INTRODUCTION

Presentation Outline

- Introduction
  - Consumer-Based techno-business Model (CBM)
- Third-Party Authentication, Authorization and Accounting (3P-AAA)
- Third-Party Charging and Billing (3P-C&B)
- Conclusion

CBM techno-business model

- Consumers are not constrained to any particular ANP
- May use any available teleservice through any available access network
- 3P-AAA-SP takes care of their authentication, authorization and accounting
CBM Wireless Environment - UCWW

UCWW: ABC&S paradigm

CBM: Technological Foundations

Third-Party Authentication, Authorization and Accounting (3P-AAA)
3P-AAA: Service and Service Providers

- 3P-AAA-SP are new business entities
  - Central role
  - Goal
    - Separation of the administration and management of users’ AAA activity from the supply of a wireless access network service
  - Status
    - Network-independent, autonomous, and trusted business entities

3P-AAA: Functional Model

Four principle interfaces:

- a (consumer ↔ ANP/TSP/VASP)
- b (consumer ↔ 3P-AAA-SP)
- c (ANP/TSP/VASP ↔ 3P-AAA-SP)
- d (3P-AAA-SPA/B/C ↔ 3P-AAA-SPB/C/A)

3P-AAA: Accounting

- At least 2 parallel accounting streams exist
  (1) At least 1 for Service Resource usage, and
  (2) 1 for Network Resource usage

3P-AAA: Accounting for Composite Services

- Multiple Accounting Sequence

<table>
<thead>
<tr>
<th>Accounting stream #1</th>
<th>Accounting stream #N</th>
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<tbody>
<tr>
<td>Access Network</td>
<td>Access Network</td>
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<tr>
<td>AAA Server</td>
<td>AAA Server</td>
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<tr>
<td>Service Equipment</td>
<td>Service Equipment</td>
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<tr>
<td>3P-AAA-SP</td>
<td>3P-AAA-SP</td>
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</table>
**Inter-Domain Accounting**
- Separately administered domains involved
  - ANP/TSP/VASP
  - 3P-AAA-SP
- Accounting policies exchange is needed between the AAA servers (e.g., by pulling)

- **Policy is requested from the 3P-AAA Server (AccPolRQ)**
- **3P-AAA sends the Accounting back (AccPolAns)**
- **Accounting data sent from Teleservice Provider (TSP) AAA server (AccRec)**

**Discrete Accounting Service**
- Service providers outsource the accounting service
- Independent accounting service providers provide the accounting services
- Having generic accounting services could speed up service creation

**Inter-Domain Accounting**
- This is appropriate for 3P-AAA usage
- External accounting policies, stored on 3P-AAA domain, are sent to the service provider domain and the local AAA server enforces these on the corresponding service equipment for the provision of the actual service

- The preferred type for 3P-AAA is the **Discrete Accounting Service** because it is more flexible and generic
- The **Inter-Domain arrangement** is a good basis for 3P-AAA usage

**Generic 3P-AAA Architecture**
Third-Party Charging and Billing (3P-C&B)

Generic 3P-C&B Architecture

Inter-3P-AAA-SP Signaling Operations and Flows
CONCLUSION

Conclusion

• A generic 3P-AAA and 3P-C&B solution has been described to serve the UCWW, established on the CBM model.
• The main technological foundations for the 3P-AAA and 3P-C&B provisioning have been described.
• A new Inter-3P-AAA-SP signaling protocol has been introduced to facilitate the charging interactions between different classes of 3P-AAA-SPs.
• The development of this protocol, along with other supplementary protocols and applications for use in UCWW, briefly introduced in the presented proposals, is envisaged as part of the future R&D.

Conclusion: Strength with 3P-AAA-SP/3P-C&B Approach

• Delivers fast innovative environment for service creation
  – Service providers (ANP, TSP, VASP) do not need to invest in their own AAA and C&B system
  – Service providers can focus better on their services
  – Service providers get the AAA and C&B service for free
• Delivers a ‘fair system’
  – Consumers chooses which service provider (ANP/TSP/VASP) and which service they are going to use (in that point of view, every service provider has equal chances!)
  – Consumer can freely seek for ‘value for money’ services
• Helps create sophisticated AAA and C&B systems and services
  – 3P-AAA-SPs can invest in their AAA and C&B services (for new charging schemes or flexible charging solutions) and these will automatically be available for every service provider and this would certainly result in more interest and new customers

Thank you! Questions & comments?

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