



Radio and IP. Where is Mobile Broadband Going?

Identifying a tipping point is usually done in hindsight. This time we believe we are actually at the point.

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Radio and IP, IP in Radio IP over Radio, Radio carried IP etc.



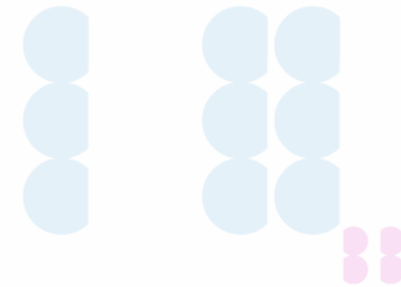
- **The whole world is going IP – True**
 - Sad but true
 - Convergence
- **Robustness a key issue for services**
 - Error control precautions
 - **Coverage a big issue**
 - Nested protocols containing IP
 - Fast extractors etc.
- **Security a key issue**
 - Listening in
 - **Maybe not a serious issue in reality but a likely fear**
 - Crypto.
 - **Key controls etc.**

The whole point is that it cannot be “IP” is has to be IP over radio

Where is Mobile Broadband Going?



Send your answers to.....



What will 'mobility' mean in the future?

Software defined

Cognitive

Entertainment

Mobile commerce

Mobile TV

I-Pod

Remote working

Same as cellular today

Video clips



Some thoughts

- It is beyond LTE vs WiMAX



Technology Issues

- Different applications mean different decoders etc.
- Multiple radio spectrum bands mean multiple transceivers and even different mechanics
- Screen sizes different – convenience issue
- Battery technology
- Location issues
- Privacy and identity
- Security issues like anti-theft measures and key controls
- Costs vs value added. What will the private customer pay
- Enterprise models. Different units
- Convergence may worsen scale economies
- Software

Spectrum Bands

800MHz

900MHz

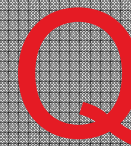
1.4GHz

2GHz

2.4GHz

2.6GHz

3.5GHz



BW

Inter-
connect



Conclusions



1. Mobile Broadband is about the service business model (Translation = where the money is coming from)
2. Technology is difficult, the spectrum remains the issue
3. Fragmentation is (and will remain) a major issue
4. Coverage and high data-rate is key
5. Multiple technologies in the same unit and many different units needed to support services
6. Massive increase in utilisation of the spectrum

