# Vodafone Corporate Managed Data Solutions

# Technology Update

**Simon Jones**

**Business Development Manager**

vodafone

# Managed Data Solutions

*Used Where:*

- Application is Business Critical
- Application is high-volume

*Vodafone's Managed Data approach provides a resilient solution for high-volume usage, giving clear visibility of data traffic.*

Range Of Services

- Large Volume SMS & Wireless Data
- GSM Data, Packet Radio (Paknet)
- Upgrade Path to New Network Technologies

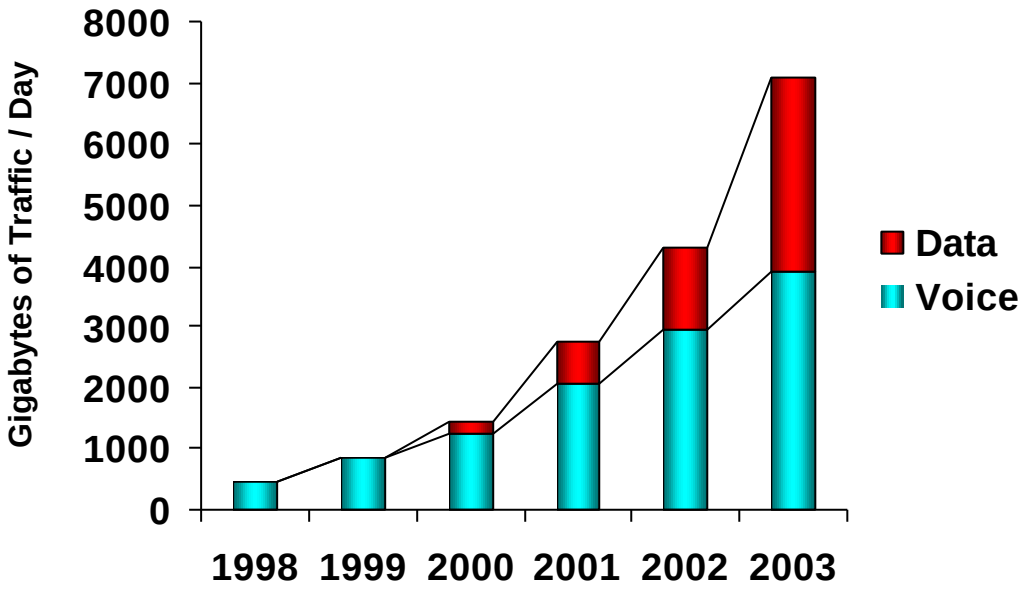
vodafone

# Managed Data Solutions

- What you can do today
- What's coming in the future?
  - Network Developments
  - Terminal Developments
- What you can do today

# Traffic: Voice versus Data Trend

***-- Global Traffic Forecast Model --***




Source: Merrill Lynch: “The Road to the Mobile Internet”, Sept 1999

Data traffic is forecast to grow at a CAGR ~ 370% from 1999 - 2003

Currently, data traffic accounts for around 2% of mobile traffic

By 2003, forecasts anticipate usage of around 45% (~3200 Gigabytes of traffic per day)

vodafone

# Managed Data Solutions

## What Solutions do we find most businesses looking at?

- Remote Office
- Service Management/Job Scheduling
- Remote Worker/Vehicle Positioning & Telematics
- Remote Monitoring/Telemetry
- Large Volume SMS
- Sales Team Support/Sales Order Processing

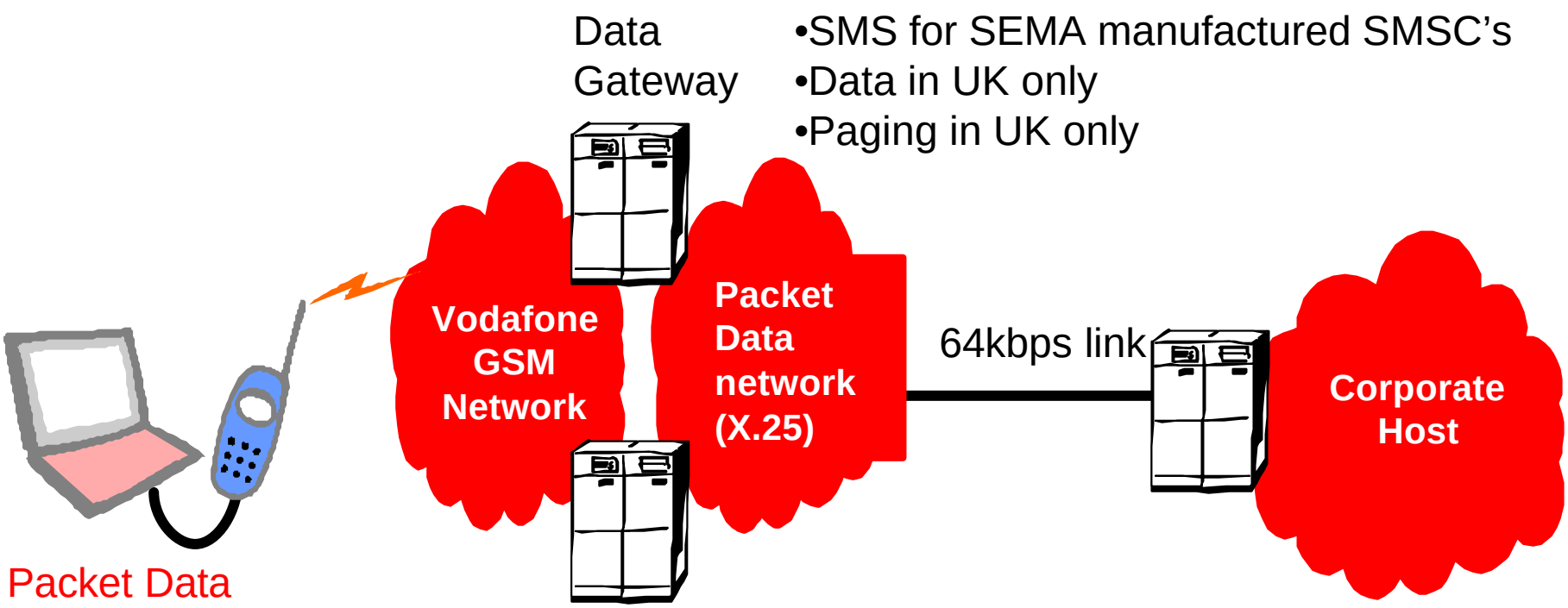
# Vodafone Has A Strong Track Record In Data Services

*Resilience & Robustness*

- Voice Data Fone – Data focus from start
- Packet Radio Network since 1989 – telemetry & transaction applications
- SMS – huge growth & high resilience. High functionality.
- GSM Data – corporate & business applications

vodafone

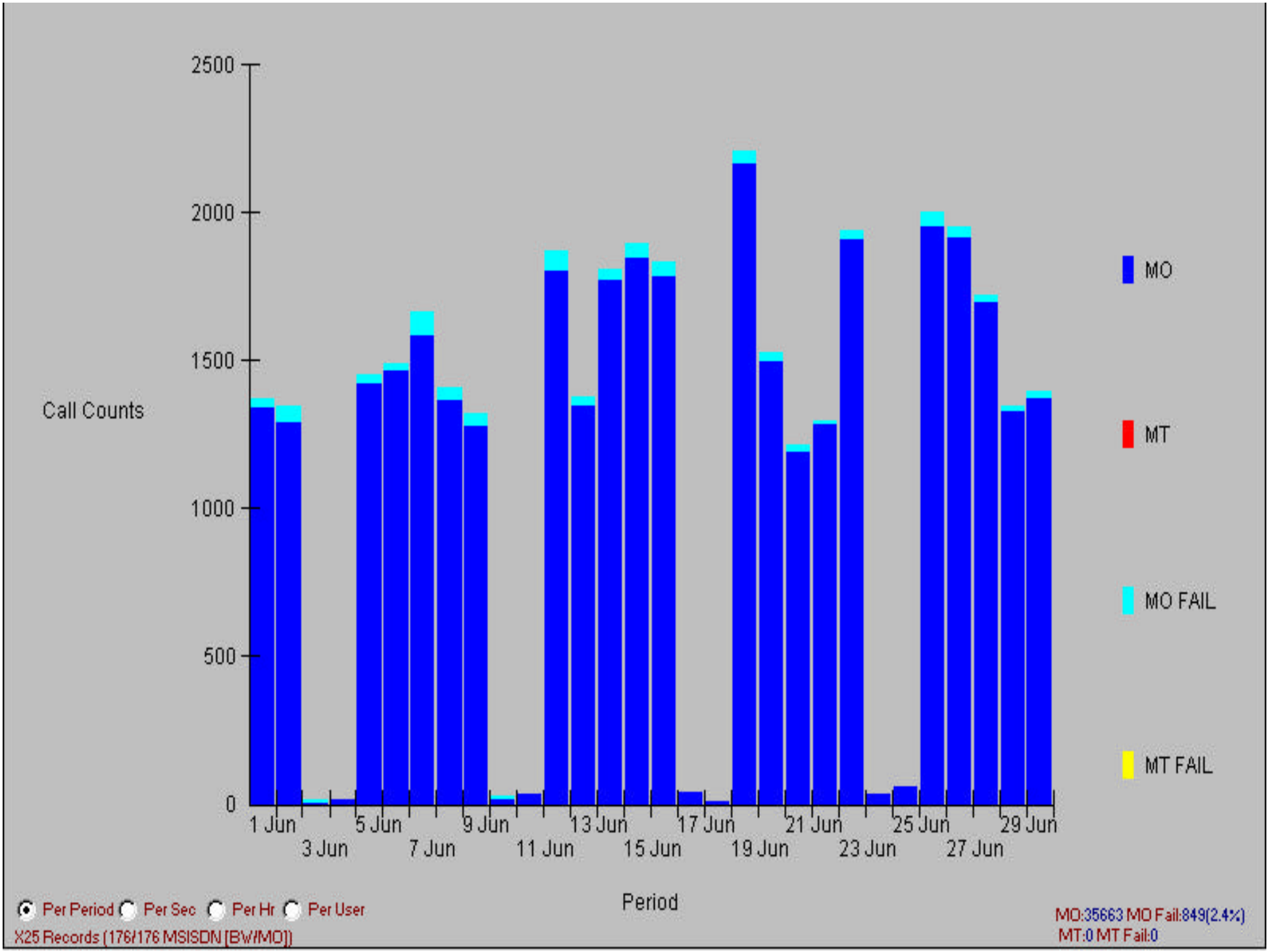
# The Vodafone Approach To Mobile Data

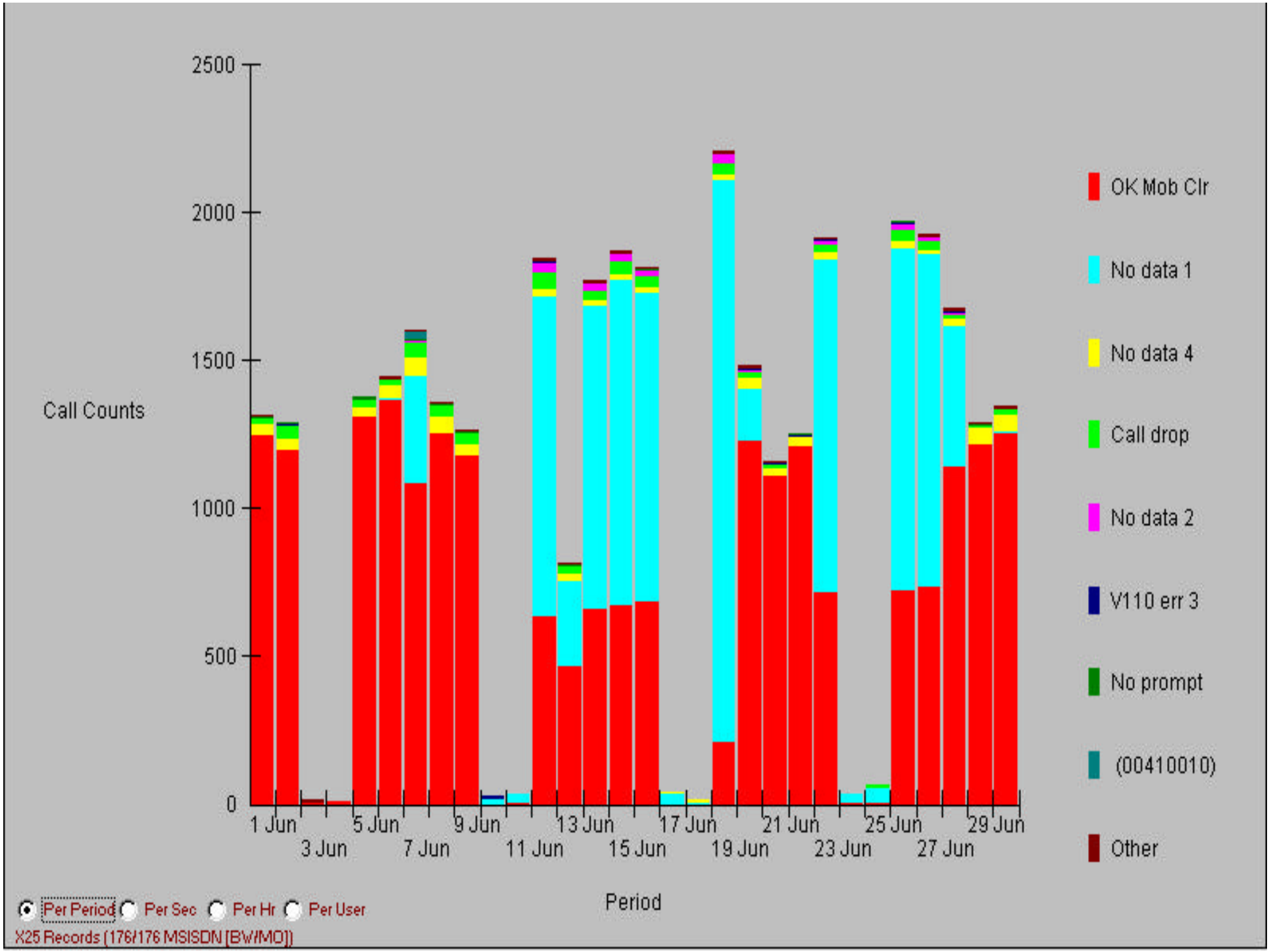



Packet Data

- easily scalable
- low cost per channel
- transparent technology

vodafone


2500
2000
1500
1000
500
0
Call Counts
1 Jun
3 Jun
5 Jun
7 Jun
9 Jun
11 Jun
13 Jun
15 Jun
17 Jun
19 Jun
21 Jun
23 Jun
25 Jun
27 Jun
29 Jun
Period
MO
MT
MO FAIL
MT FAIL
Per Period
Per Sec
Per Hr
Per User
X25 Records (176/176 MSISDN [BW/MO])
MO:35663 MO Fail:849(2.4%)
MT:0 MT Fail:0


2500
2000
1500
1000
500
0
Call Counts
1 Jun
3 Jun
5 Jun
7 Jun
9 Jun
11 Jun
13 Jun
15 Jun
17 Jun
19 Jun
21 Jun
23 Jun
25 Jun
27 Jun
29 Jun
Period
OK Mob Clr
No data 1
No data 4
Call drop
No data 2
V110 err 3
No prompt
(00410010)
Other
Per Period
Per Sec
Per Hr
Per User
X25 Records (176/176 MSISDN [BW/MO])

# Vodafone Has A Strong Track Record In Data Services

*We Monitor Ourselves*

- 6 million+ data & SMS calls throughout the UK per year
- Results fully analysed and displayed in real time
- Gives a central view of network performance & status
- Monitors if network is working correctly
  - Checks for congestion issues
  - checks for loading weak spots

vodafone

# Business Partners Programme

Various solutions are on offer

vodafone

# Concerted Move Towards Mobile Data

- Improve Working Process
  - Reduce manual data entry and duplication
  - Make more efficient use of existing workforce
- Reduce business costs
  - Greater efficiency
  - Reduce voice costs
- Reduce Property
- Quality of Service!!

vodafone

# Vodafone Technology Update

What's New?

What's Happening?

What's Coming?

vodafone

# *Network Developments*
# What's Happening Now?

- We are adding more than 5,000 extra UK GSM cells
- GSM Coverage exceeding 99% of population
- Upgrade of existing Packet Network

vodafone

GPRS
3G
UMTS
EDGE
Bluetooth
HSCSD
WAP

# Handset/Terminal Technologies

- Bluetooth
  - Open short range radio link protocol
  - Typically 10m range
  - Connection between phones, PCs, other peripherals
  - Replace the need for many different cables

# Handset/Terminal Technologies

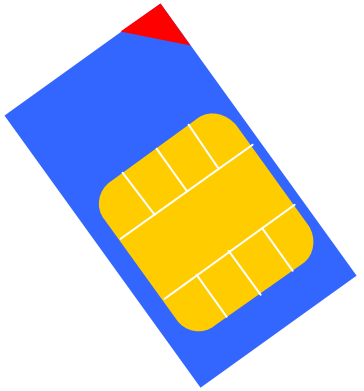
- Symbian/EPOC
  - Open operating system for wireless information devices
  - Common platform across smart phones, PCs, Handhelds, Palmtops
  - Common application software and communication protocols
  - *Starting now!*

vodafone

# Handset/Terminal Technologies

## Large SIM/SIM Toolkit (32 or 64k SIM)

- Management of applications on the SIM memory



## Applications?

- Banking services
- Flight bookings
- Information services

## Issues

- SIM specific
- SIM ownership
- SIM access authority

vodafone

# Handset/Terminal Technologies

## WAP

- Wireless Access Protocol
- Open mobile protocol to access WML based web information
- Vizzavi portal from Vodafone
- Still in early days of the technology
- GPRS should improve the experience
  - Vodafone publicly demonstrated WAP over GPRS on Psion platform March 2000

vodafone

# New Network Technologies

HSCSD - High Speed Circuit Switched Data - up to 56K?

- standard GSM using multiple time slots of 14.4K (??)

## Issues

- HSCSD quickly superceded by GPRS
- Handset Availability?

# New Network Technologies

## GPRS - General Packet Radio Service

- Much higher data rates of 84k!!!
    - Expect equipment speeds of around 40-50k
- Packet Switched
- Trials from Jan 2000 network roll out from Aug 2000
- Live **NATIONWIDE** service commencing April 2001
- “ALWAYS ON”

vodafone

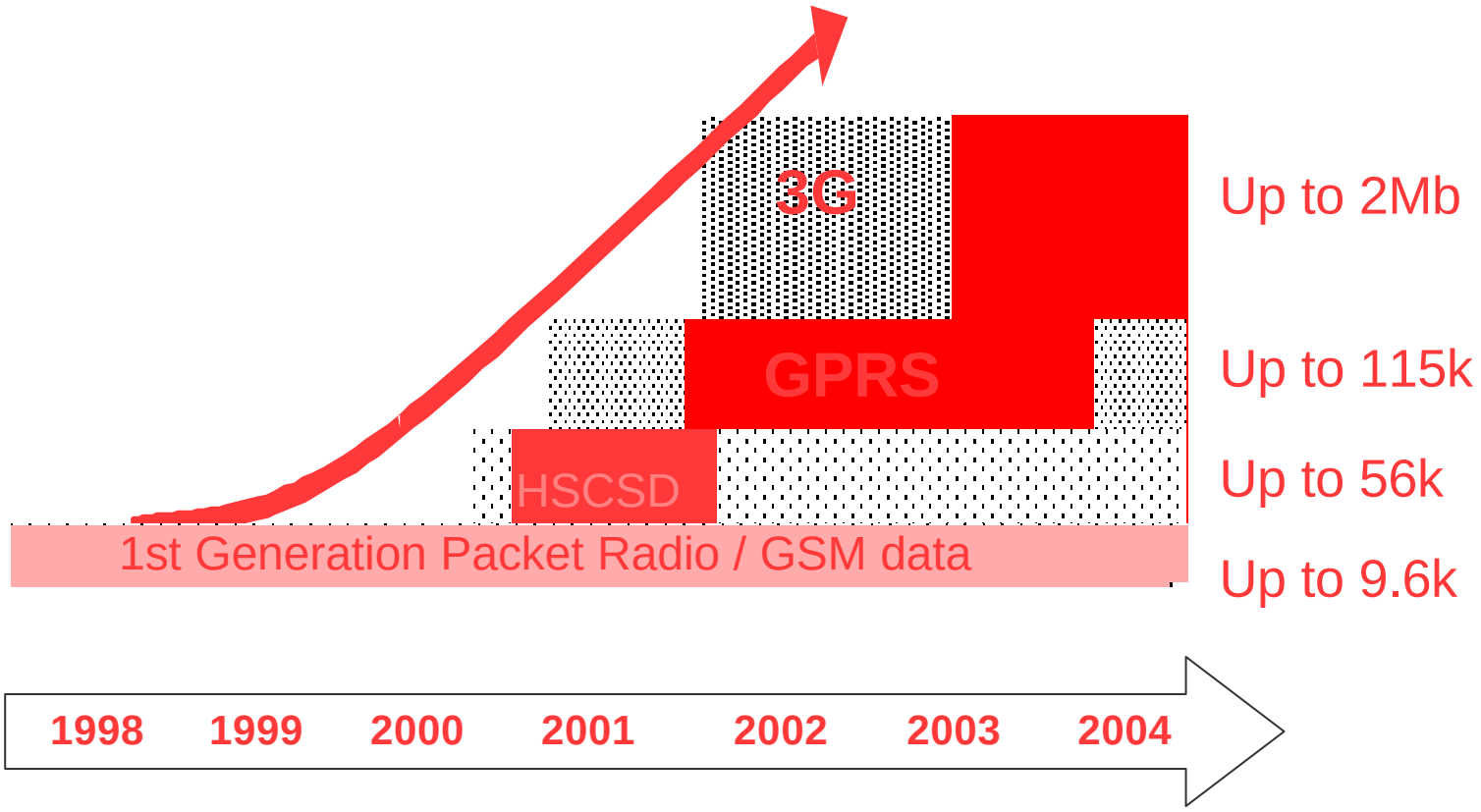
# New Network Technologies

## 3G (UMTS - Universal Mobile Telecommunications System)

- Massively high data speeds up to 384k
- New global standard
- Also Packet Switched
- UK licence auction completed end April 2000, fiercely competed
- European & World Auctions throughout 2000 & early 2001
- Huge investment required in infrastructure

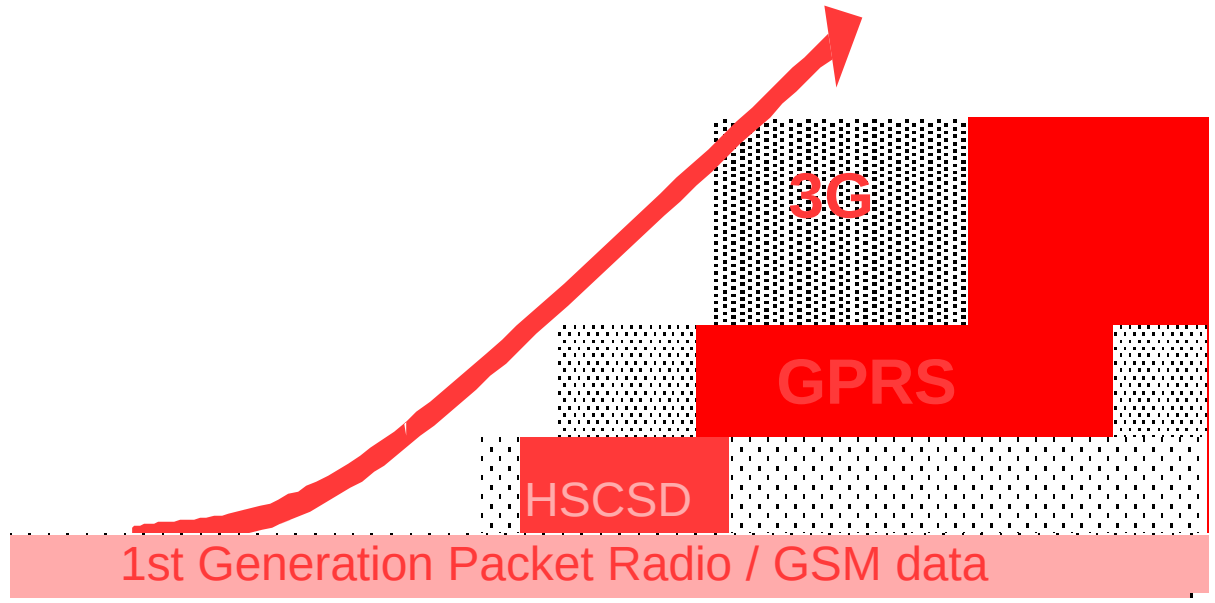
vodafone

# Hype Warning!!




vodafone

# When & How Fast?




Up to **384**k x40

Up to **84k** x9

Up to **38k** x4

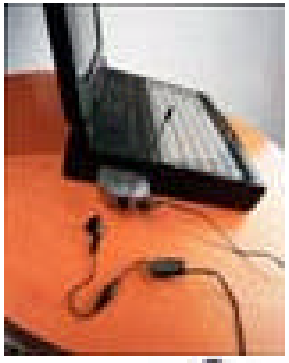
Up to **9.6k**

vodafone

# GPRS Equipment Roadmap

Multi-slot (2+1) handsets available early Q1 2001 onwards

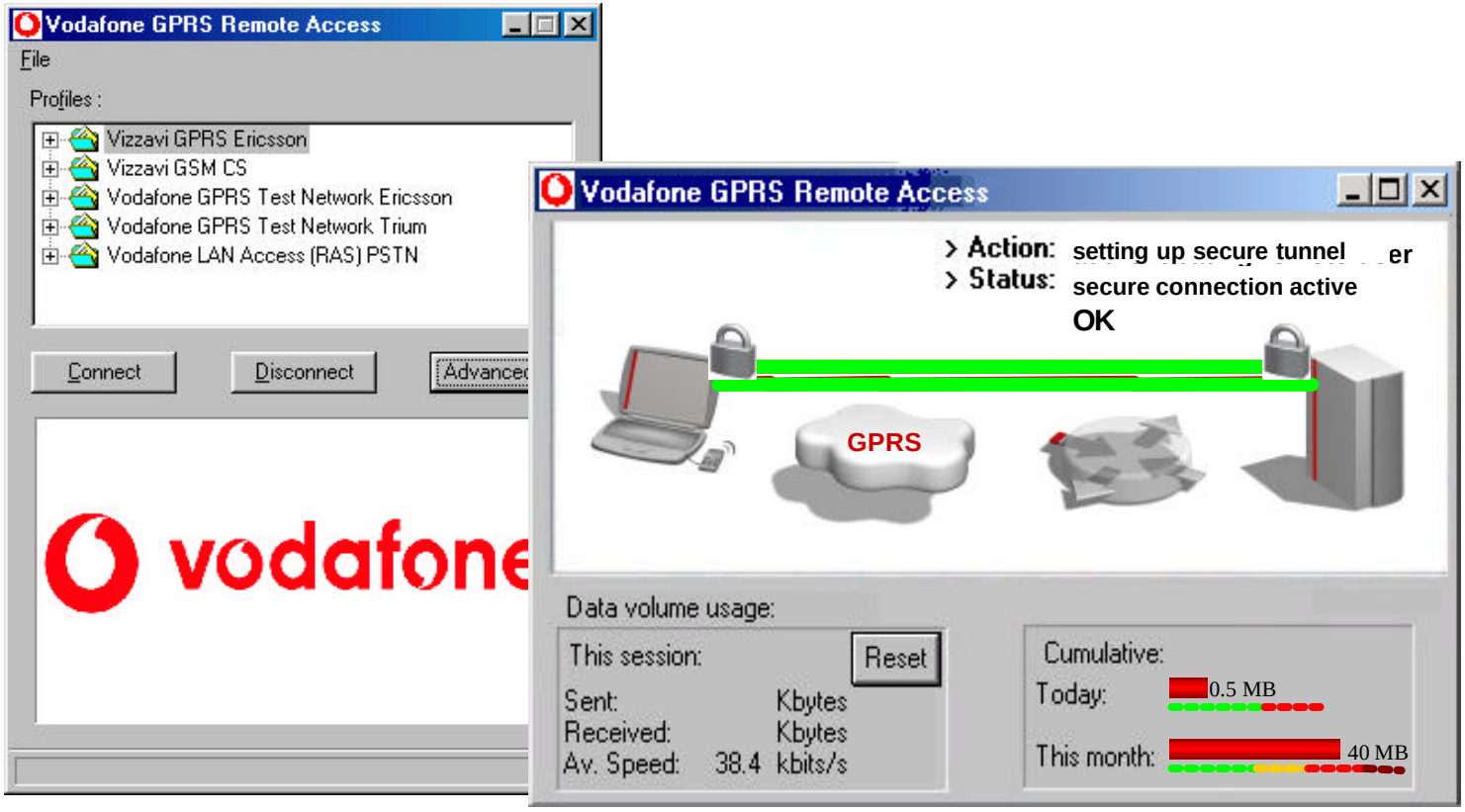
Multi-slot PCMCIA
Q2, 2001



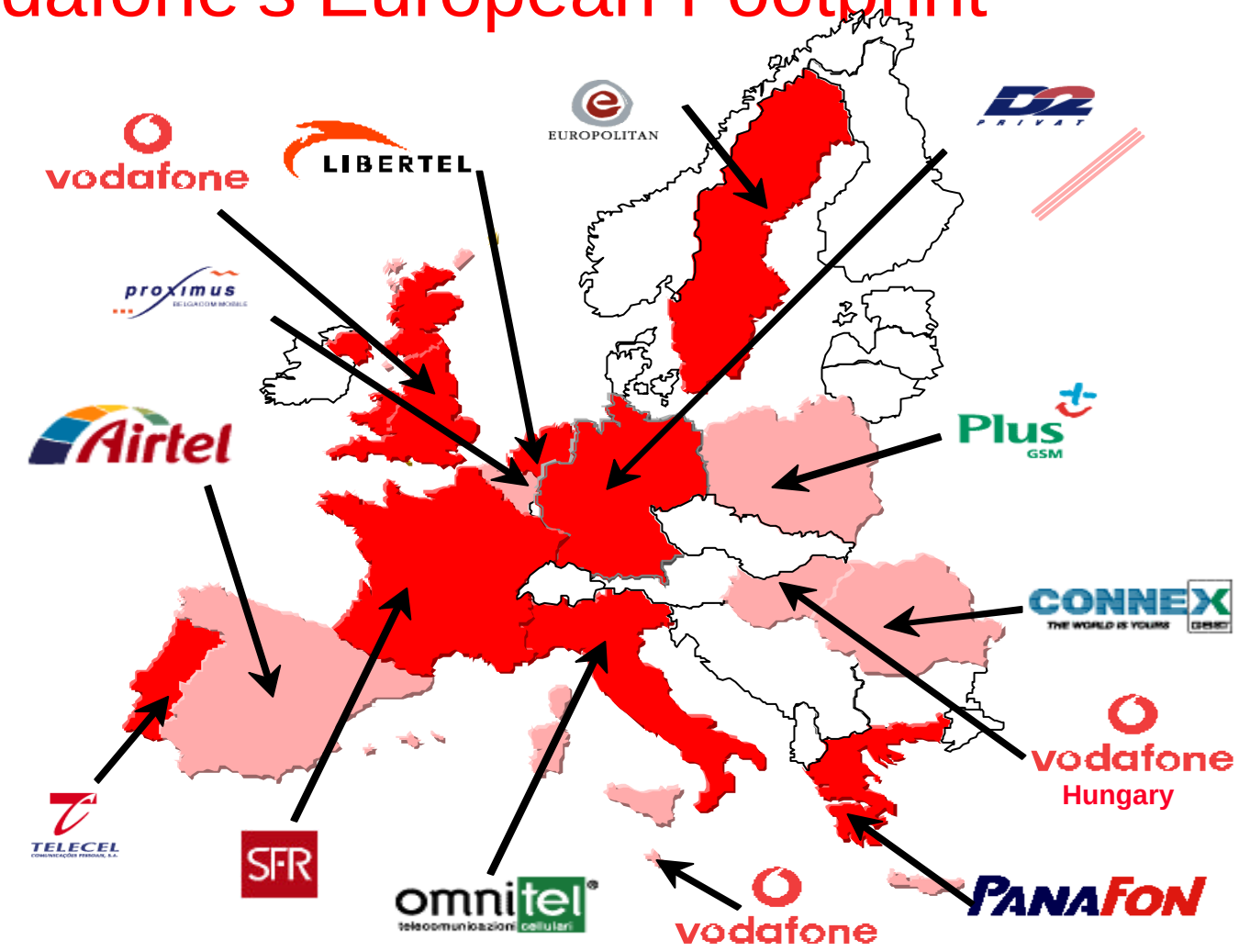
Two-box initially, integrated PDAs Q2 2001 onwards

vodafone

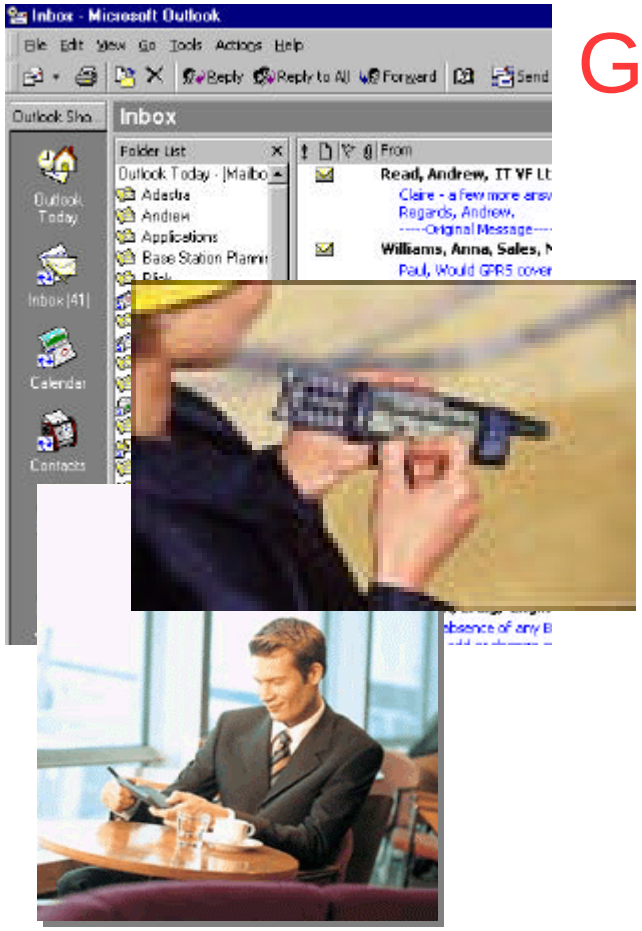
# Example of user output



# Vodafone's European Footprint




vodafone



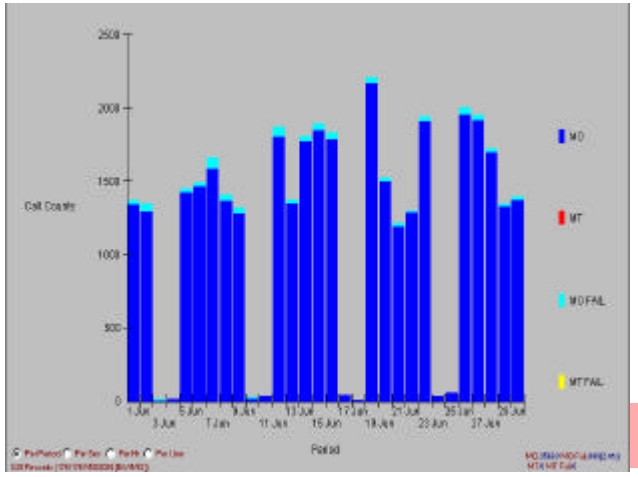

# GPRS Corporate Applications

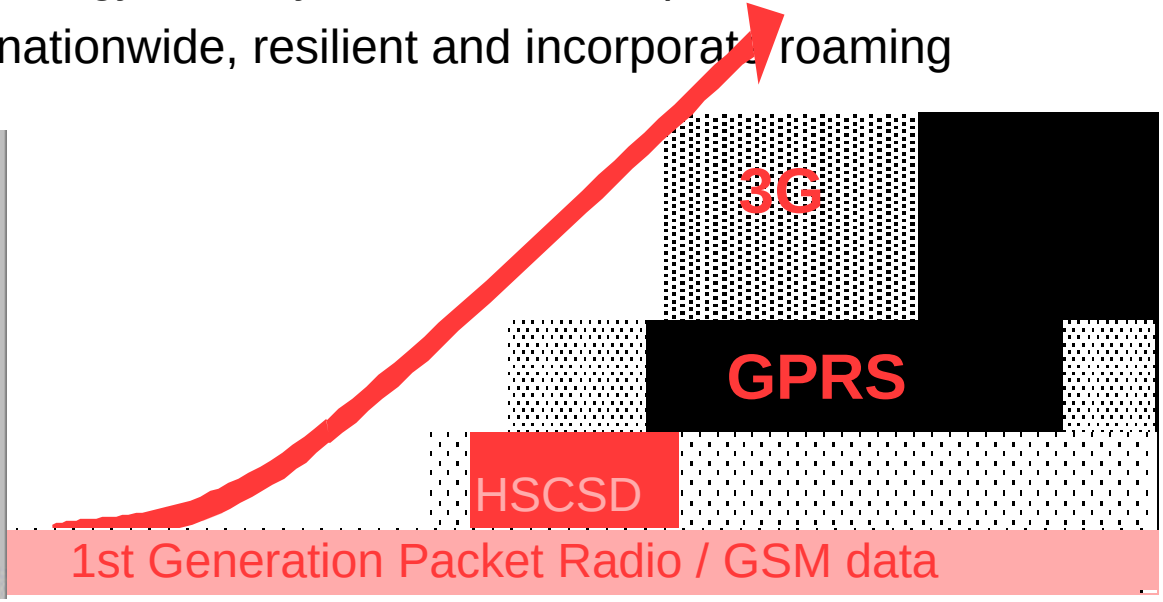
- Wireless Office & Remote Working
  - Email
  - Calendar
  - Task Management
- Web Access *"Always ON"*
- File Transfer
- Corporate Information Services

vodafone

# Corporate Mobile Working - Where Vodafone Fit In

- Very strong track record in Mobile Data Applications
- Dedicated specialist approach to Corporate applications
- Use the appropriate technology to suit your business requirement
- GPRS launch to be fully nationwide, resilient and incorporate roaming






vodafone

vodafone