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NOKIA
CONNECTING PEOPLE

Nokia Business Terminals: Wireless Access to Oracle Collaboration Suite

NOKIA
CONNECTING PEOPLE

Bringing Enterprise Collaboration to Mobile Workforces

ORACLE®

It has been estimated that approximately 30% of today's workforce is mobile, that is, spends an average of one or more days a week out of the office. Companies want to maximize the productivity and time efficiency of their mobile workers while simultaneously minimizing the cost associated with being mobile. In addition, they are concerned with achieving and maintaining a high level of customer satisfaction.

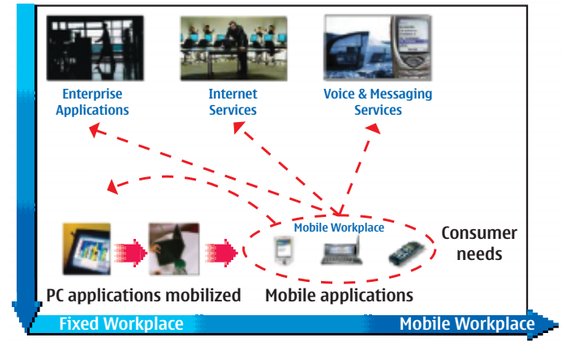
Mobile workers need many different types of services when they are on the move: voice and messaging services provided by network operators, Internet services provided by ISP's, and enterprise applications such as Oracle Collaboration Suite provided by the enterprise. In addition, mobile workers may need access to specific horizontal and vertical applications.

Today mobile workers use several different types of devices and several different networks in order to access the information that they need. They use laptops to check their e-mail, local file systems to store and carry the documents they need for client meetings, personal digital assistants (PDAs) to store calendar and contacts information, pagers to receive urgent messages, and mobile phones to access voicemail and make voice calls.

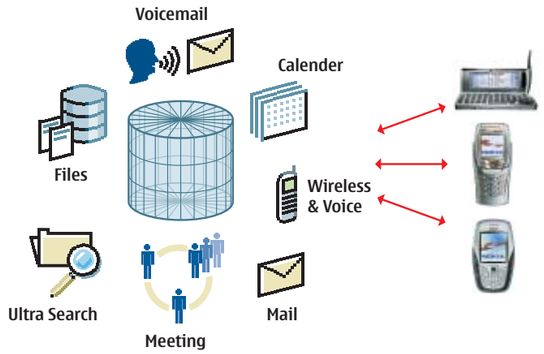
The need for so many specialized devices which do not communicate with each other is inefficient. Instead of improving efficiency, employees waste time managing their devices, and trying to keep multiple versions of information (e.g. address books, calendars) synchronized. Often, they end up working with local versions of documents and information that are out-of-date.

Effective mobile computing solves this problem by delivering the information users need when they need it, all to the one device of their choice – making them more productive. Analysts agree that the additional productivity brings tangible benefits. For example:

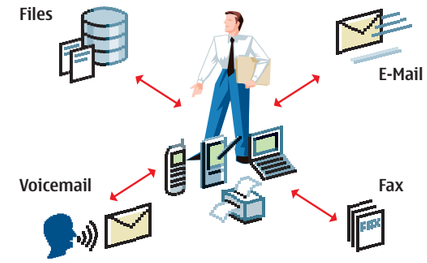
- Mobile workers save 5-6 hours a week when they have remote access to their e-mail and corporate directory information, and can manage documents and appointments or forward documents to the nearest fax machine. (iGillottResearch 2001)
- By 2005, wireless e-mail could lead to productivity gains of up to $12,900 per employee per year. (Investor's Business Daily, 2001)
- The average pay-back period of mobile applications is 4-6 months. (iGillotResearch, 2001)



The mobile worker needs a multitude of services provided by many service domains



Oracle and Nokia bring enterprise collaboration to the mobile worker.



Today, mobile workers carry many devices which are not necessary interoperable to access the information they need.

Unfortunately, providing all mobile workers with devices capable of all services in a short time frame can be prohibitively expensive. Gartner has estimated that the annual Total Cost of Ownership (TCO including hardware, software and service costs) on a per user basis is in the range of $7,500 to $11,000 for a notebook computer and over $4000 for a wirelessly-enabled PDA.

However, the same calculations show a TCO of approx. $1,400 for a basic phone with Internet access (Gartner, 2002).

Oracle and Nokia are working together to provide the enhanced mobile computing solution, bringing enterprise collaboration to mobile workforces by exploiting the product synergies of the Oracle Collaboration Suite and Nokia business terminals. The solution is available today with terminals such as the Nokia 6800, Nokia 6810 and 6820 messaging devices, Nokia 6600 imaging phone and the Nokia Communicators.

The first priority of the cooperation is mobile collaboration solutions. Later, the scope will be expanded to horizontal and vertical applications for optimizing mobile business processes.

Oracle Collaboration Suite provides the most complete set of capabilities to enable mobile employees to have full access to all of their corporate information anywhere-anytime. Anywhere, anytime access to e-mail, voicemail, calendar, address book, tasks, files, corporate directories, and instant messaging. See Appendix A for more details.

Nokia Business Terminals are a progressive range of mobile terminals that are optimized for business use with features such as Internet browsers, e-mail client, calendar, contact management and enhanced voice functionality.

The Nokia business terminals are not just stand-alone devices, they also form a mobile terminal platform for developing end-to-end solutions with leading IT-players. The platform approach aims to secure the long-term investments enterprises make in systems and processes while enabling the introduction of new mobile terminals without creating discontinuities. See Appendix B for more details.

The optimal combination for Mobile Enterprise Collaboration:

Oracle Collaboration Suite and Nokia Business Terminals
In February 2003, Oracle Corporation and Nokia Corporation announced a joint initiative to develop and market a unique mobile solution for enterprise e-mail, calendaring, directory services and file management.

As part of the initiative, development teams from both corporations are co-operating to further enhance the interoperability of Nokia business terminals and Oracle Collaboration Suite.

Starting in January 2002, Nokia and Oracle worked with Texas Instruments in a technology trial involving Nokia 9290 Communicators equipped with SyncML clients to perform over-the-air (OTA) synchronization with Oracle Calendar. This trial was the real-world proving ground for several new technologies, including the SyncML standard.

The trial provided Texas Instruments (TI) with its first glimpse of the productivity gains that are possible when employees have wireless access to e-mail and personal information management (PIM) data. TI found the benefits of wireless e-mail and calendaring so compelling that the company plans to begin a new program of wireless data services for its U.S. management, marketing and sales departments.

Leveraging existing channels and partnerships, Oracle and Nokia are also working together to bring the combined solution to market and to fulfill and support customers' needs. The initial focus is on Western Europe.

Benefits for the Mobile Worker
Oracle Collaboration Suite and Nokia business terminals offer mobile workers a solution which allows them to access the information they need almost whenever and wherever they need it.

The functionality of the solution for mobile workers:

- Access and manage e-mail using familiar e-mail clients or voice commands
- Create personalized virtual inboxes to define which e-mails they want to access from their Nokia terminal (e.g. by sender, by urgency, by date, by type)
- Access the corporate directory
- Manage their appointments
- Manage address books and contacts
- Access Oracle Files
- Receive customized alerts from any source based upon defined events
- Define the preferred method for being contacted based upon their availability and preferences (i.e. presence management.)
- Check voicemail and e-mail simultaneously: not separately.

In addition, the solution enables collaboration between team members, including:

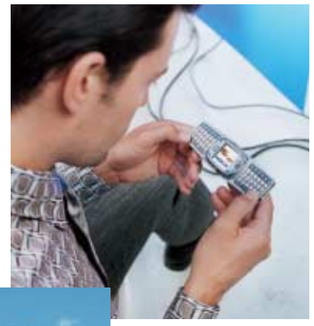
- Sharing calendars and directories: to simplify meeting scheduling
- Sharing files: rather than sending them as e-mail attachments
- Accessing the most up-to-date information: not out-of-date local copies.

Stay in control, not out of touch
Work the way you want to work
Collaboration, not confusion

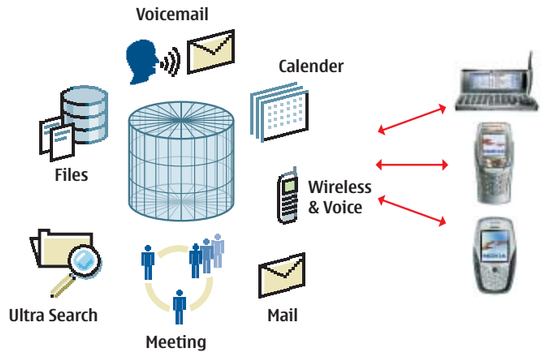
Benefits for the IT Department
The Nokia/Oracle solution offers many benefits to the IT Department. These include:

- A tested solution: Oracle Collaboration Suite and Nokia business terminals have been tested to work together and the development teams are working to further enhance interoperability
- Easy management: Oracle Collaboration Suite provides unparalleled ease of management and Nokia business terminals have consistent device management
- A range of terminals to choose from: Nokia business terminals, with several categories of functionality to choose from, give enterprises an unique opportunity to balance the needs and preferences of different user groups
- Virus protection: Oracle e-mail offers superior virus detection and eradication capabilities. Since all messages are centrally stored in one Oracle database, it is much easier to prevent the spread of viruses and to implement security measures. Suspicious messages can be deleted immediately or isolated for further investigation
- Server availability and reliability: Oracle Collaboration withstands machine failure through Real Application Clusters. If any e-mail server fails, its workload is instantaneously taken over by all other functioning machines in an automatic failover. There is no interruption to the e-mail services. In addition, most database maintenance can be performed online. This significantly reduces the need for scheduled maintenance downtime.
- Server scalability: Oracle Collaboration Suite is scalable to grow with the company. Each e-mail server supports more than 10,000 concurrent users. Fewer servers are required to support the entire corporation. Investments for additional hardware and software are much less frequent
- Interoperability and open standards: both Oracle and Nokia are committed to supporting open standards. Oracle Collaboration Suite integrates easily with existing or new applications. Nokia business terminals work with an application which uses standards such as SyncML
- Future-proof: Nokia and Oracle are committed to continuing joint development to ensure optimum interoperability between Oracle Collaboration Suite and Nokia business terminals using Symbian or Nokia OS.

Lowest Total Cost of Ownership
Enhanced Quality of Service
Investment Protection



Enterprise Collaboration on the move



Case Study One:
A day in the life of a mobile worker
John is a manager who spends much of his time travelling. When he is away from the office, he needs to stay in touch with what is going on within the company, and he needs to keep his team up-to-date. Fortunately, he works for a company that uses the Oracle Collaboration Suite to manage their e-mail, files, corporate directory and calendar.

At home: When John is at home, he uses his laptop PC to dial-in to Oracle Collaboration Suite and manage his e-mail and calendar. His voicemail is fully integrated with his e-mail so he does not need to check voicemail separately.

While driving: When John is in the car, he is able to use his Nokia Communicator car kit to work hands-free. He checks his voicemail and listen to his e-mail, thanks to Oracle Collaboration Suite's text-to-speech functionality. He also uses his phone to access other services such as traffic news just before he starts driving.

In the office: When in the office, John keeps his PC connected to the corporate network. He and his colleagues share the latest information via Oracle Files and share calendar and resource scheduling making setting up a meeting and reserving a meeting room quick and easy.

At the airport: In the taxi to the airport, John uses his Nokia Communicator to access live flight status and gate information. While waiting for his flight to board, he uses his Nokia Communicator to check his e-mail and calendar. He also checks a colleague's schedule to see whether she is planning to attend the same meeting.

On the plane: While on the plane, John uses his Nokia Communicator in offline mode. Here, he is able to read and reply to downloaded e-mail messages and to make changes to his calendar. When he lands, he connects his terminal to Oracle Collaboration Suite to send the outgoing e-mails, and to synchronize with the corporate calendar.

In a meeting: During a meeting, John discovers that his client may be interested in a particular product. Using his Nokia Communicator, he accesses Oracle Files and has the appropriate collateral faxed to the nearest fax machine – it is delivered to the client before the meeting ends.

Case Study Two:
Staying in control, not out of touch
While travelling abroad, John receives an alert to his Nokia Communicator from Oracle Collaboration Suite to inform him that an urgent e-mail has arrived. Using his Nokia Communicator, he accesses Oracle Collaboration Suite and his e-mail. The note is from headquarters and highlights a significant change to his team's role. The e-mail contains a hyperlink to the relevant presentation stored on Oracle Files.

John needs to inform his team of the changes and of the implications that they will have for the each members. Rather than forwarding the e-mail to the team, John wants to schedule a meeting to communicate the changes and discuss the issues it raises. Using his Nokia Communicator, he accesses his own and each team member's calendars and, with the scheduling capabilities of Oracle Collaboration Suite, identifies a suitable meeting time. Unfortunately, the only time when the whole team is available happens to be when John knows he will be in the Lounge at Heathrow waiting for a flight connection, and other members of his team will be offsite following a customer meeting. Rather than postpone the meeting, John decides to run a teleconference from the airport.

Having scheduled the meeting, John relies on Oracle Collaboration Suite to automatically notify the participants of the time – each will receive an alert notifying them of the new meeting, and their personal calendars will be automatically updated.

At the scheduled time approaches, John uses his Nokia Communicator to access Oracle Collaboration Suite and downloads headquarter's presentation to his terminal. His team members access the same file: the whole team can now share the most up-to-date information during the conference call. Three of the team members are co-located, and therefore use their terminal's built-in speaker phone to join the call together.

The meeting is over, and John has achieved his objective: to fully brief his team on the changes. In order to achieve this, he has had to access his corporate email, calendar, scheduling, directory, files and many other features of Oracle Collaboration Suite. All this he was able to do remotely using just one device: his Nokia business terminal.

Conclusion
The workforce is becoming increasingly mobile and to remain productive employees need fast access to their corporate e-mail, calendar and files, from different places. Without it, they rapidly become out of touch.

The combination of Oracle Collaboration Suite and Nokia business terminals provides a sophisticated and integrated solution allowing organizations to maximize the productivity and time efficiency of their mobile workers while simultaneously minimizing the costs associated with being mobile.

The solution is available today with Oracle Collaboration Suite Release 2 and Nokia business terminals including the Nokia 6800, Nokia 6810 and 6820 messaging devices, Nokia 6600 imaging phone and Nokia Communicators. Oracle and Nokia are working together to further enhance and market this unique mobile solution for enterprise collaboration.

Appendix A:
About Oracle Collaboration Suite

Communication, content management, and collaboration – via e-mail, voicemail, file sharing, and Web conferencing – are now critical to every organization. New capabilities such as wireless offer even more promise such as the ability to connect employees all the time anytime, anywhere. Unfortunately, technology has not kept up with needs, and an increasing number of companies are suffering from poor reliability and security, unmanageable information storage, inadequate integration of voice and data systems, and skyrocketing costs.

Oracle Collaboration Suite addresses these issues with an Internet architecture that tightly integrates communications and information, and incorporates intelligence to deliver the right information when and where it's needed, via email, voicemail, calendaring, file sharing, search, and wireless access.

In addition, Oracle Collaboration Suite features real-time communication including Web Conferencing, white boarding, and instant messaging all built on a single scalable collaboration platform for Web conferencing, as well as improved group productivity, new messaging capabilities, and further reduction of total cost of ownership.

Built on the Unbreakable Oracle9i Database and 9i Application Server, Oracle Collaboration Suite is uniquely capable of meeting the communication and collaboration requirements of modern enterprises.

Oracle Collaboration Suite includes several well-established and successful Oracle technologies, each addressing a different aspect of communications, content, or context.

E-mail
Oracle Email is the most cost effective, reliable and secure messaging system in the marketplace. Consolidating distributed e-mail systems into a single enterprise mail store saves on administration, hardware and software while providing reliable messaging that withstands machine and site failures and protects against virus attacks. Oracle Email uses industry standards and is accessible via any desktop client to access industry standard mail servers.

Voicemail & Fax
Oracle Voicemail provides true unified messaging by storing all messages – including e-mail, voicemail, and fax – in the same Oracle database. Oracle Collaboration Suite users can access and manage all messages from the interface of their choice, including a Web browser, phone, PDA, and fax.

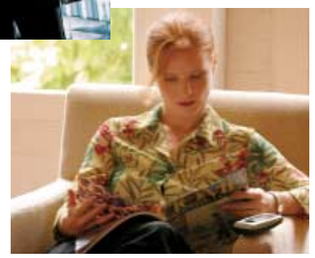
Calendar
Oracle Calendar provides calendaring, scheduling and personal information management (PIM) capabilities through desktop clients, the Web and any mobile device. The scalable calendar architecture allows companies to utilize sophisticated group calendars and resource scheduling across an entire enterprise.

Oracle Sync Server, incorporated with Oracle Calendar, delivers remote synchronization of calendar and contact data with any SyncML-enabled device or application.

Files
Oracle Files can replace dozens or hundreds of file servers with a single scalable, reliable file server for everyone to use. Built for large-scale collaboration, Oracle Files makes your file system more manageable for both your data center and your users. Users also know exactly where they should be storing, sharing, and collaborating on documents. Self-service management features let users create workspaces to secure, author, and publish content among them, and they can use all their favorite productivity tools and network protocol servers.

Wireless and Voice Access
Oracle Collaboration Suite gives your mobile employees full access to all of their corporate information anywhere, from any device. Its complete set of capabilities lets users access email, calendar, tasks, files, and corporate directories via their voice, PDAs, Web-enabled mobile phones, and pagers. Oracle Collaboration Suite will alert your employees of important events and emails. It lets you define where you are right now (in other words, your context), so that alerts get routed to your desktop, mobile phone, or other device.

Oracle Web Conferencing
Oracle Web Conferencing is an enterprise solution, enabling individuals and groups to meet on-line to collaborate, share presentations, applications – or their entire desktop. Deploying Web Conferencing in-house on a scalable real-time platform allows your company to reduce costs while increasing reliability and security. Oracle Web Conferencing can slash training and travel costs and decrease your Web conferencing software licensing costs with a one-time low per-employee licensing model. Web conferencing integrates with your company directory and with any business application to make yours real-time enterprise.



Appendix B:
About Nokia Business Terminals

The broad range of Nokia business terminals, with several categories of functionality to choose from, gives enterprises an unique opportunity to balance the needs and preferences of different user groups and to optimize their IT spending while mobilizing business processes.

Nokia business terminals are designed to meet the different needs and requirements of mobile workers most of whom use voice, tele-conferencing, hands free, messaging, calendar, contacts and e-mail while on the move. These key functionalities are supported throughout the range of Nokia business terminals.

a) Mobile Voice
All Nokia business terminals offer speakerphone and teleconferencing support. These make it easy to arrange teleconferences even for a larger group. An integrated speakerphone, the headset accessory and optional car kit enable excellent hands-free voice communication.

b) Mobile Messaging
Different forms of messaging such as short messaging (SMS) and multimedia messaging (MMS) bring great flexibility and convenience to mobile workers while on the move. An excellent user interface and advanced text input mechanisms, such as a full typewriter keyboard or predictive text input, offer an optimized way to write long SMS and e-mail messages. Integration with the terminal's contacts database enables easy addressing of messages including the use of pre-defined groups. Most of Nokia Business terminals have integrated camera or support for additional camera device to allow the combining of picture or video, text and voice clips into a single message.

c) Calendar and Contact Management
Personal Information Management (PIM): calendar and contact information help the mobile worker stay organized while on the move. Each Nokia business terminal has a built-in feature-rich calendar and contact management application. Alternatively, the corporate PIM server information can be accessed via browser.

The Nokia terminal's calendar and contacts can be synchronized with the corporate server through a local connection when the employee is at the office. Nokia terminals also support remote synchronization methods, such as using SMS or SyncML.

d) Mobile e-mail
Mobile workers can use either the Nokia terminal's built-in e-mail client or a browser to access their corporate e-mail.

All Nokia business terminals have built-in e-mail clients that provide greater functionality, and enable a richer e-mail experience for the business user than provided by the browser-based option. Native e-mail clients enable:
- Mobile access to most of standard e-mail servers
- Reading and writing of e-mails when online/offline
- Offline storage of e-mails: Inbox, Outbox, Sent Items, Deleted Items, Drafts and Archive
- Handling of long e-mail messages supported by some Nokia terminals
- E-mail attachment support by some Nokia terminals.

The mobile worker can receive e-mail notifications based on pre-defined filtering. The filtering can be done based on the sender, date, urgency or type of the e-mail.

e) Access to corporate directory services and file management
With the Nokia terminal's browser (WAP, HTML), the mobile user can access corporate directory services such as the corporate phonebook and/or files on the corporate database. The content adaptation functionalities of the mobile collaboration platform enable that the information viewed from Nokia business terminals is adapted according to the characteristics of the terminal (screen size, memory etc) accessing the information.

f) Easy provisioning
Easy provisioning and configuration of the terminal is of utmost importance in enabling hassle-free implementation of the mobile collaboration services. Nokia terminals can be provisioned either remotely using smart messaging, or locally by the IT administrator using PC connectivity tools.

g) Support for add-on enterprise applications
It is possible to add Java and Symbian applications to the Nokia business terminals platform to further customize the device to match the corporate user's needs.

Range of Terminals
Today, Nokia business terminals include the Nokia 6810 and 6820 messaging devices, Nokia 6600 imaging phone and Nokia Communicators.

Nokia business terminals are designed to enable various mobile collaboration scenarios. The following paragraphs highlight the key features of the various terminals that enable enhanced mobile collaboration.

Nokia 6800, Nokia 6810 and 6820 messaging devices
- Designed for efficient and easy messaging
- A full typewriter messaging keyboard for faster and easier writing of SMS, MMS and e-mail messages and notes
- Smooth interworking between e-mail and rich contact database
- An MMS client: for sending and receiving multimedia messages.

Nokia 6600 imaging phone
- Advanced Series 60 graphical user interface
- High-resolution color screen for convenient mobile messaging, e-mail and browsing
- Support for e-mail attachments: view and send images, sound clips and notes
- Smooth interworking between e-mail and contacts: for easy addressing of e-mail
- Built-in camera: take photos and send them as e-mail attachments or as MMS messages
- Symbian operating system for supporting advanced add-on enterprise applications.

Nokia Communicators
- A full typewriter keyboard (e.g. messaging keyboard): for faster and easier writing of SMS and e-mail messages, notes and documents
- Advanced e-mail client that offers much of the e-mail functionality available on the PC
- Ability to create, read and edit e-mail attachments including MS Word, MS Excel, Lotus 1-2-3 and WordPerfect. As well as ability to read MS PowerPoint attachments.
- Advanced calendar that e.g. allows the storing of attachments
- Large color screen and full http browser for convenient access to company data bases and Internet/intranet.