Title: The Unwired Economy

Topic: Using wireless technology to enable businesses to transform the
              experiences their employees and their customers have

Abstract: Moving beyond pagers, cellular phones and email, businesses find
              that wireless and mobile technology transforms the experiences of
              their employees and customers – increasing revenue and
              decreasing expenses along the way… Learn how the cutting edge
              doesn't have to leave businesses bleeding – and peak into the lab
              to see what tomorrow may bring.

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              Vice President and General Manager
              Business PCs of North America
              Hewlett-Packard Company

Slide 1

- Thank you. It's a pleasure to be here today.

- Other appropriate introductory comments.

Slide 2

wireless communications
mobile computing

- How many of you are old enough to remember what business was like *before* we had voice-mail?
    - o Leaving a message with something other than a human being became prevalent about the same time as fax machines.

- When was the last time you took a business trip without your laptop, a pager or your cellular phone?
    - o Do you remember the first conversation you had when you called from a cell phone?
    - o (mimic using a cell phone) "Hi. Guess where I'm calling from? Nope. A car. Can you believe it?"
    - o Those tools transformed the way we do business.
    - o That was in the *wired* economy.

- And now we're moving into a new realm – the realm of truly wireless communications and mobile computing.
    - o We're moving to an *unwired* economy.

- We haven't been that mobile for that long, but as the program says, wireless communications and mobile computing are driving the enterprise today.

- Laptops, pagers, cellular phones and email transformed the way we did business. And now, businesses are finding that wireless and mobile

technology transforms the experiences of their employees and customers…

- Why? Cost-efficiencies that increase revenue. And increased productivity.
  - They result from anytime, anywhere access to voice communications, e-mail and messaging, the Internet, the Web and intranets and extranets.

- Did the laptops and cellular phones make business better?
  - Your answer may depend on whether the person calling or sending an email is your biggest customer trying to place a quota-busting order – or your boss trying to find out when you will turn in your overdue expense report…

- Today I'm going to talk about ways this trip into the unwired economy is already transforming how we do business.

- The blue sky of wireless and mobile technology is pretty easy to see. Here are a couple of ways businesses will increase revenue and decrease expenses… Ways that customer satisfaction will skyrocket… It's where we're taking wireless and mobile…

Roll video clips from the original Cooltown video
***1) Business meeting***
2) Mrs. Walker

Slide 3

how will your business benefit?

- (after the video concludes) That's where we're going, but we're not completely there yet.

- I said before the clips that this is blue sky technology, but in fact, some of this technology is already starting to roll out.
    - o Technology similar to the one in the Mrs. Walker clip is in place in Finland.

- But I want you to ask yourself – if you haven't already, how will your business benefit from wireless communications and mobile technology? How will you build revenue, drive down costs and increase customer satisfaction?

- I'd like you to stay open to the possibilities through this presentation and the rest of your stay – to keep asking yourself, "How can what I see here benefit my business?"

- It's a question we often ask ourselves and our customers.

- We have our own Cooltown at Hewlett-Packard – a place where people interact with the technology that's similar to what you've just seen – and what you'll become as familiar with tomorrow as your are your cellular phone today.

- o Our Cooltown Lab takes people through a business traveler's day in the wireless and mobile world…
- o For example, the traveler's day starts earlier when the alarm clock goes off earlier than it was set.
  - ▪ Not because anyone made a mistake, but because there's traffic congestion on the way to the airport, and a service our traveler subscribes to moves the wake-up time earlier.
- o When the traveler heads to the bathroom to get ready for the day, email is projected on the mirror to pick up messages sent overnight.
- o The car rental is processed with the click of a button on your Jornada. In fact, the entire business trip is managed by services that are always-on… And they are as available as the water that flows from your tap.
  - ▪ And like that tapwater, the traveler doesn't need to think about where they come from – or even appreciate that they're always on.
- Cooltown is a world built on a "service-centric" computing model that integrates the physical and digital world.
  - o E-services are delivered anytime and anywhere

- At the end of the day, as our visitors sit in the Cooltown airport waiting room, we ask them to describe the ways they envision applying the benefits of wireless communications and mobile computing to their businesses.
  - o The discussions that ensue are dramatic, and the concepts – though seemingly outside the box – are very often worthwhile.
  - o Because, once people visit Cooltown, they make natural and logical mental leaps to better understand how mobile and wireless solutions make life better for their employees and their customers.

- One key thing to remember is that, while we often talk about solutions that provide the necessary connectivity and applications to stay connected with the office while an employee is on the road, it also means staying connected while the employee is in the office – but away from his or her desk.

Slide 4
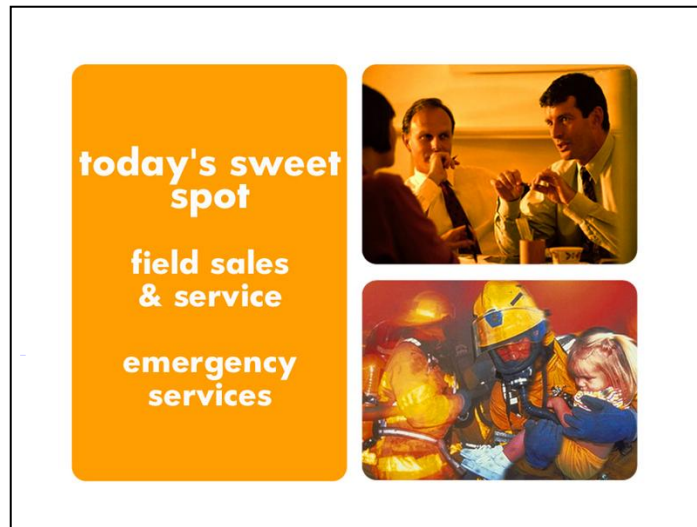
today's sweet spot for wireless communications and mobile technology
- **field sales and service**
- **emergency services**

- As we saw in the two clips, the early days of wireless and e-mobile technology are about increasing worker productivity.
  - That's where the benefits are readily apparent for field sales and services people or for emergency services workers such as police and firefighters. And that's where the earliest inroads will continue.

- The two film clips illustrated the blue sky – where we want to go. But you may be asking yourself, "What's around the corner? What can my business be using *soon*?"

- Well, let's follow a salesmen, Don Quixote, along on a sales call to a good prospect – Windmills, Inc. The company is looking to expand its product line, and wants to hear about the windmill rotors that Don's company manufactures…

- What's different about the sales call for Don is that he doesn't need to take his laptop – to make a presentation *or* generate sales information on his visit.

- What he *does* bring is his Jornada because, to begin with, Windmills, Inc., has a projector with it's own Web access – via a server in it or perhaps its own computer…

Slide 5 – 8

(Rotor Inc sales slides for Don Quixote's presentation)

Dave demonstrates how the Jornada works to advance the presentation. The 2-3 slides are focused on selling state-of-the-art windmill rotors to Windmills, Inc.

- The Jornada wirelessly controls the projector to go out to the Web to get the presentation…

Dave illustrates some of the features the technology provides, and then turns to a white board on which there is writing…

- In this presentation, Don Quixote is really impressing Windmills, Inc., about the latest rotors for windmills.

- In fact, during the presentation they have been asking for some proprietary changes to the rotors.

- Don's assistant, Sancho Panza, fortunately, has been taking notes on the white board in the room.

- How many of you have been in meetings where someone had to copy the notes on the whiteboard? All of us at one time or another…

- Fortunately, Don Quixote has the answer…

Slide 9

(notes from the whiteboard are projected onto the screen, as though they are from the screen of the Jornada)

Dave inserts a camera card into the slot on the Jornada and takes a picture of the white board.

- With the camera card in his Jornada, Don Quixote is the hero of meeting.

- Don simply takes a picture of the board, and is able to turn it into text to incorporate it into a document for his clients or maybe a sales report for Dulcinea, his sales manager, or for a CRM application.

- In our sales call Don is doing more than tilting at Windmills, Inc. He has impressed them so much with his presentation that they want to place an order for rotor bearings for their windmills – but they need them ASAP.
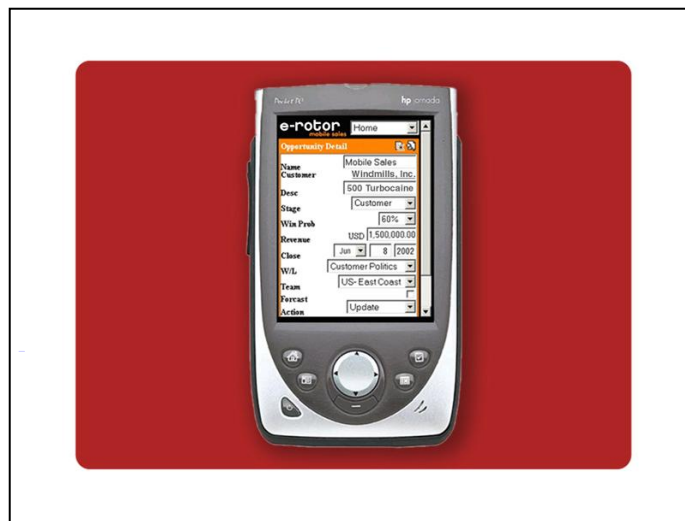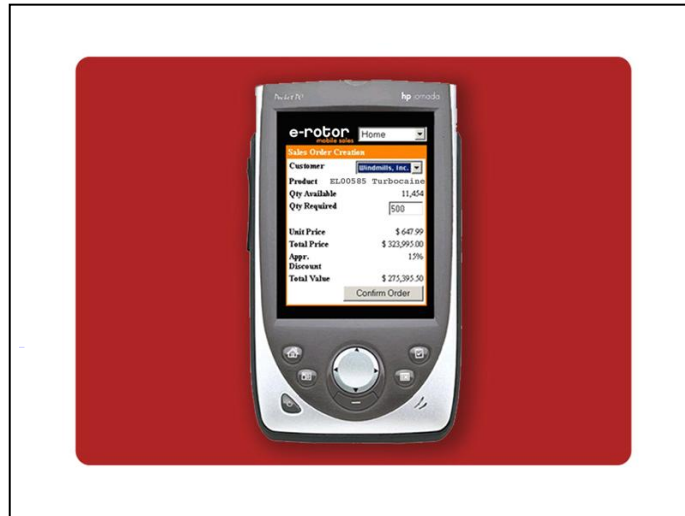
Slide 10
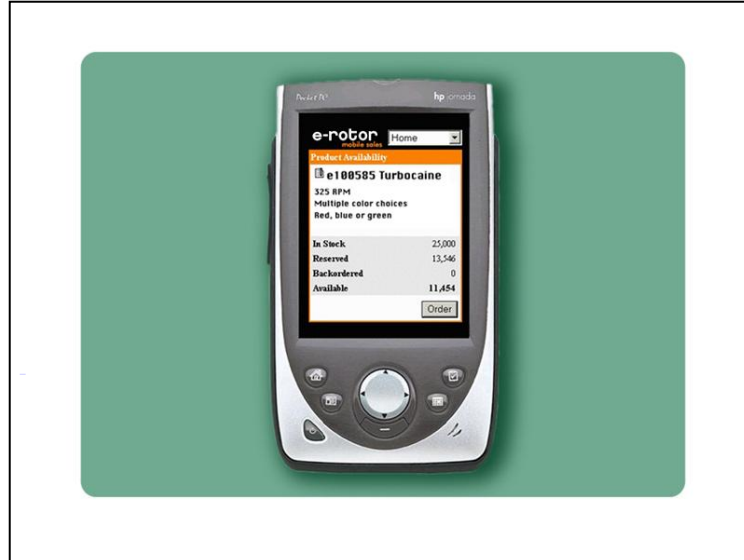
(a sample screen that shows product availability, as though from the screen of the Jornada)

Dave demonstrates accessing company data using the blackberry keyboard on the top of his Jornada.

- Using the blackberry keyboard on the top of his Jornada, Don accesses the production information for the rotors back at HQ in La Mancha.

- To share the product information with the people in the conference room at Windmills, Don uses his Jornada to wirelessly prints the sales sheets, via the printer that accesses Don's files in a server at La Mancha.

- Suitably impressed with the rotor specifications, Don's prospects as how long it will take to fill the order.

- Through a Bluetooth connection between the Jornada and his cellular phone, Don communicates with HQ to see how long it will take to fill the order.
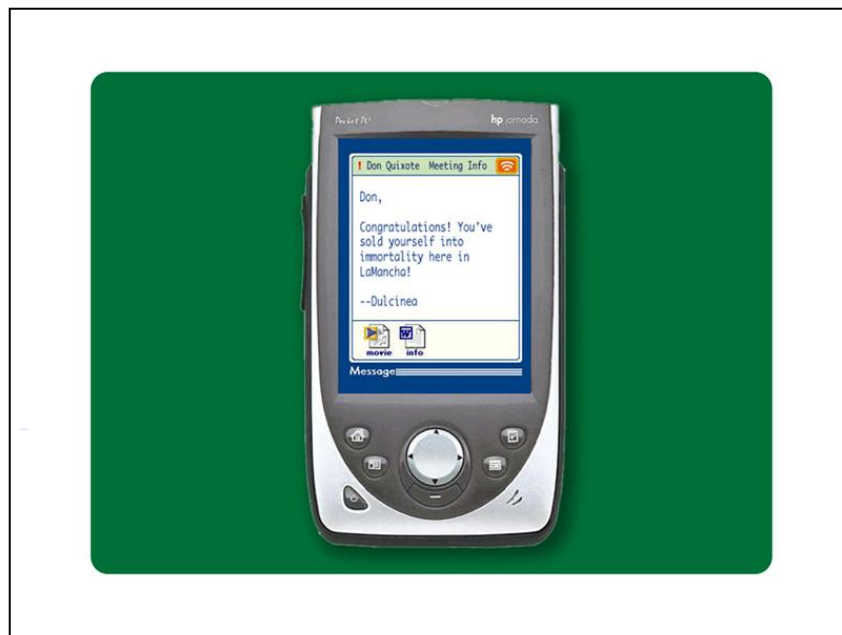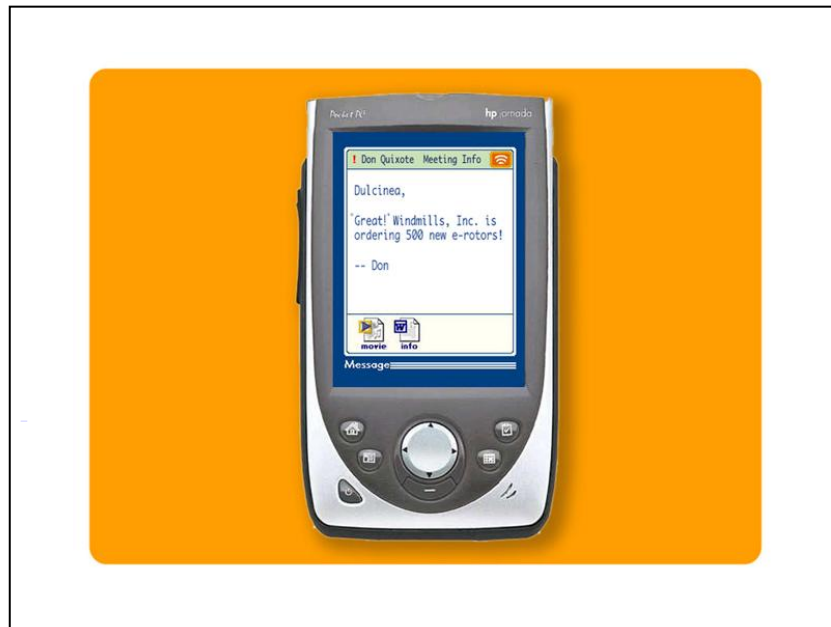
Slide 11-12

(a sample CRM/order form to change Windmills, Inc., from a prospect to a customer)

- At the same time, Don uses a CRM application to adapt the profile on Windmills, Inc., changing the company from a prospect to a customer.

Slide 13-14
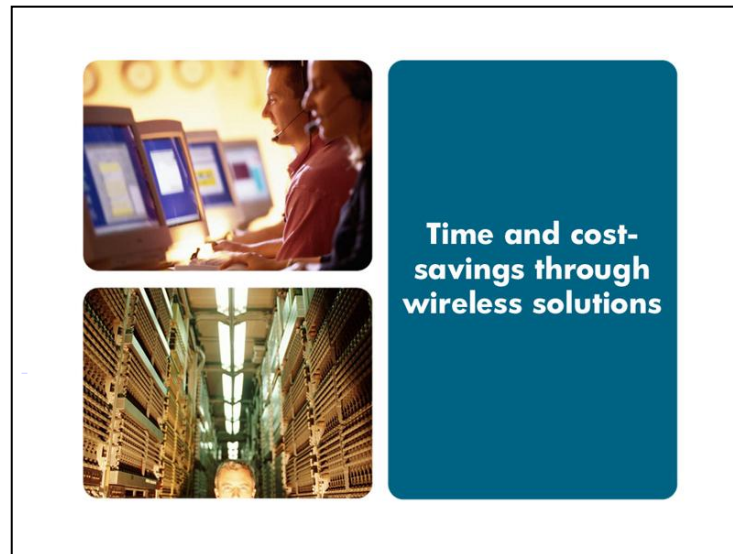

(an email to Dulcinea del Toboso, as though from the screen of the Jornada, and her response)

- He also sends a quick email to Dulcinea, to let her know about his success at Windmills, Inc., and she sends a congratulatory email back…

- So, that's a look at a couple of wireless applications for the field sales and service staff that are just around the corner.

Slide 15

**Time and cost-savings through wireless solutions**

- But what can we do right now?

- At HP we're putting this technology where our money is – serving our customers…

- We recently completed a pilot project to expand the communications tools that customer engineers, we call them CEs, use to exchange data with HP while they're on the move.
  - o We wanted to validate the concept, the reliability of the technology and user acceptance
  - o We also wanted to verify the advantages for the activity

- Our CEs require various kinds of information when they're working on a customer site.
  - o Sometimes it's pretty static, and large – like manuals
    - This information is readily available via CD-ROM or information stored on their laptop's hard disc
  - o Sometimes it's dynamic – like the status of new calls or parts required to repair something
    - This information requires real time voice or Intranet connections

- Before they selected specific communications devices, they considered what they needed from the devices…
  - o They didn't want to carry more than a laptop and another device

- The laptop was necessary for all the large, static information they needed
- To do the same things they could do if they were at their own desks
  - So the second device needed to support the ability to push and pull information
    - And like a cell phone, it needed to be small enough to fit in the pocket or on the belt.
    - It needed to be something comfortable and something they would like
  - Ultimately we settled on Simple Mobile Applications on Radio Technology that relied on two services – SmartCall and SmartContact

- What we found was an overwhelming acceptance of the technology…
  - Our CEs said the SMART technology not only helped them save time, but become more self-sufficient.
    - They liked:
      - The speed of access to the information
      - That it was useable anywhere and at any time
      - They needed fewer IP connections
      - It was easy to use and gave the CEs increased autonomy
    - They used it:
      - In the morning at the stocking point
      - At the customer site
      - At home
      - In the car
      - Or walking about
    - It resulted in:
      - Fewer voice mail calls
      - Shorter calls
      - The calls they made had higher value
      - Most of all, they had fewer errors
  - The time-savings were substantial, too, based on 140 engineers…
    - The scheduling group saved an equivalent of 16 hours per day on the phone.
    - CEs saved at least 10 minutes a day (nearly an hour per week per person) – and with added services like time of parts arrival, notifications and more, they expect to save 20 minutes a day

- o The real gains…
    - Optimizing the process – where the availability of reliable information in real time allows HP to optimize management of resources at a central site
    - Higher customer and employee satisfaction – and we'll better meet our contractual obligations
    - Possible new services – proposing follow-up calls to our customers in real time

Slide 16
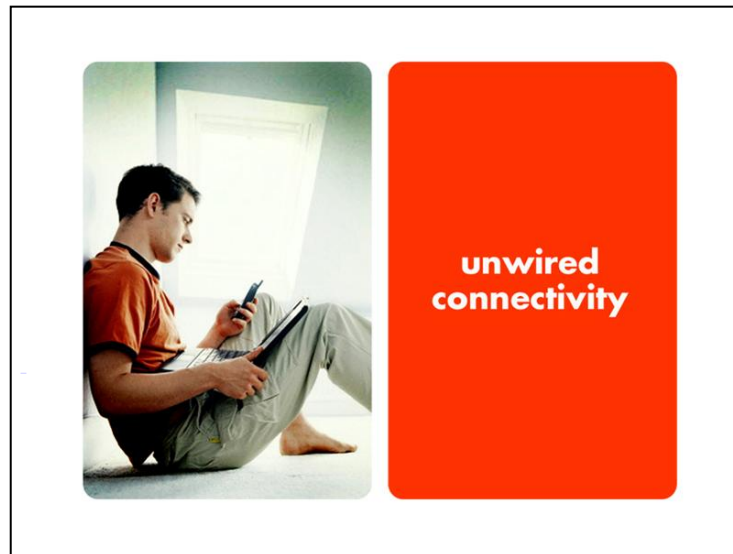
unwired connectivity

- Here's something else you can do right now… Particularly in Europe where the network for it is already built out…

- Wireless connectivity. It simply a notebook that communicates wirelessly through a Bluetooth interface with my cellular phone, on the back of which is another Bluetooth peripheral that's not much bigger than the phone's battery.

- With connection speeds that range from 19K-44K, you're not going to download a lot of Powerpoint presentations, but you do get wireless connectivity without needing proprietary technology

Slide 17

what will survive?
- **WAN**
  LAN
  Bluetooth

- Many people ask during demonstrations like this, which wireless protocol will survive, which is winning the adoption race – Bluetooth, WAN, PAN…?
  - o The truth is that there is a place for each of them in the wireless/e-mobile marketplace.
    - ▪ For global applications, you'll see WAN applications sprout up
    - ▪ For applications around the office campus or in the home, LAN applications built around the 802.11b protocol will probably take precedent
    - ▪ In your cubicles, for the home office and printing-on-the-go, Bluetooth applications will grow

- Of course, the key is to build out the infrastructure – the higher bandwidth networks.
  - o Europe and Asia are ahead of us here in North America

- The migration from information-only driven appliances to data hungry wireless multimedia – according to Datamonitor (Global mContent Markets survey 12/2000) – should take us well into 2005.

- The push is going to come as we successfully spell out the business benefits that justify corporate expenditures in such an infrastructure. After all, it's not as though we need to roll copper across the continent. There is a great deal of complexity deploying a wireless infrastructure with integrated services and applications.

Slide 18

how do you protect your wireless and mobile investments?

- The question you need to ask is, "How does my company prepare for wireless/e-mobile in a way that *protects our investment*?"

- Fortunately, answering that question is even simpler than answering the question I posed at the beginning of this presentation, "How will your business benefit from wireless communications and mobile technology?"

- To protect your wireless and mobile investments, work with a vendor or vendors who deliver solutions – from one end to the other, appliances, servers and applications, and who deliver solutions built on open systems.

- *Because* building out wireless networks is complex, it's important to choose vendors that not only offer solutions you want, but have the ability to manage those solutions throughout the delivery lifecycle…
  o From business consulting, to solution creation to delivery and, ultimately, support.

- Of course, Hewlett-Packard is one of those vendors. (Dave describes the wireless/e-mobile solutions offerings that HP has today – and what's in the pipeline.)

- Besides building the appliances and hardware to drive wireless and mobile systems, we have other important delivery capabilities…

- o With over a quarter of a century of telecommunications experience, HP Services (which includes consulting, outsourcing and support) has deep understanding of and rich experience with mobile solutions. Roughly 40% of our services revenue comes from the telecom market.
- o We have seven solution centers around the world where we create customized, flexible mobile solutions *with* the customer.
- o We have 1500 software professionals who develop the highest quality custom software – quickly and cost-effectively, so companies get their products to market faster.
- o Our software professionals are collectively rated in the top level of the Software Engineering Institute certification scale.
- o Only twenty-four other companies in the world are certified at this level, and a very, very small percentage of software in the world is developed with this level of quality.

Slide 19

HP Invent logo

- So I ask you the same question we ask visitors to our Cooltown lab… "As we move into this unwired economy, this new technology can drive revenues, improve productivity or reduce expenses in the examples you've seen… But can you imagine what they'll do for your company?"

- I urge you to give this question serious consideration, because, if you don't, it will only be a matter of time before your employees, your customers – or worse, your competitors – tell you how…

- Thank-you