

An Oracle White Paper  
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# Oracle Beehive

## Unified Collaboration. Built for the Enterprise.

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## Executive Overview

Oracle Beehive is the only unified collaboration system built for the enterprise. It is a collaborative environment built on a unique model that combines the various enterprise communication and collaboration services such as email, calendar, IM, team workspaces, and conferencing into a comprehensive platform. With Oracle Beehive, organizations can more effectively learn from their past efforts, share new insights and build a knowledge-based competitive advantage.

Built on Oracle's leading enterprise infrastructure, Oracle Beehive allows organizations to focus both on short-term project deliverables as well as growing and sharing the organization's knowledge in a secure and scalable IT environment. Oracle Beehive offers IT a collaborative solution that can properly handle the need for comprehensive security and compliance. The Oracle Beehive system is simple to administer and to archive all user actions and collaborative content.

## Collaboration Is Everywhere

In order to achieve goals, everyone collaborates by coordinating and communicating around an activity at hand. This requires different tools depending on the phase of the activity. An example would be a team of architect working on a design proposal. At certain points in time, they need to be able to communicate the proposal amongst each other or to coordinate their milestones for this project. Throughout the whole process, experts on various aspects of the project need to communicate their ideas and provide feedback. Teams need tools that allow them to effectively work together, to see and use the contributions of other team members, and to track the tasks associated with achieving the team's goals.

Often productivity tools have been overloaded from their initial purpose to support team collaboration. Furthermore these tools are separate and create terabytes of data in a silo that has no connection to the other silos created by the other tools. For instance, an employee can read a project's final recommendation from an email, but the related collaborative information used to arrive at this conclusion is not visible in the email.

The variety of individual tools being deployed create a complex ecosystem which requires different mechanisms for administration, different policies across the collaborative data set, and different ways to enforce a security and compliance rules. Besides the convoluted mechanisms to manage the systems, IT needs to manage the different data silos it creates, requiring more systems, additional business administration and additional storage.

“Oracle Beehive is about to revolutionize the way in which we collaborate and make a lot of the tasks that we take for granted, yet appear to be cumbersome, a lot easier”.

Salim Ansari, European Space Agency

## Oracle Beehive

Oracle Beehive is the only unified collaboration system built for the enterprise. Oracle Beehive brings the most common collaborative capabilities including time & task management, email, discussions, team workspaces, instant messaging (IM) and presence into an integrated platform. Oracle Beehive enables secure collaboration, collaboration directly within business processes and collaboration beyond organizational boundaries. Users can easily connect to relevant people and information in order to effectively coordinate task and activities. Oracle Beehive is based on a centralized deployment model that allows unmatched scalability, manageability, and integration with critical enterprise applications and infrastructure. Using Oracle Beehive, IT can centrally manage, securely audit, and easily apply compliance rules to departmental and enterprise collaborative applications. Oracle Beehive is designed to protect and extend existing IT investments by interoperating with existing user environments and IT infrastructures. Oracle Beehive offers the lowest total cost of ownership compared to other collaboration offerings and delivers significant customer value either installed alongside existing messaging infrastructure or in place of it.

### Complete Integrated Collaboration

Oracle Beehive offers a complete set of collaborative functionality beyond the traditional email and calendar tools. Unlike other systems where every service is on a different server, Oracle Beehive is one server providing multiple communication and collaboration services. As a result, there is a single place to administer and manage all of the Oracle Beehive services. Through Oracle Beehive’s Administration console, Beekeeper, or scriptable command line, beectl, IT can manage Oracle Beehive’s users, groups, and services.

Not only does Oracle Beehive provide a breath of collaborative services, these collaborative services are functionally complete. IT can decide only to use a portion of the services such as deploying Instant Messaging rather than all the services. A deployment can start with one or two services and not suffer from missing functionality. In addition, Oracle Beehive is available via three different deployment options: On Premise, On Demand Managed Service, and On Demand Subscription (Software as a Service).

Oracle Beehive's collaborative services are integrated, which allows the services to provide context to each other. For instance, the presence service understands a user's free/busy schedule from the time management service. As a result, an appointment on the user's calendar triggers the presence service to change the user's presence to "busy" when the appointment starts. In addition, all of the services respect a single set of audit, event, security and administrative policies.

Oracle Beehive also works within the existing IT environment. For instance, Oracle Beehive can use an existing Active Directory, OID or other LDAP store to provide user and group information as well as authenticating users. By using the existing 'source of truth', changes to the user directory can propagate to Oracle Beehive's integrated collaboration platform without creating a separate management system. Oracle Beehive can also work directly with Microsoft Exchange, external workflow systems, portals and authentication systems. Oracle Beehive also supports encrypted database by using Oracle 11g.

### Personal Workspace: The Personal View

Oracle Beehive provides individuals a personal workspace to access their integrated communication and collaboration services, including messaging, time management, presence, instant messaging, task management, document, voice and web conferencing, mobile, and voicemail. Not only does Oracle Beehive provide a personal workspace for individuals to work on their own private efforts, but it also provides team workspaces for facilitating group collaboration. Oracle Beehive aggregates relevant information, such as team meetings, from the various team workspaces back into the personal workspace thereby giving the user a summary view of their team activities.

### Workspaces: Projects are Accomplished

Oracle Beehive workspaces provides an environment that serves as the focal point for team collaboration. A workspace exposes collaborative services where all the relevant data is stored, context is maintained and policies are enforced. A team workspace can be used by a department, a project team, or any community of users, whether inside and outside the organization. A team workspace offers a convenient way to communicate and coordinate team activities more effectively

Collaboration services provided to team workspaces include e-mail, time management (calendar), task management, announcements, wiki, document library, and conferencing. An example of a dedicated team collaborative service is the time management tools, where each workspace can have a calendar where the team can post events to the team. Another example is the team wiki, which allows team members to customize the wiki pages to the team such as sharing group milestones and project progresses.

Team workspace information can be propagated back into the personal workspace. For instance, if a meeting is scheduled in a team workspace, then that meeting appears on the personal calendars for those invited or related to the workspace. This is also true of tasks, email messages and notifications – although their origin is the team workspace, the personal workspace presents these items to the user without losing the context of the original workspace.

By using a team workspace to do their jobs, users can create a workspace that contains not only the final work deliverables but also all the information that went into the process. The creation process is recorded, managed and available to the organization for future learning and context. New participants can visit the workspace and see the input of all the team members, discussions and supporting data.

### **Workspace Access**

Team Workspaces can be accessed by a variety of clients. The Oracle Beehive Workspace Client is a web-based version of the workspace. The Oracle Beehive Workspace Client offers primary features including the team document library, team wiki, team calendar, team announcement (microblog), contextual search, and workspace administration. This client has been designed by Oracle Beehive to bring together collaboration tools into one single place to offer easier collaboration compared to other disjoint products.

In addition to the Oracle Beehive Workspace Client, the Oracle Beehive Extensions for Outlook and Oracle Beehive Extensions for Explorer both provide access to team workspaces. They help ease users into using workspaces since these are familiar existing desktop tools.

Team actions can be aggregated across different mechanisms beyond the aforementioned clients. Using a previous example, team events are propagated back into the personal workspace. Another example is recent changes to the workspaces can be aggregated into an RSS reader if desired.

### **Self Service Workspaces**

Individuals play different roles at different times in different projects, such as author, content administrator, scheduler, security and access control specialist. These roles can be modeled within the workspace. Within Oracle Beehive, team members can be invited from any organization or geography. Sophisticated access control is embedded within Oracle Beehive to ensure that the right people have access to the right information at the right time.

Oracle Beehive allows users to efficiently search across all artifacts, regardless of type and context. Enterprise taxonomies can be defined and their application enforced based on the policy definition for a specific workspace or folder. These capabilities augment the traditional folder structures, providing alternative navigation paths to discover managed collaborative content.

### Tracking Context

Often it is not the actual content that is useful, but rather it is the related information such as the author or the connection to a related object. A user searching for a specific document is often more interested in knowing the author of the document than she was the document itself. Oracle Beehive maintains this bond between the document and the author regardless of later use.

### Familiar Clients, User Choice

Oracle Beehive provides a variety of familiar clients to access collaborative services. Since Oracle Beehive supports standard protocols, Oracle Beehive can offer standards-based clients to a diverse user community. Standards-based protocol support includes IMAP/SMTP for e-mail, XMPP for presence and instant messaging, WebDAV and FTP for document access, and CalDAV for calendaring and scheduling. Oracle is a primary author of CalDAV and Oracle Beehive is the first production system to support it.

Oracle Beehive supports email desktop clients such as Microsoft Outlook, Mozilla Thunderbird, and Apple Mail. For those interested in a web client, Oracle Beehive also supports the Zimbra web client. Other supported clients include Pidgin for instant messaging, Microsoft Office, Microsoft Explorer, and Mac Finder.

Oracle Beehive provides standard mobile push e-mail (Push-IMAP) and OMA-DS data synchronization for calendars, tasks, and address books, which will allow users to access their information using popular mobile phones and devices. Mobile support includes the RIM Blackberry, Apple iPhone, and Windows Mobile devices.

As mentioned previously, team workspaces can be accessed via a web browser using Oracle Beehive Workspace Client, Windows Explorer using Oracle Beehive Extensions for Explorer, and Microsoft Outlook using Oracle Beehive Extensions for Outlook.

## Collaboration in Enterprise Processes

With Oracle Beehive, collaboration can be embedded directly into business processes. This is achieved through a variety of services such as: standard protocols, Oracle Beehive's event-driven architecture, and BPEL workflows. These services can also be embedded within portals or into composite applications via JSR 168 portlets.

## Oracle Beehive Object Model

The Oracle Beehive Object Model (BOM) is an all-inclusive notion of collaborative objects, artifacts, and users, and the bonds between these items. The BOM embodies the unique vision of Oracle Beehive – a unified collaboration system – that includes management of collaborative artifacts regardless of type, a single notion of groups, links between artifacts and common access control.

## Model Business Scenarios

One easy way is to model the enterprise collaboration process is to use workspace templates. Workspace templates can be customized for team processes such as structuring milestones, document hierarchy, team-based roles, and consistent metadata. For example, a workspace can represent a specific customer in a CRM business processes. A workspace template can be used to supply the “blueprint” for the workspace, including a standard folder hierarchy, custom roles for use within the workspace, a pre-populated list of tasks to follow for best practice processes and other workspace structure. This provides greater visibility into the organization’s work methods and can be exposed through business intelligence applications allowing the organization to maximize its productivity.

## SOA Environment

Oracle Beehive can be part of any Service-Oriented Architecture (SOA) environment. Using Oracle Beehive, business applications can be tailor-made for the needs of a business.

Oracle Beehive packages Oracle BPEL Process Manager as the standard workflow engine. With BPEL, it is possible to integrate collaborative processes across the enterprise. BPEL tasks presented to an Oracle Beehive user will be integrated into the user’s personal tasks system regardless of their origin. In this way, a task created by another application (e.g., approve this expense report) shows up as a task in the user’s Oracle Beehive task list.

BPEL also enables Oracle Beehive users to provide rich human interaction events. Actions from another system can surface within Oracle Beehive clients or actions in Oracle Beehive can be propagated back into other systems.

## Integration with Portals and Composite Applications

Whether they are referred to as portals, composite applications, or dashboards, organizations often embed a set of components or portlets into an application to give employees the information they need in a centralized location. These mash-ups allow organizations to incorporate application information from a variety of tools and data sources. Oracle Beehive is designed to provide the communication and collaboration backend to these composite applications, providing employees easy access to messaging, team collaboration, and synchronous collaboration information.

Oracle Beehive's services are designed for easy insertion into portals and other composite applications. With its single application model and infrastructure platform, Oracle Beehive can provide a wide range of portlets, ranging from personal information management (PIM) information like a user's personal email and calendar to team collaboration information like a user's favorite workspaces and recent activity in those workspaces. With Oracle Beehive's support for the JSR 168 standard for portlet programming, Oracle Beehive portlets can be used by the Oracle WebCenter Suite and other leading enterprise portal offerings.

## Create Custom Business Applications

Using the Oracle Beehive platform, Oracle Beehive can be tightly integrated within custom business applications. Oracle Beehive can be the underlying embedded collaborative technology within custom-built applications or even within Oracle applications such as Siebel or PeopleSoft. These custom applications can consume any collaborative services exposed through the Oracle Beehive platform. Furthermore, an end-user would not need to be aware of Oracle Beehive in order to use the custom application.

## Built for the Enterprise

Oracle Beehive is designed to protect and extend existing IT investments by interoperating with existing user environments and IT infrastructures. As a result, Oracle Beehive offers the lowest total cost of ownership and delivers significant customer value either installed alongside existing messaging infrastructure or in place of it.

## Leverage Existing Investments

### Security and Compliant Collaboration

One of the key design principles behind Oracle Beehive is security. Oracle Beehive includes comprehensive support for standards-based authentication, role-based access control, privacy and integrity protection of data, and auditing. Oracle Beehive also allows for rich policy creation and enforcement, including approvals and generic workflows.

Oracle Beehive has a single instance store for all its collaborative data. Compliance requirements around disposition can be easily achieved through rules for end-of-life artifacts. Oracle Universal Online Archive (UOA) and Oracle Universal Records Management (URM) can provide additional capabilities in securing data. Oracle Beehive allows auditing across all types of information such as artifacts, workspace information, documents, notes, email, calendar, and tasks. Within Oracle Beehive, all actions can be audited as determined by IT.

Users and groups can be managed through roles, allowing access permissions as needed. Oracle Beehive allows a single point of administration across all collaborative artifacts. Unlike other collaborative systems, Oracle Beehive does not require IT to secure each system and learn different rules to enforce the same level of security. Oracle Beehive is also designed to be monitored using Oracle Enterprise Manager if desired.

Reliable identity management, authentication and authorization of users are key elements of any enterprise security strategy. Oracle Beehive has been built from the ground up to support secure “communities of trust.” Users have assurances that they know with whom they are communicating, particularly important when dealing with users outside the enterprise such as contractors and partners.

## Enterprise Infrastructure Ready

IT has an ongoing mandate to reduce overall computing costs across the organization. Traditional collaborative tools represent a significant investment because of the multiple silos, programming models and the fact that as much as 80% of an enterprise’s “information” is unstructured. Often times, reducing costs is in direct conflict with users wishing to “save everything.”

Unlike other collaborative solutions, Oracle Beehive has a modern, collaboration architecture with a smaller, more coherent footprint that results in reduced maintenance costs, less hardware, higher availability, and better manageability, which yields a lower total cost of ownership. Oracle Beehive centralizes the management of all collaboration information into one system and provides IT with control of the data. Oracle Beehive can also benefit from the implementation of Oracle Database options such as Real Application Clusters (RAC), Data Guard, and Secure Files.

Since all of Oracle Beehive collaborative data is within a single instance store, IT can easily secure, audit and manage the collaborative content and services in one place. Oracle Beehive itself can create policies based on users, groups, or organizations, or on categories and content that define which information should be kept online, moved to lower cost storage, or managed for compliance reasons. This approach gives IT the tools to manage cost while meeting business requirements across the collaboration spectrum. Because information is managed within the industry leading Oracle Database, system administrators have a rich set of tools and skills at their disposal.

“Since the introduction of Oracle Beehive, we reduced time and effort for administration by around 50% and we saved one hour per user, per day when searching for information.”

Helmut Heinrich, KUTTIG

## Conclusion

Oracle Beehive is Oracle's software platform for enterprise collaboration. Oracle Beehive provides collaborative tools built around a unified collaborative model allowing team members to easily work together and accomplish their goals. These tools help teams to collaborate efficiently across multiple geographies and organizations with:

- Group scheduling and calendaring with resource management and direct access to team members' calendars.
- Team task management with assignments and reporting.
- Team member communication via channels such as team announcement, wiki, e-mail, voicemail and instant messaging.
- Discussions capabilities that allow long running conversations on any document or subject.
- Voice and Web Conferencing from various clients.
- Basic collaborative file management capabilities with check-in/check-out, versioning and locking functionality.
- Workflow and notification capabilities that allow users to determine when and how they want to be notified of activities.
- Team and organizational directories that expose presence and make it easy to contact team members.

With a rich set of collaborative tools and centralized information management provided by Oracle Beehive, organizations can easily collaborate within their natural business processes, while allowing IT to maintain a secure, auditable, scalable IT environment. With Oracle Beehive, teams can optimize their collaborative activities whether accessing Oracle Beehive's capabilities using Oracle Beehive clients, standards based clients, portals and composite applications or custom applications. This single, unified platform approach has special advantages for organizations in terms of acquisition cost, ownership cost, and manageability.



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