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ANNEX II.A - TERMS OF REFERENCE

INVITATION TO TENDER TAXUD/2012/AO-03

Specification, development, maintenance and support of trans-European IT services in the areas of taxation and excise

(FITSDEV3)

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0.3. ACRONYMS AND DEFINITIONS

In this call for tenders, the Directorate-General Taxation and Customs Union of the European Commission, which is the contracting authority, will be further referred to as "the Commission" or "DG TAXUD".

1SS	One Stop Shop
3MS	Third Member State
AAD	Administrative Accompanying Document
ACDT	Administrative Cooperation in the field of direct tax
ACL	Access Control Lists
AEO	Authorised Economic Operators
AEoI	Automatic Exchange of Information
AFIS	Anti-Fraud Information System
AGRI	Directorate General for Agriculture
ANSI	American National Standards Institute
API	Application Programming Interface
ARIS	Architecture of Integrated Information Systems
B2B	Business to Business
B2C	Business to Consumer
BL	Baseline
BMM	Bilateral Monthly Meeting
BPMN	Business Process Model and Notation

CACT	Committee for Administrative Cooperation in Taxation
CCN	Common Communication Network
CCN/CSI	Common Communications Network/Common Systems Interface
CCN/Mail2	CCN e-mail services
CCN/TC	CCN/CSI Technical Centre
CDA	Centrally Developed Applications
CDEA	Centrally Developed Excise Applications
CEA	Central Excise Applications
CI	Configuration Item
CIRCA	Communication and Information Resource Centre Administrator
CIS	Customs Information Systems
CLO	Central Liaison Office
CM	Contract Management
CMMI	Capability Maturity Model Integration
COBOL	Common Business-Oriented Language
COL	Customs Office List
COTS	Commercial Off-the-Shelf (software packages)
CPT	Central Project Team
CQP	Contract Quality Plan
CS/MIS	Central Services/Management Information System
CS/MISE	Central Services/Management Information System for Excise
CS/RD	Central Services/Reference Data
CSI	Common Systems Interface
CSV	Comma Separated Value
CT	Conformance Testing
CUSTDEV2	The contractor responsible for the development of the customs applications
CUSTDEV3	The contractor responsible for the development of the customs applications
DC	Data Center
DDNEA	Design Documentation for National Excise Applications
DDS	Data Dissemination System
DG	Directorate General
DIGIT	Directorate General for Informatics
DIGIT/DC	DIGIT Data Centre
DIR	Directorate
DMZ	De Militarised Zone
DT	Direct Taxation
DVD	Digital Versatile Disc
e-AD	electronic Administrative Document
EAFRD	European Agricultural Fund for Rural Development
EAGF	European Agricultural Guarantee Fund
EBTI	European Binding Tariff Information system
EC	European Commission
ECAS	European Commission Authentication Service
ECG	Excise Contact Group

ECWP	EMCS Computerisation Working Party
eFCA	Electronic Forms Central Application
eFDT	Electronic Forms for Direct Taxation
eForm	electronic form
EFTA	European Free Trade Association
EMCS	Excise Movement and Control System
EN	English
EOL	Excise Office List
EORI	Economic Operators Identification and Registration number
EU	European Union
FAT	Factory Acceptance Test
FATCA	Foreign Account Tax Compliance Act
FESS	Functional Excise System Specification
FIS	Fiscalis Information Systems
FISCO	The European Commission's Clearing and Settlement Fiscal Compliance ("FISCO") expert group
FITSDEV2	Development contractor for all taxation related systems
FP	Function Point
FQP	Framework contract Quality Plan
FTT	Financial Transaction Tax
FWC	Framework Contract
FYROM	Former Yugoslavian Republic of Macedonia
GAS	Generic Application Server
GT	Generic Transmission layer
GTT	Generic Test Tool
HTML	HyperText Markup Language
HTTP	HyperText Transfer Protocol
IAB	Inter Application Bus
ICS	Import Control System
ICT	Information and Communication Technology
IFPUG	International Function Point Users Group
IMAP	Internet Message Access Protocol
IP	Internet Protocol
ISD	Infrastructure & Service Delivery
ISO	International Organization for Standardization
ISPP	Information System for Processing Procedures
IT	Information Technology
ITIL	IT Infrastructure Library
ITSC	IT Steering Committee
ITSM	IT Service Management : the DG TAXUD operations contractor
ITT	Invitation to Tender
J2EE	Java 2 Enterprise Edition
JDBC	Java DataBase Connectivity
LAN	Local Area Network

LCMS	Local CCN Mail Server
LCT	Local Conformance Testing
LISO	Local Informatics Security Officer
M1SS	Mini One Stop Shop
MCC	Minimal Common Core
MOSS	Mini One Stop Shop
MPR	Monthly Progress Report
MS	Member States or, when relating to names of software; Microsoft
MSA	Member State Administration
MSCON	Member State of Consumption
MSID	Member State of Identification
MSR	Monthly Service Report
MVS	Movement Verification System
NACE	Nomenclature des Activités des Communautés Européennes
NAs	National Administrations
NCTS	New Computerised Transit System
NDEA	Nationally Developed Excise Application
NEA	National Excise Application (It could either be NDEA, CDEA or a combination of those)
NETP	Non Established Taxable Person
OD	On Demand
OECD	Organisation for Economic Co-operation and Development
OJ	Official Journal
OLA	Operational Level Agreement
OLAF	Office de Lutte Anti-Fraude
OS	Operating System
PQP	Programme Quality Plan
PreSAT	Pre Site Acceptance Test
Pspec	Specification Profile
QA	Quality Assurance
QC	Quality Check
QM	Quality Management
QMS	Quality Management System
QoS	Quality of Service
QTM	Quoted Time and Means
RCT	Remote Conformance Testing
RfA	Request for Action
RfC	Request for Change
RfE	Request for Estimate
RfO	Request for Offer
SAAD	Simplified Administrative Accompanying Document
SAFT	Standard Audit File for Tax
SAT	Site Acceptance Testing
SC	Specific Contract

SCAC	Standing Committee for Administrative Co-operation
SCIT	Standing Committee responsible for Information Technology
SEED	System for Exchange of Excise Data
SLA	Service Level Agreement
SM	Supply Management
SMS	Specimen Management System
SMT	Service Management Tool
SMTP	Simple Mail Transfer Protocol
SOAP	Simple Object Access Protocol
SPEED	Single Portal for Entry or Exit of Data
SSTS	Self-Service Testing System
TA	Technical Annex
TAXUD	Directorate-General Taxation and Customs Union
TC	Technical Centre
TEDB	Taxes in Europe Database
TEMPO	TAXUD Electronic Management for Projects Online
TES	Trans-European Systems
TESS	Technical Excise System Specification
TIC	Taxation Information and Communication
TIN	Tax Identification Number
ToR	Terms of Reference
ToS	Taxation on Savings
ToW	Tax Identification Number on the web
TRACE	Treaty Relief and Compliance Enhancement
TSS	Taxation related Statistics System
UIPE	Uniform Instrument Permitting Enforcement
UML	Unified Modelling Language
UNF	Uniform Notification form
URL	Uniform Resource Locator
VAT	Value Added Tax
VIA	VIES Initial Application
VIES	VAT Information Exchange System
VMS	VIES Monitoring System
VoeS	VAT on eService
VoW	VIES-on-the-Web
VSS	VIES Statistics System
VTA	VIES Test Application
WAR	Web Archive
WG	Working Group
WSDL	Web Service Description Language
XML	eXtensible Markup Language

0.4. REFERENCES

Throughout this call for tenders package references are made to:

ITIL: IT Infrastructure Library (ITIL) for the implementation of the IT Service Management Processes. The official ITIL website can be accessed following this URL: http://www.itil-officialsite.com/

At the time of writing the call for tenders, DG TAXUD is migrating from ITIL version 2 to ITIL version 3.

TEMPO: TAXUD Electronic Management of Project Online (TEMPO) is a Quality Management System (QMS) that has been established in the DG TAXUD IT Unit environment to support the business goals and objectives of DG TAXUD.

Tenderers are invited to access TEMPO through the following URL:

http://circa.europa.eu/Members/irc/taxud/tempo/home

with the following parameters to sign in:

User Identifier:	tempogue
Password:	guest900
Domain:	circa

For more information see Section 6 – TEMPO Methodology.

Standards

The following standards are referred as applicable in this scope document.

- ISO 9001:2008 (Quality management systems – Requirements) or equivalent;

- ISO/IEC 20000-1:2011 (Information technology -- Service management -- Part 1: Service management system requirements) or equivalent;

- ISO/IEC 20000-2:2012 (Information technology -- Service management -- Part 2: Guidance on the application of service management systems) or equivalent;

- ISO/IEC 27002:2005 (Information technology -- Security techniques -- Code of practice for information security management) or equivalent;

- ISO/IEC 27001:2005 (Information technology -- Security techniques -- Information security management systems – Requirements) or equivalent;

- ISO/IEC 27005:2011 (Information technology -- Security techniques -- Information security risk management) or equivalent;

- ISO/IEC 20926:2009 (Software and systems engineering -- Software measurement -- IFPUG functional size measurement method 2009) or equivalent;

- CMMI (Capability Maturity Model Integration) Level 2 or equivalent.

The Baseline (BL): Extensive repository of DG TAXUD artefacts[1] providing detailed specifications, descriptions and reports on DG TAXUD IT activities of relevance for the contract.

The baseline is provided on DVD-ROM as Annex XI of the Tendering Specifications and available only on written request by e-mail to Taxud-tenders@ec.europa.eu , or by mail to the following address:

> European Commission,
> Directorate-General Taxation and Customs Union
> Rue Joseph II 79/Josef II-straat 79
> 1000 Bruxelles/Brussel
> Belgium

The information and the documents on the DVD-ROM are the sole property of the Commission (unless otherwise specified), and are provided without prejudice and for the exclusive use of the tenderer.

A Non-disclosure Declaration (Annex IX) will need to be signed by the potential tenderers.

The FITSDEV3 contractor needs to take into account that the Baseline reflects the situation applicable at the time of publication of the Call for Tenders and that it will evolve.

Section 7 of this document provides additional information on the BL.

In case of conflict between the applicable documents, the following order of decreasing precedence must prevail, unless otherwise stated:

- The FITSDEV3 Call for Tenders (of which this document is part) and the documents referenced in the Call for Tenders Baseline;

- TEMPO;

- International standard and best practises;

- All documents referenced in the Call for Tenders Baseline.

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1 An artefact or deliverable may be, but is not limited to: documents, bespoke applications, a demonstration, a mission report, an e-mail, conformance test planning, an offer, technical meeting minutes, configuration baseline for centrally developed applications, etc.

1. INTRODUCTION

The Directorate General Taxation and Customs Union (DG TAXUD) of the European Commission provides of a wide portfolio of **trans-European IT services** to National Administrations[2], economic operators[3], citizens as well as to the Commission internal staff. The quality of these services is critical for the sustainability of EU policies and objectives in the field of customs and taxation in the years to come.

Important note: the Trans-European Systems (TES) Reference Manual available in TEMPO provides important background information useful to understand the content of this document. The manual provides:

- A definition of TES and central applications;

- A definition of TES domains;

- Information on the TES development lifecycle, including conformance testing;

- Examples of TES currently operational.

DG TAXUD will have to continue performing major developments and specifications work for Taxation TES and applications and Excise TES and applications over the next years[4]. As the contract currently in place will expire soon, DG TAXUD has to establish a new Framework Contract (FWC) to outsource certain IT services.

> **This call for tenders is for one FWC of a duration of three (3) years, with the option of a maximum five (5) consecutive extensions of one (1) year each, to cover the provision of specification, development, maintenance and support of trans-European IT services in the areas of taxation and excise.**

The main services and deliverables of the FITSDEV3 contract are:

- To take over from the current FITSDEV2 contractor[5].

- To provide specification, development, maintenance and support for all existing and future Taxation trans-European systems (TES) and applications and Excise trans-European systems (TES) and applications;

- To hand over at the end of the contractual period to the Commission or to any specified third parties on its behalf.

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[2] The term National Administrations (NAs) encompasses all National Administrations which have IT obligations to fulfil Union customs and taxation policies, in all Member States, Candidate and Accession countries and in non-EU NAs as specified in EU customs and taxation policies.

[3] The terms "economic operators", "traders" and "businesses" are used as synonyms in the context of this document.

[4] Within the IT portfolio of DG TAXUD, Taxation TES and applications and Excise TES and applications are two separate business threads.

[5] The Technical Annex of the FITSDEV2 contract is included in the Annex XI – Baseline.

The Terms of Reference (ToR) is divided as follows:

- Section 1: introduction;
- Section 2: information on DG TAXUD business environment and description of the portfolio of systems and applications within the scope of this call for tenders covering:
  - business, functional, application and technical description of TES and applications (section 2.2);
  - information on the expected evolution of the existing portfolio and on new TES and applications (section 2.3);
  - information on TES operation (section 2.4).
- Section 3: the service organisation with the involved entities and the linkage with the ITSM2 contractors[6];
- Section 4: description of the activities in the scope of this call for tenders; the Annex II.B - Technical Annex specifies those activities in more details;
- Section 5: technical information about the Common Communication Network (CCN/CSI);
- Section 6: information on the TEMPO methodology;
- Section 7: information on the Baseline (BL).

DG TAXUD invites tenderers to take note of all the content of the Baseline documentation as it constitutes a comprehensive information base encompassing all the activities which will eventually have to be taken over by the FITSDEV3 contractor.

The FITSDEV3 bidder must use the latest release of TEMPO[7].

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[6] See http://ec.europa.eu/taxation_customs/common/tenders_grants/tenders/index_en.htm.

[7] Release 2010.02.

2. PORTFOLIO OF SYSTEMS, APPLICATIONS, AND IT SERVICES FOR TAXATION AND EXCISE

This section provides information on:

- DG TAXUD business environment;

- The portfolio of DG TAXUD TES and applications <u>within the scope of this call for tenders</u>[8];

- The foreseen evolution of the portfolio in the coming years, including future developments;

- TES operations.

2.1. DG TAXUD BUSINESS ENVIRONMENT[9]

2.1.1. IT IN SUPPORT TO EU TAX POLICY

Taxation and Excise TES contribute to the achievement of DG TAXUD's mission. They support the real-life implementation of tax and excise policy across the EU for the benefit of its citizens, businesses and Member States.

The competence to implement taxation and excise TES is shared between the Commission and the Member States, each with specific tasks and responsibilities. The resulting technical environment is very heterogeneous, with the exchange of information between taxation administrations of the 27 Member States as an essential and recurrent element.

Heterogeneity also characterises the users of those systems. In fact, these systems must address the business requirement of different and independent user communities in charge of specific "branches" of taxation policy such as VAT, excise, direct taxation and recovery of claims.

The scope of the systems varies: from systems for exchanges between administrations to those impacting citizens and businesses. Also the volumes and frequency of exchanges involved vary greatly.

The main business objectives of TES and applications for **taxation** and **excise** can be summarised as follows:

- To assist Member States in **fighting against fraud and tax evasion:**

  - TES allow for the rapid exchange of secure information and thus support the fight against different types of tax fraud and evasion.

    This is the case in the areas of:

    - VAT, through the VAT Information Exchange System (VIES);

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[8] Customs TES and applications are not within the scope of this call for tenders.

[9] This section describes the business or policy context of Taxation and Excise TES. "Business" and "policy" are used as synonyms here.

- savings income, through the Taxation on Savings system (ToS);

- excise duties, through the Excise Movement and Control System (EMCS);

- To **reduce compliance costs** for citizens and economic operators by enabling, for instance, the refund of VAT from a Member State in which an economic operator is not established, through the publication of the most relevant information (including VAT number identification) on the Europa web site, the official website of the EU, or to allow economic operators to fulfil the VAT obligations they have in Member States in which they are not established, via their own tax administrations, under certain conditions,

- To **provide information** to citizens and economic operators online via the Europa website. For instance, DG TAXUD manages the "Taxes in Europe" database (TEDB), the European Commission's on-line information tool covering the main taxes in force in the Member States. The system contains information on around 600 taxes, as provided to the European Commission by the Member States.

The Fiscalis 2013 EU cooperation programme supports Taxation and Excise TES and applications[10]. In November 2011, the Commission adopted a proposal for a new EU cooperation programme for the period 2014-2020.[11]

2.1.2. RECENT ACHIEVEMENTS AND FUTURE DEVELOPMENTS[12]

In recent years, new Taxation and Excise TES and applications became operational: as an example of Taxation TES, the VAT Refund system entered in operation in 2009; the exchange of forms for Recovery and Direct Taxation in 2010.

In the medium term (2015), the Mini One Stop Shop will simplify VAT compliance for EU and non-EU economic operators supplying electronic services, telecommunications and broadcasting activities to EU customers.

Regarding Excise TES, EMCS has been used across the whole EU since January 2011. Since January 2012, EMCS is also used for administrative cooperation purposes.

DG TAXUD anticipates a **significant increase of the volume of IT activities and IT operations for the years to come**[13]. This is due to the expected growing operational volume of VAT-related systems, of EMCS, and possible new systems for exchange of data between the EU and third countries.

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[10] http://ec.europa.eu/taxation_customs/taxation/tax_cooperation/fiscalis_programme/index_en.htm

[11] The Commission's original proposal was amended in August 2012: http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=COM:2012:0465:FIN:EN:PDF

[12] Within this section, reference is made to several Taxation and Excise TES and applications. Those are described in more details in section 2.2.

[13] Refer to section 2.4 for the expected evolution of operation of Taxation and Excise TES and applications.

The developments described below are only a projection of potential IT systems development in the coming years. Projections are based on the current EU policy and legislative framework. They might be amended during the duration of the FITSDEV3 contract. It must be underlined that this list does not reflect current formal requirements or priorities of the Commission or Member States in the field of taxation and excise. The list is not exhaustive. It remains to be established if Member States would be favourable to some of these initiatives. It is merely indicative of the type of future evolutions possible. Uncertainty remains considerable, given the fact that, for initiating a TES the adoption of a legal basis is generally required.

Regarding the **taxation** business thread, several activities are envisaged in the foreseeable future:

- In the field of VAT, the implementation of Council Regulation (EC) 904/2010[14] on administrative cooperation and combating fraud in the field of VAT will represent the main evolution. The follow up to the Commission Communication on the Future of VAT of 6 December 2011 may result in significant change to VIES. DG TAXUD however does not expect that changes, if any, will become operational before 2015[15];

- The entry in operation of the VAT Mini One Stop Shop (MOSS), on the basis of Directive 2008/8/EC[16]. MOSS will integrate the current VAT on e-Services system (VoeS). The start of operations is due on 1 January 2015;

- In the field of direct taxation, a Feasibility Study has been launched on the implementation of the FISCO Recommendation[17]. This could lead to the launch of a new trans-European system i.e. FISCO, with possible interactions with OECD member countries. DG TAXUD expects such system will not become operational before 2015;

- The implementation of Council Directive 2011/16/EU[18] on administrative cooperation in taxation might lead to an increase of information exchange between Member States tax administrations;

- Regarding administrative cooperation among the Member States, new IT systems may be requested to support EUROFISC information exchanges[19].

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[14] OJ L 268, 12.10.2010, p. 1

15 The main changes might involve:

- defining alternative ways to implement the destination principle, specifically ensuring payment to the tax authority of the customer (1) by involved banks or (2) by the supplier, through a "one stop shop" mechanism;

- a common EU approach to the Standard Audit File for Tax (SAFT) data warehouse model, whereby the taxable person uploads predefined transaction data structured in an agreed format into a secured VAT data warehouse that is maintained by the taxable person and accessible to all Member States' tax authorities.

[16] OJ L 44, 20.2.2008, p. 11.

[17] http://ec.europa.eu/taxation_customs/resources/documents/common/whats_new/c(2009)7924_en.pdf

[18] OJ L 64, 11.3.2011, p. 1.

- Recent developments at international level as regards the US Foreign Account Tax Compliance Act (FATCA) open new perspectives for strengthening automatic information exchange between Member States and third countries thus improving transparency at a global level;

- Frequent requests are received to extend administrative cooperation with members of the OECD as well as to extend the above mentioned possible, future FISCO system. At the moment, international agreements are not in place to enable such an extension;

- Possible new systems in the 2015-2020 timeframe could include an IT system to support taxation on road transport means, or on financial transactions.

Regarding **excise**, the following activities are envisaged in the foreseeable future:

- The extension of EMCS to duty paid and distance selling, and to follow up movements under simplified procedures;

- The potential merge of the System for Exchange of Excise Data (SEED) into AEO/EORI[20] with a view of consolidating economic operators' registers; the harmonisation of guarantee management across other domains;

- The development of new functionalities, such as common risk assessment;

- Further possible developments of EMCS: the creation of a single window, allowing economic operators to enter declarations from any Member State for all their movements; the set-up of a one stop shop system for excise;

- The enhancement of the Test Application (TA) for EMCS to support automated testing by National Administrations.

- The definition of an EU wide common IT architecture for Taxation and Excise TES and applications.

2.2. PORTFOLIO

The following sections describe the main business, functional, application and technical aspects of key Taxation and Excise TES and applications that the FITSDEV3 contractor must take over. The baseline contains the complete documentation.

2.2.1. OVERVIEW

The presentation of the portfolio is structured along two business threads:

- Taxation TES and applications, divided into:

    o VAT related systems, dedicated to the exchange of VAT related information;

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[19] For additional background information on EUROFISC please consult:
  http://ec.europa.eu/taxation_customs/resources/documents/2011-02-07_eurofisc_pressrelease_en.pdf
[20] http://ec.europa.eu/taxation_customs/common/databases/index_en.htm

o Recovery. This area focuses on exchanging structured information to support the recovery of taxation due;

o Direct Tax. It consists of several projects aiming at exchanging information related to direct tax payments between the Member States;

o Other tax-related systems;

o Applications common to VAT, Recovery and Direct tax.

- Excise TES and applications:

This thread includes EMCS and smaller and medium-size systems and applications (SEED, TA, CS/MISE, and MVS).

It is important to understand upfront that all Taxation and Excise TES and applications are underpinned by the Common Communication Network (CCN) operated by DG TAXUD. Please refer to Section 5 for more detailed information on CCN/CSI. The administrations of the Member States are linked with each other through an electronic network that is private and highly secured called the Common Communication Network (CCN). The European Commission ensures that this network is operational on a 24 hours basis with a permanent availability rate. Due to the critical nature of most tax-related IT systems, business continuity and availability are essential.

Taxation and Excise TES have been by far the main consumer of the CCN services in recent years, both in terms of number of transactions end in terms of volume. Forecasts suggest that this will remain for the future: it is estimated that the tax-related volume of operations will double in the next four years.

2.2.1.1. TAXATION TES AND APPLICATIONS

VAT related systems	
VAT Information Exchange System (VIES) – system to enable information to be exchanged on intra-Community supplies between the competent authorities of the Member States for the purpose of VAT control. *Including the VIES initial application, the VIES monitoring tool, VIES test tools, VAT number algorithms.*	Operational since 1992
VIES on the Web – an extension of VIES allowing obtaining limited registration information over the Internet. *Including VIES-on-the-web configuration tool.*	Operational since 2001
VAT exchange of forms *Including VAT eForms test tool*	Operational since 2008
VAT on eServices (VoeS) – system for charging, declaring, collecting and allocating VAT revenues in connection with e-Services supplies provided to a consumer established in a Member State by e-services traders who have neither established	Operational since 2003 (Will be phased out and integrated in the Mini One Stop Shop in

their business nor have a fixed establishment within the territory of the Union. *Including test tool*	2015).
Mini One Stop Shop – system (electronic procedure) allowing taxable persons trading in more than one Member State to fulfil their VAT obligations in a single place of compliance, which would be the Member State where they are established (or in the Member State of identification in case of third country businesses).	Operational by January-2015
VAT Refund – system (electronic procedure) allowing traders to obtain the refund of VAT from a member State in which they are not established. *Including test tools.*	Operational since 2010
Recovery	
Recovery – Exchange of forms Exchange of electronic forms for Uniform Instrument Permitting Enforcement (UIPE) and for Uniform Notification form (UNF).	Operational (recovery of claims) Operational since January-2012
Direct Tax	
Taxation on Savings - a system to exchange information on interest payments by paying agents established in their territories to individuals resident in other Member States. *Including test tool.*	Operational since 2006
Tax Identification Number on the web (ToW) – a system to provide a web-enabled interface allowing end-users to verify Taxes Identification Number (TIN) via the Internet for any Member States.	Operational since 2012.
Direct Taxation - exchange of forms.	Operational since 2012 Reviews of the forms foreseen January 2013.
Direct Taxation - Automatic Exchange of Information (AEOI) – system for the exchanges related to the Article 8 of Directive 2011/16/EU, and associated test tools.	Operational by 1 January 2015
FISCO (Fiscal Compliance) – system to improve the procedures of the Member States for granting withholding tax relief (pursuant to tax treaties and domestic laws) on cross-border securities income earned by EU investors.	Under Study (refer to Section 2.3).

Other tax related systems	
Taxes in Europe Database – system to gather and disseminate information about the main taxes in force throughout the Member States.	Operational since 2007 (Possible extension to OECD countries by 2013)
Applications common to VAT, Recovery, Direct Tax	
Generic Test Tool (GTT) – testing application common to VAT, Recovery and Direct Tax	Operational since 2008
Self-Service Testing System (SSTS) – system to increase the ability of Member States to run conformance testing autonomously and to test their own IT development before starting operations within the trans-European network.	Operational since 2012
Taxation related Statistics System (TSS) – common statistics application.	Operational by 2013
eForm editor - application supporting exchange of forms	Operational since 2009
eForm viewer - application supporting exchange of forms	Operational since 2009
Taxation Information and Communication (TIC), providing the Member States with a Web application through which they will be able to provide the Commission with information (in most part textual) that has to be made available to the other Member States or to the general public via the Internet.	Operational by 2012
eForms Central Application (eFCA) – common application to support the exchange of information between Member States in taxation different domains in the context of the administrative cooperation.	Operational by 2014 (refer to section 2.3)

Table 1: taxation systems portfolio overview

Further general information on Taxation TES and applications (e.g. VIES) may be found on the Europa web site[21] and in sections 2.2.2, 2.2.3, 2.2.4, 2.2.5, 2.2.6 and 2.2.7.

Detailed documentation is to be found in the Annex XI - Baseline.

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[21] http://ec.europa.eu/taxation_customs/taxation/vat/traders/vat_number/index_en.htm

2.2.1.2. EXCISE TES AND APPLICATIONS

Excise Movement and Control System	
Excise Movement and Control System (EMCS) – The computerized movement and monitoring system for excisable products under duty suspension. *Includes SEED, test application (TA), the central services / management information system for Excise (CS/MISE) and MVS e-forms.*	Operational (phase 3 as from 1 January 2012)
EMCS supporting applications	
System for Exchange of Excise Data (SEED), including SEED on Europa – obligatory electronic database located in each Member State and containing a register of persons who are authorized warehouse keepers or registered traders for excise duty purposes and a register of facilities approved as tax warehouses.	Operational
Test Application (TA) – which supports the Member States in testing their National Excise Applications (NEA) against the Common Domain specifications.	Operational
Central System / Management Information System for Excise (CS/MISE) - provides business statistics on the EMCS system as well as enabling the follow-up of the EMCS movements over the Common Domain.	Operational
Movement Verification System (MVS) – system which allows verifying individual movements of goods between two traders.	Operational

Table 2: excise systems portfolio overview

Further general information on EMCS may be found on the Europa web site[22] and in section 2.2.8.

Detailed documentation is to be found in Annex XI - Baseline.

2.2.2. VAT RELATED SYSTEMS

The VAT system has been implemented as a set of sub-systems following the evolution of EU VAT law.

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[22] http://ec.europa.eu/taxation_customs/taxation/excise_duties/circulation_control/index_en.htm

The EU Internal Market and with it the transitional intra-Community VAT regime came into force on 1 January 1993. This regime abolished controls at fiscal frontiers within the EU and replaced them by an electronic system called the VAT Information Exchange System (VIES). Council Directive 77/388/EEC[23] which laid down the fundamental principles of EU VAT law was therefore amended in 1992 to take into account the transitional provisions as well as the introduction of VIES. More recently, the Council adopted a recast of that Directive (Council Directive 2006/112/EC of 28 November 2006)[24]. Council Directive 2006/112/EC is the current main legal basis of VIES.

On 8 June 2010 Regulation 904/2010/EU (Recast of Regulation 1798/2003) was adopted. This Regulation will have an impact on VIES, although limited. Changes to VIES need to be operational by 1 January 2013.

As regards administrative cooperation in the field of VAT, two provisions are applicable: Council Regulation 904/2010/EC and Commission Regulation 2012/79/EU[25]. The latter lays down detailed rules for implementing certain provisions of Regulation 904/2010.

2.2.2.1. VAT INFORMATION EXCHANGE SYSTEM (VIES)

LEGAL BASIS

- Council Directive No 2006/112/EC of 28 November 2006 on the common system of value added tax.

- Council Regulation (EU) No 904/2010 of 7 October 2010 on administrative cooperation and combating fraud in the field of value added tax.

DOCUMENTATION BASELINE

- TAXATION\Current Systems\2.1 VAT related projects\2.1.1 VIES

- TAXATION\Current Systems\2.1 VAT related projects\2.1.5 VIES2

BUSINESS DESCRIPTION

VIES allows the tax administrations of the Member States to exchange VAT-related data. The establishment of the Internal Market in 1993 simplified business operations across the Member States. However, it also relaxed fiscal controls at the intra-EU borders. To combat the increased risk of fraud, the Council decided to set up VIES.

Businesses registered for VAT in the Member States which make intra-EU supplies must complete recapitulative statements listing the aggregate value of supplies of goods and services made to VAT registered customer elsewhere in the EU. Economic operators submit this information to their Member States authority competent for VAT control. Member States collect this information and store it on their VIES databases.

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[23] OJ L 145, 13.6.1977, p. 1

[24] OJ L 347, 11.12.2006, p.1

[25] OJ L 29, 1.2.2012, p. 13

Member States tax authorities use and exchange among each other this data to ensure that intra-EU VAT has been correctly accounted for. VIES is also used by economic operators to check the validity of VAT registration numbers of their customers in other Member States. Valid VAT registration numbers are a necessary condition for zero-rating intra-EU supplies.

With Regulation 904/2010/EC, the Council decided that in the upcoming years VIES will be extended to cover the exchange of additional VAT-related information, such as Trader Activities and Legal form. The same regulation also requires a service level agreement (SLA) that will be agreed between Member States and the Commission, to lay down performance and availability commitments for all national and Commission's VIES components.

FUNCTIONAL DESCRIPTION

In respect to requirements placed upon Member States, the information exchanged between national VIES applications can be divided into two main categories:

- Identification data enabling a Member State to verify that a particular VAT number from another Member State is valid, or has been valid (VAT and Historical VAT information);

- Turnover data information submitted by traders in every Member State.

VIES implements the following set of processes:

- Request VAT Registration Information;

- Provide VAT Registration Information;

- Request Turnover Information;

- Provide Turnover Information.

APPLICATION DESCRIPTION

VIES is a distributed TES composed of national VIES applications for exchanges related to registration or turn-over data. VIES uses CCN/CSI.

VIES relies on several supporting applications:

- VMS – VIES Monitoring System allows the IT Service Management (ITSM) contractor of DG TAXUD to monitor the status of the VIES services at each Member States site automatically, in order to detect service failures. VMS is sending on regular basis messages to the Member States and analysing the response to deduce their "live" status;

- VSS – VIES Statistics System provides VIES statistical information concerning the exchange of messages between the Member States through the CCN/CSI network;

- VAT numbers validation routines;

- VTA – VIES Test Application checks the compliance of a VIES server / client and is used for Conformance Testing;

- VIA – VIES Initial Application may be used by Member States as basis of a national application concerning the exchange of messages.

These applications are hosted in the premises of the DG TAXUD contractor in charge of the operations.

TECHNICAL DESCRIPTION

Each Member State has developed a national VAT database and local applications of VIES. The VIES system provides access from one national database to another. There is no central database. National gateways are connected with each other through CCN/CSI. Member States' environments are very diverse and include IBM Mainframes, UNIX and Windows platforms, Oracle, DB2 and Ingres databases. Among the programming languages COBOL, C, Java, PL/SQL is used.

Below, additional technical information is provided on the VIES supporting applications:

VIES Monitoring System (VMS)

The Monitoring Engine is a Java module running at the IT Service Management Contractor who is responsible for monitoring the compliance of Member State VIES applications with the Service Level Agreement.

VIES Statistics System (VSS)

VIES Statistics system is composed by two applications, the Importing Tool and the Reporting Tool.

VAT numbers validation routines

These routines allow validating the syntax of the VAT numbers as regards the National Construction rules. The Commission maintains ANSI C and Java versions that are distributed to Member States for integration into their own environment, if need be.

VIES Test application (VTA)

This application checks the compliance of a VIES server / client against the VIES functional specification. It is built around the Initial Application. Besides being used as a tool to perform RCT (Remote Conformance Testing), it can also be distributed to Member States to perform LCT (Local Conformance Testing).

The test application is made of a Test Server and a Test Client. Both are used to test the counter part of the VIES system and can be installed separately or together on one machine.

The test client plays a set of tests defined in a scenario. Upon reception of an answer from the national server application under test, it is compared to the expected answer. If both are equal, the test is considered as passed. If discrepancies are found, the tests will be considered as failed.

Upon requests from a national client application under test, the test server checks in its scenario file which answer must be sent back to the client. If no appropriate answer is found in the scenario file, the request is forwarded to the initial application for normal processing.

VIES Initial application (VIA)

The Initial Application is a fully functional VIES application that could be used by the Member States as a fall back solution or by acceding countries[26] as a basis for their own developments.

It is composed of:

- A client (1) and a server (2) which are running in the J2EE web container (3). These two components are provided as unpacked files within a normal directory or in a web archive (WAR). These applications use the VIES protocol over HTTP;

- An HTTP2CSIAdapter (4) which is a proxy application that converts in both directions VIES over HTTP messages into VIES over CSI messages. VIES over HTTP is the protocol used by the client (1) and the server (2) while VIES over CSI is the protocol agreed at trans-European Level. This adapter is written in ANSI C and has been tested over SunOS, Linux RedHat and Linux Suse OS.

The client and server applications connect through JDBC to the database with the VAT information. The database (6) can be any for which a JDBC driver is available.

The different components of the application are running in different containers. Some additional third party software is needed to provide these containers.
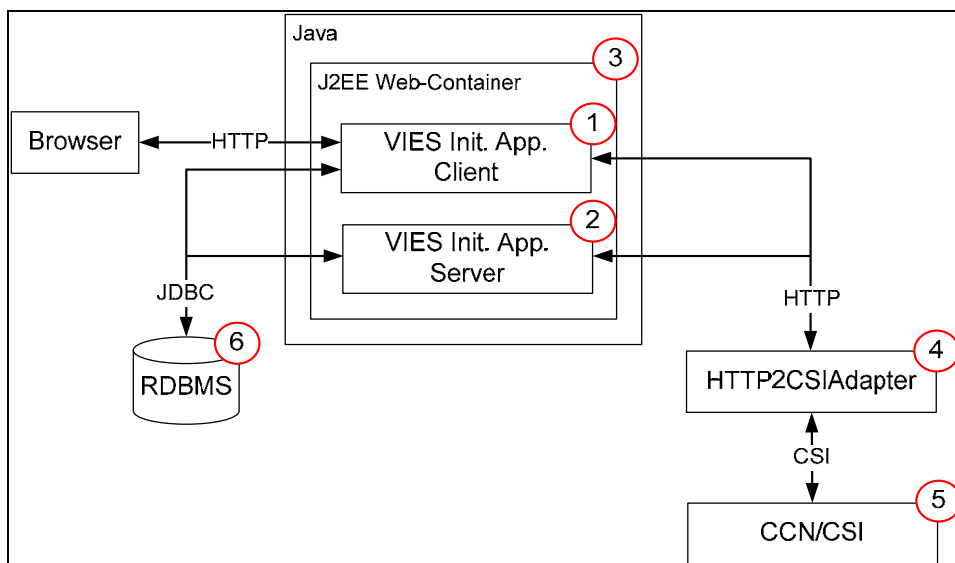
Figure 1: Overview Initial VIES Phase V/Unicode Application

VIES communication modes & types of exchanges

VIES applications support two communication modes:

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[26] Acceding country is a term used within the context of EU enlargement. At the time of launching this call for tenders, Croatia is the only acceding country. For more information, please consult:

http://ec.europa.eu/enlargement/acceeding-country/index_en.htm

- A synchronous mode which is used for interactions requiring fast response time and a small amount of data exchanged;

- An asynchronous mode used for interactions with longer response time or with a large amount of data exchanged.

The exchanges consist in either spontaneous or request/responses interactions for the following kind of data:

- VAT and Historical VAT Registration Data. It consists in request/response interactions. A request related to VAT registration data is sent via a R_VATR message and the response conveyed in a D_VATR message. Similarly, Historical VAT Registration Data is exchanged via a pair (request message: R_HVATR / response message: D_HVATR). For use with VIES-on-the-Web an additional message is defined that allows users to provide trader name and address information for validation through Fuzzy Matching;

- Turnover Data. It consists of both spontaneous and request/response interactions.

Once the collection of the recapitulative statements has been completed and the data processed, each tax administration generates and sends spontaneously to all the other tax administrations a so-called F_L1QD quarterly data file. Tax administrations can also request these files for any past quarters, by submitting R_L1F1 requests. In that case, they receive a F_L1F1 file, which can be processed as an F_L1QD.

After the reception of the spontaneous F_L1QD, the recipient tax administration is obliged within 2 working days to report, by means of an O_MCTL message, to the counterpart tax administration any wrong/suspicious VAT identification number provided.

The global value of intra-Community acquisitions of a given trader is requested through a R_L1F2 message while the answer is a D_L1F2 message.

The value broken down of intra-Community supplies to a trader is requested through a R_L2F1 message while the answer is a D_L2F1 message. This information can also be requested, but instead with details of trading partners in a 3rd Member State, through the R_L2F1_3MS message

The value broken down of intra-Community acquisitions of a trader is requested through a R_L2F2 message while the answers are D_L2F2 answer messages.

Request messages (R_L1F1, R_L1C, R_L1CM) are sent by Member States in order to get updated turnover data that was previously exchanged through the L1QD file. A F_L1F1 data file answer must be sent by the requested Member State in answer to the R_L1F1 request.

2.2.2.2. VIES-ON-THE-WEB (VOW)

DOCUMENTATION BASELINE

- TAXATION\Current Systems\2.1 VAT related projects\2.1.2 VIES-on-the-Web

- The statistics application is common to that of VIES and is located under:

    TAXATION\Current Systems\2.1 VAT related projects\2.1.1 VIES\B. Application Specifications, build and run\B.4 VIES Statistics System

BUSINESS DESCRIPTION

VIES-on-the-Web is an extension of VIES which allows traders to access via Internet information on VAT registration numbers issued by the Member States.

When the validation of the VAT identification number is positive, the name and address of the associated economic operator is provided.

Originally only Member States officials were allowed to consult VIES-related information. In October 2001 however the VIES-on-the-Web application was put at the disposal of traders, to allow them to verify the validity of VAT numbers of their trading partners.

VIES-on-the-Web can be accessed via the Europa website at: http://ec.europa.eu/vies

Some traders have integrated the availability of VIES-on-the-Web information in their daily processes. Therefore, they rely heavily on this service. The success of these services is constantly increasing with the number of queries made by the traders reaching more than 150 million requests in 2011.

FUNCTIONAL DESCRIPTION

The VIES-on–the-Web service provides a Web-enabled interface for an existing function of the VIES system. The service allows end-users to verify VAT numbers for intra-Community trade via Internet.

It includes the Fuzzy Matching feature that implements the approximate matching of trader name/address. The actual matching process is implemented at Member State level.

When the validation of the VAT identification number is positive, the name and address of the associated economic operator is provided.

APPLICATION DESCRIPTION

Vies-on-the-Web is an application hosted at the Commission's Data Centre (DIGIT/DC) and interacting with the Member States via the VIES network.

TECHNICAL DESCRIPTION

VIES-on-the-Web can be viewed as a message broker that dispatches the requests received from the Internet to the relevant Member States via the VIES system.

VIES-on-the-Web offers two interfaces:

- an interactive interface based on HTML pages;
- an applicative interface based on the SOAP protocol.

The application is fully written in Java and hosted in a Weblogic J2EE Application server.

The requests are encapsulated in an XML message within an HTTP request which is transmitted via the CCN Intranet to the appropriate national CCN gateway.

A GAS (Generic Application Server) running on that gateway (maintained by the CCN/TC contractor) converts the HTTP/XML request into a CSI/VIES request that will be processed by the national application.

The response is converted the other way round from CSI/VIES into HTTP/XML. The relevant information is either displayed in an HTML page for the interactive request or encapsulated in a SOAP response for the API service.

2.2.2.3. VAT EXCHANGE OF FORMS[27]

LEGAL BASIS

- Council Regulation (EU) No 904/2010 of 7 October 2010 on administrative cooperation and combating fraud in the field of value added tax

- Commission Implementation Regulation (EU) No 79/2012 of 31 January 2012 laying down detailed rules for implementing certain provisions of Council Regulation (EU) No 904/2010 concerning administrative cooperation and combating fraud in the field of value added tax

DOCUMENTATION BASELINE

- TAXATION\Current Systems\2.1 VAT related projects\2.1.3 VAT eForms

BUSINESS DESCRIPTION

Electronic forms support the exchange of information in the framework of administrative cooperation[28], either spontaneously or on request via a standardised format.

Forms include requests for information, notifications, recovery measures and precautionary measures, feedback forms, notifications of administrative decisions and information in case of suspected fraudulent operations.

Electronic forms are used to support administrative cooperation in the field of VAT, direct tax or related to the recovery of claims.

FUNCTIONAL DESCRIPTION

The essential functionalities for the exchange of forms revolve around three major issues:

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[27] The terms form, electronic form or eForm / e-form are used as synonyms in this document.

[28] http://ec.europa.eu/taxation_customs/taxation/tax_cooperation/mutual_assistance/index_en.htm

- information requests, requests for administrative enquiries and exchange of spontaneous data sent by the competent authority of one Member State (the requesting authority) to the competent authority of another Member State (the requested authority);

- notification of an administrative decision to another Member State who communicates it to its taxable person;

- introduction of a simplified form for a fast exchange of information in case of suspected fraudulent operation.

APPLICATION DESCRIPTION

The exchange of forms is a single standalone application offering the user interface in all EU official languages. This application has to be installed on the end-user workstation.

The Commission has developed a test tool allowing evaluating the compliance of the form implementation to the functional and technical specifications.

The list of forms currently used in the field of VAT and their format is provided in the next table.

Form	Legal base	CCN/Mail2 mailbox	Format
Form "SCAC 2004"	Art. 7 and 15 of Council Regulation (EU) No 904/2010	VIESCLO	Java
Missing Trader Form	Art. 7 and 15 of Council Regulation (EU) No 904/2010	TAXFRAUD	Java
Request for Notification	Art. 25 – 27 of Council Regulation (EU) No 904/2010	VIES CLO	Java
Form on Information on non-established traders	Art. 13 of Council Regulation (EU) No 904/2010	TAXAUTO	MS-Excel
Form on Information on new means of transport	Art. 13 of Council Regulation (EU) No 904/2010	TAXAUTO	MS-Excel
Form on information on VAT refunds to taxable persons not established in the Member State of refund but established in another Member State pursuant to Council Directive 2008/9/EC*[29]	Art. 13 of Council Regulation (EU) No 904/2010	N/A	N/A

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[29] OJ L 44, 20.2.2008, p. 23

Form for the communication of statistical information to the Commission	Art. 49(3) of Council Regulation (EU) No 904/2010	TAXUD C4 mailbox	MS-Excel
VAT and / or Excise duty exemption certificate	Directive 2006/112/EC - Article 151 – and Directive 2008/118/EC[30] - Article 13	N/A	

Table 3: VAT exchange of forms

* This information is exchanged between the Member States as part of the VAT refund system, using a XML message sent in a CCN queue.

TECHNICAL DESCRIPTION

The exchange of forms system consists in a stand-alone Java application generating XML files with the forms content. The XML file only is exchanged between the Member States via the CCN/Mail2 Server. All data is encrypted on the local LAN between the user and the CCN server. All data passing transmitted on the CCN network is encrypted. Secured webmail access to the mailboxes is also possible.

At present, there are 4 CCN mailboxes for the VAT eforms.

Forms are implemented in two phases[31]:

- Phase 1 – Specifications. Functional, technical and test specifications are produced. These specifications will be independent of any product that can be used to load/edit/save the form data. A major output of this phase will be an XML schema for each form mentioned before.

- Phase 2 – Implementation. The e-forms are created. Outputs of this phase are revised versions of the functional, technical and test specifications to integrate peculiarities of the DG TAXUD Java implementation. A major output of this phase will be the creation, for each form, of a form implementation directly usable by the Member States.

This approach offers Member States three options to integrate the form solution within their own IT and organisational environments:

1. Use the forms produced during Phase 2.

   The forms produced within Phase 2 are used as such by Member States. Member States are only responsible for the translation of the form labels in their national language(s) and organise training sessions for the users of these e-forms.

2. Adapt the forms produced during Phase 2 to best suit the Member State IT and organisational environments.

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[30] OJ L 9, 14.1.2009, p. 12

[31] This approach is also followed for the forms used in the fields of Recovery and Direct Tax.

This solution consists in slightly modifying the forms produced during Phase 2 to best suit the MS environment. Such adaptations can consist in adding some automation functionality, for example to gather some information automatically from a national database.

A selection of the test cases described in the Acceptance Test Specification will have to be run in order to ensure that modified e-forms are compliant with the technical specifications, and more particularly that the XML documents produced are valid as regards the commonly agreed XML schema.

Whenever the genuine form delivered by the Commission needs corrective or evolutive maintenance, Member States having chosen this option will be responsible for integrating the changes in their modified versions of the e-forms and for being ready with the updated release by the agreed deadlines.

3. Build a national solution and do not use the forms produced during Phase 2.

This solution consists in building a full national solution instead of using the forms produced during Phase 2. The XML documents generated by this national form solution must be compliant with the Technical Specification produced during Phase 1. The ITSM2 contractors will assist the Member States in testing this compliance.

All the test cases described in the Acceptance Test Specification have to be run in order to ensure that the national form solution is compliant with the Technical Specifications, and more particularly that the XML documents produced are valid as regards the commonly agreed XML schema.

2.2.2.4. VAT ON E-SERVICES

LEGAL BASIS

- Council Directive 2006/112/EC of 28 November 2006 on the common system of value added tax;

- Council Directive 2006/138/EC[32] of 19 December 2006 amending Directive 2006/112/EC on the common system of value added tax as regards the period of application of the value added tax arrangements to radio and television broadcasting services and certain electronically supplied services;

- Council Regulation (EC) No 904/2010 of 7 October 2010 on administrative cooperation in the field of value added tax and repealing Regulation (EC) No 1798/2003[33];

- Council Implementing Regulation (EU) No 282/2011[34] of 15 March 2011 laying down implementing measures for Directive 2006/112/EC on the common system of value added tax.

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[32] OJ L 384, 29.12.2006

[33] OJ L 264, 15.10.2003, p. 1
[34] OJ L 77, 23.3.2011, p. 1

- TAXATION\Current Systems\2.1 VAT related projects\2.1.4 VoeS

BUSINESS DESCRIPTION

VAT on e-Services (VoeS) is a special scheme applicable to traders who are not established in the EU but who provide electronically supplied services to non-taxable persons established within the EU.

VoeS is an electronic system for charging, declaring, collecting and allocating VAT revenues in connection with e-Services supplies from e-Services traders who have neither established their business nor have a fixed establishment within the territory of the Union to a consumer established in a Member State.

This simplified system allows the non-established taxable person to use a Member State of identification dedicated web site to access an automated system for registering and declaring VAT on-line. Data is then submitted by electronic means to this Member State of identification by the non-established taxable person. Although the systems are under national responsibility, the Commission has defined quality standards and integrity checking mechanisms, in order to ensure a minimum level of quality throughout the EU.

FUNCTIONAL DESCRIPTION

This special scheme has led to the implementation of a dedicated system for exchange of information between Member States. The scheme provides for traders not established within the EU, supplying specific e-services, an electronic means of:

- Registration for VAT;

- Submission of VAT return;

- Payment of VAT due.

Traders can perform these actions in a single Member States of their choice irrespective of the Member State of residence of the non-taxable client.

APPLICATION DESCRIPTION

The Commission has developed a test application which allows for the verification of compliance of the Member States' applications to the specifications.

TECHNICAL DESCRIPTION

At national level, Member States collect data via national web sites. The collected data is converted into XML documents that are attached to a CCN/Mail2 message. Member States are responsible for developing and maintaining their own applications.

As stated above, the Commission has developed and maintains a test application that is used during the conformance tests session to ensure that Member States applications conform to the functional and technical system specifications. This test application is fully developed in Java and uses a MySQL database to store the test data. The following picture depicts the test environment.
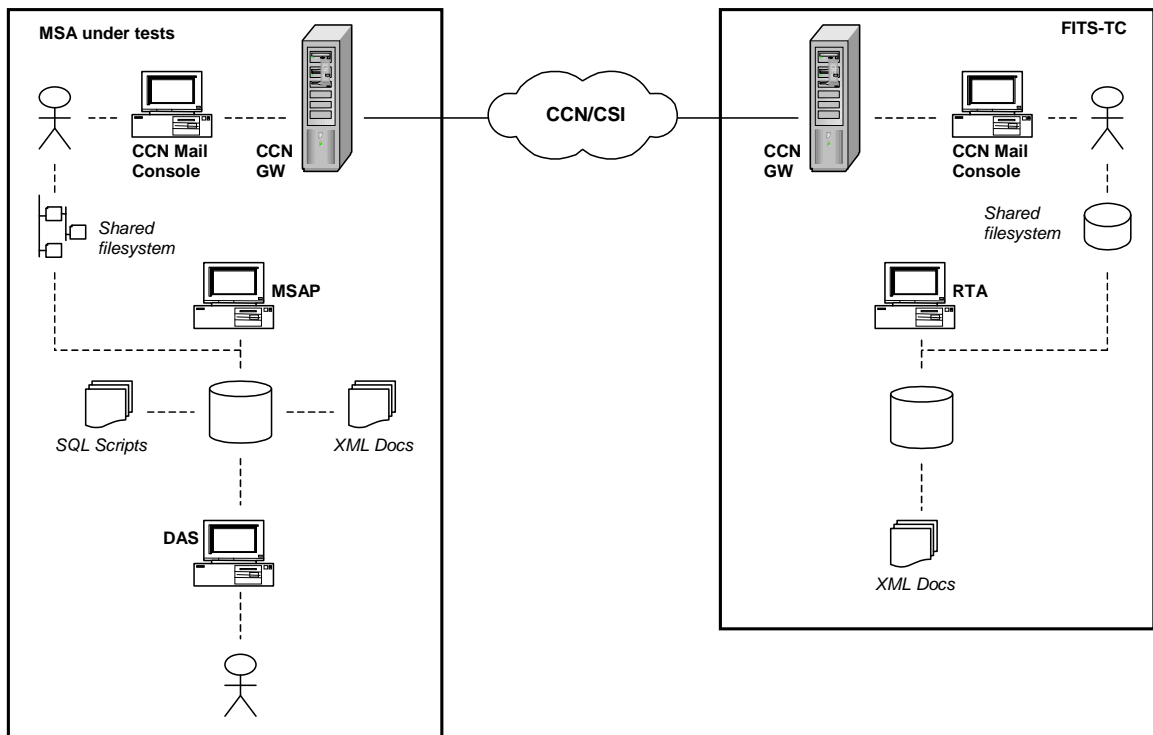
Figure 2: Acceptance testing infrastructure

When playing the role of **Member State of Identification[35]**, the Member State under test fills in its database with the content of the reference test data. This can be done via the so-called Data Acquisition System dedicated to the **Non Established Taxable Persons[36]**, via SQL scripts or via XML documents. The data according to the scenario to be played is extracted from the database and sent to the ITSM2 contractors. The ITSM2 contractors verify that the data received is equivalent to the expected data and inserts it, as would any **Member State of Consumption[37]**, in its database. Any error that occurred during processing will be forwarded to the originating Member State that will take the appropriate actions to solve the problem.

When playing the role of Member State of Consumption, the Member State under test fills in its database with the document received from the ITSM contractor and checks if the data has been correctly inserted in the database.

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35 Member State of Identification (MSID) means the Member State which the non-established taxable person chooses to contact to state when his activity as a taxable person within the territory of the Community commences in accordance with the provisions of legal base.

36 NETP – Non Established Taxable Person means a taxable person who has neither established his business nor has a fixed establishment within the territory of the Community and who is not otherwise required to be identified for tax purposes under Article 214 of Council Directive 2006/112/EC;

37 Member State of Consumption (MSCON) means the Member State in which the supply of the electronic services is deemed to take place.

2.2.2.5. VAT MINI ONE STOP SHOP (MOSS)[38]

LEGAL BASIS

- Council Directive 2006/112/EC of 28 November 2006 on the common system of value added tax;

- Council Directive 2008/8/EC of 12 February 2008 amending Directive 2006/112/EC as regards the place of supply of services;

- Council Regulation (EU) No 904/2010 of 7 October 2010 on administrative cooperation and combating fraud in the field of value added tax.

DOCUMENTATION BASELINE

- TAXATION\Current Systems\2.1 VAT related projects\2.1.7 M1SS

BUSINESS DESCRIPTION

The VAT Mini One Stop Shop (MOSS) is a system allowing taxable persons trading in more than one Member State to fulfil their VAT obligations in a single place of compliance, which would be the Member State where they are established (or in the Member State of identification in case of non-EU country businesses).

This special scheme is defined by Council Directive 2008/8/EC, amending the Council Directive 2006/112/EC, for simplifying the obligations of EU trader in the context of distant services provided to EU non-taxable person and more specifically telecommunication services, broadcasting services and electronic services.

This special scheme offers the possibility for EU traders being registered for VAT purposes in one Member State to declare such services provided in the other Member States directly in his Member State of establishment (named Member State of identification) without being obliged to be registered for VAT purposes in other Member States.

The system is expected to become operational by 1 January 2015.

FUNCTIONAL DESCRIPTION

MOSS implements the following set of processes:

- Non-Established Taxable Person registration;

- Submission of a VAT return;

- Payment of the VAT due.

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[38] The VAT Mini One Stop Shop can be also shortened as "M1SS".

APPLICATIVE DESCRIPTION

A test tool will be developed by the Commission to test the compliance of the Member States' applications to the specifications.

TECHNICAL DESCRIPTION

MOSS, currently under development, will be supported by an exchange of XML messages through CCN/CSI in asynchronous mode. The chosen paradigm for the exchange of XML messages for MOSS scheme is the datagram paradigm as imposed by the legislation. Request/response messages will only be used for specific enquiries.

2.2.2.6. VAT REFUND

LEGAL BASIS

- Council Directive 2008/9/EC of 12 February 2008 laying down detailed rules for the refund of value added tax, provided for in Directive 2006/112/EC, to taxable persons not established in the Member State of refund but established in another Member State.

DOCUMENTATION BASELINE

- TAXATION\Current Systems\2.1 VAT related projects\2.1.6 VAT Refund

BUSINESS DESCRIPTION

VAT Refund allows EU traders to electronically submit claims for the refund of VAT paid in Member States where they are not established.

The VAT refund procedure is laid down in Council Directive 2008/9/EC. This Directive simplified the recovery procedure by allowing traders to directly submit an electronic VAT Refund application to their own tax authorities for VAT incurred in another EU Member State.

The VAT Refund system allows:

- a trader registered in a certain Member State to submit an electronic application for a refund of VAT incurred in another EU State. This electronic VAT refund application is made to the tax administration of the Member State where the trader is established (Member State of Establishment) and contains scans of the relevant invoices, where necessary;

- the tax administration of the Member State of Establishment to forward the trader's claim, electronically, to the relevant Member State for processing (Member State of Refund) via CCN.

   The Member State of Refund processes the request and notifies the trader directly or via the Member State of Establishment of its decision. The trader will receive the refund of VAT through its Member State of Establishment.

FUNCTIONAL DESCRIPTION

The VAT Refund system implements the following set of requirements:

- Exchange of messages between Member States of establishment and Member States of refund;

- Relay the receipt notifications and VAT Refund decisions sent from the Member State of refund to non-established taxable person via the Member State of establishment;

- Communicate notification of pro-rata rate adjustment to all the Member States;

- Notify reception of pro-rata rate adjustment by the Member State of refund to non-established taxable person;

- Provide the possibility to make correction on VAT Refund application.

APPLICATION DESCRIPTION

A test tool has been developed by the Commission to test the compliance of the Member States' applications to the specifications.

A statistical application provides information on the traffic (number of messages and volume), as well as average time to take a decision. The statistic application takes as input the CCN audit files.

TECHNICAL DESCRIPTION

Each Member State must have an application that communicates with the applications of other Member States using the asynchronous exchange of XML messages through CCN/CSI.

The application communicates via the CCN gateway installed at the Member State site and the CSI stack is used to manage the communication.

2.2.3. RECOVERY

2.2.3.1. EXCHANGE OF FORMS

LEGAL BASIS

- Council Directive 2010/24/EU[39] of March 16th 2010 concerning mutual assistance for the recovery of claims relating to taxes, duties and other measures

- Commission Implementing Regulation (EU) No 1189/2011[40] of 18 November 2011 laying down detailed rules in relation to certain provisions of Council Directive 2010/24/EU concerning mutual assistance for the recovery of claims relating to taxes, duties and other measures.

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[39] OJ L 84, 31.3.2010, p. 1

[40] OJ L 302, 19.11.2011, p. 16

- TAXATION\Current Systems\2.3 Recovery eForms.

BUSINESS DESCRIPTION

Exchange of forms supports administrative cooperation for tax recovery[41].

FUNCTIONAL DESCRIPTION

Refer to the function description of VAT exchange of electronic forms.

APPLICATION DESCRIPTION

The list of forms currently used in the field of Recovery of Claims and their format is provided in the next table:

Form	Legal base	CCN/Mail2 mailbox	Format
Request for Information	Art. 5 of Council Directive 2010/24/EU	See the list below	Java
Request for Notification	Art. 8 of Council Directive 2010/24/EU	See the list below	Java
Request for Recovery and/or Precautionary Measures	Art. 10 and 16 of Council Directive 2010/24/EU	See the list below	Java
Uniform Notification Form	Art. 8 of Council Directive 2010/24/EU	See the list below	Java
Uniform Instrument Permitting Enforcement	Art. 12 of Council Directive 2010/24/EU	See the list below	Java

Table 4: Recovery exchange of forms

Depending on the nature of taxes involved, the following mailboxes have been created for exchange of information between Member States in the field of Recovery of Claims:

   a. REC-A-CUST (customs duties);

   b. REC-B-VAT (value added tax);

   c. REC-C-EXCISE (excise duties);

   d. REC-D-INCOME-CAP (tax on income or capital);

   e. REC-E-INSUR (tax on insurance premiums);

   f. REC-F-INHERIT-GIFT (inheritance and gift taxes);

   g. REC-G-NAT-IMMOV (national taxes and duties on immovable property, other than the above-mentioned ones);

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[41] http://ec.europa.eu/taxation_customs/taxation/tax_cooperation/tax_recovery/index_en.htm

h. REC-H-NAT-TRANSP (national taxes and duties on the use or ownership of means of transport);

i. REC-I-NAT-OTHER (other taxes and duties levied by or on behalf of the (applicant) State);

j. REC-J-REGIONAL (taxes and duties levied by or on behalf of territorial or administrative subdivisions of the (applicant) State, excluding taxes and duties levied by local authorities);

k. REC-K-LOCAL (taxes and duties levied by or on behalf of local authorities);

l. REC-L-OTHER (other tax-based claim);

m. REC-M-AGRI (refunds, interventions and other measures forming part of the system of total or partial financing of the European Agricultural Guarantee Fund (EAGF) and the European Agricultural Fund for Rural Development (EAFRD), including sums to be collected in connection with these actions, and levies and other duties provided for under the common organisation of the market for the sugar sector).

TECHNICAL DESCRIPTION

Refer to the technical description of VAT exchange of electronic forms.

2.2.4. DIRECT TAX RELATED SYSTEMS

2.2.4.1. TAXATION ON SAVINGS

LEGAL BASIS

- Council Directive 2003/48/EC[42] of 3 June 2003 on taxation of savings income in the form of interest payments

DOCUMENTATION BASELINE

- TAXATION\Current Systems\2.2 Direct Taxation\2.2.1 Taxation on Savings (ToS)

BUSINESS DESCRIPTION

The aim of Directive 2003/48/EC is to enable savings income, in the form of interest payments made in one Member State to beneficial owners who are individual residents for tax purposes in another Member State, to be subject to effective taxation in accordance with the laws of the latter. The automatic exchange of information between Member States concerning interest payments is the means chosen to achieve effective taxation of these interest payments in the Member State where the beneficial owner is resident for tax purposes.

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[42] OJ L 157, 26.6.2003, p. 38

For additional information on the implementation of Directive 2003/48/EC and the Commission's proposal for reviewing it, tenderers are invited to consult the following address:

http://ec.europa.eu/taxation_customs/taxation/personal_tax/savings_tax/index_en.htm

FUNCTIONAL DESCRIPTION

Concerning ToS system, all data collection is performed by the Member States. At EU level, coordination is provided to define the structure of the information to exchange.

APPLICATION DESCRIPTION

The Commission has developed a test application to verify the compliance of the Member States' applications to the specifications.

TECHNICAL DESCRIPTION

The system is operational since 2006 and consists in exchanging between the Member States bulk XML data.

Although the Taxation on Savings data to be exchanged according to the Directive cannot be considered as inter-personal messaging, Member States decided to use CCN/Mail2 as infrastructure layer. As a CSI based system would have required additional developments, this has been postponed until business needs justify the investments.

In the beginning of 2006, the SAVINGS-DIR mailbox was created in the CCN/Mail2 messaging facility and the first exchanges took place within the first semester 2006.

Member States collect data and information is structured in a file exchanged between competent authorities.

2.2.4.2. TAX IDENTIFICATION NUMBER (TIN) ON THE WEB (ToW)

DOCUMENTATION BASELINE

- TAXATION\Current Systems\2.2 Direct Taxation\2.2.4 TIN on The Web (ToW)

BUSINESS DESCRIPTION

ToW is operational since April 2012. It allows **Paying Agents**[43] to verify the valid syntax of TIN provided by the **Beneficial Owners**. This tool is limited to checking that the syntax of the TIN is correct according to the construction rules and does not provide any information about the fact that this TIN is assigned to a Beneficial Owner.

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[43] Council Directive 2003/48/EC defines the concepts of Paying Agent and Beneficial Owner.

The application allows the users to enter a Tax Identification Number and the issuing country. The application informs the user if the syntax of the number if valid or not.

APPLICATIVE DESCRIPTION

The application is hosted at the Commission's Data Centre (DIGIT/DC) as a single stand-alone application.

TECHNICAL DESCRIPTION

ToW is a web-based application written in Java and running on a Weblogic server. It offers a graphical interface with HTML pages for human interactions, as well as a SOAP interface for application interactions.

2.2.4.3. ADMINISTRATIVE COOPERATION -- EXCHANGE OF FORMS

LEGAL BASIS

- Council Directive 2011/16/EU[44] of 15 February 2011 on administrative cooperation in the field of taxation and repealing Directive 77/799/EEC

DOCUMENTATION BASELINE

- TAXATION\Current Systems\2.2 Direct Taxation\2.2.3 DT eForms

BUSINESS DESCRIPTION

In parallel with the work being done for the Taxation on Savings, to cater for the provisions of the directive concerning mutual assistance in the field of direct taxation, the Working Group on Administrative Cooperation in the field of Direct Tax has designed electronic forms that are similar to those used in the field of VAT and Recovery.

The forms currently in use are provided in section "Application description" below.

FUNCTIONAL DESCRIPTION

Refer to the function description of VAT exchange of electronic forms.

APPLICATION DESCRIPTION

The list of forms currently used in the field of Direct Tax and their format is provided in the next table:

Form	Legal base	CCN/Mail2	Format

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[44] OJ L 64, 11.3.2011, p. 1

		mailbox	
Request for Exchange of Information	Council Directive 2011/16/EU	MUTASSIST-DIR	Java
Spontaneous Exchange of Information	Council Directive 2011/16/EU	MUTASSIST-DIR	Java
Feedback on the Exchange of Information	Council Directive 2011/16/EU	MUTASSIST-DIR	Java
Acknowledgment	Council Directive 2011/16/EU	MUTASSIST-DIR	Java

Table 5: Direct Tax exchange of forms

There is currently 1 CCN mailbox used for the Direct Taxation eforms.

TECHNICAL DESCRIPTION

Refer to the technical description of VAT exchange of electronic forms.

2.2.4.4. AUTOMATIC EXCHANGE OF INFORMATION (AEoI)

LEGAL BASIS

- Council Directive 2011/16/EU of 15 February 2011 on administrative cooperation in the field of taxation and repealing Directive 77/799/EEC

DOCUMENTATION BASELINE

- TAXATION\Current Systems\2.2 Direct Taxation\2.2.2 Automatic Exchange Inform (AEoI)

BUSINESS DESCRIPTION

Work has started on the specification of the automatic exchange of information in the field of taxation. The system that will result from this activity is expected to become operational by January 1st 2015.

FUNCTIONAL DESCRIPTION

N/A.

APPLICATION DESCRIPTION

N/A.

TECHNICAL DESCRIPTION

N/A.

2.2.5. OTHER TAX RELATED SYSTEMS AND APPLICATIONS

2.2.5.1. TAXES IN EUROPE DATABASE (TEDBv2)

LEGAL BASIS

- Decision of the Permanent Committee of Heads of the National fiscal administrations of 16 July 1963

DOCUMENTATION BASELINE

- TAXATION\Current Systems\2.4 Other Taxation\2.4.2 TEDB v2

BUSINESS DESCRIPTION

In collaboration with the Member States, the European Commission publishes a survey of the taxes in force in the EU. It aims at providing all those interested in tax law - university researchers, students, businesses, tax advisers, civil servants, etc. - with a generic yet comprehensive view of the tax systems of the Member States.

The Taxes in Europe Database System is a collection of forms describing the taxes in the Member States. Forms are filled in by the Member States and sent to DG TAXUD for verification and publication on the Europa website. The update can be triggered either by the Commission or by the Member States themselves. The application also offers a tax reforms tracking functionality and the system has no interactions with others.

FUNCTIONAL DESCRIPTION

TEDB automates the following processes:

Collection, Storage and Validation of data

1. Collection of data: each Member State is responsible for encoding the information about its taxes in the TEDBv2 system through the Production interface. Member States can create or update taxes, measures and reforms.

2. Storage of data: data encoded by the Member States are stored in a central database.

3. Pre-validation of data: pre-validation of the created or updated tax data by particular Member States users before submission to DG TAXUD through the Validation interface.

Publication of data

1. Validation of data: DG TAXUD checks and validates the modifications before publication, through the Publication Interface.

2. Publication of data: after validation, tax information is made available on the public web site.

Dissemination of data

1. Research of data: Internet users can search and display taxes, reforms and measures data on the public web site.

2. Export of data: Internet users can export a list of taxes or of reforms in a CSV file.

TEDBv2 is a central application hosted at the Commission's Data Centre (DIGIT/DC) and available over the Europa website:

http://ec.europa.eu/taxation_customs/tedb/taxSearch.html .

It also contains the Taxation Reform (TAXREF) system, which uses information provided by Member States together with the information in the TEDB databases to analyse the impact of tax reforms in the EU:

http://ec.europa.eu/taxation_customs/tedb/reformSearch.html

TECHNICAL DESCRIPTION

TEDBv2 is built on Weblogic and Oracle. It offers a web interface and the authentication functionality is provided by ECAS.[45]

The Tax forms are filled in by the Member States and sent to DG TAXUD for verification and publication on the Europa site. The update can be triggered either by the Commission or by the Member States themselves. The application also offers a tax reforms tracking functionality.

2.2.6. APPLICATIONS COMMON TO VAT, RECOVERY AND DIRECT TAX

2.2.6.1. SUPPORT APPLICATIONS

All the Taxation TES are distributed systems in the Member States with no central node at Commission level. Each Member State is responsible for developing, maintaining and operating its own applications, in compliance with the rules agreed between the Member States and the Commission.

In order to operate Taxation TES, the Commission has developed, maintains and operates the following applications:

TEST APPLICATIONS

These applications evaluate the compliance of the Member States applications with the common system specifications. They are operated by the ITSM contractor of DG TAXUD for performing the conformance tests. The Self-Service Testing System (SSTS), a major new deployment, has recently improved the flexibility in the conformance test campaigns by increasing the ability of Member States to run Conformance Testing autonomously, with limited support from any other party. SSTS is grouped around a web portal, providing access to the different test modules, test data and management and reporting modules.

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[45] ECAS is the European Commission Authentication Service.

1) GENERIC TEST TOOL (GTT)

GTT is a modular test tool in production since 2006 that supports conformance testing for many taxation-related European Information Systems (VAT exchange of forms, VAT Refund, Recovery and Direct Taxation exchange of forms).

The GTT allows testing of XML-based information exchange. The central GTT tool takes case of all common functionalities such as CCN interaction, planning and reporting.

For each specific system a plug-in module is developed, that takes into account all elements that are specific to that information domain.

Documentation baseline:

- TAXATION\Current Systems\2.1 VAT related projects\2.1.8 GTT v2

2) SELF SERVICE TESTING SYSTEM (SSTS)

SSTS is a central application in production since June 2012 hosted at the Commission's Data Centre (DIGIT/DC). SSTS allows users to have an overview of all Testing Activities (to be) performed, input (Test Data) and output (Reports and Logs) related to the below Components. Moreover, SSTS will allow the users to access and manage actually all Testing Activities related to these Components and will interface them directly. The SSTS allows the end-user to interact with the underlying test applications: the VIA / VTA and GTT (and associated plug-ins).

Documentation baseline:

- TAXATION\Current Systems\2.5 Common Projects\2.5.2 SSTS

3) STATISTICS APPLICATIONS

Statistics applications compile monthly statistics on the exchanges for a given TES using the log files produced by CCN. It must be noted that for all the systems using CCN/Mail2 as transport layer, such statistics are produced by an application developed, maintained and operated by the CCN/TC contractor (refer to section 3 for additional information on the CCN/TC contractor).

3.1) Taxation Statistics System (TSS)

TSS is a central application hosted at the Commission's Data Centre (DIGIT/DC). It is a web application that will allow the users to interact with the TSS and consult statistical reports. The TSS will support a set of predefined report as well as report customised on demand by the end user. The reports will be available through the application and available for download.

Documentation baseline:

- TAXATION\Current Systems\2.5 Common Projects\2.5.4 TSS

4) APPLICATIONS SUPPORTING EXCHANGE OF FORMS

4.1) eForm Editor

A distributed application which allows working on several forms simultaneously and which manages global actions on forms. In production since 2008.

Documentation baseline:

- TAXATION\Current Systems\2.1 VAT related projects\2.1.3 VAT eForms\B. Application Specifications, build and run\B.3 E-Forms Editor

4.2) eForm Viewer

A distributed application which allows visualising the content of the e-forms related to VAT, Recovery of Claims and Mutual Assistance in the field of Direct Taxation without having to use the eForm editor.

Documentation baseline:

- TAXATION\Current Systems\2.1 VAT related projects\2.1.3 VAT eForms\B. Application Specifications, build and run\B.4 E-Forms Viewer

2.2.7. APPLICATION SUPPORTING INFORMATION EXCHANGE BETWEEN MS AND DG TAXUD

2.2.7.1. TAXATION INFORMATION AND COMMUNICATION (TIC)

TIC is a web-enabled interface allowing end-users to communicate useful information in the context of the cooperation between MSs and/or with DG TAXUD (e.g. VAT Refund MS preferences, invoicing rules). The objective of TIC is to ease the exchange of information between MS and DG TAXUD, in various contexts.

The TIC System is composed of two parts:

- The private part is accessible to Member State and DG TAXUD upon authentication;

- The public part is freely accessible via Internet.

The TIC is currently equipped with the following plug-ins:

- VAT Refund preferences: it allows the MS to communicate to their preferences for the VAT refund, system, such as defined in Directive 2008/9/EC

- Invoicing Rules: It allows DG TAXUD to collect from the Member States and publish the invoicing rules, in accordance to Article 32 of Regulation 904/2010

- Translation Modules: it allows for the collection from the Member States of some translatable items, such as the labels in Vies-on-the-Web or the e-Forms.

Documentation baseline:

- TAXATION\Current Systems\2.5 Common Projects\2.5.3 TIC

2.2.8. EXCISE TES AND APPLICATIONS

2.2.8.1. EMCS

LEGAL BASIS[46]

- Decision No 1152/2003/EC[47] of the European Parliament and of the Council of 16 June 2003 on computerising the movement and surveillance of excisable products, which defined and launched the project;

- Council Directive 2008/118/EC of 16 December 2008 concerning the general arrangements for excise duty and repealing Directive 92/12/EEC;

- Commission Regulation (EC) No 684/2009[48] of 24 July 2009 implementing Council Directive 2008/118/EC as regards the computerised procedures for the movement of excise goods under suspension of excise duty;

- Council Regulation (EU) No. 389/2012[49] of 2 May 2012 on administrative cooperation in the field of excise duties and repealing Regulation (EC) No 2073/2004.

DOCUMENTATION BASELINE

- EMCS

BUSINESS DESCRIPTION

The Excise Movement and Control System (EMCS) is a computerised system for monitoring and controlling in real-time the movement of excise goods (alcohol, tobacco and energy products) for which duties still have to be paid. The project replaced the previous paper-based system based on the AAD (Administrative Accompanying Document) by an electronic system relying on a workflow of electronic messages between all parties involved (e-AD).

Under EMCS, a movement of excise goods between two traders is documented by means of the successive states of the electronic Administrative Document (e-AD), from issuance by the

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[46] The legal basis covers the whole EMCS system including its supporting applications SEED, TA, CS/MISE and MVS.

[47] OJ L 162, 1.7.2003, p. 5

[48] OJ L 197, 29.7.2009, p. 24

[49] OJ L 121, 8.5.2012, p. 1

consignor to acknowledgement of receipt by the consignee. An e-AD is electronically submitted by the consignor and validated by the Member State of dispatch. In particular, the excise numbers of the consignor and the consignee are matched against a European register of operators (SEED). The e-AD is electronically transmitted to the Member State of destination, which forwards it to the consignee. An e-AD can be cancelled or updated under certain conditions. Upon reception of the goods, the consignee submits a "report of receipt", on which possible discrepancies including shortages or excesses are also mentioned.

Several other cases can arise, for instance, the consignee refuses delivery or the consignor splits the movement (for energy products only).

Development of EMCS started in 2002. The system entered fully into operations in 2011, after a roll-out period which started in April 2010. At present 27 national administrations of the EU Member States and thousands of excise traders – from small wine-growers to some of the major oil and tobacco multinationals – use EMCS to conduct their business. Since 1 January 2011, more than 6.7 million messages have been exchanged via the system.

As from 1 January 2012 EMCS covers also functionalities supporting administrative cooperation in the field of excise.

FUNCTIONAL DESCRIPTION

The main users of the system are economic operators and national administrations. The functionalities to be developed are explained in the Functional Excise System Specifications (FESS), mainly all the aspects of the electronic circuit of the e-AD, from its submission to its discharge, including the changes occurring during its journey.

Please refer to the Annex XI - Baseline for the whole set of EMCS specifications.

APPLICATION DESCRIPTION

The Excise Movement and Control System (EMCS) is a distributed trans-European system composed of National Excise Applications (NEA) in the Member States of the EU exchanging XML messages over the Common Communication Network (CCN/CSI) operated by the Commission.

EMCS has been specified and developed according the common technical and functional specifications.

EMCS is comprised of a set of Applications.

- The Nationally Developed Excise Applications (NDEA), which are developed under the responsibility of and operated by Member States. The NDEA must adhere to the EMCS Systems specifications and in particular the TESS and the DDNEA especially regarding the interfaces with the common domain.

- The Centrally Developed Excise Applications (CDEA) providing EMCS services available in the Common Domain. They mainly encompass the crosscutting functions supporting the EMCS. The Central Excise Applications (CEA) are the CDEA which are operated by DG TAXUD. CDEA include SEED, an economic operators' registry, a Test Application (TA), to test the Members States' National

Excise Applications, an application for the collection of statistics on the functioning of the system (CS/MISE) and e-Forms for verifying movements of excise goods under duty suspension (MVS).
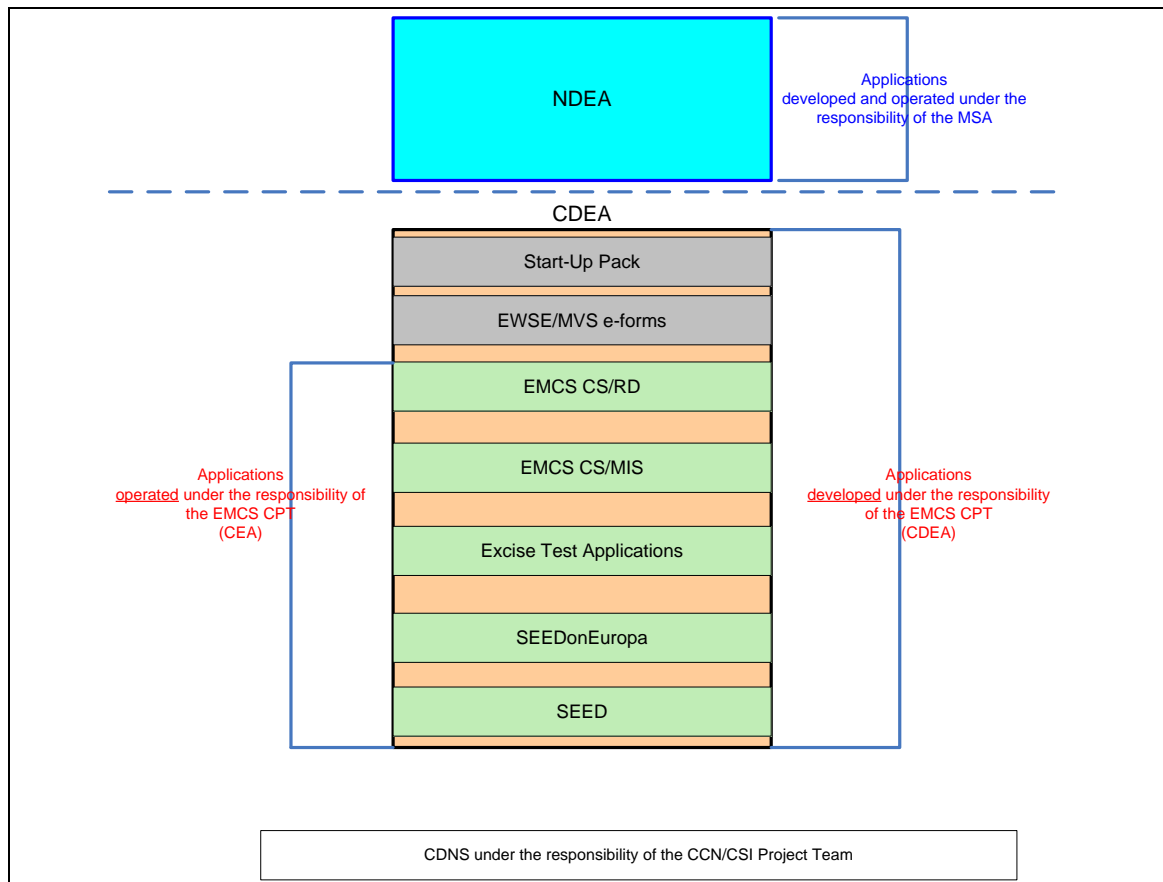
Figure 3: EMCS Applications Cartography

The following sections provide the main characteristics of all the applications in the EMCS system that will have to be taken over.

The complete documentation is provided in the Annex XI - Baseline.

TECHNICAL DESCRIPTION

Each Member State administration has developed a national excise application (NDEA) on the basis of EMCS common specifications. NDEAs exchange information through CCN/CSI.

Below, additional information is provided on the EMCS supporting applications managed centrally by the Commission, the Centrally Developed Excise Applications (CDEA).

2.2.8.2. SYSTEM FOR EXCHANGE OF EXCISE DATA (SEEDv1)

DOCUMENTATION BASELINE

- EMCS\4.SEED

BUSINESS DESCRIPTION

SEED is an obligatory electronic database located in each Member State and containing a register of persons who are authorized warehouse keepers or registered traders for excise duty purposes and a register of facilities approved as tax warehouses.

SEED is a system for Member State administrations to exchange registers of information concerning all economic operators, tax warehouses and temporary authorisations.

FUNCTIONAL DESCRIPTION

The System for Exchange of Excise Data (SEED) provides the following central services:

- Consolidation of the information sent by all countries in a central repository;

- Consultation of the SEED central repository via on-line web interface;

- Extraction of the content of the SEED repository on request;

- Automatic dissemination of the content of the SEED repository whenever the data from any of the Member States has been updated;

- The uploading the lists of all Excise Offices (EOL) in all Member States into the Customs Office List (COL) and consultation of excise offices information;

- Limited access to the SEED information for economic operators, in order to perform simple verification queries.

APPLICATION DESCRIPTION

The SEED platform consists of the central SEED and the national SEED Applications. The central SEED is located in the Common Domain and provides management and dissemination services regarding the registration information of Economic Operators and of EMCS reference data. The national SEED is located in the National Domain and enables the mirroring of the central SEED repository of economic operators and EMCS reference data at the national level.

TECHNICAL DESCRIPTION

SEED is the part of the whole EMCS system platform and consist of set of applications in Common and National Domains.

Its Common Domain, which is under the responsibility of the Commission, is composed of interconnected applications: Central SEED, NCTS CS/RD, DDS, EUROPA, CCN.

Its National Domain, under the responsibility of Member States administrations, is composed of national SEED applications, which serve as reference to NDEA (Nationally Developed Excise Application).

2.2.8.3. TEST APPLICATION (TA)

DOCUMENTATION BASELINE

- EMCS\6. Test Application TA

BUSINESS DESCRIPTION

In order to support testing activities on the NDEAs, and more specifically the Conformance Testing, the Commission developed a Test Application (TA). The TA is a central application, installed at the Commission's Data Centre (DIGIT/DC), which communicates with the NDEAs via CCN/CSI. The TA receives/Sends messages from/to the NDEAs (National Development Excise Applications), in order to simulate real-world scenarios.

FUNCTIONAL DESCRIPTION

The TA can impersonate other Member States, allows for additional custom testing by Member States and allows for viewing/downloading reports of executed Test Scenarios.

APPLICATION DESCRIPTION

N/A

TECHNICAL DESCRIPTION

The figure below depicts the TA architecture:
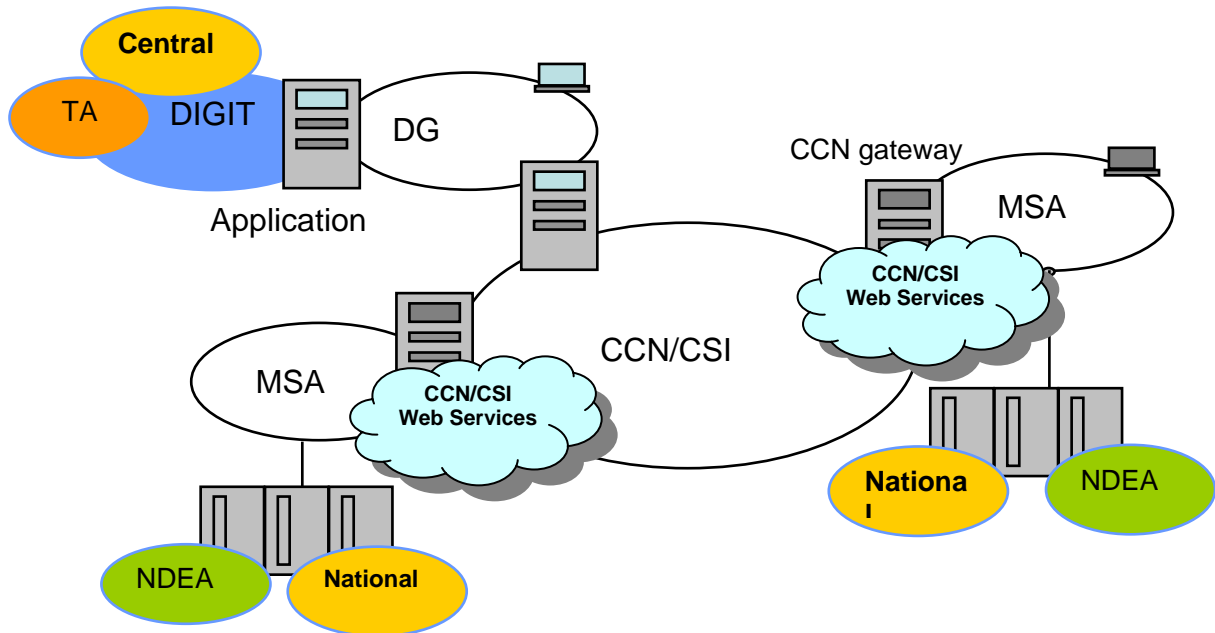
Figure 4: EMCS Test Application architecture

2.2.8.4. CS/MISE

- EMCS\1.CSMISE

BUSINESS DESCRIPTION

CS/MIS for EMCS (CS/MISE) business objective is to provide business statistics on the EMCS system as well as enabling the follow-up of the EMCS movements over the Common Domain.

FUNCTIONAL DESCRIPTION

CS/MIS for EMCS application allows:

- EMCS movements follow-up;
- Business statistics collection;
- Monitoring.
- Notification of unavailability of Member States' systems.

APPLICATION DESCRIPTION

The CS/MIS for EMCS is a central application using the CCN audit file information to achieve its functionality.

TECHNICAL DESCRIPTION

CS/MIS for EMCS is an application centrally hosted at the Data Centre of the ITSM contractor of DG TAXUD. It is a variant of CS/MIS for customs, based on industry standards.

2.2.8.5. MVS E-FORMS

DOCUMENTATION BASELINE

- EMCS\3. MVS e-Forms

BUSINESS DESCRIPTION

The Movement Verification System (MVS) is one of the components of administrative assistance between Member States in the excise field. MVS allows the services responsible for monitoring movements to verify individual movements of goods between two traders. The central liaison office of a MS may request information from the central liaison office of another MS. For the purposes of this exchange of information, a risk analysis, based on the e-AD, the AAD or SAAD information, must be carried out before a request is sent, and if it is considered necessary, after it is received. MVS is a standardised form.

FUNCTIONAL DESCRIPTION

Users of the application are the officials in the Member States competent for administrative cooperation in excise. Currently the MVS is realised under EMCS Phase 0, exchanging information via CCN mail. MVS Functional System Specifications are approved by the Committee on Excise Duty. As of 2012, under EMCS Phase 3, MVS exchanges related to movements under 'duty suspension' have been integrated in the EMCS and will be realised under the administrative cooperation thread as described in the Functional Excise System Specifications.

MVS will continue to support tracking of 'duty paid' movements until Phase 3.1 of EMCS, planned to roll-out between 14 November 2013 and 13 February 2014.

APPLICATION DESCRIPTION

N/A

TECHNICAL DESCRIPTION

MVS consist in the exchange of electronic forms between Member States. The forms are exchanged through the CCN/Mail secure electronic messaging system.

MVS uses the following components:

1. Java based e-forms;

2. E-mail client with CCN/Mail access.

These exchanges of messages are implemented as the sending of e-mails containing XML attachments with the CCN/Mail system.

XML documents are exchanged between the CCN Gateway/ LCMS and the workstation in the form of attachments to email messages.

XML documents are exchanged between the national MVS File Repository and the MS Officials workstations. The FITSDEV3 contractor must note that design of a national repository is out of the scope of the services which are the subject of this tender.

MVS e-forms are developed under the responsibility of the Commission but are operated by Member States.

2.2.8.6. MISCELLANEOUS EMCS APPLICATIONS

The current FITSDEV2 contractor might have developed other minor EMCS applications which are not described in this Terms of Reference.

All EMCS related applications are described in detail in the Annex XI -Baseline. The FITSDEV3 contractor must take-over any miscellaneous application developed by the previous FITSDEV2 contractor.

2.3. EVOLUTION OF TAXATION AND EXCISE TES AND NEW PROJECTS

2.3.1. EVOLUTION OF TAXATION TES AND APPLICATIONS

2.3.1.1. VAT RELATED SYSTEMS

VIES

The future evolution of VIES will focus on the implementation of the changes resulting from the Council Regulation (EU) No 904/2010.

These changes are centred on:

- the enrichment of VIES messages, by adding additional trader-related information (such as NACE[50] activity codes and registration forms)

- the mandatory implementation of the 3rd Member States Request (3MS) messages, allowing Member States to request information from other administrations about transactions of their traders with 3rd Member States.

VIES-ON-THE-WEB

To improve the future experience of the users of the VIES-on-the-Web service, the following improvements of the system are currently underway:

- Improve the availability of the infrastructure: the Commission has improved its fail over arrangement by inter alia increasing its level of automation. It will as well further automate the administration of its infrastructure, minimizing its exposure to human errors. In the medium term (from 2014), the Commission takes steps in order to upgrade the availability of its infrastructure serving IT systems, including the central part of VIES-on-the-Web.

- Strengthen the reliability and robustness of the central application: an improved release 4 of the central part of VIES-on-the-Web will enter in production in early 2012 to increase the availability and responsiveness of the service. Testing procedures (including stress and performance testing) of the application were strengthened. Furthermore from 2014 onwards the window during which application support is available will be extended to cover 7 days per week, 24 hours a day.

- Improve the information for the users: an information portal will be made available to users by early 2012, which will show the real-time operational status of both the Commission part and of the different national components.

- Improve the availability of Member State components: the VIES-on-the-Web service needs the Member States components to function. A Service Level

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[50] http://epp.eurostat.ec.europa.eu/portal/page/portal/nace_rev2/introduction

Agreement (SLA) has been drafted, and according to the Council Regulation (EU) No 904/2010 and pending its approval at SCAC, the performances specified in this SLA will become part of the legal requirements from 2012 onwards.

EXCHANGE OF FORMS

Exchange of Forms work has started for three forms of exchange of information associated with Council Regulation (EU) No 904/2010 and Commission Implementation Regulation (EU) No 79/2012 on administrative cooperation in the field of value added tax. These forms entered into production in January 2008. For the automatic exchanges (Implementation Regulation 79/2012) forms, work is foreseen to start mid-2012 so as to have the eForms finalised by mid-2013.

As soon as the central application for exchange of forms is operational, the VAT, recovery and direct taxation forms will be migrated into it and the current Java forms will be phased-out.

It is not foreseen to migrate the VAT and/or Excise duty exemption certificate in XML as this form must be filled-in by economic operators, and not by tax administrations.

Member States have concerns with the forms in MS-Excel format as this format does not allow to:

- preserve the integrity of the forms;
- fully or partially automate the processing of the forms;
- easily manage translation of the form labels into the EU official languages.

These forms will then be converted to XML as soon as they are considered enough stable.

VAT ON E-SERVICES (VOES)

VoeS was originally envisaged to be a temporary system. Yet, the current e-commerce scheme with provisions regarding broadcasting services and certain electronically supplied services from third countries has been extended indefinitely.

The implementation of the mini One Stop Shop will lead to an extension of the VAT on e-services concept to include B2C EU operators supplying:

- e-Services;
- Radio and television broadcasting;
- Telecommunications.

These traders are currently registered in their Member States of establishment that provided them with a valid VAT number; the VAT obligation would be transferred to the Member State of Consumption.

This mini One Stop Shop (MOSS) will be functionally similar to the current VAT on e-services system (please refer to section 2.2 for more detailed information on the MOSS project).

2.3.1.2. RECOVERY

Work will start in 2013 on the specification of a system allowing Member States to inform each other, without prior request, where a refund of taxes or duties, other than value-added tax, relates to a person established or resident of that Member State.

As regards exchange of forms, as soon as the central application for exchange of forms is operational, the Recovery forms will be migrated into it and the current Java forms will be phased-out.

2.3.1.3. DIRECT TAX

TAXATION ON SAVINGS

Currently the exchanges are based on the FISC153 format, in production since 2008 exchanges. Member States requested that the initial exchanges be implemented over CCN/Mail2. The review of the Directive will lead to an updated FISC153v2 format[51].

The Commission may also propose to the Member States to implement the correction mechanism. The implementation of the correction mechanism will require the use of CCN/CSI instead of CCN/Mail2.

EXCHANGE OF FORMS

As regards the eforms, as soon as the central application for the eforms is ready, the Direct Tax forms will be migrated into it and the current Java forms will be phased-out.

2.3.1.4. OTHER TAX RELATED SYSTEMS

TAXES IN EUROPE DATABASE

The system may be subject to evolutive maintenance, on requests from the business unit. Search facilities may be added in order for the traders to find the relevant information more rapidly.

2.3.1.5. APPLICATIONS COMMON TO VAT, RECOVERY, DIRECT TAX

ELECTRONIC FORMS CENTRAL APPLICATION (EFCA)

In the first quarter of 2012, DG TAXUD completed a Feasibility Study to investigate the possibility of producing an Electronic Forms Central Application (eCFA). During the same period, work started on defining the Functional Specifications of the application.

eFCA is expected to enter in operation in 2014, supporting the exchange of information between Member States for VAT, recovery and direct taxation through a central portal.

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[51] For additional information on the review of the EU Savings Directive please consult:
http://ec.europa.eu/taxation_customs/taxation/personal_tax/savings_tax/second_savings_directive_review/index_en.htm

DG TAXUD and the Member States expect that the eFCA will lead to significant improvements in maintenance and usability of the electronic forms.

2.3.2. EVOLUTION OF EXCISE SYSTEMS

EMCS will evolve as per the Master Plan approved by the Member States at the Committee on Excise Duties.

In 2013, the following activities are planned:

- Maintenance and evolution of EMCS specifications and supporting applications in preparation for Milestone "d" / Phase 3.1 of the project in November 2013;

- Conformance testing to ensure that the NDEAs are compliant with the common EMCS specifications; the Test Application and other centrally developed applications must be ready to support conformance testing one year before the milestone date of a new phase of EMCS;

- Phasing out of MVS e-Forms, currently used for administrative cooperation for duty paid movements;

- Enlargement of EMCS to Croatia (please refer to paragraph 2.3.3 below);

- Production of business process models for the interface between EMCS and export and import control systems. For additional information, please refer to the baseline: EMCS\Fiscalis Project Group on Excise and Customs

- Production of a feasibility study for the inclusion of duty paid movements in EMCS (currently the system covers movements under duty suspension).

It must be noted that the evolution of EMCS depends on legal/policy developments, and resources' availability at the Commission and in the Member States.

In addition, the evolution of the existing EMCS applications follows the overall IT strategy of DG TAXUD.

2.3.3. EU ENLARGEMENT

Interoperability and interconnectivity with EU taxation and excise systems is a requirement for candidate countries.

In the taxation area, assistance will be needed to facilitate the adaptation of the candidate countries' IT systems, to ensure successful interconnectivity with the existing and future DG TAXUD trans-European IT systems at the time of accession to the EU.

2.3.4. NEW PROJECTS

Important note: all projects described under this section are hypothetical as they are not part of a Commission proposal but only working hypothesis discussed in the Anti-Tax Fraud Strategy Project group.

GENERAL REVERSE CHARGE

Both Austria and Germany submitted requests for a derogation under Article 27 of Council Directive 77/388/EEC to apply a generalised reverse charge mechanism. In addition, the UK had also asked for Article 27 derogation, but only in respect of certain goods.

The requests from Austria and Germany attempt to use Article 27 for the purpose of making a fundamental change to the VAT system, and in doing so, eliminating one of its characteristics, which is the fractionated payment. The impetus behind these requests is the emphasis being put on tackling so-called "missing trader" fraud in the context of insufficient capability of Member States to control the businesses engaging in this type of fraud, which results in significant losses for Member States' treasuries. Certain Member States are of the opinion that if a business is not permitted to charge VAT in the first instance, then the incentive to "go missing" disappears.

Hereafter, a description of the system proposed follows:

- Customers receiving supplies under the reverse charge mechanism would have to dispose of a special VAT number, the validity of which would have to be confirmed by the supplier before making a reverse charge supply. This confirmation of validity would be done electronically and on-line. In addition, the suppliers would notify the tax authorities electronically each time that they make a reverse charge supply and declare the value of this supply.

- The supplier would not charge VAT under the reverse charge system, but the purchaser would account for the VAT and deduct according to the normal rules. The customer would further have to declare separately in his return the reverse charge supplies received.

- The tax administration would proceed to cross-check the information received electronically from the supplier with the information declared by the purchaser in order to prevent new fraud opportunities.

THE VAT GREEN PAPER

The Commission published on December 1ˢᵗ, 2010 a green paper proposing a package of measures to simplify the VAT system while making it more robust and efficient.[52] Most of the measure proposed are in relation with the complexity of the legislation and will have no impact on the VAT trans-European systems. However, sections 4 and 5.1 (re) introduce ideas that might have important impact on these systems:

- Implementing arrangements based on **taxation at origin**: the adoption of this principle will make the VIES network useless. On the other hand, in its place, a significant other central system of exchanging invoicing information would be needed to avoid the risk of new types of fraud. In parallel, there would be a very sharp increase in the number of

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[52] This paragraph refers to the Green Paper the Commission published in preparation of its Communication on the Future of VAT of December 2011. For updated information on the state of play of the most recent Commission's proposals, please consult:

http://ec.europa.eu/taxation_customs/taxation/vat/future_vat/index_en.htm

VAT Refund applications. The need for harmonisation of taxation rules would be very high, as would be the need for confidence in the effectiveness of other MS to collect the taxes due. On the positive side, it could greatly reduce administrative burdens and improve the functioning of the Internal Market.

- The Council has ruled out this concept several times in the past and legislation recently adopted moved away from this principle. The probability to have it implemented in the medium-term is therefore quite low;

- Introduction of a one-stop-shop mechanism. Several proposals in the Green Paper would work efficiently only if a one-stop-shop mechanism is put in place. Those proposals are implementing changes to current arrangements based on taxation at destination and the scope of the related one-stop-shop could be extended gradually.

It is the case for:

- Taxation of intra-EU supplies of goods and services: this implies that the reverse charge mechanism currently in place for the intra-EU supplies is replaced by taxation in the Member States of establishment of the supplier. The VAT would be paid in the Member State where the purchaser is established but to the Member State of destination. The adoption of this principle will also make VIES useless in its current form, though MS at the supplier side will need a system to validate that payments were correctly made and MS at the consumer side need to be able to confirm that the right to deduct claimed by their consuming taxable persons were indeed covered by payments from the supplier.

- Simplification, improved compliance and increase of cross-border trade: some B2C transactions are subject to VAT in a Member State other than that in which the supplier is established, which represents an obstacle for some businesses given who need to known the rules of all the other Member States. The implementation of a one-stop-shop mechanism can partly provide a solution for these businesses.

- Reviewing the way VAT is collected. The paper proposes 4 models to review the way VAT is collected; each of these models or a combination of them is presented as a feasible way forward - and each model would have a significant impact on the current VIES system, mostly extending the scope of information to be exchanged and to whom the information must be made available.

FISCO

DG TAXUD is conducting, following consultation of Member States and of the OECD, a Feasibility Study on '*A Simplified Relief at Source System Implementing the Principles of the FISCO Recommendation*'. This study is analysing a possible future EU-wide FISCO system, aimed at improving and simplifying procedures for tax relief cross-border investors. A project group has been established for the FISCO project. The final report will be available in the fourth quarter of 2012.

It is worth noting that the OECD is working on a very similar system, called TRACE (Treaty Relief and Compliance Enhancement). The Trace IT Expert Group is a joint government/business group of IT experts created to address the technology issues relevant to ensuring that the information reporting and automatic exchange of information processes on the TRACE project can function effectively. During 2011, the TRACE IT Expert Group has conducted tests, identifying problems and developing solutions. A final report to the OECD will be produced by the end of 2012.

Given the far-reaching similarities, a single consolidated approach for both potential systems is envisaged.

FINANCIAL TRANSACTION TAX (FTT)[53]

The FTT is currently under discussion in the Council. It is too early to evaluate now the impact in terms of IT of the entry into force of such a tax. It is however not excluded that a trans-European system will have to be put in place to support possible exchanges between Member States.

US FOREIGN ACCOUNT TAX COMPLIANCE ACT (FATCA)

It is too early at this stage to determine how the recent evolution in FATCA could affect the existing TES in the field of taxation.

2.4. OPERATIONAL INFORMATION

The following gives some information about systems' operations.

2.4.1. TAXATION SYSTEMS

The following sections give statistical information about the number and size of messages exchanged by the different systems.

It must be borne in mind that, regarding all systems using CCN/Mail2, no statistics on volume exchanged are available before 2006. Indeed, in May 2005, the former CCN/Mail system was replaced by CCN/Mail2. The original CCN/Mail system did not maintain statistical information on the size of the messages exchanged.

2.4.1.1. VAT RELATED SYSTEMS

VIES

Important note: VIES (including VIES-on-the-Web) is one of the Commission's flagship information systems in terms of operations allowing Member States to exchange more than 500 million messages in 2011, a number which is expected to exceed 1 billion by 2015.

The next table provides statistics about VIES exchanges between 2008 and Q1 2012. The purpose of each message has been described in section 2.2.2.1.

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[53] Proposal for a Council Directive on a common system of financial transaction tax and amending Directive 2008/7/EC

VIES Messages	2008	2009	2010	2011	Q1 2012
Registry Requests	86,064,885	111,502,615	166,135,473	207,541,402	*69,227,561*
R_VATR	83,296,165	105,277,687	163,243,330	204,005,275	*65,742,038*
R_VATR_MATCH			16,773	29,850	*2,510,745*
R_HVATR	2,768,718	6,224,928	2,875,370	3,506,277	*974,778*
Turnover Requests	49,909,128	43,587,987	48,559,504	57,137,962	*18,760,522*
R_L1F1	35,979	42,112	47,112	57,360	*18,368*
R_L1C	46,726	64,489	78,645	86,758	*19,578*
R_L1CM	10,934	16,884	14,500	14,221	*3,208*
R_L1F2	23,992,598	17,609,590	20,442,728	23,378,413	*8,412,234*
R_L2F1	583,857	379,708	406,865	555,400	*147,863*
R_L1F2_3MS			21,263	35,403	*9,893*
R_L2F2	25,239,034	25,475,204	27,548,391	33,010,407	*10,149,378*
Registry Replies	77,783,746	103,243,302	150,806,362	178,848,443	*60,242,834*
D_VATR	75,094,704	97,066,229	147,987,981	175,547,695	*57,626,350*
D_VATD_MATCH	0	0	46	3	*1,715,970*
D_HVATR	2,689,042	6,177,073	2,818,335	3,300,745	*900,514*
Turnover Replies	6,848,860	6,869,329	7,140,749	11,410,803	*4,368,526*
F_L1F1	7,989	7,917	11,267	13,431	*3,364*
F_L1C	13,757	14,342	29,705	19,520	*3,915*
F_L1CM	16,167	20,412	13,439	14,501	*2,867*
D_L1F2	1,072,847	1,002,321	1,240,844	2,000,518	*925,052*
D_L2F1	146,580	149,619	153,914	216,203	*68,227*
D_L2F1_3MS			21,524	35,420	*9,905*
D_L2F2	5,591,520	5,674,718	5,670,056	9,111,210	*3,355,196*
F_L1QD	2,994	2,992	9,002	8,575	*2,145*
F_L1CS			3,625	8,347	*2,020*
O_MCTL	33,349	29,201	44,662	522,190	*10,089*
MS Warning	50,508,443	44,720,591	55,202,407	71,577,411	*20,658,835*
Total number of VIES messages	271,151,403	309,956,017	427,901,784	527,055,133	*173,272,532*

Table 6: VIES operation

VIES-ON-THE-WEB

The WSDL file of the API is available at
http://ec.europa.eu/taxation_customs/vies/checkVatService.wsdl.

The traffic between 2008 and Q1 2012 is given in the next table.

	2008	2009	2010	2011	Q1 2012
Total VIES/Web Validations	**76,462,537**	**85,301,805**	**129,677,456**	**156,777,174**	*50,453,859*
Interactive requests	41,530,685	41,054,233	63,955,720	75,389,345	*21,103,960*
Web service requests	34,931,852	44,247,572	65,721,736	81,387,829	*29,349,899*

Table 7: VIES-on-the-Web operation

VAT EXCHANGE OF FORMS

The next tables indicate the traffic related to the SCAC forms and the recovery forms between 2008 and Q1 2012:

	2008	2009	2010	2011	Q1 2012
CCN/Mail2 exchanges					
SCAC Forms (exc. VoeS)	94,395	75,132	70,064	166,333	*60,336*
Direct Taxation Forms (exc ToS)	2,598	8,114	10,474	20,174	6,725
Recovery Forms	39,059	51,279	50,951	71,824	*19,809*

Table 8: Exchange of forms operation

VAT ON E-SERVICES

The addresses of the national Web sites are provided under http://ec.europa.eu/taxation_customs/taxation/vat/how_vat_works/e-services/article_1610_en.htm#19information.

The traffic between 2008 and Q1 2012 is given in the next table.

	2008	2009	2010	2011	Q1 2012
VAT on e-Services					
Number of messages	2,580	2,983	3,478	3,401	799

Table 9: VAT on e-Services operation

2.4.1.2. DIRECT TAXATION

TAXATION ON SAVINGS

The application was put into production in 2006. The traffic between 2008 and Q1 2012 is given in the next table.

	2008	2009	2010	2011	Q1 2012
Taxation on Savings					
Number of messages	2,354	2,372	2,146	2,582	112

Table 10: Taxation on Savings operation

2.4.1.3. TAXATION TES AND APPLICATIONS: SERVICE CALLS

As a further indicator of operational activity, the following table shows the ventilation of calls of the second and third level support that were open between March 2007 and May 2012. The ventilation is shown per priority, severity and category.

CI	# Issues
VIES Test Application	522
VAT Refund	369
VIES on-the-web	242
VIES	187
GTT VAT Refund	172
TEDBv2	171
No component	116
VIES Statistics System	83
Direct Tax Form	75
Recovery Form	59
SCAC e-Forms	54
SSTP	48
VIES Initial Application	42
VIES Monitoring	36
CT Test Tool - VIES	36
CT Test Tool - Reporting	34
GTT	33
CT Test Tool - VAT Refund	32
e-Forms	30
VIES on-the-web Monitoring	25
Taxes in Europe Database	18
VIES on-the-web Configuration Management	14
VIES VAT Algo	12
TIN on-the-Web	12
VIIES HTTP2CSIAdatper	9
VAT Refund Modules	6
VAT on e-Services	6
Taxation of Savings	5
General	3
Mini One Stop Shop	2
GTT EOF	2
Direct Tax Java e-Form Prototype	2
e-Form Viewer	1
Total*	**2458**

Table 11: Taxation Service Calls metrics - Calls per CI

Priority	# Issues
Minor	2296
Medium	1
Major	78
Trivial	28
Critical	5
Blocker	5
Total	**2413**

Table 12: Taxation Service Calls metrics - Calls per Priority

Category	# Issues
Blocking issues	5
Non blocking issues	2408
Total	**2413**

Table 13: Taxation Service Calls metrics - Calls per Category

2.4.2. EXCISE TES AND APPLICATIONS

The following sections give statistical information about the number of messages exchanged by the different EMCS supporting applications.

2.4.2.1. EMCS SUPPORTING APPLICATIONS

SEED OPERATIONAL STATUS

SEED has at least one new service pack every 6 months and one maintenance release a year; both developed by development contractor.

Table below represents different SEED releases in 2011:

SEED release	Delivery date
SEED v1.6.0	05/2011
SEED v1.6.1	07/2011
SEED v1.6.2	09/2011

Table 11: SEED deliveries

SEED-ON-EUROPA WEB PAGE HITS STATISTICS

The table below provides the number of hits on the SEED-on-Europa web page for the period from November 2011 to April 2012:

Month	Number of hits
2011-11	533651
2011-12	606610
2012-01	732427
2012-02	568117
2012-03	614544
2012-04	616188

Table 12: SEED-on-Europa web page hits

Test Application (TA) for EMCS is developed by the development contractor. In general at least one new service pack of TA delivered every 6 months. The table below represents TA releases for 2011:

TA release	Delivery date
TA v2.1.0	02/2011
TA v2.2.0	06/2011
TA v2.2.1	07/2011
TA v2.3.0	10/2011
TA v2.3.1	11/2011

Table 16: TA deliveries

To support Member States during the period of EMCS Conformance testing a dedicated Rapid release plan for TA is maintained. On average two releases per month are planned during the Conformance testing period. The table below represents Rapid release plan for TA in 2011:

TA Rapid Releases	Delivery date
TA Release #1	23/09/2011
TA Release #2	11/10/2011
TA Release #3	25/10/2011
TA Release #4	08/11/2011
TA Release #5	21/11/2011
TA Release #6	05/12/2011

Table 13: TA rapid releases

CS/MISE

CS/MISE has at least one new service pack every 6 months and one maintenance release a year; both developed by development contractor. The table below represents releases for CS/MISE in 2011:

CS/MISE release	Delivery date
CS/MISE v1.0.3	01/2011
CS/MISE v2.0.0	06/2011
CS/MISE v2.1.0	11/2011

Table 14: CS/MISE releases

MVS E-FORMS

Figure below represents the MVS Statistics for all Member States for the period 2009-2011:
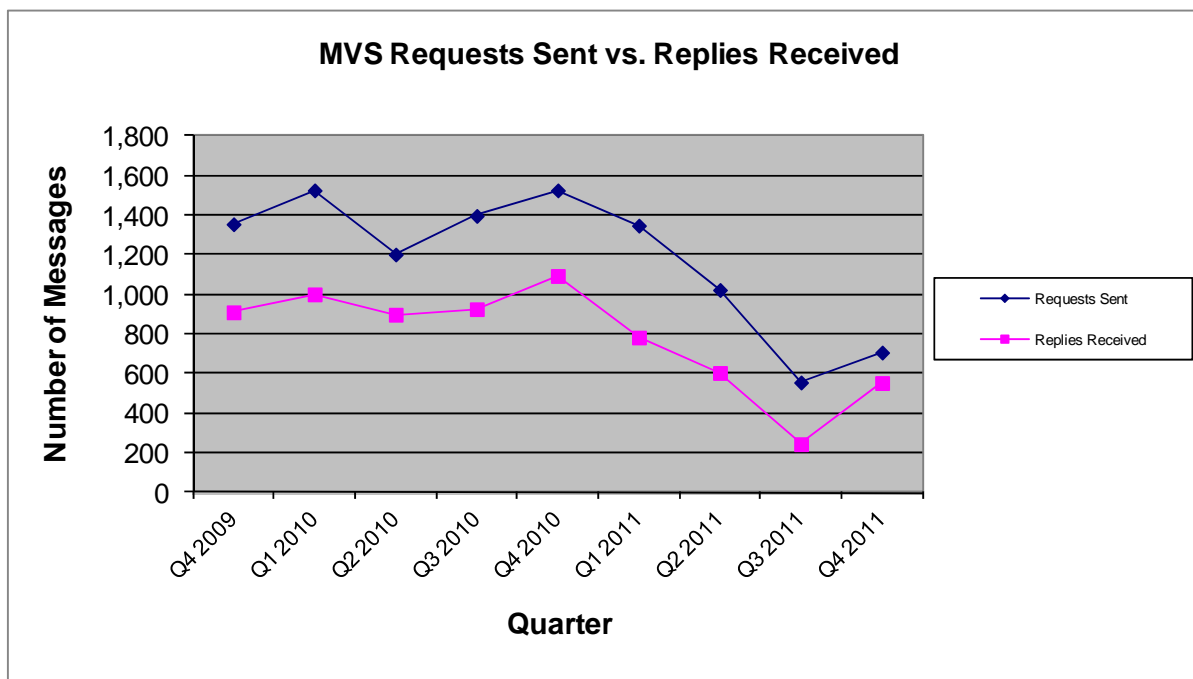
Figure 5: MVS Requests sent vs. replies received

Currently there are no maintenance releases foreseen for MVS e-forms as they will be phased out in 2013.

2.4.2.2. EXCISE TES AND APPLICATIONS: SERVICE CALLS

EMCS Service Calls per month (for all Member States) covering EMCS and EMCS related systems (SEED, TA, CS/MISE and the MVS e-forms) are presented in the figure below:
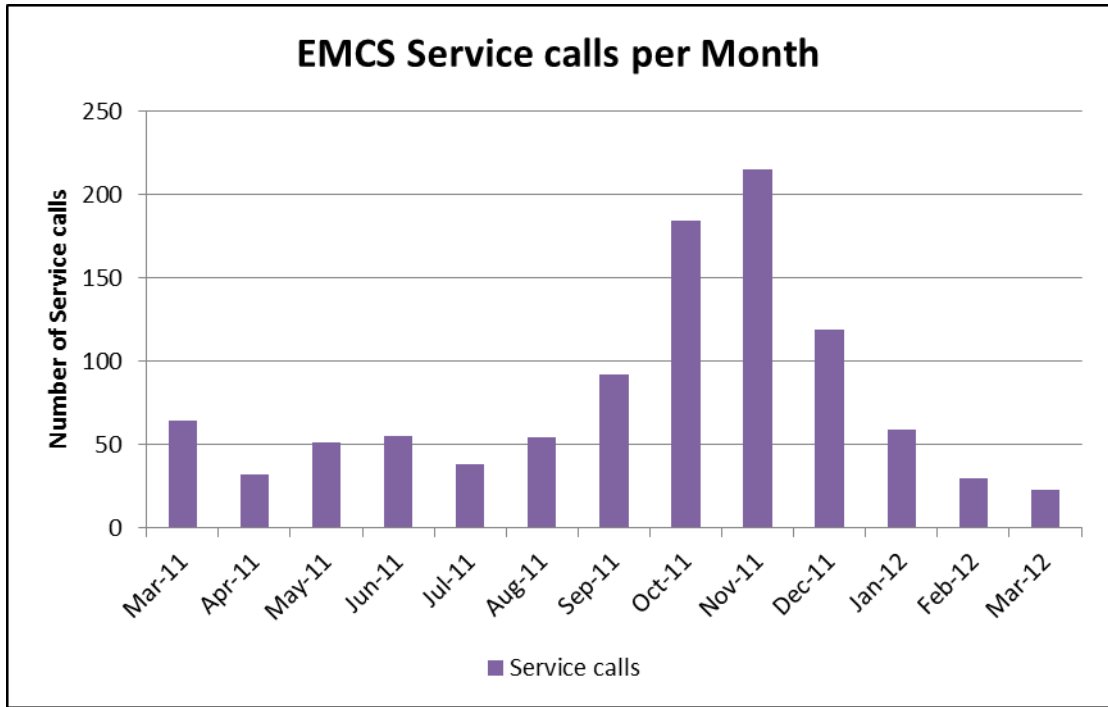
Figure 6: EMCS Service calls per Month

It is interesting to note on the figure above the correlation between the Service calls and the EMCS milestones (Milestone Mc on 1 January 2012). There is a high increase of Service calls during the Conformance Testing period prior to entering into production at Milestone Mc.

The table below shows the ventilation of calls of the second and third level support that were open between March 2011 and March 2012. The ventilation is shown per priority, category and issuer. 90% of the Service Calls originate from the Member States and about 65% are handled by the Specifications Team.

The Service Desk is currently operated by the ITSM contractor.

Ventilation of the Service calls open between 01/03/2011 - 29/03/2012	
Call per Priority	
Minor (Low & Medium)	473
Major (High)	543
Call per Category	
Specifications Team	659
TA Development Team	189
SEED Development Team	134
CS/MISE Development Team	32
EMCS Converter	2
Call per Issuer	
Member States	921
ITSM	88
DG TAXUD	5
CCN/TC	2
Total	**1016**

Table 19: EMCS Service calls metrics

2.4.3. EVOLUTION OF OPERATION BY THE HORIZON 2020

2.4.3.1. TAXATION TES AND APPLICATIONS

The following figures show the foreseen evolution of the traffic until 2020 for all taxation systems, i.e. CSI and CCN/Mail2 traffic included. The estimation of number and volume of messages for the whole EU is based on the available data today.
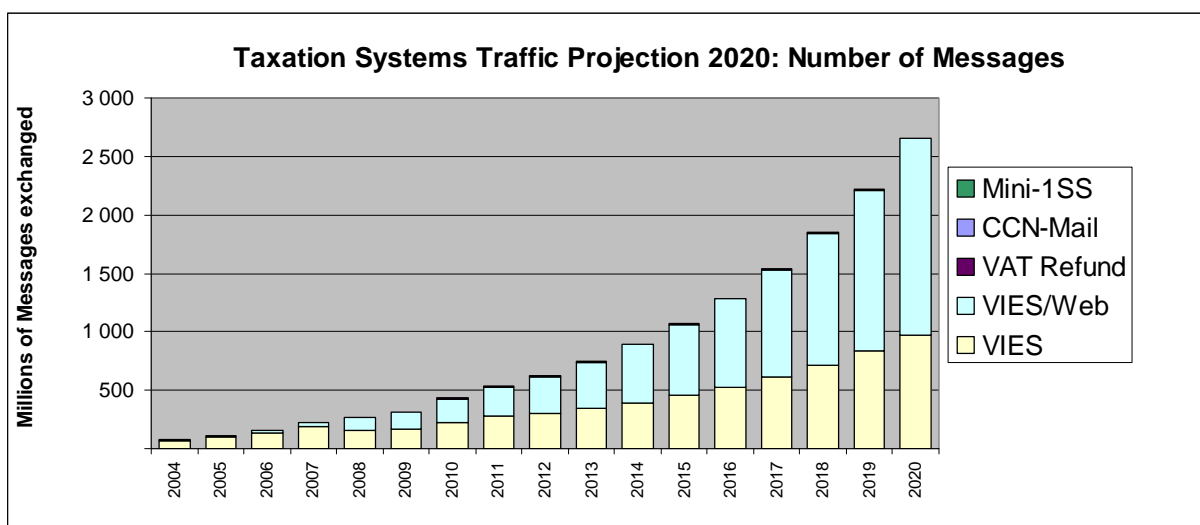
Figure 7: Taxation Traffic evolution horizon 2020 – Number of Messages – Mini-1SS refers to the VAT Mini One Stop Shop
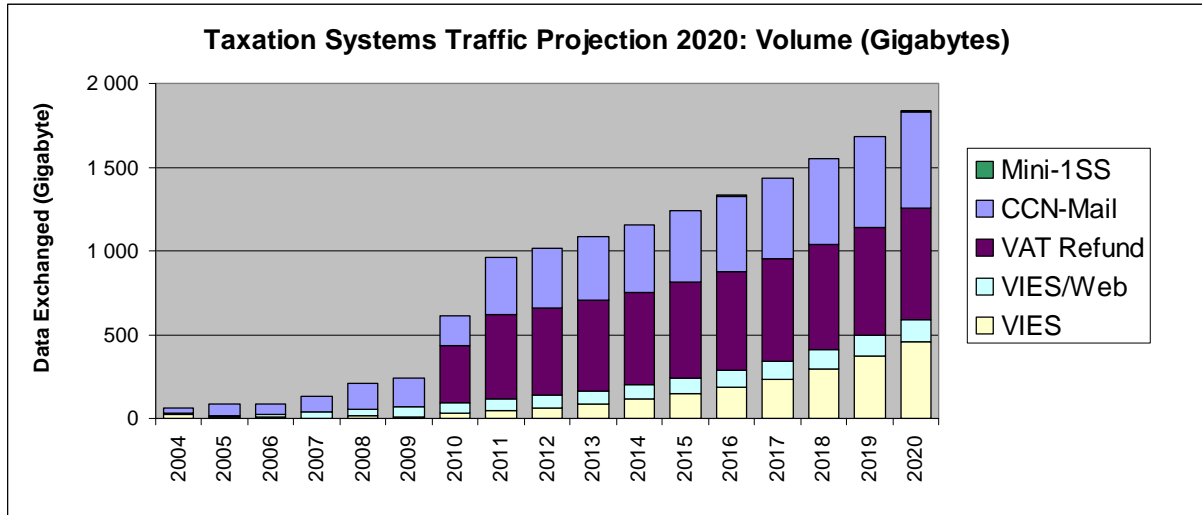
Figure 8: Taxation Traffic evolution horizon 2020 – Volume in Gigabytes

2.4.3.2. EXCISE TES AND APPLICATIONS

The following figures show the foreseen evolution of the traffic by the horizon 2020 for the EMCS system. The estimation of number and volume of messages for the whole EU is based on the only available data today.
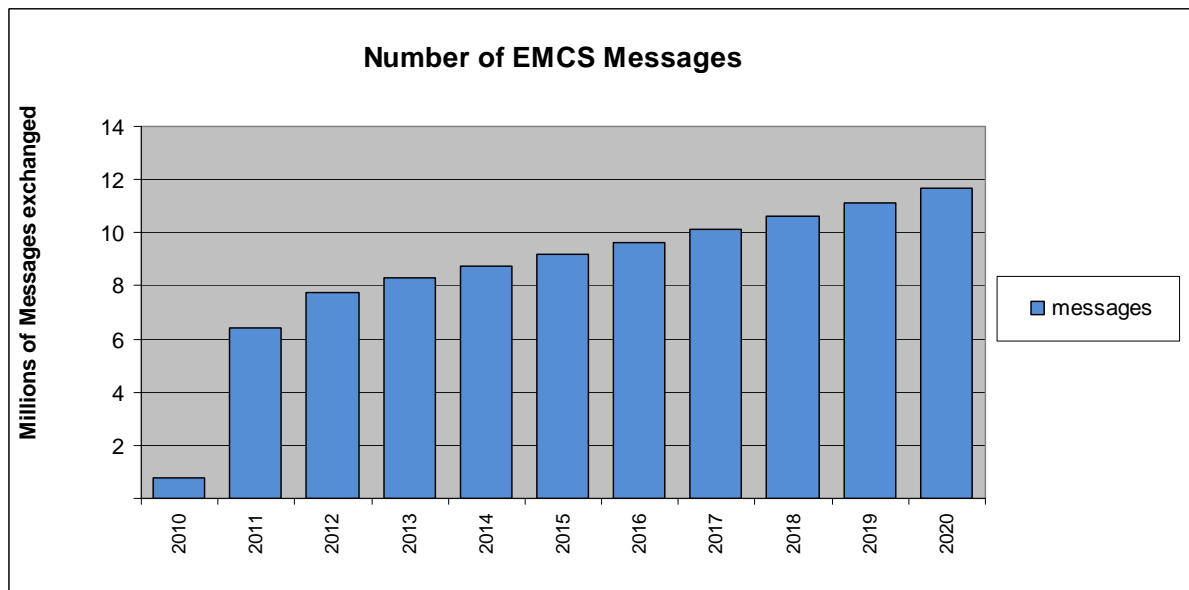
Figure 9: EMCS traffic evolution by 2020 – Number of messages

Traffic Projection 2020: Volume (Gigabytes)
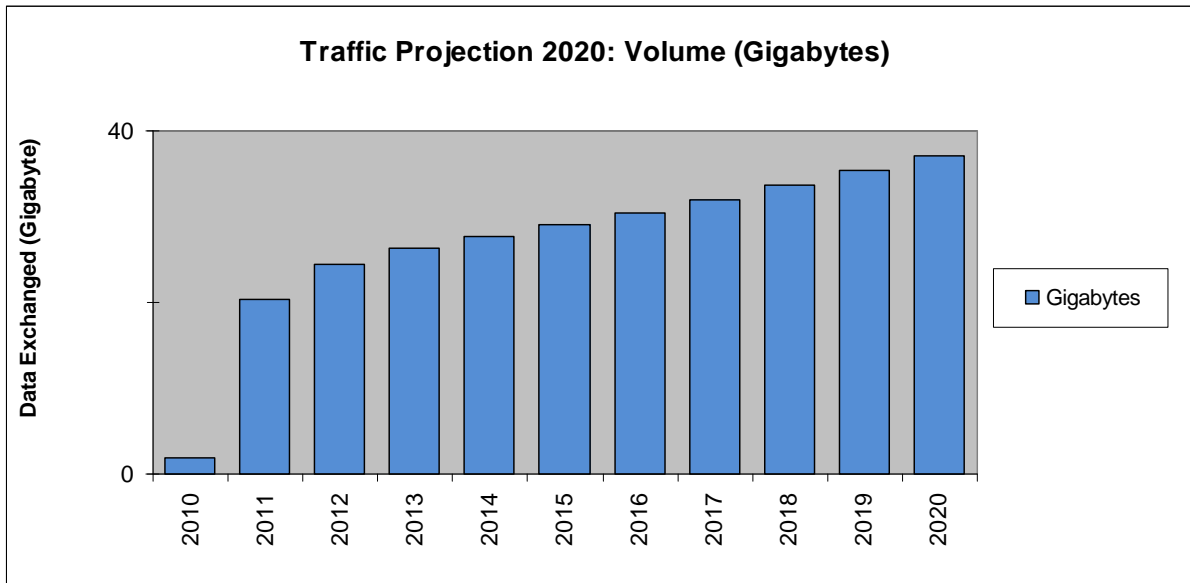
Figure 10: EMCS traffic evolution by 2020 – Volume in Gigabytes

3. ORGANISATION AND CONTRACTUAL ASPECTS

3.1. GOVERNANCE

The management of trans-European IT projects involves different levels of governance, involving the Commission and the Member States.

- DG TAXUD is **assisted by committees** such as the Fiscalis 2013 committee, or the Standing Committee on Administrative Cooperation. These committees are often supported by a sub-committee dedicated to IT matters. Each IT sub-committee meets several times a year under DG TAXUD's chairmanship with the participation of heads of IT from Member States.[54]

- **Technical Experts' groups** with the Member States to deal with technical matters related to project which meet with a frequency from monthly to quarterly according to the pace of development. TES and IT services from the Commission are overseen by such a working group.[55]

- DG TAXUD also needs to ensure business IT alignment. This is why DG TAXUD applies internally strong IT governance. All the IT systems are managed under the supervision of an **IT Steering Committee (ITSC)**, chaired by the Director General and composed of the board of Directors and the head of the financial and human resources unit. The IT Steering Committee meets regularly (quarterly on average) and takes decisions on IT work plans, priorities and resource allocation upon proposal from the IT units.

3.2. IT ORGANISATION IN DG TAXUD

The **Information Technology Units** of DG TAXUD (*Taxation Systems and IT Compliance – R4* and *Customs Systems and IT Operations – R5*) are responsible for administering the computerisation activities of DG TAXUD in line with the policies of the DG. This includes the provision of business-critical operational services and central information systems necessary for the support of Member States and Commission services.

The **mission** of the Information Technology Units is to:

- Develop and operate secure Information Systems and IT services appropriate to beneficiaries in DG TAXUD, Commission services and Member States' administrations;

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[54] The Fiscalis Committee was established by Decision No 1482/2007/EC of the European Parliament and of the Council of 11 December 2007 establishing a Community programme to improve the operation of taxation systems in the internal market (Fiscalis 2013) and repealing Decision No 2235/2002/EC.

For more information on the committees assisting the Commission and DG TAXUD in particular in implementing EU policy, please consult:
http://ec.europa.eu/transparency/regcomitology/index.cfm

[55] The registry of the expert groups consulted by the Commission is available at:
http://ec.europa.eu/transparency/regexpert/index.cfm

- Maintain and develop a coherent Information Systems Architecture consistent with the Commission standards policy, allowing interoperability of administrations in the EU and partner countries for the benefit of the customs and tax policies;

- Provide and support efficient office automation facilities for the staff of DG TAXUD.

The IT organisation today in DG TAXUD is graphically depicted in the figure below:

R4 Taxation Systems and IT compliance   **R5 Customs Systems and IT operations**

PS - Resources and governance	TAXATION TES	ISD – Infrastructure & Services Delivery	EAS-Enterprise IT Architecture & Strategy
• Governance • Budget, Contracts and HR • Contract Management (QA2, TIMEA, CUSTDEV2, FITS-DEV2, ITSM2 lot2) • TEMPO • Quality Assurance • Inventory • Meetings and Trainings	• VAT Systems (VIES, VoW, VAT eForms, VAT refund, MOSS, VoeS) • Recovery Systems (Recovery eForms) • Direct Taxation Systems (Taxation on savings, Mutual assistance)	• Office Automation • Infrastructure and BCP • Tools and Processes • Contract management (ITSM, CCN/TC, CCN/WAN, ITSM2 Lot1, ITSM2 Lot3)	• Customs IT architecture and strategic plans • BPM modelling tool assistance and maintenance • CCN architecture and development • Business to IT alignment • Preparation for unit's participation in governance bodies
LISO- Info Security Local Information Security Officer • IT Security Management • Risk Management	**EXCISE TES** • EMCS - Excise Movement and Control Systems (SEED, SEED-on-Europa, MVS e-forms, EWSE e-forms, TA, CS/MISE) • TES Architecture • TES Governance • Collaborative development		**CIS - Customs IT Systems** • Development lifecycle of all customs IT systems (TARIC,NCTS,ECS,EBTI) • Planning for systems development and deployment and maintenance • Supervision of operational functioning • Application development framework
HORIZONTAL	POLICY Oriented	HORIZONTAL	POLICY Oriented

Figure 11: IT organisation in DG TAXUD

Unit R4 is at present divided into four sectors:

- **Resources and governance sector (R4/PS)** is a "horizontal" sector involved with governance, budget, contracts and project management, human resources and support to other sectors of DG TAXUD IT Units from Quality Assurance and Quality Control point of view; **R4/PS will be in charge of the management of the relationship between TAXUD and the FITSDEV3 contractor**.

- **Excise Trans-European Systems sector (R4/EMCS)**: defines, maintains and evolves, in close cooperation with the Member States and on the basis of the EU legislation in place, the IT systems related to the monitoring of movements of excise goods under suspension of excise duty within the EU. These systems are designed to simplify the administrative procedures for the traders involved in intra-EU movements of excise goods, while securing the fiscal revenue of the Member States. The sector also coordinates with the Member States to ensure the constant level of

quality and correct functioning of these trans-European systems while in their operational phase. The sector is also in charge of the set-up of TES architecture and governance in collaboration with the MS and to explore the potential of Collaborative Development between the MS;

- **Taxation Trans-European Systems sector (R4/TAX)**: defines and creates EU wide IT systems aiming at supporting the fight against fraud or simplifying the VAT compliance obligations, in close cooperation with the Member States. In the field of VAT the two main systems are VIES and VAT Refund. Part of the functionality of VIES is also used by the general public via the VIES-on-the-Web application. The sector has also developed standardised eforms to smoothen and fasten the administrative cooperation in the field of VAT, Recovery of Claims and mutual assistance for Direct Taxation. The sector has developed and maintains the Taxation on Savings system and the Taxes in Europe database;

- **Local Informatics Security Officer (LISO):** defines the DG TAXUD-specific Information Security Policy, oversees the development of security plans approved by DG TAXUD and monitors their implementation, develops information security awareness and training programmes, maintains an inventory of information systems, with a description of security needs, advises and reports on information systems security matters.

Unit R5 is at present divided into three sectors:

- **Infrastructure & Service Delivery (R5/ISD)**: The sector is responsible for :
  o Providing office automation services (supply the office automation equipment, user support, helpdesk, management of IT logistics including acquisition, move and decommissioning);
  o Managing the infrastructure used by the Information Systems in support of the Customs and Tax policies, the DG TAXUD specific administrative processes;
  o Assuring continuity of operation of the IT function in case of disaster;
  o Operating the infrastructure allowing interoperability of administrations in the EU and partner countries for the benefit of the Customs and Tax policies (CCN contracts);
  o Managing the IT Operations (ITSM contract);
  o Designing and implementing the IT operation processes in DG TAXUD and all its suppliers.

- **Customs IT systems (R5/CIS)**: The sector is responsible for :
  o The system development lifecycle of all Customs IT systems;
  o The maintenance of the operational planning for systems development and deployment;
  o The co-ordination of the implementation and maintenance of all Customs IT systems in EU in collaboration with internal and external stakeholders;
  o The supervision of their operational functioning and the production of related statistics, dashboards etc.
  o The system development lifecycle methodology for all Customs IT systems;
  o The application development framework of all Customs applications;
  o The maintenance of a repository of all artefacts of Customs IT systems.

- **Enterprise IT architecture and Strategy (R5/EAS)**: The sector is responsible for :
  - The overall Customs IT architecture and IT strategic plan;
  - Providing assistance to Customs business units for the correct use of the modelling tool ARIS;
  - Maintaining in ARIS, in close cooperation with the Customs units and CIS, a coherent view of the enterprise architecture, including its business data, business processes, business rules and technical IT plan;
  - Providing advice to Customs policy units for the optimal use of IT in reaching their policy objectives; to assure this duty the section must represent the unit in coordination groups created either internally or with the participation with MS in view of policy coordination and development;
  - The technical studies, architecture and development of the CCN platform;
  - The overall coherence of IT architecture of DG TAXUD, which is operationally implemented by the sections ISD and CIS;
  - Assuring the secretariat of DG TAXUD's architecture board and through this body promoting business to IT alignment;
  - Preparing the unit's participation in governance bodies, such as the ECG IT and legal, the IT steering committee, the High level group for the MCC etc.

Some changes in this organisation may occur during the course of the FITSDEV3 framework contract.

3.3. EXTERNAL CONTRACTORS

The existing structure of DG TAXUD contracts[56] is depicted in the diagram below. Development services are currently delivered by the CCN/TC, CUST-DEV2, FITSDEV2 and ITSM contracts. ITSM is restricted to support "Service Management related tools" and facilities necessary for the IT service management and related activities.

Operations rely currently on ITSM, CCN/TC, CCN/WAN2 contracts, the data centre (DC) Building Facilities and the data centre service of DIGIT. At the time of the take-over it is expected that operations will rely on the ITSM2 and CCN/WAN2 contractors.

DG TAXUD has adopted ITIL as the reference framework to set up the processes supporting its unified IT service management. ITIL is also used to organise processes distribution and interoperability amongst DG TAXUD supplier base.

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[56] With the exception of DIGIT as there is no contract between DG TAXUD and DIGIT.
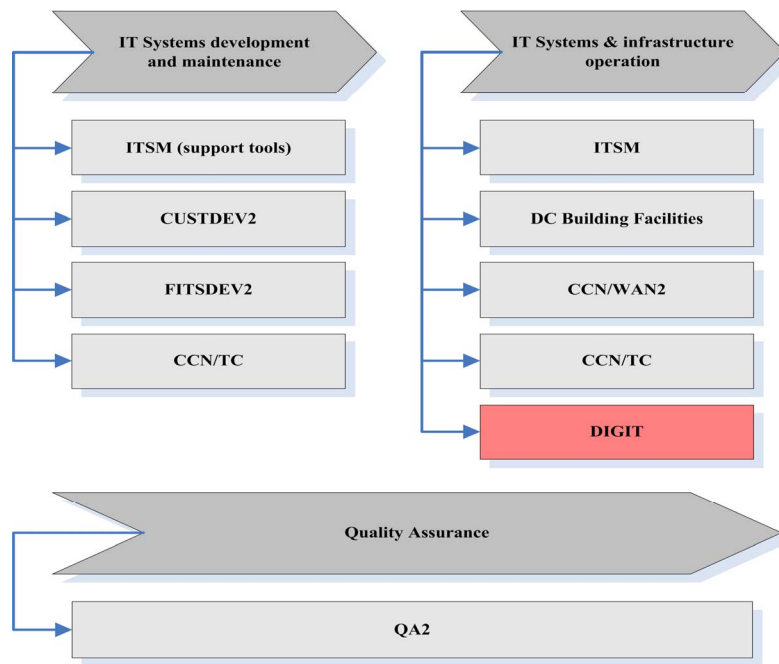
Figure 12: DG TAXUD's Current Contracts

The ITSM contractor is the current provider of IT Service Management on behalf of DG TAXUD for the customs, taxation and excise business threads. The CCN/CSI service is excluded at present. The contract includes development and maintenance of its own "Service Management related tools" used.

CUSTDEV2 is a development and maintenance contract. It consolidates all customs related development. The CUSTDEV2 contractor provides specification, development, maintenance and support services for all customs IT systems.

The FITSDEV2 contractor provides specification, development and maintenance services for the taxation and excise systems and applications as it is currently in operation.

The **CCN/TC** contractor provides CCN/CSI service management including its service desk for the National Administrations and various contractors of DG TAXUD, service delivery and support, ICT Infrastructure management, operations management, security management as well as its application development.

DC Building Facilities is the contract that provides the location for the two Tier IV level Data Centres in Luxembourg that will be used by DG TAXUD. All infrastructure hosted by ITSM and CCN/TC will be regrouped in these Data Centres and will be operated by the ITSM2 contractors.

The **CCN/WAN2** contractor provides the private secured IP network services of CCN including their maintenance.

DIGIT is the IT General Directorate of the Commission. DIGIT has responsibility for the Commission's Data Centre (DIGIT/DC) which hosts part of the DG TAXUD IT systems.

QA2 contractor is responsible for TEMPO maintenance, quality assurance and quality control of the IT services and deliverables provided by the others IT contractors of DG TAXUD. This included services supplied by the current FITSDEV2 contractor.

The target organisation represents the current vision of DG TAXUD, without prejudice to further evolution as the need may arise.
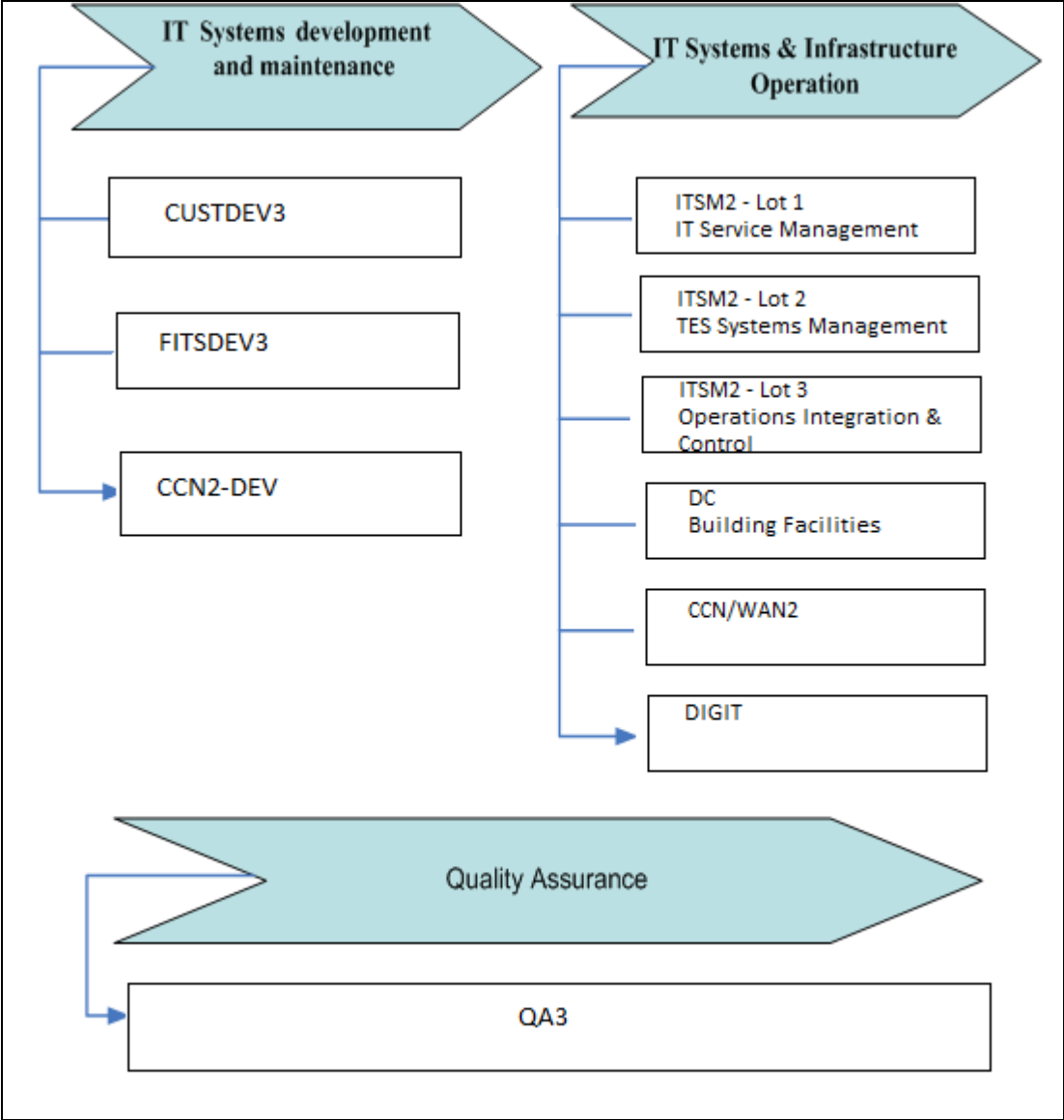
Figure 13: Support Contracts' Target Situation at DG TAXUD

The new ITSM2 – Lot 1 Framework Contract will integrate IT systems and infrastructure operation, merging CCN/TC operations and ITSM operations. The CCN2-DEV framework contract must provide essentially 3rd level support, maintenance services and development services for the existing CCN/CSI and future CCN2 Platform Infrastructure. The currents CUSTDEV2 and QA2 contractors will be replaced by the CUSTDEV3 and QA3 contracts.

3.4. ORGANISATION IN FITSDEV3 CONTRACT

An overview of the existing service organisation and the involved entities is summarised in Figure below:
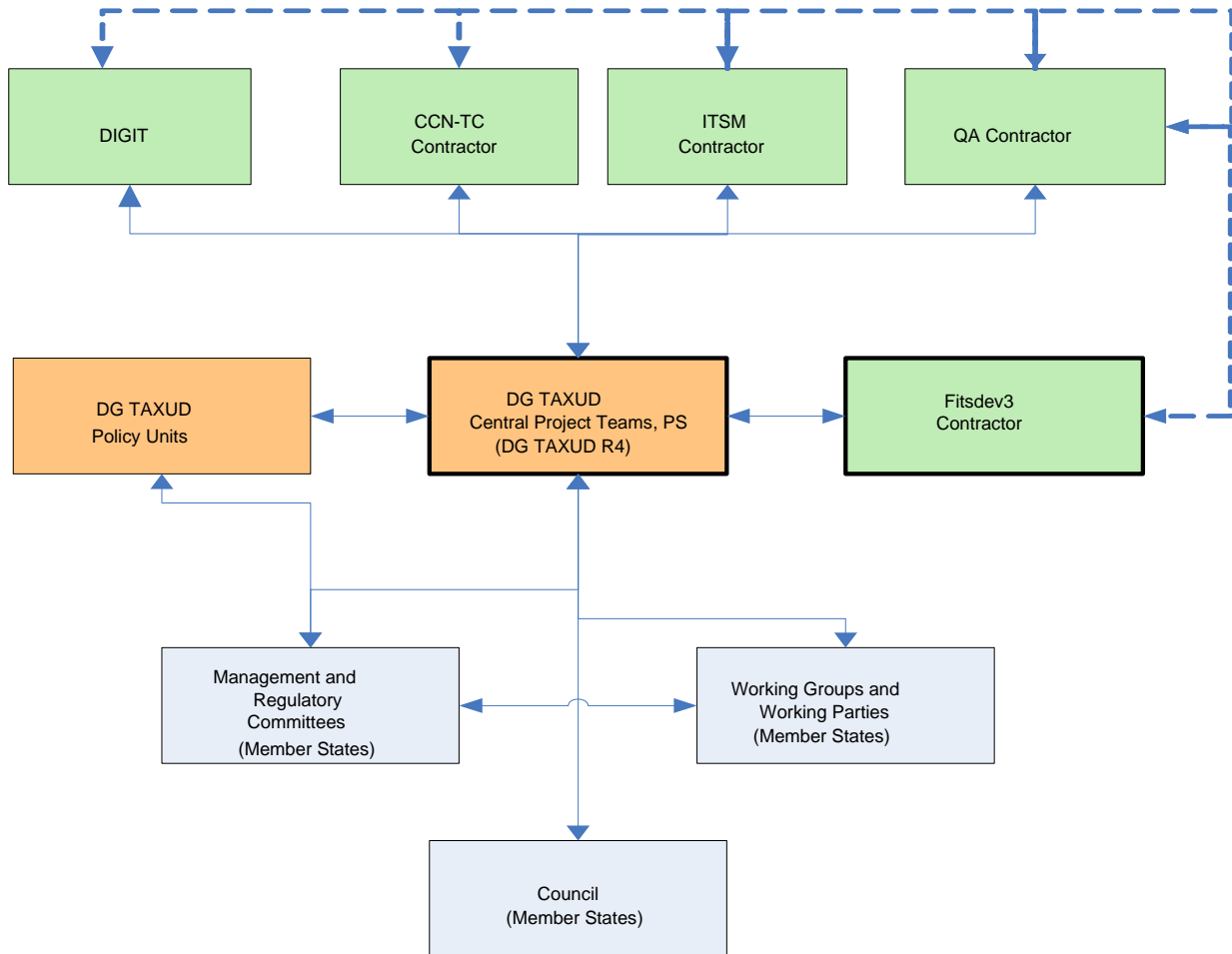
Figure 14: Service Organisation – involved entities

3.4.1. CENTRAL PROJECT TEAMS (CPT) AND PROJECT SUPPORT (PS)

In the context of the FITSDEV3 contract, there will be one Central Project Team (CPT) for Excise projects managed by R4/EMCS sector, and one Central Project Team (CPT) for Taxation projects managed by R4/TAX sector. Each CPT manages and co-ordinates the various projects that are on-going and those that will be started in their respective areas.

In addition to CPTs, there will be also the R4/Project Support (PS) sector for dealing with the contractual and supply management related activities.

Contractors report to the taxation and excise CPTs for technical and business related activities, and to PS sector for contractual and supply management related ones. Furthermore, the contractor interacts with other contractors and entities only through the concerned CPT.

In some specific circumstances, the CPT may authorise the establishment of direct working relationships between the contractor and other entities in order to improve the overall efficiency of the central project. However, the Central Project Team will always retain the full control over, and require full traceability of the information exchanged between the contractor and other entities. Please refer to section 3.3 for information on the tasks performed by external entities shown in the figure above, namely, ITSM, CCN-TC, QA2 and DIGIT.

3.4.2. POLICY UNITS[57]

Unit R4 has frequent contacts with the following policy units of DG TAXUD:

− Unit C1 "VAT and other turnover taxes". The mission of unit C1 is, through analysis and design work, to adapt the VAT legislation to the requirements of the single market. For the short and medium-term, the work primarily concerns the modernisation and the simplification of the current regime. The management of the existing legislation, in particular the questions of interpretation and application, represents an important factor for the operation of the current regime.

− Unit C2 "Environment and other indirect taxes". The mission of unit C2 is, within the framework of the Internal Market to ensure that the Union excise system permits the maximum collection of revenue with the minimum of disruption to trade. It provides an Internal Market framework for the use of fiscal tools in environment, transport and energy policy.

− Unit C4 "Tax administration and fight against tax fraud ". The mission of unit C4 is to provide the necessary legislative framework and environment at community level to foster administrative cooperation and mutual assistance between Member States in the interest of the smooth functioning of the internal market and the fight against fiscal fraud in particular.

− Unit D2 "Direct Tax Policy and Cooperation". The mission of unit D2 is to contribute to EU tax policy development and co-ordination of direct tax matters by developing and following up Union legislation and other appropriate initiatives in the field of direct tax in line with the Treaty objectives and in particular the needs of the Internal Market, as well as monitoring existing legislation in the Member States and in relevant third countries.

− Unit D4 "Economic analysis, evaluation and impact assessment support". The mission of Unit D4 is to provide evidence base and in-depth economic analysis on all aspects of customs and taxation relevant to the EU.

− Unit R3 "Information, management of programmes" will also be a stakeholder under the FITSDEV3 contract. The unit is responsible among others for the management and implementation of the co-operation programmes Customs 2013 and Fiscalis 2013, and their successors.

The organisation chart of DG TAXUD can be found on the Europa website. This organisation chart is subject to change: http://ec.europa.eu/taxation_customs/common/about/structure/index_en.htm

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[57] "Policy units" and "business units" are used as synonyms in this document.

3.4.3. COMMITTEES SUPPORTING THE COMMISSION

The Commission exercises its delegated and implementing powers through the assistance of committees composed of delegates from the Member States and representatives of the Commission. These committees have been set up via appropriate legal provisions.

The main committees of relevance for this Call for Tenders in the excise and taxation areas are:

Committee related to both the excise and taxation areas

The Fiscalis Committee: a committee composed of representatives of the Member States and chaired by the Commission. If the committee approves the measure, the Commission is authorised to implement it. The Fiscalis Committee handles questions in relation with the Fiscalis Programme which finances activities in the field of taxation (notably seminars, multilateral controls, training and IT systems).

Committees related to the excise area only

According to Council Directive 2008/118/EC, the Commission must be assisted by the Committee on Excise Duty.[58] This committee is composed of representatives from the Member States and chaired by the Commission. It assists the Commission with the planning, management and coordination of the setting up of the system, ensuring that EMCS meets the needs of business.

The Committee on Excise Duty is responsible for:

- approving the project's overall terms of reference and master and management plans;
- coordinating the organisational and procedural changes in the user environment required by the new system;
- setting business objectives, priorities and milestones;
- taking strategic decisions, inter alia on the basis of Excise Computerisation Working Party (see below) recommendations, on matters relating to the legal, procedural, organisational, financial and technical aspects of EMCS;
- approving milestone executive documents;
- controlling the project at a strategic level.

Note that the Committee on Excise Duty is the only entity empowered to take decisions on the basis, in particular, of proposals made by the ECWP;

The Committee on Excise Duty also plays the role of EMCS Steering Committee.

Committees related to the Taxation area only

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[58] Previously called Excise Committee.

− SCAC (Standing Committee on administrative co-operation): a committee composed of representatives of the Member States and chaired by an official of the Commission. If the committee approves a proposal, the Commission is authorised to implement it. SCAC handles questions related to the application of Council Regulation (EU) No 904/2010. SCAC is assisted by its sub-Committee, the SCIT;

− SCIT: the Technical sub-Committee of the SCAC handling matters related to information technology. It is composed of representatives of the Member States and chaired by an official of the Commission. The SCIT assists the SCAC in its work examining and reporting on all technical aspects related to VAT. Final decisions in the field of information technology are taken by SCAC;

− Recovery Committee: it is composed of representatives of the Member States and chaired by an official of the Commission. It takes decisions by qualified majority. If the Committee approves the measure, the Commission is authorised to implement it. It is competent in the field of recovery of claims relating to refunds, levies and duties in the field of the sugar sector, import duties, export duties, value added tax, excise duties, taxes on income and capital, taxes on income and insurance premiums, interest, administrative penalties and fines and costs incidental to the claims. The Recovery Committee handles questions in relation with Council Directive 2010/24/EU;

− CACT (Committee for Administrative Cooperation in Taxation): a committee composed of representatives of the Member States and chaired by an official of the Commission. CACT handles questions related to the application of Council Directive 2011/16/EU. It gives an opinion by qualified majority on proposals of implementing acts presented by the Commission: when the Committee gives a positive opinion, the Commission is authorised to endorse the implementing act. Beyond the question of implementing acts, the CACT is also a forum for discussion of any other subject or action aimed at improving administrative cooperation in (direct) taxation: it shares experience, draws up rules in the fields concerned, produces guidelines on any aspect deemed necessary. The CACT is assisted by an eFDT (Electronic Forms for Direct Taxation) Steering Group as well as various working groups when appropriate. The practical implementation may also be discussed or coordinated with the OECD Secretariat and Member Countries when appropriate.

3.4.4. WORKING GROUPS AND WORKING PARTIES

The Commission can set up working groups to assist it on business or technical subjects. The working groups or working parties which are important in the context of this call for tenders are:

Working Groups related to the Excise area

To carry out its duties in relation to EMCS, the Committee on Excise Duty has set up the EMCS Computerisation Working Party (ECWP). The ECWP is a forum for discussing IT and functional aspects of EMCS.

The ECWP has the following responsibilities:

− contribute to and follow up the production of the system specification;

- ensure the Commission and Member States' terms of reference, project plans and quality plans are submitted in time for inclusion;

- discuss the implementation of legal, procedural, organisational and computer aspects and adopt any recommendation to be submitted for adoption by the Committee on Excise Duty;

- identify any common areas of development which could allow economies of scale;

- receive reports on results, progress, delays and any problems or issues that may arise;

- detect problems and assign responsibilities for corrective action;

- deliver an opinion on functional and technical documents, and project deliverables;

- submit its recommendations and reports to the Committee on Excise Duty.

Working Groups related to the taxation area

The working groups with which DG TAXUD Unit R4 has direct contact in the taxation area are:

- Working Party IV on Direct Tax is a working group composed of the Member States and chaired by an official of the Commission. This working group is competent must questions arise about the interpretation of Directive 2003/48/EC;

- Working Group on Administrative Cooperation in the field of direct tax (WG ACDT): composed of representatives of the Member States and chaired by an official of the Commission. WG ACDT deals with activities relating to administrative cooperation not covered by Directive 2011/16/EU. In particular, it constitutes a forum where strategies are developed and discussion takes place on all questions associated with taxation of savings and it assumes the tasks relating to practical implementation at IT level of Directive 2003/48/EC on mutual assistance in the field of direct tax. The practical implementation of taxation on savings may also be discussed with the OECD Secretariat or Member Countries when appropriate;

- Working Group "Structures of the Taxation Systems": working group composed of representatives of the Member States and chaired by the Commission. In this working group, exchange of views takes place between the Commission and the Member States on the content and technical specifications of the Taxes in Europe Database.

3.5. INTERACTION RULES FOR FITSDEV3 CONTRACTOR WITH DG TAXUD

Unit R4 will manage the FITSDEV3 Framework Contract, including its Specific Contracts.

DG TAXUD will interact with the contractor via eight (8) roles with the objective to have the contractor delivering according to contract, plan, budget and quality. More specifically,

- The supply management (alias TESM) is assigned to Unit R4 Project Support(PS) sector: in charge of managing all common supply management issue(s) within the Framework Contract;

- The contract management (alias CM) is assigned to Unit R4 Project Support sector: in charge of managing all common administrative, contractual, quality and performance issue(s) raised within the Framework Contract;

- The quality management (alias QM) is assigned to Unit R4 Project Support Sector: in charge of managing all quality related matters and plans within the Framework Contract, and with whom the FITSDEV3 contractor will have to interface to address issues regarding the interface between FITSDEV3 and the Quality Assurance contractor;

- The Human Resources and Finances Unit R1: in charge of contractual, legal and financial/invoicing aspects and issues;

- The LISO (Local Information Security Officer in Unit R4): in charge of all security and continuity aspects and issues;

- The IT operation in Unit R5 in charge of the IT service delivery by ITSM Lot1, and with whom the FITSDEV3 contractor will have to interface to address issues regarding the interface between FITSDEV3 and ITSM Lot1;

Daily FITSDEV3 technical activities, including demand management managed by:

- The Taxation TES currently assigned to Unit R4 Tax sector; For each project the TAX sector will nominate one "coach" to manage and coordinate effort with the FITSDEV3 contractor for all technical activities, including demand management;

- The Excise TES currently assigned to Unit R4 EMCS sector. For each project the EMCS sector will nominate one "coach" to manage and coordinate effort with the FITSDEV3 contractor for all technical activities, including demand management.

More information on the interaction model between DG TAXUD and FITDEV3 contractor is provided in the Annex II.B - Technical Annex.

3.6. ROLE OF QA2 CONTRACTOR

DG TAXUD is supported by the QA2 contractor which performs quality assurance and control over the activities of the others IT contractors of DG TAXUD. The QA2 contractor:

- Performs (on-site) audit of the FITSDEV3 contractors (quality/security/ad hoc),

- Coordinates the review by DG TAXUD of the FITSDEV3 deliverables, and performs technical reviews of these deliverables,

- Monitors the Service Levels provided by the FITSDEV3 contractor,

- Performs (on-site) quality control of the testing activities (application testing, conformance testing),

- Attends meetings, workshops, training sessions organised by the FITSDEV3 contractor.

The QA2 contractor is also responsible for quality assurance. It maintains the TEMPO methodology, provides technical expertise and assists DG TAXUD for the continuous improvement of its IT maturity and of its contractors.

In this context the **FITSDEV3** contractor must be ready to collaborate with the QA contractor.

3.7. CONTRACT AND DEMAND MANAGEMENT RULES FOR FITSDEV3

The FITSDEV3 contractor has to ensure that sufficient and competent resources are always available to support increased demand for services and meet successfully expectations of DG TAXUD. In doing so, the FITSDEV3 contractor has to meet regularly with the R4 Taxation and EMCS sectors for discussing and reviewing with them their future demand needs and plans.

In the context of this call for tenders, services are ordered in accordance with the following:

- The Framework Contract (FWC) identifies the services available and offers a price catalogue: services with a unit price, fixed price services, resource-based services quoted in man/days together with the unit price of the roles available, output-based services with a unit price for each output-based metrics, hardware and software acquisition/maintenance provisions, travel provisions and rules for reimbursement of travel expenses;

- Following the FWC, Specific Contracts (SC) can be signed. Each Specific Contract specifies the list of services concerned and the way these services will be ordered and quoted. Some fixed price services, such as missions, workshops… are ordered by means of a "pool" RfAs, and need to be authorised by DG TAXUD before they take place. A careful monitoring of the travel budget consumption is required by the contractor.

The tenderers must refer to the Annex III - Price List of the Tendering Specifications to get the pricing strategy to be used in FITSDEV3.

What follows below is a brief presentation of the rules to be applied and respected along the contract and demand management process.

- Initial set-up (and maintenance) of the quantities (alias metrics) to be ordered or allocated in a Specific Contract:

  - The overall quantities for services and/or deliverables such as service requests, technical meetings, missions, etc. are estimated by the contractor at the time of preparation of the new Specific Contract subject to signature, on the basis of figures experienced from the past and in agreement with R4 EMCS and Taxation sectors about the future perspectives;

  - The overall resource-based quantities (man/days) for specifications, development and testing are estimated by the contractor on the basis of past consumption and in agreement with R4 EMCS and Taxation sectors on the future perspectives and plans;

- The overall output-based quantities (e.g. BPMN process diagrams, UML use cases, test cases, etc.) for specifications, development and testing are estimated by the contractor on the basis of past consumption and in agreement with each R4 sector on the future perspectives and plan;
- The overall IFPUG-based quantities (e.g. Function Points) for applications development are estimated by the contractor on the basis of past consumption and in agreement with each R4 sector on the future perspectives and plans;
- The resulting quantities above, once agreed with PS sector, are then split into the specific contract as follows: a percentage of the quantities for services with unit price go to the FP budget, the remaining percentage goes to the OD budget; the 100% of the resource-based and/or output-based services to be quoted go to the QTM budget; a provision is foreseen to cover travel and subsistence costs reimbursement;
- Once the Specific Contract is signed, services with unit price are available for consumption, the follow-up by the contractor of the corresponding quantities starts (weekly coordination meeting with PS sector), as soon as a specific quantity for a given service will be fully consumed, an RFA may be issued by PS sector to ensure continuity of service, according to revised estimates provided by the contractor;
- Once the specific contract is signed, the RfE/RfA process for QTM services may start;

- Ordering of services, excluding resource-based and/or output-based services:
  - PS sector will make service quantities available to FITSEDV3 for consumption via an On-Demand (OD);

- Consumption of ordered services:
  - Under EMCS/TAX/PS sectors responsibility;

- Monitoring consumption of the released service quantities:
  - PS sector will monitor the overall quantities consumption and regularly request business sectors to update the forecast of their needs;
  - FITSDEV3 contractor will send alerts to PS, in due time, in case of a potential shortfall. This risk must be limited by regular meetings between PS sector and FITSDEV3 contractor. During the BMM, the demand will be reviewed by TAXUD and the ITSM2 Lot2 contractor and compared against the actual supply;

- Ordering of resource-based services (RfE/Offer/RfA process):
  - PS sector will manage the issuing of: Request for Estimation (RfE) in collaboration with the involved R4 sector;
  - FITSDEV3 contractor will submit an offer;
  - the concerned sector will be involved in the assessment of the offer (e.g. technical, quoted effort);
  - PS sector will manage the issuing of the Request for Action (RfA) in collaboration with the involved R4 sector.

- Ordering of output-based services (RfE/Offer/RfA process):
  - PS sector will manage the issuing of: Request for Estimation (RfE) in collaboration with the involved R4 sector;
  - FITSDEV3 contractor will submit an offer;
  - the concerned sector will be involved in the assessment of the offer;
  - the pricing of the RFA can be either Fixed Price (Lump Sum agreed ex ante) or based on consumed quantities;
  - PS sector will manage the issuing of the Request for Action (RfA) in collaboration with the involved R4 sector;

- Counting of output-based metrics:
  - The counting of output-based metrics will follow the delivery and acceptance of each deliverable ordered via an RFA. Invoicing for each completed RFA will be made according the terms set in the RFA: either Fixed Price based on acceptance of services/deliverable or according the counted consumed quantities and acceptance of the services/deliverables. Acceptance and counting of output-based metrics is under EMCS, Taxation and PS sectors of R4.

- Progress reporting/follow-up: Monthly Progress/Service Report(MPR/MSR)
  - PS sector organises the review of the Monthly Progress/Service Reports (MPR/MSR)) and the agenda and timing of the progress meeting;
  - R4 Sectors are invited to review the progress reports dedicated to its business (in particular to verify in the MPR the consumed quantities, the dates of services, the deliverables to be accepted), and sends their comments to FITSDEV3 contractor directly;
  - PS organises the Bilateral Monthly Meeting (BMM) and invites R4 sectors and FITSDEV3 contractor to confirm their participation.

- Acceptance letters / acceptance of invoices
  - Acceptance letters: FITSDEV3 contractor provides to R4 PS the "RFA Acceptance Report" or the "Request for Acceptance Letter" in case the acceptance letter concerns a deliverable and not an RFA. Please refer to Baseline (BL) for the guidelines applicable to RFA/Deliverables acceptance;
  - Invoicing: FITSDEV3 provides to Unit R1 all necessary supporting documentation along with the invoice; R1 verifies and complete payment. Please refer to Baseline (BL) for the guidelines applicable to the invoicing process.

- Signature of Specific Contracts
  - PS sector will manage the issuing of Request for Offer (RFO) in collaboration with the concerned R4 sector;
  - FITSDEV3 contractor will submit an offer in reply to the issued RFO;
  - The concerned R4 sector will assess and accept the offer;
  - PS will prepare and deliver to Unit R1 the Request for Commitment (RfC);
  - Unit R1 in DG TAXUD will be responsible for the Specific Contract signature process.

- Escalation: Is referred to the Steering Committee, which meets at management level between Unit R4 Head of Unit, representatives from R4 Taxation and EMCS sectors, PS and the contractor.

3.7.1. CONSUMPTION VOLUMETRICS

Each year, sectors R4/EMCS and R4/TAX in DG TAXUD issue to contractor a number of Requests for Estimate (RfE) in the context of specifications, development and testing which lead, in turn, to an equivalent number of orders (RfAs). The volumes of orders issued for the years 2009, 2010, 2011 and 2012 are as follows[59]:

- Year 2009: 49 orders (Pspec: 1831 man/days; Pdev: 2963 man/days)

- Year 2010: 46 orders (Pspec: 1666 man/days; Pdev: 4467 man/days)

- Year 2011: 34 orders, (Pspec: 1167 man/days; Pdev: 4636 man/days), and

- Year 2012 (until 05/2012 inclusive): 16 orders (Pspec: 845 man/days; Pdev: 1570 man/days)

In addition to RFAs for specification and development services, DG TAXUD issues as well a number of RFAs which make additional unit-priced horizontal services available to contractors (e.g. technical meetings, missions, service calls, etc). Consumption data for these services for the period between July 2010 and July 2012 can be found in the Baseline (BL).

3.8. OUTPUT BASED MEASUREMENT & PRICING

To rationalise the evaluations of the SC/RFA, the FITSDEV3 contractor will have to underpin its quotes by output based measurements.

The Contractor will have a period of 18 months as from the signature of the first Specific Contract to transform / convert the existing artefacts so that they can be used for output based measurements. The transformation may consist in rewriting part of the current system or application specification documents, or complete them with annexes. This activity implies to:

- update the application specifications by producing an annex listing all the function points for the existing applications

- convert / complete the system specifications to list the relevant output based metrics listed later in this section.

The output based pricing model will be used as soon as the artefacts have been updated according to what is said above.

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[59] The Terms of Reference and Technical Annex of the FITSDEV2 contract are included in the Annex XI – Baseline.

> **The output based pricing method will have to be used by the Contractor without any restriction, condition or limitation. For the services allowed for in the price table, DG TAXUD however reserves the right to request an offer quoted in man/days must it deem it appropriate.**

"Measurement" is the process of counting output units; "metric" is the unit of measurement.

The output based pricing common in IT infrastructure, desktop and help desk outsourcing services are based on measurement using metrics such as usage, per user, per call.

There are different metrics used in the output based measurement, relevant to the distinct deliverables or services defined in each work package.

The output based pricing refers to a pricing scheme where the price of each metric is set in the price table of the Framework Contract.

In contrast, the resource based pricing takes as input the man/days of profiles as specified in the price table for the Framework Contract. The man/days profiles are sized, and quoted by the contractor to meet its assignment as specified by DG TAXUD in its RfE.

In this call for tender, DG TAXUD's strategy is to maximise the use of output based measurement versus the resource based measurement in the overall pricing.

For that purpose, DG TAXUD has defined a set of new metrics for output based measurement. These metrics have been defined with the following criteria's in mind:

- The metrics can be counted exclusively on the basis of the deliverables and services (to be) provided using non ambiguous and simple rules;
- The counting proposed by the contractor can be easily controlled by DG TAXUD and its QA contractor;
- The values for the metrics units must be reproducible and stable;
- The output based pricing underpinned by the chosen metrics can be easily benchmarked within the industry.

The contractor will provide the measurements to DG TAXUD of specification, development and testing in the form of a report containing at least the following information:

- Scope of the Measurement;
- Metrics applicable;
- Counting of the different metrics relevant to the measurement.

The contract defines a specific work package for the measurement.

The metrics defined in this call for tender for output based measurement can be classified in four (4) categories:

1) **Metrics for services units such as technical meetings, Committee meetings, incidents, problems, missions, RfCs, etc.**

Service units cover work packages for which units and their pricing are pre-determined for the duration of the Framework contract and where the metric unit correspond "one to one" to the deliverable or service. It comprises for instance:

- The production of the PQP and CQP;

- Trainings, demonstrations, missions;

- Technical meetings, Working Committee meetings;

- Service management: incidents, problems, RfCs, etc.

2) Output based measurements for system specifications

This encompasses:

- Metrics for new, and evolution of, specifications where the process descriptions use UML;

- Metrics for new, and evolution of, specifications where the process descriptions use BPMN;

- Metrics for the evolution of legacy specification: the evolution of legacy specification will be sized with the UML and BPMN metrics, supported by an equivalence table between the evolution to bring to the legacy specifications and the relevant metrics. While the quote for the evolution will be on UML and BPMN metric based, the evolution will be delivered either in the method used by the legacy specification or the UML/BPMN standard at the choice of DG TAXUD.

The output based measurements for system specifications can be grouped in three (3) categories:

- BPMN (Business Process Model and Notation) based;

  BPMN (Business Process Model and Notation) is an industry standard notation for business process modelling. The actual BPMN version used is 2.0 and it is managed by the Object Management Group (http://www.bpmn.org/).The standard BPMN v2.0 is available here: http://www.omg.org/spec/BPMN/2.0/.

  DG TAXUD is using this standard on ARIS Business Process Modelling Tool and the ARIS convention, governance and implementation guidelines are defined on TEMPO:

  – ARIS Convention Guideline-v4.00

  – ARIS Governance Guideline_v2.10

  – ARIS Implementation Guideline-v5.00

  The BPMN derived metrics must be used for new system specifications, new application functional specifications as well as for evolutions on system or application specifications written in BPMN. The TAX system specifications must be transformed into BPMN compliant deliverables.

  These BPMN metrics are detailed in the Annex III - Price Table and the Annex I – Questionnaire.

- UML v2.0 (Unified Modelling Language) based and FESS specific (so called the UML/FESS metrics   );

  UML (Unified Modelling Language) is a standardized general-purpose modelling language.

  For those specifications written in UML/FESS (i.e. EMCS system specifications), a set of metrics are defined in the Annex III - Price Table and Annex I - Questionnaire so that the tenderer can size the evolutionary changes of these UML/FESS written specifications.

  These UML metrics are detailed in the Annex III - Price Table and the Annex I – Questionnaire.

- Other metrics. The other output based metrics (e.g. Message, Code list, etc…) the Annex III - Price Table and the Annex I – Questionnaire.

The exact definitions of all output based metrics elements are provided in the Questionnaire.

DG TAXUD intends to mainly use BPMN in future new specifications. Meanwhile, a number of specifications in the baseline is currently using mainly UML/FESS artefacts, it is foreseen that these will need to still be evolved prior to their transformation.

3) IFPUG Function Points for application development

Metrics based on IFPUG v4.3 function points measurements for specific deliverables and services of the applications development lifecycle.

IFPUG (the International Function Point Users Group) has continuously developed a methodology for functionally sizing software. This IFPUG v4.3 measurement manual is the release applicable for this call for tender. The functional size measurement method is known as function point analysis and its units of functional size are called Function Points.

The IFPUG derived metric is then the Function Point, which must be used to measure some parts of the application development lifecycle as detailed in the Annex III - Price Table and the Annex I - Questionnaire.

4) Testing related activities output measurements

Metrics for testing related activities: Test Cases, Scenarios and Datasets.

The testing related metrics used for output based measurement in this call for tenders are based on Test cases as detailed in the Annex III - Price Table and the Annex I – Questionnaire.

3.9. QUALITY FRAMEWORK

DG TAXUD has established TEMPO as a quality-driven methodology and requires the FITSDEV3 contractor to abide by the quality principles defined in TEMPO. These

quality principles are specifically described, enforced and monitored through a set of quality plans, namely the Project Quality Plan (PQP), the Framework Quality Plan (FQP), the Contract Quality Plan (CQP), as well as via the Operation Level Agreement (OLA) mechanisms integrated in the CQP (see TEMPO documentation for more information on Quality Management).

The set of quality plans mentioned above:

- defines the roles of the different parties involved or interacting with the service delivered by the contractor,

- defines the interactions between the contractor and the Commission,

- describes the communication and collaboration framework between the contractor and the third parties involved,

- describes the overall planning, the key services and deliverables,

- describes the specific plans to be produced, implemented and revised,

- determines the procedures and business processes to apply,

- determines the quality framework, the implementation of quality requirements, and the instruments to specify and monitor them (e.g. OLA).

Note that the PQP is produced and maintained by DG TAXUD, while the FQP and CQP are produced and maintained by the contractor (refer to TEMPO documentation for more detailed information concerning the required contents of quality plans).

The diagram below presents the applicability order among the various quality plans introduced at each level within the overall quality framework of DG TAXUD.
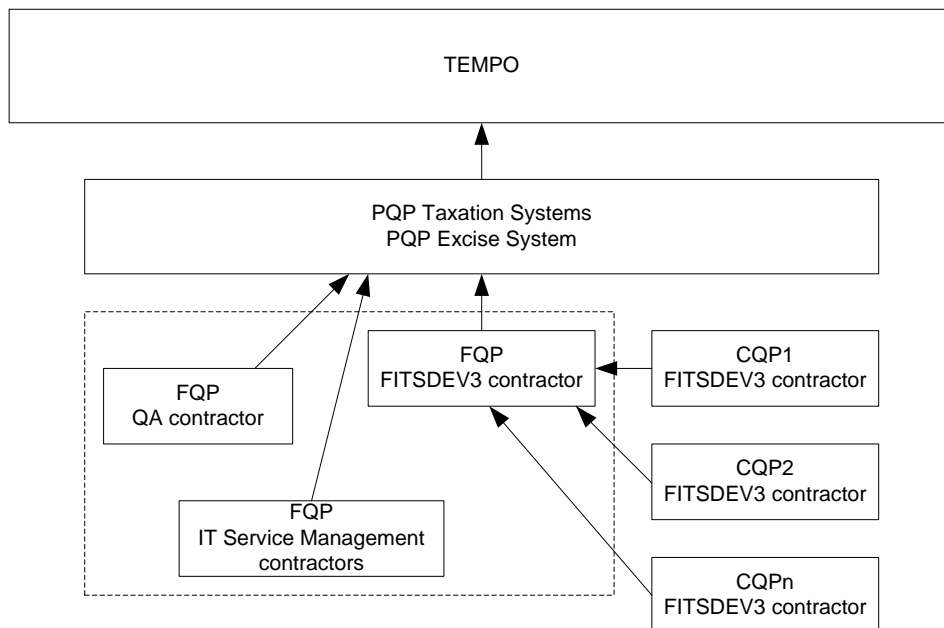

Figure 15 – Applicability order of quality plans within the Quality Framework

The four applicable levels applicable can be described as follows.

1. TEMPO acts on the level applicable to all systems and projects managed by DG TAXUD;

2. The Commission has produced the Programme Quality Plans (PQP) for the EMCS System and the PQP for the Taxation Systems, which apply to all contractors involved in these areas of work. Each PQP defines among other procedures the details of the working relationships between all the stakeholders;

3. FITSDEV3 contractor has to produce a Framework Quality Plan (FQP), covering the activities as seen from the contractor's side. The FQP must be compliant with the PQP. The FQP is applicable throughout the full validity period of the Framework Contract. The FQP is a mandatory deliverable of the first signed Specific Contract;

4. Finally, for each specific contract (SC) signed under the Framework Contract, a Contract Quality Plan (CQP) will be produced by the FITSDEV3 contractor. This quality plan will specify the work plan for the SC, define the Operation Level Agreement (OLA) and document any addition to the PQP and/or the FQP. This CQP is applicable throughout the full validity period of the related Specific Contract.

In addition to TEMPO and Quality Plans, DG TAXUD has put into place a Quality Assurance (QA) contractor who helps with the monitoring and the assurance that the projects conform to the quality principles defined and applied in the pertinent OLA and quality plans, on the basis of the TEMPO methodology. The QA contractor performs dedicated QA, QC or other quality oriented tasks, and will interact with the FITSDEV3 contractor. The role of the QA2 Contractor if further detailed in section 3.6.

3.10. APPLICATION MANAGEMENT AND INTERACTION WITH ITSM2 CONTRACTORS

DG TAXUD is responsible for the DG TAXUD IT applications lifecycle. The lifecycle includes the traditional Application Development phases and the Service Management phases, combined into a single lifecycle: the Application Management lifecycle.

Those phases are Requirements, Design and Build, which constitute the Application Development portion of the application's lifecycle, and Deploy, Operate and Optimise, which constitute the Service Management portion of the application's lifecycle. The figure below depicts the Application Management lifecycle phases. Same is true for the TES management.
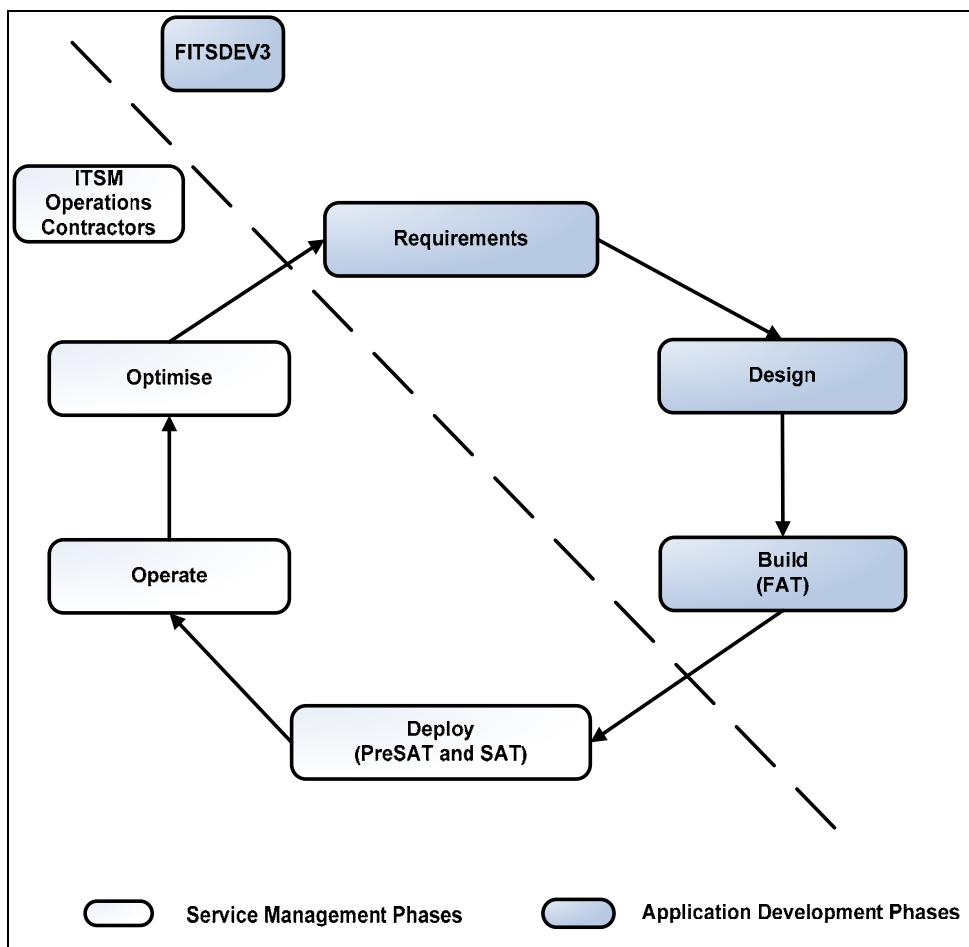
Figure 16: Application Management Lifecycle

DG TAXUD sees Application Development (creating a service), Service Delivery and Service Support as interrelated parts of a whole, which need to be aligned.

Each contractor (ITSM2 and FITSDEV3) supplies services for a set of phases in the Application Management lifecycle. These phases must be aligned: **DG TAXUD emphasises the importance of ensuring that operational requirements are represented early in the lifecycle in order to ensure that they are taken into account by the development cycle and to ensure that the service management is ready on time to deploy the services being developed. The FITSDEV3 contractor must consider the ITSM contractor as stakeholder in the development of IT systems, and not simply as "customers" or a party to deliver.**

The paragraphs below provide alignment examples for each Application Management phase. These examples are not exhaustive. The ITSM contractor co-ordinates the service management with the application/system development during the whole system/application management life cycle, in order to ensure that:

- the operational requirements and constraints are considered from the start of the development project;

- the application management process takes all appropriate preparatory steps in time to enter into operation;

- there is no misunderstanding and/or undue expectation between the developing party and the Operations Contractor.

Requirements Phase

This is the phase during which the requirements for a new application or the evolution of an application are gathered, based on the business needs.

Alignment with ITSM contractor:

- The FITSDEV3 contractor must take into account the integral planning of applications, from drawing board to deployment by the ITSM contractor and thus the deployment requirements as defined in TEMPO (e.g. Conformance Testing campaigns timing if necessary);
- ITSM actively participates in the review of the requirement and specification documents.

Design

This is the phase during which requirements are translated into feature specifications. The goal for application designs must be satisfying the organisation's requirements. Design includes the design of the application itself, and the design of the environment, or *operational model*, that the application has to run on. Architectural considerations are the most important aspect of this phase, since they can impact on the structure and content of both application and operational model. Architectural considerations for the application (design of the *application architecture*) and architectural considerations for the operation model (design of the *system architecture*) are strongly related and need to be aligned.

Alignment with ITSM contractor:

DG TAXUD will organise regular formal interaction between the development team and the operation team during the whole development lifecycle to make sure that the development project takes the operational requirement into account and the ITSM contractor prepares itself to deploy and operate the services in development;

- The operation team will contribute to the technical review of all deliverable from the development team;
- The FITSDEV3 contractor must take into account the reference architectures, frameworks, recommendations and guidelines provided by ITSM, which include those relative to DIGIT Data Centre;
- Documentation of the applications must target ITSM as one of the main audiences of these documents;
- The FITSDEV3 contractor must ensure that the application is designed with security in the forefront;

- The FITSDEV3 contractor must communicate to the ITSM contractor (through DG TAXUD) capacity requirements early in the cycle, allowing infrastructure capacity planning to be aligned with applications 'in the pipeline';

- The FITSDEV3 contractor must design for functionality specifically aimed at Service Management; in fact, he could design applications that are 'management ready' for those applications to be operated by the ITSM contractor and align on:

  - operational requirements;

  - support requirements;

  - service management requirements and targets.

The aim is to ensure that the Application Development will produce ITSM compliant applications and systems in order to achieve the expected quality at minimum cost for the Commission.

Build

In the build phase, both the application and the operational model are made ready for deployment. Application components are coded or acquired, integrated, and tested. Often the distinction is made between a development and a test environment. The test environment allows for testing the combination of application and operational model.

In TEMPO methodology, the Build phase is concluded by the acceptance of the FAT report by DG TAXUD. A successful FAT is a pre-requisite for the Commission to submit an application for deployment to the ITSM2 contractors.

Alignment with ITSM2 contractors:

- The FITSDEV3 contractor must take into account the reference architectures and/or frameworks provided by ITSM; especially for those applications to be hosted centrally at DIGIT Data Centre and operated by the ITSM2 contractors.

Deploy

In this phase, both the operational model and the application are deployed. The operational model is incorporated into the existing IT environment and the application is installed on top of the operational model, using the deployment processes described within ITIL *ICT Infrastructure Management*.

Alignment with ITSM2 contractors:

- The Deployment phase is a key alignment phase between the FITSDEV3 and ITSM2 contractors. In particular, the FITSDEV3 contractor must provide training to the ITSM2 contractors on the CDA package to be SATed and on-site support for PreSAT; incident and problem resolutions during PreSAT to the CDA package and the CDA package submitted for SAT;

– The FITSDEV3 contractor must take into account the requirements, installation procedures, and other standard procedures as defined by ITSM and DIGIT as appropriate;

– FITSDEV3 must provide to the ITSM2 contractors (non-exhaustive list):

  – test specifications and test plan to be run during SAT;

  – scripts to be run before or after deployment and their documentation;

  – scripts to start or stop the application and their documentation;

  – scripts to check hardware and software configuration of target systems before deployment or installation;

  – specification of metrics and events that can be retrieved from the application and that indicate the performance status of the application;

  – customised scripts initiated by the system administrator to manage the application (including the handling of application upgrades).

Operate

In the operational phase, the IT services organisation delivers the service required by the business. The performance of the service is measured continually against the Service Levels and key business drivers.

Alignment with ITSM2 contractors:

The FITSDEV3 contractor must integrate in the ITIL processes provided by the ITSM2 contractors and in particular for Service Support (this list is not exhaustive and the tenderer is requested to complete it and show its integration with the Service Support ITIL processes):

– Incident management: FITSDEV3 must contribute to solving incidents;

– Problem management: FITSDEV3 contributes to this process by facilitating root cause analysis;

– Change Management: FITSDEV3 is involved in the change management process and participates in the Change Management meetings;

– Release Management: FITSDEV3 provides to ITSM application release information;

– Configuration Management: FITSDEV3 must allow ITSM to ensure that the application they are managing is the correct version and configured correctly.

Optimise

In the optimise phase, the results of the Service Level performance measurements are analysed and acted upon. Possible improvements are discussed and developments initiated if necessary. The two main strategies in this phase are to maintain and/or improve the Service Levels and to lower cost. This could lead to iteration in the lifecycle or to justified retirement of an application.

Alignment with ITSM contractor:

FITSDEV3 could optimise the applications if problems are detected by the ITSM contractor.

DG TAXUD requires the development contractor to work in close alignment with the operations contractor. In summary, one of the main objectives for FITSDEV3 in application management is to manage business value through these processes but not limited to:

− Supporting the creation and maintenance of the portfolio of applications and trans-European Systems;

− Application Management process lifecycle from the developer viewpoint for both the centrally developed applications and trans-European Systems.

4. ACTIVITIES IN THE SCOPE OF THIS FRAMEWORK CONTRACT

The activities in the scope of this Framework Contract are detailed in the Annex II.B - FITSDEV3 Technical Annex. This section presents only a summary of the activities to be undertaken by the tenderer.

- take-over of all existing taxation and excise systems and applications, as described in section 4.1;

- production and maintenance of specifications (corrective, evolutive) related to the development of taxation and excise systems and applications, as described in section 4.2 and, to support that, produce feasibility studies and prototyping activities;

- building and testing systems and applications together with the maintenance (corrective, evolutive) of the produced items as described in section 4.3;

- provision of trainings, workshops, demonstrations, missions, support and consultancy;

- on-site participation in the pre-SAT activity and in other testing activities such as SAT, Qualification and Conformance testing performed by the ITSM contractor;

- provision of support for incident/problem resolution, and technical support for CI under the scope of this contract;

- provision of the necessary IT infrastructure (refer to section 4.7);

- delivery management activities such as:

  o project, quality and contract management as specified in TEMPO including response to Request for Offers(RFO), Evaluation Requests (ER) and Requests for Estimation (RfE) as specified in TEMPO (see document "Specific Contract Lifecycle Management" in the BL);

  o offer an organisational structure and interaction model that matches the one set up by the Commission;

  o placement under Configuration Management all the plans to be delivered and maintained (FQP, Security Plan, development/testing/deployment plans), the ICT infrastructure and architecture and other artefacts produced during the FITSDEV3 contract;

  o running of a continuous risk management process in order to eliminate risks that can harm the testing and deployment of systems and applications, and avoid thus any deviations from the time-plan agreed with the National Administrations and/or with other neighbouring and third countries;

  o coordination of activities with the Commission and other FITSDEV3 stakeholders;

- sizing of applications using the IFPUG methodology (refer to section 4.8);

- measure software size on the basis of agreed metrics (refer to section 4.8);

– hand-over, usually at the end of the contract, to the Commission or to any party specified third parties on its behalf (refer to section 4.9).

Important note: please refer to section 2, section 2.3, for information on the expected evolution of the taxation and excise systems after the take-over, for which the production, maintenance of specifications and the building and testing is to be performed by FITSDEV3.

4.1. TAKE-OVER

The FITSDEV3 contractor will take over activities, application source code, infrastructure if any, documentation, processes and reports from the Commission or a party nominated by the Commission.

Currently one contract[60] is in place to provide services and products of similar nature to FITSDEV3 (i.e. specifications and development of trans-European IT services) for the taxation and excise systems and applications.

The take-over will be synchronised with the ending of the services of incumbent contractor.

Since FITSDEV2 currently provides services to two areas, taxation and excise, DG TAXUD requires FITSDEV3 to organise two take-over threads, once for taxation systems and applications and one for excise systems and applications.

Each take-over thread will last from 4 to 6 months.

The development infrastructure must be ready no later than 3 months after the start date of the take-over.

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[60] Framework Contract TAXUD/2008/CC/095 for Informatics Services and Products in the context of Specification, development, maintenance and support of Trans-European IT services in the areas of taxation and excise (FITSDEV2).

	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
FIS		FITSDEV23 services for FIS								
EMCS		FITSDEV3 services for EMCS								

Take Over by FITS-DEV23

FITS-DEV3
Framework Contract
signature
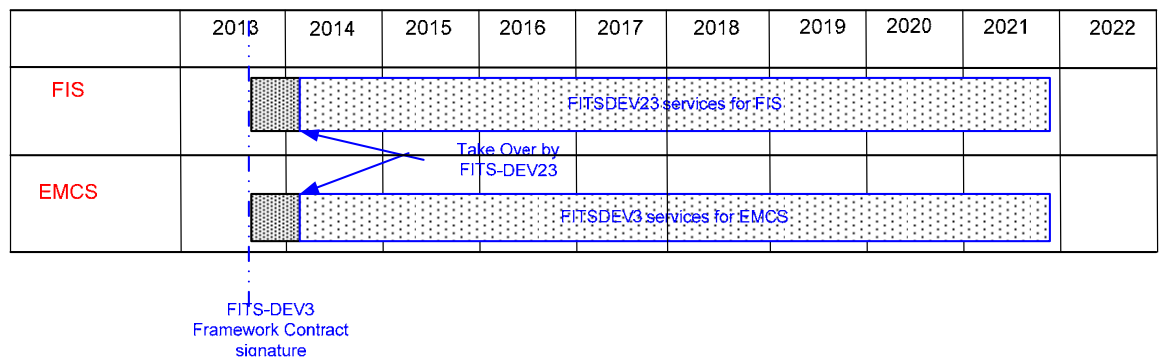
Figure 17: Take-over indicative planning – NB: "FIS" refers to taxation systems and applications; "EMCS" covers the whole portfolio of excise systems and applications.

The key objectives of each take-over thread are to:

– achieve a thorough integration of the contractor's team and the CPTs for the interaction model in operation;

– ensure that proper coordination and collaboration are put into place with the other involved stakeholders (e.g. other contractors, Commission internal services). If needed, meetings will be organised to meet the key actors of other entities and to confirm the coordination processes;

– formalise the transfer of responsibility from the previous contractor/organisation to the new contractor and define a clear reference baseline on the status of the specifications, software and related documentation;

– be ready to deliver all required services without a regression in level of quality, availability and continuity.

The contractor will take over all items included in the take-over section included in the Annex XI – Baseline to the Tendering Specifications.

The contractor will have the responsibility, for the EMCS and taxation systems respectively, to:

– produce and deliver the detailed take-over plan in line with the situation in which the systems and applications will be at the time;

– assess and acquire the knowledge of specifications, software and related documentation for all involved systems and applications;

– proceed to the take-over according to the agreed plan.

The take-over must not affect the quality of service delivered, regardless of the situation in which the system or application will be at the time. **The contractor is responsible for taking all the steps required to achieve a rapid induction and a seamless take-over of the activities in order to meet the planning requirements of each Central Project Team (see section 3.4.1**).

During each take-over period, the CPT for EMCS systems and the CPT for Taxation systems will provide the following at no cost/no charge[61] for the contractor:

 – access to all relevant Excise and Taxation deliverables;

 – whenever deemed necessary for the objective of the take-over, invitations to participate in Member State Committee meetings or Working Parties and relevant technical meetings with other contractors that may be involved;

 – shadowing from the incumbent contractor for a number of days to be defined during the preparation of the take-over plans;

 – training of a maximum of 2-3 persons from the contractor in Commission premises or at the contractor's premises on the following subjects:

   – during the Taxation take-over period:

     – Taxation TES and applications (maximum of 5 days);

     – CCN/CSI (maximum of 2 days);

     – Quality procedures (maximum of 3 days);

     – TEMPO;

   – during the Excise take-over period to cover:

     – Excise TES and applications (maximum of 5 days);

     – CCN/CSI (maximum of 2 days);

     – Quality procedures, including PQP (maximum of 3 days);

 – A maximum of 3 meetings of ½ day with each CPT to address induction questions.

At the end of the take-over phase, all responsibility will have completely switched to the new contractor who must be ready to:

 – provide evolutive maintenance activities and start new development activities for all EMCS and Taxation systems and applications;

 – provide corrective maintenance activities for all taxation and excise systems and applications;

 – deliver support on all specifications, and application related documentation which have been taken over for taxation and excise;

   The acceptance of the take-over will entail a bundle acceptance of the following deliverables:

     – the take-over deliverables;

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[61] This means that the Commission organises the training sessions at "no cost" for the contractor, and that the separate activities, such as attendance at training sessions, will have no individual charge, but are all included in the total take-over price. This is not to be confused with the 'attendance at training sessions' as specified under WP.3.

– the test plan for the take-over FAT;

– the take-over FAT report.

The absolute priority at take-over is for the FITSDEV3 contractor to start providing all the take-over services by the imposed dates at their "as is" level of quality. It is stressed that this must take precedence over any service transformation activities which might raise additional risks in securing the take-over.

The FITSDEV3 contractor will be asked to deliver a risk analysis with mitigation and fall-back plan, as part of the take-over, to ensure that the quality of service is not affected in any way.

4.2. SPECIFICATIONS

4.2.1. PRODUCTION OF SPECIFICATIONS

The core activity of DG TAXUD/R4 is to specify, develop, maintain and operate trans-European Systems for taxation and excise (TES). Please refer to the TEMPO methodology for a description of the trans-European Systems.

4.2.2. MAINTENANCE OF SPECIFICATIONS

All items produced must be placed under strict Configuration Management in order to support their iterative, incremental production and their future maintenance and to be able to evaluate the consequences when changing an item, if it has relationships with other ones. Each specification document is to be considered a CI to be placed under Configuration Management.

Each of the specifications which is to be produced or changed is subject to quality control.

Maintenance can be of the following nature:

– Evolutive maintenance will always be triggered on request by the Commission.

– Corrective maintenance is triggered by incidents resulting in error recording requiring subsequent correction. The incident can be initiated by the Service Desk (managed by the IT service management contract) or the Central Project Team. Corrective maintenance includes specific activities covering pre-emptive monitoring of the quality of the specifications.

Note that the corrective maintenance is considered to a continuous activity and the main initiator must be the FITSDEV3 contractor.

Note that the name of deliverables in the TES methodology concerns new developments. The maintenance of taken-over specifications will be on the basis of the current nomenclature.

4.3. APPLICATION BUILD AND TEST

The activities related to building and testing applications are defined in the TEMPO methodology.

4.3.1. PRODUCTION OF BUILD AND TEST DELIVERABLES

The build and test deliverables for the new applications to be developed by the FITSDEV3 contractor must follow the trans-European Systems methodology as described in TEMPO.

4.3.2. MAINTENANCE OF APPLICATIONS

As for the specifications, all items produced must be placed under strict Configuration Management in order to support their iterative, incremental production and their future maintenance.

Maintenance can be of the following nature:

- Evolutive maintenance will always be triggered on request by the Commission.

- Corrective maintenance is triggered by incidents resulting in error recording requiring subsequent correction. The incident can be initiated by the Service Desk (managed by the IT service management contract) and the Central Project Team. Corrective maintenance includes specific activities covering pre-emptive monitoring of the quality of the software. In the framework of corrective maintenance of applications, the Contractor will have the obligation to maintain free of charge all software deliverables (i.e. related to new developments or for evolutive maintenance of taken-over applications) and related application specifications documents for a guarantee period of twelve (12) months as set out in the Framework Contract.

For evolutive maintenance, the contractor's activities include:

- Analysis of the new requirements, estimation of the time and resources required to implement the new system functionality (using the IFPUG sizing method as described in section 0.4);

- Implementation and documentation of the changes. The contractor has to follow the development life cycle and all associated phases.

The output for an evolutive maintenance is:

- All the output deliverables (documents and/or programs) affected by the evolution must be updated;

- All the test reports must be delivered to the Commission for verification.

Software including new functionality must be accepted through a complete acceptance cycle.

For the corrective maintenance, the contractor's activities include:

- Incident logging and reporting;

- Incident assessment, to identify the exact nature and severity of the incident. This may include the submission of enquiries for additional information to the report issuer;

- Problem Management to identify the root cause of the incident;

- Problem solution, which may include a software modification, documentation amendment and COTS reconfiguration.

The output for a corrective maintenance is:

- The delivery of a patch or release; depending on the nature of the problem and on the complexity of its solution a single patch or a full system release may be delivered;

- A delivery report.

Software including corrections must be released via "patches", and accepted through a qualification cycle unless the Commission decides to use the complete acceptance cycle.

4.3.3. EVOLUTION OF APPLICATIONS

Important note: refer to Section 2, section 2.3, for information on the expected evolution of the taxation and excise systems after the take-over, for which the production, maintenance of specifications and the building and testing is to be performed by FITSDEV3.

4.4. SERVICE SUPPORT

The FITSDEV3 contractor must integrate in the ITIL processes provided by the ITSM2 contractors and in particular for Service Support, mainly, but not limited to:

- Incident management: FITSDEV3 must contribute to solving incidents;

- Problem management: FITSDEV3 contributes to this process by facilitating root cause analysis;

- Change Management: FITSDEV3 is involved in the change management process and participates in the Change Management meetings;

- Release Management: FITSDEV3 provides to ITSM application release information;

- Configuration Management: FITSDEV3 must allow ITSM to ensure that the application they are managing is the correct version and configured correctly.

The FITSDEV3 contractor shall use the service support tool (SMT) run by the ITSM contractor in order to provide the above listed processes.

4.5. TRAINING, WORKSHOP, DEMONSTRATION, MISSION AND CONSULTANCY

The Commission may request the contractor to:

- organise training sessions/workshops/demonstrations;

- attend training sessions/workshops/demonstrations;

- participate in missions to any location in the EU;

– provide consultancy.

The following must be noted:

– A training session or workshop has an average duration of 2 days, excluding travel time, if any;

– A demonstration has an average duration of 1 day, excluding travel time, if any;

– Training sessions, workshops and demonstrations may take place in any Member State or Candidate Country;

– A mission has an average duration of 2 days, excluding travel time, if any;

– A mission requires on average the participation of 1-2 persons from the contractor.

4.6. COORDINATION

In view of the high number of entities involved in the different projects (the Commission, Member States, Management Committees, other contractors), it is important to secure effective coordination between all parties in order to avoid delays and duplication of effort and resources.

The contractor must therefore support the Commission in the coordination activities in the following ways:

– participate in meetings where different parties are involved (in particular participation in missions in Member States);

– review of the compliance of deliverables from other contractors with the specifications;

– establish a central baseline, which is the repository of documents, accessible to all parties;

– be able to state at any moment for which activities it is "chef de file" or needs to act in order to progress;

– proactively push these identified activities to move in order to respect planning.

Participation in the meetings can consist in preparation, performance and/or producing the minutes of the meeting.

4.7. IT INFRASTRUCTURE

The contractor must specify, size, provide, host, install, configure, operate, monitor and administer the necessary IT infrastructure (and its maintenance) in his premises for the successful execution of all the work packages (cf. Annex II.B - FITSDEV3 Technical Annex. The infrastructure used by the current FITSDEV2 contractor is provided in the baseline.

However, during the execution of the contract, the Commission may request the Contractor to use the infrastructure that will be made available to him in one of the Commission Data Centre, instead of its own mentioned in the paragraph above.

The list of the hardware and software currently used for the specification, development, maintenance and support of the systems and applications in the excise and taxation areas is available in the Annex XI - Baseline.

4.8. HANDOVER

At the end of the contractual period, the FITSDEV3 contractor will provide the appropriate training and make available the totality of the knowledge acquired during the contract to DG TAXUD, or to any specified third parties on its behalf, in accordance with instructions to be given by DG TAXUD.

For this handover, the contractor will have to:

− produce and deliver a plan for handing over the activities, the documentation and knowledge and ensure a smooth transfer;

− hand over all documentation, source codes, infrastructure;

− provide training and support to, and allow shadowing by, a third party.

4.9. PROJECT MANAGEMENT

The FITSDEV3 contractor will have the responsibility to set up the organisation, resources and necessary infrastructure for the provision of the contract activities. The Project Management activities are described in TEMPO.

This includes the responsibility to respond to a Request for Offer (RfO) for any activity in the scope of the contract.

The contractor will issue quotes in compliance with the price table of the FWC which refers to according the deliverables and services of interest to output based pricing, average resource based pricing (using the unit price of the average profile (Pspec, Pdev, Pqa, ….add as necessary) or contractor resource based pricing (using the unit price of the resource as defined by the contractor).

4.10. TAKE-OVER INDICATIVE METRICS

4.10.1. TAXATION SYSTEMS

The following tables give some metrics about the applications developed and maintained by DG TAXUD and that will have to be maintained by the FITSDEV3 contractor:

Configuration Item (CI)	Metric						
	McCabe Cyclomatic complexity per	Number of Methods, Total	Number of Classes, Total	Number of Packages, Total	Method total lines	Method lines of code	Method avg lines of code
TEDBv2	2,8	4232	528	98	77570	38572	9,1
SSTP	2,1	1442	269	113	26938	13489	9,4
VIES Initial Application (VIA)	2,6	1392	203	23	31065	20405	14,7
VIES Test Application (VTA)	3,3	628	81	22	13059	8448	13,5
VAT Number Algorithms	4,3	102	36	2	2859	1639	16,1
VIES Monitoring	3,0	231	26	9	5586	3517	15,2
VIES Statistical System (VSS)	n/a	n/a	n/a	n/a	n/a	n/a	n/a
VIES on the Web (VoW)							
App	4,4	636	84	16	14555	7861	12,4
VoW ToW Common	1,7	204	54	8	3389	1470	7,2
VoW ToW CommonFilters	4,3	63	11	4	1355	665	10,6
TIN on the Web (ToW)							
App	2,7	211	43	13	4474	2244	10,6
VoW ToW Common	1,7	204	54	8	3389	1470	7,2
VoW ToW CommonFilters	4,3	63	11	4	1355	665	10,6
VoW and ToW Configuration and Monitoring	4,7	648	66	6	13814	8019	12,4
TIN Algorithms v2.0.1	5,0	180	38	4	3996	1940	10,8
VAT Refund Test Tool	5,8	446	75	6	16015	12564	28,2
e-Forms Common							
e-Forms Editor	3,3	444	51	11	9808	6589	14,8
e-Forms Launcher	3,8	6	1	1	146	80	13,3
e-Forms Loader	10,5	2	1	1	142	120	60,0
e-Forms Elements	2,6	585	1	1	142	120	0,2
e-Forms Testing	1,7	196	32	6	2911	1633	8,3
Recovery e-Forms							
Common Part	1,8	1009	131	6	25556	13675	13,6
Request for Information	2,1	522	52	8	11706	6710	12,9
Request for Notification	1,8	407	41	10	8829	5168	12,7
Request for Recovery and or Precautionary Measures	2,0	902	90	9	21431	12761	14,1
Uniform Instrument Permitting Enforcement	1,7	216	21	6	4133	2193	10,2
Uniform Notification Form	2,2	253	22	8	5635	3397	13,4
VAT e-Forms							
SCAC Java forms	2,1	3497	412	65	80860	50730	14,5
Direct Tax e-Forms							
Direct Tax e-Forms							
Generic Test Tool (GTT)	2,6	1557	260	34	36661	21369	13,7

Table 20: Taxation relation applications – Metrics

4.10.2. EXCISE SYSTEMS

The following tables give some metrics about the applications developed and maintained by DG TAXUD that will have to be maintained by the FITSDEV3 contractor.

4.10.2.1. EMCS RELATED SYSTEMS

SEED, TA, CS/MISE

Configuration Item (CI)	Metric					
	McCabe Cyclomatic complexity per method	Number of Methods, Total	Number of Classes, Total	Number of Packages, Total	Number of lines of code (NCSS), Total	Method avg lines of code
SEED	1.86	11797	1369	208	70763	4.77
TA	1.81	8538	1040	146	50620	4.56
CS/MISE	2.91	5527	497	55	65544	10.43

Table 21: EMCS related systems – Application metrics

MVS E-FORMS

Configuration Item (CI)	Metric						
	McCabe Cyclomatic complexity per method	Number of Methods, Total	Number of Classes, Total	Number of Packages, Total	Method total lines	Method lines of code	Method avg lines of code
MVS e-forms v2.1.2	1.8	1050	75	12	19551	11515	11.0

Table 22: MVS e-forms – Application metrics

5. CCN NETWORK

Important note: the information provided below is an extract from the CCN2-DEV call for tenders TAXUD/2011/AO-13 terms of reference.[62] It aims at giving the tenderers a full, clear and precise description of the CCN network.

5.1. OVERVIEW OF THE CCN NETWORK

The Common Communications Network / Common Systems Interface (CCN/CSI) is a value-added network operated by the Directorate-General for Taxation and Customs Union (DG TAXUD). The mission of CCN today and in the future is to provide common services to exchange taxation, excise and customs information at reasonable cost, with high agility, high security and continuity. CCN was designed between 1993 and 1995 and is operational since 1999. Today, the CCN/CSI relies on:

- The Common Communications Network (CCN), which is composed of a series of physical Gateways located either in the National Administration or on the Commission premises. These Gateways are interconnected in a secure way through communications services and locally connected to the application platforms provided by the local site.

- The Common Systems Interface (CSI), which is a set of protocols and application programming interfaces allowing the above-described application platforms to exchange information through the CCN backbone. It ensures the interoperability between the relevant heterogeneous systems in the National Administration.

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[62] See http://ec.europa.eu/taxation_customs/common/tenders_grants/tenders/index_en.htm.
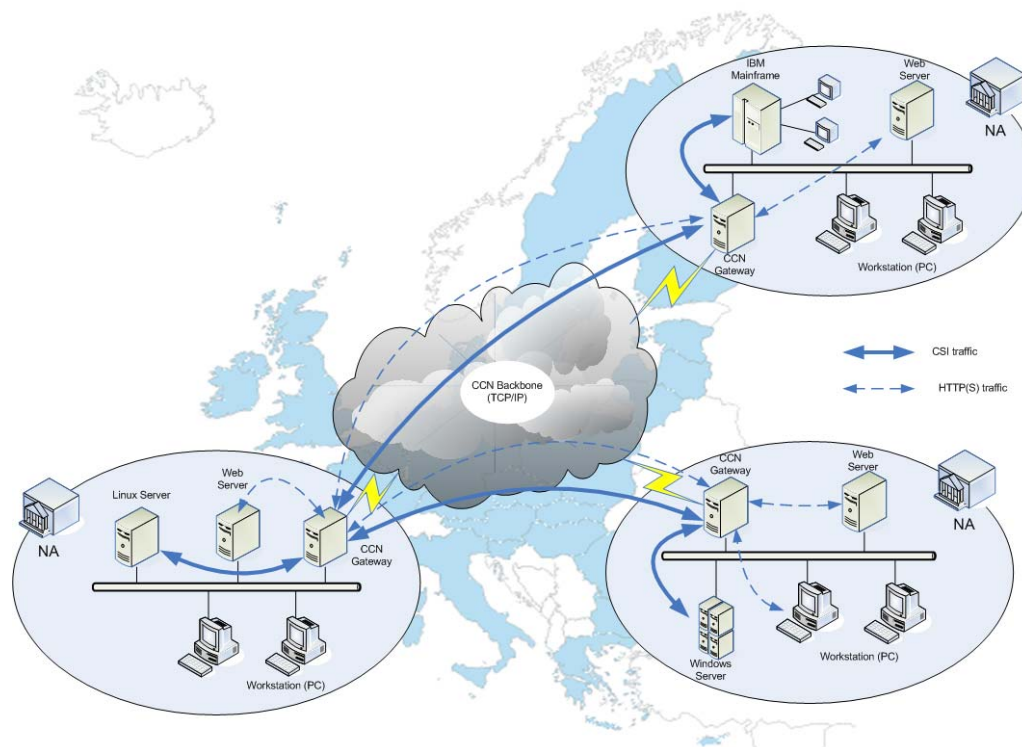
CCN/CSI topology overview

CCN is the largest e-communications platform among customs and taxation administrations worldwide, and delivers a variety of specific services to support various policies[63]. CCN and CSI are managed and developed by the Directorate General for Taxation and Customs Union (DG TAXUD) in conjunction with the Member-State administrations concerned.

CCN/CSI serves all of the EU Members States and the EFTA members Norway and Switzerland. It also extends to third countries, including Russia for example, via a separate system named SPEED. The provision of services may extend to Candidate Countries such as Turkey, and the Former Yugoslav Republic of Macedonia (FYROM), and to other countries according to the evolution of the taxation and customs policies. Such countries may also include Moldova, Ukraine, Belarus, China, United States, Japan and India. OLAF relies on the CCN infrastructure to carry out anti-fraud campaigns in collaboration with the EU Member States.

The CCN/CSI provides a network which is:

- Secure:

  – CCN/CSI runs on a dedicated private hardware infrastructure;

  – All data transmitted over the network is encrypted;

  – Access to the network is controlled by strong user authentication and authorisation.

- Accessible:

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[63] Customs, Excise, Taxation, Anti-fraud, Fisheries, and Agriculture related.

- The network has access points (CCN Gateways) in every Taxation and Customs administration;

- The CSI software ensures that heterogeneous computer systems can access the network.

- Reliable:

  - Data exchanges over the network have guarantees of delivery ;

  - All hardware and software elements of the network are constantly monitored.

The CCN/CSI infrastructure can be split into 2 domains:

- The "European" domain infrastructure is owned by DG TAXUD and operated by the service providers. Inside this domain, the CCN backbone and access equipment are provided by the network provider. The operation supplier remains the sole responsible for the operation of CCN/CSI infrastructure deployed in each National Administration or at DG TAXUD premises.

- The "national" or "local" domain components which are under the full responsibility of the National Administrations.

Of over 50 central applications and 18 distributed systems relying on CCN/CSI, the most critical are VIES (VAT Information Exchange System), NCTS (New Computerised Transit System), EMCS (Excise Movement and Control System), ICS (Import Control System) and AFIS (Anti-Fraud Information System). These applications range over the collection of taxes and duties, the security of trade, the control of fraud and illicit trade, VAT information and more.

In addition to the CCN sites installed in National Administrations, there are also sites located centrally. These are located in the European Commission Data Centre, and in the European Anti-Fraud Office (OLAF) and provide CCN access to centralised information systems. The remaining sites are located at the CCN Technical Centre (CCN/TC) and ITSM Data Centre. Finally it is important to mention that there is a project on-going with the objective to consolidate all DC.

The subsequent sections are describing the functionalities provided by CCN/CSI, its components and the overall architecture.

5.2. OBJECTIVES OF THE CCN/CSI MIDDLEWARE

The general objectives of the CCN/CSI middleware can be summarised as follows:

- To offer to all National Administrations a coherent method of access to all DG TAXUD applications;

- To offer all National Administrations a coherent method of access to other National Administration applications;

- To provide a high level of service on an equal basis to all National Administrations;

- To allow for the integration of other Commission entities hence extending the coherence of access to non-DG TAXUD applications;

- To provide a solution that is not dedicated to a particular application (or even several applications) but rather a general purpose solution which will be valid for a long period of time;

- To ensure the interconnectivity between the CCN/CSI sites;

- To ensure the interoperability in a heterogeneous environment;

- To ensure the continuity of the services.

The technical objectives are:

- To provide a robust and standardised backbone;

- The backbone provides to the applications synchronous and asynchronous CSI services, web services and mail facilities in an integrated manner;

- To have a high quality administration system so as to offer a high quality of service. This robust administration of the European domain adheres to the subsidiary principle, allowing the National Administrations to benefit from a local administration for their national domain;

- To provide a consistent API on the Application Platforms of all the National Administrations;

- To provide widely accepted API.

In order to achieve these objectives, the CCN/CSI middleware must:

- Continue to consolidate the solid organisation and to deliver continuous, efficient and reliable services to customs, taxation and excise users by providing a harmonised and secure method of having access to and exchanging information between the communities of users (National Administration and the European Commission). In the near future, this may require an increase in the guaranteed continuity of service of the network to 24 hours/day, 365 days/year;

- Cope with an increasing number of users, sites and applications relying on the CCN/CSI middleware and guarantee a smooth implementation of new application's requirements;

- Anticipate the expansion of the CCN/CSI to new Candidate Countries, to third countries and handle the increase in service demand;

- Align the CCN/CSI with technical evolutions in the marketplace;

- Validate the CCN/CSI strategy, architecture trends and draft guidelines taking into account existing applications;

- Limit the financial impact of the expansion of the CCN infrastructure as a whole and be responsive to cost evolutions in the marketplace;

- Support extended protocols and standards.

CCN/CSI will continue to evolve, both in terms of the information systems that it supports and the value-added services that it provides. The levels of security and availability will be maintained. As more demand is made to CCN/CSI middleware, hardware upgrades will be

made in order to maintain performance. CCN/CSI will also continue to expand, both in terms of the countries which are connected (Candidate Countries and other EU economic partners) and the administration domains that use it.

5.3. SERVICES OFFERED TO THE APPLICATIONS OF THE NAS

The CCN/CSI middleware services allow the development of applications using synchronous, asynchronous, web or email interactions on the different hosts of the National Administrations.

The services offered can be summarised as follows:

- Synchronous service: an application can invoke another application in a request/response mode; with the restriction that CCN/CSI does not offer distributed transaction support;
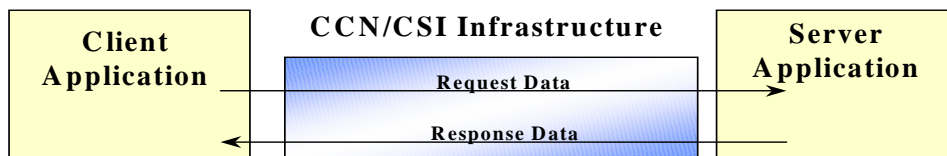
CCN/CSI synchronous service

- Asynchronous service: an application can exchange messages with other applications in an asynchronous manner (store and forward technique). In this case, the applications see each other via message queues;
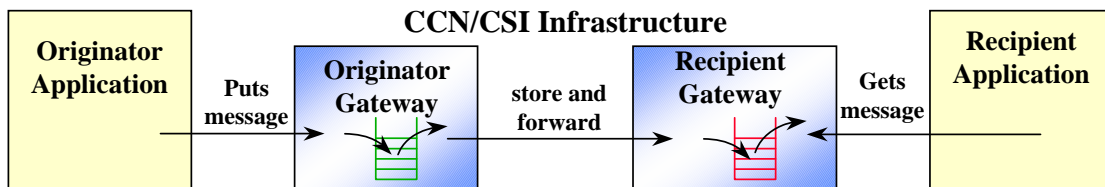
CCN/CSI asynchronous service

- HTTP traffic: an application can exchange messages with other applications in a synchronous way using the HTTP protocol;
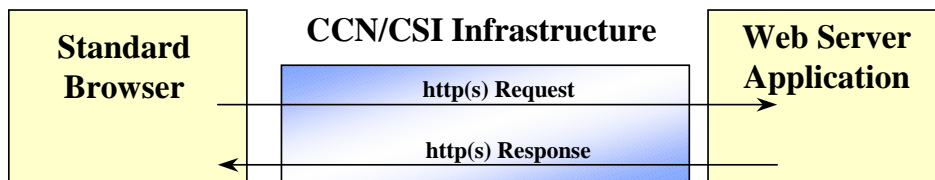
CCN/CSI HTTP traffic

This enables Internet browsers to access web servers located on centralised servers via the private CCN network – and not via the Internet. The first information systems which are examples of this technology, the Specimen Management System (SMS), the Information System for Processing Procedures (ISPP) and the European Binding Tariff Information

system (EBTI) are already in operation. Also already in operation is the CCN/TC Web Portal – an information source for CCN users;

- Mail service: a user (or an application) can exchange mail messages with other users (or applications) in an asynchronous way using the SMTP protocol. In addition to standard messages, this system, CCN Mail2, also supports the exchange of forms between National Administrations, directory services and could possibly be used for value-added services such as workflow management. A technological upgrade (CCN Mail3) is actually in development.
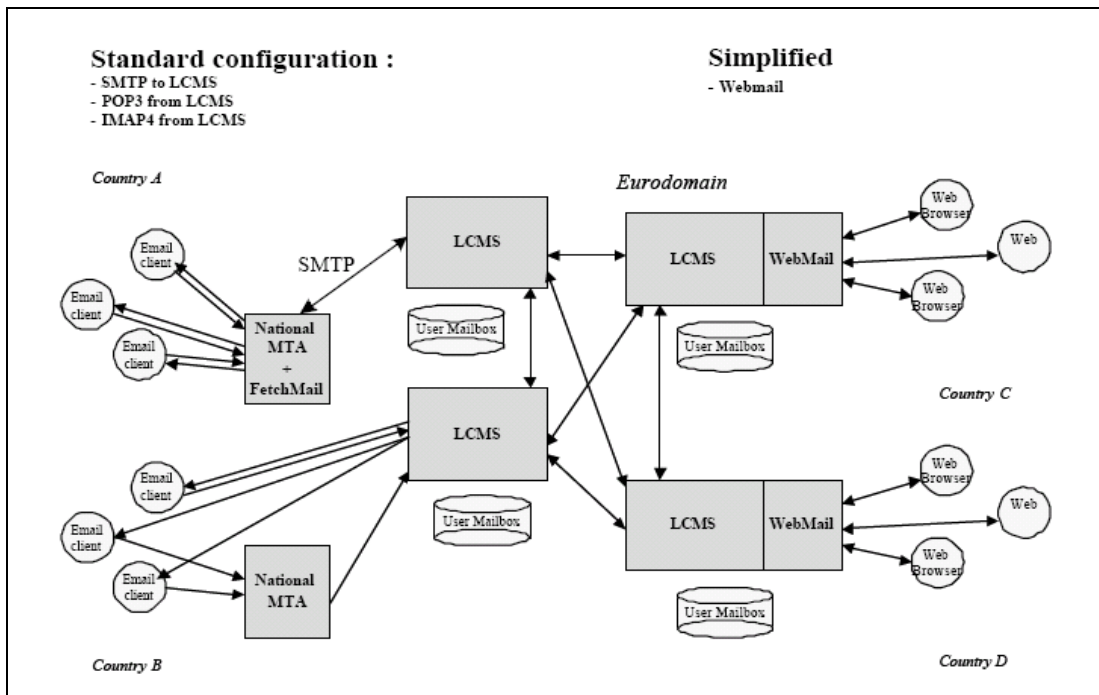
CCN/CSI mail service

- Interoperability: National Administrations applications run on different Application Platforms, each one with its own data format. The infrastructure handles all the necessary conversions on behalf of applications (restricted to very limited set of character encoding), which deal only with their own native format;

- The exchanges between National Administrations Application Platforms are secured. Two levels of security are provided:

  - At the European level (security devices are present between each CCN/CSI Gateway and the CCN/CSI Backbone, so that the CCN/CSI Gateways are in a DMZ);

  - At the CCN/CSI access point (links between the Application Platforms and the Gateways) where authentication, confidentiality and integrity mechanisms are provided.

5.4. SECURITY

The security of CCN/CSI is organised according to the underlying IDA architecture, in particular to the Euro Domain and Local Domain principles. So, there are two kinds of security responsibility domains:

The European security domain includes only systematic, non-negotiable services: mutual authentication of Gateways, access control lists (user / user profile / resource) recorded on the Gateways and a hardware-based encryption of all trans-European communications.

The National security domains include an authentication of the user and application to the Gateway in two possible contexts:

- Secure links, meaning well protected, communication lines from an application platform having its own security subsystem may be considered as secure enough to have a direct access to the gateway.

- In other cases, the link is said to be non-secure, and additional authentication features such as three-way authentication are offered.

The Security Service covers three functions: authentication, confidentiality and integrity. It is part of the Function Layer.

On National Domain, the GSS_API is used to call the security services and to compute security tokens. For confidentiality and integrity, data are sealed and unsealed (in the GSS_API terminology, "sealing/unsealing" means sealing/unsealing and enciphering/deciphering). For the authentication, the Security Service relies on CSI_API to transfer the security context.

On European Domain, the Security Service relies on the Gateway cryptographic devices plugged on the CCN Backbone.

5.5. ADMINISTRATION

The Administration Software of the CCN/CSI Gateway provides a set of tools allowing the administrators to configure and manage the CCN Gateway software. It provides the administration functions covering the following functional areas:

- Configuration and Name Management, which allows the administrators to manage the configuration and naming of the various software products and components of the CCN Gateway;

- Fault Management, which provides error detection and reporting mechanisms to facilitate troubleshooting;

- Accounting and Performance Management, which provides functions to collect statistics information for further analysis by external applications (e.g. generation of reports regarding CCN service availability, message transit delay, backbone usage, Gateway management);

- Security Management, which provides functions to the administrators to configure and manage security information, such as user authentication keys, user profiles and Access Control Lists (ACL). Security management also provides security logging mechanism;

- Control and Monitoring, which allows the administrators to control and monitor the operation of the CCN Gateway software. Control and monitoring functions include start-up, stop and restart of the CCN Gateway software, and supervision of the running CCN/CSI software processes to detect possible unexpected fallen processes.

Most of the common configuration information is stored in the CCN Directory, which allows the Administration Software to provide auto-configuration facilities, to make use of the replication mechanism provided by the CCN Directory to synchronise configuration information and to simplify configuration management.

The Administration Software provides the technical means to allow the administrators of the Member States to locally perform administration, configuration and management of the CCN Gateway software. It provides also facilities to allow the Central Administrator from the CCN Technical Centre to perform centralised remote administration.

5.6. CCN/CSI SUBSYSTEMS

The applications communicate with each other through the Inter Application Bus (IAB). The accesses to the Quality of Service (QoS) management are carried out by the IAB. The IAB constitutes the CCN/CSI middleware. It is split into several subsystems as presented in the figure below.
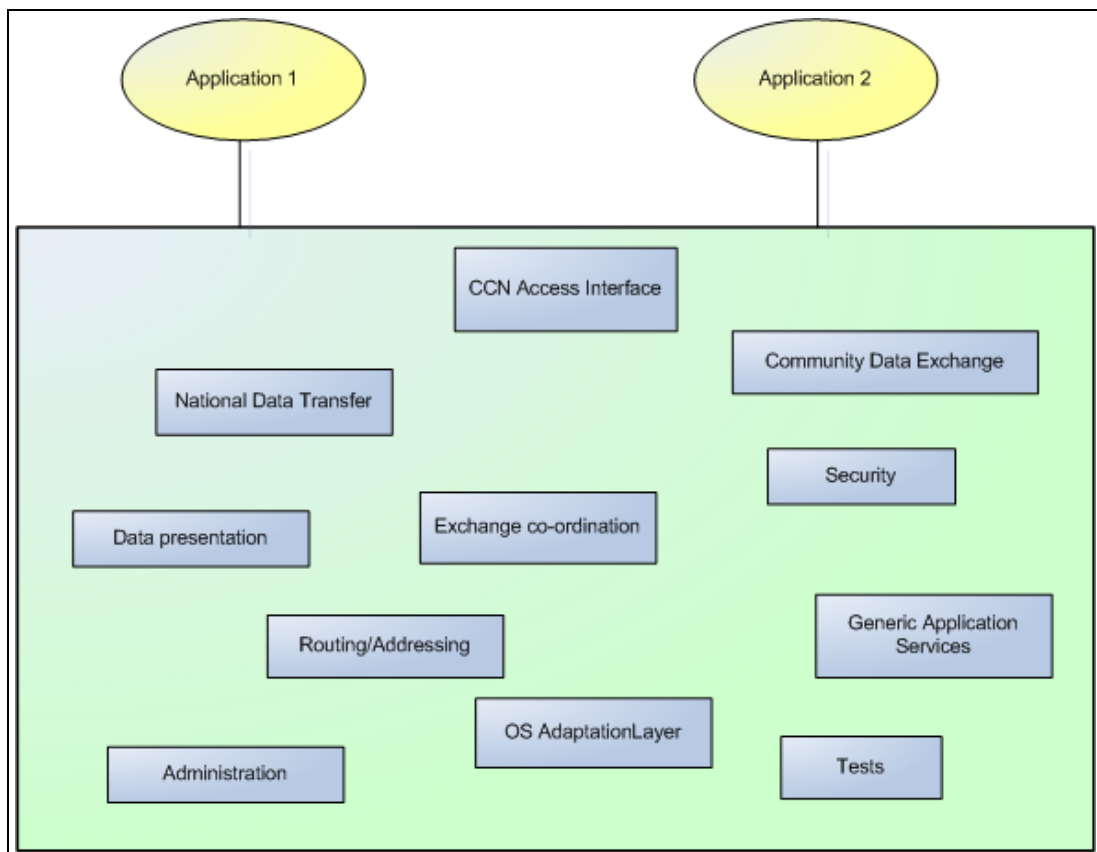
CCN/CSI Functional Subsystems

The Functional Subsystems composing the CCN/CSI middleware are as follows:

- **CCN Access Interfaces**: this subsystem is the entry point offered to the applications in order to access and to use the CCN/CSI middleware. This subsystem is the access point for all information entering or leaving the CCN/CSI middleware. It is distributed on the Application Platform and the CCN/CSI Gateway. It includes the HL_API, the CSI_API, the JCSI_API and the NJCSI_API and the Function layer. The SPI_API is included in this subsystem as an internal entry point in the gateway though it cannot be used by the applications. Concerning the HTTP interactions, the API provided to the National Administrations relies directly on specific handlers run by the HTTP server. For mail exchanges, the CCN Access Interfaces are in fact SMTP, IMAP and POP3[64].

- **National Data Transfer**: this subsystem provides the transfer means used to exchange information between the Application platforms and the related CCN/CSI gateway. It is distributed on the Application Platform and the CCN/CSI Gateway. It includes the T_API, the GT layer, the CT_API and the CT layer.

- **For HTTP and mail exchanges**, TCP/IP takes the transfer between the Application Platforms and the CCN backbone in charge.

- **Community Data Exchange**: this subsystem is responsible for the data transfer between two CCN/CSI gateways. It includes the Function layer in the European Domain described in the next "Functional Architecture Model" paragraph. The Function and Transmission Layer role is to convey the CCN/CSI messages. The Communication layer of the European Domain is based on the following underlying products: Tuxedo, MQSeries (accessed through the GT_API), Apache (HTTP protocol) and Postfix (SMTP protocol).

- **Exchange Co-ordination**: this subsystem allows the scheduling of the services offered by other subsystems (Data Presentation, Security, and Routing/Addressing) in order to ensure their activation in a consistent way. It takes charge of the Quality of Service (QoS) required by the Applications. This subsystem is a mandatory access point for all information to be handled within the system.

- **Security**: this subsystem provides the security services, including access control, authentication, integrity and confidentiality. It provides the GSS_API to the Applications in order to access to the security services. It is distributed on the Application Platform and on the CCN/CSI Gateway.

- For HTTP exchanges it makes use of SSL, especially during the authentication phase.

- **Generic Application Services (GAS)**: this subsystem includes all the CCN/CSI services running directly on the CCN gateways.

  - For synchronous and asynchronous services, these applications are relying on the same API as applications running on Applications Platforms. The only difference is

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[64] Concerning the SMTP, IMAP and POP3 protocols, a webmail interface is also offered for convenient purpose.

located in the authentication mechanism, which is replaced by an identification mechanism.

  − For web services, these applications are implemented via a specific content-handler integrated in the Apache HTTP server running on the gateway.

- **Routing/Addressing**: this subsystem is responsible for the routing/addressing resolution of the messages sent by the applications to their destination. Its goal is to associate a resource logical name to a final destination, assuring the coherence regarding the mode of the partners and the gateways they are running on.

- **Data Presentation**: this subsystem provides the means to convert the data exchanged between heterogeneous application platforms, to and from a common format used by the IAB.

- **Administration**: this subsystem allows the administration of the subsystems that make the CCN/CSI middleware.

- **Tests**: this subsystem provides the means to perform application environment tests with the CCN/CSI middleware.

- **OS (Operating System) Adaptation Layer**: this subsystem provides, for portability purpose, services to the Application Platforms subsystems permitting to mask the dependencies of system dependent operations.

5.7. THE FUTURE OF THE CCN NETWORK

In order to cope with the new IT systems and the expected growth of the traffic, the common private communication network (CCN) will need to be upgraded as well. This concerns not only its capacity but also its security and its overall architecture.

The CCN network will evolve as described in the CCN2-DEV call for tenders TAXUD/2011/AO-13 Terms of Reference. [65]

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[65] See http://ec.europa.eu/taxation_customs/common/tenders_grants/tenders/index_en.htm.

6. TEMPO METHODOLOGY

DG TAXUD wants to ensure that the different projects are well managed with deliverables on time and within budget and high-level Quality Assurance and Quality Control, and that cooperation between DG TAXUD and its service providers is optimal. To do so, DG TAXUD has created, develops and maintains the **TAXUD Electronic Management of Project Online** (TEMPO) quality management system. This methodology is fully part of the technical specifications. The tenderer must ensure that the Application lifecycle development is compatible with TEMPO Security Management guidelines – Security Software Development Lifecycle Reference Manual.

The **TEMPO** documentation is hosted on Europa web site (CIRCA pages) and is available for members of the TEMPO Interest Group. Account registration can be requested via the Project Support TEMPO mailbox. A specific account has been set-up for the tenderers to access the documentation. See section 0 "References" for the details of this account.

The tenderers are invited in particular to read the following TEMPO documentation:

- General documentation:

  - Introduction to TEMPO

  - Project Management reference manual

  - Quality Management reference manual and Quality Policy

  - Information Security reference manual and Information Security Policy

  - Specific Contract management reference manual and Deliverables acceptance reference manual, and procedures

- Trans-European systems:

  - Trans-European Systems (TES) reference manual

  - TES high-level security policy, and TES Security Plan reference manual

  - Application Management reference manual

  - Application Development reference manual

  - Business Perspective reference manual

  - IT Strategic and Tactical Planning reference manual

  - Planning to Implement Service Management reference manual

  - Testing reference manual

  - Conformance Test procedure

  - Service Delivery reference manuals (Service Level, Availability, Continuity, Financial and Capacity management)

  - Service Support reference manuals (Service Desk, Incident, Release, Change, Configuration, and Problem management), and related procedures

  - Risk management reference manual

– ICT Infrastructure reference manual

Additionally, TEMPO provides for supporting documentation such as fact sheets, procedures, guides and templates.

Mapping between the taxation terminology and the current release of TEMPO

The last release of TEMPO has introduced a new terminology regarding the system and application related deliverables. There is however not a 1-to-1 relationship between the terminology currently used by the taxation systems/applications and the last release of TEMPO. The following table shows the mapping between the terminologies.

TRA	BIN	STF	SM	SIP	PDF	FATR	DPS	IPP	OPR	ATF/ATS	TS	FS	URA	FeaS	Item	TEMPO Terminology
														×	High Level Business Model	Feasibility Study
														×	Cost Benefit Analysis	Feasibility Study
														×	Feasibility Study	Feasibility Study
													×		Business Process Model	System Specification
													×		System Requirement	System Specification
												×			System Functional Specifications	System Specification
											×				System Architecture	System Specification
											×				System Design	System Specification
								×							Scope Document	System Specification
		×													Conformance Test protocol	System Specification
		×								×					Conformance Test Specification	System Specification
											×				Security Specifications	System Specification
									×						Central Office Specifications	System Specification
									×						Terms of Collaboration	Supporting Measures
															System Security Policy	Supporting Measures
								×							Phasing and Scope document	Supporting Measures
								×							System Deployment Plan	Supporting Measures
									×						Systelm Business Continuity Plan	Supporting Measures
													×		Business Process Model	Application Specification
													×		Application Requirements	Application Specification
												×			Application Functional Specifications	Application Specification
											×				Application Architecture	Application Specification
											×				Application Design	Application Specification
										×					Acceptance Test Specification	Application Specification
											×	×			External Interface Specification	Application Specification
	×														Application (compiled)	Build
					×										Source Code	Build
				×											Installation Procedure Manual	Build
			×												Administration Manual	Build
			×												User Manual	Build
×															Training	Build

Taxation Terminology columns: Application Specification — Trainings (TRA), Binaries (BIN), System Test File (STF), System Manual (SM), Software Installation Procedure (SIP), Program Development File (PDF), FAT Report (FATR), Detailed Program Specification (DPS); System and Application Specification — Implementation Plan (IPP), Operational Procedure and Responsibilities (OPR), Acceptance Test Specifications (ATF/ATS), Technical Specification (TS), Functional Specification (FS), User Requirement Analysis (URA), Feasibility Study (FeaS).

Table 5: Mapping between the Taxation and TEMPO terminology specifications

7. DOCUMENTATION BASELINE

The baseline (BL) of this call for tenders is available only on DVD-ROM.

The BL is intended to assist the reader in:

- understanding the mission, vision and the scope of activities carried out by DG TAXUD, Unit R4 in particular, in the area of taxation and excise;

- learning about the existing and future requirements of DG TAXUD in terms of new IT systems and evolution of the existing ones;

- getting information on the IT methodologies developed internally by DG TAXUD (TEMPO);

- knowing about the specific Commission tools currently used or to be used in the context of this call for tenders;

- getting detailed documentation on the existing trans-European IT systems of DG TAXUD in terms of business, specifications, functionality, operation, support and technology.

An overview of the BL Structure

The BL is structured as follows:

- an index file (excel sheet) which contains the titles of all referenced documents

- folders with the documents and references organised as such:

  - one section with general background information;

  - an individual section for each of the two areas of IT systems to be taken over by the FITSDEV3 contractor (taxation and excise). Each of the sections contains relevant documentation for all applications, systems and tools (i.e. functional/technical specifications, user/installation manuals, training material, examples);

  - one section on Third Party services.