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CPCH Financial Benefits to 3G Service Providers/Network Operators

3GPP RAN Presentation
with GBT

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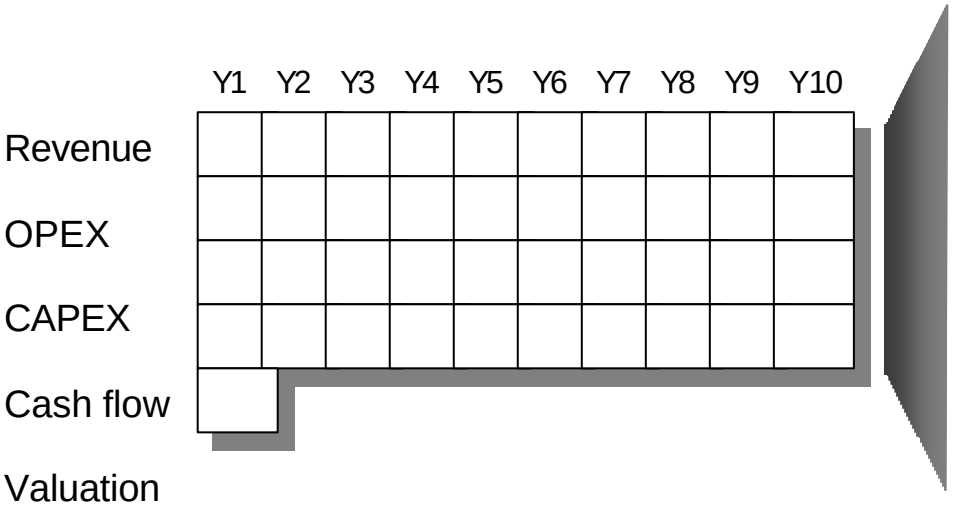
Reference No. 35306

Using CPCH, operators will see a 12% reduction in cumulative CAPEX per user after 10 years, based on our preliminary analysis

- For simplicity, we have assumed an overall capacity gain of 3.3X
- We took into consideration two basic services:
  - Mobile intranet
  - Web enabled portable devices
- Future service to be considered include:
  - PDA synchronization
  - MMS
  - Location based services
  - Infotainment among others

New site construction costs were not included in this analysis, thus approximating an existing 2G operator building a 3G overlay; a very conservative assumption

We use discounted cash flow to analyze the overall business case.



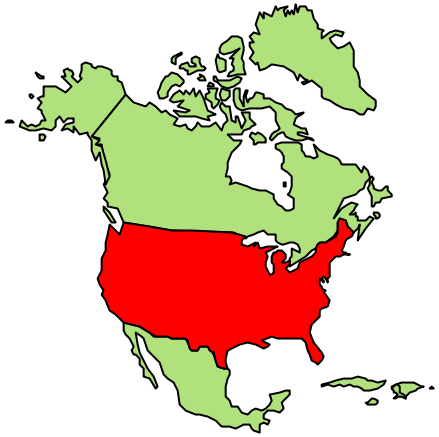
- Subscribers
  - addressable market
  - service provider market share
  - adoption rate by subscribers
  - availability of POPs net of analog TV station encumbrances
- Revenues
- OPEX as percentage of revenues, derived from industry estimates of fixed G&A and marketing costs in early years and of variable costs in later years
- CAPEX reflecting economics of build-outs in 10MHz, 20MHz and 30MHz bands
- Terminal value = multiple of EBITDA in Y10
- Valuation
  - NPV of net cash flow (Revenues less OPEX and required working capital)
  - NPV terminal value
- Weighted average cost of capital (WACC) = (%equity X equity return)+ (%Debt X (interest X (1-tax rate)

The model quantitatively analyzes a demographically based business case in the northeastern U.S. as a number of key input assumptions are modified.

How are service provider economics affected by ...

1 Customer MIX

- Residential
- Business



2 Footprint

- Increasing coverage through business plan period
- Licensed regions
- Study area is Economic Area Grouping #1 (EAG1) using 1900 MHz for propagation models

3 Network Technology

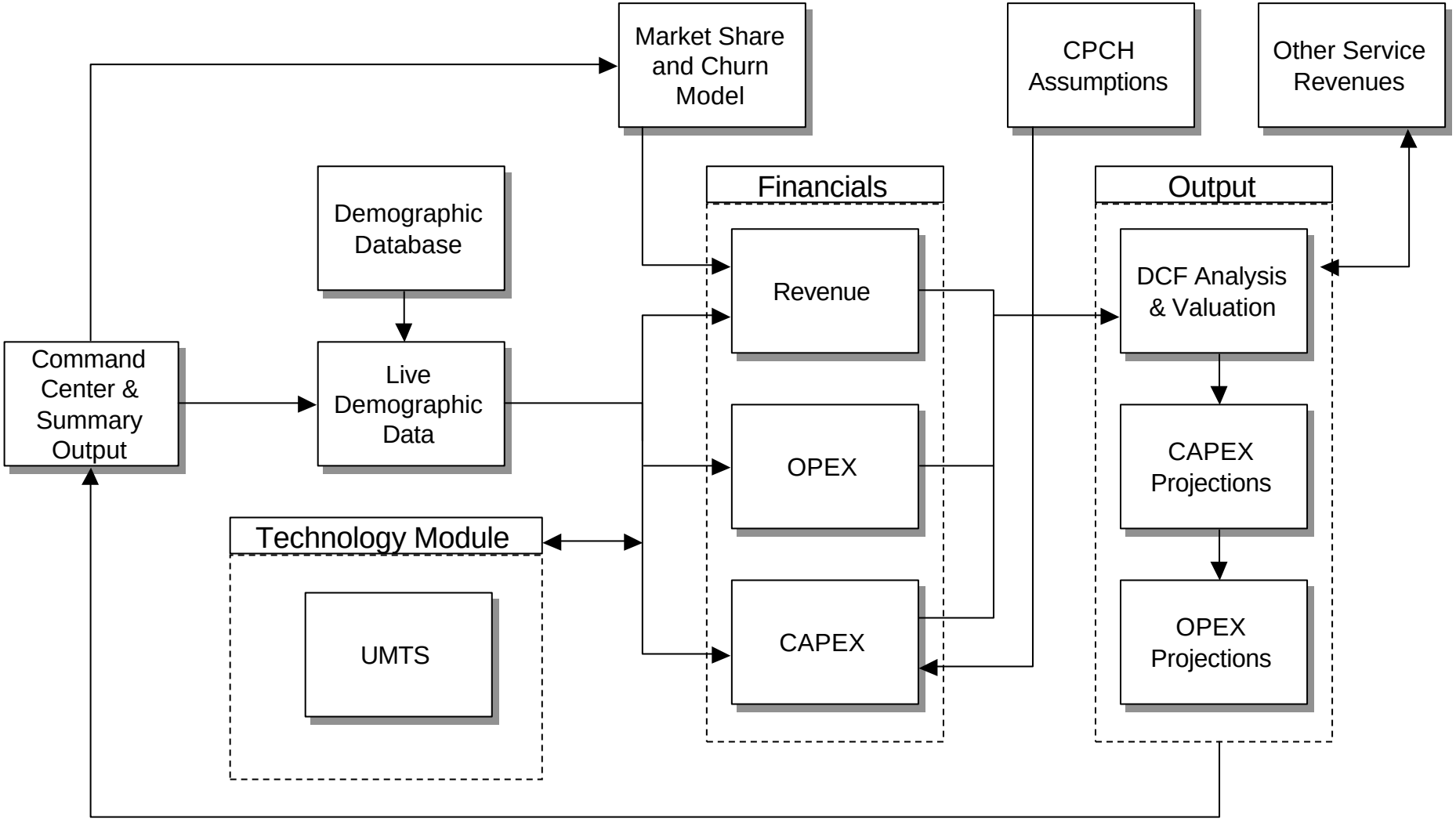
- UMTS FDD equipped with CPCH
- UMTS FDD without CPCH

4 Business Model

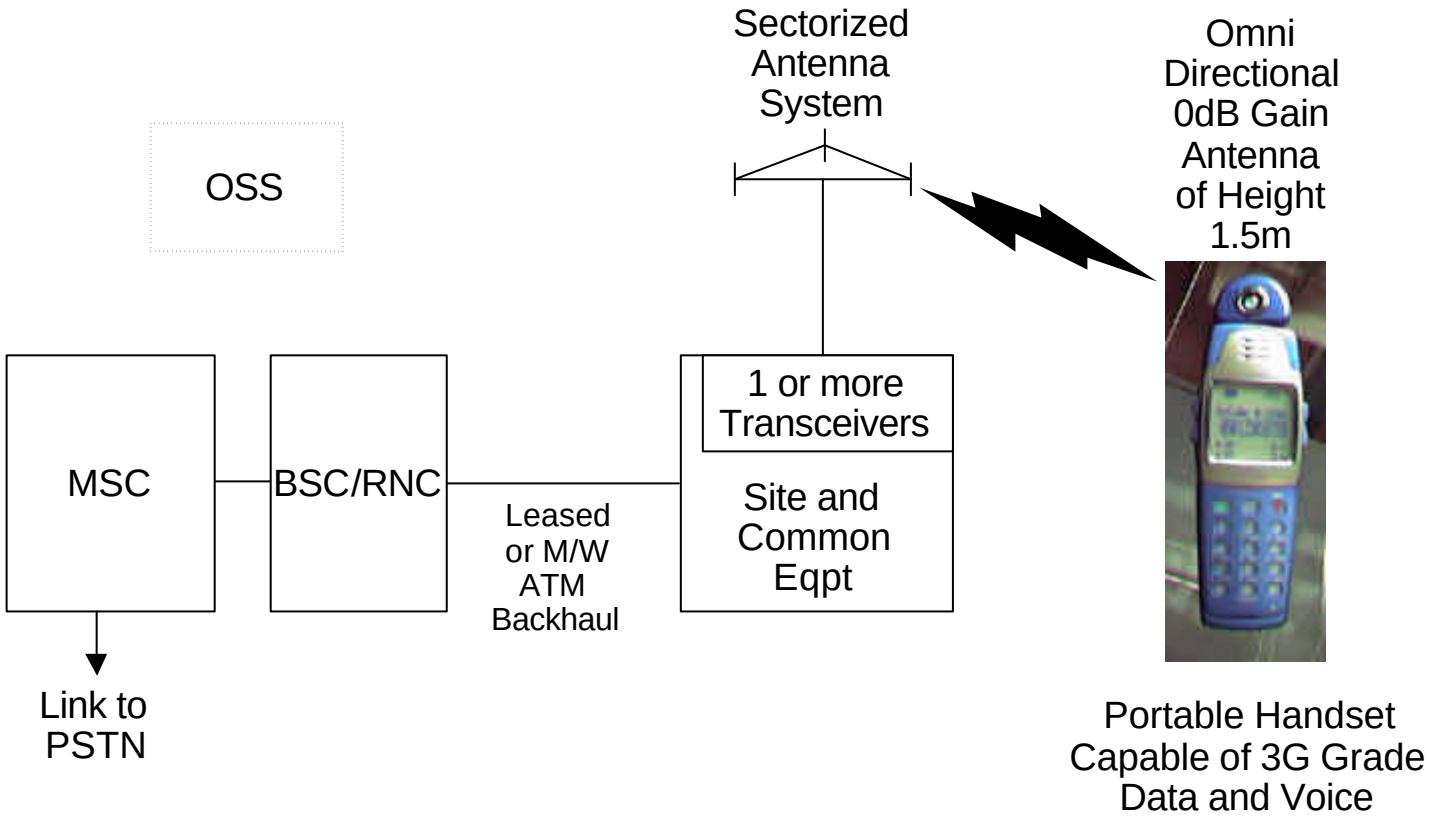
- Own and Operate

Model Architecture

The architecture of the model is specifically designed to test of our key assumptions and allow for sensitivity analysis.



Our modelling was based on the following reference architecture that is common to the products being considered



Key Assumptions in ADL Model -- Main Input Parameters

The main input parameters controlling the model are the following

UMTS Percent of Cellular /PCS	Year 1	Year 5	Year 10
	0.50%	15%	25%

Churn	From Other Operators		Internally
	PCS	UMTS	UMTS
	25%	15%	25%

Share of Growth and Churn	PCS	UMTS
	10%	15%

Wireless Adoption Rate Year->	1	5	10
	10%	40%	90%

Rates (ARPU) -- Voice + Data	Year 1	Year 10
Per Month	$ 90	$ 60
Per Year	$ 1,080	$ 720

Rates (ARPU) -- Voice	Year 1	Year 10
Per Month	$ 50	$ 40
Per Year	$ 600	$ 480

Mix of Mobile Subs	
Voice + Data	100%
Voice Only	0%

Value Added Serv Rev		
	Year 1	Year 10
	Per Month	
	$ 5	$ 10

Include Rural Areas?	
0 or 1	0

CPCH or DCH Configuration?	
CPCH or DCH	CPCH

Acquisition Costs (OPEX)	
Terminal Subsidy	$ 250
Agent Fee	$ 150

Mobile Traffic Parameters	
MOU/subscriber	200
Mbytes/month/subscriber	21.6
Yearly Data Growth Rate per sub	6%

Source: ADL

Final Findings Forthcoming

Our project will continue to explore the financial benefits of CPCH as applied to various data-centric 3G service profiles, all in the context of existing voice services

- The project is still in progress
- Final results will include more extensive financial performance parameters

More sophisticated service traffic models are being developed to further assess realistic 3G RAN traffic loads and the financial benefits to be gained by deploying CPCH