

Oracle Collaboration Suite

An Oracle Technical White Paper

November 2002

Oracle Collaboration Suite

Executive Overview	1
Introducing Oracle Collaboration Suite.....	2
One integrated suite.....	2
Components	6
Oracle Collaboration Suite Deployment Architectures	11
Simple Installation	12
Typical Installation.....	13
High Availability Installation.....	14
Administration and Maintenance	15
Implementation Services	18
Implementation Strategy.....	18
Migration Strategy.....	19
Benefits of the Oracle Collaboration Suite.....	22
End User Benefits.....	22
IT benefits.....	22
Future Direction	23
Summary	24

EXECUTIVE OVERVIEW

Current Collaboration System Challenges

Email, voicemail, scheduling and file sharing are critical activities of every business. They create the communication and content management infrastructure. There are many excellent products that do these specific tasks, but how well have these different technologies been designed to support an enterprise in team collaboration efforts?

The ability to conduct business over many different communication channels holds the promise of faster and more flexible interaction with customers, partners and employees. Accepting the challenge requires integrated communications systems based on a common technology infrastructure. Only Oracle can satisfy this demand by offering integrated email, voicemail, phone, fax, scheduling, calendaring, and file management in a single product.

Consider the following scenario:

- A sales consultant receives an urgent voicemail from his Account Manager that a major competitor is planning to present to the CIO of his biggest account tomorrow. This could threaten the Account Manager's plans to sign a contract with the customer next week. He asks the Sales Consultant to set up a meeting to discuss competitive intelligence. The Sales Consultant searches across all of the corporate databases and internal web sites for competitive intelligence, creates a report and loads it into the common repository.
- The Sales Consultant then checks the calendar for all concerned, schedules a meeting and sends alerts with a URL for the competitive intelligence report.
- All of the meeting participants receive voice alerts and check their email through a browser, cell phone or PDA.
- They all request to receive the report on different devices, including fax, browser and PDA.
- All review the report and join the meeting to discuss an approach.

How long does it take to play out this scenario in your organization?

How many different logins and searches are required to gather the intelligence?

How many schedules do you need to check through phone calls, email and different calendars?

How many interactions does it take to deliver a report over fax, email and PDA?

Could you get to the CIO in time?

INTRODUCING ORACLE COLLABORATION SUITE....

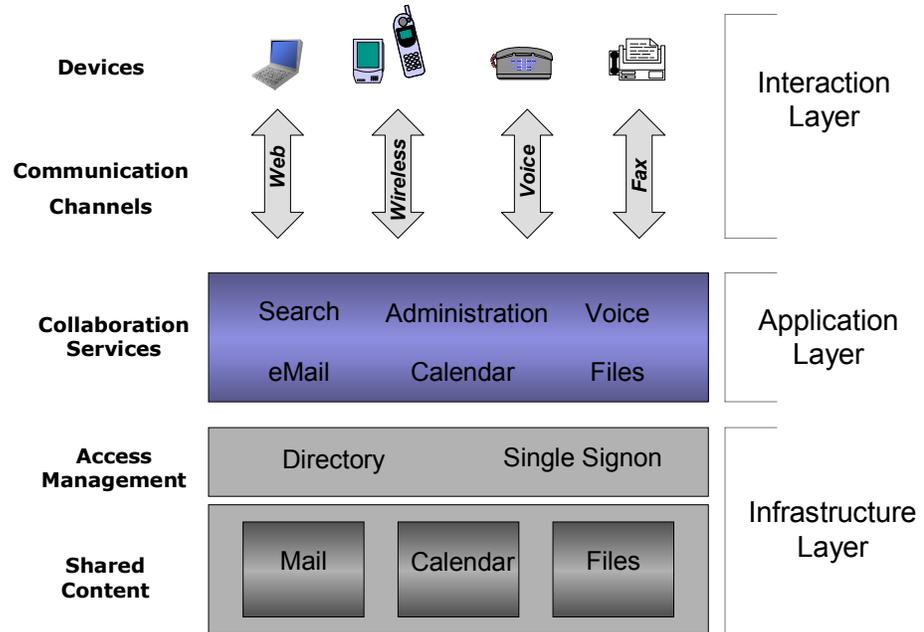
Oracle believes that you should only need one interface, one password, one search and one directory to respond to this scenario. *We believe that you should get to the CIO in time.* Not only do we believe that you should be able to respond to this in a matter of minutes or hours, but we believe that the communications should be fast, reliable and secure, and all information on the competitor, from past meetings and present meetings, should have quick and simple access.

This requires a new approach to technology infrastructure. It requires a common platform that integrates the services required to be successful in today's business market; there is no longer any time to be concerned with interfaces, passwords or device specific protocols. The vision of the Oracle Collaboration Suite is to allow you to focus on communication and push the details of how you do it into the background. -

One integrated suite

Oracle Collaboration Suite is an enterprise-level solution that enables communication between individuals and teams, manages the content they create, and provides administrative support to simplify operations. Oracle Collaboration Suite supplies email, voicemail, calendaring, file services, and integrated search capabilities along with the ability to access this information from any type of interface (standard desktop clients, file protocols, web, wireless and telephone). Using the highly scalable and reliable Oracle9i Database as the foundation, and the Oracle9i Application Server, the Oracle Collaboration Suite is the answer for enterprises challenged by reliable management of this unstructured data.

The solution to managing the different forms of unstructured data that we use to communicate is based on a common technical architecture that cuts across all of the required services. Oracle Collaboration Suite provides an Infrastructure layer for shared content and access management, an Application layer for collaboration services and an Interaction layer that enables communication anytime, anywhere, from any device.



Collaboration Suite Platform Architecture

The Oracle Collaboration Suite is a content platform for:

- Mail
- Calendar
- Voicemail
- Files

It provides common services for:

- Search and retrieval
- Scheduling and Alerts
- Directory Services
- Single Sign-on
- Authentication

- System Administration (OEM)

It enables communication from any device:

- Web
- Wireless
- Voice
- Fax

As the integrated platform evolves, it will incorporate applications for instant messaging and web conferencing, as well as exposing system capabilities through Web Services. In addition to the extensive APIs that are available with the Oracle9i Application Server, Oracle Collaboration Suite will provide its own set of APIs to support customization and extensions.

The Oracle Collaboration Suite leverages runtime versions of the Oracle9i Database and 9i Application Server to manage and control access to email, calendar, and file content. Since all content is stored and managed in the database, you benefit from the security, reliability, and scalability that is Oracle is known for. Access to content is provided through a variety of integrated Collaboration Suite components, as described below.

Anytime, Anywhere, Any Device

Wireless and Voice are channels by which Oracle Collaboration Suite provides access to email, calendar, files, directory, and address book and enhances interactive communications through instant messaging, a collaborative alert engine and presence management.

Email Interaction

- Receive, Reply to, Forward, or Move email using a mobile browser or voice interface
- Play the summary of new email with voice access
- Create a virtual inbox based upon selected preferences, and select a particular Inbox view to be access from the mobile browser or voice access (e.g., provide email from select senders, email marked urgent, or all email from the last selected number of hours)

Calendar Interaction

- Manage appointments and tasks from any mobile browser
- Play the summary of appointments with voice access

Files Interaction

- Integration with Oracle Files to enable file attachment
- Integration with Right Fax to enable document printing by fax
- Select a file as an attachment for email or faxing

Directory

- Access to corporate directory from any mobile browser
- Select email recipients from the corporate directory

Address Book

- Manage individualized contact information
- Call function from the address book
- Select email recipients from the address book
- Add contacts to address book from the email message

Collaborative Alert Engine

- Alerts can be sent to any devices via SMS message, email, instant messaging, or voice access
- The Alert Engine and Customization Service provides the ability to send data from any source to any device based upon defined events
- The Messaging engine supports multi-threading and multiple providers thereby suspending the reliance upon a single provider to provide messaging services
- Presence Management enables users to define their location at a given time and an appropriate method for being contacted, based upon availability and personal preference.

Components

Mail

Effective person-to-person communication, both within and between organizations, is fundamental to the global economy. When direct communications are not possible or practical, people and organizations today often turn to email. In addition, many organizations leverage email services to automate business processes, using email to deliver workflow information and enable application-to-application communication.

Voicemail has become a ubiquitous means of communication when people cannot be reached immediately on the telephone. Voicemail and email are generally thought of as very different types of messages. In the past, organizations were forced to purchase email, voicemail, and facsimiles services from separate vendors and administer them as standalone services. The Oracle Collaboration Suite packages these services into a unified messaging offering. Emails, voicemails, and faxes are stored in an Oracle database, and are accessed through a single “inbox”.

Having an easy to use, reliable, and cost-effective communications infrastructure is arguably the backbone of an organization, and yet many organizations are frustrated by the complexity and cost associated with acquiring, managing, and delivering these services. Oracle Collaboration Suite solves this dilemma.

Email specific features:

- Standards compliance:
 - Multipurpose Internet Mail Extension (MIME)
 - Extended Simple Mail Transport Protocol (ESMTP)
 - Internet Messaging Access Protocol version 4 (IMAP4)
 - Post Office Protocol version 3 (POP3)
 - Secure Sockets Layer (SSL), also IMAP4 SSL and POP3 SSL
- Support for multiple access clients (i.e.: telephone hand set, web browser, cell phone) and integration between access channels. This means that if a user “listens” to an email message via their phone, it is marked as having been read when they access their email via a fat client.

- Server-level filters can be leveraged to automatically act upon messages based on message content. For example, messages sent to an “ask an expert” account can be passed to the Oracle Text engine and forwarded to a particular subject matter expert, depending on the content of the original message. Server-side filters can also be used to check all incoming or outgoing messages for characteristics associated with viruses.
- Supports multiple domains with a single server. For extremely large domains, supports a single domain across multiple nodes.
- Message store access services are built on a multithreading, load balancing, and connection sharing architecture capable of supporting thousands of simultaneous users on inexpensive hardware.
- Sophisticated housekeeping services manage the dynamic nature of messages (i.e.: high volume of adds and deletes) and provide a means to move messages that are old and/or not often referred to or acted upon to a “tertiary” tablespace, which can be located on less expensive disks.

Voicemail specific features:

- Supports Enterprise Computer Telephony Forum (ECTF) standards
- DTMF Voicemail user interface
- Inbound Fax support
- Multi-Channel Access to Messages
- Telephone System Integration
- Flexible Deployment Options
- Open Standards Hardware and Software support

Oracle Calendar

A large part of the corporate communications infrastructure requires scheduling. Setting meeting times and reserving shared resources are complicated tasks, which could be eased by using familiar tools such as Microsoft Outlook Calendar. A calendar also provides context to communications events and content needed for them, or created by them. The ability to drive events such as scheduling or distribution of information needed for a specific meeting, off of one’s calendar, delivers on the promise of providing a temporal context to information management

Features

- Access through a choice of web clients with Personal Information Management (PIM) and full group scheduling features, through desktop clients available on various platforms, over the wireless Internet via WAP or i-Mode, through Short Message Service (SMS), and full synchronization with a range of Personal Digital Assistants (PDA's).
- Oracle Calendar users can also continue to manage their appointments through an Outlook Calendar client with virtually no change in functionality using Oracle Calendar's OutlookConnector which contains its own configuration wizard.
- Users can self-configure the OutlookConnector with minimal information (IMAP, SMTP, and Calendar server names, user name and password) or the OutlookConnector can be pre-configured for well known corporate environments in which case, only user name and password is required.
- The OutlookConnector allows Outlook to use MAPI calls and transforms them into IMAP / SMTP for mail and Calendar calls to the calendar server. This interface requires no change to the Oracle Email IMAP or SMTP agents. Oracle Calendar's OutlookConnector queries the Oracle IMAP server for folder hierarchies and email messages, and converts the information into MAPI properties for display in Outlook. Similarly, the OutlookConnector queries the calendar server for meetings, events, tasks, contacts, notes and journals, which it also converts into MAPI properties. With this model, the OutlookConnector builds a user's Inbox from two separate information sources, taking mail from the Oracle IMAP server and calendar information from the calendar server.

Files

Efficient collaboration between employees requires a common platform for storing, managing and controlling access to the content that drives their business. Oracle Files uses Oracle database technology to create a common repository to structure business content in ways that reflect their needs. It provides the best of both the traditional file system and database worlds. Not only does it have the scalability and reliability of the Oracle9i Database; it has the familiarity and ease of use of a file system.

From the end user's standpoint, Oracle Files is accessible through a web browser, Web folders, or a number of different client applications

such as FTP, NFS, SMB, AFP. However, unlike other file systems, Oracle Files stores all content, from web pages to MP3, from spreadsheets to XML files, in the same file system on one single instance of an Oracle database.

Features

- *Workspace Organization.* Workspaces are used to structure content based on business use, and authorize who has access to them.
- *Categories.* Categories provide another level of organization by allowing the administrator to define additional metadata (extended attributes) for files. A category defines a set of attributes that users apply to files. Categories are not associated with any particular type of content. You can apply the same category to word processing, image, presentation, spreadsheet, or any other type of file stored on your Oracle Files server. Users can search for and locate their information based on the category.
- *Workflow.* Oracle Files provides workflow support, enabling you to define business rules that notify users of changes to files and route them to the appropriate people for approval.
- *File Versioning.* Versioning allows users to manage changes to files without losing older copies.
- *Authorization.* Files provides role based security with three built-in profiles:
 - *Administrator.* An administrator maintains the users and their access within a workspace. Administrators can create users, rename users, and delete users.
 - *Participant.* A participant is able to view and modify files in a workspace.
 - *Viewer.* A viewer has read-only access to files in a workspace.
- *File Sync.* File synchronization ensures that one or more local folders on users local computers are the same as one or more remote folders in Oracle Files. Users can edit, modify, and even delete files. Changes that users make on their local computer or on the host computer are both updated during file synchronization.
- *Locking.* To prevent users from overwriting each other's work, three types of file locking are supported:
 - Automated locking through work flow
 - WebDAV standards compliant
 - Manual locks by users

- *Trash*. Deleted files are moved to a trash folder from where they can be restored later if needed or emptied into an archive.
- *Single File Restore*. When users empty their trash folders trash is archived outside the database for a defined amount of time. The administrator controls the archive and can restore previously deleted files upon request from users.

UltraSearch

Corporate information is only data unless you can find it easily. Proliferation of information across hundreds of databases and corporate intranets is causing a crisis in many businesses, even though they may each have their own built-in search and retrieval technologies. If you want to make a decision quickly you need intelligence. The search component supplied with the Oracle Collaboration Suite transforms data into intelligence. Known as Ultra Search, it can be used to search across other Collaboration Server components, corporate Web servers, databases, mail servers, filesystems and Oracle9iAS Portal instances.

Ultra Search is based on Oracle 9i Text technology and is an out-of-the box solution that requires no SQL coding. It uses a “crawler” to index documents; the documents stay in their own repositories, and the crawled information is used to build an index that stays within your firewall in an Oracle9i Database. Ultra Search locates the appropriate content assets without the need for rearchitecting IT topologies, compromising security or programming against hard-to-use APIs.

Features

- Searches text across Oracle databases, other ODBS compliant databases, IMAP mail servers, HTML Web pages, and files – and organizes and categorizes the content.
- Provides the best relevance ranking and globalization support in the industry.
- Provides value added Portal functionality, including crawling, fielded search and metadata extraction.
- Presents a Web-style interface where users can specify complex search patterns using boolean terms.
- Built-in expertise with Oracle text that translates and tunes web-style queries into the underlying SQL-based queries.

- Delegation of user authentication to single-signon server.
- Ultrasearch API's support complex search patterns that incorporate full Oracle text and metadata search, in addition to a JAVA email API for archived mail.

9iAS Infrastructure: Single Sign-on, Common Directory and Authentication

One of the most time consuming and aggravating experiences that result from communicating over multiple channels is the need to login to multiple systems, keep track of different passwords and establish profiles in more than one application. It is also a complex challenge for the administrators of these systems to ensure that the content being accessed is secure and users are authenticated. The Oracle Collaboration Suite takes advantage of Oracle Internet Directory to provide a centralized user repository for all of the services it provides. This streamlines the user experience, enables single sign-on capability and simplifies authentication.

Features

- Single Sign On
- LDAP compliant Directory.

ORACLE COLLABORATION SUITE DEPLOYMENT ARCHITECTURES

In many companies, communication and collaboration services evolve over time, often without a plan. Islands of infrastructure and services are built, department by department, division by division, country by country. These islands of infrastructure and services are cobbled together, resulting in delicate, failure-prone infrastructures that are expensive to own and maintain.

"When Order Entry goes down, the CFO calls; when Email goes down, the CEO calls"

- The Standish Group, 2002

In today's economy, many companies are looking to save money wherever they can, and communication services are a common and logical target. The best way to reduce the costs associated with deploying communications services is to break down the aforementioned islands of infrastructure by consolidating servers and services.

One of the most compelling reasons to adopt the Oracle Collaboration Suite is simplify the distributed architecture commonly used for mail and file server deployments, and to scale the architecture to maximize the ROI of consolidation.

For any deployment, there are four key components that need to be considered:

- Oracle Collaboration Suite
- Oracle 9iAS Infrastructure – supporting elements of the system, including LDAP and SSO
- Oracle 9i Database – the underlying data store

Here we will show three possible scenarios for configuring the suite which demonstrate deployment for different scales of operation.

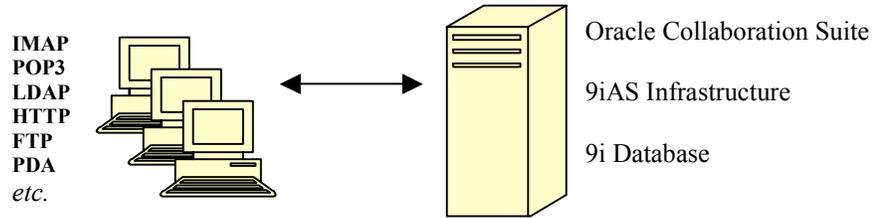
- **Simple Installation**
Low-end configuration best suited for small scale testing or demonstration
- **Typical Installation**
A more typical deployment suitable for general purpose deployment
- **High Availability Installation**
Presentation of other deployment options for larger more complex deployments

Simple Installation

Advantages: Simplicity

Disadvantages: Limited scalability; no failover capability

The most simple installation scenario is to install everything onto a single computer. In most cases, this is probably only suitable for simple demonstration or trial configurations. The individual components of Oracle Collaboration Suite have differing resource requirements, and most likely, the target systems would be fine tuned for their projected usage. It's unlikely that a single computer would provide the power and flexibility required for an effective deployment.

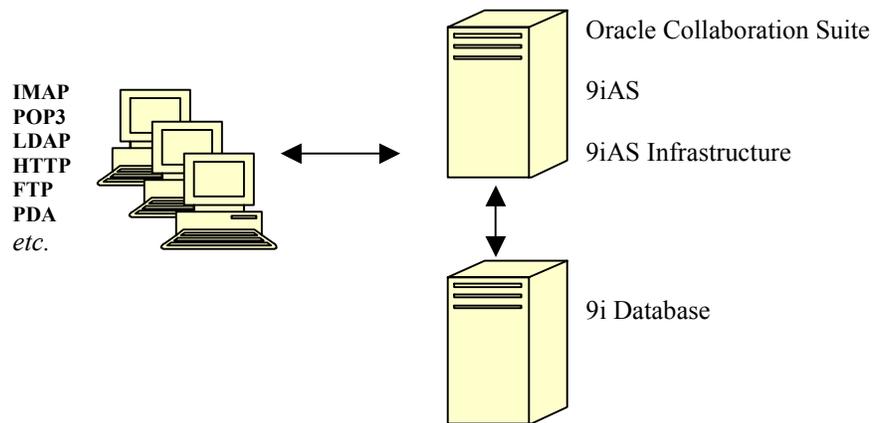


The main advantage of this configuration is its simplicity. Everything is located on the same machine for a single point of access for administration and control. The disadvantages of this are the limited scalability possible, and lack of any failover mechanisms (either in the database or the middle tier).

Typical Installation

Advantages: more scalability and growth options; easier to implement security policies

Disadvantages: no failover; limited load balancing



A more typical installation of Oracle Collaboration Suite will utilize more than one computer. This makes for a more flexible deployment, allowing for systems to be more finely tuned for their respective jobs. Additionally, for a real world deployment, it allows for the physical and logical separation of components of the architecture. This is particularly useful in intranet and internet deployments, allowing sensitive data to be protected from front end application servers in

firewall and DMZ configurations. While this scenario is more useful than the Simple Installation, it's also likely to be limited value as your deployment grows.

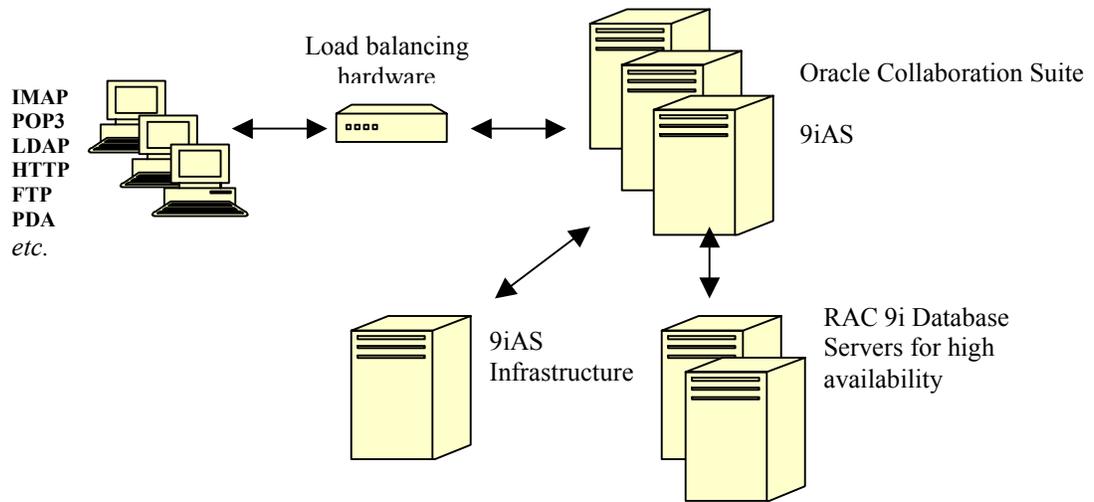
High Availability Installation

Advantages: high reliability with possibility of failover at all stages; load balancing; flexibility for fine grained tuning of Oracle Collaboration Suite components; maximum scalability

Disadvantages: requires more detailed planning; high cost of hardware; staffing requirements

The final option presented here is more typical of real production environments. It addresses the limitations of the previous options in the areas of reliability, load balancing, and scalability, but at a cost in the complexity and expense of the configuration. Whereas the simple and typical installations are more suited to test or small implementations, the custom approach is more likely for corporate wide deployments.

In simple terms, the 3 pieces of the architecture (Oracle Collaboration Suite, Oracle 9i database, and 9iAS Infrastructure) are installed separately. Each piece can then be optimally configured for performance, availability, and management. This approach is more flexible, since the requirements placed on a database server are not necessarily the same as those for an application server. Not only are the processing, network, and storage requirements likely to differ but also corporate policies on the location of sensitive data relative to Internet firewalls are likely to have impact on the configuration decisions of the system. Many corporate policies demand that databases be physically located separately from machines with direct connections to the global Internet.



In this scenario, different components can be managed separately from the others in what ever way makes sense based on corporate policy, performance requirements, and staffing decisions.

High availability is a key requirement. Most likely this will mean an Oracle Real Application Cluster in the database tier, and some combination of hardware load balancing and redundant failover servers in the middle tier.

In the middle tier, it also makes sense to further specialize systems. Depending on requirements, components of Oracle Collaboration Suite can be deployed across a number of machines. This could be for performance, security, or ease of administration.

For example, performance and availability considerations may be particularly important for high priority applications such as email. So, the email protocol servers (IMAP, POP3, SMTP, etc) could be located on their own physical servers, with dedicated failover resources. In this way they can be configured for high availability and protected from possible problems with other systems.

ADMINISTRATION AND MAINTENANCE

Businesses depend more and more on the ability of staff at all levels of the organization to communicate and share information remotely. The applications that enable these corporate communication channels need to achieve extremely high levels of reliability, and to simplify

intervention when potential problems are anticipated. Collaboration Suite is built on the infrastructure which has made Oracle the technology of choice for so many mission critical systems, and takes advantage of administration tools which have been tested under many production environments.

Although a limited number of individuals need to be involved in the process, there are many administrative tasks that need to be supervised to ensure consistent performance.

Installation

The Oracle Collaboration Suite Configuration Handbook provides installation instructions for Oracle Collaboration Suite and basic configuration tasks for its various components. The document is intended to give administrators the absolute basics for installing and configuring Oracle Collaboration Suite and its components. Further configuration of the various components can be done using each individual component's administrator's guide. The Oracle Collaboration Suite Configuration Handbook is intended for administrators who have previous experience with Oracle products.

Monitoring

Administrators need to be concerned about the depth and quality of insight that monitoring agents and tools provide into their systems. Early detection of a queuing problem, for instance, can mean the difference between a minor delay and a major system failure. OEM facilitates the identification of:

- Email statistics
- Log Files
- Customize statistical reporting from command line
- Spam detection by domain, system and address
- Limited supply of tablespace or space in the database

Managing Performance

Don't let software user limits mandate when you need to add hardware: let the resources available tell you when you need more hardware. With Oracle Collaboration Suite multi-tier architecture, you can add cheaper hardware to your middle tier, and invest a little more, for powerful servers for your backend. You can easily add additional hardware to your middle tier to support capacity growth.

Managing Users

Users can be provisioned for the application both individually, and in groups using a batch procedure. In addition to this, the Files application will automatically create new users with a synchronization agent which recognizes new SSO users in the Oracle Internet Directory.

Managing Quotas

Managing user quotas for email and file allocations requires chronic intervention by administrators. Collaboration Suite provides tools to set defaults by domain, group or individual and override them as conditions dictate the need. The capacity to set such rules and monitor their effects minimizes administrator oversight.

Backup and Recovery

As reliance on collaboration platforms increases, dependable backup and recovery will become more critical. Collaboration Suite simplifies backups, with its use of a central data store and existing Oracle DBA skills; existing backup procedures can be reused.

Performing Upgrades

Administrators are required to upgrade systems both for new versions as well as occasional patches to correct defects and improve performance. Upgrades are applied with the Oracle Universal Installer that checks for dependencies, verifies if the system can remain operational and applies updates automatically.

Virus Management

A big challenge with viruses is preventing them from reaching your user's desktops in the first place. Oracle Collaboration Suite is a consolidated email deployment, so that you can easily identify and delete infected e-mails from a single message store. The Collaboration Suite uses server-side rules to identify certain virus characteristics such as the subject, the sender, or the attachment for example, and prevents infected email from going any further in your system. For new viruses that manage to enter the system, simply conduct an ad-hoc search of the entire message store for the virus profiles. Suspicious messages can be deleted right away or isolated for further investigation. Since all messages are centrally stored (only once) in an Oracle database, it is much easier to prevent the spread of viruses.

When the Melissa virus was first launched, the Oracle Data Center cleared the system within one hour. The clean up procedure was run every few hours until a security patch was available. Oracle's email system suffered zero downtime as a result of Melissa. When the Party Photo virus attack occurred in January 2002, the Oracle Data center

cleared 1.5 million infected messages within 15 minutes, well before many users were even aware of the attack.

Directory Administration

In addition to superior virus protection, the Oracle Collaboration Suite, with its underlying Oracle9i database, provides for sophisticated user authentication and access control to prevent unauthorized access. Oracle Internet Directory has its own Self Service Console to facilitate configuration, user profile and password updates and directory searches.

Repository Management

Oracle's value proposition in this area is particularly strong; a product suite that shares a common repository enables the administrator to have visibility into the usage characteristics of e-mail servers, file servers and other components with a single tool, reducing complexity and improving manageability. The Suite supports encryption of content for both storage and transmission purposes. The Oracle9i database has completed 14 international security evaluations, validating its security by the industry's leading security experts.

IMPLEMENTATION SERVICES

Implementing the Oracle Collaboration Suite can dramatically improve user access to communication services and reduce the infrastructure needed to support them. Leveraging Oracle Consulting to assist in this implementation enables you to achieve the business benefits of a consolidated communications platform faster and with reduced risk, by assisting with all phases of business and technology lifecycle planning, from evaluating your business case, to designing a consolidated communication architecture, Oracle Consulting will help you implement a communications infrastructure that's effective for your business.

Implementation Strategy

Oracle Consulting offers a number of services to support the implementation of Collaboration Suite, regardless of the deployment model chosen. As a starting point, companies can leverage Oracle Consulting experts to confirm the cost benefits associated with a migration to the Collaboration Suite and to assess the infrastructure needed to support a planned implementation. These services are defined as follows:

Collaboration Suite Assessment (ROI/Manageability Study)

This service includes a comprehensive analysis of current-state costs for communication and collaboration services. The service captures “bottom line” costs elements such as hardware, software, maintenance, and people costs, etc., plus the “top line” costs associated with down time, the effects of failed searches, and poor processes. The costs associated with the planned future state under Collaboration Suite are characterized and compared with current state costs to determine Return on Investment. In addition, Oracle Consultants will work with the customer to determine the impact of additional Collaboration Suite services. These are services that are not available in the current environment, which would be with the Collaboration Suite.

Collaboration Suite Architecture and Infrastructure

Oracle Consulting experts will work with the customer to define the technical infrastructure required to support the intended Collaboration Suite environment. Includes analysis of:

- Technical Requirements
- Platform Sizing for Database Tier
- Platform Sizing for Middle Tier(s)
- Networking
- Voicemail/FAX Integration Requirements
- Voice/Wireless Access Requirements

Following a decision to deploy the Collaboration Suite, Oracle Consulting experts will work with the customer to implement and configure the Collaboration Suite and migrate existing content. Several implementation and migration services are available, depending on the number of users:

- Entry Level Service (<500 users)
- Rapid Deployment Service (500-15,000 users)
- Enterprise Deployment Service (>15,000 users)

Migration Strategy

Migrating content from one email platform to another, while limiting downtime, is not a trivial effort. Careful planning is required to ensure minimal disruption during the migration process and to successfully

manage the transition period, during which time the user community can be split between two email environments. An effective strategy is key to a successful migration – fortunately, Oracle has predefined strategies and tools to facilitate migration.

There are two dimensions to consider when developing a migration strategy – distribution of effort, and timing. The distribution of migration effort can be turnkey or self-service. In a turnkey migration, technical resources conduct full migrations of user data, generally during off-hours. End users have minimal work to complete to switch from one email server to another. In a self-service migration, users are asked to make local copies of their private email folders and copy them to the new email environment after cutover. A variation on this approach is to allow read-only connections to the “old” email store for a short period of time, to facility self-service migration of content to the Collaboration Suite environment.

Timing for the migration effort can be “big-bang” or time-phased. In a big-bang migration, the entire migration is conducted over a single outage period (i.e. a weekend). This is an acceptable approach for small implementations, but not feasible for the migration of large, globally distributed email environments. Time-phased migrations are most common and involve breaking the user community into manageable and logical groupings. The Oracle Email Migration tool (see below) contains a mechanism for dividing users into logical groupings.

The Oracle email migration tool, with Exchange plug-in

Oracle has developed an automated migration tool to facilitate the migration of content to the Oracle Collaboration Suite. This tool is wizard driven and provides sophisticated mechanisms for tracking migration activities and communicating progress to the user community. A native plug in for Exchange is available, which greatly simplifies the migration of Exchange email content. The steps that the tool follows for an Exchange migration are summarized below. Again, users are typically migrated in batches:

- Create a Collaboration Suite user account for every Exchange user.
- Alter message routing for the current batch of users in the source system. The routing change is done automatically by the migration tool as follows:
 - The first step is to create an “alternate recipient address” for the user. Example: user1@acme.com will now point to user1@oes-smtp-host.acme.com.

- Messages addressed to user1@acme.com in the Exchange system will start getting forwarded over SMTP to the host oes-smtp-host.acme.com, which runs the Collaboration Suite SMTP server. The Collaboration Suite SMTP server will remove the “oes-smtp-host” part of the address before delivering the message.
- Messages addressed to user1@acme.com in the Collaboration Suite system will get delivered directly to the new account because the Collaboration Suite SMTP server recognizes that this is now a local user.
- Migrate user data from the Exchange server to the Oracle Collaboration Suite server.
- Relay Collaboration Suite SMTP messages addressed to non-local users (users not yet migrated) to the Exchange server. Migration Strategies

Regardless of the size of the deployment and the existing infrastructure, customers can select from a variety of services that suit their implementation and migration needs.

BENEFITS OF THE ORACLE COLLABORATION SUITE

End User Benefits

- Common interface for Mail, Calendars & Scheduling, File Management and Search
- Embrace and enhance current and future clients: Standards-based, MS Office, MS Outlook, Voice, Web & wireless
- Text-to-speech and Automated-speech-recognition. Query-able message storage. Allows for effective implementation of system-wide and individual rules, SPAM control, virus protection, etc.
- Search all content using a single interface
- Re-use content instead of recreating it.
- Single sign-on to all applications

IT benefits

- Reduce scheduled downtime with simplified administration, and minimize unscheduled downtime.
- Reduce total cost of ownership – software license, administration and hardware
- “Intelligent” message storage. Only one copy of a given message is stored in the database, even if it is destined for many accounts.
- Single platform for file management, eliminate redundant servers and duplicate files
- Centralized administration via Oracle Enterprise Manager. Scale at the Enterprise Level
- Based on the Oracle9i Database and Application Server
- Can be deployed using Oracle clustering technology? – extend use with inexpensive servers.
- Common platform and tools for authentication
- Store all files and message content in a secure database
- Security and reliability through software, not servers, based on the Oracle 9i platform leading to superior email SPAM and virus protection.
- Oracle9i, Shared Disk – more reliable as you add computers
- Voicemail is stored in the Oracle database

The Oracle Success Story for Mail is a compelling demonstration of the value proposition that Collaboration Suite provides:

- From 97 Servers to a single three-way cluster
- 42,000 employees
- \$13M 1st year savings, \$11M annually
- Easier administration
- Improved availability, reliability and security
- Lowered hardware costs

FUTURE DIRECTION

Future releases of the Collaboration Suite will build on the vision that has created demand more sophisticated collaboration platforms. This will require new features and functions, tighter integration between system components, more sophisticated administration tools and the ability to leverage new technologies which ensure that content shared throughout an organization is both secure and highly available. Perhaps the most important underlying principal behind this vision is that reducing the operational cost of technology infrastructure is crucial to promoting the development of new solutions which allow any business to be competitive.

Some of the features and technologies under consideration are outlined below, although timeframes and specific versions of the product have not been identified:

New features for existing components of the suite:

- Wireless and voice integration from the Calendar
- Extended options for resource scheduling
- Distributions lists for voicemail
- More comprehensive business rules to simplify file sharing and management

New features to unify the user interface and behavior of all components of the Suite:

- Integrated workflow for all components
- Presence management for all components

New Components:

- Oracle iMeeting, an online conferencing solution
- Instant messaging

A common development platform to support product extension:

- Standards-based SDKs
- Customization of Ultra Search to build and send search requests to other applications

Unbreakable Infrastructure:

- More extensive reporting metrics
- RAC support for Wireless and Voice applications
- Enhance virus scan for inbound email
- Standardization of the Calendar repository to Mail and Files

Reduce TCO:

- Enhance the compatibility with the customer's existing infrastructure with more migration tools and simplified directory synchronization
- Expose more APIs to enable customizations which address unique customer requirements
- Continue to integrate Oracle technologies which extend Collaboration Suite functionality out-of-the-box
- Simplified Installation and Administration
- Unified management for all OCS components

SUMMARY

Efficient collaboration in a world that relies on global communication presumes that individuals can initiate a request, or provide immediate response on any device, at any time. New applications and technologies are evolving quickly to satisfy the market demand, but unfortunately the proliferation of niche solutions tends to create more challenges rather than simplifying the ways in which we work together. Only Oracle can satisfy this demand by offering integrated email,

voicemail, phone, fax, scheduling, calendaring, meeting management, file management and more in a single product.

The Oracle Collaboration Suite provides a common infrastructure to simplify operations, adaptable services to facilitate collaboration and the ability to communicate over many different channels. Future development strategy will continue to drive down infrastructure cost and provide creative solutions that stimulate collaboration between the members of your enterprise.

Adoption of the suite is greatly simplified by allowing users to access the system with the interfaces they are comfortable with, such as Outlook or Explorer. Administrators manage the infrastructure using the same tools they use to manage other Oracle Applications. Corporate Executives can reduce cost by eliminating distributed systems that are expensive to manage.



Oracle Collaboration Suite Technical White Paper
November 2002
Author: Chris Condit
Contributing Authors: Soo Yun, Bob England

Oracle Corporation
World Headquarters
500 Oracle Parkway
Redwood Shores, CA 94065
U.S.A.

Worldwide Inquiries:
Phone: +1.650.506.7000
Fax: +1.650.506.7200
www.oracle.com

Oracle is a registered trademark of Oracle Corporation. Various product and service names referenced herein may be trademarks of Oracle Corporation. All other product and service names mentioned may be trademarks of their respective owners.

Copyright © 2002 Oracle Corporation
All rights reserved.