



WS-Agreement Status

15th Wed. 2006



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Update since GGF15

- 2nd Public Comment Period
 - 2005-10-18 –2005-12-18
 - 12 Posts: Thank you very much.
 - 1st post had FIFTY EIGHT issues
 - All in all approx. 92issues (39 straightforward(grammatical etc) ,53 non-straightforward,)
 - Reflected the 39 straightforward issues.
 - Of the 53 non-straight forward issues: 31 cleared 22 more to go.
 - Status is reported to the mailing list in an excel sheet.

REC: WS-Agreement Spec

EDITOR : Forums : REC: WS-Agreement Spec

REC: WS-Agreement Spec		Ultimate	Show 25
Change View			
Topic	Topic Starter	Replies	Last Post
<input type="checkbox"/> sorry for the late post	Yuichiro Yonebayashi	5	2006-01-25
<input type="checkbox"/> References not used in document.	Michael Parkin	1	2006-01-25
<input type="checkbox"/> Discovery of compatible agreement parties	Yuichiro Yonebayashi	2	2006-01-11
<input type="checkbox"/> Flexibility of WS-A.(+ other archiving, etc)	Viktor Yarmolenko	1	2006-01-11
<input type="checkbox"/> several comments	Naoya Fujisaki	0	2005-12-08
<input type="checkbox"/> WS-Agreement Critique	Shamima Paurobally	0	2005-11-21
<input type="checkbox"/> One more Nit	Toshiyuki Nakata	0	2005-11-14
<input type="checkbox"/> Nit Pickings..	Toshiyuki Nakata	0	2005-11-09
<input type="checkbox"/> Resurrection of the Terminate operation	Toshiyuki Nakata	0	2005-11-09
<input type="checkbox"/> Detailed comments from Stephen Pickles	GRAAP-WG Mailing List Alias	0	2005-10-26
<input type="checkbox"/> Viewing an Agreement as a Contract	Donal Fellows	0	2005-10-20
<input type="checkbox"/> Problems with Penalties and Rewards	Donal Fellows	0	2005-10-20
<input type="checkbox"/> Welcome to REC: WS-Agreement Spec	Joel Replogle	1	2005-10-19
<input type="checkbox"/> Select All			

Resolving the issues:

- Main consensus: (Policy is too strong a word.)
 - Requests for New Features etc.=>Priority is on getting the current draft nailed down. We hope to address most of them in the next version of the draft.
 - Discrepancies, missing terms will be handled in the current spec.
 - We have updated references, tns name spaces, import definitions to follow the newest spec. (Only the specs are moving target themselves..)

Non-straight forward Issues which have been addressed

Place	Issue	Resolution
Page 5, section 1.1.1, first bullet, last sentence.	“Service objective description will reference the elements defined in service description.” Even after two readings of the entire document, I still don’t understand what this means.	Deleted the sentence.
Page 6, section 1.1.1, last bullet.	The meaning of “.whether or not this is created using message exchange defined via protocol or template as a starting point” escapes this reviewer.	Changed to “The specification of the agreement document structure can be used independent of the protocol defined here.”
Page 6, para commencing “Relationship to other”	Given the laudable intention of last bullet on this page, it is unfortunate that you have to refer to the “WS-Agreement protocol, ie. ...” instead of something more simpler and more concrete.	Remove info. about what's in the protocol as it doesn't make sense at this point since it hasn't been introduced.
Page 7, section 1.2, last paragraph.	It is unfortunate that square brackets are used in the same paragraph for two different purposes (references, and abstract property names).	Use Bold+Underlined for references Eg. <u>[XML Schema]</u>
Page 10, second paragraph (Template).	This is the first mention of agreement factory. This is quite disruptive to the reader, who now has to figure out whether “agreement factory” means the same as “(agreement) responder”, and the clues are a long time coming.	Added reference to factory pattern in agreement responder, removed from template, and added ref. to factory pattern in ws rlf row of table.

Non-straight forward Issues which have been addressed

Place	Issue	Resolution
Page 10, section 1.3, Namespace.	1) Is there not a more recent version of the wsa namespace? 2) “wsrp” could also stand for “Web Services for Remote Portlets”.	Updated to below.
Page 13, section 3, layered model, figure 1	I see absolutely no need whatsoever to show so much detail in the service layer.	Simplify the diagram for the service layer. (Not yet done as figure refuses to be edited.)
Page 14, section 3, paragraph numbered 2.	Similar comments to the above apply.	Removed a bunch of text in the discussion of service layer that talks about how the service layer operates.

Prefix	Namespace
wsag	http://schemas.ggf.org/graap/2005/09/ws-agreement
wsa	http://www.w3.org/2005/08/addressing/
wsrf-bf	http://docs.oasis-open.org/wsrp/bf-2
wsrf-rp	http://docs.oasis-open.org/wsrp/rp-2
wsrf-rw	http://docs.oasis-open.org/wsrp/rw-2
wsrf-rpw	http://docs.oasis-open.org/wsrp/rpw-2
xs/xsd	http://www.w3.org/2001/XMLSchema
xsi	http://www.w3.org/2001/XMLSchema-instance
wsdl	http://schemas.xmlsoap.org/wsdl/

Non-straight forward Issues which have been addressed

Place	Issue	Resolution
Page 11, section 2.1, second paragraph, last sentence,	Use of "agreement resource". This is the first real hint that an agreement is represented as a WS-Resource and comes as something of a surprise to the reader.	changed resource to "service"
Page 17, first paragraph, (/wsag:Context/wsag:AgreementInitiator)	Does the language permit this to be a WS-Name? If it is intended to allow WS-Names, it might be helpful to include this in the "MAY"s	Decided not to add WS-Name since we're not familiar with it (I know this is being discussed within OGSA naming WG), and there is a very broad array of values that might be used here.
Page 17, /wsag:Context/wsag:ExpirationTime	Shouldn't "service" read "resource" in "...to specify an Agreement service lifetime"?	We're trying to standardize on the term service rather than resource.
Page 36, first paragraph, first sentence.	"Based on the service term state, agreement states can be determined." Do you really mean "agreement states" here?	Delete the sentence (left over from previous definition)
Page 49, 13 References.	Are the IBM Developer Works URLs the definitive references for WS-Addressing, WS-Resource, etc?	Changed to the WG's TC's (cf. the next few slides)

1. References

[WSDL]

R. Chinnici, J.-J. Moreau, A. Ryman, S. Weerawarana:
"Web Services Description Language (WSDL) Version 2.0 Part 1: Core Language",
W3C Candidate Recommendation, W3C, 6 January, 2006.
<http://www.w3.org/TR/2006/CR-wsdl20-20060106>.

[WS-ResourceProperties]

S. Graham, J. Treadwell: "Web Services Resource Properties 1.2 (WS-ResourceProperties)",
Public Draft 02, OASIS, 6 October 2005.http://docs.oasis-open.org/wsrf/wsrf-ws_resource_properties-1.2-spec-pr-02.pdf.

[WS-Addressing]

M. Gudgin, M. Hadley: "Web Services Addressing 1.0 - Core", W3C Candidate Recommendation, W3C, 17 August, 2005.
<http://www.w3.org/TR/2005/CR-ws-addr-core-20050817/>.

[WS-ResourceLifetime]

L. Srinivasan, T. Banks: "Web Services Resource Lifetime 1.2 (WS-ResourceLifetime)", Public Draft 02, OASIS, 7 October, 2005.
http://docs.oasis-open.org/wsrf/wsrf-ws_resource_lifetime-1.2-spec-pr-02.pdf.

[WS-BaseFaults]

L. Liu, S. Meder: "Web Services Base Faults 1.2 (WS-BaseFaults)", Public Draft 02, OASIS, 7 October, 2005.
http://docs.oasis-open.org/wsrf/wsrf-ws_base_faults-1.2-spec-pr-02.pdf.

[OGSA Profile [Toshi1] [z2]

T. Maguire, D. Snelling: "OGSA Profile Definition Version 1.0", Grid Working Draft, Global Grid Forum, November, 2005.
<https://forge.gridforum.org/projects/ogsa-wg/document/draft-ggf-ogsa-profile-definition/en/19>.

[SOAP]

M. Gudgin, M. Hadley, N. Mendelsohn, J. Moreau, H.F. Nielsen: "SOAP Version 1.2 Part 1: Messaging Framework",
W3C Recommendation, W3C, 24 June, 2003. <http://www.w3.org/TR/soap12-part1/>.

[RFC2119]

S. Bradner (Editor): "Key words for use in RFCs to Indicate Requirement Levels",
The Internet Engineering Task Force Best Current Practice, March, 1997. <http://www.ietf.org/rfc/rfc2119.txt>.

[XML-InfoSet]

J. Cowan, R. Tobin: "XML Information Set (Second Edition)",
W3C Recommendation, W3C, 4 February, 2004.
<http://www.w3.org/TR/xml-infoset/>.

[WS-Security]

A. Nadalin, C. Kaler, P. Hallam-Baker, R. Monzillo:

"Web Services Security: SOAP Message Security 1.0 (WS-Security 2004)",
OASIS Standard 200401, OASIS, March 2004.
<http://docs.oasis-open.org/wss/2004/01/oasis-200401-wss-soap-message-security-1.0.pdf>.
[z4\]](#)

[XPath]

J. Clark, S. DeRose: "XML Path Language (XPath) Version 1.0", W3C Recommendation, W3C, 16 November, 1999.

<http://www.w3.org/TR/xpath>.

[XML Schema]

D. C. Fallside, P. Walmsley: "XML Schema Part 0: Primer Second Edition", W3C Recommendation, W3C, 28 October, 2004.

<http://www.w3.org/TR/xmlschema-0/>.

[XML]

T. Bray, J. Paoli, C. M. Sperberg-McQueen, E. Maler, F. Yergeau: "Extensible Markup Language (XML) 1.0 (Third Edition)":

W3C Recommendation, W3C, 4 February, 2004. <http://www.w3.org/TR/REC-xml>.

[URI]

T. Berners-Lee, R. Fielding, U.C. Irvine, L. Masinter: "Uniform Resource Identifiers (URI): Generic Syntax",

[RFC 2396](#), MIT/LCS, U.C. Irvine, Xerox Corporation, August, 1998. <http://www.ietf.org/rfc/rfc2396.txt>.

[XQUERYX]

J. Melton, S. Muralidhar: "XML Syntax for XQuery 1.0 (XQueryX)", W3C Candidate Recommendation, W3C, 3 November 2005.

<http://www.w3.org/TR/2005/CR-xqueryx-20051103>.

[WS-Resource]

S. Graham, A. Karmarkar, J. Mischkinsky, I. Robinson, I. Sedukhin: "Web Services Resource 1.2 (WS-Resource)",

Public Review Draft 02, OASIS, 6 October, 2005. http://docs.oasis-open.org/wsrf/wsrf-ws_resource-1.2-spec-pr-02.pdf.

[JSDL]

A. Anjomshoaa, F. Brisard, M. Drescher, D. Fellows, A. Ly, S. McGough, D. Pulsipher, A. Savva (Editor):

"Job Submission Description Language (JSDL) Specification, Version 1.0",

Grid Forum Document GFD-R-P.056, Global Grid Forum, November, 2005.

<http://www.ggf.org/documents/GFD.56.pdf>.

[ComputeJobs][z3]

A. Andrieux, K. Czajkowski, J. Lam, C. Smith, M. Xu: "Standard Terms for Specifying Computational Jobs (Proposal to JSDL-WG)",

http://www.epcc.ed.ac.uk/~ali/WORK/GGF/JSDL-WG/DOCS/WS-Agreement_job_terms_for_JSDL_print.pdf.

[WS-BaseNotification]

S. Graham, D. Hull, B. Murray: "Web Services Base Notification 1.3 (WS-BaseNotification)",

Public Review Draft 02, OASIS, 28 November, 2005.

http://www.oasis-open.org/committees/download.php/13488/wsn-ws-base_notification-1.3-spec-pr-02.pdf.

[XML-ns]

T. Bray, D. Hollander, A. Layman:

"Namespaces in XML",

W3C Recommendation, W3C, 14 January, 1999.

<http://www.w3.org/TR/REC-xml-names/>.

Non-straight forward Issues which have been addressed

Place	Issue	Resolution
page 6-7, table of external specifications,	I can not find specific version numbers in the Spec Version Column. Please provide them in the "Spec Version Column".	Done(cf. Next slide)
page 10, table of prefix and namespace	I suggest replacing the below URLs with those of the standard bodies	Done (cf. slide 5)
page 49-50, 13 References	I believe the URIs for standard bodies should be used for WS-* specifications	Done (cf. slides 7 & 8)
Page 50, [XQUERYX].	The status of the draft is wrong.	Done (cf. slides 7 & 8)
Page 50, [JSDL]	I suggest updating this reference with the officially published version. Also it should be referenced in Appendix 2.	Done (cf. slides 7 & 8)
Section 9	I have a question about the simple client-server scenario. In order that the client can monitor the agreement, he/she must know the EPR of the AgreementState in the server side. How can he/she get the EPR?	9. the details are later referred to.(No updates)
9.1.1.2	According to the (Pending) Agreement Factory Port Type WSDL, the content of wsag:createdAgreementEPR should be as follows. <wsag:createdAgreementEPR> wsa:EndpointReferenceType </wsag:createdAgreementEPR>	9.1.1.2The pseudo schema should be fixed to follow the WSDL.. (Done)

External Specification	Standards Body	Status	Is used for
WS-ResourceProperties 1.2 (WSRF-RP)	Being Discussed in OASIS: Web Services Resource Framework (WSRF) TC Group: http://www.oasis-open.org/committees/tc_home.php?wg_abbrev=wsrf	Evolving Institutional	Resource properties on port types
WS-Addressing 1.0	Being Discussed in W3C: Web Services Addressing Working Group: http://www.w3.org/2002/ws/addr/	Evolving Institutional	End point references to resource-qualified services
Web Services Resource Lifetime 1.2 (WSRF-RLF)	Being Discussed in OASIS: Web Services Resource Framework (WSRF) TC Group: http://www.oasis-open.org/committees/tc_home.php?wg_abbrev=wsrf	Evolving Institutional	Factory pattern and destroy operation for resources
Web Services Base Faults 1.2 (WSRF-BF)	Being Discussed in OASIS: Web Services Resource Framework (WSRF) TC Group: http://www.oasis-open.org/committees/tc_home.php?wg_abbrev=wsrf	Evolving Institutional	Defines the Basic faults

Non-straight forward Issues which have been addressed

Place	Issue	Resolution
9.4.5	wsag:AgreementServiceReferenceList element specifies a list of service references. However, the Agreement types schema says that the element can have only one service reference.	P.58 Agreement Service References type should be ammended. (Not yet done?)
10	According to the note at the top of this chapter, it is suggested (not mandated) that agreement services implement WS-ServiceGroup. However, Agreement Factory Port Type WSDL says that the portType must have at least one wssg:MembershipContentRule resource property. That is, the implemetation of wsag:AgreementFactory portType must implement WS-ServiceGroup as well, which is a contradiction. (+2more issues on WS-SG)	We have deleted references to WSSG. So 10 part can be considered as being done. Delete "Suggestions include using the [WS-ServiceGroup] idiom to have the Agreement service expose the list of services it binds to."
Section 13 (p.49),	Although the following references are given in they are not used within the text of the document. [SOAP 1.2] [URI] [SNAP] [WS-Addressing] [WS-BaseFaults] [WS-Notification] [XML-InfoSet] [XML] [XML-ns] [XPath] [JSDL]	except for the following references - ComputeJobs - WS-BaseNotification - XML-ns These are not used within the text yet, but I left them in case people think that they should.
Appendix 1	The element declaration of wsag:Template and its data type definition are not found in the XML schemas.	We'll move wsag:Template to a top-level element.

Non-straight forward Issues which have been addressed

Issue	Resolution
<p>It would be so much better, in my opinion, for future services to be able to create flexible yet unambiguous SLAs. For example: I don't care how many CPUs resource will utilize for my task, but I want it to finish in certain time and my task is capable of running on 1,2,3,...N processors, however the time required varies</p>	<p>We don't think the current WS-Agreement prohibits what he's suggesting, but we also don't define it.</p>
<p>I suggest to introduce some small price per request (visible from the template presumably), in order to discourage clients pinging all the time. This should regulate the load on the service nicely. Make it free for the first 5 attempts, etc.</p>	<p>Basically DoS attack concerns. Agreed, that this might be a nice thing to be able to do, but we consider it outside the scope of WS-Agreement.</p>
<p>So, will the current WS-Agreement fall apart when a third party, say a "mediator", appears?</p>	<p>We specifically restricted to 2 parties to avoid specific remediation of multiple parties. That is, who specifically is at fault when there are more than two parties with specific responsibilities to one another.</p>
<p>Whether WS-Agreement refers to another Agreement or not, the need may arise for all WS-Agreements to be stored by a trusted party/registry for at least N years, in which case Library Services may be required, which may use WS-A themselves, and so on.</p>	<p>Agreed that a library service is useful, but it is outside the scope of WS-Agreement. For signing, and authentication, other general practices for web services should be applicable.</p>

Non-straight forward Issues which have been addressed

	Issue	Resolution
	<p>I suggest that a kind of "expressionLanguage(Dialect)" attribute, whose type is xsd:anyURI, be added to some of the elements of xsd:anyType. The attribute value can be the URI of XPATH specification, and so on. This kind of attribute can be seen in other specs, such as wsrp:QueryExpression/@Dialect attribute defined in WS-ResourceProperties. I appreciate your effort to consider my suggestion. For your convenience, the elements of xsd:anyType are listed below.</p>	<p>Our current thinking is to consider this in a next version based on some experience with the current version. It may be that some practice like this will emerge which we could incorporate in a future version. The reference to a similar use in wsrp does help us to see a model that might be used.</p>

Import Example

```
<xs:import  
  namespace="http://www.w3.org/2005/08/addressing"  
  schemaLocation="http://www.w3.org/2005/08/addressing/ws-addr.xsd"/>  
<xs:import  
  namespace="http://docs.oasis-open.org/wsrf/bf-2"  
  schemaLocation="http://docs.oasis-open.org/wsrf/bf-2.xsd"/>
```



Candidate for Common Terms

Candidate for common Terms

- We had defined terms as being domain specific (and thus out of scope) of WS-Agreement.
- However for interoperability tests, etc. some common Terms will really help.
- One obvious candidate is JSDL

Job Submission Example Using prototype JSDL document as Service terms: Template Example

```
<wsag:ServiceDescriptionTerm
  wsag:Name="Job JSDL" wsag:ServiceName="Job">
  <jSDL:JobDefinition>
    <JobDescription>
      <Application>
        <jSDL-posix:POSIXApplication>
          <FileSizeLimit>1048576</FileSizeLimit>
          <CoreDumpLimit>0</CoreDumpLimit>
          <OpenDescriptorsLimit>64</OpenDescriptorsLimit>
        </jSDL-posix:POSIXApplication>
      </Application>
      <Resources ...>
        <OperatingSystem>
          <OperatingSystemType>
            <OperatingSystemName>LINUX</OperatingSystemName>
          </OperatingSystemType>
        </OperatingSystem>
        <CPUArchitecture>
          <CPUArchitectureName>x86</CPUArchitectureName>
        </CPUArchitecture>
        <IndividualCPUSpeed>
          <Exact>1600000</Exact>
        </IndividualCPUSpeed>
        <IndividualCPUCount>
          <Exact>2.0</Exact>
        </IndividualCPUCount>
        <IndividualNetworkBandwidth>
          <Exact>100000000</Exact>
        </IndividualNetworkBandwidth>
        <TotalResourceCount>
          <Exact>1</Exact>
        </TotalResourceCount>
      </Resources>
    </JobDescription>
  </jSDL:JobDefinition>
</wsag:ServiceDescriptionTerm>
```

- Default 1 MB file size limit
- Default 0 byte core dump size limit
- Default 64 open file descriptors limit

- Default "LINUX" operating system
- Default "x86" CPU type

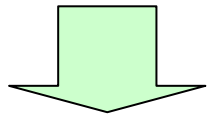
- Default 1.6 GHz CPU speed
- Default 2 CPUs per node
- Default 100 Mb/s network connectivity for nodes
- Default 1 node per job

Job Submission Example Using prototype JSDL document as Service terms contd.

- Maximum 500 MB file size limit (Default 1MB)
- Maximum 500 MB core dump size limit (Default 0MB)
- Maximum 1024 open file descriptors limit(Default 64)

```
<jSDL:JobDefinition>
  <JobDescription>
    <Application>
      <jSDL-posix:POSIXApplication>
        <FileSizeLimit>1048576</FileSizeLimit>
        <CoreDumpLimit>0</CoreDumpLimit>
        <OpenDescriptorsLimit>64</OpenDescriptorsLimit>
      </jSDL-posix:POSIXApplication>
    </Application>
  </JobDescription>
</jSDL:JobDefinition>
```

Template:Service Description Term



```
<FileSizeLimit>16777216</FileSizeLimit>
<CoreDumpLimit>0</CoreDumpLimit>
<OpenDescriptorsLimit>1024</OpenDescriptorsLimit>
```

Offer: Service Description Term

```
<wsag:Item>
  <Location>//jSDL-posix:FileSizeLimit</Location>
  <xsd:restriction base="xsd:positiveInteger">
    <xsd:maxInclusive value="524288000"/>
  </xsd:restriction>
</wsag:Item>
<wsag:Item>
  <Location>//jSDL-posix:CoreDumpLimit</Location>
  <xsd:restriction base="xsd:positiveInteger">
    <xsd:maxInclusive value="524288000"/>
  </xsd:restriction>
</wsag:Item>
<wsag:Item>
  <Location>//jSDL-posix:OpenDescriptorsLimit</Location>
  <xsd:restriction base="xsd:positiveInteger">
    <xsd:maxInclusive value="1024"/>
  </xsd:restriction>
</wsag:Item>
```

Template: Creation Constraint

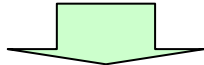
- 16MB file size limit
- 0 MB core dump size limit
- 1024 open file descriptors limit

Job Submission Example Using prototype JSDL document as Service terms contd.

- Choice of "LINUX" or "FreeBSD" (exclusive)
- Choice of "x86", "x86_32", or "x86_64" CPU types (exclusive)

```
<OperatingSystem>
  <OperatingSystemType>
    <OperatingSystemName>LINUX</OperatingSystemName>
  </OperatingSystemType>
</OperatingSystem>
<CPUArchitecture>
  <CPUArchitectureName>x86</CPUArchitectureName>
</CPUArchitecture>
```

Template:Service Description Term



```
<OperatingSystem>
  <OperatingSystemType>
    <OperatingSystemName>LINUX</OperatingSystemName>
  </OperatingSystemType>
</OperatingSystem>
<CPUArchitecture>
  <CPUArchitectureName>x86_32</CPUArchitectureName>
</CPUArchitecture>
```

Offer: Service Description Term

```
<wsag:Item>
  <Location>//jsdl:CPUArchitecture/CPUArchitectureName</Location>
  <xsd:restriction base="jsdl:ProcessorArchitectureEnumeration">
    <enumeration value="x86_32"/>
    <enumeration value="x86_64"/>
    <enumeration value="x86"/>
  </xsd:restriction>
</wsag:Item>
<wsag:Item>
  <Location>
    //jsdl:OperatingSystem/jsdl:OperatingSystemType/jsdl:OperatingSystemName
  </Location>
  <restriction base="jsdl:OperatingSystemTypeEnumeration">
    <enumeration value="LINUX"/>
    <enumeration value="FreeBSD"/>
  </restriction>
</wsag:Item>
```

Template: Creation Constraint

- "LINUX"
- "x86_32"

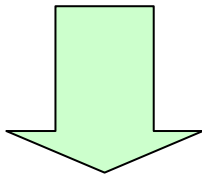
Job Submission Example Using prototype JSDL document as Service terms contd.

- Choice of 10, 100, or 1000 Mb/s network connectivity for nodes
(inclusive)

Template: Creation Constraint

```
<IndividualNetworkBandwidth>  
  <Exact>1000000000</Exact>  
</IndividualNetworkBandwidth>
```

Template:
Service Description Term



```
<wsag:Item>  
  <wsag:Location>//jsdl:IndividualNetworkBandwidth</wsag:Location>  
  <xsd:sequence>  
    <xsd:element name="Exact" minOccurs="1" maxOccurs="unbounded">  
      <xsd:simpleType>  
        <xsd:restriction base="xsd:double">  
          <xsd:enumeration value="1000000000"/>  
          <xsd:enumeration value="1000000000"/>  
          <xsd:enumeration value="100000000"/>  
        </xsd:restriction>  
      </xsd:simpleType>  
    </xsd:element>  
  </xsd:sequence>  
</wsag:Item>
```

```
<IndividualNetworkBandwidth>  
  <jsdl:Exact>1000000000</jsdl:Exact>  
  <jsdl:Exact>1000000000</jsdl:Exact>  
</IndividualNetworkBandwidth>
```

- Selects 100/1000 Mb/s network speeds
(the scheduler can choose which)

Basic Approach taken in Business Grid PJ

- Compose JSDL elements using WS-Agreement ServiceDescriptionTerms (SDT)
 - Two (main) ways to compose JSDL and WS-Agreement
 1. JSDL document in a single SDT
 2. JSDL document elements split in multiple SDT
 - Alternatives can then be defined over some of the terms
- Approach (2) shown below and uses simple convention:

```
<wsag:ServiceDescriptionTerm ... ServiceName="Web3Tier_T1">
  <jSDL:JobIdentification>
    <jSDL:JobName>Web3Tier_T1</jSDL:JobName>
    <jSDL:JobDescription>Tier 1 of a Web 3-tier ...
    </jSDL:JobDescription>
  </jSDL:JobIdentification>
  ...
</wsag:ServiceDescriptionTerm>
```

Overall document structure

ASP Provider



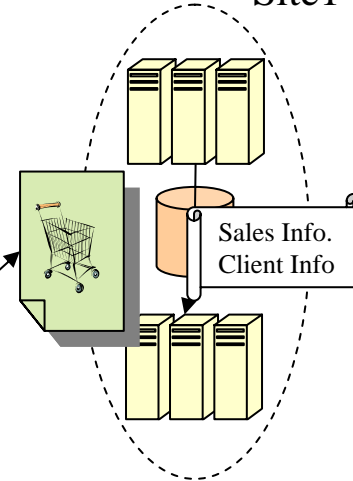
```
<wsag:AgreementOffer>
  <wsag:Name>...</wsag:Name>
  <wsag:Context>...</wsag:Context>
  <wsag:Terms>
    <wsag:All>
      <wsag:ServiceDescriptionTerm ...
        wsag:ServiceName="Global">
          Global requirements
        </wsag:ServiceDescriptionTerm>
      <wsag:ServiceDescriptionTerm ...
        wsag:ServiceName="Site1">
          JSDL Description for Site1
        </wsag:ServiceDescriptionTerm>
      <wsag:ServiceDescriptionTerm ...
        wsag:ServiceName="Site2">
          JSDL Description for Site2
        </wsag:ServiceDescriptionTerm>
      <wsag:ServiceDescriptionTerm ...
        wsag:ServiceName="Site1">
          JSDL Description for Site1
        </wsag:ServiceDescriptionTerm>
      <wsag:ServiceDescriptionTerm ...
        wsag:ServiceName="Site2">
          JSDL Description for Site2
        </wsag:ServiceDescriptionTerm>
    </wsag:All>
  </wsag:Terms>
</wsag:AgreementOffer>
```



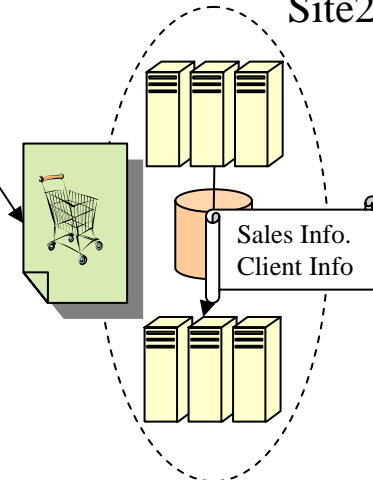
Global Grid Manager



Site1



Site2



TODO

- We need to extend JSDL to handle the concept of *metric*.

Another Candidate

- Proposal by A. Dan et al. (GGF14)



Key Performance Indicator (KPI) for Web Services

Issue: Define commonly (expected to be) used KPIs for web services

• KPIs and their semantics must be well-defined in order to use in agreements for web services

• a small set will cover commonly used scenarios

• applicable to all web services

• use of agreement, i.e., customization based on client input is important for configuring services

• Performance (Example KPIs)

• Average response time

Parameters: averaging window, unit, measurement point

• Percentile response time

Parameters: Additionally Percentile target

• Throughput

Parameters: Window, unit

• Resiliency (Example KPIs)

• Availability

Parameters: window

• Maximum down time

Parameter: unit