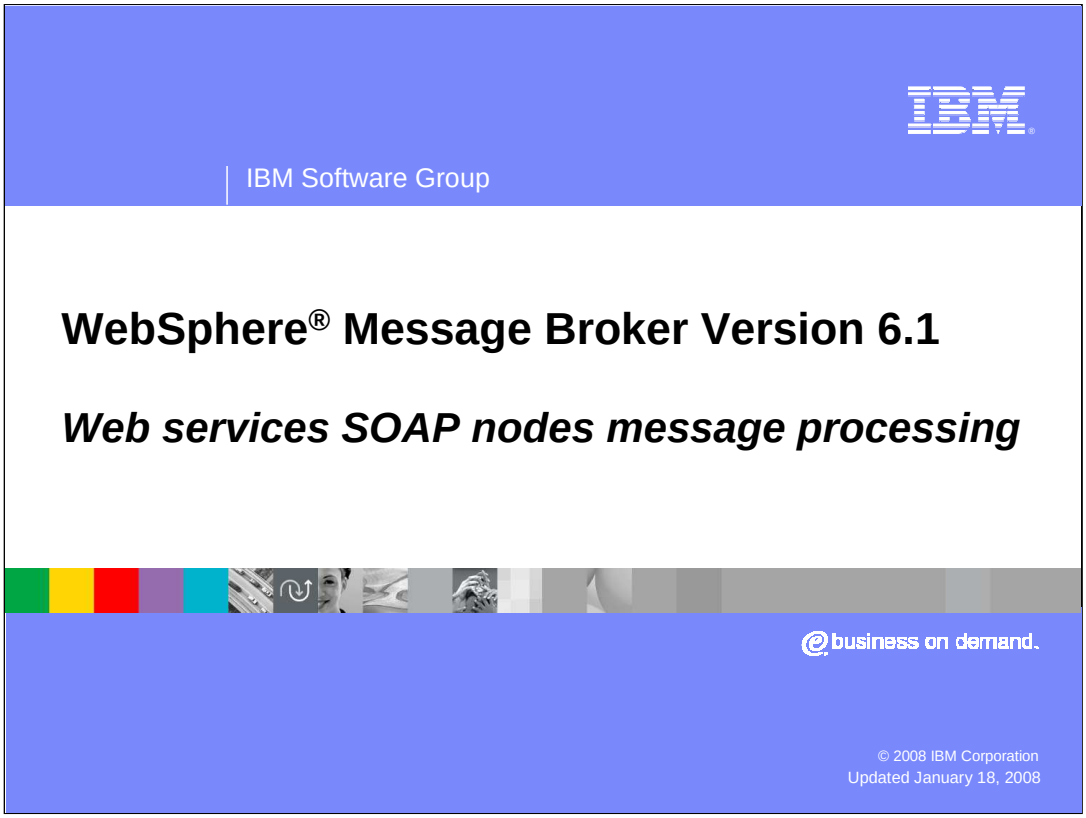


This presentation continues on from the Web services SOAP Nodes session, and looks at how messages are processed when using the new SOAP Nodes.

Agenda

- SOAP Extract Node
- SOAP Envelope Node
- SOAP Message Tree

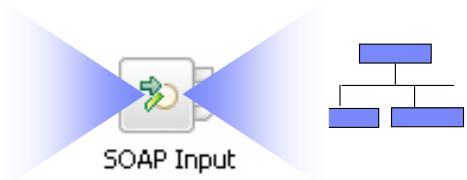
This short presentation covers the SOAP Extract and Envelope nodes, and briefly looks at the message tree for SOAP nodes.

SOAP messages

- The new SOAP nodes can only understand 'Input' messages in the 'SOAP format'
  - SOAPInput, SOAP AsyncResponse and response half of SOAP Request
- These nodes only propagate messages in the new SOAP domain
  - Represents a SOAP tree containing a SOAP message
  - Tree shape is the same regardless of wire format

```
<S:Envelope
   xmlns:S="http://schemas.xmlsoap.org/soap/envelope/">
  <S:Header>
    ...
  </S:Header>
  <S:Body>
    ...
  </S:Body>
</S:Envelope>
```

SOAP Envelope



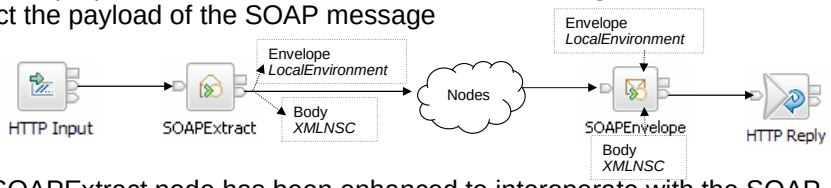
The Tree shape is the same. This is not the case with other nodes such as the HTTP Input node. In that case if it received a SOAP message, the format and message tree would be a different shape compared to the tree if it received a MIME message.

The SOAP parser represents Web service messages (requests, responses and faults) with the same logical tree shape irrespective of the specific bitstream format, which could be SOAP or SOAP with Attachments.

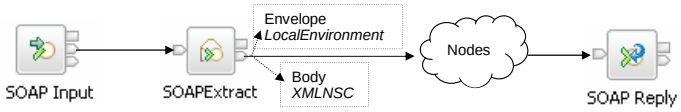
The bitstream format for these runtime messages can be SOAP 1.1 or SOAP 1.2, optionally wrapped by MIME as a SOAP with Attachments, or an M-TOM message.

SOAP extract and SOAP envelope nodes

- The SOAP Extract and SOAP Envelope nodes were introduced in 6.0.2 (SupportPac™)
- The main purpose of these nodes is to allow the message flow to conveniently extract the payload of the SOAP message



- The SOAPExtract node has been enhanced to interoperate with the SOAP domain.



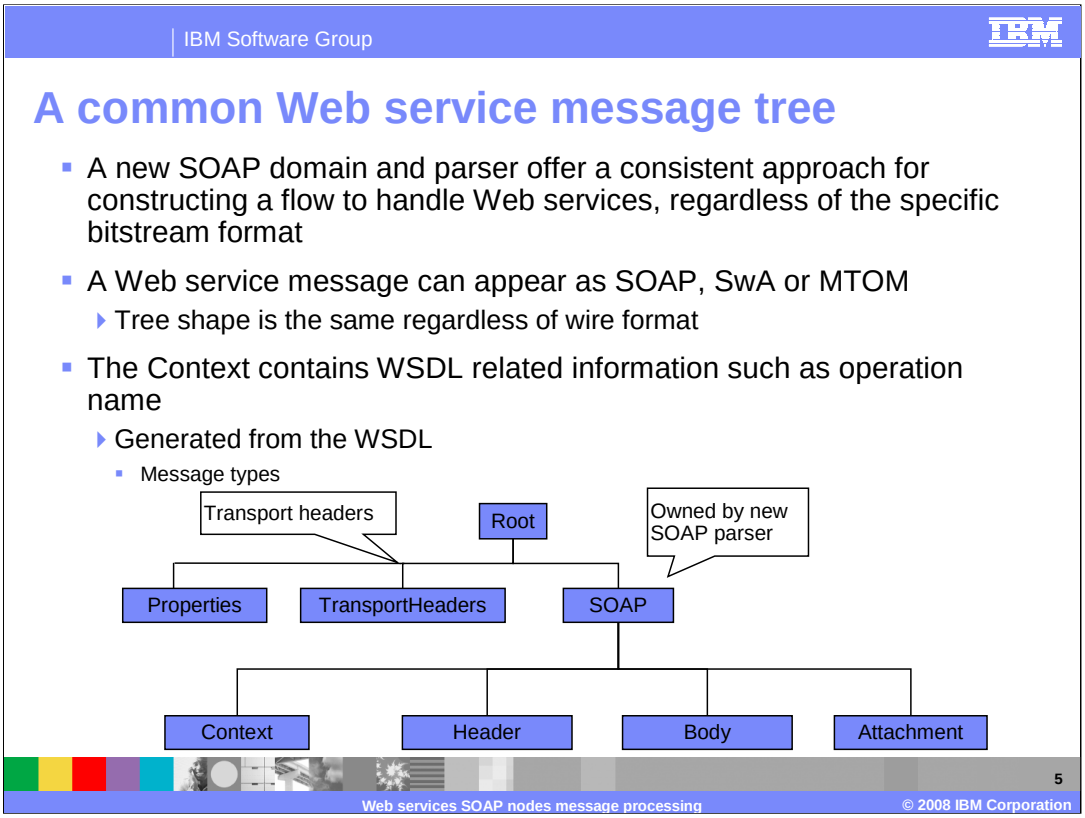
  - New SOAP nodes do not require the SOAP Envelope node, since it can directly handle non-SOAP messages (and look at the LocalEnvironment)
  - SOAP Envelope node is not required with the new SOAP nodes
  - Still requires SOAP Envelope node for HTTP nodes

The SOAP Extract and Envelope Nodes were introduced in a SupportPac, which can be applied onto version 6.0.2 of the Message Broker Toolkit. The intent of these nodes is to allow a message flow to remove or add the SOAP wrapper, and enable the flow to work directly with the payload of the SOAP message.

The first example on this slide shows an HTTP input node, which has received a SOAP message. This is passed to the SOAP Extract node, which removes the SOAP wrapper, and places it in the Local Environment. The SOAP message payload is passed as an XMLNSC message to the message flow the normal way. The message flow manipulates the body of the message as required, and the SOAP Envelope node then reconstitutes the SOAP message, using the SOAP wrapper from the Local Environment. This is then passed to the HTTP Reply node.

The SOAP Extract and Envelope nodes are now both included in Message Broker version 6.1, so there is no need to install additional components. These nodes have also been enhanced so that they understand the SOAP domain. Hence, they can be used with the new SOAP nodes.

In the second example, the SOAP Input node receives an incoming SOAP message, which is passed immediately to the SOAP Extract node. This performs exactly the same function as with the HTTP input, and the payload of the message is passed as an XMLNSC body to the message flow. However, on the reply node, there is no need to include a SOAP Envelope node. This is because the SOAP Reply node automatically looks in the Local Environment for a SOAP Envelope, and will assemble the SOAP Reply message accordingly.



Unlike the HTTP nodes, the shape of the tree is unaffected by the input message. The message produced by an HTTP input node differs depending on whether the message is MIME or a SOAP format message.

WSDL plays a much larger role within Message Broker, now being an artifact that is deployed to the broker and used to validate the SOAP messages being received by the SOAP Input node. For example, it ensures that the operation received in the incoming SOAP message is defined within the WSDL.

The payload of the Envelope is stored within the SOAP.Body part of the tree.

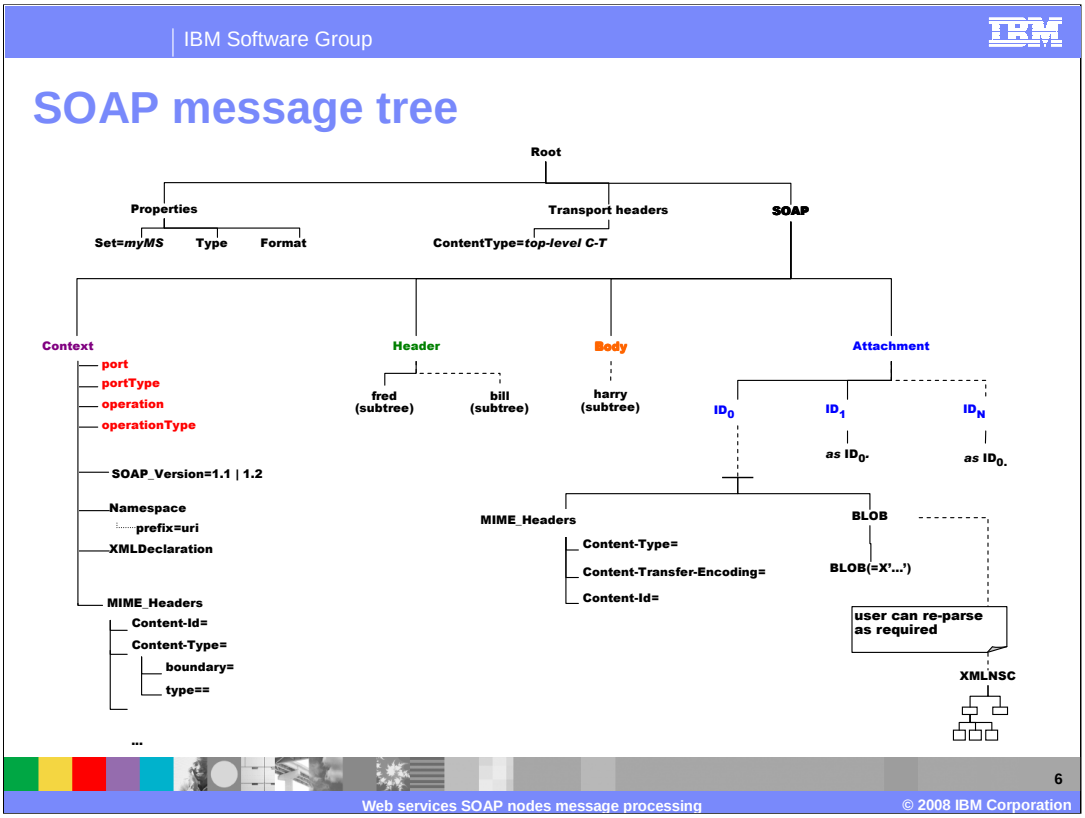
The Header of the Envelope is stored within the SOAP.Header part of the tree.

The attachment in a “SOAP with Attachment” message is stored within the SOAP.Attachment part of the tree.

MTOM is stored in-line within the SOAP tree in base 64 format

The Context part of the tree contains the WSDL related information such as the operation name and port-Type information.

The SOAP parser represents Web service messages (requests, responses and faults) with the same logical tree shape, irrespective of the specific bitstream format. This could be SOAP, SOAP with Attachments, or MIME.

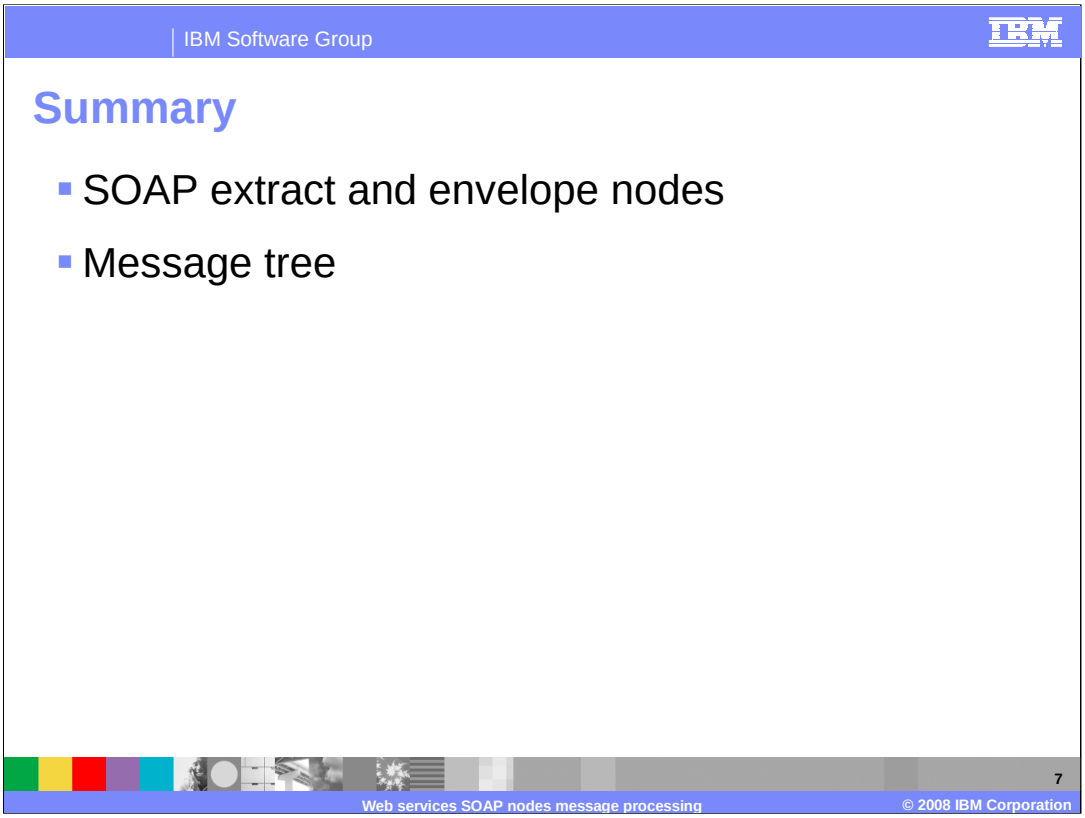


This is a more detailed view of the previous slide.

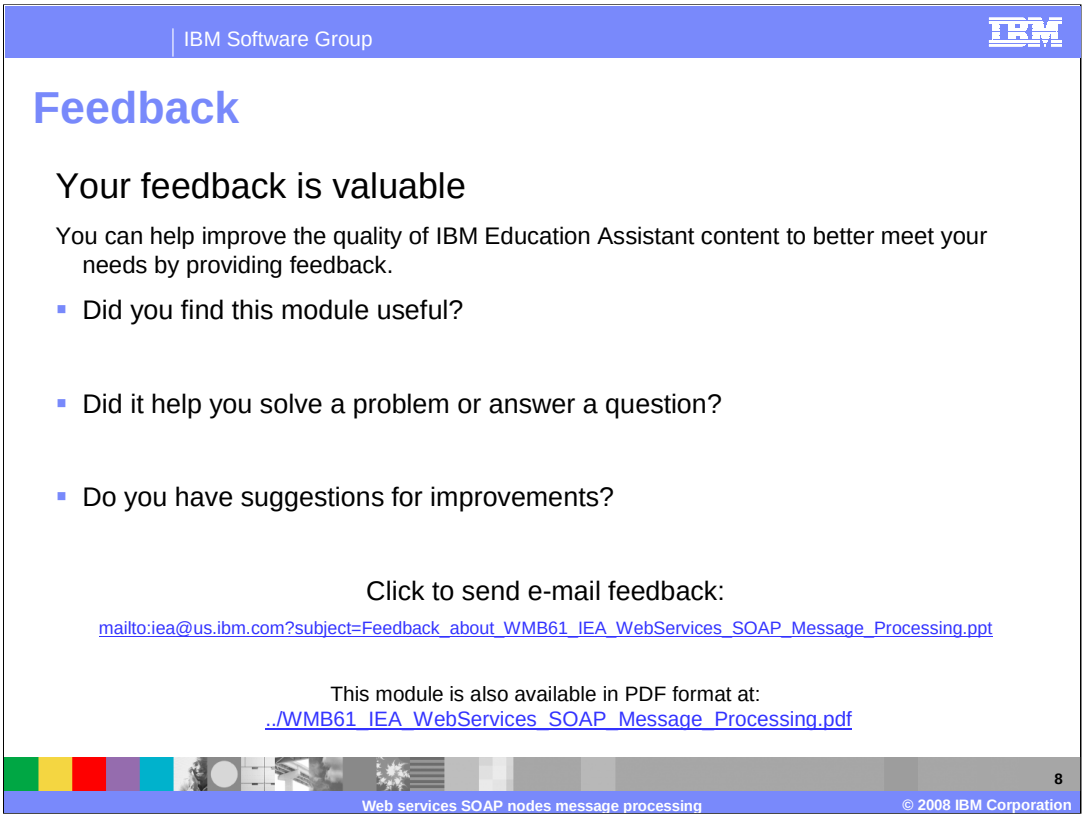
The SOAP.Context contains certain information contained within the SOAP Envelope, such as the port Type and operation. It also shows the SOAP version being used.

Supported versions within Message Broker are SOAP v1.1 and SOAP v1.2.

The Content-Id within the attachment section has been copied directly under the Attachment part, allowing the specific message part to be easily identified and navigated.



This short presentation has looked at the updated SOAP Extract and Envelope nodes, and has given a brief overview of the SOAP message tree.



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