Solon Broadband Breakfast 2008

London, 17 October 2008
Top questions in European broadband

A  What is the smartest way to grow the broadband business?

B  How to combat churn?

C  Is there an end to the capex hike?

Source: Solon
What is the smart way to grow?

BROADBAND BREAKFAST > GROWTH

1. New products
   - Linear TV?
   - Non-linear TV?
   - Mobile?

2. Organic growth
   - How much growth is affordable?
   - How to maximize payback per sub?

3. Consolidation
   - Only a subs add-on game?
   - Or also scenarios with significant synergies available?

Source: Solon
VOD essential for customer retention, Mobile broadband next and so far last large growth wave

<table>
<thead>
<tr>
<th>Linear TV</th>
<th>Non-linear TV</th>
<th>Mobile</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Strategic rationale for offering?</strong></td>
<td><strong>Churn killer No.1</strong></td>
<td><strong>Mobile broadband next large growth wave</strong></td>
</tr>
<tr>
<td>Monetize access</td>
<td>Superior TV experience</td>
<td>Mobile voice only complementary</td>
</tr>
<tr>
<td>Stabilize ARPU</td>
<td>Capture demand</td>
<td></td>
</tr>
<tr>
<td>Increase stickiness</td>
<td>Stabilize ARPU</td>
<td></td>
</tr>
</tbody>
</table>

| **Cash return?** | **Scale game** | **Mobile voice: limited as commoditization continues** |
| Product margins >50% | Requires continuous Network Capex (capacity) | Mobile BB: Early stage, but resale model |
| Low capex required | High CPE Capex (interactive STB) | |
| Paybacks of 6-12 months (stand-alone) | | |

**Strategic necessity for a BB player?**

- **Mobile voice**
- **Mobile Broadband**

Source: Solon
Successful move into Non-linear TV heavily depends on investments in upgrade and content

BROADBAND BREAKFAST > GROWTH > PRODUCTS

Cable (DVB)                      DSL (IPTV)

Linear TV
("Classic TV")

Non-linear TV
(VoD, time shift, VAS)

"Classical Cable"

VoD: Fully upgraded network required

Attractive case esp. for countries where multichannel platforms with low penetration

Source: Company information, Solon
VoD: Success and take-up rates highly depend on size of video library

Take-up rates as a function of size of video library
# available content, # takes per subscriber p.a.

- Clear correlation between size of library and usage
- Broad usage necessary to reduce churn
- NVoD und Push-PVR intrinsically with low content offer
- Significant churn reduction therefore with large VoD systems only (Comcast: 20% reduction)

Source: Company information, Solon estimates
Mobile broadband: A wide range of new consumer devices will be connected to the internet via mobile broadband.

- Laptops
- Subnotebooks/Netbooks
- Cameras/Music players/paddles
- Mobile Service in vehicles
- 3G/4G phones

Opening-up new segments:
Mobile video, data connectivity of cameras, MP3 players, etc.
In Sweden, mobile broadband is starting to encroach on fixed broadband growth

Mobile and fixed broadband gross adds Sweden

- In Sweden, mobile broadband gross adds overtook fixed broadband sales in Q3 2007
- 3G uptake beginning to negatively affect fixed BB subscriber growth
- Mobile broadband target group: Users who want mobility and only limited voice and data
- Substitution starts, when mobile and DSL marketed at same speed
What is the smart way to grow?

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Harsh ARPU decline pushes payback time way beyond contract duration – Winner is Cable due to own local loop

Current payback times in European LLU

<table>
<thead>
<tr>
<th>ARPU (€/month)</th>
<th>UK</th>
<th>GER</th>
<th>POR</th>
<th>F</th>
<th>ESP</th>
<th>ITA</th>
</tr>
</thead>
<tbody>
<tr>
<td>€33</td>
<td>43</td>
<td>42</td>
<td>38</td>
<td>36</td>
<td>26</td>
<td>20</td>
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<td>€43</td>
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<td>€49</td>
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</tr>
</tbody>
</table>

Current payback times in Germany by access

<table>
<thead>
<tr>
<th>Access</th>
<th>57</th>
<th>45</th>
<th>42</th>
<th>25</th>
</tr>
</thead>
<tbody>
<tr>
<td>FTTH</td>
<td>55%</td>
<td>17%</td>
<td>28%</td>
<td>55%</td>
</tr>
<tr>
<td>Resale</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>LLU</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cable</td>
<td></td>
<td></td>
<td></td>
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Source: Solon, broker reports, company information
What is the smart way to grow?

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Source: Solon
M&A attractiveness of DSL resale suffers from long payback
Integration of Cable attractive way to leapfrog last mile

Strategic rationale?
- Pure subscriber game
- Rationale: Migrate resale customers to ULL and increase margin
- Rent for last mile still to be paid

Synergies?
- Margin
- Capex

DSL carrier + DSL resale

DSL carrier + Cable

- Network game: Leapfrog last mile
- Significant margin increase for DSL customers possible (saving of rent for last mile)
- Product synergies

Source: Solon
Market valuation Altnet subscriber still very high – long payback compared to Cable

Source: Solon
Top questions of broadband

A What is the smart way to grow?

B How to combat churn?

C Is there an end to the capex hike?

Source: Solon
From 2009 onwards churner will represent the majority of broadband adds

BROADBAND BREAKFAST > CHURN

Gross Adds in Broadband Market

<table>
<thead>
<tr>
<th>Year</th>
<th>Churner</th>
<th>New to market (Market growth)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2006</td>
<td>5.8</td>
<td>3.7</td>
</tr>
<tr>
<td>2007</td>
<td>7.8</td>
<td>4.9</td>
</tr>
<tr>
<td>2008</td>
<td>7.2</td>
<td>3.4</td>
</tr>
<tr>
<td>2009</td>
<td>5.5</td>
<td>1.8</td>
</tr>
<tr>
<td>2010</td>
<td>5.1</td>
<td>1.2</td>
</tr>
<tr>
<td>2011</td>
<td>4.8</td>
<td>0.8</td>
</tr>
<tr>
<td>2012</td>
<td>4.6</td>
<td>0.5</td>
</tr>
</tbody>
</table>

Churners as % of Gross adds

<table>
<thead>
<tr>
<th>Year</th>
<th>2006</th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
<th>2012</th>
</tr>
</thead>
<tbody>
<tr>
<td>%</td>
<td>36%</td>
<td>37%</td>
<td>47%</td>
<td>67%</td>
<td>76%</td>
<td>84%</td>
<td>88%</td>
</tr>
</tbody>
</table>

- Market maturity increases competition
- Majority of future gross adds will be BB churners
- New challenge: win over churners from competitors while defending own base
- Churn management key to success

* Data taken from Solon BB Model Oct. '07
Source: Solon Broadband Model October 2007
Significant churn rates - but most operators only with limited grip

External forces hard to change:
- Market / competition
- Network reach

Internal drivers highly influenceable:
- Product & pricing
- Customer experience

Reality:
- Most operators with limited grip on churn reasons
- First retention and even win back measures in place

BROADBAND BREAKFAST > CHURN

**Broadband Churn**

% p.a.

<table>
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<tr>
<th>Strong Competition</th>
<th>Medium Competition</th>
<th>CEE</th>
</tr>
</thead>
<tbody>
<tr>
<td>25%</td>
<td>15%</td>
<td>24%</td>
</tr>
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**Telephony Churn**

% p.a.

<table>
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</thead>
<tbody>
<tr>
<td>20%</td>
<td>12%</td>
<td>14%</td>
</tr>
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Source: Solon Benchmarking Database
Churn reduction done right clearly increases EBITDA

Churn development European Cable Operator
% annualized, 3Q 04 – 2Q 08

Approach
- Excellent product suite
- Excellent customer service
- Customer lifetime management
- Customer segmentation and targeted marketing

EBITDA increase from reduced SAC
- Communication SAC at 2004 churn: €15m
- Communication SAC at 2007 churn: €9m
- € 6m or + 0.6%pt. EBITDA
- 17% of overall EBITDA increase from 44.0% (2004) to 47.5% (2007)

Source: Telenet, Solon
Churn programs start with contract signing – not with contract cancellation

Source: Solon

Contract start

Cancellation

End of Contract

Monetary Gains

Contract

Breakeven

Acquisition
- Contract design
- Welcome Call

Prevention
- Churn prediction
- Customer Service
- Up-/Cross Selling
- Lifecycle programs
- Direct debit / e-billing

Retention
- Churn monitoring
- Save teams
- Enforce contract terms

Win-Back
- Win-back activities

Current Focus

BROADBAND BREAKFAST > CHURN
5 hard questions to management on churn

1. How well are you treating your customers?
   Customer satisfaction? Service quality measures? NetPromotor score of all touch points?

2. Can you predict churn and act on it?

3. How do you drive loyalty?
   Loyalty Calls? Bonus programs? Mover program? Excellent service?

4. What is your approach to value expansion?
   Customer segmentation? Targeted up-/cross selling?

5. How relevant is customer loyalty for YOU?
   Loyalty targets? Constant reporting? Bonus relevance?
Top questions of broadband

BROADBAND BREAKFAST > CAPEX

A  What is the smart way to grow?

B  How to combat churn?

C  Is there an end to the capex hike?

Source: Solon
Given the financial market conditions it is vital to free up cash – Capex optimization is still unleveraged.

Source: Solon
Capex levels typically between 20% and 30% of revenues. Already a reduction of 5-10% frees significant amounts of Cash.

<table>
<thead>
<tr>
<th>Player 1</th>
<th>Player 2</th>
<th>Player 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>€64.0</td>
<td>€47.7</td>
<td>€11.2</td>
</tr>
<tr>
<td>€27.1</td>
<td>€23.5</td>
<td>€4.4</td>
</tr>
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- Varying triple play share
- BB/Phone 2-3 x TV ARPU
- 40 - 50% margins due to own infrastructure
- New services core driver
- Constant Capacity upgrades
- “New service”-focused providers with higher FCF
- Capex reduction would have significant impact on FCF

Source: Solon
Continuing investment cycles as markets put pressure on operators to ever increase product portfolio and performance

**Investment cycles (exemplary Operators)**

*Capex in % of revenues*

- **Invest "A"**
  - HFC upgrades
  - Backbone

- **Invest "B"**
  - CPE, SACs
  - Bandwidth
  - Platforms
  - Inhouse networks

- **Invest "C"**
  - CPE, SACs
  - Even more bandwidth
  - More load on platforms
  - VOD
  - Inhouse networks

- Upgrades (Invest “A”), followed by CPE investments and bandwidth extension (Invest “B”)
- Big-bang versus on demand investments impact amplitude of investment cycle

Source: Solon Cable Survey
Actual Capex always higher than planned – challenges do not cease

Capex Development
Average Capex as % of revenue

- European Cable Survey 2005
- European Cable Survey 2007

- Forecasted Capex levels on average too low – Plans are too aggressive

- Challenges did not cease:
  - Competition intensity
  - Capacity increases,
  - Bandwidth requirements
  - Development and implementation of new products

Source: Solon Cable Survey
Capex projects are typically structured along technical criteria - Assessment of their importance often sandbagged

BROADBAND BREAKFAST > CAPEX

Capex categories

Network
Extension
Capacity increase
Maintenance
Product Platforms
CPE/SACs
IT-Systems
Other

Typical Capex (€1bn Operator)

Revenue

EBITDA

OPEX

Operating FCF

CAPEX

Capex categories

Network

Extension

Capacity increase

Maintenance

Product Platforms

CPE/SACs

IT-Systems

Other

Up to € 80m

€ 20m - € 300m

€ 20m - € 80m

Up to € 60m

Up to €160 m

€ 10m - € 30m

€ 200m - € 300m

How to evaluate?

How to optimize?
Three step approach: First, map projects into three categories: "Must", "Revenue/Growth" and "Efficiency"
2nd step: Select Capex projects according to filter criteria (e.g. impact on existing customer base, payback time etc.)

BROADBAND BREAKFAST > CAPEX

**2 SELECT**

Elimination of “nice-to-have” projects

<table>
<thead>
<tr>
<th>Capex</th>
<th>List of projects</th>
</tr>
</thead>
<tbody>
<tr>
<td>Extension</td>
<td>- Project 1</td>
</tr>
<tr>
<td></td>
<td>- Project 2</td>
</tr>
<tr>
<td>Capacity increase</td>
<td>- Project 3</td>
</tr>
<tr>
<td>Maintenance</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Project ...</td>
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**EXEMPLARY**

- **“Must” Revenue protection**
  - Project 1
  - **Project 2**
  - **Project 3**
- **“Growth/Strategy” Revenue increase**
  - **Project 1**
  - **Project 2**
- **“Efficiency” Cost optimization**
  - **Project 3**
  - **Project ...**

**Verification:**
- “Will customers be lost?”
- **Strategy review:**
  - “Will growth be sustainably impeded?”
- **Payback analysis**
  - “Significant payback after short time?”

Source: Solon
3.) Optimized remaining projects, using experts' tools

BROADBAND BREAKFAST > CAPEX

**OPTIMIZE**

Optimize selected projects

- Capex
  - Extension
- Capacity increase
- Maintenance
- Product Platforms
- CPE
- IT-Systems
- Others

*“Must”*  
*“Growth/Strategy”*  
Efficiency

Capex Optimization

- Optimize existing assets
- Cost efficiency
- Timing
- Financial re-balancing

Source: Solon
Following the three step approach significant Capex can be saved

Capex optimization

1. TRANSLATE
2. SELECT
3. OPTIMIZE

Initial Plan  Mapped Plan  Streamlined Plan  Optimized Plan

- Extension
- Capacity inc.
- Maintenance
- Product Pl.
- CPE
- IT-Systems
- Others

Capex Saving
“Efficiency”
“Growth”
“Must”

Source: Solon
Top questions in European broadband

**A** What is the smartest way to grow the broadband business?
- Push video (linear, on-demand)
- Get into mobile BB

**B** How to combat churn?
- Holistic approach. Now

**C** Is there an end to the capex hike?
- Capex will not drop off a cliff. But start pushing
Solon Management Consulting GmbH & Co. KG

Munich
Kardinal-Faulhaber-Strasse 6
+49 89 210388-0

Budapest
Andrássy út 2.
+36 1 88033-00

London
2nd Floor, Berkeley Square House
Berkeley Square W1
+44 20 7887 6596

www.solon.de