

ebXML CPA formation process

"ebXML CPA formation process"
presentation & demonstration:

CECID, Hong Kong, February 25th 2004

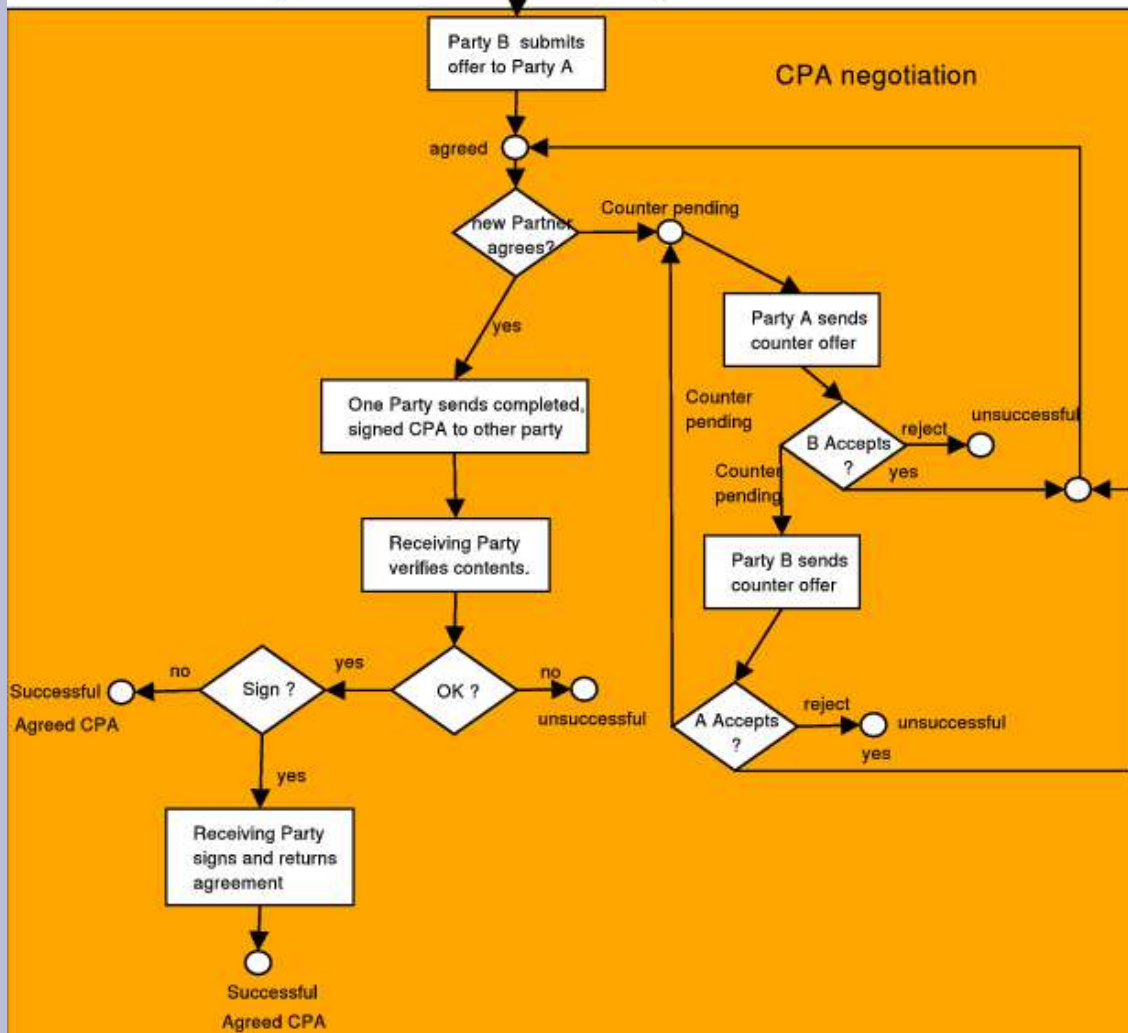
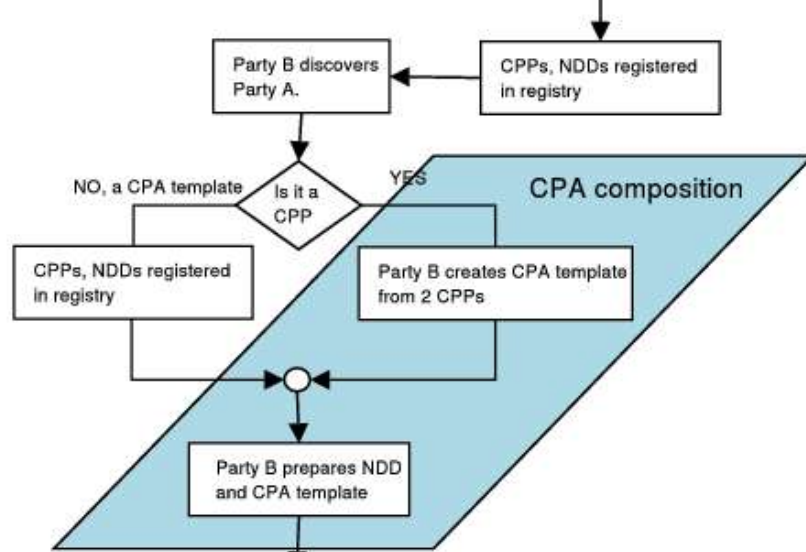
Curtin University of Technology
Department of Computer Science
Perth, Australia

Associated Supervisor: Tim McGrath
Researcher: Sacha Schlegel

ebXML CPA formation process

- the CPA formation process is
 - CPA composition
 - CPA negotiation
- Collaboration Protocol Profile and Agreement Specification v2.0, Appendix E
- Automated Negotiation of CPA Specification v0.10
 - Negotiation Description Document (NDD)
 - Negotiation CPA
 - Negotiation Business Process
 - Negotiation Messages

the CPA formation process



Two tasks:

- CPA composition
- CPA negotiation

CPA composition

- CPA composition as in CPPA Spec. Appendix E (CPA composition prototype is based on this Spec.)
 - Input: 2 CPP's
 - Output: CPA template and a gap list
- CPA composition as in ANCPA Spec.
 - Input: 2 CPP's, 0, 1 or 2 NDD's
 - Output: CPA template, NDD for CPA template, and a gap list

CPA composition

- Problems:
 - Validity of CPP's. Matching CanSend, CanReceive elements, MessagingCharacteristics and BusinessTransactionCharacteristics issues.
 - Where to stop checking? Referenced Business Documents also necessary to check?
 - Better alignment with CPA negotiation.
- Demonstration

CPA negotiation

- Finalisation of a CPA template:
 - Selecting from preferences and fixing optional element attributes issues (cardinality)
 - Negotiation as such. Bidding, bargaining, etc.
 - Could also include negotiating problems listed in the gap list (problem as they are not in the NDD's).
- Is a ebXML application between two parties with a CPA (Negotiation CPA) based on a ebXML Business Process (nested BinaryCollaborations) and used ebXML messaging

CPA negotiation

- Human2Human, Human2Computer, or Computer2Computer negotiation (negotiation actors)
- Negotiation Descriptor Document (NDD):
 - List of Negotiable Information Items
 - Different types, such as Preference, Cardinality, PresentOrNot, IntegerValues, Value (String).
- Negotiation Messages
 - Negotiable Information Item currently negotiated. Each item can be accepted, updated, added, or removed.

CPA negotiation

- Problems:
 - Negotiation algorithms for computer negotiation actors will become complicated. Lot of negotiation research in intelligent software agents in electronic markets.
 - Complexity and Dependency issues of CPP, CPA and NDD (eg when changing an attribute in BusinessTransactionCharacteristics element).
 - Keeping CPA template valid. Needs profound knowhow of CPA, CPP structures.

CPA negotiation

- Demonstration (human, web based)

End

CPA composition very helpful at checking two
CPP's.

CPA negotiation in early stage. Future, spontaneous
electronic business will need some sort of
negotiation.

Source Code (under GPL license) & live demo at
<http://www.schlegel.li/ebXML>

Thank YOU.