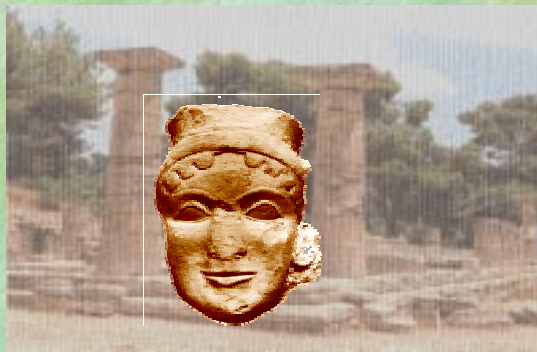


Aloha! bis



Anything but TINA...



Tom Rowbotham
Director, technology
BT

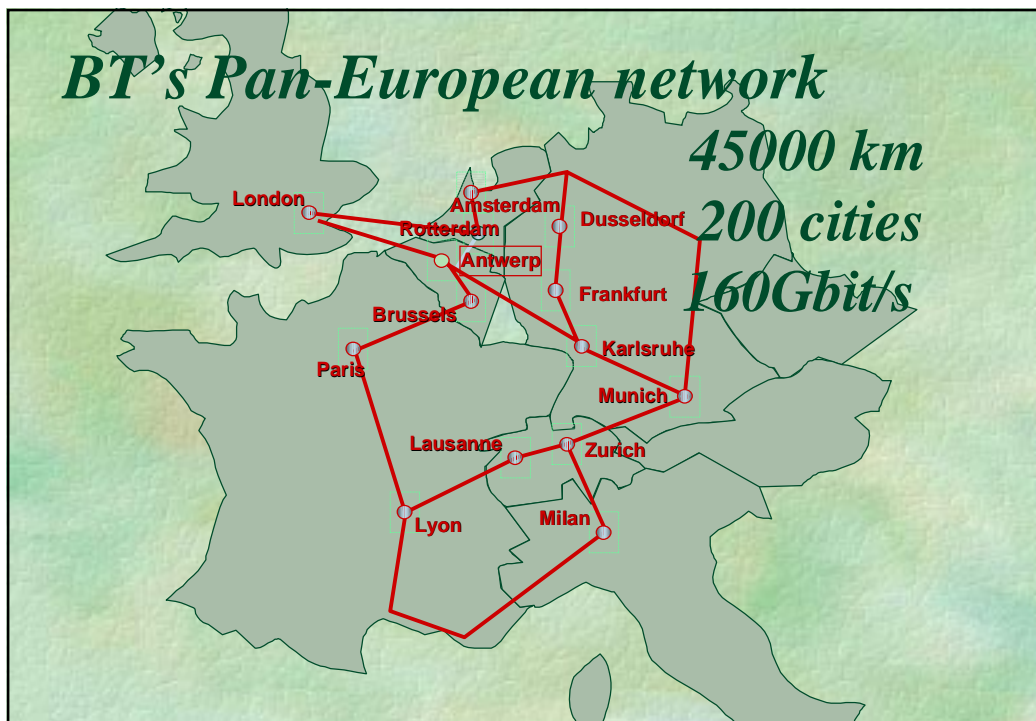
Delphi



Our business depends on technology...

Why BT cares about European regulation

- We have joint-ventures in 7 countries addressing \$180bn market (80% of market)
- Our Customers doubled to 8m in 1998
- BT revenues are now \$2bn p.a.
- Growing at 15% per annum



European Regulation

Some of the issues

- **Slow start after 1 Jan 1998**
- **Regulators powers constrained**
- **Variation from country to country**
- **Super-regulators - geographical/multi-industry?**

European Regulation

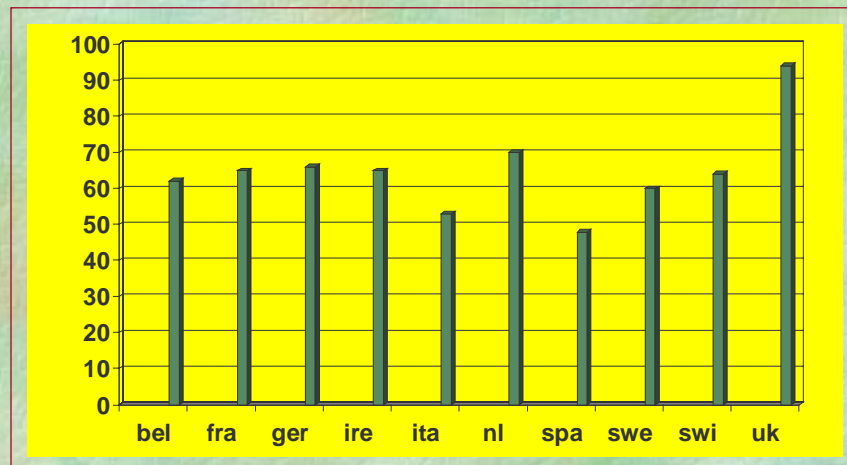
Has begun to work

- **Average reductions in price 15%-40**
- **Even small countries have 25 licences**
- **Larger ones have 250+**

European Regulation - Four Critical Issues

- 1 Effective Competition**
- 2 Fair Interconnection**
- 3 Infrastructure Competition**
- 4 Non-Discrimination**

Liberalisation status in Europe



Regulation - summary

- **Still too early to move to competition based law**
- **Because this assumes a competitive market in place - not yet true in much of Europe**
- **Therefore sector specific regulation still needed**
- **But we should plan sunset conditions**

Some key issues

- **Copyright**
- **Access**
- **Mobile**

Copyright

**Should operators and service providers
be responsible for avoiding infringements
of copyright?**

Access Unbundling

**Should regulation be at wires,
bits, or service levels?**

Mobile

**Should there be Indirect Access in
Mobile?**

**If so which pricing model -
Retail Minus or Cost Plus?**

Now for a glimpse of the Future

Possible predictions ten years ago



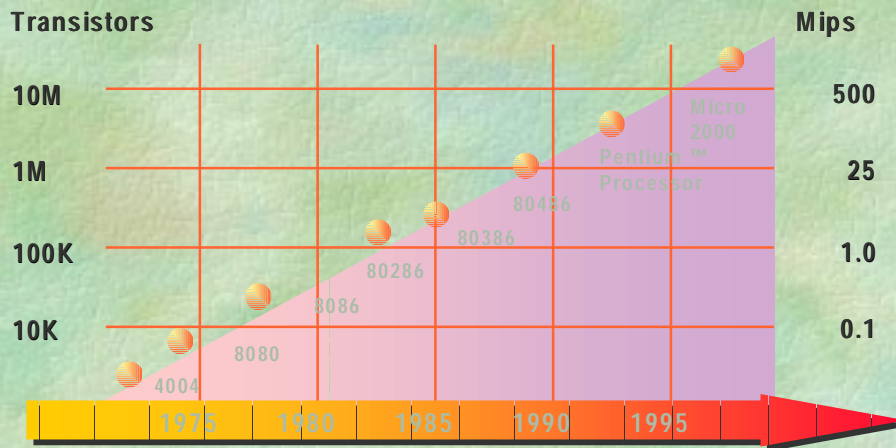
Internet

The
**Millennium
Bomb**



Global Alliances

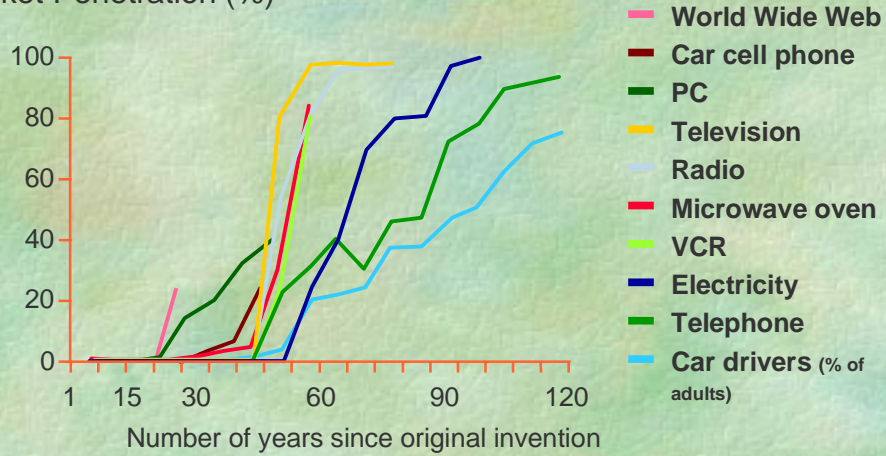
Some things ARE predictable eg Moore's Law



Power doubles every 18 months, cost remains constant

*Yet some things are predictable
-we just cannot see them yet*

Market Penetration (%)



Observable Trends



- ☞ Consumer power
- ☞ Industry transformation
- ☞ Emerging global markets
- ☞ Chips in everything

Consumer Power



- Increased spending power
- Increased choice
- Customisation
- On line global shopping
- Active third age

Industry transformation



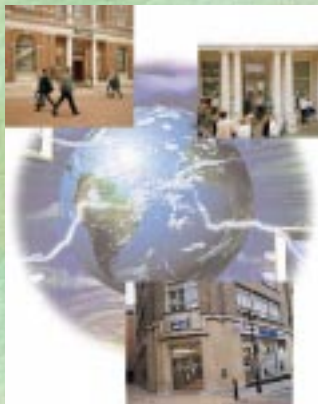
- New trading markets
- Globalization
- Consolidation
- New Industries appearing
- New growth companies
- Challenges to regulators

Increased need for security and trust



- **Concerns about dubious content**
- **Public worries about information privacy**
- **Credit cards and the Web**
- **Government and encryption**

The electronic economy



- **Value of Amazon.com**
- **Success of Microsoft Carpoint and Expedia**
- **Emergence of portals like yahoo.com**

Electronic Commerce



- Communications enables Global trading
- We live in a global marketplace
- Electronic currencies
- Impact upon peoples lives, economies and cultures

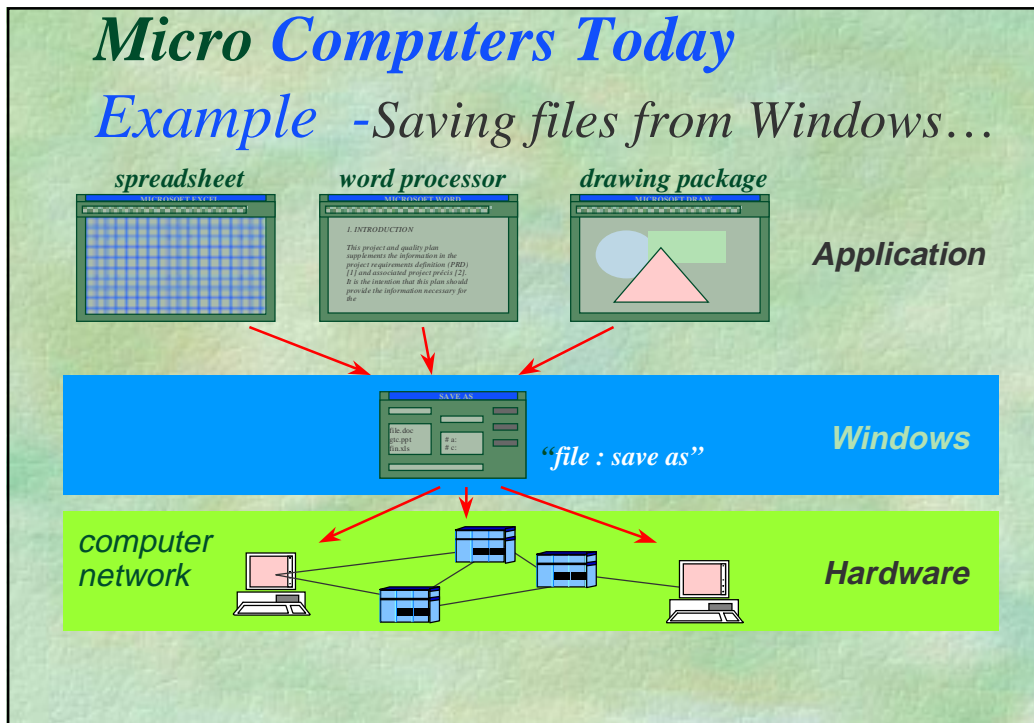
Moving towards the object farm



- Machine independent software like JAVA
- More devices with software upgrade options
- Object orientation

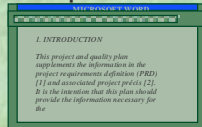
Micro Computers Today

Example - Saving files from Windows...

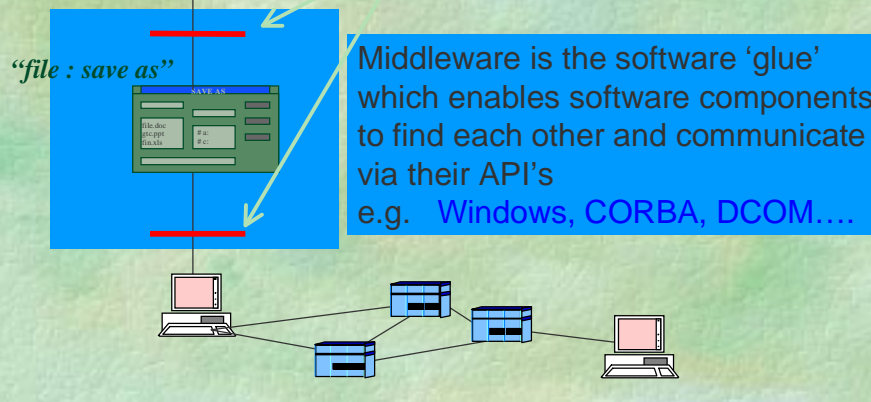


Middleware is universally employed

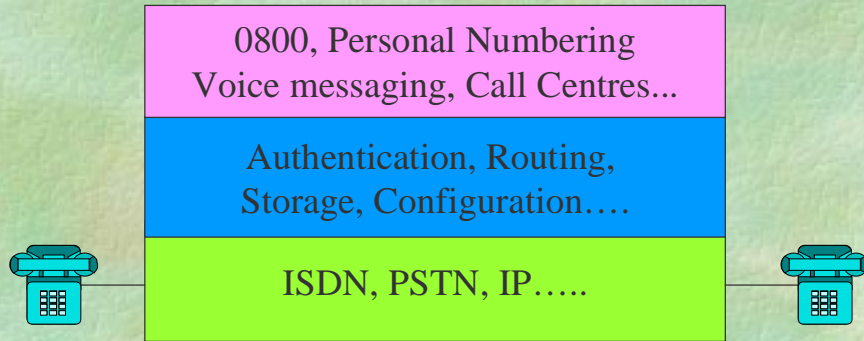
Word processor



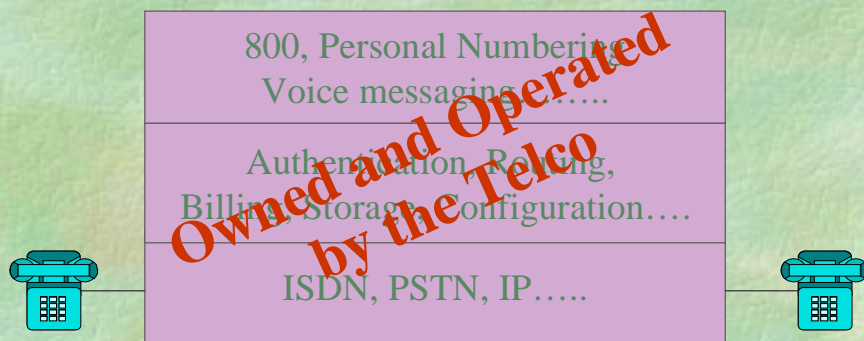
Application Programmers Interface (API) defines what the software component can do



The Telco World - increasing #s of applications



The Telco World Today



Observable Trends - so what?



Possible Futures



- ☞ **Personalisation**
- ☞ **Partnering**
- ☞ **Electronic Economy**
- ☞ **Chips in Everything**
- ☞ **Smart Devices**

Personalisation



Not just a
face in a
crowd

TOMORROW'S SERVICES

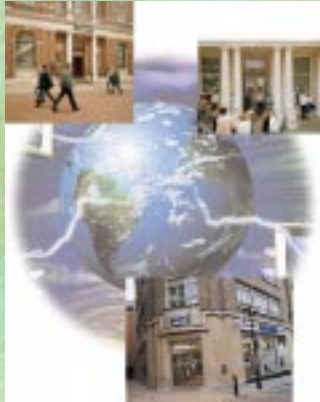
- Care for family & friends
- Fall in love
- Go to Doctor
- Educate oneself
- Read
- Go on Holiday
- Play sports
- Make entertainment

Partnering



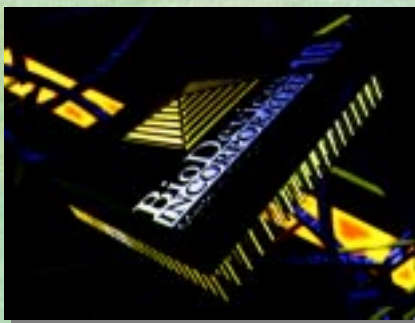
- Many new industry players
- Industry restructuring
- You don't know tomorrows winners
- You don't know tomorrows partners

The electronic economy



- The satellite bank
- Government Powers change
- Life gets harder
- Where's my data?
- Who's got it?
- Trading chains dislocate

Chips in everything



- Smaller, Cheaper, & Disposable
- Updated software
- Ambient intelligence
- Radio Chips
- Chips in people

Smart Devices



- Cuddly toys that recognise the user
- Microwave ovens that scan and cook
- Roller blades with GPS
- Wearable invisible cameras

Smart Devices

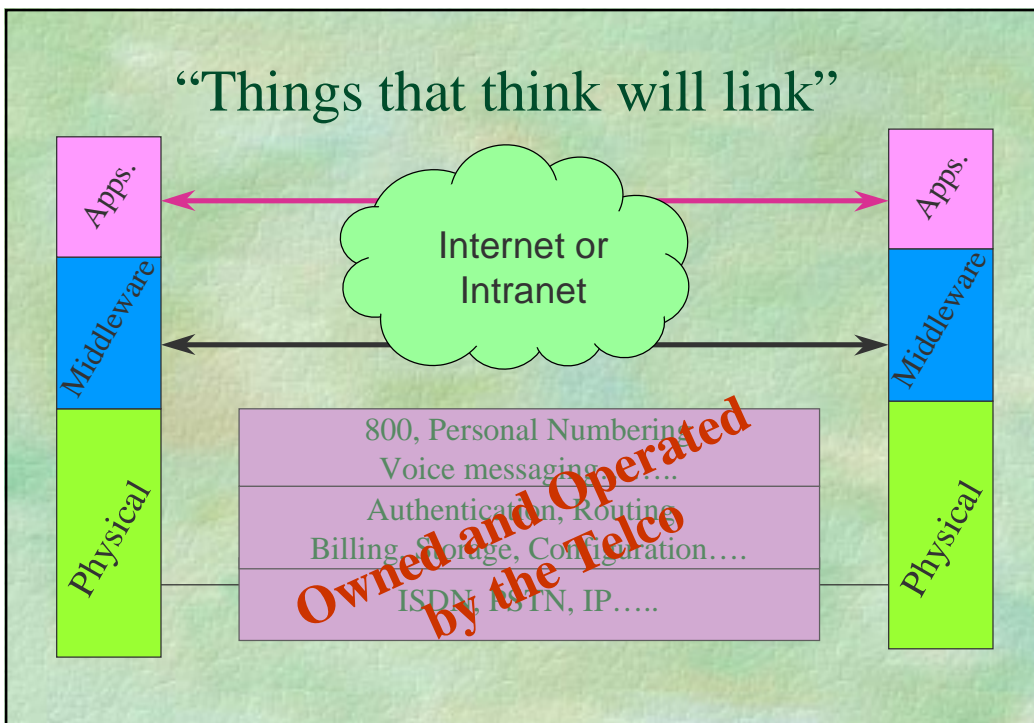


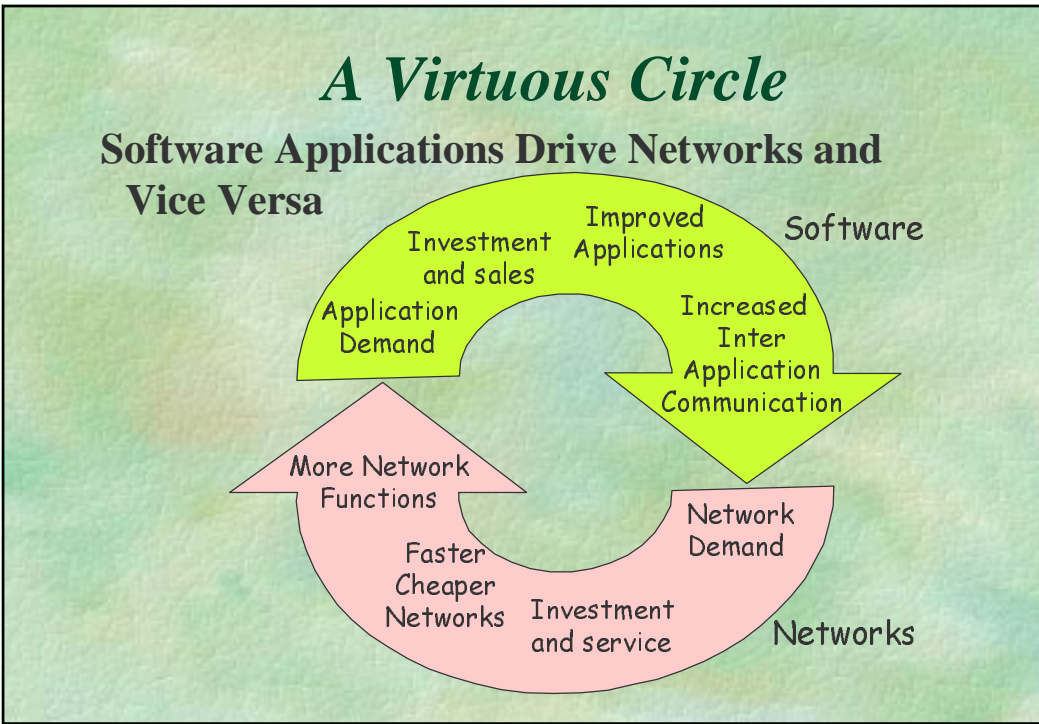
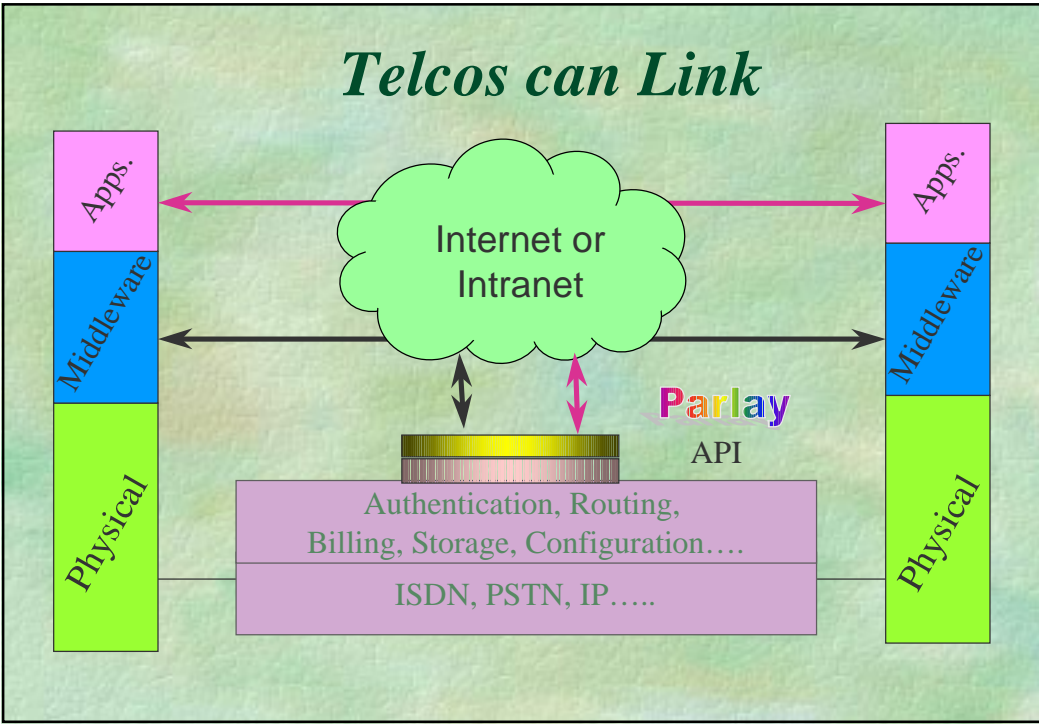
- The most ordinary device will be smart
- Plug & play
- 'Always on' even on the move
- A trickle charge of information

How does that affect the Telco World?



“Things that think will link”





Tom Invents a Network Architecture -

The AutoNet

Imagine:



- A small broadband radio router
- Fit it in cars, lorries trams & buses
- Each becomes a moving switching hub
- New self routing protocol
- Bypass of the network ?

Questions for the Audience-

When will there be



- Wireless PCs
- Heads up displays in cars
- Exec cars fitted with GPS as standard
- The last fixed telephone sold
- Terabit memory chip
- No Telephone Books
- Cellular Millions = Year #
- Chips in Everyone

Mahalo!



Our business depends on technology.