



Landscape of XML Syntaxes

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1. INTRODUCTION

This study is providing an overview of the most relevant XML specifications used in message exchange between applications. It includes short descriptions of international standards including UN/CEFACT, UBL, XBRL, LegalXML, NIEM. Based on desk research this list has been enriched with relevant standards that have been produced by Member States.

2. INTERNATIONAL STANDARDS

Name	Thematic area	Organisation and link to homepage	Link (xsd or specifications)
UBL	UBL, the Universal Business Language, defines a royalty-free library of standard XML business documents supporting digitization of the commercial and logistical processes for domestic and international supply chains such as procurement, purchasing, transport, logistics, intermodal freight management, and other supply chain management functions.	OASIS https://www.oasis-open.org/	https://docs.oasis-open.org/ubl/os-UBL-2.1/xsd/maindoc/UBL-Invoice-2.1.xsd
XBRL	XBRL is the open international standard for digital business reporting, managed by a global not for profit consortium, XBRL International.	XBRL organisation https://www.xbrl.org/	https://www.xbrl.org/2003/xbrl-instance-2003-12-31.xsd
UN/CEFACT	UN/CEFACT aims to help business, trade and administrative organizations from developed, developing and transition economies to exchange products and services effectively.	United Nations Economic Commission for Europe (UNECE) https://www.unece.org	https://www.unece.org/cefact/xml_schemas/index
LegalXML	The standard aims to provide a format for long-term storage of and access to parliamentary, legislative and judicial documents that allows search, interpretation and visualization of documents.	OASIS http://www.legalxml.org/	https://www.oasis-open.org/committees/tc_home.php?wg_abbrev=legalxml-courtfiling
NIEM	The National Information Exchange Model (NIEM) is an XML-based information exchange framework from the United States. NIEM represents a collaborative partnership of agencies and organizations across all levels of government (federal, state, tribal, and local) and with private industry.	U.S. Department of Justice https://www.niem.gov	https://tools.niem.gov/niemtools/home.iepd;jsessionid=83D410A863DA66167D14CB73D74676BB

3. MEMBER STATES STANDARDS

3.1. Finland

Organisation name: Advisory Committee on Information Management in Public Administration (Juhta)

Related link: <http://www.jhs-suositukset.fi/web/guest>

Name	Thematic area	Link (xsd or specifications)
JHS (Public Administration Recommendations) 170 (2009)	Provides guidance on the production and management of XML schemas. It is intended for developers of public administration information systems, for managers and experts in system development projects.	http://www.jhs-suositukset.fi/web/guest/jhs/recommendations/170/full
JHS 183 (2013)	The data model and grouping described in the recommendation creates a consistent way of providing service information in public administration online services.	http://www.jhs-suositukset.fi/web/guest/jhs/recommendations/183/full
JHS 177 (2010)	Describes the definition of geographic data products as XML schemas and documenting the products as data product specifications, as well as the process that leads to those results. Defining the geographic data products follows the principles of international standardisation as well as the implementation of the European INSPIRE-directive.	http://www.jhs-suositukset.fi/web/guest/jhs/recommendations/177/full
JHS 191 (2015)	The structure of the data management plans used in the public administration is defined in this recommendation. The target of the recommendation is to harmonize the data management plans, their metadata and ranges.	http://www.jhs-suositukset.fi/web/guest/jhs/recommendations/191/full
JHS 188 (2014)	The aim of this recommendation is to support the maintenance obligation of organisations and, as a result of the maintenance work accomplished with this recommendation and its instructions, to produce network information which is for content and structure predefined and which can be used and combined in different information systems more easily than today.	http://www.jhs-suositukset.fi/web/guest/jhs/recommendations/188/full

Name	Thematic area	Link (xsd or specifications)
JHS 175 (2010)	This recommendation describes the process for terminology in the public administration. The process provides and maintains the JHS terminology. In the process described in the recommendation harmonizes and clarifies the concepts that are used in the internal information handling and external information exchange of a Community of Interest, which has been originated because of a common need or interest	http://www.jhs-suositukset.fi/web/guest/jhs/recommendations/175/full
JHS 158 (2005)	The recommendation defines the content of the metadata of vector and raster format geographic information and provides instructions for the description of geographic information and the documentation of metadata. The recommendation applies to digital geographic information. The recommendation is intended for producers of geographic information who are obligated use metadata to describe their geographic datasets and geographic information services and to users of geographic information who use metadata to search for the geographic information they need.	http://www.jhs-suositukset.fi/web/guest/jhs/recommendations/158/full

3.2. Sweden

Organisation name: Skatteverket. The Swedish Tax Agency manages civil registration of private individuals and collects taxes such as personal income tax, corporate tax, VAT and excise tax.

Related link: <https://www.skatteverket.se>

Name	Thematic area	Link (xsd or specifications)
Tax Agency's Schemes (2019)	The Swedish Tax Agency's Schema Warehouse (XML) Schedule Manager is a central web-based service within the Tax Agency that creates the conditions for a standardized management of information exchange in XML format between the systems and external stakeholders.	http://xmls.skatteverket.se/se/skatteverket/da/arbetsgivardeklaration/arbetsgivardeklaration_1.1.xsd?pk_vid=8cc3da651bf9279a15634590785735e0
Navet, XML Schema for Public	This schema retrieves information directly from the population register. It contains all persons who are registered in Sweden, have a social security number	http://xmls.skatteverket.se/se/skatteverket/folkbokforing/na/avisering/V1/Navetavisering.xsd?pk_vid=8cc3da651bf9279a15634594

Name	Thematic area	Link (xsd or specifications)
Registration (2019)	or a coordination number. Data contained in the register include names, social security numbers, privacy marking, public address, marital status and children.	835735e0
Schema for Leave control details (2019)	Schedule for Exit Control Data The XML schema is used to verify XML files in the file transfer service.	https://www.skatteverket.se/download/18.8cd61f61691938ed1ac7c/1551346782693/Kontrolluppgifter_5.0.xsl
EES (2017)	This schema defines the control information on the transfer of pension insurance within the EEA and for the commitments to be provided by insurers outside Sweden.	https://www.skatteverket.se/foretagochorganisationer/sjalvservice/allaetjanster/schema_lagerxml/kontrolluppgifteratagandenforforsakringarinomees.4.1a098b721295c544e1f800029736.html?q=xml

3.3. Denmark

Organisation name: Agency for Governmental IT Services. The Agency for Governmental IT Services is an agency of The Ministry of Finance Group, which provides IT services to 15 ministries in the Danish Government counting approximately 23,000 users.

Related link: <https://www.digitaliser.dk>

Name	Thematic area	Link to homepage	Link (xsd or specifications)
SagDokumentFormat (2012)	This schema describes a specification for the exchange of metadata on documents sent by public authorities.	https://www.digitaliser.dk/resource/4605567	https://digst.dk/media/15897/specifikationsagdokumentformat-version-09.pdf
OIO Basic Privilege Profile (2019)	This schema contains a profile of OIOSAML and OIOIDT defining how basic user privileges can be expressed as attributes in SAML Assertions – in other words a “basic privilege profile”. Thus, this profile should be considered an addendum to the OIOSAML and OIOIDT profiles.	https://www.digitaliser.dk/resource/4605567	https://digst.dk/media/19020/oiosaml-basic-privilege-profile-1_1.pdf

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Name	Thematic area	Link to homepage	Link (xsd or specifications)
Infostructurebase (ISB) (2004)	Danish Government Infostructurebase The Infostructurebase provides a number of web services with core functionality from the Infostructurebase. These web services enable users to create their own tools for using the Infostructurebase.	https://www.digitaliser.dk/resource/4605567	http://rep.oio.dk/Infostructurebase/schemas/2004/09/13/ http://rep.oio.dk/Infostructurebase/documantation/2004/09/29/
CVR:34051178 (2014)	This schema includes information related to the qualified trust service providers which are supervised by the issuing Member State, together with information related to the qualified trust services provided by them,	https://www.digitaliser.dk/resource/4605567	https://digst.dk/media/19026/dk_9442-sn20.xml
attention.xml (2014)	Schema for Data Posting by Digital Post	https://digst.dk/it-loesninger/digital-post/dataopmaerkning/ https://digst.dk/media/16810/vejledning-i-anvendelse-af-attentionformatet.pdf	https://digst.dk/it-loesninger/digital-post/anvendelse/meddelesesformater/ https://digst.dk/media/15897/specifikationsagdokumentformat-version-09.pdf https://digst.dk/it-loesninger/digital-post/anvendelse/meddelesesformater/
E-signing Public Certificates for Electronic Services (2014)	NemID is the official digital signature for public digital services.	https://www.nets.eu/developer/E-Signing/eIDs/Pages/NemIDDK.aspx	https://www.nets.eu/dk-da/kundeservice/nemid-tjenesteudbyder/NemID-tjenesteudbyderpakken/Documents/NemID%20Integration%20-%20OCES.pdf

3.4. Norway

Organisation name: a) Directorate for Administration and ICT, The department has coordination responsibility for the public administration policy and the national ICT policy, for parts of the data protection policy and for electronic communications.

b) Agency for Public Management and eGovernment (Difi) which aims to strengthen the government's work in renewing the Norwegian public sector and improve the organisation and efficiency of government administration.

Related link: <https://www.regjeringen.no/en/dep/kmd/id504/>, <https://www.difi.no/om-difi/about-difi>

Name	Thematic area	Link to homepage	Link (xsd or specifications)
Standard for vocational classification (STRYRK08) (2016)	The standard is based on the International Standard Classification of Occupations 2008 - ISCO-08. The standard for occupational classification is intended for use in official Norwegian statistics.	https://www.difi.no/fagomrader-og-tjenester/digitalisering-og-samordning/standarder	http://data.norge.no/data/statistisk-sentralbyr%C3%A5/standard-yrkesklassifisering-styrk08
Henvising v1.1 (2010)	The standard describes a message that is to be used for electronic transmission and receipt of reference	https://ehelse.no/	https://git.sarepta.ehelse.no/publisert/standarder/raw/master/kravdokument/henvising/HIS_80517_2014_Henvising_v1-1%20-korrigert.pdf

3.5. Estonia

Organisation name: Information System Authority and e-estonia briefing centre

The e-estonia briefing center supports X-Road (<https://e-estonia.com/solutions/interoperability-services/x-road/>). X-Road is the backbone of e-Estonia. It allows the nation's various public and private sector e-service information systems to link up and function in harmony.

It connects different information systems that may include a variety of services. It has developed into a tool that can also write to multiple information systems, transmit large data sets and perform searches across several information systems simultaneously.

Related link: <https://www.ria.ee>, <https://e-estonia.com>

Name	Thematic area	Organisation and link to homepage	Link (xsd or specifications)
Records Management Metadata (2013)	This schema is to ensure that any records stored in information systems have a meaning, that they are easy to find and remain reliable over a longer period, as well as	Ministry of economic affairs and communications https://www.ria.ee	https://www.mkm.ee/sites/default/files/records_management_metadata_en.pdf

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Name	Thematic area	Organisation and link to homepage	Link (xsd or specifications)
	to facilitate the easy exchange of metadata between organisations and information systems.		
ÕIGUSAKT (2010)	These Schemes are for drafting and publishing XML-structured legislation in the RiigiTeataja.	https://e-estonia.com	https://varamu.riha.ee/#Oigusakt
X-Road: Message Protocol v4.0 (2018)	This schema describes the X-Road message protocol version 4.0. This protocol is used between information systems and security servers in the X-Road system.	https://e-estonia.com	https://www.x-tee.ee/docs/live/xroad/pr-mess_x-road_message_protocol.html
X-Tee (2018)	X-tee, the data exchange layer for information systems, is a technological and organizational environment enabling a secure Internet-based data exchange between information systems.		http://www.riik.ee/schemas/x-tee
Country XML Schemas	XML Schema repository	Information Systems Authority https://www.ria.ee/en/state-information-system/x-tee.html	http://www.riik.ee/schemas

3.6. Lithuania

Organisation name: State Tax Inspectorate

Related link: <http://www.vmi.lt/cms/en/about-vmi?accessibility=false&lang=en>

Name	Thematic area	Organisation and link to homepage	Link (xsd or specifications)
SAF-T XML (2017)	Specification of the description of xml structure of a standard accounting data file	Ministry of Finance of the Republic of Lithuania https://www.vmi.lt/search/browse?q=xml&x=0&y=0&fq=scopeGroupld%3A%22VMI%22&sort=score+desc%2Cmodified+desc	https://www.vmi.lt/cms/documents/10162/9346175/SAF-T_XSD_specifikacija_v2.1_F+en/b8c0d132-be50-40a6-a8b0-db37a4585fac
ADOC V-1.0 (2017)	This schema determines the requirements for the electronically signed official electronic documents created by the state and local institutions, bodies and enterprises, other entities authorized to perform public administrative functions	https://www.archyvai.lt/en/new/interoperability.html Office of the Chief Archivist of Lithuania	https://signa.mitssoft.lt/signa-web/webResources/docs/ADOC_specification_approved_20090907_EN.pdf https://e-seimas.lrs.lt/portal/legalAct/t/TAP/80b872a03da411e4bb34d3d85ca394b0
MDOC-V1.0 (2017)	Specification for Computer-Readable Electronic Document Signed by Electronic Signature	https://www.archyvai.lt/en/new/interoperability.html	https://e-seimas.lrs.lt/portal/legalAct/t/TAD/TAIS.380050

3.7. Latvia

Organisation name: The portal provides access to VISS and latvija.lv infrastructure resources, which ensure the fulfilment of e-service usage and development tasks. The VISS Portal (formerly the IVIS Portal) is designed for e-service developers and those who integrate information systems using modern technologies and standards. The content of the VISS portal consists of technical information related to system integration and back-end interfaces of various VISS subsystems

Related link: <https://lvp.viss.gov.lv/RC.WebApp/>

Name	Thematic area	Link (xsd or specifications)
XML Catalog (2015)	XML schemes used in institutions and e-services	https://lvp.viss.gov.lv/RC.WebApp/
ATDOrphanPublicTransportPrivilege	XML Schema for ATD Data Preparation for ASGN	http://ivis.eps.gov.lv/XMLSchemas/100034/VBTAIPriv/v1-0/ATDOrphanPublicTransportPrivilege.xsd

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Name	Thematic area	Link (xsd or specifications)
ALISProvider	Exchange of electricity preference data with electricity traders	http://ivis.eps.gov.lv/XMLSchemas/100003/PPriv/v1-0/ALISProvider.xsd
DIT	SubMessageSearch	http://ivis.eps.gov.lv/XMLSchemas/100000/DIT/v1-0/DIT.xsd
SlsAtisDataDistribution	Dissemination of ATIS (Advanced Traveler Information Systems) data by the State Land Service	http://ivis.eps.gov.lv/XMLSchemas/100007/AtisDataDistribution/v1-0/SlsAtisDataDistribution.xsd
GetShipTechnicalData	TP.EPAK.P12 Ship inspection information	http://ivis.eps.gov.lv/XMLSchemas/100672/SKLOIS2/v1-0/GetShipTechnicalData.xsd
DivDataTypes	DIV Common Data Types and Structures.	https://lvp.viss.gov.lv/RC.WebApp/Resource/Details/3007
DIVEnvelope	Document Integration Environment Report Schema	https://lvp.viss.gov.lv/RC.WebApp/Resource/Details/51
DivPrivateAccountManagementService	Personal account processing service.	https://lvp.viss.gov.lv/RC.WebApp/Resource/Details/3008
PEP	Data Structures of Politically Important Person (PEP)	https://lvp.viss.gov.lv/RC.WebApp/Resource/Details/3093
PersonCode	Describes the personal code	http://ivis.eps.gov.lv/XMLSchemas/100001/Person/v1-0/PersonCode.xsd

3.8. Slovenia

Organisation name: Agency of the republic of Slovenia for public legal records and SERVICES

Related link: <https://podatki.gov.si/>

Name	Thematic area	Organisation and link to homepage	Link (xsd or specifications)
XML Catalog (2015)	XML schema used in institutions and e-services	https://edavki.durs.si/EdavkiPortal/OpenPortal/pages/technical/formsxml.aspx https://edavki.durs.si/edavkiportal/openportal/pages/introduction/AllForms.aspx	https://edavki.durs.si/EdavkiPortal/OpenPortal/pages/technical/formsxml.aspx

Name	Thematic area	Organisation and link to homepage	Link (xsd or specifications)
EDP-Common-1.xsd	Common data for all eDavki documents (eDavki is the official portal of Financial administration of Slovenia republic)	DAVKI State Tax Portal https://edavki.durs.si/EdavkiPortal/OpenPortal/pages/StartPage/StartPage.aspx	https://edavki.durs.si/Documents/Schemas/EDP-Common-1.xsd
PODO-Common-1.xsd	Common XML Schemas for PODO (statement of income) Forms	DAVKI State Tax Portal https://edavki.durs.si/EdavkiPortal/OpenPortal/pages/StartPage/StartPage.aspx	https://edavki.durs.si/Documents/Schemas/PODO-Common-1.xsd
KP_Common_1.xsd	Common XML Schemas for KP ¹ Forms	DAVKI State Tax Portal https://edavki.durs.si/EdavkiPortal/OpenPortal/pages/StartPage/StartPage.aspx	https://edavki.durs.si/Documents/Schemas/KP_Common_1.xsd
Zapis xml (2015)	Economic entities, State Authorities	https://podatki.gov.si/data/search?open_data=True	https://podatki.gov.si/data/search?open_data=True&res_format=XML
VATR_Common_1.xsd	Common XML Schemas for VATR Forms	https://edavki.durs.si/EdavkiPortal/OpenPortal/pages/technical/formsxml.aspx	https://edavki.durs.si/Documents/Schemas/VATR_Common_1.xsd
EdpIntegrationError.xsd	Posebne XML sheme za eVEM	DAVKI State Tax Portal https://edavki.durs.si/EdavkiPortal/OpenPortal/pages/StartPage/StartPage.aspx	https://edavki.durs.si/Documents/Schemas/EdpIntegrationError.xsd

3.9. Romania

Organisation name: National Agency of Fiscal Administration, Ministry of Communications and Information Society

Related link: <https://www.anaf.ro>, <https://www.comunicatii.gov.ro/>

¹ There is not information available on the web page about the KP, VATR and eVem forms

Name	Thematic area	Organisation and link to homepage	Link (xsd or specifications)
intrastat.xsd (2011)	This schema describes the Declaration File to define statistics.	https://www.anaf.ro	http://www.intrastat.ro/doc/Handbook_XML_2011_en.pdf
TAX xsd (2018)	Taxation	https://www.anaf.ro	https://static.anaf.ro/static/10/Anaf/Declaratii_R/AplicatiiDec/a4200_20180910.xsd
Electronic signature (2017)	Electronic signature	https://www.comunicatii.gov.ro/	https://www.comunicatii.gov.ro/semnatura-electronica/

3.10. Poland

Organisation name: Electronic Platform of Public Administration Services (ePUAP). ePUAP is an electronic Platform of Public Administration Services (ePUAP) is a coherent and systematic action program designed and developed to allow public institutions make their electronic services available to the public. The website www.epuap.gov.pl enables defining citizen and businesses service processes, creates channels of access to different systems of public administration and extends the package of public services provided electronically.

Related link: <https://epuap.gov.pl/wps/portal/english>

Name	Thematic area	Link (xsd or specifications)
8217 (2019)	Model for application for access to public information	https://epuap.gov.pl/wps/portal/strefa-urzednika/inne-systemy/crwde!/ut/p/a1/04_Sj9CPykssy0xPLMnMz0vMAfGjz0lNLCw83R2dDbwMnN2MDBxNDJwc_clsDQ0CDYAKloEKDC2NTAyNgg283C18nAwcnX0tw0J8zYON_A2I02-AAzqS1B-uH4VXiachVAE-JOJMw02GgtzQCINMT0UAd4YX6A!!/dl5/d5/L2dBISevZ0FBIS9nQSEh/pw/Z7_292IG980LGA270AQ38Q58Q1023/act/id=0/425223027421/=#Z7_292IG980LGA270AQ38Q58Q1023
8216 (2019)	Schema proposal for obtaining assessment to the cost of asbestical removal	https://epuap.gov.pl/wps/portal/strefa-urzednika/inne-systemy/crwde!/ut/p/a1/04_Sj9CPykssy0xPLMnMz0vMAfGjz0lNLCw83R2dDbwMnN2MDBxNDJwc_clsDQ0CDYAKloEKDC2NTAyNgg283C18nAwcnX0tw0J8zYON_A2I02-AAzqS1B-uH4VXiachVAE-JOJMw02GgtzQCINMT0UAd4YX6A!!/dl5/d5/L2dBISevZ0FBIS9nQSEh/pw/Z7_292IG980LGA270AQ38Q58Q1023/act/id=0/425223160439/=#Z7_292IG980LGA270AQ38Q58Q1023
8215 (2019)	A schema application for issuing a certificate related to the local spatial development plan of the city	https://epuap.gov.pl/wps/portal/strefa-urzednika/inne-systemy/crwde!/ut/p/a1/04_Sj9CPykssy0xPLMnMz0vMAfGjz0lNLCw83R2dDbwMnN2MDBxNDJwc_clsDQ0CDYAKloEKDC2NTAyNgg283C18nAwcnX0tw0J8zYON_A2I02-AAzqS1B-uH4VXiachVAE-JOJMw02GgtzQCINMT0UAd4YX6A!!/dl5/d5/L2dBISevZ0FBIS9nQSEh/pw/Z7_292IG980LGA270AQ38Q58Q1023/act/id=0/425223231425/=#Z7_292IG980LGA270AQ38Q58Q1023
8214 (2019)	Schema proposal for a decision to establish	https://epuap.gov.pl/wps/portal/strefa-urzednika/inne-systemy/crwde!/ut/p/a1/04_Sj9CPykssy0xPLMnMz0vMAfGjz0lNLCw83R2dDbwMnN2MDBxNDJwc_clsDQ0CDYAKloEKDC2NTAyNgg283C18nAwcnX0tw0J8zYON_A2I02-AAzqS1B-

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Name	Thematic area	Link (xsd or specifications)
	conditions for building or location of public governance investment	uH4VXiachVAE-JOJMw02GgtzQCINMT0UAd4YX6A!!dl5/d5/L2dBISEvZ0FBIS9nQSEh/pw/Z7_292IG980LGA270AQ38Q58Q1023/act/id=0/425223231425/=/#Z7_292IG980LGA270AQ38Q58Q1023
8213 (2019)	Template for a proposal for determining the area for revitalization	https://epuap.gov.pl/wps/portal/strefa-urzednika/inne-systemy/crwde/!ut/p/a1/04_Sj9CPykssy0xPLMnMz0vMAfGjz0lNLcW83R2dDbwMnN2MDBxNDJwc_cIsDQ0CDYAKloEKDC2NTAyNgg283C18nAwcnX0tw0J8zYON_A2IO2-AAzqS1B-uH4VXiachVAE-JOJMw02GgtzQCINMT0UAd4YX6A!!dl5/d5/L2dBISEvZ0FBIS9nQSEh/pw/Z7_292IG980LGA270AQ38Q58Q1023/act/id=0/425223381994/=/#Z7_292IG980LGA270AQ38Q58Q1023
8211 (2019)	Schema of a request for a register for registered activity with regard to receiving waste municipated from ownership owners	https://epuap.gov.pl/wps/portal/strefa-urzednika/inne-systemy/crwde/!ut/p/a1/04_Sj9CPykssy0xPLMnMz0vMAfGjz0lNLcW83R2dDbwMnN2MDBxNDJwc_cIsDQ0CDYAKloEKDC2NTAyNgg283C18nAwcnX0tw0J8zYON_A2IO2-AAzqS1B-uH4VXiachVAE-JOJMw02GgtzQCINMT0UAd4YX6A!!dl5/d5/L2dBISEvZ0FBIS9nQSEh/pw/Z7_292IG980LGA270AQ38Q58Q1023/act/id=0/425223534684/=/#Z7_292IG980LGA270AQ38Q58Q1023
8203 (2019)	Schema for granting permission to delete a mortgage	https://epuap.gov.pl/wps/portal/strefa-urzednika/inne-systemy/crwde/!ut/p/a1/jVJhU6MwFPxFdwUr_AROWPo1Gptr0q_ZCKkNRISJgRy9NdfqNSGaj2ZDDN52d23-xKwBk9qzXFdt1hRwThr9utfCHpeHAUhnMDwtwuDC3qVzFa-A-fQABIDcHz3wnEXcBJ50ysYhLf-ank7HsE7-D0-PPMF-U_gvWXkNjpAV9ZFFM47yExJsfl9d048j04jQJ3DIP5yJtfenMHuIPw2FCiwaJTiiTN0IYyRWT4gvmWZIZ-qQeUyJqTHFVCKqExpqgk8P1YteWeKjHS04l4XRAJksXyIz5FHQh3qJGLJzabiihbYk9H6a5F0Fc1Zry14AxXytqetMuwwqisn0FyH5xvThQtP9aJHOhtzY_Rqqr0Q3CrFcc7je1UQ65tt9tXhJHUVJ3TjL10Vy1ERuwpC1YXHO-HXL_i1KB-OJ_kOQbuDt8akexB6PgadVCQeK4zfidKoUNG05xkK8xquyEnf41DJU3xUColac6MmucoE6o1dzS421TRhizx82DAe6s24TPF4WofJQ-JUCpqrplx0HottKUKGZelemI-pdUvQqNErOTsp35Sv18rUpOfn-elL0vJs3s8ptr-w9JAa0i/dl5/d5/L2dBISEvZ0FBIS9nQSEh/pw/Z7_292IG980LGA270AQ38Q58Q1023/act/id=0/425223676091/=/#Z7_292IG980LGA270AQ38Q58Q1023
8190 (2019)	Schema for issuing a certificate regarding the use of plots in a zoning plan or in a study of the conditions and directions of spatial development of the Widawa commune together with information on their revitalization	https://epuap.gov.pl/wps/portal/strefa-urzednika/inne-systemy/crwde/!ut/p/a1/jVJhb5swFPxFmw20C3ykdenEabYOWVryxXLBSV2MjYzBI79-JiWN6ZKuyELy8929u2eDDXqEG45busOKCo5Zv998Q9D3kziM4BRGP1wYXsGbcL40HLiABpAagBO4V467hNPYn93AMLol1qu7iQd_ws_x4YUv_C_AWw-hCTOAPjI4qvCZQ-pMTlBbuAmceDDWRy6ExquPH9x7S8c6HrqaVeg2WvFEuaoy1IisjoGfMdyQ39WC8okQ0nBaQFVEJtJfI4dux6qoDVWkK9xLxpiQSpMvVfTKPexDuUZ6U7bbmiiQOnDUWqJs3yFcgAYz3lI4hmtIbd_1y7HCqGqeQHobrr6_U7QMWSdypLczPOZLqrJ_klutON5rbMcac227_b4mjGTnMg46fbUUObHHLFhTcnyYcvOCM4P64pzJcwrch742lv90MktGqEg9V3ovRGI0BGjWUHyNWa3ZCTP8_ahkqZ4LFWStBdGzOuUC9WZ0xpdBqZo51b4aTTgg1WbcE5xfNsnyWMillmGqyHSaRC6qzUliPlnSAap4TXWz0KDV0-F7Ga0V19f6qpU5e9HSH-V03Z-cm1-wu4iZqy/dl5/d5/L2dBISEvZ0FBIS9nQSEh/pw/Z7_292IG980LGA270AQ38Q58Q1023/act/id=0/425223795559/=/#Z7_292IG980LGA270AQ38Q58Q1023

Name	Thematic area	Link (xsd or specifications)
8177 (2019)	Schema for declaration on the height of federal audit of losses from payments of interest and discounted performed for the issuance of the bonds of the series of the bonds - The template of the electronic document may be used after two weeks from the date of publication.	https://epuap.gov.pl/wps/portal/strefa-urzednika/inne-systemy/crwde/!ut/p/a1/jVJhb5swFPxFmw20C3ykdENEabYOWVryxXLSV2MjYzBI79-JiWNyZquyELy8929u2eDDXqEG45busOKCo5Zv998Q9D3kziM4BRGP1wYXsGbcL4OHLiABpAagBO4V467hNPYn93AMLol1qu7iQd_ws_x4YUv_C_AWw-hCTOAPjI4qvCZO-pMTIBbuAmceDDWRy6ExguPH9x7S8c6HrgoaVEq2WvFEuaoy1lisjoGfMdyQ39WC8okQOnBaqFVEJtJfI4dux6qoDVWk9xLxpiQSpMvVfTKPexDuUZ6L7bbmiiQenDUWqJs3yFcaYz3ll4hmflbc_65VhhVDVPILONV9_PFC1D1okc6e3Mj9GSquyf5FYrjvca27HGXNtuv68Jl5mp0ucZB52-Woqc2GMWrCk5Pky5ecGZQX1x3slzCtwfvjYi-b3QyS3qoSD1HX_yRpRCR4xmBcnXmDV2Q07-GldKmuKxVEnSXhg1L1AuVGfuaHS5maltWeGnOYAPVm3Ce4rj2z5JHhOhTDRcDZF0g9BdrSlRzDxDmKgnr7F-Fhqkei9kN6Q1-vpSV6Aqfz9C-quctvPrT67dXzraGFE/dl5/d5/L2dBISEvZ0FBIS9nQSEh/pw/Z7_292IG980LGA270AQ38Q58Q1023/act/id=0/425223900223/=#Z7_292IG980LGA270AQ38Q58Q1023
8142 (2019)	Schema form regarding the composition of committees for assessing damage to agricultural holdings and special departments of agricultural production where damage caused by adverse weather conditions occurred	https://epuap.gov.pl/wps/portal/strefa-urzednika/inne-systemy/crwde/!ut/p/a1/jVJhc6MgFPxFd6BpGv1o7Z1jJs1dmlxa84WhSllqgoMoZ359MTUN5ppeHcYZHrv7dh-ADXgEG44busOKCo5Zt99cl-h5cRSEcArDny4MruBNMF_7DlxAA0qMwPHdK8ddwmnkzW5gEN7569XdZAR_wa_x4YUv-C_AWw-hcROD_jM4pvCZO-JMTlBru_Gke_BWRS4ExgsRtSi7C0c6I7AQ00JBstOKZIOQ1vKFJHhM-Y7khn6sZ5Tlmt0clQJqYTGNkGQwPdj1ZYHqsRI7yXidUEkSJar-3qedSDcoUaWnthuK6JAcq0HrSVK9y3Cuaox462FZ7hS1vasX4YVRmX9BJLbYPXjTNEyZJ3lqd70_BgtqEr_SW614nivsR1ryLXtdvuKMJKagnOesdfpgoXliD1mweqC480U6xecGtQ354M8p8Dd4Vsjkt0LHd-iDgoSzxIP3oIS6JDRNCfZGrPabsjJX-NQSVm8llkpJmguj5jnKhGrNHQ0uN1W0ISv8NBjwwapN-EhxeNsnyWMillqaqz7SaRCGrTQlipInSHqp_jVWzOKDRO-FbGe0Ut9fghKUXZ9HSH8X02Y-uLavQK1L6pj/dl5/d5/L2dBISEvZ0FBIS9nQSEh/pw/Z7_292IG980LGA270AQ38Q58Q1023/act/id=0/425224081700/=#Z7_292IG980LGA270AQ38Q58Q1023

3.11. Hungary

Organisation name: Ministry of the Interior

Related link: <https://ugyintezes.magyarorszag.hu/>

Name	Thematic area	Link (xsd or specifications)
anyt_xsd (2013)	This XML structure is a generic format that enables communication in a platform-independent manner between the user and the institutions.	https://ugyintezes.magyarorszag.hu/srv/letolt?id=47438739&lang=hu https://ugyintezes.magyarorszag.hu/dokumentumok/anyt_xsd.zip
anyt_xml (2013)	General description of the xml structure of the forms	https://ugyintezes.magyarorszag.hu/dokumentumok/anyt_xml.doc

3.12. Czech Republic

Organisation name: Ministry of the Interior of the Czech Republic, Ministerstvo vnitra České republiky, všechnaprávavyhrazena

Related link: <https://www.mvcr.cz/>

Name	Thematic area	Link (xsd or specifications)
NSESSS (2011)	National standard for electronic filing systems. NSESSS information, XML schema for passing documents and their metadata to an archive, and an example of a SIP data package. The following XSDs are attachments to the NSESSS standard	https://www.mvcr.cz/clanek/narodni-standard-pro-elektronicke-systemy-spisove-sluzby.aspx
Příloha 1A (2009)	XSD schema of types used in WSDL for handling data messages	https://www.mvcr.cz/nsesss/v3/dmBaseTypes.xsd
Příloha 1C (2009)	A schema defining events and objects that originated in one ERMS (Electronic Records Managements Systems) and transferred to the other. This diagram describes the asynchronous exchange of events.	https://www.mvcr.cz/nsesss/v3/ermsAsynU.xsd
Příloha 1D (2009)	A schema defining events and objects that originated in one ERMS and transferred to the other. This diagram describes the asynchronous exchange of events, eg in the form of batches.	https://www.mvcr.cz/nsesss/v3/ermsIFAsyn.xsd
Příloha 1E (2009)	A schema defining events and objects that originated in one ERMS and transferred to the other. This diagram describes synchronous exchange of events, eg in the form of web services.	https://www.mvcr.cz/nsesss/v3/ermsIFSyn.xsd
Příloha 1F (2011)	Changes to the version commented by the filing service manufacturers dated April 24, 2011 are marked directly in the comment text, starting as well as this line. These changes seek to address some of their comments.	https://www.mvcr.cz/nsesss/v3/ermsTypes.xsd
Příloha 2 (2011)	XML schema for capturing descriptive metadata within a SIP (submission information package) data package according to the national standard for electronic records management systems	https://www.mvcr.cz/nsesss/v3/nsesss.xsd
Příloha 4 (2009)	XML Scheme for Sending Shredder Decisions and Acceptance Confirmation with Digital Archive	https://www.mvcr.cz/nsesss/v3/nsesss-DA.xsd

Name	Thematic area	Link (xsd or specifications)
	Identifiers to Originator According to National Standard for Electronic Records Management Systems	
Příloha 5 (2011)	XML Scheme for Export and Import of Records and Shredding Plans according to National Standard for Electronic Records Management Systems	https://www.mvcr.cz/nsejss/v3/nsejss-plan.xsd

3.13. Croatia

Organisation name: Central State Office for e-Croatia with the approval of the Ministry of Administration

Related link: <https://uprava.gov.hr/>

Name	Thematic area	Link (xsd or specifications)
xmlspeup-schema	Data model for the exchange of electronic documents (XML schema)	http://diqured.srce.hr/arhiva/434/57364/e-hrvatska.hr/sdu/hr/e-hrv/rightBanner/014/document1/Standardni_projekt_elektronickog_uredskog_poslovanja_Ver_1_0.pdf

3.14. Germany

Organisation name: XÖV (XML in Public Administration (XÖV)) is a standard for public administration electronic data exchange based on XML Syntax messages and associated code lists and processes. XÖV is a federally developed standard, which is managed by the Coordination Center for IT Standards (KoSIT)), OSCI OSCI is the name of a two-layered protocol for the secure exchange of messages in the E-Government context. It has been developed within the German MEDIA@Komm project, and now it became an important part of the German E-Government infrastructure. It will, for example, be a major part of the secure technical infrastructure for Bund Online 2005, which is the E-Government program of the German federal government. The security layer of OSCI, called OSCI-Transport, is a mandatory standard in the federal government's IT – architecture program SAGA. It is part of the European IDA program, too.

Related link: <https://www.xoev.de>, <https://www1.osci.de/>

Name	Thematic area	Link (xsd or specifications)
XMeld (2013)	It is the specification of the nationwide data exchange format for the transmission of data of the reporting system and bindingly describes the data structures and key tables to be used for the data exchange. It contains a complete and detailed specification for mapping DSMeld (Data set for the reporting unit uniform federal / provincial section) sheets to XÖV data structures and describes to a necessary extent the procedures of the	http://www.osci.de/xmeld241/xmeld-codes.xsd

Name	Thematic area	Link (xsd or specifications)
	communication participants for all specified business transactions.	
XSocial (2012)	XSozial is a standard designed to allow communities and other public institutions to exchange work and social data quickly and securely in an open XML-based standard.	https://statistik.arbeitsagentur.de/Statistischer-Content/Grundlagen/Datenstandard-XSozial/Handbuch/Generische-Publikationen/Handbuch-XSozial-Grundlage-Datenermittlung-V30.pdf
XAusländer (2014)	<p>The Standard XAusländer is dedicated to the exchange of data on foreign nationals of immigration authorities with other communication partners. The modeling of the data and messages takes into account the specifications of the internal administration, the XÖV regulations and the standardization efforts of the IT Planning Council.</p> <p>The Standard X Foreigner is operated since November 2011 and continuously developed. The authorization basis is the most recent administrative agreement signed between the Federal Government and the Länder on 12 June 2014, valid until 31 May 2018.</p>	http://www.osci.de/xauslaender1120/XAuslaender-spezifikation.pdf
XPersonenstand (2019)	XPersonenstand is an XÖV-compliant specialist standard for the exchange of data between registry offices or between registry offices and other authorities. The standard was developed in 2007 as part of the action plan Germany Online in the project "civil status" under the auspices of the city of Dortmund and has been operated since 2010 also by the city of Dortmund.	http://www.osci.de/xpersonenstand174/xpersonenstand-codes.xsd
XPersonenstand sregister (2019)	XPersonenstandsregister is an XÖV-compliant specialist standard that describes the interface between specialist and register procedures for the management of electronic civil status registries. It was developed under the leadership of the Bavarian Ministry of the Interior in the project "XRegisterschnittstelle".	http://www.osci.de/xpersonenstandsregister21/xpersonenstandsregister-dokumente_2_1.xsd

3.15. Austria

Organisation name: E-Government Innovation Centre (EGIZ)

Related link: <https://www.digitales.oesterreich.gv.at/kommunikationsarchitektur>

Landscape of XML Syntaxes

Name	Thematic area	Organisation and link to homepage	Link (xsd or specifications)
XML-Eingangsprotokoll (2006)	The XML Entry Protocol (XML-e) defines a standard for input data, regardless of whether it is sent from a public authority Web form or any other point.	https://www.digitales.oesterreich.gv.at/kommunikationsarchitektur	https://www.ref.gv.at/Q-KA/XML-Eingangsprotokoll_1_1.80_5.0.html
XML-Strukturen für Geschäftsobjekte (2004)	XML business objects (XML-g) is a recommendation for an efficient procedure for modelling XML structures for communicating between public authorities applications. The modelling recommendations are applicable to the creation of electronic application forms, amongst other things.	https://www.digitales.oesterreich.gv.at/kommunikationsarchitektur	https://www.ref.gv.at/Q-KA/XML-Strukturen_fuer_Gesch.43_9.0.html
Baukasten (2006)	The XML toolbox describes a convention containing organisational and technical specifications for the design of XML data structures for electronic application forms. These should build upon the public authority's uniform base elements and types, for which design requirements and the organisational expansion process are described. Furthermore, recommendations for the use of base types and elements are specified in a separate schema. The elements and types defined in the XML toolbox for the input data element of the XML Entry Protocol are used in the implementation of electronic procedures.	https://www.digitales.oesterreich.gv.at/kommunikationsarchitektur	https://www.ref.gv.at/fileadmin/migrated/content/uploads/xml-baukasten-1-0-0_20060407_04.pdf
XML-Struktur für Personendaten (2002)	XML Structure for Personal Data The PersonData record is used to uniquely describe a natural and non-natural person through interconnected information blocks called Person, Address, Telephone, etc. It is used in all eGovernment procedures that handle personal data. Applications that are built on this XML structure can derive it further, make restrictions or expand it as	https://www.ref.gv.at/EDI-AKT-EDIDOC.599.0.html	https://www.ref.gv.at/EP-EA/XML-Schema-zu-Ediakt-II.645.0.html

Name	Thematic area	Organisation and link to homepage	Link (xsd or specifications)
	necessary to fit their own requirements.		
EDI AKT II / EDIDOC (2005)	EDI AKT was developed as a standard format for communication between different public institutions (public authorities, courts of law, public businesses). Although all had record management systems that work with electronic records, business cases, and sub-cases including documents, the objects were specific to the manufacturer of the software and not built according to a uniform standard. In the course of further development and increased distribution of ELAK ² systems, the standard was updated to its current format, EDI AKT II.	https://www.ref.gv.at/EDI AKT-EDIDOC.599.0.html	https://www.ref.gv.at/EP-EA-XML-Schema-zu-Ediakt-II.645.0.html
EDIDOC (2018)	EDIDOC stands for Electronic Data Interchange for Documents and is an XML schema, which is universally valid Administrative information including internal structure and attributes in the public administration describes.	https://www.ref.gv.at/EP-EA-XML-Schema-zu-EDIDOC-1-0.3107.0.html	https://www.ref.gv.at/EP-EA-XML-Schema-zu-EDIDOC-1-0.3107.0.html
XML- Suchanfragen (2005)	The XML specification for search queries (XML-sw) provides a standardised framework for the development of interfaces for searches, queries and information retrieval from eGovernment applications, such as registers.	https://www.digitales.oesterreich.gv.at/kommunikationsarchitektur	https://www.ref.gv.at/Q-KA XML-Suchanfragen via Webs.635.0.html

3.16. Belgium

Organisation name: Federal public service finance

Related link: <https://finances.belgium.be/fr/E-services/beps13/comment-introduire-les-fichiers-xml-beps-13>

² Elektronischer Akt (ELAK) (Nationwide system of electronic file processing in Austria) (www.digitales.oesterreich.gv.at/elektronischer-akt-elak)

Landscape of XML Syntaxes

Name	Thematic area	Organisation and link to homepage	Link (xsd or specifications)
myMinfin (2019)	MyMinfin is a Federal Public Services Finance initiative offering a number of personal documents and e-services. These e-services help managing the income tax return of individuals.	https://finances.belgium.be/fr/E-services/beps13/comment-introduire-les-fichiers-xml-beps-13	https://financien.belgium.be/sites/default/files/downloads/126-beps13-LocalFile_v2.1.xsd.zip https://financien.belgium.be/sites/default/files/downloads/126-beps13-isobctypes_v1.0.1.xsd.zip https://financien.belgium.be/sites/default/files/downloads/126-beps13-LocalFile_v2.1_test.xml.zip
XML CRS(EOI) XML Tool (2019)	Common Reporting Standard – CRS for financial account information	https://finances.belgium.be/fr/E-services/crs/creation-fichiers-xml-crs	http://www.oecd.org/tax/automatic-exchange/common-reporting-standard/schema-and-user-guide/CRS-schema-v1.0.zip http://www.oecd.org/tax/automatic-exchange/common-reporting-standard/schema-and-user-guide/#d.en.345315
BELCOTAX-ON-WEB (2019)	Belcotax-on-web allows employers and other debtors to introduce online 281.xx forms (remunerations, certificates of liberality, commissions). The use of Belcotax-on-web is mandatory (unless waived).	https://finances.belgium.be/fr/E-services/Belcotaxonweb	https://finances.belgium.be/fr/E-services/Belcotaxonweb/documentation-technique

Landscape of XML Syntaxes

Name	Thematic area	Organisation and link to homepage	Link (xsd or specifications)
BIZTAX (2019)	The tax declaration		https://finances.belgium.be/fr/node/3211#q2 https://finances.belgium.be/fr/node/3211#q2
CADGIS (2019)	With the CadGISapp, you can view the Belgian land parcel plan for free	https://finances.belgium.be/fr/E-services/cadgis	http://eservices.minfin.fgov.be/dmat/extra
CDCK DMAT (2019)	ICT application for securities transfers to the Caisse des Dépôts et Consignations (CDC) as part of the deletion of bearer securities.	https://finances.belgium.be/fr/E-services/CDCK	https://finances.belgium.be/sites/default/files/downloads/CDCK_notification.zip
MyRent	MyRent is an online application that allows to send a lease contract and / or inventory to the registration. The lease contract must not be exclusively for the dwelling. You can also use MyRent for a commercial lease or for a lease of a garage.	https://finances.belgium.be/fr/E-services/MyRent	https://finances.belgium.be/sites/default/files/20180524_D%C3%A9finitiondesr%C3%B4lesFedIAM.pdf
Schémas xsd	tax-on-web	https://finances.belgium.be/fr/E-services/schema_sxsd	https://finances.belgium.be/sites/default/files/E-services/XSD/2019/common.zip https://finances.belgium.be/sites/default/files/E-services/XSD/2019/declaration_ipp.zip https://finances.belgium.be/sites/default/files/E-services/XSD/2019/meta.zip https://finances.belgium.be/sites/default/files/E-

Name	Thematic area	Organisation and link to homepage	Link (xsd or specifications)
			services/XSD/2019/taxonweback.zip

3.17. The Netherlands

Organisation name: Standardization Forum

Related link: <https://www.forumstandaardisatie.nl/open-standaarden/lijt/verplicht>

Name	Thematic area	Organisation and link to homepage	Link (xsd or specifications)
Aquo standard Version: Aquo 2018-12 (2018)	Exchange uniform data on water between parties involved in water management for the quality improvement of water management.	www.forumstandaardisatie.nl/open-standaarden/lijt/verplicht	http://www.aquo.nl/download_2/ http://www.aquo.nl/documents/2017/03/voorbeeld-im-metingen-xml.xml
BWB ³ Version 1.3.1 (2016)	Electronic reference to consolidated laws and regulations with the aim of sharing them with others.	www.forumstandaardisatie.nl/open-standaarden/lijt/verplicht	https://www.forumstandaardisatie.nl/standaard/bwb
COINS Version 2.0 (2018)	BIM exchange standard. COINS must be applied to the coherent recording and exchange of information and documents between clients and contractors during the entire life cycle of construction processes.	www.forumstandaardisatie.nl/open-standaarden/lijt/verplicht	www.forumstandaardisatie.nl/standaard/coins https://www.forumstandaardisatie.nl/open-standaarden/lijt?f%5B0%5D=field_keywords%3A76
Digi coupling (2018)	Secure message exchange Digikoppeling must be applied to all digital data exchange using structured messages that take place with facilities that are part of the GDI, including the basic registrations, or that are cross-	www.forumstandaardisatie.nl/open-standaarden/lijt/verplicht	https://www.forumstandaardisatie.nl/standaard/digikoppeling

³ Juriconnect standard BWB "logical links to legislation"

Name	Thematic area	Organisation and link to homepage	Link (xsd or specifications)
	sectoral.		
DKIM ⁴ Version: RFC 6376 (2012)	Accessibility of websites Digitally accessible (EN 301 549 with WCAG 2.1) must be applied to the provision of web-based information, interaction, transaction and participation services.	www.forumstandaardisatie.nl/open-standaarden/lijt/verplicht	https://www.forumstandaardisatie.nl/open-standaarden/lijt?f%5B0%5D=field_keywords%3A65
E-Portfolio NL version NEN 2035:2014 nl (2018)	Exchanging information about the developmental progress of an individual, who manages the individual as a lifelong learning self, between organizations in the learning chain where the individual learns and works.	www.forumstandaardisatie.nl/open-standaarden/lijt/verplicht	www.forumstandaardisatie.nl/standaard/e-portfolio-nl
Geo Standards (2014)	Geographic information Exchange of geographical information between organizations, where the spatial dimension is of significant importance.	www.forumstandaardisatie.nl/open-standaarden/lijt/verplicht	https://www.forumstandaardisatie.nl/standaard/geo-standaarden

3.18. Luxembourg

Organisation name: Luxembourg VAT Refund

Related link: <http://www.aed.public.lu/etva/vatrefund/>

Name	Thematic area	Organisation and link to homepage	Link (xsd or specifications)
VAT Refund portal version 8.0 and above. (2017)	This schema is to generate XML files to integrate refund application into the Luxembourg VAT Refund portal	http://www.aed.public.lu/etva/vatrefund/doc/en/uploaddev.html	http://www.aed.public.lu/etva/vatrefund/doc/VATRefundUpload-Sample.xml XML schema definition (XSD) v1.00

⁴ DomainKeys Identified Mail

Landscape of XML Syntaxes

Name	Thematic area	Organisation and link to homepage	Link (xsd or specifications)
			VAT Refund XML Upload Developer Guide v1.10 Preloading a refund application from an XML file
VATMOSS ⁵	The schema to submit the relevant information relating to the VAT returns in the framework of the "mini-one-stop-shop" to the administration via the VATMOSS platform by electronic file transfer.	http://www.aed.public.lu/tva/commerce-electronique/	http://www.aed.public.lu/tva/commerce-electronique/Schema-VATMOSS/index.html?highlight=xml
TANTIÈMES (2018)	Tax declaration	https://impotsdirects.public.lu/fr/echanges_electroniques/Tantiemes.html	https://impotsdirects.public.lu/dam-assets/fr/echanges_electroniques/declaration_tanti%C3%A8mes/ACD-DECL-TANT-XSD-Preremplissage.zip https://impotsdirects.public.lu/dam-assets/fr/echanges_electroniques/declaration_tanti%C3%A8mes/ACD-F510.zip
ACD PM 2018 XSD Import v1.4 (2019)	This Schema is for the declaration for Taxation of Resident Communities	https://impotsdirects.public.lu/fr/echanges_electroniques/decl_coll.html	https://impotsdirects.public.lu/dam-assets/fr/echanges_electroniques/decl-coll/ACD-DECL-COLL-2018-XSD.zip

⁵ The Value-Added Tax (VAT) mini one-stop-shop (MOSS)

3.19. Greece

Organisation name: Ministry of Digital Governance

Related link: www.mindigital.gr

Name	Thematic area	Organisation and link to homepage	Link (xsd or specifications)
e-gif (2008)	The framework targets all Greek public administrations both at national and local level. The framework's goal is to improve the electronic cooperation and communication between public administrations.	ERMIS http://www.e-gif.gov.gr/portal/page/portal/egif/	http://www.e-gif.gov.gr/portal/page/portal/egif/files/basicFiles http://www.e-gif.gov.gr/portal/page/portal/egif/files/xmlfiles

3.20. Italy

Organisation name: Tavolo tecnico interoperabilità per la semplificazione amministrativa.

Related link: <https://www.agid.gov.it>

Name	Thematic area	Organisation and link to homepage	Link (xsd or specifications)
Moduli PA (2017)	A core vocabulary that defines all the data entities common to all the modules, divided into elementary data entities (such as: name, surname, etc.) and aggregated data entities (such as: person consisting of name, surname, etc.)	https://www.agid.gov.it	https://github.com/italia/moduli-pa/tree/v1.0.0/ http://www.italiasemplice.gov.it/media/2533/15713-a-all-1-28accordo-schemi-xml-modulisitca-4-maggio-e-6-luglio-201729.pdf
AgID_aggregate_components (2017)	Aggregate components containing complex information elements defined starting from the basic information elements;	https://www.agid.gov.it	https://github.com/italia/moduli-pa/blob/v1.0.0/AgID_Vocabularies/AgID_aggregate_components-1.0.0.xsd
AgID_basic_components	Basic components (the set of basic information elements)	https://www.agid.gov.it	https://github.com/italia/moduli-

Name	Thematic area	Organisation and link to homepage	Link (xsd or specifications)
(2017)			pa/blob/v1.0.0/AqID_Vocabularies/AqID_basic_components-1.0.0.xsd
AqID_enumeration (2017)	ID enumeration (the set of enumerations used for typing information elements)	https://www.agid.gov.it	https://github.com/italia/moduli-pa/blob/v1.0.0/AqID_Vocabularies/AqID_enumeration-1.0.0.xsd
SUE (2017)	SUE XSDs ⁶	https://www.agid.gov.it	https://github.com/italia/moduli-pa/tree/v1.0.0/Moduli_PA/SUE
SUAP (2017)	SUAP XSDs ⁷	https://www.agid.gov.it	https://github.com/italia/moduli-pa/tree/master/Moduli_PA/SUAP

3.21. France

Organisation name: Collectives Locales France

Related link: <https://www.collectivites-locales.gouv.fr/>

Name	Thematic area	Organisation and link to homepage	Link (xsd or specifications)
The standard exchange protocol (PES) (2007)	The standard exchange protocol of Hélios version 2 (PES V2) is the dematerialization solution of the recipe titles, the expenditure mandates and the summary slips validated, as of 2005, by the national partners gathered within the SNP (Structure National Partner).	Collectivites-Locales France https://www.collectivites-locales.gouv.fr https://www.collectivites-locales.gouv.fr/protocol-dechange-standard-pes-0	https://www.collectivites-locales.gouv.fr/files/files/finances_locales/dematerialisation/schemas_pes_v5.9.7z

⁶ There is not further available information about SUE

⁷ There is not further available information about SUAP

XEMELIOS Standards: XéMélios allows the exploitation of files in XML format respecting the schemas defined nationally.

Name	Thematic	Organisation and link to homepage	Link (xsd or specifications)
Scheme of Social Assistance Payments and Apprentice Employer Assistance (2011)	This schema defines the format in which the payment statements must be sent to the accountant.	XEMELIOS http://xemelios.org	http://xemelios.org/sc_hemas/AideSociale/ http://xemelios.org/sc_hemas/AideSociale/sc_hema-versement.zip
Schema of the notice of the sums to be paid (2011)	This Schema is the format that the notices of the amounts to pay must have.	XEMELIOS http://xemelios.org	http://xemelios.org/sc_hemas/asp/ http://xemelios.org/sc_hemas/asp/schema-asp.zip
Scheme of payments of national education scholarships (2011)	This schema defines the format in which the payments of scholarships of the national education must be transmitted to the accountant.	XEMELIOS http://xemelios.org	http://xemelios.org/sc_hemas/bourses/ http://xemelios.org/sc_hemas/bourses/schema-bourses.zip
Schéma des relevés de Carte Achat (2011)	This schema defines the format in which the acquisition card statements must be sent to the accountant.	XEMELIOS http://xemelios.org	http://xemelios.org/sc_hemas/carte-achat/ http://xemelios.org/sc_hemas/carte-achat/schema-carte-achat.zip
XML Pay Scheme (2008)	This schema defines the format in which the vouchers (bulletins) are sent to the accountant.	XEMELIOS http://xemelios.org	http://xemelios.org/sc_hemas/cfg-pay/ http://xemelios.org/sc_hemas/cfg-pay/schema-pay.zip
Schema of the State of the Remains to Recover (2009)	This schema defines the format in which the remains to be recovered are sent by Helios to the accounting item.	XEMELIOS http://xemelios.org	http://xemelios.org/sc_hemas/erar/

Name	Thematic	Organisation and link to homepage	Link (xsd or specifications)
			http://xemelios.org/scemas/erar/Schema-erar-xemelios.zip
Scheme of the States of Costs (2011)	This schema defines the format in which the expense reports of the SPL and the State (CHORUS application) must be sent to the accountant.	XEMELIOS http://xemelios.org	http://xemelios.org/scemas/etat-frais/ http://xemelios.org/scemas/etat-frais/schema.zip
PES Invoice Schema (2011)	This schema defines the format in which Invoices must be sent to the accountant.	XEMELIOS http://xemelios.org	http://xemelios.org/scemas/pes-facture/ http://xemelios.org/scemas/pes-facture/schema-pes-facture.zip
Exit scheme (2011)	This schema defines the format in which the receipts must be transferred to the accountant.	XEMELIOS http://xemelios.org	http://xemelios.org/scemas/quittancement/ http://xemelios.org/scemas/pes-facture/schema-pes-facture.zip

3.22. Spain

Organisation name: Ministerio de Hacienda y Administraciones Públicas Secretaría

Related link: <http://www.hacienda.gob.es>

Organisation name: Portal de Administración Electrónica⁸

⁸ The National Interoperability Scheme establishes the series of Interoperability Technical Standards that are mandatory by the AAPP, and that they develop concrete aspects of the interoperability between the AA.PP. and with the citizens. These are the rules that follow along with their application guides and other supporting documents

Related link: <https://administracionelectronica.gob.es>,

<https://administracionelectronica.gob.es/pae> Home/pae Estrategias/pae Interoperabilidad Inicio/pae Normas tecnicas de interoperabilidad.html#XTHHDZMzaL4

Name	Thematic area	Link (xsd or specifications)
1. XSD Data model. 2. XSD Index of the data model. 3. XSD Index content of the data model. 4. XSD Metadata of the data model. 5. XSD Signatures. 6. XSD Electronic Document Content. (2010)	The National Scheme of Interoperability in the field of Electronic Administration	http://www.hacienda.gob.es/Documentacion/Publico/SGT/CATALOGO_SEFP/252_Guia_NTI_RelacionModelos.pdf
NTI (2015)	URI of the metadata "NTI version" of "Electronic Document". The metadata "Version NTI" has the objective of providing information regarding the version of the standard corresponding to the processing of each electronic document	https://administracionelectronica.gob.es/ENI/XSD/v1.0/documento-e#XTHFepMzaL4 https://administracionelectronica.gob.es/buscador-gsa/buscadorAvanzado.htm?q=xsd&busqueda=true&ticket=#XTHAlpMzaL5
documentoENI.xsd	Document representation	http://administracionelectronica.gob.es/ENI/XSD/v1.0/documento-e/documentoEni.xsd
metadataDocumentEni.xsd	Document metadata	http://administracionelectronica.gob.es/ENI/XSD/v1.0/documento-e/metadatos/metadatosDocumentoEni.xsd
ContentDocumentEni.xsd	Document's content	http://administracionelectronica.gob.es/ENI/XSD/v1.0/documento-e/contenido/contenidoDocumentoEni.xsd
signaturesEni.xsd	Electronic signatures	http://administracionelectronica.gob.es/ENI/XSD/v1.0/documento-e/signaturas/signaturasEni.xsd

Name	Thematic area	Link (xsd or specifications)
		ca.gob.es/ENI/XSD/v1.0/firma/firmasEni.xsd
File Eni.xsd		http://administracionelectronica.gob.es/ENI/XSD/v1.0/expediente-e/expedienteEni.xsd
Index FileEni.xsd		http://administracionelectronica.gob.es/ENI/XSD/v1.0/expediente-e/indice-e/IndiceExpedienteEni.xsd
Index Contents File Eni.xsd		http://administracionelectronica.gob.es/ENI/XSD/v1.0/expediente-e/indice-e/contenido/IndiceContenidoExpedienteEni.xsd
Metadata File Eni.xsd		http://administracionelectronica.gob.es/ENI/XSD/v1.0/expediente-e/metadatos/MetadatosExpedienteEni.xsd
signaturesEni.xsd		http://administracionelectronica.gob.es/ENI/XSD/v1.0/firma/firmasEni.xsd

3.23. Portugal

Organisation name: Autoridade tributaria e eduania

Related link: <https://sitfiscal.portaldasfinancas.gov.pt>

Name	Thematic area	Link (xsd or specifications)
SAFT-PT (2016)	Standard Audit File-Portuguese Version	http://info.portaldasfinancas.gov.pt/apps/saft-pt04/SAFTPT1.04_01.xsd

3.24. Malta

Organisation name: Metadata information technology agency

Related link: <https://mita.gov.mt/en/Pages/MITAHome.aspx>

Name	Thematic area	Organisation and link to homepage	Link (xsd or specifications)
FATCA XML v2.0 (2017)	The FATCA XML Schema is based on business requirements collected by a multilateral working group. The schema uses elements from existing reporting schemas used by the OECD and the European Union (EU) to reduce burden on reporting entities.	https://cfr.gov.mt/en/inland_revenue/itu/Pages/AEOI-(FATCACRSDACC-II).aspx	https://www.irs.gov/pub/fatca/fatcaxml_v2.0.zip
Common Reporting Standard XML Schema (2019)	The automatic exchange of information of financial assets and other income, as well as account balances. Extends the cooperation between EU tax authorities to automatic exchange of financial account information.	https://cfr.gov.mt/en/inland_revenue/itu/Pages/CRSDAC2.aspx	http://www.oecd.org/ctp/exchange-of-tax-information/CRS-Schema-v2.0.zip
	Data-Driven Public Administration National Data Strategy	https://mita.gov.mt/en/nationaldatastrategy/Documents/Data-Driven%20Public%20Administration%20(Malta).pdf	

3.25. Cyprus

Organisation name: Ministry of Finance, Custom's service

Related link: https://www.mof.gov.cy/mof/ce/theseas/theseas.nsf/index_en/index_en?OpenDocument

Name	Thematic area	Link (xsd or specifications)
e-Biscus Manifest XML File Interface Specification (2018)	THESEAS - Technical Data - e-Biscus Manifest XML File Interface Specification	https://www.mof.gov.cy/mof/ce/theseas/theseas.nsf/All/F3AF2B1C487023BE422577DF002954B5/\$file/Import%20XML%20upload%20ver.%202.1.pdf https://www.mof.gov.cy/mof/ce/theseas/theseas.nsf/AdvancedSearch_en?OpenForm&q=&p=1&w=&t=&s=xml&L=E&e=&i=1

4. CONCLUSIONS

In this study we provided an overview of the most relevant XML specifications used in message exchange between applications produced by Member States. We also provided short descriptions of relevant international standards including UN/CEFACT, UBL, XBRL, LegalXML, NIEM.

The findings of this study have been solely based on desk research. The **main difficulties** that we faced during the creation of this study were:

- **Language barrier.** Although there are English translations of the public administrations web sites, these were only providing basic and general information without any links to the information of interest. In almost all cases, the information about XML specifications was described in the native language.
- **Information was not easy to find.** The information about XML specifications was not easy to find and the way to find it was to search in long governmental documents and find web links that refer to this information and could not be found through keyword google search or by using the search functionality of the relevant websites. In many cases, the information was placed in GitHub repositories or in relational databases that we didn't always have access.
- **XML specifications not available.** There were MS that did not provide any information about XML specifications, which means that this information was not documented in any public website or they aren't using XML standards at all in message exchange between administrations.
- **Insufficient documentation.** In many cases, we could find XML specifications but the documentation was insufficient to understand what the standard is about. In these cases, we included the links in the respective MS table and the information was extracted through the analysis of the XSD, if elements were in English, which was not always the case.
- **Not direct link to the XML specification.** In many cases there was sufficient documentation of the XML specifications but the actual XSD was either not available or it was available inside documents in descriptive format.

Some **general remarks** about the study are:

- In the majority of MSs, there isn't a dedicated public organisation that is responsible to produce XML specifications for message exchange.
- Some MSs have produced guidelines for producing XML specifications, which they follow in order to achieve syntactic interoperability.
- In the majority of the MSs, they don't re-use concepts from relevant International standards or the ISA² core vocabularies. Re-using existing standards is a well-known best practice to achieve

syntactic and semantic interoperability. Only in the cases of e-invoicing and e-procurement, we have identified cases that MSs are using the UBL and the PEPPOL standard.

- Many of the XML specifications that have been produced by MSs have been created in the second half of the 2000-2010 decade.
- What is common in all MSs is that all MSs have produced XML specifications the concern the TAX application and TAX refund processes.

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