FORUM STANDAARDISATIE

Expert Recommendation

Web Services for Remote Portlets (WSRP) v2.0

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Contents

Management summary

This document presents the WSRP version 2.0 expert group's recommendation to the Standardisation Board concerning inclusion of the WSRP standard in the list of open standards governed by the 'Comply or Explain' principle. This document was created based on a meeting of the expert group and was subsequently reviewed and approved by the members of the expert group.

The expert group assessed the WSRP standard based on the following criteria.

- Openness
- Usability
- Potential
- Impact.

Based on this assessment, the expert group reached the conclusion that the WSRP standard meets the criteria for inclusion in the Board's list of open standards. Therefore the expert group advises the Board to include the WSRP v2.0 standard in the list.

The area of application for the standard is combining web applications offered by a variety of organisations, allowing the provider of the web application to retain control of the behaviour and performance of the web application.

At present, there is no need for further demarcation of the area of application. As a result, the area of application matches all organisations governed by the *comply-or-explain* principle. These are government organisations and institutions in the (semi-)public sector.[1]

[1] As defined in the action plan *Nederland Open in Verbinding* (The Netherlands Open in Connection)

1. Expert recommendation objective

1.1 Background

On Monday, 17 September 2007, the Dutch State Secretary of Economic Affairs sent the action plan for open standards and open-source software to the Lower House. The purpose of the action plan is to make the information supply more accessible to achieve independence from IT suppliers and enable innovation.

One aspect of the action plan is compiling a list of standards governed by the 'Comply or Explain' principle. The Standardisation Board decides which standards will be included in the list, based in part on an expert assessment of the standard.

The experts are part of an expert group that evaluates the standard based on a number of criteria. These criteria, as well as their elaboration in terms of concrete questions, are presented and discussed in the present expert recommendation and originate from the report '*Open standaarden: het proces om te komen tot een lijst met open standaarden*' (Open standards – process for defining a list of open standards) accepted by the Standardisation Board on 14 May 2008.

The assignment for the expert group was to formulate a recommendation concerning whether or not to include WSRP version 2.0 (hereinafter referred to as WSRP 2.0) in the list of open standards, with or without specific conditions.

1.2 Process

The following procedure was used to define this recommendation.

The expert group started by individually assessing WSRP based on a questionnaire. This questionnaire contains the criteria described in the above-mentioned report. Based on the answers, the chairman of the expert group identified various bottlenecks.

Next, the expert group held a meeting on 19 August 2009 for a general discussion of the outcome and, in particular, the bottlenecks identified. During this meeting, the area of application and the organisational scope were defined.

The findings of the expert group were included in this recommendation report by the chairman and monitor member. A first draft version was sent to the members of the expert group, requesting comments. The feedback received was incorporated in the report and the finalised report was submitted for the public consultation phase.

1.3 Composition of the expert group

Experts and other persons who are directly or indirectly involved with the standard due to their personal expertise or work at a particular organisation were invited to join the expert group. In addition, an independent chairman was appointed to lead the expert group and act as the responsible party for the final expert recommendation.

Hugo ter Doest acted as the chairman. He is a senior project manager and manager of the application engineering group at Novay. In his current role as a project leader of the B-Dossier project, he is involved in integrated electronic service provision, in which portals and portal technologies play a prominent role. The expert group's monitor member was TNO Information and Communication Technology consultant Michael van Bekkum.

The members of the expert group were:

- Ate Douma (Hippo)
- Lex Heerink (Novay)
- Holger Peters (GemGids)
- Nico Ouwehand (ICTU, PIP)
- Marcel Lipman (Logica)

1.4 Information on WSRP

The Web Services for Remote Portlets (WSRP) standard defines a coherent collection of web services that enable the distribution of the logic (behaviour) and presentation of web applications. The logic or behaviour of the web application is the result of the function the web application performs. The presentation is the manner in which the web application is presented in its interface.

A portlet can be regarded as a small web application that is presented in a portal in addition to other portlets. Portlets from a variety of providers may be combined in the same portal. Portlets differ from web services in that they do not only contain the application behaviour but also the presentation (HTML/XML). In technical terms, a portlet is a software component running on a server of the provider. The portal, the consumer of the portlets, communicates with the portlets running at the location of the provider and ensures that the result is presented to the end-user in the portal.

Portals display and aggregate information from multiple sources and display the information to the end users in an organised manner. In this context, web services typically are sources providing information. For data-orientated web services, aggregating applications collect the data, and presentation logic is used to display the information. For this purpose, a separate communication connection must be set up with each web service providing data.

By using the standard, a portal can interact with portlets running on a different server and display the portlet without requiring any additional development effort.

WSRP enables realisation of applications by merging and using components in a uniform manner, while maintaining a strict separation between the role of the provider (web service) and the information consumer (portal or web application). Standardisation of the interaction enables integration/aggregation without the need to create any code for the interaction with each of the components. The web service does not only provide data, but also determines and supplies the application - as presentation logic. The terms portlet, portal, portlet provider and consumer are visualised in Figure 1 Simplified presentation of the relationships between portlets and portals, and portlet suppliers and consumers

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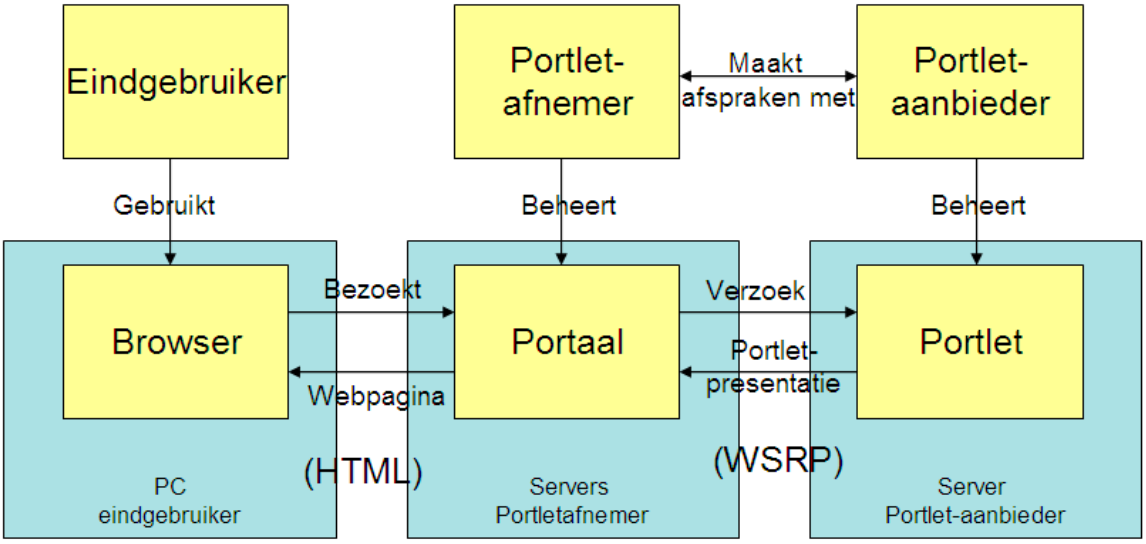

Figure 1 Simplified presentation of the relationships between portlets and portals, and portlet suppliers and consumers

The first version of WSRP v1.0 was approved as an OASIS standard in September 2003. Since that time, work on the standard has been continued by the Web Services for Remote Portlets (WSRP) OASIS Technical Committee. In April 2008, WSRP v2.0 was approved as an OASIS standard.

The expert group assessed version 2.0 of the WSRP standard. Information on this standard is available on the OASIS website[2].

[2] OASIS Web Services for Remote Portlets (WSRP) TC, http://www.oasis-open.org/committees/wsrp/

2. Area of application and organisational scope

Government organisations are expected to use the list of open standards during tendering procedures, according to the ‘Comply or Explain’ principle. Depending on the functionality to be acquired, a decision will be made as to which interfaces must be implemented, and which standards from the list should be applied to this end. For this purpose, the expert group assessed in which cases the functionality of WSRP v2.0 should be used (area of application) and which organisations should use WSRP v2.0 (organisational scope).

2.1 Area of application

The area of application proposed by the expert group is:

> *Combining web applications offered by a variety of organisations, allowing the provider of the web application to retain control of the behaviour and performance of the web application.*

When control of logic and presentation by the portlet provider is not required, use of regular web services geared to unlocking data will suffice. An WSRP v2.0 portlet may be supplied in addition to the regular web service, providing end-users with the option to use the portlet as an alternative.

2.2 Organisational scope

With respect to the selected area of application, the expert group does not deem further demarcation of the organisational scope necessary. As a result, the organisational scope covers all organisations to which the ‘Comply or Explain’ principle applies: government organisations and institutions in the (semi-)public sector.

3. Assessment of the standard based on the criteria

3.1 Openness

Approval and enforcement

Has the standard been approved and will it be maintained by a non-profit organisation?

Yes, the WSRP 2.0 standard has been approved and is maintained by the non-profit consortium OASIS (Organization for the Advancement of Structured Information Standards). *Is ongoing development based on a decision-making procedure that is open to all stakeholders (consensus or decision by majority, etc.)?*

Membership of OASIS is open to all organisations and persons, including government institutions. OASIS has transparent governance and operational procedures. The technical agenda is determined by the members within a process, with industry parties seeking agreement on a common standard. Finished work is ratified by an open approval round. The standardisation process is open and transparent and does not contain any restrictions. The OASIS board and the Director and technical advisory board are elected for a period of two years in a democratic process. Consortium leadership is based on individual contributions and is not restricted by financial contribution, business role, or special appointment.

Availability

Has the standard been published and is the specification freely available or available at a nominal fee? Can anyone copy and use the standard and make it available for free, or at a nominal fee?

The standard has been published on the OASIS website and can be downloaded for free, without registration.

Intellectual property

Has the intellectual property (with respect to any patents) of (parts of) the standard been made irrevocably 'royalty-free'?

Yes, the standard is available on a royalty-free basis. Refer to the next question for components governed by patents.

Reuse

Are there any restrictions with respect to re-use of the standard?

Yes, there are limitations because some components are claimed by default in patents by IBM and WebCollage. By default, IBM makes WSRP and other IBM standards freely available, provided that the user does not make any claims against IBM. For implementation of WSRP in a proprietary product (compare WSRP4J) a WebCollage licence is required. The current IPR statement is valid for WSRP v1.0, but will most probably also apply to v2.0. This expectation is based on the fact that WSRP v2.0 uses WSRP v1.0 as a starting point and builds on it.

In our reply to this question, we distinguish the following situations:

- The organisation uses a product of a supplier already in possession of a WebCollage licence. In that case, the question whether the organisation needs to apply for a WebCollage licence, strictly speaking, depends on the conditions in the licence of the supplier. In most cases, applying for a licence is not required, because use of WSRP is covered in the supplier's conditions.
- The WSRP standard is implemented for use by the organisation. In that case, the organisation needs to apply for a WebCollage licence.

In practice, the expert group does not expect any problems with the use of the standard, since the expert group is not aware of any instances in which WebCollage imposed limitations for reuse in the conditions of a licence.

3.2 Usability

Maturity

Is the standard sufficiently mature?

Yes, the current standard is version 2. The first version WSRP v1.0 was approved as an OASIS standard in September 2003. Since that time, work on the standard has been continued by the Web Services for Remote Portlets (WSRP) OASIS Technical Committee. In April 2008, WSRP

v2.0 was approved as an OASIS standard. The expert group believes that the standard has reached a high level of maturity in comparison to version 1.

Are further development and maintenance of the standard guaranteed?

The organisation developing and maintaining the standard has proved to be a stable organisation able to develop and maintain standards over a long period. The Technical Committee (TC) responsible for the standard is of a varied composition and is (periodically) very active. Furthermore, all major parties represented in the TC[3] acknowledge the importance of WSRP.

Is there a method for assessing conformity with the standard?

No, there is no method for assessing conformity. For WSRP v1.0, a WSRPTK test kit is available from IBM. This kit was further developed as an open source project by Sourceforge.net, but this test kit can only be used to test conformance of part of the WSRP v1.0 standard.

Is there sufficient practical experience with use of the standard?

No, practical experience is only available with one public party (UWV WERKbedrijf). Most experience with the standards is in the context of private organisations (private extranet, intranet) and is therefore not part of the public domain. This experience should be made public in order to allow new users to benefit.

Does the standard have sufficient support from (multiple) market parties now, and will it also enjoy this support in the future?

Yes, all (major) portal providers have implemented WSRP in their portal product and acknowledge the importance of the standard.

Are expectations for future use of the standard favourable?

Yes, since there is no alternative standard. There is a growing demand for aggregation/integration of services/applications. Additionally, interaction with these applications and coherent presentation of these applications is becoming increasingly important.

Functionality

Does the standard meet the functional requirements for use of the standard within the proposed area of application?

Yes, because WSRP provides the option of distributing applications while allowing the portlet provider to retain control of the logic and presentation.

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[3] The Technical Committee for WSRP consists of representatives of organisations such as Microsoft, Sun Microsystems, IBM, SAP AG, Oracle and TIBCO.

Rival standards

Is the outcome of comparison with any rival standards favourable?

Within the expert group there has been extensive discussion on the family of widget/gadget standards developed by W3C. A widget, or gadget, is a small application end-users can place on their desktop, a personalised website, such as iGoogle or Hyves, or on their mobile phone (for instance iPhone). Widgets perform small, common tasks or offer frequently requested information, but are also increasingly used for marketing purposes. Widgets are software components that can run at the location of the end-user as well as at the location of the provider. In the background, widgets may use third-party web services.

The conclusion/outcome of this discussion is that widgets have a different area of application. The widget standard also deals with distribution of logic and presentation, but widgets are components that are, in part, executed on the client side. An important difference between portlets and widgets is that the end-user combines the widgets in their own portal. Also, with portlets, the providers have more control over the location where their portlets are integrated.

3.3 Potential

Does inclusion of the standard in the list contribute to increased supplier independence?

The expert group believes that the standard will contribute to supplier independence, because the standard does not prescribe any specific technology of a supplier for implementation.

Suppliers can leave out optional components of the standard or add extensions, but this does not automatically lead to dependence on a single supplier. Yet, collaboration between portlet providers and portlet consumers is more efficient when products of the same supplier are used. In many cases, the suppliers will be the major parties that support portal software. The expert group believes that this does not jeopardise supplier independence.

Does inclusion of the standard in the list contribute to increased interoperability?

Yes, a standardised exchange of portlets will emerge, independently of the technical implementation.

A point for consideration in this context is that interoperability between portlet providers and portlet consumers of different suppliers may be limited as a result of the freedom of choice in implementation of the standard and the use of extensions. Some agreements between portlet providers and portlet consumers concerning the use of the standard are required to ensure optimum interoperability.

3.4 Impact

Business management

Does implementation of the standard involve any risks in the area of business management?

Does implementation of the standard have any positive effects on business management?

- A positive effect is that responsibility for management and maintenance of applications can be separated. This does, however, require that clear agreements are made concerning service provision (SLA).
- There are some legal risks concerning portlet provider and portlet consumer accountability. There may, for instance, be situations in which it is not clear which party can be held responsible and accountable by the end-user.
- The portlet provider has limited influence on the context in which the portlet is used. As a result, the portlet provider may inadvertently be associated with this context.
- Creation of a (government) portal becomes easier, because portlets of different portlet providers can be integrated without difficulty.

Information provision

Does implementation of the standard involve any risks in the area of information provision?

Does implementation of the standard have any positive effects on information provision?

- When the standard is used, control and management of information remains with the source of the information. The expert group believes that, if keeping responsibilities of portlet providers and portlet consumers separate is important, use of the standard will have a favourable effect.
- As a result of integration of portlets of different portlet providers, the interpretation of information presented by a specific portlet may change, because of the context in which it is presented.

Technology

Are there any technological risks involved in implementation of the standard?

Does implementation of the standard have any positive technological effects on information provision?

- Performance issues may occur (which can also happen be the case with regular web services). For instance, the entire portal may be hindered by a few portlet providers that perform badly. This may be prevented by agreements in SLAs.

- There are some limitations with respect to the variety of platforms supported by WSRP. Suppliers offer many WSRP implementations based on Java technology. There are no known WSRP implementations for web platforms based on PHP, and for the .NET framework there is only one known implementation of WSRP v1.0, offered by NetUnity. This results in a migration risk for these platforms.
- A more unequivocal interface between systems will emerge, which will accelerate technical realisation of portals. The standard prevents definition of many supplier-specific interfaces for the same purpose, i.e. integration of portlets.

Security and privacy

Does implementation of the standard involve any risks in the area of security or privacy?

Does implementation of the standard have any positive technological effects on security and privacy?

WSRP is a web service standard and security risks are therefore identical to the risks involved in web services. The expert group believes there is some support of security measures such as SAML, because data of the WSRP session is made available between the provider and consumer. Examples of such data are status data and unique session identification. WSRP does not have any characteristic properties for realisation of security.

Migration

Is migration to the standard easy?

This depends to a large extent on the starting situation:

- In the event migration of existing portlets is required, this may cause problems, since the portlet requirements of WSRP are more strict. Problems may occur when an implementation does not fully comply with the portlet specifications (allowed by portal provider).
- The migration effort may be considerable when portlets are not yet used, but this also depends on the extent to which presentation and logic are modular and may be placed in separate portlets.

4. Recommendation to Forum and Board

4.1 Summary of assessment criteria

In summary, the outcome of the assessment of the criteria is as follows:

Openness

The WSRP version 2.0 standard is maintained by the non-profit organisation OASIS and may be downloaded and distributed freely. Membership of the organisation is open to all organisations and individuals. The standardisation process is documented and transparent. Parts of the standard are governed by patents of IBM and WebCollage. In some cases, application for a WebCollage licence will be required, but this does not involve any costs.

Usability

The standard is sufficiently mature and is expected to be actively maintained by OASIS. The standard will be supported by a number of major portal providers. At present, practical experience is limited, in particular in the government domain. No alternative standards are available.

Potential

The standard contributes to supplier independence, because the standard does not prescribe a specific technology of a supplier for implementation of the standard. Suppliers can leave out optional components of the standard or add extensions, but this does not automatically lead to dependence on a single supplier. Yet, collaboration between portlet providers and portlet consumers is more efficient when products of the same supplier are used. Some agreements between portlet providers and portlet consumers concerning the use of the standard are required to ensure optimum interoperability.

Impact

A favourable effect on business management, information provision and security is that control of the portlets, and therefore the control of the information offered, as well as the functionality, presentation and security are placed with the portlet provider. Suitable agreements (SLAs) are required between portlet provider and portlet consumer regarding the quality of the service provision. Also, realisation of a government portal will be easier, because portlets can be easily integrated.

A drawback of this approach is that the portlet provider has limited control of the context their portlet is presented in.

Furthermore, there are some legal risks concerning accountability for the information and services offered in the portlets. It will be necessary to decide beforehand which party is accountable: the portlet provider or the aggregator.

4.2 Recommendation

The expert group advises the board to include WSRP version 2.0 in the list of open standards without any conditions, bearing in mind the following points for attention:

- In some situations, it may be necessary to apply for a licence from patent owner WebCollage. This is a formal step, which, in practice, does not have any influence on reuse of the standard.
- Expectations for future use of the standard are favourable. At present, experience with the use of the standard in the government domain is limited.
- Interoperability between portlet suppliers and portlet consumers of different suppliers may be hindered by freedom of choice for implementation of the standard. Some agreements between portlet providers and portlet consumers concerning the use of the standard are required to ensure optimum interoperability.