

APPLICATION NOTE

Saving money in UMTS network rollout – an interesting approach

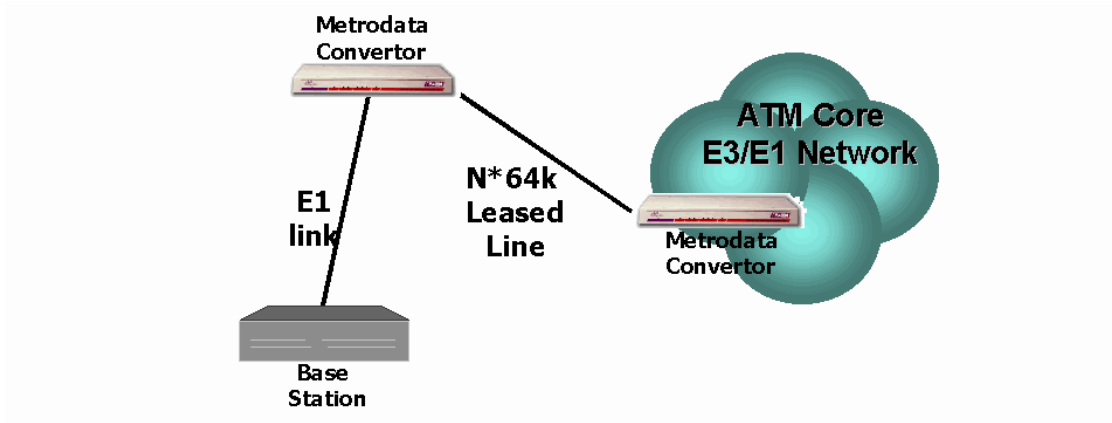
- Massive reductions in wholesale bandwidth charges
- Avoids initial over-provisioning of network capacity
- Network capacity grows in line with user take-up
- Any interconnection problems disappear
- Earlier profitability

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The UMTS Rollout challenge

The cost of rolling out a new infrastructure for a 3G network will be huge. Metrodata potentially save a significant amount of cost in the initial stages.



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Facts

UMTS networks will need new infrastructures

To achieve the coverage and bandwidths for acceptable internet usage necessitates a much larger population of base stations.

The core network initially will be ATM, normally serving at E3 speeds for high user concentrations, but base stations will accept E1 ATM.

The cost of linking base stations to the ATM network via leased lines will, in total, be very high.

The lesser-populated serving cells can use a lower rate ATM delivery at 2Mbps per base station.



Discussion

Network delivery of E1 to all decentralised and remote base stations including picocells will be very expensive.

For an initial rollout when traffic levels are low growing towards the ultimate network design capacity, a lower bandwidth ATM delivery via N*64kbps leased lines will suffice. Far lower initial network charges will be incurred compared to E1.

The early network implementation would be less costly, or more profitable. The network would be financially more self-supporting as the infrastructure is provisioned and increased in capacity to meet the growing demand.

2Mbps access bandwidth in UMTS networks will typically only be needed in concentrations of business users, e.g. office blocks, airport terminals, and at very short distance from the base station. Such base stations would be connected to the core via higher speed ATM to provide the user bandwidth demanded.

[Continuous 2M access for several co-located users is unlikely]

In regional/remote cells 10k for voice and 384kmax for data will be acceptable for initial rollout – 384k is significantly higher than the zero for data, currently on GSM.

Let's assume that data service at N-ISDN (128k) is a leap forward with UMTS, then a remote base station could serve 8 data calls @128k simultaneously, or a mix of voice calls and data, up to the serving bandwidth from the network of N*64 where N=16 i.e. 1Mbps.

For a developing service that level of service could be acceptable. The network line charges for N*64k circuits instead of E1 will be considerably less – just when you need low costs.

Metrodata can provide the units to convert ATM from E1 2Mbps format to N*64kbps to connect to the base station and the ATM service via an N*64 leased line.

Sounds Attractive?

Now is the time to involve Metrodata in your 3G infrastructure planning.

Metrodata will provide the appropriate units to minimise your implementation costs whilst providing the designed level of service, *and* more profitable revenue.



Metrodata Overview – a technically excellent British communications company

You think you have an issue connecting communications equipment and network services together ? – not any more - Metrodata will have developed the solution to your current need, and we are already developing the solutions for your future needs!

The communications world is full of techno-terminology and mystique. Convergence, fibre, SDH, STM1, ATM, integration, copper, interface conversion, interface extension, coaxial, dsu, satellite, broadband, connectivity, access, standards and so on.

Carriers and Service Providers are coming under increasing pressure from the market to provide more than just leased lines. End to end management of their services, fast service provision, flexible bandwidth and tariffing, remote management and diagnostic tools are some examples.

Be assured, the **Metrodata Carrier Division** is working closely with users and SP's to create innovative solutions and services.

Metrodata are the experts to guide you to your network solution.

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