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# Web Services at Stanford University

*Meeting Notes  
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Dartmouth College*



## General Goals for Web Services at Stanford

- ◆ **Simplicity (for departments/service consumers)**
- ◆ **Motivate Integration with Infrastructure**
- ◆ **Use Standards...but not all of them at once.**

# General Guidelines for Web Services at Stanford

1. Solution should be programming language/platform agnostic
2. Use SOAP (support both SOAP 1.1 and SOAP 1.2 requests/responses)
3. Use only document-style SOAP messages
4. Try not to use any SOAP headers
5. Use XML Schema to define all documents

# General Guidelines for Web Services at Stanford

6. **When interoperability is a concern...**
  - ◆ Support SOAP over HTTP (for unauthenticated Web Services) and SOAP over HTTPS with client certs for authenticated web services
  
7. **When interoperability is not a concern...**
  - ◆ Example: Give the clients a JAR file with client stubs then, use a GSS socket, with the equiv HTTP headers/SOAP body being placed inside the encrypted channel. Allow the connection to be left open and re-used when the client wants to make a lot of SOAP calls all at once.

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8. Provide JAR files that contain the client-side APIs of the SOAP service.
  - ◆ The developer using them shouldn't even need to know that they are using SOAP/XML/etc. The client-side stubs should take care of authentication.
  
9. The "business logic" in the server-side stubs shouldn't really know they are being called via SOAP, or know anything about XML.

# General Guidelines for Web Services at Stanford

10. Authentication/Authorization/Logging/Config should be taken care of as much as possible by the server framework.
11. Parsing of XML should be as efficient as possible, as well as the binding of XML to native language data structures.
12. Should be easy to develop and deploy new web services
13. If performance (XML overhead) becomes a big concern, maintain the ability to use an alternative, more efficient encoding (still using XML schema to specify the documents though).