



CUSTOMS INFORMATION SYSTEMS: ISSUES AND OPTIONS ^{*}

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INTRODUCTION

Very few of the participants in the TRACECA programme have an integrated customs information system (ICIS) and not too many look likely to implement one in the near future, despite universal embracing of the principles of customs modernisation and the acknowledgement that its achievement is not possible without ICIS. It is true, however, that all TRACECA countries are implementing some elements of such a system, to a greater or lesser degree.

SYSTEMS AND SUPPLIERS

There have been automated Declaration Processing Systems for many years, starting with the advent of ASYCUDA and Sofix. Although Declaration Processing was the hub of such systems, later offerings have been oriented towards trade facilitation processes that tend to relegate Declaration Processing to a more subordinate role, though nevertheless recognising its key importance.

No single product is currently considered to be a front runner and all have their disadvantages – and whether systems have a price tag, or are offered as “free”, they all carry a cost, both monetarily and in the inordinate commitment of resources. Certainly, the situation with regard to systems and suppliers does not afford much opportunity of making a straightforward comparison between equivalent customs applications packages.

Figure 1 shows the status of systems and suppliers.

SYSTEM	SUPPLIER	COMMENT
ASYCUDA	UNCTAD	Still the most installed system
AsycudaWorld	UNCTAD	New, Internet-based system
TATIS	Tatis S.A.	Complete system from knowledge management viewpoint
TIMS	Crown Agents	Emphasis on risk management & trade facilitation
UAIS (Russia)	Russian Customs	Basic, but a real player in the region
UAIS (Kazakhstan)	Kazak Customs	More advanced, but project only at this stage
Sofix	Douanexport	Limited penetration
National Systems	Various	Unlikely to be supported well
Bespoke Systems		High risk, but successes established

Figure 1: Suppliers and Status

UAIS (Russian System)

The system is reportedly offered free of charge, and is reputed to work well, though Russia does not have a homogeneous system and this package is only installed in certain Oblasts (regions). Nevertheless, the historical ties with Russia and the position of that country as a major trading partner make this a serious consideration for areas influenced by the former Soviet Union.

The system is designed on a decentralized principle in both hardware and software domains. This was necessitated by the geographical remoteness of regions, resulting in local computing networks interactive between themselves through networks of Rostelekom

(Russian Telecom) data communications in on-line or off-line mode – in effect a heterogeneous information system with a unified format of primary data, gathered in central database servers, i.e. centralized databases, based on decentralized sources of information and admissions (entrances) into the system.

The UAIS (Unified Automated Information System) is client-server/web-server architecture with

Information storage and archive devices (Compaq, Sun Microsystems);

PCs and peripheral equipment (Dell, Compaq, Hewlett-Packard);

Network equipment and routers (Nortel, Bay Networks, Cisco);

Operational systems Solaris, WinNT (Sun Microsystems, Microsoft);

Database management systems (Oracle, MS SQL).

TAIS (Kazakhstan System)

The project TAIS Automated Information System of the Customs Committee of the Republic Of Kazakhstan places great emphasis – and goes into considerable detail - on the communications infrastructure and the security aspects, both of which are crucially important, but TAIS was scheduled for development in two phases.

The first phase should contain the following functional modules:

Foreign trade statistics;

Regional foreign trade statistics;

Transit;

Directories of legal acts appertaining to customs;

Customs registration in trade and non-trade turnover;

Customs-Banking currency control: export and import;

Control of accuracy and completeness in customs charges;

Control of licensing and quotas, especially on export of strategic goods;

Customs control of processing outside and within Kazakhstan customs territory;

Temporary import/export control;

Information support of tariff regulations.

The second phase is to include:

Information support against smuggling and other violations;

Control of warehouses, including temporary storage;

Control of Free Economic Zones;

Control of confiscated goods:

Information support for safety within the Customs Service:

Customs registrations in non-trade turnover;

Customs registrations of cargoes at Airports, border Posts, internal Posts, Rail Terminals, Ports, Carriers, Temporary Warehouses, Power Posts and Excise Offices;

Customs registrations of objects concerned with Intellectual Property Rights.

The system appears to be a reasonable approach to applicable Customs operations and as a bespoke development it is a most ambitious undertaking. It is to be noted that the inauguration of the system was approved by a Decree of Government in March 1997 and although that is six years ago, the creation, testing and implementation of integrated software of the complexity implied by the two phases and the technical stipulations described almost certainly means that the process will be taking a much longer time than was anticipated.

The chances of it becoming a common customs system in the region might be promoted by Kazakhstan's membership of the Eurasian Economic Community, but this would also be true of the Russian system.

ASYCUDA

The system, as ASYCUDA, ASYCUDA++ and, more recently, AsycudaWorld, is offered by UNCTAD, the United Nations Conference on Trade And Development, free of charge (except for support and monitoring, which are by no means cheap, though UNCTAD quote an average of \$2 million for an ASYCUDA implementation against their estimate for bespoke developments of over \$20 million). It has been installed throughout the world, with varying levels of success, in 84 customs authorities, with Moldova due to come on stream later this year. UNCTAD claim that all implementations are viable, though 30% of the 84 are limited in their operation and another 30% are not operating as well as they might. Certainly the best installations – such as those in the Philippines and Romania – are highly rated, but other countries, such as Mongolia, have dropped ASYCUDA in favour of in-house development. In the general region, apart from Romania, which began with ASYCUDA++ but has developed its integrated system beyond it, Georgia and Armenia have ASYCUDA, but its success is not as yet established.

ASYCUDA is more than just a simple Declaration Processing System, having the following modules:

MODCBR is the Customs Post module and deals mainly with the input, validation, storage, registration and assessment of Customs declarations.

MODBRK is a modified version of MODCBR designed for a declarant or customs broker and gives them a direct electronic connection (limited to only those functions relevant to their dealings) to ASYCUDA++.

MODACC covers all accounting and payment functions.

MODSEL facilitates control of the selection and flow of declarations through the system and contains controls to block assessment of selected declarations, plus a range of querying and reporting functions.

MODCAR is for the preparation and transmission of cargo reporting details, such as carrier or transport manifests, in electronic format, which can be used with other ASYCUDA++ modules for cargo controls, including clearances and cargo accounting.

MODSDI provides external trade statistical data.

MODTRS is specifically for Transit operations.

MODCHQCF accommodates currency changes.

Head Office and Configuration Modules for set up of the ASYCUDA++ system to meet national requirements (e.g. forms of declaration, national tariff, tax rates) and for maintaining database reference data used by the system, such as rates of exchange, and codes including importer, declarant, bank, warehouse, etc.

ASYCUDA++ will not be undergoing major functional amendments in the foreseeable future though technical modifications will continue. UNCTAD have instead invested their expectations in AsycudaWorld, a web-based, e-customs platform, not only using the Internet to integrate customs operations, but also using advanced techniques to communicate without permanent connection over difficult terrain, encompassing “from palm top to mainframe” – and therefore deliberately targeted at developing countries with poor telecommunications infrastructure. It is compatible with and can be added to ASYCUDA++. The first installation is due imminently, though UNCTAD are not disclosing the identity of the country concerned at the moment.

Sofix

Sofix, owned by Douanexport, has a similar 1980s vintage to ASYCUDA. It is the UNIX version of the French Sofi system, but despite gaining some early installations in Africa, the system is not widely installed, though the Turkish BILGE system, installed in May 2000, is based upon it.

Tatis

Still a relatively new offering from a Swiss company, Tatis, who promote the system as constituting “a complete knowledge management solution covering all customs regimes” by providing “integrated tools and methodologies that capture, validate, analyse and deliver customs data to the critical user”.

The key elements of the system are:

Declaration Processing, covering all customs regimes within import, temporary admission, and export and able to function independently or integrated with duty suspense and compliance management solutions;

Compliance Management, including risk management, import verification services, customs reform and trade facilitation, post-release audits, transit or bonded warehouse quality control, industry and company assessments and human resource development;

Enforcement Technology, supplying delivery and feed-back mechanisms to distribute the output generated by compliance, automation tools through instructions, reporting and tracking solutions, post-entry audit and mobile task force solutions, workflow management and integration with declaration processing systems;

Suspense Regime Management, covering Transit, Bonded Warehousing and Bonded Manufacture.

On the technology front, Tatis emphasise their SmartDocument™, which uses a secure 2-D bar-coded document to carry confidential risk and enforcement data to border points, compatibility with other customs systems, such as ASYCUDA, and communications via the Internet.

In order to meet across-the-board requirements, Tatis have formed strategic alliances with:

- PricewaterhouseCoopers, for tax and legal expertise.
- SGS, known primarily in the customs domain for Pre-Shipment Inspection services, but keen to dispel the limited image that that invokes and to push their expertise in revenue protection and trade facilitation.
- Hewlett-Packard, for computer systems supply, implementation and support.
- Oracle, the leading database environment supplier.

This is a formidable teaming, ostensibly able to meet the vast majority of requirements of prospective clients, but nevertheless the lack of installed base still persists, though this might be turned to advantage during initial negotiations.

Tims

TIMS stands for Trade Information Management System and is offered by Crown Agents, a UK company arising from a Customs background and with worldwide experience in that sector. Rather than describe the application as a Customs Automation System or even as a Declaration Processing System, Crown Agents refer to TIMS[®] as “a powerful investigative tool which undertakes risk analysis, price comparison and manages intelligence data” and they also emphasise that though it is standalone it can readily be interfaced with others systems, such as UNCTAD's ASYCUDA.

This last point fits in with their strongly expressed philosophy of fitting in and complementing customs operations, working with customs authorities to augment overall development. They point to Bulgaria where the assistance is specific and complements the bespoke system developed by Bulgarian Customs and to Mozambique, where “they didn't put in a single computer for a year, following careful assessments of the actual needs”.

Crown Agents almost seem to devalue the system in describing it as undertaking risk analysis, price comparison and managing intelligence data, with a design that will assist in the reduction of fraud and the collection of the correct revenue. They go on to say that TIMS[®] can be adapted to meet individual requirements, used to improve frontier control and risk targeting as well as being a valuable tool for post importation audits, warehousing and transit management. All of which, although it is an impressive list, is stated in a rather low-key fashion. Its benefits are listed as:

Efficient Utilisation of Resources;

Revenue Protection;

Trade Facilitation;

Timely and reliable trade statistics;

Faster processing of declarations and therefore clearance.

On the technology front, Crown Agents are excited about I-Seal[™], their intelligent electronic seal for transit, which not only provides security and carries the data associated with it, but will record any attempts to interfere with it en route. Crown Agents provide web enablement, but, in contrast to UNCTAD and Tatis, do not believe that it will necessarily be the future route for customs communications.

Regarding presence in the general region, Crown Agents are in process of delivering a radical programme of customs reform to Bulgarian Customs, are working with Russian Customs in Moscow and are assisting Development Agencies in Afghanistan.

Adaptations of National Customs Systems

The most notable system in this respect is Cusmod, the customs modernisation system in the very highly rated New Zealand Customs, although its suitability for Central Asian Republics and the CIS might be questionable in that it focuses on sea and air traffic as befits an island environment. Its claim to excellence is based on its advanced intelligence and trade facilitation features. Andersen Consulting, now Accenture, helped in its development and were rumoured to be marketing it, but it does not appear in their promotional material as anything other than a case study, which is a pity.

The absence of Cusmod from Accenture's portfolio would explain its absence from the marketplace, since New Zealand Customs itself would scarcely be likely to offer it as product. In fact, it is said that many a Western customs authority would *like* its bespoke system to form the basis of a commercial application, but few, if any, are prepared or able to meet the requirements needed to market, implement and support such an undertaking.

Examples could include TDS from Swedish Customs, Model 90 from Swiss Customs and the German Atlas system. Benefits would depend on the magnanimity of the donor country, the state of completeness of the system and the modernity of both platform and approach. Taking a system in development, one step behind, as proposed for Poland's installation of Atlas, is not recommended (the example could be examined in relation to the Kazakhstan system).

Bespoke Developments

Notwithstanding that the Kazakhstan system could become a co-operative bespoke development, this method otherwise carries exceeding high risk and potentially escalating and uncontrolled costs, but with proper management and the backing of sufficient countries in the region, it could become an option.

Nevertheless, most Western Customs authorities have implemented bespoke systems and, in the general region, Bulgarian Customs is proud of its in-house development.

IT Suppliers

Major IT players, such as Hewlett-Packard, Microsoft, Oracle, Siemens-Fujitsu, Dell and IBM do not seem as yet to have adopted a proactive presence in nor a strategic approach to the customs marketplace, but usually seem to respond in association with systems developers, on a bid-by-bid basis. None offer customs application packages of their own, despite the numerous projects that have been implemented with their products. Not even IBM, for example, who won the multi-billion dollar project to automate the US Customs, have used that bespoke development to springboard a marketable package. Hewlett-Packard have an association with Tatis, are working on the Lithuanian Customs ASYCUDA++ implementation and have promoted a strong interest in e-government, but they too have not opted for application development.

Neither company, nor similar organisations, can perhaps be blamed if their marketing presence in the customs sector is not well defined, since there is no Western market for a unified system that would underpin a global marketing venture. Table 2 shows some of the different systems in operation in the West and none are based on a packaged approach.

COUNTRY	SYSTEM	DESCRIPTION
Austria	tba	
Belgium	Sadbel	Système Automatisé de Dédouanement pour la Belgique et le Luxembourg
Canada	CCS	Customs Commercial System
Denmark	tba	
Finland	tba	
France	Sofi	Système d'Ordinateurs pour le traitement du Fret International
Germany	Atlas	Automatisiertes Tarif und Lokales Zollabwicklungssystem

Greece	tba	
Ireland	AEP	Automated Entry Processing
Italy	Aida	Automazione Integrata Dogane e Accise
Luxembourg	Sadbel	Système Automatisé de Dédouanement pour la Belgique et le Luxembourg
Netherlands	DIS	
Norway	tba	
Portugal	tba	
Spain	Adabas	
Sweden	TDS	Customs Data System
Switzerland	Modèle 90	
United Kingdom	Chief	Customs Handling of Import and Export Freight
United States	ACE	Automated Commercial Environment – superseding ACS (Automated Commercial System)

Table 2: Automated Customs Systems in Western Customs Authorities

CONCLUSIONS

In Table 2 the automated customs systems installed by Western customs authorities are all bespoke and differ from each other in significant technical areas. Arguably, therefore, it would be inappropriate to expect that all TRACECA countries adopt the same system of customs automation.

The most crucial aspect to those different Western systems are that they are compatible with each other and can readily transfer data, via international conventions, such as Kyoto, common standards, such as the SAD, and transnational facilities, such as NCTS.

Compatibility is implicit, of course, with common systems and development, operations and communications are a great deal simpler and more cost-effective. In this respect the Kazakhstan TAIS system is well placed to become a regional system for those states that have not yet established an integrated system.

Nevertheless, it is more important by a magnitude that effort be directed at ensuring that the customs systems of TRACECA countries are able to communicate with each other and with the outside world rather than endeavouring to promote systems that are identical or similar, especially in the light of already established systems and prevailing preferences. In this respect, building on a proprietary customs automation application is quite a viable option.