Oracle
Unified Method

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Oracle® Unified Method (OUM) Oracle's Full Lifecycle Method for Deploying Oracle-Based Business Solutions

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Executive Overview

The Oracle[®] Unified Method (OUM) is Oracle's standards-based method that enables the entire Enterprise Information Technology (IT) lifecycle. OUM provides an implementation approach that is rapid, broadly adaptive, and business-focused. OUM includes a comprehensive project management framework and materials to support Oracle's growing focus on enterprise-level IT strategy, architecture, and governance.

Oracle's Global Methods team has packaged OUM to accelerate your IT projects. OUM presents an organized, yet flexible, approach. Its defined, operational framework helps anticipate critical project needs and dependencies. With OUM, you can move efficiently through the IT lifecycle to quickly realize measurable business results.

Introduction

Standards Based

OUM leverages one of the de facto industry standards, Unified Software Development Process (UP). UP is an iterative and incremental approach to developing and implementing software systems. Project managers use OUM to make sure they and their stakeholders develop a shared understanding of what is needed, choose an appropriate architecture, and transfer the ownership of the end-product to the stakeholders. OUM extends the Unified Process to support the full scope of Oracle-related projects by incorporating field experience and intellectual capital contributed by Oracle practitioners.

[1] Ivar Jackobson, Grady Booch, and James Rumbaugh, *The Unified Software Development Process*, 1999
[2] M. Fowler and K. Scott, *UML Distilled*, 2003

Iterative and Incremental

OUM recognizes the advantages of an iterative and incremental approach to development and deployment of information systems. Any of the tasks within OUM may be iterated. Whether or not to iterate, as well as the number of iterations, varies. Tasks may be iterated to increase quality of the outputs to a desired level, to add sufficient level of detail, or to refine and expand the outputs on the basis of user feedback.

Supports Both Agility and Discipline

OUM is designed to support a broad range of project types. As such, it must be flexible and scalable. The appropriate point of balance for a given project will vary based on a number of project risk and scale factors. The method has been developed with the intent that the approach for a given project be "built up" from a core set of activities to implement an appropriate level of discipline, rather than "tailored down".

[3] Barry Boehm and Richard Turner, *Balancing Agility and Discipline: A Guide for the Perplexed*, 2004
[4] *The Agile Manifesto*, agilemanifesto.org

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Benefits of OUM

- **More Focused Effort** – OUM enables projects to clearly define business scope as well as the need to create architectural models of the enterprise. This planning results in tighter scope control, more accurate business understanding, and a firm foundation to align with client expectations.

- **Built-in Flexibility** – By combining activities and tasks in different ways, OUM can be applied to many types of information technology software development and implementation projects.

- **Saves Time** – Seasoned information technology practitioners representing years of experience have contributed their knowledge to OUM. Project teams to take advantage of this experience by leveraging these leading practices along with industry standards.

- **Higher Quality** – OUM subscribes to an iterative approach that incorporates testing and validation throughout the lifecycle, rather than testing for quality only at the end of the project.

- **More Cost Effective** – OUM facilitates improved control of project expenses by using a flexible work breakdown structure that allows you to perform only necessary tasks.

- **Reduced Project Risk** – Implementing an iterative, broadly applicable method mitigates requirements mismatch. A key focus of each iteration in OUM is to identify and reduce the most significant project risks. This allows for the most critical risks to be addressed as early as possible in the project lifecycle, which results in a measurable reduction of schedule and budget risks.

Key Features of OUM

OUM was developed with the following key features:

- Flexible
- Scalable
- Views

Flexible

OUM is flexible because it allows your organization to select the strategy, techniques, and tasks appropriate for your project. OUM provides specific guidelines for tailoring your project plan to fit your situation - from the most basic development to changes in the underlying technical architecture. By combining activities and tasks in different ways, OUM can be applied to many types of information technology software development and implementation projects.

Scalable

OUM was designed with scalability in mind. From the largest, multi-national, multi-site, multi-entity projects, through to the smallest, limited size, constrained scope projects—OUM provides the scalability required by each unique project. Guidelines aid in determining which tasks to include in the

project plan. This greatly reduces the complexity for the project management team in planning the work effort required.

Views

The method material is organized into views. Views provide an initial tailoring of the workplan. Each view page provides access to guidance and a tailored work breakdown structure.

OUM 6.2 provides the following views:

- Manage Views
  - Manage Focus Area
  - Scrum
- Implement Views
  - Application Implementation (Solution-Driven and Requirements-Driven)
  - Business Intelligence
  - Enterprise Security
  - Software Upgrade
  - Technology Full Lifecycle
  - WebCenter
  - Implement Focus Area
  - Implement Core Workflow
  - Implement – Example Work Products
- Envision Views
  - Cloud Roadmap
  - Enterprise Optimization Roadmap
  - Insight
  - Oracle Architecture Development Process (OADP)
  - Strategy
  - The Open Group Architecture Framework (TOGAF)
  - Envision Focus Area
  - Envision – Example Artifacts
- Other Views
  - Full Method

- Full Method Activities and Tasks

- Business Process Management (BPM) including: Project Engineering, Roadmap

- Service-Oriented Architecture (SOA) including: Application Integration Architecture (AIA) Project Delivery, Core Workflow, Governance Planning, Engineering Planning, Modeling Planning, Project Delivery, Reference Architecture Planning, Roadmap, Tactical Project Delivery

Implementing an OUM Project

The Implement focus area provides a framework to develop and implement Oracle-based business solutions. OUM uses project phases and processes to include quality and control checkpoints and allow coordination of project activities throughout the project. During a project phase, the project team executes tasks in several processes.
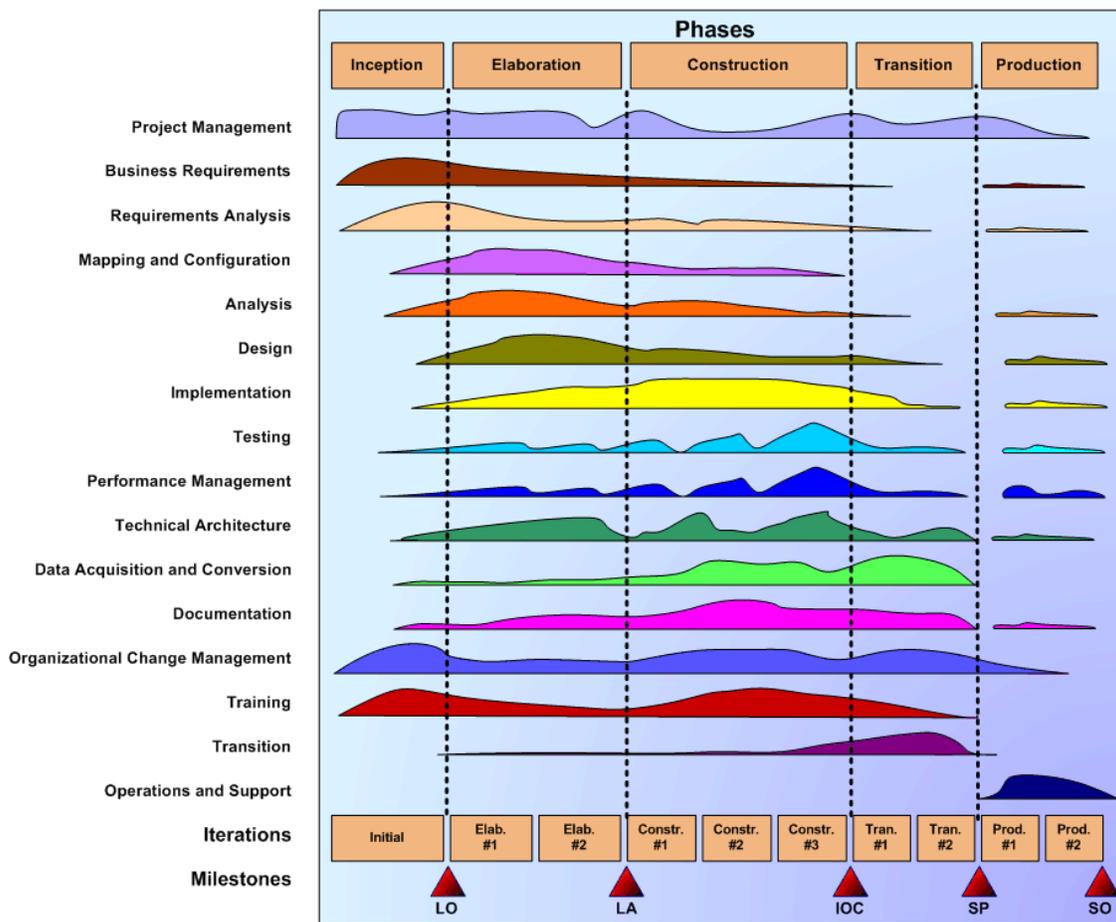

Figure 1.OUM Implement Focus Area

Project Phases for Control

Projects are delivered by phase, chronological grouping of tasks in an approach, in order to reduce risk. Each phase allows a checkpoint against project goals and measurement against quality criteria.

OUM includes the following phases.

Inception

The overriding goal of the Inception phase is to have concurrence among all stakeholders on the lifecycle objectives for the project. Therefore, the Inception phase is critical for all projects because the scope of the effort, high-level requirements, and significant risks must be understood before the project can proceed.

Elaboration

The goal of the Elaboration phase is to move development of the solution from the scoping and high-level requirements done during the Inception phase to developing the detailed requirements, partitioning the solution, creating any necessary prototypes, and baselining the architecture of the system to provide a stable basis for the design and implementation effort in the Construction phase.

Construction

The goal of the Construction phase is to take the solution from detailed requirements models, through configuration of standard packaged software functionality, development and testing of custom components, and integration to a system that is ready for a first release that goes into production, often a limited release and often called a beta release. In short, complete the development of the application system, validate that all components fit together, and prepare the system for the acceptance test and deployment.

Transition

The goal of the Transition phase is to take the completed solution from installation onto the production system through the acceptance test to launch of the live application, open, and ready for business. Validate that the system is tested systematically and is available for end users. During this phase, the new system is accepted by the client organization, the organization is made ready for the new system, and the system is put into production and, if the new system replaces an old one, a smooth cutover to the new application is provided.

Production

The goal of the Production phase is to operate the newly developed system, assess the success of the system, and monitor and address system issues. This includes monitoring the system and acting appropriately to maintain continued operation; measuring system performance; operating and maintaining supporting systems; responding to help requests, error reports and feature requests by users; and managing the applicable change control process so that defects and new features may be

prioritized and assigned to future releases and put into a plan for future enhancements to the application system, as well as determining, developing, and implementing required updates.

Project Processes for Continuity

All OUM tasks are also organized into processes that group related tasks together. Project team members are assigned to these groupings according to their specialization and background. OUM includes the following processes.

Business Requirements

In the Business Requirements process, you define the business needs of the application system. The business requirements for the proposed system or new enhancements are identified, refined, and prioritized by a tightly integrated team of empowered ambassador users and experienced analysts. The process often begins from an existing high-level requirements document and a scope document, such as the Project Management Plan. However, it is possible to begin from an agreed on scope and objectives before requirements have been defined. The Business Requirements process delivers a set of requirements models and a prioritized list of requirements as a basis for system development. Both the models and requirements list are dynamic and may change as the understanding of the team develops with the system. The main outputs of this process are the business objectives and goals, the list of functional requirements, and the supplemental requirements.

Requirements Analysis

In the Requirements Analysis process, the functional and supplemental requirements identified and prioritized during the Business Requirements process are analyzed further into a Use Case Model that is further refined by adding use case details in order to establish a more precise understanding of the requirements. The Use Case Model is used as the basis for the solution development. This process helps provide structure and shape to the entire solution. The Use Case Model is used to document in detail the requirements of the system in a format that both the client and the developers of the system can easily understand. The main outputs of this process are the Use Case Model, a prototype of the user interface, and a high-level description of the software architecture.

Mapping and Configuration

In the Mapping and Configuration process, the key business data structures and associated values are defined and established within a prototype environment. The business requirements are assessed and mapped to the standard application and system features. A prototype environment is updated with detailed setup parameters and an iterative series of workshops are conducted in order to validate that the prototype aligns with the business requirements. Resolutions to any gaps between the business requirements and the standard application features and functions are defined, along with the documentation of detailed setup parameters. The main outputs of this process are the Application Setups and the Validated Configuration.

Analysis

During the Analysis process, the captured requirements are analyzed and mapped onto the chosen commercial-off-the-shelf (COTS) product set, if any, to ascertain which requirements can be met directly by configuring the product's capabilities and which requirements will require extending the product capabilities through the development of custom application software or custom extensions. Beyond product mapping, the purpose of Analysis is to refine and structure the requirements via a conceptual object model, called the Analysis Model. Most simply put, the Analysis Model is the collection of all of the analysis related artifacts, just as the Use Case Model documents the system's functional requirements. The Analysis Model provides a more precise understanding of the requirements and provides details on the internals of the system. The Analysis Model is described using the language of the developers as opposed to the requirements obtained in the Business Requirements and Requirements Analysis processes where the emphasis is on the functionality of the system expressed in the language of the client. Thus, it contributes to a sound and stable architecture and facilitates an in-depth understanding of the requirements. Many of the outputs produced during the Analysis process describe the dynamics of the system as opposed to the static structure. The Analysis Model is also considered the first cut of the Design Model, since it contains the analysis classes that will be further detailed during the Design process. The main output of the Analysis process is the Reviewed Analysis Model that includes a set of analysis classes (class diagrams) that realize the use cases. In addition, new software architecture views are added to the architecture description initially developed in the Business Requirements process and further enhanced in the Requirements Analysis process.

Design

In the Design process, the system is shaped and formed to align with all functional and supplemental requirements. This form is based on the architecture created and stabilized during the Analysis process. Design is the focus during the end of the Elaboration phase and the beginning of Construction iterations. The major outputs created in this process ultimately combine to form the Design Model that is used during the Implementation process. The Design Model can be used to visualize the implementation of the system. The main output of this process is the Reviewed Design Model that includes an object model that describes the design realization of the use cases and design classes that detail the analysis classes outlined in the Analysis Model.

Implementation

Through a number of steps, mostly iterative, the final application is developed within the Implementation process. The results from the Design process are used to implement the system in terms of source code for components, scripts, executables, etc. During this process, developers also implement and perform testing on software components. Implementation is the main focus of the Construction phase, but it starts early in the Inception phase in order to implement the architecture baseline (trial architecture and prototype). During Transition, it occurs in order to handle any defects or bugs discovered while testing and releasing the system. The main output of this process is the final iteration build that is ready to be tested.

Testing

The Testing process is an integrated approach to testing the quality and conformance of all elements of the new system. Therefore, it is closely related to the review tasks in the Quality Management process of OUM's Manage focus area and to the definition and refinement of requirements in the Business Requirements process. It addresses mainly functional testing; however, it also includes systems integration testing for projects with requirements for interfaces to external systems.

Testing activities are a shared responsibility of developers, quality assurance engineers, and ambassador users, working together as an integrated project team. The Testing process presupposes that there is a highly visible user interface from which system events can be driven and results validated. The higher proportion of artifacts that are visible to the ambassador users (for example, user interfaces and reports) the more they will be able to participate in the Testing process.

Performance Management

The objective of the Performance Management process is to proactively define, construct, and execute an effective approach to managing performance throughout the project implementation lifecycle in order to validate that the performance of the system or system components is aligned with the user's requirements and expectations when the system is implemented. Performance Management is not limited to conducting a performance test or an isolated tuning exercise, although both those activities may be part of the overall Performance Management strategy. The requirements that drive Performance Management also impact Technical Architecture and the two processes are closely related.

Technical Architecture

The goal of the Technical Architecture process is to design an information systems architecture to support and realize the business vision. The tasks in the Technical Architecture process identify and document the requirements related to the establishment and maintenance of the application and technical infrastructure environment for the project. Processes and procedures required to implement, monitor and maintain the various environments are established and tested.

Data Acquisition and Conversion

The objective of the Data Acquisition and Conversion process is to create the components necessary to extract, transform, transport and load the legacy source data to accommodate the information needs of the new system. The data that will be converted is explicitly defined, along with its sources. This data may be needed for system testing, training, and acceptance testing as well as for production. In some cases, it is beneficial to convert (some) data at earlier stages to provide as realistic as possible reviews of the components during the development iterations.

Documentation

Quality documentation is a key factor in supporting the transition to production, gaining user acceptance, and maintaining the ongoing business process. The requirements and strategy for this

process vary based on project scope, technology, and requirements. For projects that include Oracle Application products, the Oracle Application manuals are the foundation of implementation documentation. The Documentation process includes development of documentation to augment the standard Oracle Application products manuals with specific information about the organization's custom software extensions and specific business procedures.

Organizational Change Management

The Organizational Change Management process starts at the strategic level with executives and then identifies the particular human and organizational challenges of the technology implementation in order to design a systematic, time-sensitive, and cost-effective approach to lowering risk that is tailored to each organization's specific needs. In addition to increasing user adoption rates, carefully planning for and managing change in this way allows organizations to maintain productivity through often-difficult technological transitions. This in turn enables the organization to more easily meet deadlines, realize business objectives, and maximize return on investment.

Training

The objectives of the Training process are to make sure that the project team is adequately trained to begin the tasks necessary to start the project and the users are adequately trained to take on the tasks of running the new application system.

Transition

The goal of the Transition process is to install the solution, which includes providing installation procedures, and then take it into production. This process begins early in the project by defining the specific requirements for cutover to the new application system. It then includes tasks to carry out the elements of that strategy such as developing an installation plan, preparing the production environment, performing the cutover, and decommissioning any legacy systems.

Operations and Support

The goals of the Operations and Support process are to monitor and respond to system problems; upgrade the application to fix errors and performance problems; evaluate the system in production; and plan enhancements for increased functionality, improved performance, and tighter security. The development project does not come to an abrupt end when the team installs the application system into production. In fact, the months following that milestone can determine the real success or failure of the project. Internal auditors have not yet produced the system evaluation, and users most likely still have a few problems to uncover. There are certain to be requirements with lower priorities that have not been implemented. The 'could have' requirements and any remaining 'should have' can now be re-prioritized into an enhancement plan, from which upgrades can be defined.

Project Activities Represent the Engagement Lifecycle

An activity is the next level of organization below a phase. Tasks in OUM are grouped into activities to better represent the engagement lifecycle. For example, Gather Solution Requirements is one of the activities within the Inception phase. This activity consists of tasks related to collecting requirements for the solution.

Activities allow the project manager to streamline creation and management of the Work Breakdown Structure (WBS) for an engagement. Because all tasks fall within an activity, project managers (and other practitioners) are able to manage to the activity-level rather than the task-level.

Managing an OUM Project

The Manage focus area provides a framework in which all types of projects can be planned, estimated, controlled, and completed in a consistent manner. Consistency is required in today's business environment, where projects often implement packages, develop application extensions, and create a data warehouse in order to address a business need.

Project management enables the project manager to manage delivery of an agreed upon level of solution quality while planning for and controlling the scope, cost, and schedule.

The Manage focus area has three phases:

- Project Start Up Phase
- Project Execution and Control Phase
- Project Closure Phase

Integration of the Manage focus area phases with the Implement focus area phases is illustrated below:
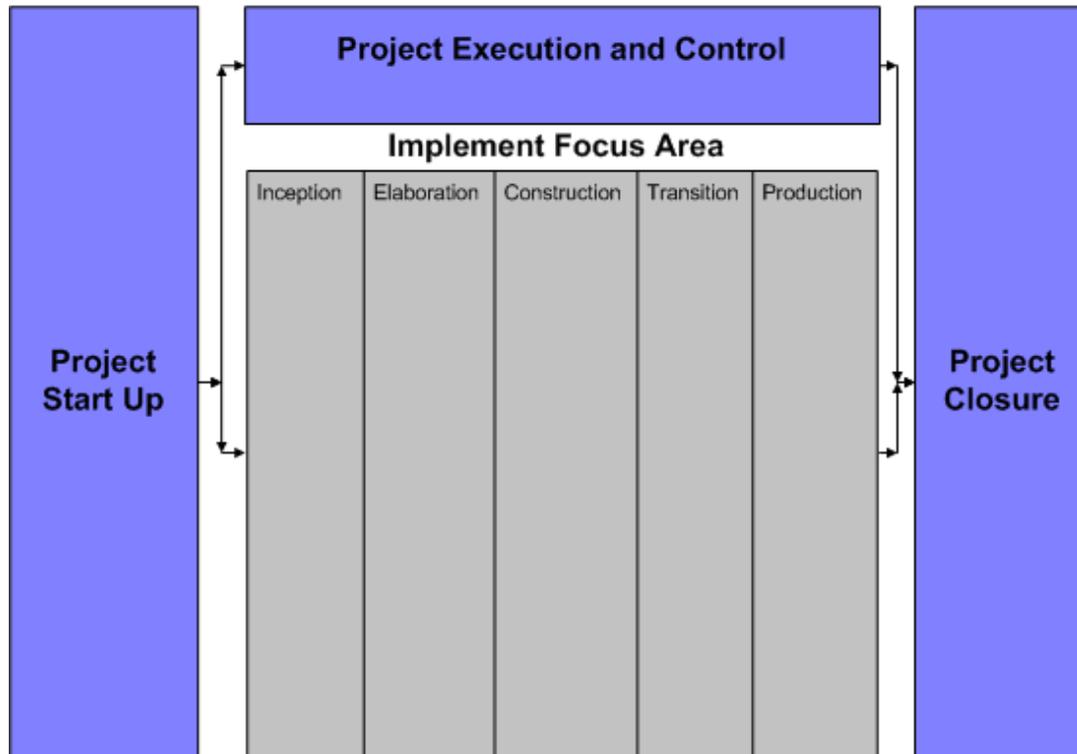

Figure 2.OUM Manage Focus Area

The Project Start Up phase precedes the Inception phase. As implied by its name, the Project Start Up phase targets the beginning of the project. The goal of this phase is to conduct the necessary project start up. The project manager defines the project with respect to scope, quality, time, and cost. The overall Project Management Plan and the plans for each Manage process are developed. The Project Start Up phase also includes establishing the project infrastructure and securing project resources.

The Project Control and Execution phase is directly associated with the project lifecycle phases in OUM Implement (or another execution method). The purpose of this phase is to manage the execution of the project. That includes using the policies, standards, and procedures delineated in the Project Start Up phase, and performing the necessary reviews and measurements to confirm that the project is being executed according to the published plan. It is also involves the process of comparing actual performance with planned performance, analyzing variances, evaluating possible alternatives, and taking appropriate corrective action as needed. Corrective actions are changes made to bring expected future performance of the project into line with the plan. The Project Execution and Control

phase tasks are repeated for each execution method lifecycle phase (for example, Inception, Elaboration, etc.).

The Project Closure phase occurs after the Production phase. During this phase, the project is "closed" from an administrative and contractual standpoint. This includes validating the project outputs are complete and aligned with the organization's expectations; gaining final confirmation; and securing all documents for reuse, collection, and retention.

The Manage focus area is organized into 13 processes:

- Bid Transition

- Scope Management

- Financial Management

- Work Management

- Risk Management

- Issue and Problem Management

- Staff Management

- Communication Management

- Quality Management

- Configuration Management

- Infrastructure Management

- Procurement Management

- Organizational Change Management

Collectively, these processes form a comprehensive set of tasks required to manage Oracle-based development and implementation projects. Every project includes most, if not all, of these processes, whether they are the responsibility of a consulting organization, a client organization, or a third party.

Developing and Maintaining Enterprise Architecture Activities

The Envision focus area provides a framework for development and maintenance of enterprise level IT strategy, architecture, and governance. The Envision guidance helps project team's transition from enterprise-level planning and strategy activities to the identification and initiation of specific projects.

The Envision focus area consists of two phases:

- Initiate

- Maintain and Evolve

The Initiate phase is used to perform a set of foundational tasks. These tasks have a broad range of objectives and applicability. At one end, the Initiate phase can establish the vision for one or more

projects intended to accomplish a focused set of business objectives. On the other end, the Initiate phase can result in establishment of a broad set of enterprise level IT processes that are continued in the Maintain and Evolve phase.

The Maintain and Evolve phase forms the foundation for governing and managing enterprise level business processes and strategies. Envision is not intended to be a broad treatise on corporate strategic planning. It is focused on information technology related business architecture and practices.

The Envision focus area is organized into six processes:

- Envision Roadmap

- Enterprise Business Analysis

- Organizational Change Management

- Enterprise Architecture

- IT Portfolio Management

- Governance

The Envision focus area extends OUM's capabilities beyond implementation and management of IT projects into the realm of vision and strategy. It is not likely that all of Envision's processes and tasks will be executed within any single enterprise, nor is it likely that Envision will ever contain an exhaustive set of enterprise level processes. Rather, Envision should serve as a framework that can be scaled to suit the needs of a particular enterprise.

Components of OUM

With OUM, you receive the following:

- **Overview Materials** – Provides an overview of OUM's approach to IT projects, including the industry standards upon which OUM is based.

- **Guidelines** – Phase, process, task, role, and output guidelines that cover every aspect of an Oracle-based business solution.

- **Templates** – Templates enable fast and easy creation of high quality outputs.

- **Tailored Work Breakdown Structure** – These standards enable an easy start in managing your project.

Hardware and Software Requirements

The following hardware and software are required to run OUM:

- Minimum of 1 gigahertz (GHz) processor speed

- 250 megabyte (MB) of disk space

- 520 megabyte (MB) RAM minimum

- Microsoft Windows 7, 2000, XP, NT 4.0

- Microsoft Office 2000 or later

- Microsoft Project 98 or later

- Microsoft Visio 5.0 or later (Optional)

- Adobe Acrobat Reader 6.0 or later

- Microsoft Internet Explorer 6.0 or later, Netscape 7.0 or later, or Mozilla Firefox 2.0.0.16 or later

Conclusion

With OUM, Oracle's full lifecycle method for deploying Oracle-based business solutions, you can move efficiently through the IT lifecycle to quickly realize measurable business results.

For more information about OUM, contact ominfo_us@oracle.com, visit blogs.oracle.com/oum, join Oracle Unified Method group on LinkedIn.com, or follow oum_info on Twitter.com.

For more information about the OUM Customer Program, contact your Oracle Sales Representative.

For more information about Oracle Consulting, contact your local Oracle Consulting representative or visit oracle.com/consulting.

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Oracle is committed to developing practices and products that help protect the environment

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Hardware and Software, Engineered to Work Together