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Third-party AAA and corresponding Charging and Billing of Services

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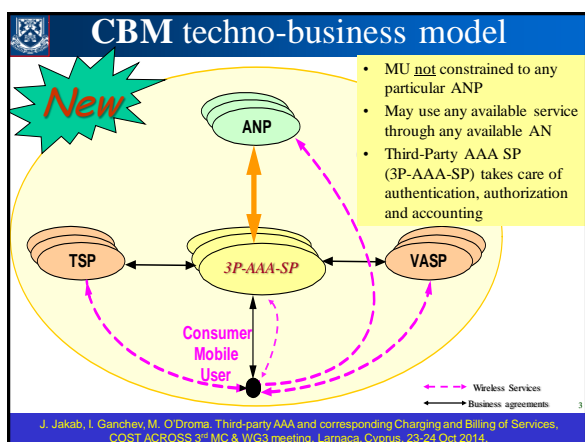
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Outline

- Introduction
 - **Consumer**-Based Model (**CBM**)
- Third-party Authentication, Authorization and Accounting (**3P-AAA**)
- Third-party Charging and Billing (**3P-C&B**)
- COST ACROSS WG3-related challenge(s)

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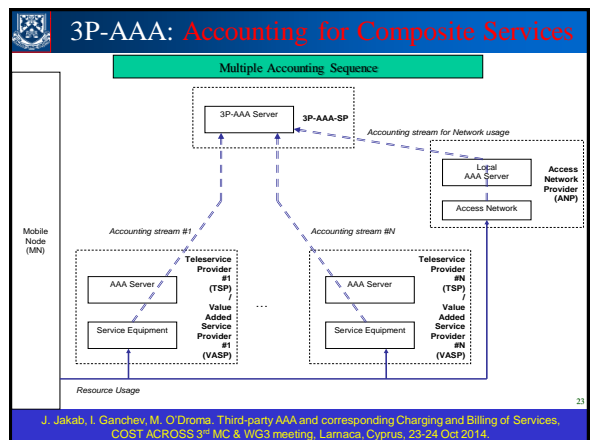
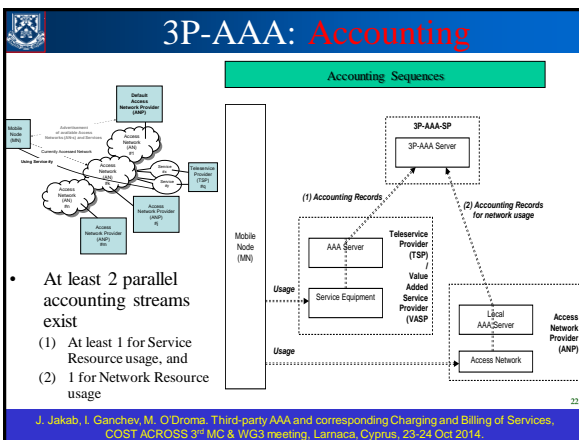
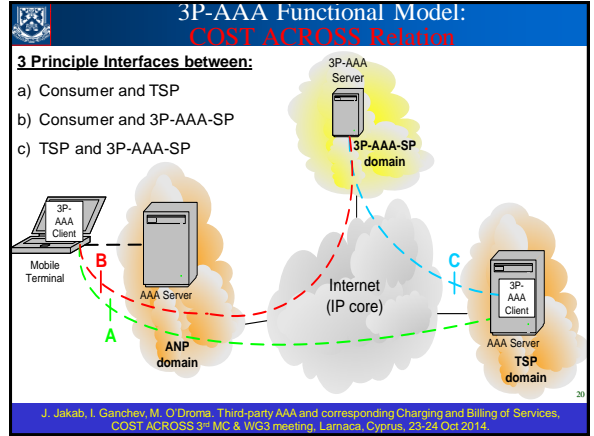
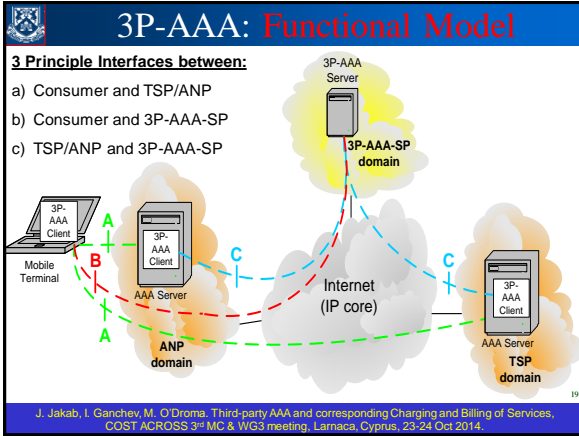
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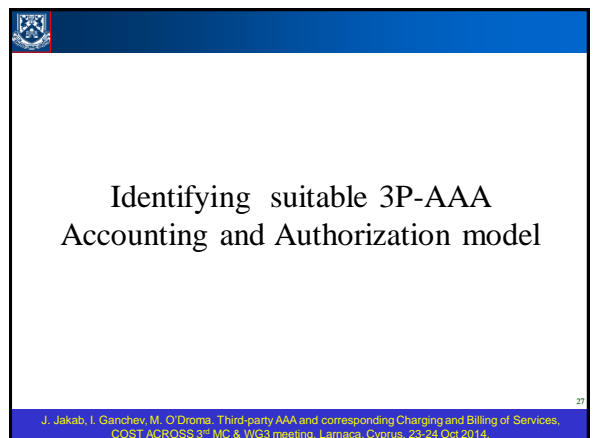
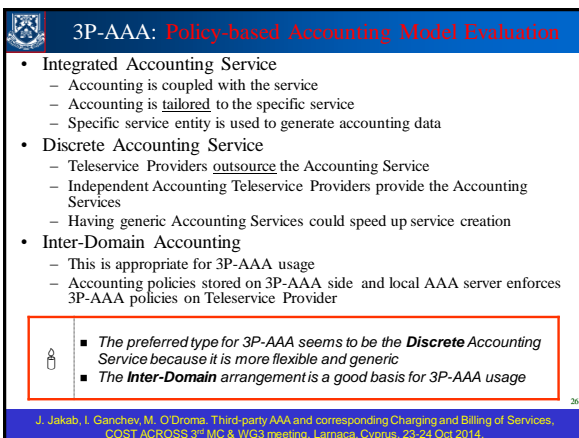
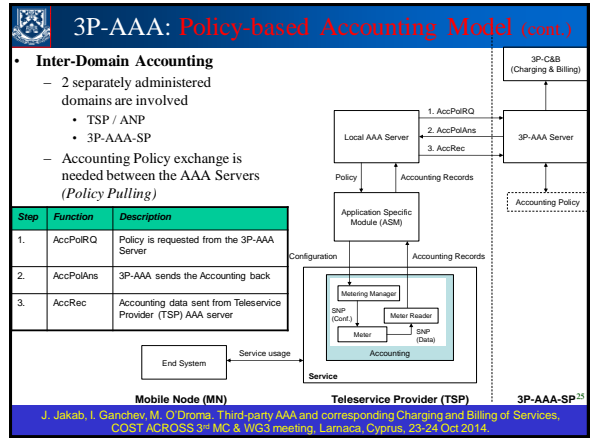
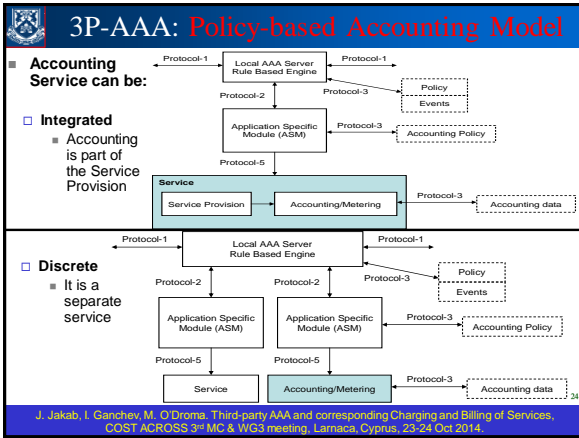
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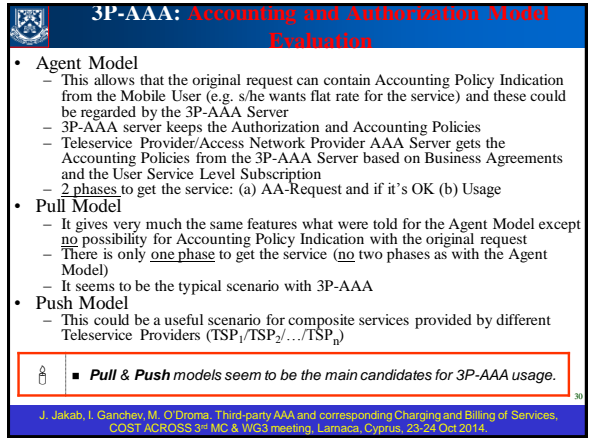
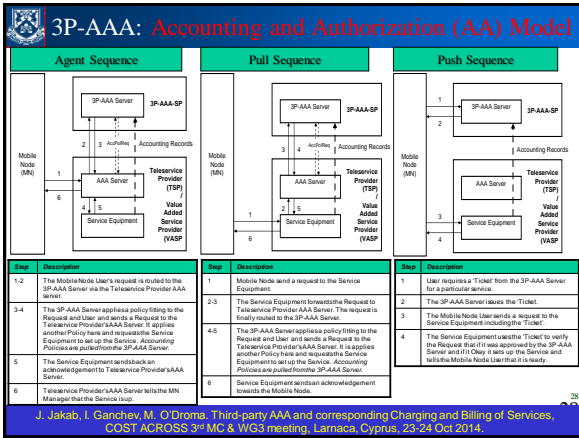
3P-AAA: Service and Service Providers

- **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

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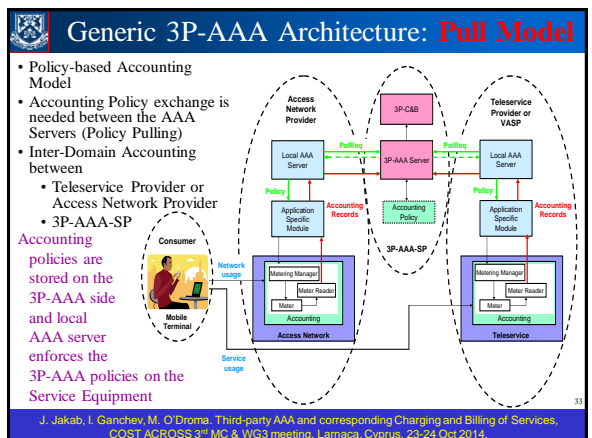


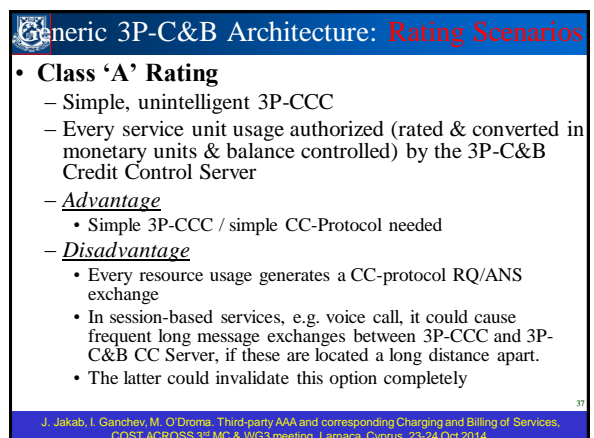
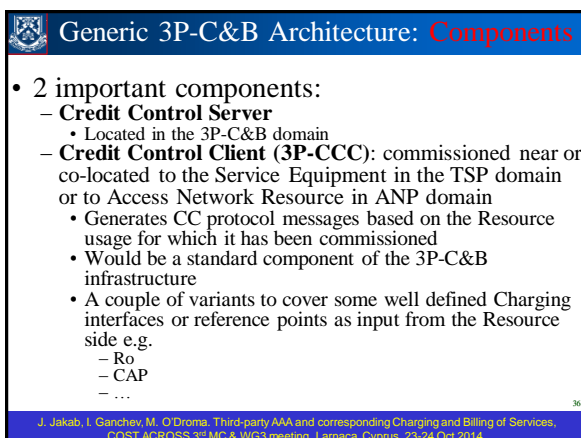
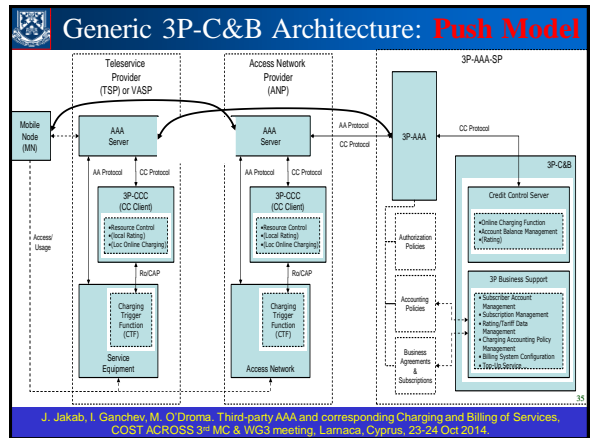
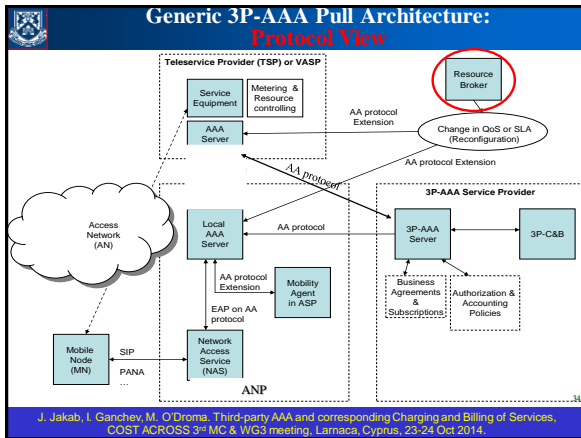




Defining generic 3P-AAA and 3P-C&B Architecture

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Generic 3P-C&B Architecture: Rating Scenarios

• Class 'B' Rating

- Intelligent 3P-CCC
- Rating rules downloaded (tariff) from the server or stored locally (the set-up happened at 3P-CCC commission time and maintained locally)
- User account data relevant for rating retrieved by 3P-CCC
- 3P-CCC creates CC-protocol requests only for monetary unit reservations
- 3P-CCC uses its monetary reservations to authorize service unit usages (more than one with a good reservation scheme)
- Service unit usage authorized (rated & converted in monetary units & balance controlled) from the monetary reservations currently made
- If needed, new CC-Protocol request is made for new monetary units
- At the end of the Resource usage, the reservations is being confirmed to 3P-C&B Credit Control Server and this leads to Account Controlling on User's balance
- **Advantage**
 - Less messaging roundtrips between SP/ANP and 3P-AAA-SP
 - Rating Rules can be locally set-up & maintained
- **Disadvantage**
 - A bit more complicated CC-Protocol (User data is needed from CC-Server)
 - Intelligent 3P-CCC is needed

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CBM: 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 Charging & Billing (C&B) system
- Service Providers can focus better on their services
- Service Providers get the C&B System for free
- Newly created Services (Access Network or Teleservice) automatically exposed to Consumers after their registration with the 3P-AAA-SP

• Delivers a 'fair 5G system'

- Consumer chooses which Service Provider (ANP/TSP/VASP) and which Service s/he is going to use (in that point of view, every Service Provider has equal chances!)
- Consumer can freely seek for 'value for money' services

• Helps to create sophisticated C&B systems

- 3P-AAA Service Providers can invest in their 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 more new clients

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COST ACROSS WG3-related Challenge(s)

Smart, context-dependent, dynamic pricing, and corresponding charging and billing of composite service

- Pricing and C&B of composite services, provided to the end user by different service providers (SPs)
- Require elaboration of new mechanisms and techniques in order to facilitate 'always best servicing' (ABS) of the user, depending on their current context.
- Linked to the dynamic monitoring of the quality of each component of the composite service, with an ability to dynamically replace/substitute the component(s) that is/are currently underperforming with another one(s), which is/are identified as working better in the current context.
- The replacement of service components must be performed transparently to the user – perhaps with the user only noticing improvements in the overall service quality – who must, at the end, be supplied with just one itemized bill for the service usage, provided by a TTP 3P-C&B entity.
- The TTP feature of this entity will also facilitate the initial establishment of trust and subsequent interaction, e.g. to ensure interoperability, between different SPs as regards the services (service components) provided by each of them.
- This challenge relates also to the service **IDS** (intelligent demand shaping) and service **MAP** (measurement, analytics, profiling).

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Conclusions

- Suitable policy-based Accounting Models for 3P-AAA looked through
 - **Discrete** Accounting is the most flexible to create new Accounting Services
 - **Inter-Domain** Accounting is a good basis for 3P-AAA usage
- Possible Accounting and Authorization framework for 3P-AAA, based on expected main interaction scenarios, looked through
 - **Pull & Push** models identified as main candidates
- Generic 3P-AAA Architecture defined
- Generic 3P-C&B Architecture defined
 - 2 main scenarios for Rating identified
- COST ACROSS WG3-related Challenge(s) identified

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End

Thank you

Questions & comments ?

*“Third-party AAA and corresponding
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was presented by
Dr Ivan Ganchev

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