Remote Working: new opportunities through emerging technologies

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CMG UK
• established in 1964 with 38 years of sustained profitable growth
• listed on the London (techMARK 100) & Amsterdam (AEX Midcap) stock exchanges
• global top 40 ICT Services and Wireless Data Solutions company
• over 14,000 employees with centres in every continent
Agenda & Scope

- Introduction
- mBusiness
  - Market
  - Drivers
- mWorkforce
  - Drivers
  - Scope
  - Benefits
- Case Study – Radiocommunications Agency
- How to get started
- Questions

Definitions:
- Mobile Worker
  - Spends more than 20% of time spent away from office or home
- Telecommuter
  - Works from home for more than 1 day per week

This presentation is focused on the mobile worker (mWorkforce)
“Tomorrow’s businessman will have the information necessary to do his job, right at his fingertips, due to the growing acceptance of microfilm as the solution to the information explosion.”

*Silicon Snake Oil, Clifford Stoll, 1974*
Corporations are no longer satisfied with solutions that are only available on fixed-wire devices. They're looking to extend functionality on an increasing number of applications to an increasing assortment of mobile devices" (IDC)
Business or consumer services, optimised for internet enabled mobile devices, which inform, entertain or transact over public or private mobile networks.
Mobile internet services in Europe will be worth over 76 billion euro by 2005 (Durlacher)

Spending on mobile solutions will skyrocket from $1.4 billion in 2000 to almost $40 billion by 2005 (IDC)
mWorkforce drivers – Behavioural & Commercial

- **Behavioural**
  - Mobility, immediacy & ubiquity
  - More mobile phones than PCs
  - The youth market

- **Commercial**
  - Rapid growth in mobile market
  - Complementary channel
  - Timely information - anytime, anywhere services
mWorkforce drivers - Technical

- Rapid development of phone and PDA technology
- Device convergence (logical vs. physical)
- **GPRS**
- Location-dependent services
- Voice XML Integral eCommerce
- **Bluetooth**
- Wireless LAN
- **SMS**
Enabling a business or public service to benefit from its people having the right information in the format they want, delivered in the way they want, when they want it and report back.
The demand for mWorkforce solutions

IDC expects the number of mobile workers to grow from 6.2 million in 2000 to more than 20.1 million in 2005 (Europe).
Wireless enabled Workforce efficiency

Knowledge worker
- mobile by choice
- wants mobile tools
- (more) effective
- manage own time

Task worker
- inherently mobile
- needs mobile tools
- essential
- work to someone else’s plan
Social & business triggers for mWorkforce

• Economy
  • Increasing demands on employees, requiring greater flexibility and efficiency

• Evolving work patterns
  • Increased mobility
  • Need for greater efficiency when mobile

• Access to corporate knowledge base from any location

• Employee autonomy – control over working lives
  • Improve staff retention and reduce associated costs
  • Support for more flexible work/personal life balance

• Transport systems
  • Need to make better use of ‘dead time’

• Broaden catchment area for rare skills

• Consumer take-up of mobile services
Issues

• Corporate support for mobile devices
  • Explosion of devices – are you in control?
• Security
  • Estimated 40 PDAs and 1000 phones left in taxis per month
  • Lost operational data
  • Architecture – benefits of ‘always on’
• Right location for the job
  • Face to face vs Remote
  • Do you want to travel 1hr + to an office to access bandwidth or write a report?

Enterprises that do not correctly identify the needs of mobile workers will decrease their productivity by at least 20 per cent, according to Gartner Group.

Without the necessary technology 39 per cent said they struggle to keep track of messages when out of the office. Only 35 per cent of managers were offered smartphones or WAP phones and only 22 per cent were offered personal digital assistants (PDAs) by their companies. ICL Management Survey.

BBC lays down PDA law IT Week.
**Benefits:**
- increased productivity - making better use of time
- reduced operational costs - the right tools for the job
- increased market share - more responsive to customer needs.

**Achieved through:**
- the ability to synchronise information between different devices and technologies while on the move or disconnected
- the ability to enhance an organisation’s processes and interfaces by making them available anywhere at any time.
mWorkforce Services

- **reach** - making services available through new channels and devices
- **relevance** - helping people access the right information easily and quickly
- **timeliness** - with near instant dissemination of time-sensitive information
- **optimisation** - enabling real and substantial increases in efficiency.
Mobile Working Case Study

Jeremy Fry
Consultant, Radio Spectrum International
The Radiocommunications Agency

- UK Government Agency
- Management of civil radio spectrum
  - Licensing
  - Enforcement
  - Quality
  - Research

Member of Government Secure Intranet
- All IT infrastructure must adhere to CESG security restrictions
Radio Spectrum International

• Joint Venture Company
  • Radiocommunications Agency
  • CMG

• Development of applications
• Management of IT infrastructure
• Selling spectrum management solutions
Telecommuting since 1996

• Regional Officers
  • Local investigation officers
  • Small or Home Offices
• Network Applications
  - Email
  - Licensing
  - Intranet
  - Shared documentation
  - Time recording

- Remote Control by Modem
  - Good use of bandwidth (thin client)
  - Insecure
  - Difficult to Manage

• ISDN Router
  • Extend WAN into user’s home
  • Maximum speed of 128Kbps
  • No authentication on ISDN
  • No CESG approval (strong authentication required)
Remote Access 2000-2002

**ISDN Dialup**
- Strong Authentication (token, one-time password)
- 64Kbps only
- CESG approved (strong authentication required)
- Poor performance
Making Spectrum Profitable
A New Requirement: The Mobile Workforce

• Spectrum Quality Management
  • Truly roaming users
    - Interference investigations
    - Pirate radio stations
    - License enforcement
    - Clean spectrum is profitable spectrum

• Applications
  - Licensing data
  - Email
  - Shared documentation (Intranet)
  - Time recording and work schedules
Mission Impossible?

- Mobile
- Fast
- Secure
- Reliable
- Cost Effective
- Future Proof
- Approved
Mobile

• **GSM**
  • Too Slow (14.4Kbps)

• **HSCSD**
  • Reasonable speed (28.8Kbps)
  • Good middle ground

• **GPRS**
  • Fast (to 64Kbps)
  • Not mature
  • Connection via third party network
  • Not CESG approved
  • Possible future
Flexible

• Connection Methods
  • ISDN
  • Modem
  • GSM / HSCSD
  • Internet (ADSL, GPRS, Cable Modem, 3G)

• Devices
  • Desktop
  • Laptop
  • PDA
Fast

- Increased speed through:
  - Compression
  - Thin client
  - Low bandwidth applications
  - Access to services, not entire network
  - Digital technology (ISDN)
Secure

• Strong Authentication
  • Tokens
  • One-time Password
  • RADIUS
  • Meta-Directory (NDS)

• Encrypted
  • VPN
  • Blowfish
  • AES-128 (CESG Approved)
Reliable

• **Session Management**
  - Maintains VPN session even if connection broken
  - Can re-establish session on different transport medium
  - Self-healing connections

• **High Availability**
  - Duplicated systems on two sites
  - Load balanced
  - Expensive
  - Risk analysis
    - can lightning strike twice?

Radiocommunications Agency Building, 1996
Cost Effective

• Session Management
  • Drop line during idle time
  • Re-establish when needed
  • No loss of data

• Compression
  • Reduce amount of data transmitted
  • Reduce time taken to transmit
Future Proof

• Scalable
  • Each site can support up to 180 concurrent dial-up users (PSTN, ISDN, GSM)

• Futures
  • VPN tunnels through public Internet
  • Overseas access
  • CESG Approval pending...
It Isn’t Over Until…

• Secured laptops
  • Anti-virus
  • Centrally Managed Personal Firewall
  • Intrusion Detection
  • Hardware access devices
  • Disk encryption

• CESG Approval
A more **valuable** workforce
Valuable Workforce

- Less time in the office – more time at work
- People in the right place at the right time
- Optimal management and automation of workflow

To the Radiocommunications Agency
their mobile workers spend more time in
the field managing the radio spectrum,
investigating interference, and enforcing
licenses.

That’s their business.
how can I capitalise on the mWorkforce opportunity?
Next steps

• The growth in demand for mobile worker services is inevitable – need to start somewhere
• Start small – i.e workshop to identify quick wins and scope a pilot providing
  • Rapid, low cost entry point
  • Experience of the mobile world
  • Clearer understanding of requirements and opportunities
  • Quick ROI
• CMG Managed Services – from pilot through to implementation
Thank you

Any questions?

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