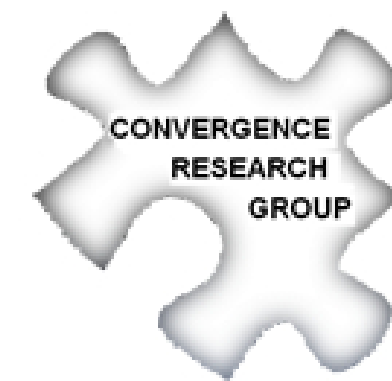# The development of a Mobicents-based billing system and a new billing framework

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## Introduction

- Network operators rely on billing in order to cover costs and generate revenue.
- IMS (IP Multimedia Subsystem) and the convergence of voice, video, and data increase the complexity of billing for next generation networks.
- Traditional billing strategies are unsatisfactory.
- New and innovative billing strategy need to be investigated.
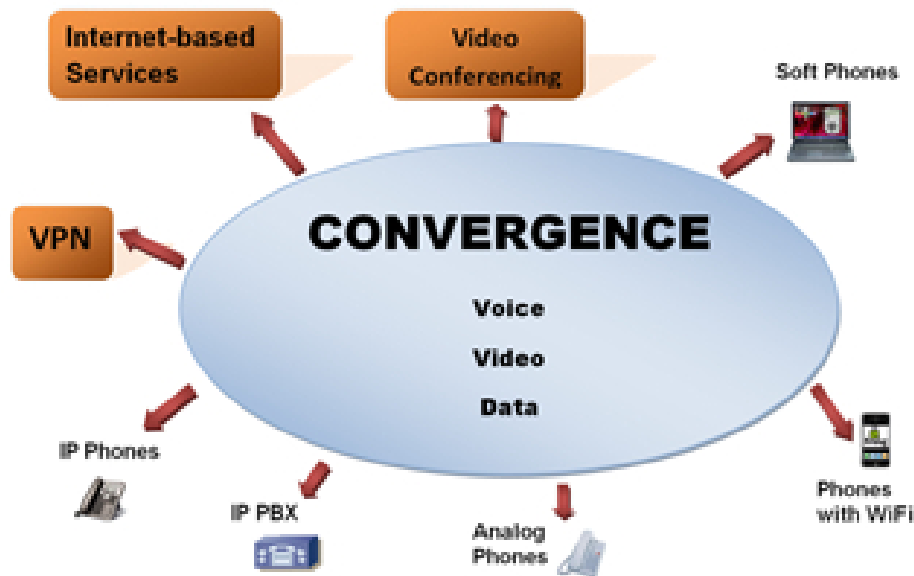


## Problem statement

- This convergence allows developers to develop rich applications composed of n different services.
- Composition of services adds more complexities to billing
  - Different service providers
  - Different services are billed differently
- Quality of Service(QoS) is important in IMS(IP Multimedia Subsystem)
  - Charging strategies needs to consider QoS
- Traditional billing strategies were primarily time-based. The complexities associated with next generation services require more innovative billing strategies.

## Solution

- **Investigate billing concepts**
  - Offline and online charging
  - Business Models / Charging Models
  - Real time Charging
  - Pricing Strategies

- **Billing system to demonstrate different charging strategies**
  - **Environment**

    The Mobicents platform is certified for JAIN SLEE. SLEE is a popular standard in telecommunication industry. Mobicents caters for developing applications that combine voice, video, and data through the use of SBBs(service building blocks) . Diameter protocol performs AAA (Authentication, Authorization and Accounting).
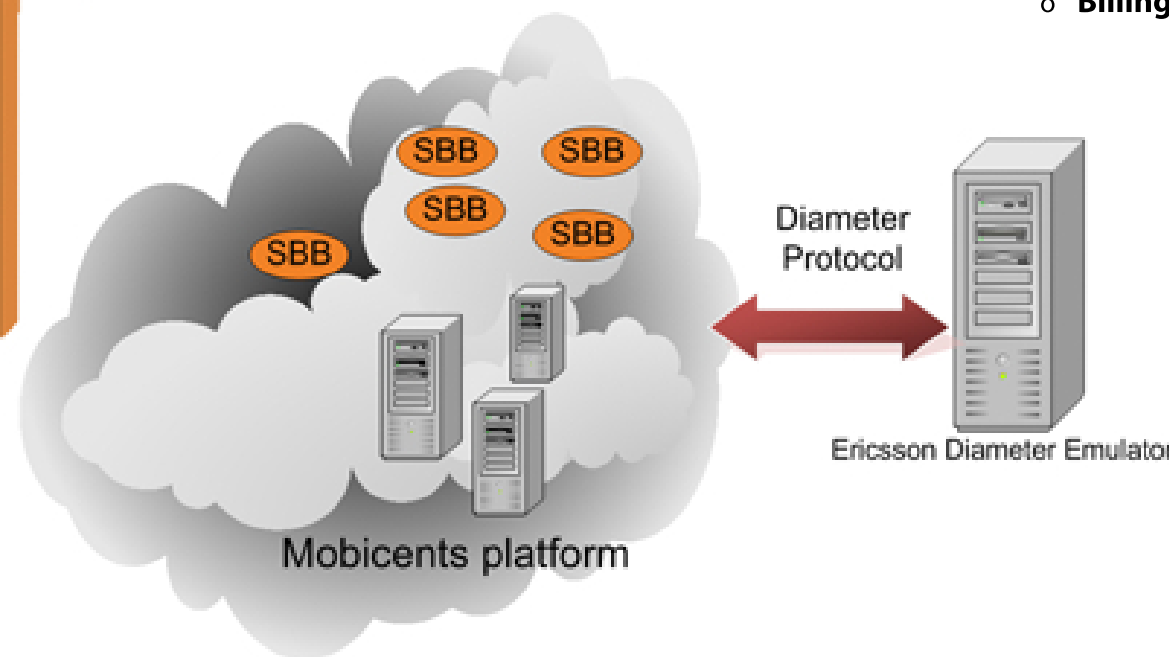
  - **Billing System**
    - The system demonstrates different charging models:
      - event, time, subscription ,reward, and volume based charging.
    - Diameter API is used to create and send Diameter messages from the Mobicents services.
    - Mobicents application uses Diameter Protocol to communicate with Ericsson Diameter Emulator.
    - Ericsson charging Emulator contains database with account, tariff, and currency records.
    - Emulator emulates a prepaid system and therefore responds to Diameter Messages sent from the Mobicents application.
    - The emulator provides a testing environment for the system.
    - The messaging service demonstrate event-base charging.
    - We extended the Sip B2B example to demonstrate time-based charging.



## Conclusion

- Billing for next generation services requires more complex billing strategies. Time-based charging models are inefficient for billing next generation services.
- Additional charging models such as event, subscription, reward, volume or a combination offers better solution for next generation services.
- The Mobicents platform, through the use of service building blocks provides an environment for quick service development and code reuse.