.

SmartCM

<http://lib.bioinfo.pl/projects/view/4356>

Smart container chain management

SMART_CM aims to do advanced technology implementation and research in order to overhaul the complete container door-to-door transport chain so that it is more efficient, secure, market driven, and competitive. It systematically analyses current processes and systems, produces new innovative concepts for processes and technologies, and demonstrates all these in a set of 2 world scale Demonstrators covering 4 supply chain corridors.

Consortium partners include the Belgian and Greek Customs authorities.

8.5. ITSW sub-group members

Alan Davis, HMRC
Andy Milne, HMRC
Åke Nilson, SITPRO
Mike Peters, Defra
Nick Pratelli, Business Link

Appendix: Documents and scenarios

Document	Description	Document Code Usage on CHIEF during period 02/08-10/08			Current handling	Scenario
		Imports	Exports	Combined		
N934	Declaration of particulars relating to customs Valuation Method 1 (In the UK Forms C105A & C109A support Valuation Method 1)	8,348,744		8,348,744	Manual	1a
C634	Textile documentary Proof of origin	6,455,997	4	6,456,001	Manual	2a
N865	Certificate of origin Form A	2,745,130	12	2,745,142	Manual	2a
L001	CAP Import licence AGRIM	1,664,562		1,664,562	Electronic	1b (Lic app) 3b (Lic usage)
9AID	Evidence required by CPC instructions for claiming relief from all charges except VAT	1,227,568	2	1,227,570	Manual	2b
9AIV	Evidence required by CPC instructions for claiming relief from VAT	1,181,353	7	1,181,360	Manual	2b
C601	Authorisation to use inward processing	790,192	346,536	1,136,728	Manual	1b Apply auth) 2b (multiple usage)
N954	Movement certificate EUR.1	882,158	1,135	883,293	Manual	2a
N018	ATR certificate	665,704	3,591	669,295	Manual	2a
X002	Dual use export authorisation (Regulation 1334/2000 and its amendments).	26	456,981	457,007	Electronic	1b (Lic app) 3a or 3b (Lic usage)
N990	Authorisation to use a customs procedure with economic impact/end-use	365,523	63,092	428,615	Manual	1b (Apply auth) 2b (multiple usage)

9001	Declaration of preferential origin on an invoice or other commercial document	214,794	4,375	219,169 Manual	2a
C635	CITES Import Label	194,443		194,443 Manual	1b (Permit app) 3a (single use)
9120	Importation of animal pathogens Licence under the Importation of Animal pathogens Order 1980 (IAPO)	150,672		150,672 Manual	1b Lic app) and 3a or 3b (Lic usage)
N002	Certificate of Conformity	115,100	3,442	118,542 Electronic	1b (Advance Notification 3a (Conf Cert)
N853	Common Veterinary Entry Document (CVED) in accordance with Regulation (EC) No 136/2004	80,904		80,904 Manual	1b (CVED Part 1) 3a (CVED Part 2)
9118	Import permit for harp and hooded seal skins	79,228		79,228 Manual	1b (Permit app) and 3a (Permit usage)
N851	Foreign Phytosanitary certificate	75,594		75,594 Manual (application process) Electronic verification with Lead Authority	1b (Lic app in Exporting Cty and 3a (Lic usage)
C019	Outward processing authorization (Reg. EEC No 2454/93-OJ L 253/93)	29,712	45,290	75,002 Manual	1b Apply auth) 2b (multi usage)
N821	External Community transit declaration / common transit, T1	56,790	5,327	62,117 Manual	1a
A119	Airworthiness certificate or declaration in the commercial invoice containing the elements of the airworthiness certificate issued or a document annexed to the invoice.	57,517		57,517 Manual	2a

L079	Textile products: import licence	54,717		54,717 Electronic	1b (Lic app) 3b (Lic usage)
9104	Standard individual Export Licence: military goods & dual use goods subject to UK export controls.		51,293	51,293 Electronic	1b (Lic app) 3b (Lic usage)
N952	TIR Carnet	29,555	13,054	42,609 Manual	2a
9100	Firearms: Open individual licence or Specific individual licence. Nuclear materials open individual licence or specific individual licence	39,556		39,556 Electronic	1b (Lic app) 3b (Lic usage)
C602	Declaration of particulars relating to customs value (continuation sheet D.V.1BIS). In the UK Forms C105A & C109A support Valuation Method 1.	30,255		30,255 Manual	1a
L125	Import Licence: commission regulation (EC) No 35/97 of 10 January 1997 laying down provisions on the certification of pelts and goods covered by Council Regulation (EEC) No 3254/91	25,584		25,584 Manual	1b (Lic app) 3b (Lic usage)
9105	Standard individual Export Licence: radio active sources. Open individual Export Licence: radio active sources. Open general Export Licence: radio active sources		23,821	23,821 Electronic	1b (Lic app) 3b (Lic usage)
9200	Declaration of particulars relating to valuation methods 2,3,4a,4b, 5 and 6. (In the UK Forms C105B & C109B support Valuation Methods 2, 3 ,4a, 4b, 5 & 6).	22,415		22,415 Manual	1a
C649	Refund certificate		20,269	20,269 Manual	1b
9RCP	RPA recipe code (Box C44 on form C88 {cap})		19,217	19,217 Manual	1a
9113	Controlled Drugs Individual Licence	9,968	7,834	17,802 Manual	1b (Lic app) 3a (single Lic usage)

C638	CITES Import permit	17,159		17,159 Manual	1b (Permit app) 3a (single use)
9578	Form C578 - Undertaking to produce Form C105A within 14 days	16,454		16,454 Manual	2a
C626	Binding tariff information	15,663		15,663 Electronic	1b (BTI app) 3b (multi use)
C645	Certificate for military equipment	15,158	6	15,164 Electronic	1b (Lic app) 3b (Lic usage)
N935	The invoice on the basis of which the customs value of the goods is declared	12,741		12,741 Manual	1a
X006	CITES Export Permit concerning the implementation of council regulation (EC) No 338/97 on the protection of species of wild fauna and flora by regulating trade therein.	14	12,667	12,681 Manual	1b (Permit app) 3a (single use)
9SDC	RPA Supplementary Declaration (SD) codes and (where appropriate) associated percentages		11,453	11,453 Manual	1a
N825	T2L document	10,767	44	10,811 Manual	1a
C639	CITES Import notification	9,949		9,949 Manual	1b (Permit app) 3a (single use)
9AIE	Evidence required by CPC instructions, relief from Excise duty	9,809	26	9,835 Manual	2a
Y024	Declarant (AEO certificate number)	9156	603	9,759 Electronic	1b (Cert app) 3b (multi use)
N822	Internal Community transit declaration T2	3,681	4,889	8,570 Manual	1a
9002	Movement certificate EUR-MED	8,044	46	8,090 Manual	2a
X001	Export licence AGREX		8,026	8,026 Electronic	1b (Lic app) 3b (multi usage)

U040	Proof (certificate) of origin established in accordance with Article 47 of Regulation (EEC) No 2454/93, for imports of sheep meat under Tariff Quotas from Argentina, Australia, Greenland New Zealand and Uruguay (or from other countries for which a Form EUR	7678		7,678 Manual	2a
9115	Quarantine Release Certificate	7,448		7,448 Electronic	1b (Advance Notification) 3a (single use)
C604	Information sheet INF2	1,881	4,157	6,038 Manual	2a
C017	V I 1 document annotated in compliance with Regulation (EC) No 883/2001.	6,001		6,001 Manual	1b (Lic app) and 3a (single use)

The table above shows only those documents with a volume in excess of 5,000 in the period reviewed (Feb 2008-Oct 2008). There are about 100 other documents which occur in smaller volumes, plus another 150 which, although listed, were never submitted during the period. The colour coding indicates the general scenario grouping.