

# Web Services Guidance

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**Background Information:** With software development tools and architecture geared toward Service Oriented Architecture, many applications will be built in part as web services for other entities to consume. While web services can provide many benefits such as reusability, flexibility, and interoperability between silo systems, they can also create new challenges for maintenance and management. While realizing that Service Oriented Architecture is a broad topic; this guideline limits its scope to address some immediate needs while building, deploying and maintaining (web) service applications that are available for other applications to consume.

## Guidelines:

- Web Services should use standard data types that are platform independent to exchange information unless there is prior agreement between parties.
- Web services that provide create, read, update, or delete database methods or which provide access to sensitive information should authenticate and authorize their callers through agency security components since weak authentication and authorization can be exploited to gain unauthorized access to sensitive information and operations. Authentication failures should log date, time, application, and all relevant user data.
- Project manager should contact the Technical Architecture Group when designing the internet web services to ensure the service will conform to DIS guidelines and governance. [1]
- Web Services that are available for anonymous public consumption should include a disclaimer to minimize legal and liability exposure.
- Web Services should go through vigorous testing. The testing should include independent applications outside of the project consuming the service.
- Changes to existing web services should ideally allow existing consumers to continue to operate without any modification. In other words, the business logic can be changed, but the operation (web method); parameters and data format (data contract) should always remain the same.
- When the parameters, data, or schema of an existing service is modified, when a service is decommissioned, or when a new operation is added to the existing service, the project manager should notify all known service-consuming parties well in advance of the change. The project plan should provide adequate time for a transition period and should follow the Change Management Process [2].
- When adding any new operations to an existing web service, all the operations including non-impacted operations should be included in the verification testing to ensure that the entire web service works as expected and that no part was adversely impacted by the changes.
- Web service Application Project managers should consider developing a communication plan to ensure all parties have enough time for testing, especially if it is a change to an existing web service.

## Training Resources

Ecology Web Services Training Resource:

<http://ecologynet/softcenter/TrainingMaterials/TrainingMaterials.aspx>

Microsoft - Building Secure Web Services: <http://msdn2.microsoft.com/en-us/library/aa302428.aspx>

**[1] DIS Governance and Guideline for Reference:**

Web Services Service Integration Profile –

[http://isb.wa.gov/policies/portfolio/ea/Webservices\\_interaction\\_prof.doc](http://isb.wa.gov/policies/portfolio/ea/Webservices_interaction_prof.doc)

Solution Integration Design Standards -

[http://isb.wa.gov/policies/portfolio/ea/SolutionInteg\\_guide.doc](http://isb.wa.gov/policies/portfolio/ea/SolutionInteg_guide.doc)

Integration Services Governance -

[http://ecywblcyadxd0/sites/ads/ea/StateWide\\_Architectures/IntegrationSvsGov.doc](http://ecywblcyadxd0/sites/ads/ea/StateWide_Architectures/IntegrationSvsGov.doc)

**[2] Change Management Process:**

Step 1. Project lead should document the changes and notify the impacted parties and Technical Architecture Group (ECY DL HQ TECH ARCH GRP) at least 2 weeks in advance before the production date. For emergency situations such as fixing a bug, the 2 weeks notification requirement can be shortened. The purpose of these 2 weeks is to allow sufficient testing by impacted parties.

Step 2. In the case of critical services, the Technical Architecture Group will schedule a review meeting with project lead to help implement the changes successfully.

Step 3. After verifying 2 weeks of notification has occurred, the Enterprise Operation Unit implements the changes in production. The agency's Application Architect updates the Enterprise Web Services Catalog to reflect the new web services profile.

## Document History

Date	Version	Editor	Change
March 21, 2008	0.1.1	Son Tran	Initial Draft and send to TA members.
March 25, 2008	0.1.2	TA team members	Incorporated TA's comments to the Draft and send to Architecture Workgroup for reviewing.
March 31, 2008	1.0	TA members	Adopted officially.
May 19, 2008	1.1	Son Tran	Change management
June 2, 2008	1.1	TA members	Adopted officially.