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Why Error Handling?

• Graceful Error Handling is an important feature for any software system
• The current NEP environment is a distributed, HTTP-based software system
• The NEP will handle 3 types of errors reported over HTTP(s)
  – Standard HTTP Errors
  – HTTP-Bound UFS Errors
  – WSDL-Bound UFS Errors
The NEP should handle common HTTP Errors returned by a UFS.

The NEP will return a user-friendly HTML page to the Portal Client that corresponds to the specific HTTP Error returned by the UFS.

Common HTTP Errors include:
- 401, “Unauthorized“
- 404, “Not Found"
- 500, “Internal Server Error“
HTTP-Bound UFS Error Handling

- HTTP-Bound UFS should use the PRI Response structure to report application specific errors back to the NEP
- The NEP should return a user-friendly HTML page to the Portal Client that displays the error information returned by the UFS in the PRI Response structure
- Show Example of a PRI Response structure returned in the PRIDataResponse Header of the HTTP Response
<?xml version="1.0"?>
<PRIResponse
 xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
 <ResponseCode>3</ResponseCode>
 <ReturnMessage>Server side error: Could not obtain stock quote information for the Ticker Symbol XYZ. Ticker Symbol is not valid.</ReturnMessage>
</PRIResponse>
PRI Response Elements

- ReturnCode - A numeric value optionally returned by the service module to indicate success or failure of the operation. The following are valid return code values:
  0 – Success
  1 – Informational
  2 – Warning
  3 – Fatal

- ReturnMessage – A string optionally returned by the UFS that provides a textual description of the error condition that may have occurred.
WSDL-Bound UFS Error Handling

- WSDL-Bound UFS should use the SOAP Fault structure to report application specific errors back to the NEP.
- The NEP should return a user-friendly HTML page to the Portal Client that displays the error information returned in the SOAP Fault structure.
Example SOAP Fault Structure

```xml
<?xml version="1.0"?>
<soap:Envelope
    xmlns:soap="http://schemas.xmlsoap.org/soap/envelope/">
  <soap:Body>
    <soap:Fault>
      <faultcode>soap:Server</faultcode>
      <faultstring>Ticker Symbol XYZ does not exist</faultstring>
      <faultactor>http://www.myservice.com/services/getstockquote.asp</faultactor>
      <detail>Server side error: Could not obtain stock quote information for the Ticker Symbol XYZ. Ticker Symbol is not valid.</detail>
    </soap:Fault>
  </soap:Body>
</soap:Envelope>
```
SOUP Fault Elements

- faultcode - value that identifies the error condition (machine use). SOAP 1.1 defines 4 standard faultcodes (VersionMismatch, MustUnderstand, Client, Server).
- faultstring – string that briefly identifies the fault (meant for user).
- faultactor – the URI that identifies the endpoint where the fault originated
- detail – detailed error information