REST vs SOAP

REST vs SOAP

REST

- Exposes ***RESOURCES*** which represent ***DATA***
- Uses HTTP Verbs (GET/POST/DELETE)
- Emphasis on simple point-to-point communication over HTTP
- Supports multiple data formats
- Emphasizes stateless communication

SOAP

- Exposes ***OPERATIONS*** which represent ***LOGIC***
- Uses HTTP POST
- Emphasis on loosely coupled distributed messaging
- Supports only XML (and attachments)
- Supports stateless and stateful/conversational operations
- Supports asynchronous messaging
- Strong Typing

REST is better than SOAP

- REST can be consumed by any client, even a web browser with Ajax and Javascript
- REST is lightweight
  - REST doesn't require XML parsing
  - REST consumes less bandwidth – doesn't require a SOAP header for every message
- SOAP is OLD! All the 'cool kids' are using REST!
  - Twitter, Google, Flickr
- I can learn to use REST very quickly
  - It's just nouns and verbs, how hard can it be?
- REST is SAFE!
  - Aren't all 'GET' operations safe?

SOAP is better than REST

- Building a client for REST can be challenging
  - I can easily generate client-side artifacts from a WSDL
  - I don't want to write raw HTTP calls
  - I don't want to look at the HTTP response code for success/failure – I want to use my own exception types and codes
  - Many IDE's support SOAP development – both client and server
- REST only supports HTTP/HTTPS
  - HTTP is synchronous and in order to scale I need to be able to have asynchronous messaging
- REST is not secure
  - Parameters as part of the URI
  - No support for acquiring tokens
- RESTful services have no contract
  - I have a WADL that specifies URL's but what about schemas for object definition
- REST is not reliable
  - I have to handle failures with retries – no Reliable Messaging
- REST can't be governed
  - How do I know who is consuming my services without a Service Registry?
  - How do I discover RESTful services?

REST and SOAP

REST

- Good for:
  - Web Services
  - Limited bandwidth (smaller message size)
  - Limited resources (no xml parsing required)
  - Exposing data over the Internet
  - Combining content from many different sources in a web browser

SOAP

- Good for:
  - Enterprise services
    - High Reliability with WS-RM
    - Transactions with WS-AT
    - Security with WS-Security
  - Asynchronous processing
  - Contract-first development
  - Stateful /conversational operations
  - Standards support, interoperability with business applications
  - Tooling Support