

Total cost of charging and billing: CapEx and OpEx

Matti Swan
matti.swan@elisa.fi

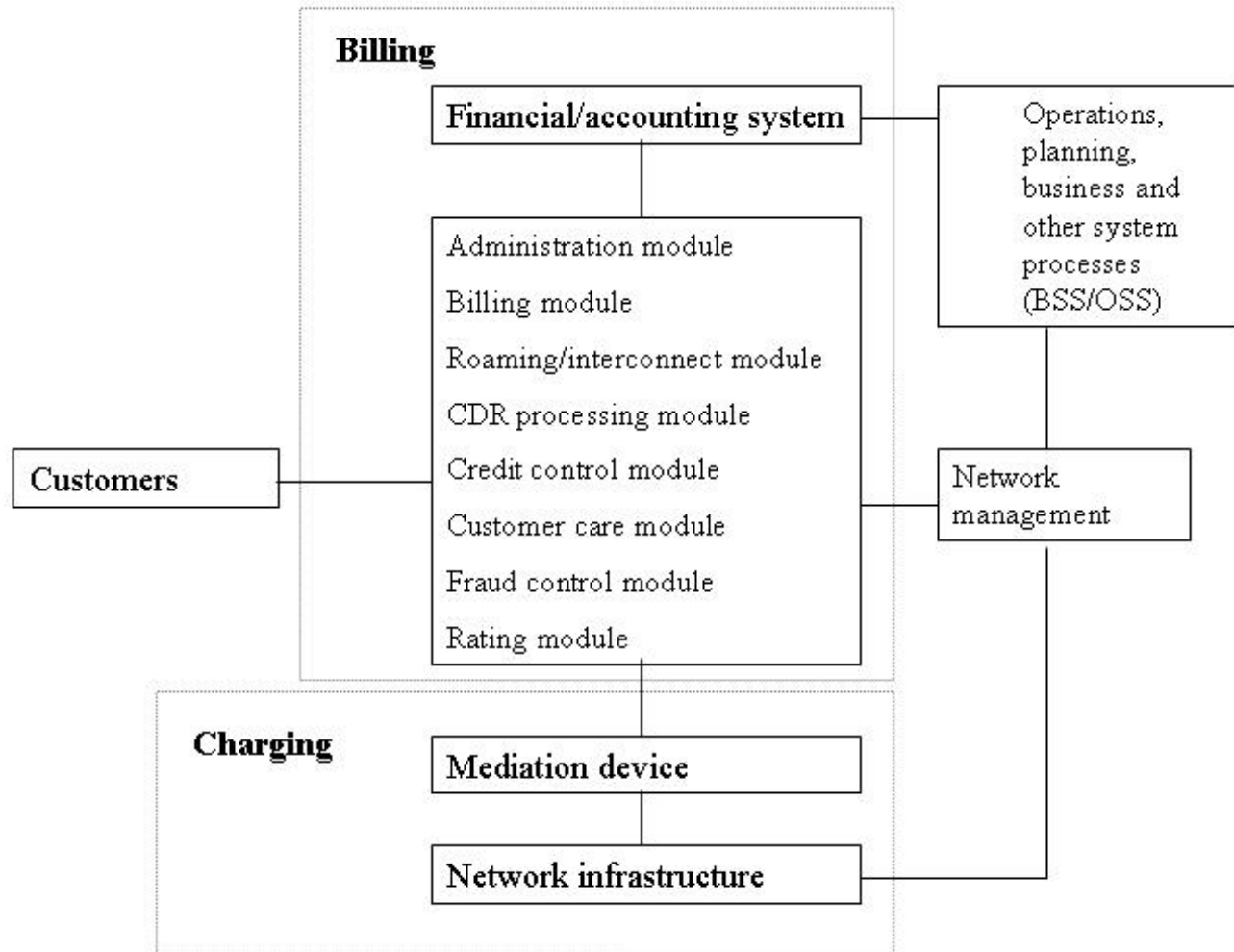
Introduction

- Charging: 'Process where subscriber accounting information is retrieved for billing purposes'
- Billing: 'Generate and send a bill to subscriber based on certain tariff'
- OPEX: Operational expenditures (to run the company):
 - labour (network planning/management, customer care etc.)
 - marketing costs, rental fees etc.
- CAPEX: Capital expenditures (to extend business or improve existing services):
 - purchase of land & buildings
 - network construction
 - purchase of information systems (hardware & software)
- In most telecom cases OPEX is larger than CAPEX

Charging and billing

- A crucial part of operator's/service provider's business, misconfigured charging/billing system can cause a significant loss of revenue
- Charging and billing are an integral part of OSS/BSS
- This integration requires additional (expensive) 3rd party software
- Complex to maintain, several interfaces
- Tailored billing solutions

Charging and billing system



Charging and billing costs

- Give exact figures is difficult, costs depend on: number of subscribers, network infrastructure, services offered, business processes, company structure (internal billing/charging) etc.
- For a mobile operator, the total cost of providing and maintaining billing system may be up to 50% of infrastructure investment and annual turnover of a mobile network

Charging and billing costs

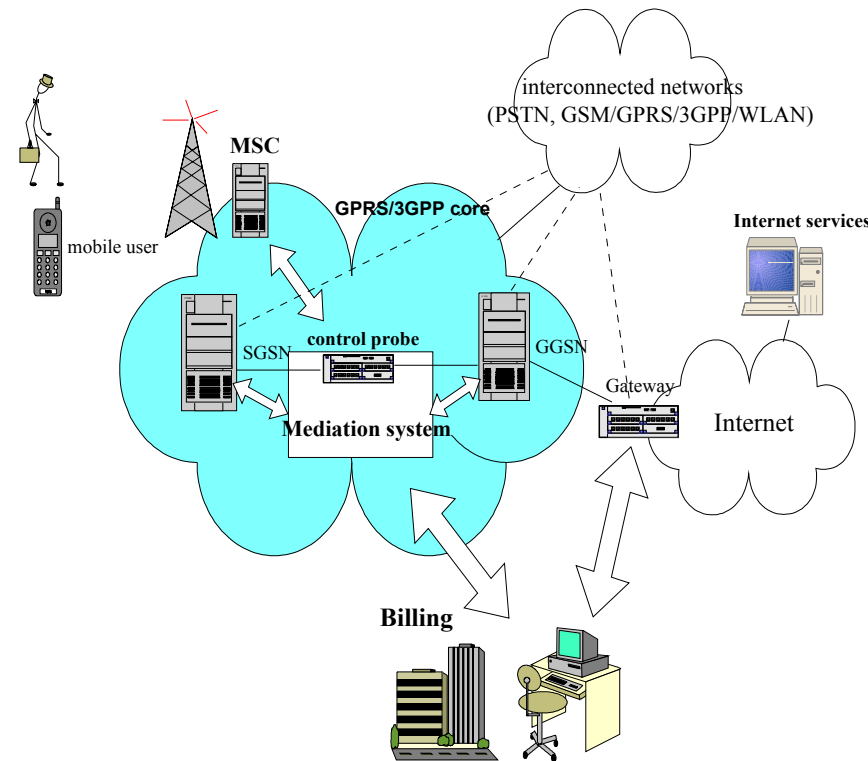
OpEx, billing	unit price	#	total				
Personnel	90000	100	9000000				
Post-processing	6000000	0,5	3000000				
prepaid/inter-operator			?				
marketing	200000	1	200000				
			12200000				
CapEx, billing							
Billing system	20000000	5	4000000				
Software upgrades	20000000	0,1	2000000				
CapEx charging							
Charging system	4000000	5	800000				
Software upgrades	4000000	0,1	400000				
OpEx, charging							
installation and maintenance	90000	10	900000				
			900000				
CapEx			7200000				
OpEx			13100000				
Total			20300000				
CapEx % of total costs							35

Charging and billing costs

- Gartner Group: mid-size telco (3-7million subscribers):
 - CAPEX:
 - Billing software licence ~ 7Meur
 - Hardware + 3rd party software ~4Meur
 - Integration costs 200-500%
 - Total CAPEX 22 – 55Meur
 - Annual operational costs:
 - Maintenance and support ~ 2Meur
 - Operating costs ~ 4 Meur
 - Total OPEX 6Meur, however these figures don't include customer contacts, processing of subscriber bills or company internal billing

Billing and charging in IP-based wireless networks

- New challenges:
 - Billing and charging for internet applications, QoS, services and content
 - Enabling prepaid for internet services: fraud-window elimination
 - Roaming (incl. different network technologies)
- Have an impact on total costs (OPEX+CAPEX) >30%(?)



Billing/charging models vs total costs

- Fixed price tariffing (ISPs) least expensive to implement
- In order to minimise total costs, service providers/operators can:
 - Use fixed price tariffing
 - outsource their billing operations
 - streamline internal processes
 - reduce amount of subscriber bills generated/sent
- Mobile internet operators need to implement (time/)volume/transaction –based billing and charging
- Those who need to invest can gain additional revenue by offering billing services to others and extending the billing system to include m-commerce etc.