

PEECS 2003

Implementation Issues in the ebXML CPA
formation process
- the Referencing Problem -

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Introduction to ebXML

ebXML is a framework to enable global electronic business.

Project initiated by OASIS and the UN/CEFACT.

<http://www.ebxml.org/>

ebXML is technically based on proven technologies, such as XML, HTTP and UML.

CPA formation process

The 'Collaboration Protocol Agreement (CPA) formation process' gets from 2 Collaboration Protocol Profiles (CPP's) to 1 CPA.

This process can be broken down into:

- 1) CPA composition task and
- 2) CPA negotiation task

CPA composition

Simplified sample CPP's:

```
<CPP id='1'>
  <msg-1 ref='a'>
  <msg-2 ref='b'>
  <msg-3 ref='b'>
  <protocol id='a'>
    <name>FTP</name>
  </protocol>
  <protocol id='b'>
    <name>HTTP</name>
    <version>1.1</version>
  </protocol>
</CPP>
```

```
<CPP id='2'>
  <msg-1 ref='z'>
  <msg-2 ref='y'>
  <msg-3 ref='x'>
  <protocol id='z'>
    <name>FTP</name>
  </protocol>
  <protocol id='y'>
    <name>HTTP</name>
    <version>1.1</version>
  </protocol>
  <protocol id='x'>
    <name>HTTP</name>
    <version>1.0</version>
  </protocol>
</CPP>
```

XML referencing IDREF problem

Comparing messages against each other

<u>cpp1/cpp2</u>	<u>msg-1</u>	<u>msg-2</u>	<u>msg-3</u>
msg-1	1		
msg-2		1	
msg-3			1

but actually we are comparing the referenced protocols, or even the child elements of the protocol element.

CPA composition - problem

Comparing protocols against each other:

<u>cpp1/cpp2</u>	<u>protocol-a</u>	<u>protocol-b</u>
protocol-z	1	
protocol-y		1
protocol-x		1

Changing values in protocol-b when comparing protocol-b with protocol-x will *overwrite* values in the pair protocol-b with protocol-y.

CPA composition - problem

The problem:

```
<CPP id='1'>
  <msg-1 ref='a'>
  <msg-2 ref='b'>
  <msg-3 ref='b'>
  <protocol id='a'>
    <name>FTP</name>
  </protocol>
  <protocol id='b'>
    <name>HTTP</name>
    <version>1.1</version>
  </protocol>
</CPP>
```

```
<CPP id='2'>
  <msg-1 ref='z'>
  <msg-2 ref='y'>
  <msg-3 ref='x'>
  <protocol id='z'>
    <name>FTP</name>
  </protocol>
  <protocol id='y'>
    <name>HTTP</name>
    <version>1.1</version>
  </protocol>
  <protocol id='x'>
    <name>HTTP</name>
    <version>1.0</version>
  </protocol>
</CPP>
```

CPA composition - solution

Comparing updated protocols against each other:

<u>cpp1/cpp2</u>	<u>protocol-a</u>	<u>protocol-b</u>	<u>protocol-b-copy</u>
protocol-z	1		
protocol-y		1	
protocol-x			1

Changing values in protocol-b-copy no longer overwrites values in protocol-b. If there are no changes in protocol-b and protocol-b-copy then protocol-b-copy can be safely removed again.

Implications of copy solution

- Allows to go ahead with the CPA formation.
- Without a change, there is no success.
- Technically copying protocol-b no problem.
- Changing someones CPP problematic.
 - Owner of modified CPP might agree to a local change of the CPP.
 - Owner of modified CPP might agree and even update registered CPP.
 - Owner of modified CPP might not agree at all.

Presentations

Presentation of results of the overall research (including the CPA composition and CPA negotiation):

- Australian ebXML WorkingGroup, organised by Standards Australia, Business Standards Group
- Big telecommunication company (hot technologies group)
- ebXML company
- Traditional electronic business company
- Perth Linux User Group (PLUG)

Questions

Thank you

Research Project available at:

<http://www.schlegel.li/ebXML/>

Questions & Answers