

Data Management Maturity (DMM) Model Update

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Data Management Maturity Model

Partnership between the Enterprise Data Management Council (EDM Council) and the SEI to develop a model for data management.

Detailed documentation of all components associated with data management at the project and organization level (practical measurement criteria based on operational reality)

Consistent measurement criteria for appraising data management capabilities that can be verified



Current Status

Baseline content developed by EDM Council and verified by members (6 categories, 15 component areas, 36 business process areas, 18 policies/procedures, 200 capability measures)

Core team has been meeting 2/3x per week since January, 2011 to define components (definition, purpose, core issues, explicit goals, expected artifacts) and measurement criteria for each business process area

Prototype of the Data Profiling process area has been produced and is under review

Core content released by the EDMC



Next Steps



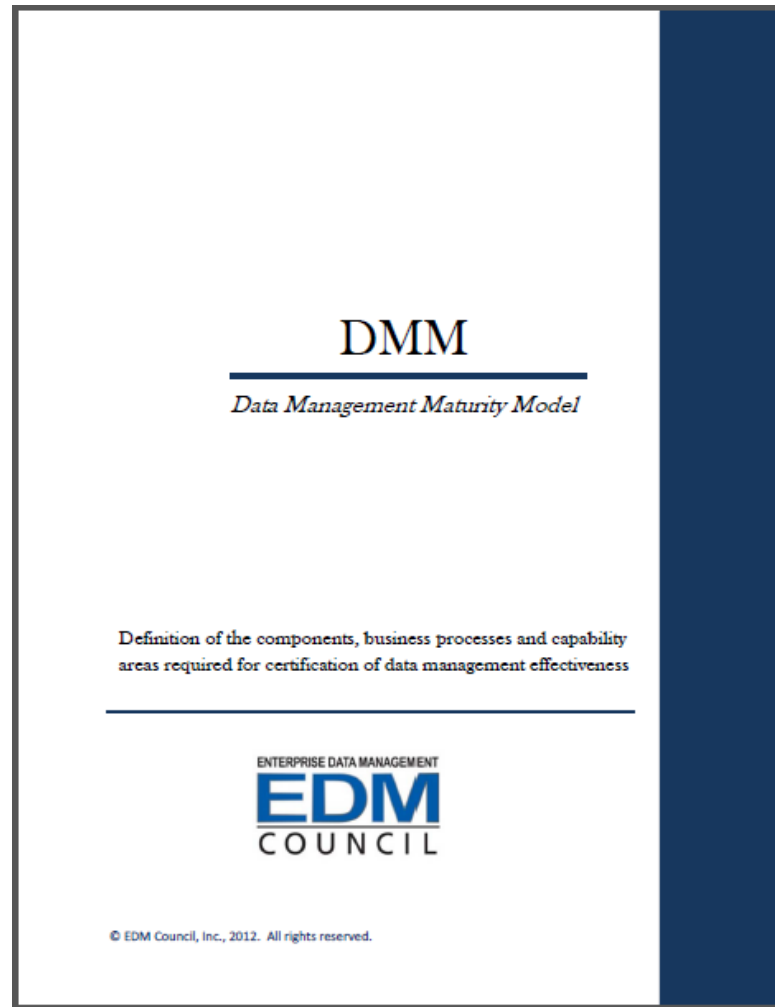
Discussions with regulators and market authorities on use of DMM for evaluating data management capability (in line with Senior Supervisors Report)

Building upon the prototype creating for certification and regulatory adoption

- DMM
- Training
- Any needed modification to SCAMPI appraisal methodology



Core Content Document Released by EDM Council – July 1, 2012



DMM Proposed Process Areas

Data Management Strategy	<i>Data Management Goals</i>	Data Management Objectives Data Management Priorities Scope of Data Management Program
	<i>Corporate Culture</i>	Alignment Communications Strategy
	<i>Governance Model</i>	Governance Structure Organization Model Oversight Governance Implementation & Management Human Capital Requirements Measurement
	<i>Data Management Funding</i>	Total Lifecycle Cost of Ownership Business Case Funding Model
	<i>Data Requirements Lifecycle</i>	Data Requirements Definition Operational Impact Data Lifecycle Management
Data Management Operations	<i>Standards and Procedures</i>	Areas Promulgation Business Process and Data Flows Data Dependencies Lifecycle Ontology and Business Semantics Data Change Management
	<i>Data Sourcing</i>	Data Sourcing Requirements Procurement & Provider Process

Platform and Architecture	<i>Architectural Framework</i>	Architectural Standards Architectural Approach
	<i>Platform & Integration</i>	Data Management Platform Application Integration Release Management Historical Data
Data Quality	<i>Data Quality Framework</i>	Data Quality Strategy Development Data Quality Measurement & Analysis
	<i>Data Quality Assurance</i>	Data Profiling Data Quality Assessment Data Quality for Integration Data Cleansing
Support Process Areas		Configuration Management Measurement and Analysis Requirements Management Risk Management





SEI Observations from Our Reviews of the DMM



DMM Core Content – Selected Observations from the SEI Review Team

DMM Core Content could be used to help

- Verify the completeness of the developing model
- Split functional and institutionalization practices
- Resolve material is written at different levels of detail.

Identified relevant CMMI, People CMM and RMM Process Areas

- Human Capital Requirements → P-CMM {STAFF, WFP, OCM}, RMM {HRM, PM}
- Measurement → Core.{MA, GP2.8}
- Change Requests and Exception Management → SVC {IRP}, RMM {IMC}

Capability levels (CLs) are used to stratify practices functionally within a PA

- No separate, detailed characterization of CLs is provided
- Use RMM focus on process governance instead CMMI poliby

Other PAs that might provide value to DMM

- CMMI Process Management (OPD, OPF)
- Support PAs (REQM, CM, RSKM, MA) can be lifted from CMMI Core (augmented by RMM components: RRM, RISK, etc.)



DMM Model Requirements



DDM Requirements – EDMC and SEI

Align DMM with CMMI to leverage the benefits of the CMMI brand
Levels within Process Areas that emphasize increase functional
capability

Reuse from CMMI constellations, People CMM, and RMM

Address the unique aspects of Data Management

Flexible Model/Training/Appraisal

Incremental builds to

- Test assumptions
- Get stakeholder agreement
- Get-to-market faster

Develop full product suite (Model, Training, Appraisal)

Address Data Management link to Risk Management in-line with the
Senior Supervisors report/financial regulators/Dodd-Frank legislation



A Maximal CMMI Reuse Strategy for Developing DMM V1.0



SEI Recommended Approach

First draft a Prototype PA for DMM V1.0

- Incorporate the CMMI dimension CLs, GGs, GPs
- Scrub DMM Practices, removing GP-isms from the statements of the practices.

Reconcile CMMI and BITS Glossaries

- Established harmonized glossary

Identify initial CMMI Core PAs to Use in DMM

- MA, CM, REQM, RSKM
- But also DAR, OPF, OPD, PPQA
- And to address higher capability, the HM PAs: OPP, OPM, CAR, and an adjusted QPM



DMM Development Team

Software Engineering Institute

- Gian Wemyss, Rusty Young, Mike Konrad, Rhonda Brown

EDM Council

- Jim Halcomb, Mike Atkin

Booz Allen Hamilton

- Melanie Mecca

Microsoft Corporation

- Art Freas

Lockheed Martin Corporation

- Lynn Penn

Tool Support for Development and Pilots

ISD – Appraisal Wizard

- Paul Byrnes, Mike Simmons

Method Park - Stages

- Eric Meier



Prototype – Principles - 1

1. Minimize the need to learn a new language in order to use the model.
2. All functional practice statements will appear together grouped by level.
3. If a statement relates to a generic practice in CMMI it will be referenced using footnotes/hyperlinks rather than treated as an elaboration and placed elsewhere in the model.
 - *Note:* We acknowledged that we will find the inconsistent application of generic concepts across the DMM for a given level (e.g. reviewing status with higher level management at level 2). We discussed marking these instances as gaps for further development. We also discussed the possibility that certain practices should be deemed to be applicable to every process area and we should avoid making formulaic statements.



Prototype – Principles - 2

4. Functional practice statements should adhere to the following quality criteria:
 - Unambiguous (hard to assess "appropriate")
 - Orthogonal (independent)
 - Acceptable to the users
 - Convey what and why (Non-prescriptive and non-negative)
 - Minimize compound statements
 - Is sufficiently detailed to make the process area recognizable to the user
 - Retain statements that pertain to higher and lower levels of activity - it is useful to see a progression.
5. Target State - Multiple Views of a Single Document: Can “see” operations, management, executive, appraiser needs in one document (assign task to M. Atkin) (Technology enabled – push-button to “see”)



Prototype – Principles - 3

6. Guidelines for Functional Practice Statements:

- While some statements can stand on their own, others may require additional information to understand.
- May include additional +information to explain what is meant by the singular statement.
- Expand upon the statement for operational use and appraisal evidence. Establish boundaries for the statement – what is included and what is NOT included.
- Try to stay between 3 to 7 statements per PA. Careful to reduce statements without reducing information.

Levels:

1. Competency (how good am I at this): ad hoc, practiced, standardized, measured statistically, feedback processes to facilitate improvements
2. Maturity (at what level are we doing this thing): project, business unit, organizational level, enterprise level, industry level



The Result – Prototype #2

[DMM Data Profiling Prototype](#)



Plan for Developing DMM V1.0



Milestones

- July 31, 2012 Development activities begin
- November 15, 2012 DMM PA Prototype Approved by Sponsors
- DMM Model – Build 1 Completed on February 15, 2013
- DMM Model – Build 2 Completed on July 8, 2013
- DMM Model – Build 3 Completed on September 12, 2013
- DMM Model – Build 4 Completed on December 5, 2013
- DMM Model Sponsor\EDM Member Draft released December 31, 2013
- DMM Model V1.0 released (Final QA) March 6, 2014
- DMM Product Suite (Model, Training, MDD, Certification) released March 20, 2014



An Opportunity To Get Involved...

- Sponsorship of DMM creation and roll-out
- Data management from a non-financial industry perspective
- Looking for organizations to pilot the DMM (and partners to help with piloting activities)



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