

NEXOF-RA

NESSI Open Framework – Reference Architecture

IST- FP7-216446



Deliverable D9.1

Relevant Standardisation Bodies and Standards for NEXOF

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EXECUTIVE SUMMARY

Standards have an essential influence on the acceptance and applicability of IT solutions. NESSI is committed to deliver an Open Framework based on Open Standards (NEXOF).

This deliverable describes the strategy for standardisation and its implementation inside the project and the outside communication using the NESSI Standardisation Committee.

As an initial step of the NEXOF-RA standardisation activity a collection of data was performed in order to get an overview on standardisation bodies and standards relevant in the context of software and services. The complete information is stored in the project's wiki, as the information and evaluation is growing continuously. The structure and maintenance of the wiki are described here.

Further a survey was done on the involvement of NEXOF-RA partners in standardisation activities. This document then lists a selection of standardisation bodies and their most important standards according to the survey among partners.

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TABLE OF CONTENTS

EXECUTIVE SUMMARY	3
TABLE OF CONTENTS	5
1 INTRODUCTION	6
1.1 NESSI, NEXOF-RA and WP9 scope and objectives	7
2 THE NEXOF-RA APPROACH TO STANDARDISATION	9
2.1 Identifying relevant standards	9
2.2 Maintaining a Standards Catalogue	10
2.3 Identifying standards gaps	11
2.4 Approach to liaising with standardisation bodies	11
2.5 Meetings and events	12
3 STANDARDISATION BODIES RELEVANT TO NEXOF-RA	14
3.1 Involvement of partners in standardisation bodies	14
3.2 European Telecommunications Standards Institute (ETSI)	16
3.3 International Organization for Standardization (ISO)	17
3.4 Java Community Process (JCP)	18
3.5 Object Management Group (OMG)	20
3.6 Organization for the Advancement of Structured Information Standards (OASIS)	21
3.7 OSGi Alliance	23
3.8 The Open Group (OG)	24
3.9 World Wide Web Consortium (W3C)	25
4 CONCLUSION	28
APPENDIX 1: NEXOF-RA WP9 WIKI	29

1 INTRODUCTION

The overall aim of NEXOF is to be an **open service framework**, ranging from the infrastructure up to the interfaces with service consumers, leveraging research in the area of service-based systems to consolidate and trigger innovation in service-oriented economies for the benefit of the whole European Economy. NEXOF is aimed to be domain independent and will be accompanied with a sound methodology and tools to be properly instantiated into a broad range of application domains by a number of end-user communities (including Large, Medium, and Small Enterprises) on different technologies.

NEXOF-RA will contribute to this by a **Reference Architecture**, which is the main instrument used by system architects to design the architecture of a (set of) NEXOF instances providing a solution to a well defined set of requirements. The Reference Architecture includes a set of guidelines and principles, a glossary, a conceptual model, and **collections of standards**, components, and patterns.

Standards are one side a means to ensure interoperability among the components and patterns and on the other side a means to define the outside view when it comes to the question of assessing the compliance with the Reference Architecture.

This NEXOF-RA deliverable gives an overview of the process by which NEXOF-RA will identify standardisation bodies that are relevant for the NESSI Open Service Framework. It aims to collect information on the relevance of standards from other NEXOF-RA tasks since they are best place to assess the applicability of specific standards to their areas of interest. It will monitor the evolution of results and track those that are regarded as a high priority for NEXOF-RA, aiming to provide a single source of standards information within the project. Further, it will assist in developing the required communication channels to standardisation bodies in order to establish appropriate liaison and participation.

In chapter 2 the process NEXOF-RA uses to collect information from other work packages is described. Further, the relationship with the NESSI Standardisation Committee and the roles and responsibilities are defined.

Chapter 3 gives an overview of candidates for relevant standardisation bodies.

In this document we list only those standardisation bodies that are already candidates for liaison, either through a partner's existing involvement in committees and working groups or through identification of standards in WP1 to 4.

All details of standards and standardisation bodies are collected in the NEXOF-RA wiki. The Appendix gives an insight into the structure and main facilities of this wiki.

1.1 NESSI, NEXOF-RA and WP9 scope and objectives

NEXOF-RA aims at defining a reference architecture for service-based systems. This reference architecture will mainly consist of a set of specifications recommending different implementation solutions. For details refer to D13.5 (DoW Amendment) and D7.4 (RA Specification Baseline). These recommendations refer to identified functionalities based on a conceptual model which is based on a set of requirements described in D10.1 (Requirements Report).

The context for NEXOF-RA is the NESSI Holistic Model as described in the NESSI Strategic Research Agenda Vol. 1 “Framing the Future of Service Oriented Economy” [NESSI06]. In order to promote and make real the transformation, NESSI is defined in the context of a holistic approach to an ecosystem in which all the parties involved coexist and which can develop into a new economic model. This holistic model embraces the whole service area and puts NESSI as a key element in the EU economy. In particular, the Holistic Model is composed to three main constituent parts:

- ICT Technologies, represented by the **NESSI Framework**, where the services, the key elements of the ecosystem, are engineered;
- the **NESSI Landscape**, where the services as implemented by the NESSI Framework are applied to specific businesses and domains, and for cross-domain cooperation;
- the set of instantiation mechanisms based on regulations, rules and policies which, constituting the **NESSI Adoption**, make services real and thus usable by the consumers.

With respect to the NESSI Holistic Model, NEXOF is intended to support the whole model so that NEXOF, the NESSI Open Service Framework, is an **integrated, consistent** and **coherent** set of technologies, methods and tools intended to:

- provide the European Industry and the Public Sector with efficient services and software infrastructures to improve flexibility, interoperability and quality;
- master complex software systems and their provision as service oriented utilities;
- establish the technological basis, the strategies and deployment policies to speed up the dynamics of the services eco-system;
- develop novel technologies, strategies and deployment policies that foster openness, through the increased adoption of **open standards (the scope of this Work Package)** and open source software as well as the provision of open services;

- foster safety, security and the well-being of citizens by means of new societal applications, enhanced efficiency of industry and administrations, and competitive jobs.

The NEXOF-RA approach aims to warrant the durability of project results, ensuring global acceptance and impact and contributing to a common standardisation strategy as driven by NESSI. In particular, for the last point, NESSI has implemented the NESSI COSTA Committee, to collect standardisation input from NESSI working groups and NESSI Strategic Projects, coordinate standardisation related activities, and liaise with selected standardisation bodies or groups.

Hence, the goal of NESSI COSTA is to achieve consistent positions of NESSI members in standardization bodies and groups, avoiding the implementation of a new standardisation body that competes with other standardisation bodies.

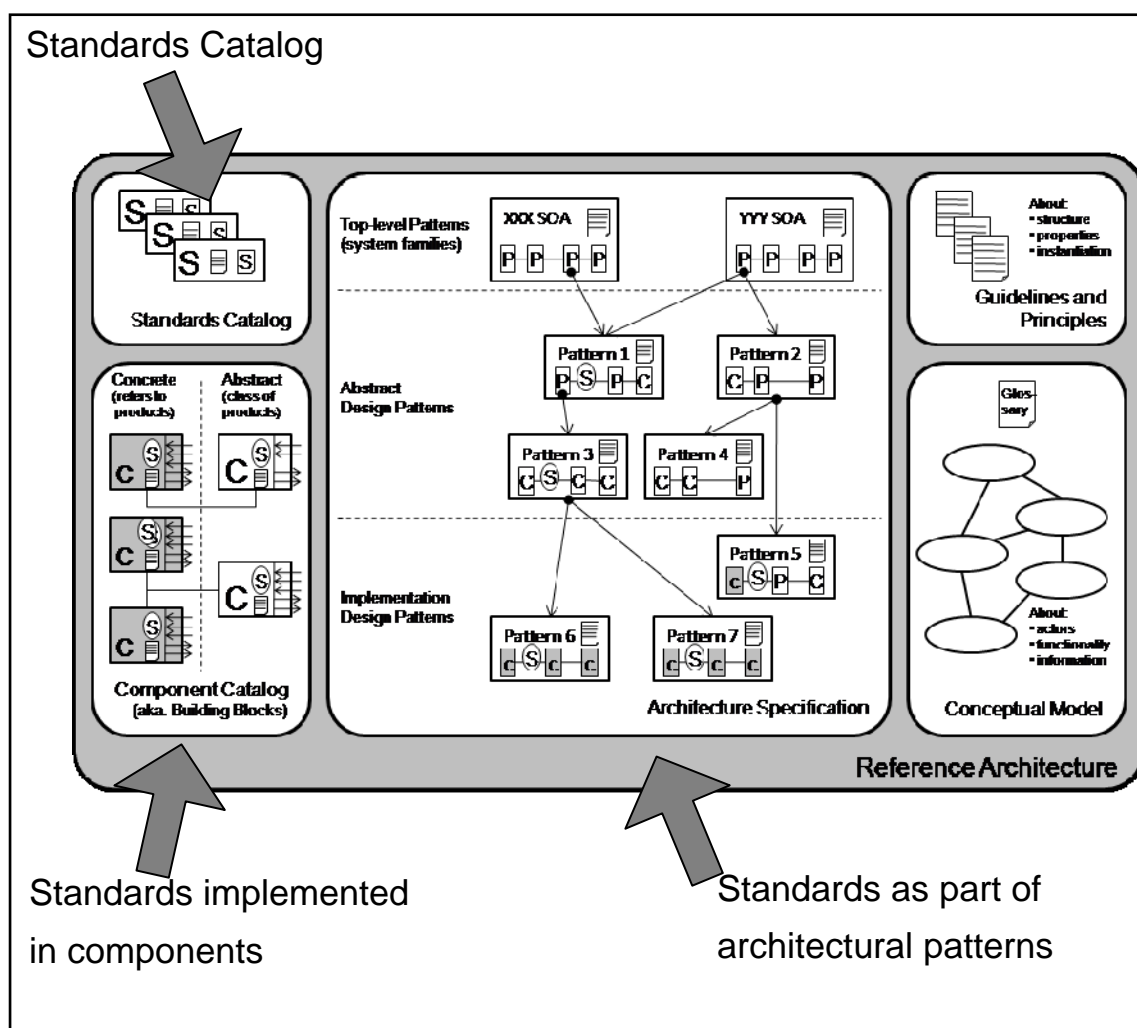
In this context, NEXOF-RA WP9 coordinates the liaison between NEXOF-RA and NESSI COSTA to address results to and from other WPs. Relevant standards, their overlapping and gaps are identified in the horizontal work packages during the project's lifecycle, while planned contributions and the targeted working groups/committees are derived from that results through WP9 activities. Starting from this approach, this WP addresses the strategic goal of NESSI to raise the influence of European Industries on the standards in next generation systems.

Therefore, the goal of current WP is twofold: from one side, to keep the project up-to-date with respect to the discussions in standardisation bodies; from the other side, to support the submission of contributions from the project in a coordinated way, through the interaction with NESSI COSTA Committee, as different work packages may require interaction with the same standardisation body.

2 THE NEXOF-RA APPROACH TO STANDARDISATION

2.1 Identifying relevant standards

NEXOF-RA selects standards according to the exploratory work of other WPs. This will also be the principle of future work. The work packages 1-4 provide contributions to the Reference Architecture which is set up by work package 7. The main constituents of the architecture are shown in the following Figure. For more details see Deliverable "Reference Architecture Baseline" (D7.4):



- Standards Catalog: the **standards** referred to in the Reference Architecture are described in this catalog. Each standard is linked to the relevant elements of the Guidelines and Principles as well as to the concepts it addresses.
- The Component Catalog: This catalog groups both abstract descriptions of components (e.g. a UDDI registry) and product or software-based

components (e.g. the jUDDI library). Each description refers to the **standards** it implements, the concepts it addresses, as well as its behavioural characteristics.

- The Architecture Specification: The actionable parts of the Reference Architecture are the patterns. These describe various ways of realizing certain functionality by associating components, **standards** and other patterns in a defined manner ...

By populating these categories of description, information on standards and their relevance will grow over time.

AS NEXOF-RA aims to deliver a technology independent framework standards will be selected according to the work in the horizontal work packages 1-4 and results of work package 7. Here the decisions on relevant technologies are done and derived from these decisions the standards will be selected.

A standard is considered relevant if

- It is part of a pattern
- It is implemented by an abstract or concrete component
- It is prerequisite for interoperability between components
- It is a part of the compliance definition for NEXOF Compliant Platforms (Definition see NEXOF-RA Glossary)

2.2 Maintaining a Standards Catalogue

NEXOF-RA has set up a wiki to collect all information on standards and standardisation bodies (see Annex). It will be updated and completed periodically.

The maintenance of the wiki is based on the contributions of all NESSI Strategic Projects and other projects. The standardisation work package will take the responsibility to control contributions and to encourage contributions if these are not immediately forthcoming.

NESSI Strategic and other projects can contribute via the Open Specification Process (see Deliverable D5.1) or by direct contact to the relevant work package and its participants. Contributions can be submitted by position papers, project deliverables (or excerpts) and presentations in collaboration meetings.

In order to achieve this, the standardisation work package will:

- check regularly all documents elaborated by WORK PACKAGE1-4 and 7
- analyse deliverables and investigation team results and transfer relevant information to the wiki pages

At the time of writing this report, there was no further detailed analysis on standards available from NESSI Strategic or other projects.

Further analysis is required to determine whether:

- contributed lists contain only standards or also technologies
- listed standards are considered necessary and sufficient for NEXOF

2.3 Identifying standards gaps

The first identification and critical analysis of standards will be performed by work packages 1 to 4. The usage and integration of existing standards will be analysed and described then in the RA specification deliverable D7.4 and D7.5.

This gap analysis started in the horizontal work packages based on the State-of-the-Art analysis and was populated into the holistic view captured in the Reference Model and Reference Architecture (see Deliverables D6.2 / 7.3).

We expect that further contributions from NSPs and other projects will highlight deficiencies in existing standards and identify gaps in the standards landscape.

In order to be more proactive, WORK PACKAGE 9 will organize a workshop with NSPs and other projects where the needs for standardisation will be elicited even before contributions are elaborated and submitted.

At the time of writing this report it is planned to collocate this with the Internet of Services 2009 Collaboration Meeting for FP6 & FP7 projects (see http://cordis.europa.eu/fp7/ict/ssai/events-2009june-collaboration_en.html).

2.4 Approach to liaising with standardisation bodies

The NESSI Standardisation Committee will be the enabler for setting up the contacts to identified standardisation bodies.

For each standardisation body where NEXOF-RA requires specific liaison, work package 9 will raise this need with the NESSI Standardisation Committee. This Committee will then establish contact with the relevant bodies and key people involved. Work package 9 will support other work packages and NESSI Strategic Projects as appropriate in their contribution to standards.

- Standardisation workshop at the ECSS Collaboration Meeting in Brussels, 22 and 23 September 2008
- WP 9 meeting in the NEXOF-RA plenary, 15 October 2008
- Networking Session at ICT Conference, Lyon, 24 November 2008, From R&D to Standardisation
- work package 9 meeting in the NEXOF-RA plenary, 28 January 2009

Planned:

- WP 9 Meeting in the NEXOF-RA plenary, 26 and 27 May 2009
- Internet of Services 2009 Collaboration Meeting for FP6 & FP7 projects

3 STANDARDISATION BODIES RELEVANT TO NEXOF-RA

This section will give an overview on the recent status of standardisation activities. First the result of a first survey on involvement of NEXOF-RA partners in standardisation bodies. Then for every standardisation body identified here a short summary on the organisation and its relevant committees and activities is listed.

This overview is not complete and will be maintained and complemented in the following deliverables (D9.2 Standardisation Reports).

3.1 Involvement of partners in standardisation bodies

A survey of NEXOF-RA project partners was performed in order to analyze the existing communication channels that can be used for further activities.

Standardisation Body	Committee / WG	Involved Partner	Topic / result	Intensity of work
UN/CEFACT	Technical Coordination Group	TIE	EDI and ebXML semantic directories	Very Active
CEN	eBES European Board for eBusiness	TIE	input into UN/CEFACT	Active
CEN	eBIF - European Interoperability Forum	TIE	standardisation awareness	Active
ETSI	TC GRID	BT	GRID Technologies	Active
OASIS	WS-CAF	UPM	Open framework for supporting coordinated and transactional compositions of multiple Web services applications	Completed; work will be carried on by WS-TX
OASIS	BPEL4WS	UPM	BPEL4WS	Active
DNP Users Group	Technical Committee	Logica	Most recent main result	Very active

Standardisation Body	Committee / WG	Involved Partner	Topic / result	Intensity of work
			was addition of in-built security (Secure Authentication) to the protocol.	
The Open Group	Archimate forum	Logica	Archimate 1.0 specification	Very active in Archimate forum (100% linked in)
The Open Group	TOGAF forum	Logica	framework for enterprise architecture	involvement is now being initiated
OASIS	OASIS Open CSA	Siemens, IBM	development and adoption of the Service Component Architecture (SCA) and Service Data Objects (SDO)	Active
Java Community Process (JCP)	Executive Committee	Siemens	Decision on Java Specification Requests	Active
Java Community Process (JCP)	JSR xxx Spec	Siemens	specifications and technologies for adding to the Java platform	Active
Open Mobile Alliance (OMA)		(Siemens)	N/A	Was handed over to Nokia Siemens Networks (not partner in NEXOF-RA)
OSGi Alliance	Enterprise	Siemens	OSGi Service	Active

Standardisation Body	Committee / WG	Involved Partner	Topic / result	Intensity of work
	Expert Group		Platform - Core Specification	
Object Management Group (OMG)	BPMN Working Group	(Engineering)	Specifying business processes in a workflow	Contributing indirectly via a third party
OMG	Board Task Forces (TF) Special Interest Groups (SIG)	Thales	Architecture, Modelling, Middleware Domain-focused standards	Contribution

3.2 European Telecommunications Standards Institute (ETSI)

Charter

The European Telecommunications Standards Institute (ETSI) is an independent, not-for-profit, standards organization with almost 700 members from 60 countries worldwide. It is officially recognised by the European Commission as a European Standards Organization. Among others, ETSI has been successful in standardizing the GSM cell phone system and the TETRA professional mobile radio system.

Selected ETSI standardisation bodies include TISPAN (for fixed networks and Internet convergence), and DECT (Digital Enhanced Cordless Telecommunications). The scope of ETSI is no longer restricted to telecommunications. The GRID technical committee is relevant to NEXOF-RA and is working on convergence between telecom networks and IT systems.

Activities

ETSI activities are divided into the following areas:

- Security
- Satellite
- Broadcast
- Human Factors
- Testing & Protocols
- Intelligent transport
- Power-line telecoms
- eHealth

- Smart Cards
- Emergency communications
- GRID

Committees

ETSI Technical Committees are divided into three categories

- Technical Committee (TC)
- ETSI Project (EP)
- ETSI Partnership Project (EPP)

Links

<http://www.etsi.org>

ETSI Technical bodies:

<http://www.etsi.org/WebSite/AboutETSI/structure/technicalbodies.aspx>

Relevance to work packages

WP3: Telecommunication infrastructure and convergence between IT and Telecommunications.

3.3 International Organization for Standardization (ISO)

Charter

ISO (International Organization for Standardization) is the world's largest developer and publisher of International Standards.

ISO is a network of the national standards institutes of 157 countries, one member per country, with a Central Secretariat in Geneva, Switzerland, that coordinates the system.

ISO is a non-governmental organization that forms a bridge between the public and private sectors. On the one hand, many of its member institutes are part of the governmental structure of their countries, or are mandated by their government. On the other hand, other members have their roots uniquely in the private sector, having been set up by national partnerships of industry associations.

Activities

- International Standards
- Technical Reports

- Technical Specifications
- Publicly Available Specifications
- Technical Corrigenda
- Guides

Committees

Complete information on the list of ISO technical committees is provided in ISO's web site:

http://www.iso.org/iso/standards_development/technical_committees.htm

Links

<http://www.iso.org/iso/about.htm>

ISO Technical Committees:

http://www.iso.org/iso/standards_development/technical_committees.htm

Relevance to work packages

WP1-4: ISO has standards over a broad range.

WP6-7: ISO also has reference models and architectures as standards.

3.4 Java Community Process (JCP)

Charter

Established in 1998 as the open, participative process to develop and revise the Java™ technology specifications, reference implementations, and test suites, the Java Community Process (JCP) program has fostered the evolution of the Java platform in cooperation with the international Java developer community. The JCP holds the responsibility for the development of Java technology. As an open, inclusive organization of active members and non-member public input, it primarily guides the development and approval of Java technical specifications. Anyone can join the JCP and have a part in its process, and non-members may contribute as public participants.

The work of the Java Community under the JCP's procedures helps to ensure Java technology's standard of stability and cross-platform compatibility, enabling it to operate on hundreds of millions of devices, from desktop computers to consumer electronics to industrial robots. Just as important, the JCP continually grows the platform's specification portfolio to meet the emerging technology needs of developers and organizations globally that depend on Java technology.

Activities

- the Java technologies for the desktop/server space (the Java™ SE and Java™ EE specifications)
- the Java technologies for the consumer/embedded space (the Java™ ME specification)

Committees

Executive Committee for Java SE/Java EE (only NEXOF Partners listed):

- Hewlett-Packard
- IBM
- Siemens
- ...

Executive Committee for Java ME (only NEXOF Partners listed):

- IBM
- Siemens
- ...

Standards

- Availability Management for Java
- Common Annotations for the Java Platform (JSR 250)
- Enterprise JavaBeans (JSR 318)
- Implementing Enterprise Web Services (JSR 921)
- J2EE Activity Service for Extended Transactions (JSR 95)
- J2EE APIs for Continuous Availability
- Java API for XML Messaging (JSR 67)
- Java API for XML Processing (JAXP - JSR 206)
- Java API for XML Registries (JAXR - JSR 93)
- Java API for XML Transactions (JAXTX-JSR 156)
- Java API for XML-Based Web Services (JAX-WS - JSR 224)
- Java APIs for WSDL (JSR 110)
- Java Business Integration (JBI)

- Java Connector Architecture (JCA)
- Java EE Application Deployment (JSR 88)
- Java Management Extensions (JMX)
- Java Mobile Edition (J2ME-JSR 68)
- Java Transaction API (JSR 907)
- Java Enterprise Edition (JSR 313)
- Java™ API for XML Web Services Addressing (JAX-WSA - JSR 261)
- Java™ Architecture for XML Binding (JAXB -JSR 222)
- JDBC (JSR 54)
- JDOM (JSR 102)
- Mobile Information Device Profile (JSR 118)
- Mobile Service Architecture 2 (JSR 249)
- PDA Optional Packages for the J2ME (JSR 75)
- Process Definition for Java (JSR 207)
- Web Services Connector for Java Management Extensions (JMX) Agents (JSR 262)
- XQuery API for Java™ (XQJ - JSR 225)

Links

<http://jcp.org/en/introduction/overview>

Relevance to work packages

WP1: Java technologies play a key role for user interfaces.

WP2: Java technologies such as Java EE are one of the widest accepted for service building. The open nature of the specifications makes also Java technologies adequate to NEXOF openness goals.

WP4: There are specifications in JCP relevant to security and management.

3.5 Object Management Group (OMG)

Charter

OMG™ is an international, open membership, not-for-profit computer industry consortium. OMG Task Forces develop enterprise integration standards for a wide range of technologies, and an even wider range of industries. OMG's modelling standards enable powerful visual design, execution and maintenance of software and other processes. OMG's middleware standards and profiles are

based on the Common Object Request Broker Architecture (CORBA®) and support a wide variety of industries.

Activities

- Infrastructure and modelling specifications
- Vertical market specifications : finance, healthcare, manufacturing and telecommunications

Committees

- Architecture Board
- Domain Technology Committee
- Platform Technology Committee

Standards

- Business Process Definition Metamodel (BPDM)
- Business Process Modeling Notation (BPMN)
- Semantics of Business Vocabulary and Business Rules (SBVR)
- Unified Modeling Language (UML)

Links

<http://www.omg.org/gettingstarted/gettingstartedindex.htm>

Relevance to work packages

WP2: OMG hosts two important sets of standards: standards for service modelling such as UML and UPMS (UML Profile for Modeling Services) and middleware standards for supporting services such as CORBA. Both flavours are very relevant for WP2.

WP4: FT-CORBA is a standard for high availability of CORBA, one of the non-functional aspects being addressed by WP4.

3.6 Organization for the Advancement of Structured Information Standards (OASIS)

Charter

OASIS is a not-for-profit consortium that drives the development, convergence and adoption of open standards for the global information society with a strong emphasis in XML and web service standards.

Officers of both the OASIS Board of Directors and Technical Advisory Board are chosen by democratic election to serve two-year terms. Consortium leadership is based on individual merit and is not tied to financial contribution, corporate standing, or special appointment. The Consortium hosts two of the most widely respected information portals on XML and Web services standards.

Activities

- Web services standards
- Standards for security, e-business
- Standards in the public sector and for application-specific markets

Committees

OASIS Committees by Name:

<http://www.oasis-open.org/committees/committees.php>

OASIS Committees by Category:

http://www.oasis-open.org/committees/tc_cat.php

OASIS Open CSA (only NEXOF Partners listed):

- IBM
- Siemens

Standards

- Asynchronous Service Access Protocol (ASAP)
- BPEL4PEOPLE
- Business Transaction Protocol (BTP)
- Digital Signature Service Core Protocols (DSS)
- Electronic Business Extensible Markup Language (ebXML)
- EXtensible Access Control Markup Language (XACML)
- OASIS Service Oriented Architecture
- Security Assertion Markup Language (SAML)
- Service Component Architecture (SCA)
- UDDI
- Web Services Distributed Management (WSDM)

- Web Services Metadata Exchange (WS-MetadataExchange)
- Web Services Reliable Messaging Policy Assertion (WS-RM Policy)
- Web Services Transactions (WS-TX)
- WS Composite Application Framework (WS-CAF)
- WS Notification
- WS Resource Framework (WSRF)
- WSBPEL
- WS-ReliableMessaging
- WS-SecureConversation
- WS-Security
- WS-SecurityPolicy
- WS-Trust

Links

<http://www.oasis-open.org/>

Relevance to work packages

WP2: Web service and XML standards are one of the key technologies for developing services.

WP3: There is a range of Web and Grid Service standards dealing with resource specification. The concept of resource is quite general but it certainly includes IT infrastructure and these specifications are frequently applied in this domain.

WP4: There are standards from OASIS around security and management two of the non-functional aspects dealt with by WP4.

WP7: Especially SCA plays an important role in defining NEXOF. Siemens and IBM are driving SCA within OASIS.

3.7 OSGi Alliance

Charter

The OSGi mission is to create a market for universal middleware. The OSGi Alliance, therefore, promotes widespread adoption of the OSGi Service Platform to assure interoperability of applications and services delivered and managed via networks. To realize this mission, the alliance provides specifications, reference implementations, test suites and certification to foster a valuable cross-industry ecosystem. OSGi technology is the dynamic module system for Java™.

Relevance to WPs

WP2: Dynamic service composition.

WP3: Execution environments.

WP6: OSGi Service Platform - Core Specification has been identified as a relevant reference model for NEXOF.

WP7: OSGi provides a standardised programming model for services and a concrete implementation based on JAVA.

3.8 The Open Group (OG)

Charter

The Open Group is a vendor- and technology-neutral consortium, whose vision of Boundaryless Information Flow™ will enable access to integrated information within and between enterprises based on open standards and global interoperability.

Activities

The Open Group works with customers, suppliers, consortia and other standard bodies in the following activities:

- Strategy
- Management
- Innovation
- Standards
- Certification
- Test development

Committees

- Architecture Forum
- Enterprise Management Forum
- Identity Management Forum
- Platform Forum
- Real-Time & Embedded Systems Forum
- Security Forum

Links

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

Relevance to work packages

WP1-4: It has working groups on all topics covered by horizontal WPs.

WP6-7: The Open Group Architectural Framework (TOGAF) contains both a reference model and reference architecture that is service oriented. Additionally, it covers related standards.

3.9 World Wide Web Consortium (W3C)

Charter

The World Wide Web Consortium (W3C) is an international consortium where members work together to develop Web standards. W3C's mission is to lead the World Wide Web to its full potential by developing protocols and guidelines that ensure long-term growth for the Web.

Activities

- Extensible Markup Language (XML)
- Graphics
- HTML
- Internationalization
- Math
- Mobile Web Initiative
- Multimodal Interaction
- Patent Policy
- Privacy
- Rich Web Client
- Security
- Semantic Web
- Style
- Synchronized Multimedia
- Ubiquitous Web Applications
- Voice Browser
- WAI International Program Office
- WAI Technical

- Web Services
- XForms
- eGovernment

Committees

Each W3C Activity listed above consists of several Working groups.

Standards

- Composite Capability/Preference Profiles (CC/PP)
- Content Selection for Device Independence (DISelect)
- Delivery Context: Client Interfaces (DCCI)
- Delivery Context Ontology
- Device Description Repository Simple API
- Device Independent Authoring Language (DIAL)
- HTML5
- Message Transmission Optimization Mechanism (MTOM)
- OWL Web Ontology Language
- OWL-S
- Platform for Privacy Preferences Project
- RDFa
- Scalable Vector Graphics (SVG)
- Semantic Annotation for WSDL (SAWSDL)
- SOAP
- State Chart extensible Markup Language (SCXML)
- Web Service Choreography Interface (WS-CI)
- Web Service Description Language (WSDL)
- Web Service Modeling Ontology (WSMO)
- Web Service Semantics (WSDL-S)
- Web Services Architecture (WSA)
- Web Services Choreography Description Language (WS-CDL)
- Web Services Policy - Attachment
- Widgets 1.0: Packaging and Configuration

- WS Conversation Language (WS-CL)
- WS Enumeration
- WS Transfer
- WS-Addressing
- WS-Eventing
- WS-Policy
- XForms
- XHTML
- XML Events

Links

<http://www.w3.org/Consortium/>

Relevance to work packages

WP1: W3C standards provide the basis for web interfaces including HTML and XML technologies.

WP2: There are a number of standards from W3C that are highly important for describing and engineering services.

WP3: W3C standards for Web Services are commonly accepted for exposing infrastructure as services. W3C specifications are used as the basis for work in OGF, supporting in particular services which are based on stateful resources.

4 CONCLUSION

The process for identifying relevant standards and gaps is defined. First information has been collected, but this is far from being complete. Main contributions are expected to come from NEXOF-RA work packages 1 to 7, from the Open Construction Process and the NESSI Strategic Projects.

The standardisation work package will proactively drive the collection of information in order to set up support for other work packages and projects. The list of standardisation bodies and standards so far identified as being relevant for NEXOF RA has been set up in a wiki (see Appendix). This information source will be maintained continuously over the project's lifetime.

APPENDIX 1: NEXOF-RA WP9 WIKI

For all relevant standardisation bodies there is a summary which contains a description that is structured as follows:

Activities	Describes the main activity areas of the Standardization Body
Committees	Contains the list of the committees of the Standardization Body
Standards	Contains only the list of the body's standards that are relevant for NEXOF. It cannot and shall not be exhaustive.
Relevance to WPs	Contains the relevance and the importance of the Standardization Body for NEXOF WPs
Notes	Any additional information
External Links	Contains the main link to the organisation's homepage and other important links

All data is stored in the NEXOF-RA wiki (see **Figure 2**).

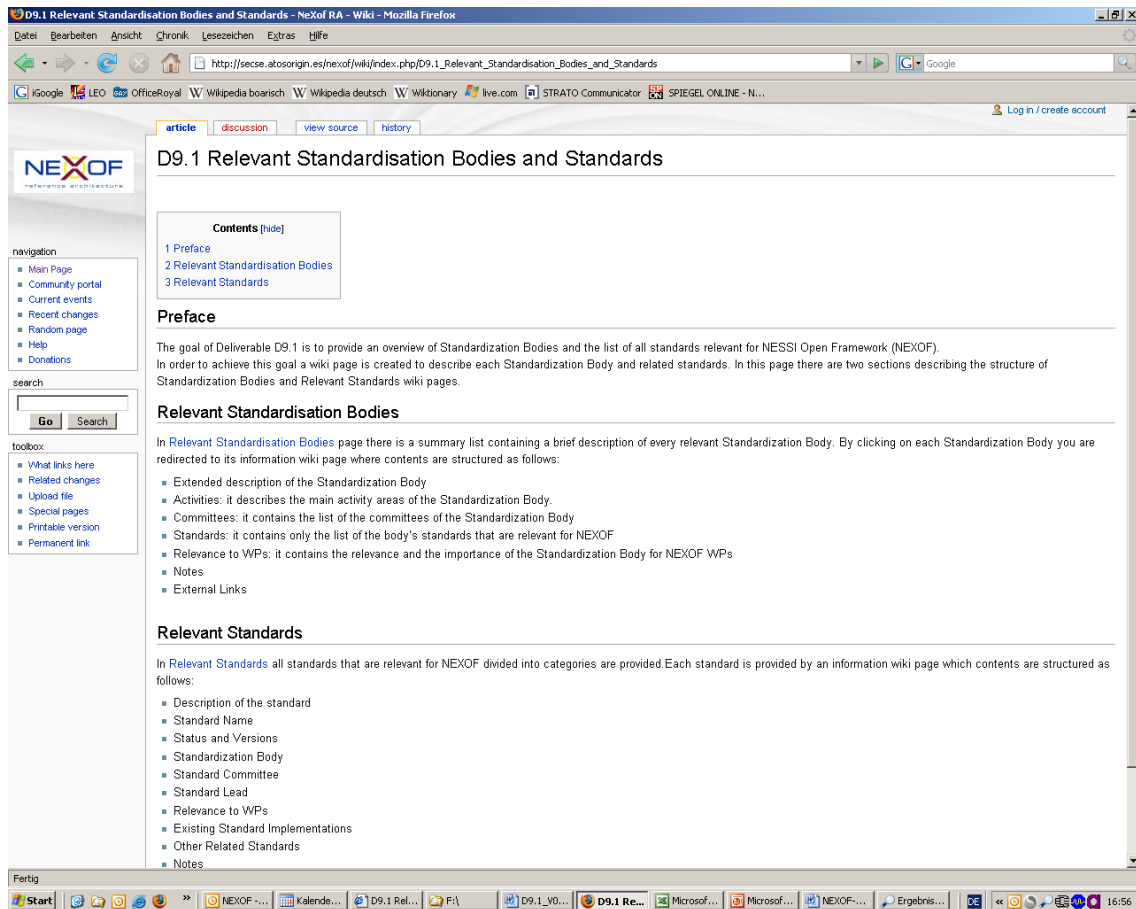


Figure 2 - D9.1 wiki page

It represents an introduction page containing information on D9.1 deliverable and the structure of its two main sections: Relevant Standardization Bodies and Relevant Standards. By clicking on the Relevant Standardization Bodies link (see **Figure 3**), the wiki page with the list of the Standardization Bodies is provided. This page contains a brief description for each body.

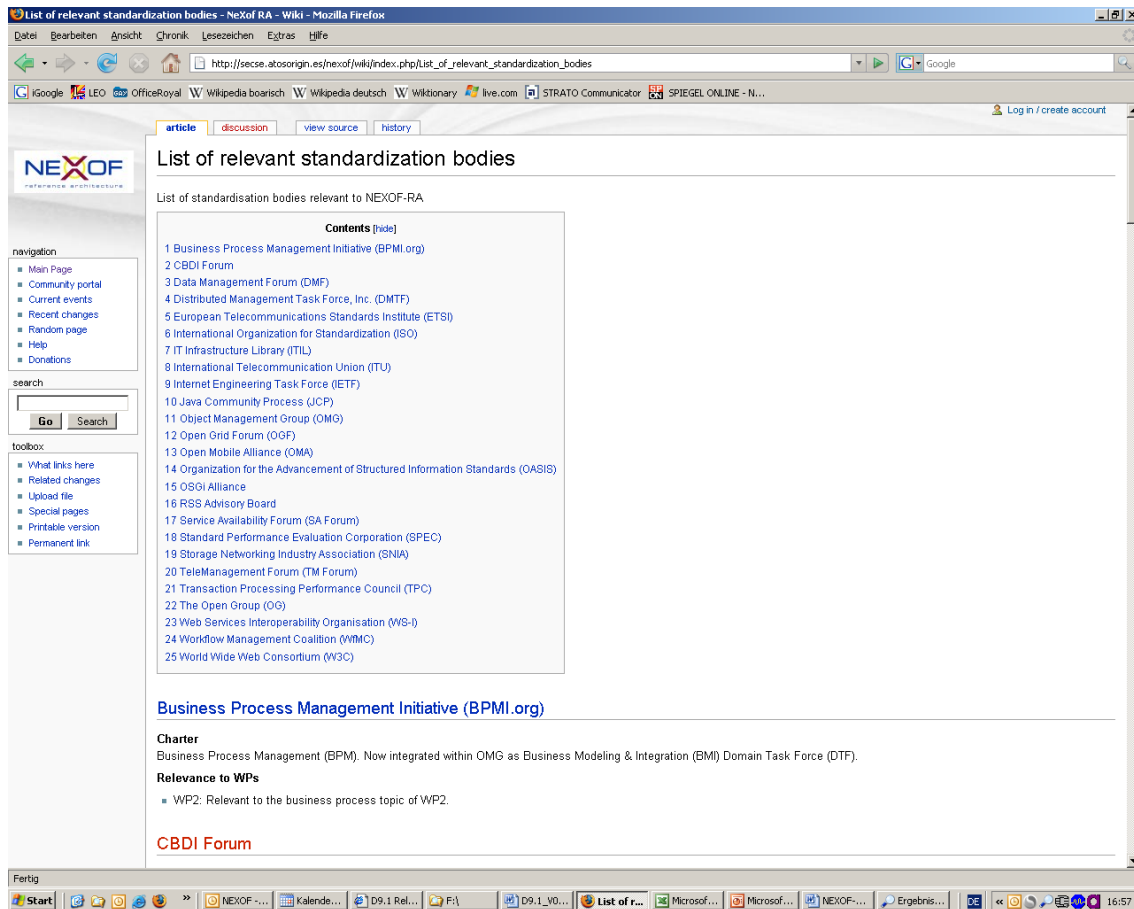


Figure 3 - List of relevant standardization Bodies

From the List of relevant standardization bodies page (**Figure 3**) clicking on the title (e.g. Java Community Process (JCP)) redirects you to the related Standardization Body information page. Its content is structured as follows:

- **Extended description** of the standardization body
- **Activities:** describes the main activity areas of the standardization body.
- **Committees:** contains the list of the committees of the standardization body
- **Standards:** contains only the list of the body's standards that are relevant for NEXOF
- **Relevance to WPs:** contains the relevance and the importance of the standardization body for NEXOF WPs
- **Notes**
- **External Links**

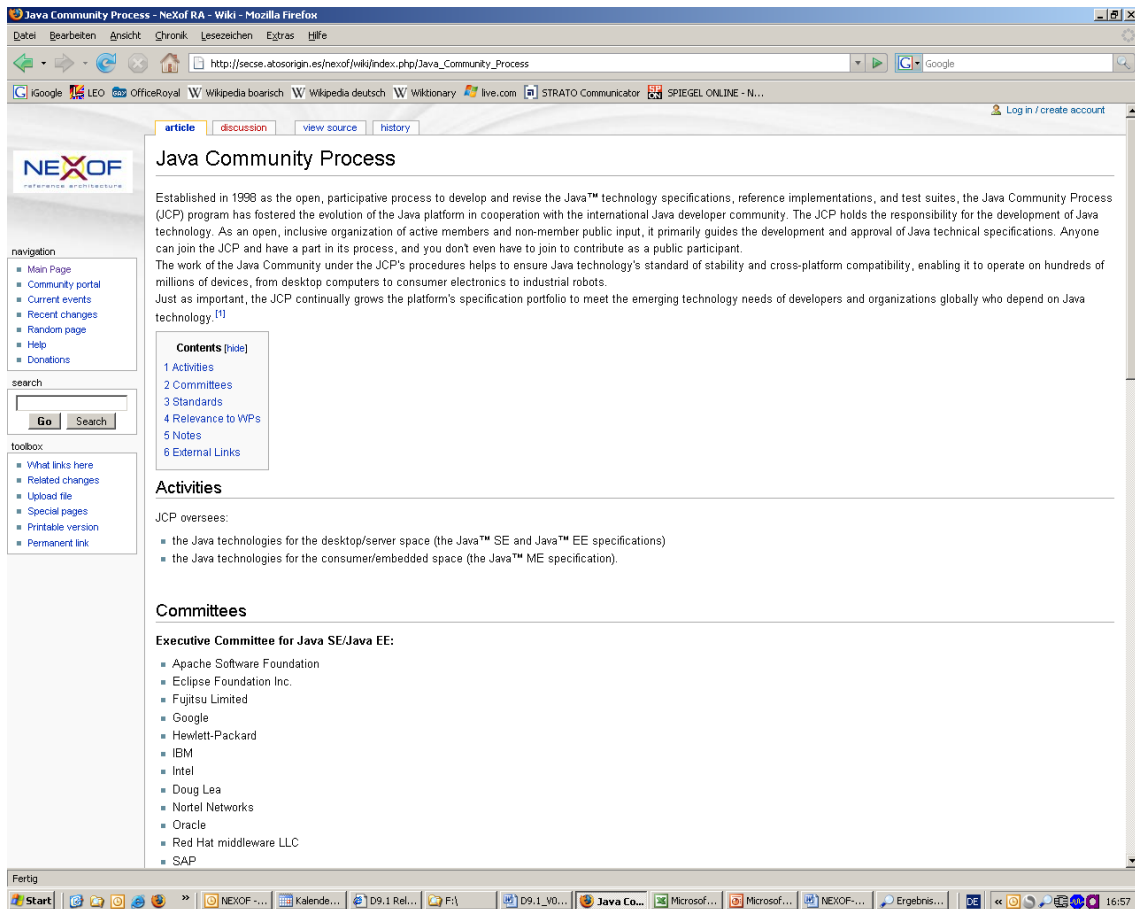


Figure 4 - An example of Standardization Body wiki page (JCP)

By clicking on one of the standards (for example JSR88) you are redirected to its wiki information page:

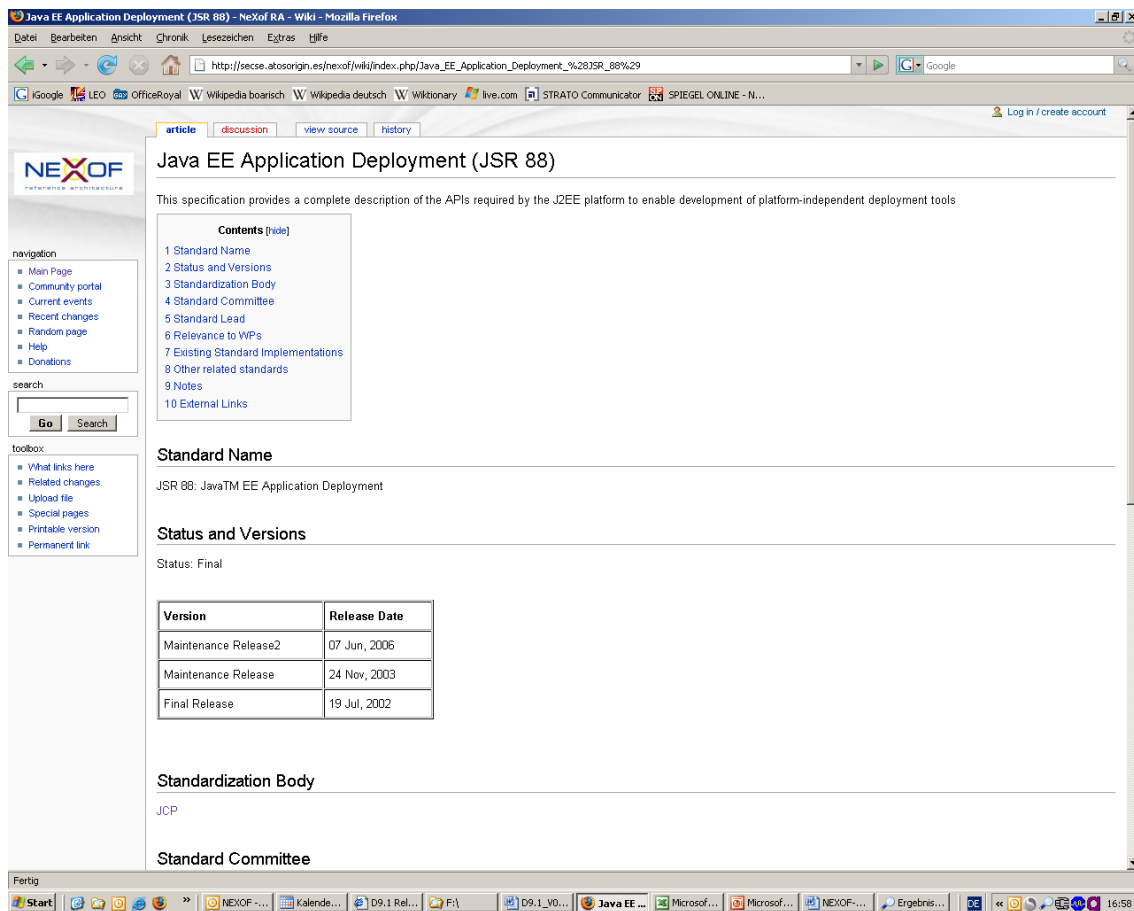


Figure 5 - An example of standard wiki page (JSR88)

Content of this page is structured as follows:

- **Description of the standard**
- **Standard Name**
- **Status and Versions**
- **Standardization Body**
- **Standard Committee**
- **Standard Lead**
- **Relevance to WPs**
- **Existing Standard Implementations**
- **Other related standards**
- **Notes**
- **External Links**

This page contains also the link to the standardization body (e.g. JCP).

Each standard page is referenced by the relevant standards page (see Figure 6) and by the other WPs pages. In the last case, each reference of a standard existing in other WPs pages is redirected to the WP9 standard wiki page.

In the same manner, each reference to a Standardization Body existing in other WPs pages is redirected to the WP9 Standardization Body wiki page.

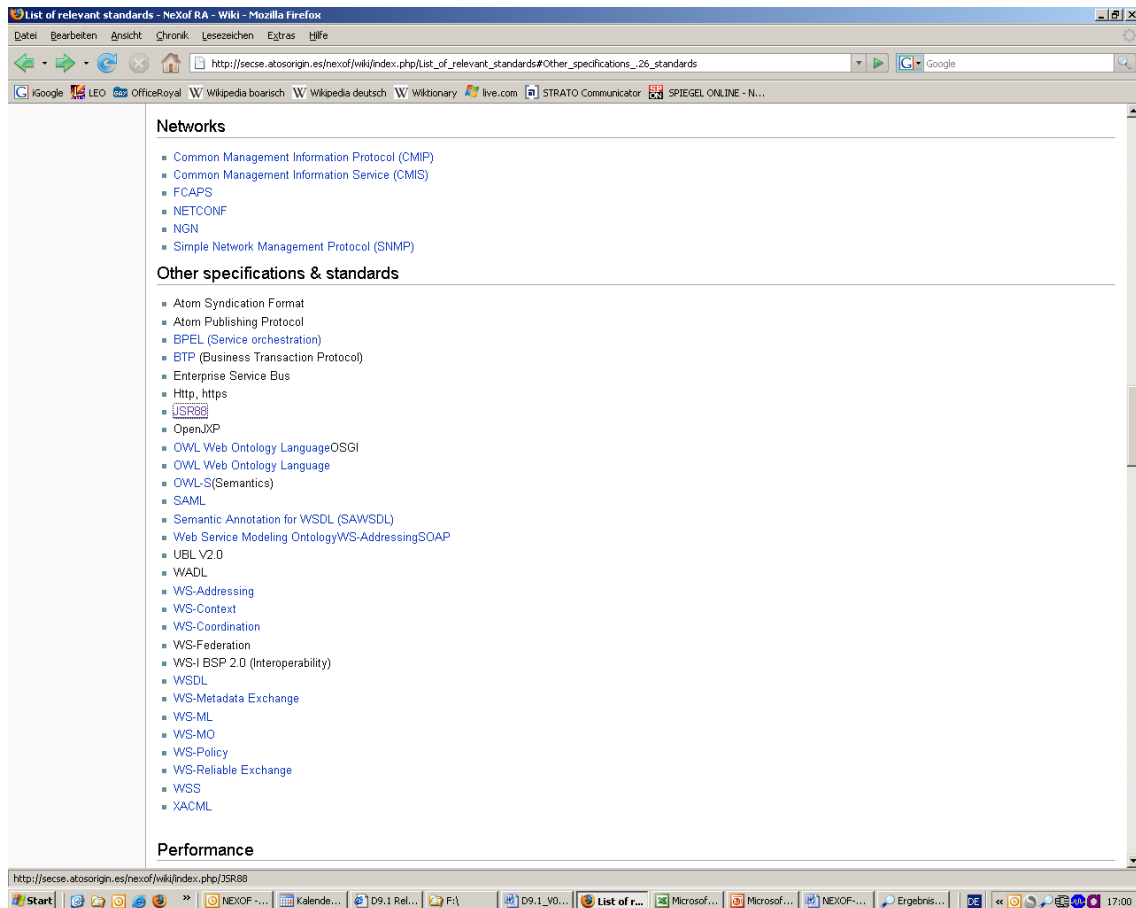


Figure 6 –Standards List page and related standard wiki page link