Sample HTTP Messages

```
GET /EastAddress/AddressSearch?operation=0&input1=Mr&input2=Keith&input3=Reed&submitBttn=Submit HTTP/1.1
Accept: image/gif, image/x-xbitmap, image/jpeg, image/pjpeg, application/x-shockwave-flash, . . .
Accept-Language: en-gb
Accept-Encoding: gzip, deflate
User-Agent: Mozilla/4.0 (compatible; MSIE 6.0; Windows NT 5.1; SV1; .NET CLR 1.1.4322; .NET CLR 2.0.50727)
Host: 172.16.79.231:9080
Connection: Keep-Alive
Cookie: JSESSIONID=0000Zse-o6nZ-7n7NLbySCKB_FJ:-1
```

HTTP - POST - sent by browser

```
POST /EastAddress/AddressSearch HTTP/1.1
Accept: image/gif, image/x-xbitmap, image/jpeg, image/pjpeg, application/x-shockwave-flash, . . .
 (as above)
Cookie: JSESSIONID=0000Zse-o6nZ-7n7NLbySCKB_FJ:-1

operation=0&input1=Mr&input2=Keith&input3=Reed&submitBttn=Submit
```
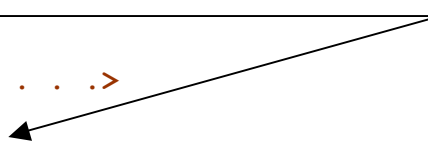
HTTP - POST - SOAP Web Service message

```
POST /EastAddress/services/AddressSearch HTTP/1.1
Content-Type: text/xml; Charset=UTF-8
User-Agent: XML Spy
SOAPAction: ""
Host: localhost:9081
Content-Length: 364
Connection: Keep-Alive
Cache-Control: no-cache

<SOAP-ENV:Envelope xmlns:SOAP-ENV="http://schemas.xmlsoap.org/soap/envelope/" . . .>
     <SOAP-ENV:Header>
         (e.g. routing, security, management information)
     </SOAP-ENV:Header>
     <SOAP-ENV:Body>
          <m:retrieveAll xmlns:m="http://east.address.training.ibm.com"/>
     </SOAP-ENV:Body>
</SOAP-ENV:Envelope>
```

Example of WSS security header:
```
<wsse:UsernameToken>
   <wsse:Username>Aladin</wsse:Username>
   <wsse:Password>open sesame</wsse:Password>
</wsse:UsernameToken>
```

POST or **GET** are HTTP methods   **/EastAddress** is a URI   **?operation=0** a parameter pairing
Content-Type: … = HTTP Header, **operation** = POST Body,
SOAP-ENV:Envelope = SOAP Message, **SOAP-ENV:Header** = SOAP Header, **SOAP-ENV:Body** = SOAP Body.
Also note position of SOAPAction.

The following packet was sent by IE6 using the following address in the address field: http://localhost:8080/extras/mypage.html

```
GET /extras/mypage.html HTTP/1.1
Accept: image/gif, image/x-xbitmap, image/jpeg, ..., , */*

Accept-Language: en-gb
Accept-Encoding: gzip, deflate
User-Agent: Mozilla/4.0 (compatible; MSIE 6.0; ...
Host: 127.0.0.1:8080
Connection: Keep-Alive
```

Example of BasicAuth HTTP header (c.f. from browser dialog):
Authorization: Basic QWxhZGRpbjpvcGVuIHNlc2FtZQ==

with the following response from Tomcat server

```
HTTP/1.1 200 OK
Server: Apache-Coyote/1.1
Accept-Ranges: bytes
ETag: W/"109-1295293544031"
Last-Modified: Mon, 17 Jan 2011 19:45:44 GMT
Content-Type: text/html
Content-Length: 109
Date: Mon, 17 Jan 2011 19:52:28 GMT

<HTML>
  <HEADER><TITLE>Health Check</TITLE></HEADER>
  <BODY>This is Health Check Content.</BODY>
</HTML>
```

HTTP Header Field Definitions
- http://www.w3.org/Protocols/rfc2616/rfc2616-sec14.html
Status Code Definitions:
- http://www.w3.org/Protocols/rfc2616/rfc2616-sec10.html
There are many values, including the following common ones:

```
      200 OK                      = successful request
      400 Bad Request             = not understood by the server due to malformed syntax
      401 Unauthorized            = required authentication not supplied
      404 Not Found               = no server-based resource matching request URI
      500 Internal Server Error   = server encountered an internal error
```

HTTP Method Definitions
- http://www.w3.org/Protocols/rfc2616/rfc2616-sec9.html

```
      GET        = used by browsers with no form data
      POST       = used by browsers submitting form data / used by Web Services
      HEAD, PUT, DELETE, TRACE, CONNECT
```

REST uses HTTP method:
```
POST:       add new record
DELETE:     delete a record
GET:        read a record
PUT:        update a record
```

Sample HTTP SOAP Messages passing through Multi-Protocol Gateways

This is sent to *AddressRouter*, which looks at **<state>** value and routes to either *EastAddressSearch* or *WestAddressSearch*:

```
POST /services/AddressSearch HTTP/1.1
HeaderName: HeaderValue ...

<soapenv:Envelope
   xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
   ...
   xmlns:q0="http://address.training.ibm.com" >
   <soapenv:Body>
     <q0:findByLocation>
       <city></city>
       <state>NC</state>          <──  XPath looks for
     </q0:findByLocation>               state which is on
   </soapenv:Body>                       the East coast of
</soapenv:Envelope>                       USA
```

EastAddressSearch **then provides the URI and namespace the real Web Service is expecting:**

```
POST /EastAddress/services/AddressSearch HTTP/1.1
HeaderName: HeaderValue ...

<soapenv:Envelope
   xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
   ...
   xmlns:q0="http://east.address.training.ibm.com" >
   <soapenv:Body>
     <q0:findByLocation>
       <city></city>
       <state>NC</state>
     </q0:findByLocation>
   </soapenv:Body
</SOAP-ENV:Envelope>
```

Changed:
- URI
- namespace