Warranty Disclaimer

THIS DOCUMENT AND ALL INFORMATION PROVIDED HEREIN (THE "INFORMATION") IS PROVIDED ON AN "AS IS" BASIS AND FOR GENERAL INFORMATION PURPOSES ONLY. ORACLE EXPRESSLY DISCLAIMS ALL WARRANTIES OF ANY KIND, WHETHER EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NON-INFRINGEMENT. ORACLE MAKES NO WARRANTY THAT THE INFORMATION IS ERROR-FREE, ACCURATE OR RELIABLE. ORACLE RESERVES THE RIGHT TO MAKE CHANGES OR UPDATES AT ANY TIME WITHOUT NOTICE.

As individual requirements are dependent upon a number of factors and may vary significantly, you should perform your own tests and evaluations when making technology infrastructure decisions. This document is not part of your license agreement nor can it be incorporated into any contractual agreement with Oracle Corporation or its affiliates. If you find any errors, please report them to us in writing.

Third Party Content, Products, and Services Disclaimer

This document may provide information on content, products, and services from third parties. Oracle is not responsible for and expressly disclaim all warranties of any kind with respect to third-party content, products, and services. Oracle will not be responsible for any loss, costs, or damages incurred due to your access to or use of third-party content, products, or services.

Limitation of Liability

IN NO EVENT SHALL ORACLE BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL OR CONSEQUENTIAL DAMAGES, OR DAMAGES FOR LOSS OF PROFITS, REVENUE, DATA OR USE, INCURRED BY YOU OR ANY THIRD PARTY, WHETHER IN AN ACTION IN CONTRACT OR TORT, ARISING FROM YOUR ACCESS TO, OR USE OF, THIS DOCUMENT OR THE INFORMATION.

Oracle is a registered trademark of Oracle Corporation and/or its affiliates. Other names may be trademarks of their respective owners.
Send Us Your Comments

Maturity Model, Release 3.0
E14485-03

Oracle welcomes your comments and suggestions on the quality and usefulness of this publication. Your input is an important part of the information used for revision.

- Did you find any errors?
- Is the information clearly presented?
- Do you need more information? If so, where?
- Are the examples correct? Do you need more examples?
- What features did you like most about this document?

If you find any errors or have any other suggestions for improvement, please indicate the title and part number of the documentation and the chapter, section, and page number (if available). You can send comments to us at its_feedback_ww@oracle.com.
This document describes the Maturity Model defined in the IT Strategies from Oracle series.

Overview

The world of IT is constantly changing as new technologies, standards, products, and techniques are created and employed. Some technologies are easily adopted with minimal impacts. Other technologies require substantial effort to adopt due to the impact, breadth, and complexity of the changes required for successful adoption.

The IT Strategies series uses the term Enterprise Technology Strategy (ETS) for these wide-impact technologies. An ETS provides essential and detailed information from the perspective of a specific technology strategy. An ETS provides the level of content required to explain how to execute on a strategy in an architecturally consistent fashion. Examples of ETSs are: Service-Oriented Architecture (SOA), Business Process Management (BPM), Business Intelligence (BI), Web 2.0, Event Driven Architecture (EDA), etc.

In order to successfully execute an ETS, an organization must identify the needed capabilities required by that ETS and measure their organization’s proficiency in each of these essential capabilities. This is the genesis for the generic Maturity Model.

The Maturity Model provides a consistent, structured way to define and measure the progress of an Enterprise Technology Strategy. The model defines the concept of capabilities that capture the best practices that Oracle has collected over many years working with a wide variety of companies. The capabilities for each ETS are distinct for that ETS. This allows each ETS to have a unique maturity model focused on the capabilities required to be successful with that ETS.

The Maturity Model defines the concept of domains to classify and organize the related capabilities. The model also defines two measurement scales, maturity and adoption, and specifies levels for each of these measurement dimensions. The domains, maturity levels, and adoption levels are defined in section "Maturity Model".

Rather than trying to create a new, unique Maturity Model for each ETS, the generic Maturity Model defines the domains and measurement levels that are then applied across all ETSs. Using a consistent set of domains to categorize capabilities and a consistent measurement scale provides consistency across ETSs. In addition to providing consistency, this also allows Maturity Models for ETSs to be combined to create a "composite" measurement for an organization that is adopting more than one ETS concurrently.
Thus, the generic Maturity Model provides consistency and composability of progress measurement across ETSs while preserving the uniqueness of each ETS since each ETS defines the capabilities that are essential for successful execution of that ETS.

Creating an ETS Maturity Model

Defining an ETS Maturity Model consists of the following steps:

1. Identify and describe the capabilities required for successful execution of the ETS.
2. Categorize the capabilities into the domains defined by the generic Maturity Model.
3. For each capability provide a description for each level of maturity and each level of adoption.

The descriptions provided for each level of maturity and adoption should be written so that measurement against those descriptions is as objective as possible. Descriptions based on subjective measurements make it much more difficult to achieve consistency of progress measurement across organizations and measurement teams.

Each description should incorporate only a single item being measured. Multi-item descriptions can lead to ambiguity since an organization may exhibit some but not all of the items. If a description is multi-item it frequently means that the capability being described is actually more than one capability. In this situation, the capability should be refactored into two (or more) capabilities.

Each capability included in the ETS Maturity Model should represent a best practice for that ETS. It is recommended that specific standards and products not be included in either the capability description or the maturity or adoption level descriptions. Rather, the underlying best practice for the capability should be described.

For example, in SOA a best practice is to provide loose coupling between the service consumer and the service provider. An Enterprise Service Bus (ESB) is a typical way to provide loose coupling, however, the ESB is not the best practice; rather loose coupling is the best practice and an ESB is one approach to achieve loose coupling. Thus, the capability measured in the SOA Maturity Model is loose coupling, not ESB.

Maturity Model

This section describes the generic Maturity Model. The key concepts in the model are capabilities, domains, maturity, and adoption.

Capabilities and Domains

The Maturity Model defines the concept of domains to classify and organize related capabilities. As depicted in Figure 1–1, there are eight domains defined in the model:
- Business & Strategy - Contains capabilities that provide the high-level constructs that allow the ETS initiative to proceed. This includes such things as business motivation, expected benefits, guiding principles, expected costs, funding model, etc.

- Architecture - Contains capabilities concerning the definitions of the overall architecture and guidelines for various practitioners to ensure adherence to the architecture.

- Infrastructure - Contains capabilities concerning the infrastructure and tools that provide the technical foundation for the ETS initiative.

- Information - Contains capabilities concerning the information aspects of the ETS. This includes shared data models, message formats and schemas, data ownership, data management, content management, etc.

- Projects, Portfolios & Services - Contains capabilities concerning the planning (portfolio management) and building (engineering) of applications and services that are part of the ETS initiative.

- Operations, Administration & Management - Contains capabilities concerning the post deployment aspects of solutions based on the ETS i.e. the Operations, Administration, and Management aspects of the ETS.

- Organization - Contains capabilities concerning the development of corporate competency around ETS including the organizational structure and skills development.

- Governance - Contains capabilities concerning the governance structures and processes that support and guide the ETS efforts. Maturity and adoption of an adequate amount of governance is a leading indicator of the overall ETS success.

These eight domains, although interrelated, are sufficiently distinct. To succeed at ETS adoption, an organization must adequate progress in all of these domains.
Maturity

Within the software industry, maturity is frequently related to the Capability Maturity Model (CMM) and the CMM successor, the Capability Maturity Model Integration (CMMI). The generic Maturity Model parallels this understanding and measures SOA capability against defined maturity levels. The levels of maturity used in the model (from highest to lowest) are:

- **Optimized** – Metrics are being consistently gathered and are being used to incrementally improve the capability. Assets are proactively maintained to ensure relevancy and correctness.
- **Managed** – The capability is being measured and quantitatively managed via some type of governance structure. Appropriate metrics are being gathered and reported.
- **Systematic** – The approach has been reviewed and accepted by affected parties. There has been buy-in to the documented approach and the approach is always (or nearly always) followed.
- **Opportunistic** – An approach has been decided upon and is being opportunistically applied. The approach has not been widely accepted nor adopted. It may be informally defined, or if documented, may exist primarily as “shelf ware”.
- **Ad Hoc** – Awareness of the ETS exists and some groups are using the ETS concepts and technologies. There is no plan being followed.
- **None** - There is no approach being taken. The ETS is not underway.

The maturity levels progress from 'None' up to 'Optimized.' These levels define the path an organization usually takes when implementing a new technology strategy. Of course, by the time the maturity level of 'Systematic' is reached, it is no longer considered a "new" technology strategy since at this level of maturity it has become the standard approach throughout the organization.

Adoption

Adoption measures how widely an ETS is being accepted, embraced, and applied within the enterprise. For smaller organizations maturity and adoption are usually tightly related since there is only a single approach to the ETS being followed by the entire organization. However, in large organizations new technologies are usually adopted gradually, starting in one area and then being progressively adopted by more of the enterprise.

Within large enterprises it is also possible that an ETS will be embraced by two or more groups concurrently and independently i.e. technology silos. This can result in conflict, redundancy, and interoperability issues as the technology spreads and these independent groups come into contact. Rectifying these situations requires a standardization and rationalization effort.

To accurately capture and record the current situation within the organization, the Maturity Model measures this adoption dimension separately. The adoption levels defined by the model are:

- **Enterprise Level** – The capability is implemented consistently across the enterprise i.e. all divisions or business units are applying the same approach.
- **Cross Division** – The capability is implemented by multiple divisions using a common approach i.e. the approach is being shared or is spreading to multiple divisions.
- Division Wide - The capability is implemented consistently across a division or business unit. A division or business unit is led by an executive at the VP level or higher.

- Program Level - A relatively small group of projects (program) share an implementation of the capability. The program is under a single management structure below the VP level and encompasses less than an entire division or business unit.

- Project Level - Individual projects implement the capability as appropriate for that specific project. There may be informal and unregulated sharing across projects.

- No Implementation - There is no current implementation anywhere in the enterprise of the capability being measured.