SOAP
“SOAP is a lightweight protocol for exchange of information in a decentralized, distributed environment. It is an XML based protocol that consists of three parts: an envelope that defines a framework for describing what is in a message and how to process it, a set of encoding rules for expressing instances of application-defined datatypes, and a convention for representing remote procedure calls and responses. SOAP can potentially be used in combination with a variety of other protocols; however, the only bindings defined in this document describe how to use SOAP in combination with HTTP and HTTP Extension Framework”
SOAP – What does it have?

• The SOAP envelope

• The SOAP encoding rules

• The SOAP RPC
Message Exchange Model

Endpoint Actions
- Identifies the message
- Verifies mandatory parts
- Forwards message if required

Endpoint Must Understand
- Message Exchange Protocol
- Role of recipient
- Data Encoding
SOAP Message

SOAP Envelope
- Header
- Body
- Fault

SOAP Attributes
- encodingStyle
- mustUnderstand
- actor
SOAP RPC

- URI of the target service
- Name of the operation
- Method signature (optional)
- Parameters List
- Header Data
SOAP not designed for

- Distributed garbage collection
- Batching of messages
- Object-by-reference
- Activation
Why SOAP is a **bad** idea

- ASCII Protocol
- Non-Native EJB Protocol
- May consume more memory
- Requires more work

Why SOAP is a **good** idea

- HTTP as transport
- Firewall friendly
- Language neutral
Why SOAP/HTTP vs HTTP + XML

- Routing and reliable messaging across nodes
- End to end encryption
- Integration with legacy system
- Non-HTTP communications protocol
- Multipart transactions
So what do we do?

“it’s just as wrong to blindly reject SOAP as to blindly accept it”

Michael Champion