Specification of Competency Standards
for the Information & Communications Technology Industry
Unit of Competency

Functional Area - Data Science

Title	Check usability of a target data architecture
Code	111139L6
Range	This UoC involves reviewing the correctness and completeness of a target data architecture via mapping and gap analysis between data assets and target data architecture to ensure the constructed data architecture meets the data policies of the organisation
Level	6
Credit	6 （For Reference Only）
Competency	Performance Requirements 1. Understand various architecture viewpoints supported by different data architecture artefacts in terms of various data categories or data classification (See Remark 1) • Be able to: o understand how various architecture viewpoints can be used to address the needs of different stakeholders, e.g. managers, software developers and the information requirements, meeting the data policies of the organisation o understand the advantages and disadvantages of different architecture viewpoints in representing data assets (See Remark 2) 2. Baseline the existing data assets • Be able to: o stock take the existing data assets in the organisation o develop descriptions for existing data assets o provide guidelines to incorporate the data assets into the data architecture 3. Select relevant data architecture viewpoints to represent data assets • Be able to o select and define suitable data architecture viewpoints to represent data assets to address stakeholders' needs and information requirements o perform trade-off analysis (e.g. completeness vs. simplicity) to resolve conflicts in the selection of architectural viewpoints 4. Develop mappings between existing data assets and the target data architecture • Be able to o document the mappings between the data entities used in the existing data assets and the data entities defined in the data architecture o define suitable document formats for different disciplines of stakeholders so that they can understand and review the mappings of their managed data assets to the target data architecture 5. Perform gap analysis between existing data assets and the target data architecture • Be able to o perform the gap analysis between the existing data assets and the target data architecture o review the architecture viewpoints used in the data architecture to confirm whether they can accurately represent data assets in order to address stakeholders' needs and information requirements

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	○ review discrepancies between the data structures in existing data assets and those defined in the target data architecture
Assessment Criteria	The integrated outcome requirement of this UoC are the abilities to: • develop mappings between existing data assets and the target data architecture; and • perform gap analysis between existing data assets and the target data architecture to assure that the target data architecture can meet the business requirements
Remark	1. For example, one of the data categories refers to structure data, semi-structured data or unstructured data. And the data classification refers to public data, personal data, sensitive data or confidential data 2. Different architecture viewpoints are supported by different types of artefacts. For example, • business process models (e.g. flowcharts, UML activity diagrams) provide the viewpoints to understand how data is flowed between business processes; • conceptual and logical models present the structures and relationships of data entities; and • Multilayered architecture is used for different data categories and/or data classifications • Data dictionaries list and specific data entities in a table format, e.g. spreadsheet