THE Open GROUP

The Open Group® Certification for People

IT4IT™
Conformance Requirements
(Level 1)

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The Open Group® Certification for People: IT4IT™ Conformance Requirements (Level 1)

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1. Introduction

This document, The Open Group Certification for People IT4IT™ Conformance Requirements, is an integral part of The Open Group® Certification for People: IT4IT™ Certification Program (the Program). Defined terms herein are in addition to definitions provided in the IT4IT™ Program Configuration document.

This document defines the requirements for certification of individuals within the Program, which in turn form the learning requirements for Accredited Training Courses.

1.1 Terminology and Definitions

This table defines terms or clarifies the meaning of words used within this document. Where an acronym is also used, it is provided in parentheses.

Accredited Training Course (ATC)	A training course, operated by a training course provider, that has successfully completed the accreditation process and which is listed in the register of Accredited Training Courses on the Certification Authority's website.
Body of Knowledge (BoK)	The set of information within the subject area that a Candidate is expected to have understanding of in order to achieve certification within the Program.
Candidate	A person seeking certification.
Certification Authority	The organization that manages the day-to-day operations of the Program. The Open Group is the Certification Authority for the Program.
Examination Provider	The organization(s) contracted by The Open Group to provide and administer the certification examinations at test centers throughout the world.
Key Learning Point (KLP)	A self-contained learning objective, derived from the Body of Knowledge with a unique reference, typically ranging from 2 to 15 minutes' study time.
Learning Outcome	What the Candidate should know, understand, or be able to do on completion of learning about one or more Key Learning Points. Each Learning Outcome should have at least one Key Learning Point reference and define the depth of knowledge required for each Key Learning Point.
Learning Unit	A related set of Learning Outcomes. It is expected that a Learning Unit would equate to between 30 and 90 minutes of taught learning equivalence.

2. Conformance Terminology

The Conformance Requirements by certification level are specified as sets of Learning Units. To achieve certification for a given level, Candidates are required to complete the applicable Learning Units and successfully pass the corresponding Indicator of Compliance (see Section 4).

The definition of the Learning Units does not dictate the structure, order, or time duration that topics should be taught in an Accredited Training Course. Training organizations are free to structure their courses as they see fit, so long as Candidates have the mandatory Learning Outcomes at the end of a course for the target certification level.

2.1 Learning Unit Format

Each Learning Unit is defined in a table organized as follows:

UNIT Number	**Unit Name – A descriptive name for the Learning Unit**
Purpose	A succinct statement of the purpose of the Learning Unit, including a high-level Learning Outcome.
KLP Reference	A reference back to the Key Learning Point reference in the mapping to the Body of Knowledge, as detailed in Section 5. **This is required for traceability.**
Learning Outcome	**Candidate Learning Outcome Statement** A statement of what the Candidate is expected to have learned by completing the Learning Unit. A specific term is used to define the depth of learning, from low to high as follows: • **Identify** – name one or more items. • **List** – name multiple items. • **Understand** – an understanding of the concept or item. • **Define** – provide a definition of a term. • **Demonstrate** – describe and explain a concept or term. • **Describe/State** – provide a description of or statement for a concept or item; give a factual statement. • **Explain** – provide a description with a rationale. • **Discuss** – the ability to write logically about a topic. • **Justify** – demonstrate the correctness of an assertion through a written discussion.

3. Level 1 Conformance Requirements

To achieve certification to Level 1 Candidates must complete all Learning Units defined in this section and successfully pass the corresponding Indicator of Compliance for Level 1 certification (see Section 4).

3.1 IT4IT Overview

UNIT 1	**IT4IT Overview**
Purpose	The purpose of this Learning Unit is to help the Candidate understand the IT4IT Reference Architecture at an overview level
KLP Reference	1.*, 2.*, 3.*,4.1
Learning Outcome	The Candidate must be able to: 1. Explain what The Open Group IT4IT Reference Architecture is and what approach it uses (KLP 1.2-1) 2. Identify the intended use of IT4IT Reference Architecture for organizations (KLP 4.1-1) 3. Identify the intended use of the IT4IT Reference Architecture for suppliers of IT management products and services (KLP 4.1-2) 4. List the guiding principles that the IT4IT Framework adheres to (KLP 3.1-5) 5. Demonstrate understanding of the IT Value Chain (KLP 3.1-1) 6. Briefly describe the difference between the primary activities and supporting activities in the IT Value Chain (KLP 3.1-2) 7. List the primary activities of the IT Value Chain (KLP 3.1-3) 8. List the supporting activities of the IT Value Chain (KLP 3.1-4) 9. Explain the difference between value chain and value stream (KLP 3.2-2) 10. Briefly describe how the IT value chain supports the IT service lifecycle (KLP 3.3-1) 11. Briefly describe how the four value streams manage the full service lifecycle (KLP 3.3-2)

3.2 Definitions

UNIT 2	Definitions
Purpose	The purpose of this Learning Unit is to help the Candidate understand the key terminology of the IT4IT Reference Architecture standard.
KLP Reference	2.*
Learning Outcome	The Candidate must be able to understand and explain the following definitions: 1. Service Lifecycle Data Object (KLP 2.1-1) 2. IT Value Chain (KLP 2.2-1) 3. Value Chain (KLP 2.3-1) 4. Value Stream (KLP 2.4-1) 5. Functional Component (KLP 2.5-1) 6. Service Model Backbone Data Object (KLP 2.6-1) 7. Relationship (KLP 2.7-1) 8. System of Record (KLP 2.8-1) 9. IT Service (KLP 2.9-1) It is expected that these definitions would be covered as part of the learning in other units.

3.3 Basic Concepts

UNIT 3	Basic Concepts
Purpose	The purpose of this Learning Unit is to help the Candidate understand the Basic Concepts of IT4IT value streams and the IT4IT Reference Architecture.
KLP Reference	3.*
Learning Outcome	The Candidate must be able to: 1. Briefly describe an overview of the Strategy to Portfolio (S2P) value stream (KLP 3.2-3) 2. Briefly describe an overview of the Requirement to Deploy (R2D) value stream (KLP 3.2-4) 3. Briefly describe an overview of the Request to Fulfill (R2F) value stream (KLP 3.2-5) 4. Briefly describe an overview of the Detect to Correct (D2C) value stream (KLP 3.2-6) 5. Describe what functional components and data objects are (KLP 3.2-7) 6. Explain the relationship of functional components to data objects (KLP 3.2-8) 7. Describe the scope of S2P (KLP 3.3-3) 8. List S2P value propositions (KLP 3.3-4) 9. List S2P typical activities (KLP 3.3-5) 10. Describe the scope of R2D (KLP 3.3-6) 11. List R2D value propositions (KLP 3.3-7) 12. List R2D typical activities (KLP 3.3-8) 13. Describe the scope of R2F (KLP 3.3-9) 14. List R2F value propositions (KLP 3.3-10) 15. List R2F typical activities (KLP 3.3-11) 16. Describe the scope of D2C (KLP 3.3-12) 17. List D2C value propositions (KLP 3.3-13) 18. List D2C typical activities (KLP 3.3-14) 19. Explain the concept of the four pillars “anchoring” the IT Value Chain – the Service Model, the Information Model, the Functional Model, and the Integration Model (KLP 3.4-1) 20. Explain the IT4IT Service Model (KLP 3.4-3) 21. Describe the Service Model Backbone (KLP 3.4-4) 22. Describe the IT4IT Information Model (KLP 3.4-5) 23. State the characteristics of the service lifecycle data objects (KLP 3.4-6) 24. Explain the difference between key and auxiliary data objects (KLP 3.4-8) 25. State what the IT4IT Functional Model is (KLP 3.4-10) 26. Explain functional components and how they relate to IT capability (KLP 3.4-11) 27. Explain the difference between primary functional components and secondary functional components (KLP 3.4-12) 28. Explain interactions between functional components and data objects (KLP 3.4-13) 29. Explain what an IT Service is (KLP 3.5-1)

3.4 IT4IT Core

UNIT 4	IT4IT Core
Purpose	The purpose of this Learning Unit is to help the Candidate understand the IT4IT Reference Architecture at a high level.
KLP Reference	4.*
Learning Outcome	The Candidate must be able to: 1. List the five levels of IT4IT abstractions and identify which are vendor-agnostic and which are vendor-specific (KLP 4.2.1-1) 2. Explain why an informal notation was chosen for Levels 1 and 2 (KLP 4.2.1-2) 3. List the five core concepts introduced at Reference Architecture Level 1 (KLP 4.2.2-1) 4. Explain the Level 1 class model (KLP 4.2.2-2) 5. Explain the objective of the IT4IT Reference Architecture as it relates to Level 1 (KLP 4.2.2-3) 6. Explain how the IT4IT Reference Architecture uses the value stream concept (KLP 4.2.2-4) 7. List the three things a functional component must have (KLP 4.2.2-5) 8. Identify the OMG definition that is aligned contextually with the service lifecycle data object (artifact) (KLP 4.2.2-6) 9. Identify the constituent parts of the system of record fabric for IT management (KLP 4.2.2-7) 10. Briefly explain the Level 1 Reference Architecture diagram (KLP 4.2.3-1) 11. List the four additional concepts introduced at Reference Architecture Level 2 (KLP 4.2.4-1) 12. Explain the Level 2 class model (KLP 4.2.4-2) 13. Briefly explain an example Level 2 Reference Architecture diagram (KLP 4.2.5-1) 14. Identify the primary method for communicating the IT4IT Reference Architecture specification at Level 3 (KLP 4.2.6-1) 15. List the additional concepts introduced at Reference Architecture Level 3 (KLP 4.2.6-2) 16. Identify the notation used for the Level 3 Reference Architecture diagrams (KLP 4.2.7-1) 17. Explain who owns and controls Levels 4 and 5 of the Reference Architecture (KLP 4.2.8-1) 18. Explain what kind of content might be included in Level 4 (KLP 4.2.8-2) 19. Explain what kind of content might be included in Level 5 (KLP 4.2.8-3)

3.5 Strategy to Portfolio Value Stream

UNIT 5	Strategy to Portfolio Value Stream
Purpose	The purpose of this Learning Unit is to help the Candidate understand the objectives and functional components of the Strategy to Portfolio value stream.
KLP Reference	5.*
Learning Outcome	The Candidate must be able to: 1. Describe the objectives of the Strategy to Portfolio (S2P) value stream (KLP 5.1-1, KLP 5.1-2, KLP 5.1-3) 2. Explain the benefits of implementing the S2P value stream for the business (KLP 5.2-1) 3. List the KPIs (KLP 5.3-1) 4. Explain the purpose of the Enterprise Architecture functional component (KLP 5.4.1-1) 5. Briefly describe the key data object(s) associated with the Enterprise Architecture functional component (KLP 5.4.1-2) 6. Explain the purpose of the Policy functional component (KLP 5.4.2-1) 7. Briefly describe the key data object(s) associated with the Policy functional component (KLP 5.4.2-2) 8. Explain the purpose of the Proposal functional component (KLP 5.4.3-1) 9. Briefly describe the key data object(s) associated with the Proposal functional component (KLP 5.4.3-2) 10. Explain the purpose of the Portfolio Demand functional component (KLP 5.4.4-1) 11. Briefly describe the key data object(s) associated with the Portfolio Demand functional component (KLP 5.4.4-2) 12. Explain the purpose of the Service Portfolio functional component (KLP 5.4.5-1) 13. Briefly describe the key data object(s) associated with the Service Portfolio functional component (KLP 5.4.5-2) 14. Explain the purpose of the IT Investment Portfolio auxiliary functional component (KLP 5.4.6-1) 15. Briefly describe the key data object(s) associated with the IT Investment Portfolio auxiliary functional component (KLP 5.4.6-2)

3.6 Requirement to Deploy Value Stream

UNIT 6	Requirement to Deploy Value Stream
Purpose	The purpose of this Learning Unit is to help the Candidate understand the objectives and functional components of the Requirement to Deploy value stream.
KLP Reference	6.*
Learning Outcome	The Candidate must be able to: 1. Describe the objectives of the Requirement to Deploy (R2D) value stream (KLP 6.1-1, KLP 6.1-2) 2. Explain the benefits of implementing the R2D value stream for the business (KLP 6.2-1) 3. List the KPIs (KLP 6.3-1) 4. Explain the purpose of the Project functional component (KLP 6.4.1-1) 5. Briefly describe the key data object(s) associated with the Project functional component (KLP 6.4.1-2) 6. Explain the purpose of the Requirement functional component (KLP 6.4.2-1) 7. Briefly describe the key data object(s) associated with the Requirement functional component (KLP 6.4.2-2) 8. Explain the purpose of the Service Design functional component (KLP 6.4.3-1) 9. Briefly describe the key data object(s) associated with the Service Design functional component (KLP 6.4.3-2) 10. Explain the purpose of the Source Control functional component (KLP 6.4.4-1) 11. Briefly describe the key data object(s) associated with the Source Control functional component (KLP 6.4.4-2) 12. Explain the purpose of the Build functional component (KLP 6.4.5-1) 13. Briefly describe the key data object(s) associated with the Build functional component (KLP 6.4.5-2) 14. Explain the purpose of the Build Package functional component (KLP 6.4.6-1) 15. Briefly describe the key data object(s) associated with the Build Package functional component (KLP 6.4.6-2) 16. Explain the purpose of the Release Composition functional component (KLP 6.4.7-1) 17. Briefly describe the key data object(s) associated with the Release Composition functional component (KLP 6.4.7-2) 18. Explain the purpose of the Test functional component (KLP 6.4.8-1) 19. Briefly describe the key data object(s) associated with the Test functional component (KLP 6.4.8-2) 20. Explain the purpose of the Defect functional component (KLP 6.4.9-1) 21. Briefly describe the key data object(s) associated with the Defect functional component (KLP 6.4.9-2)

3.7 Request to Fulfill Value Stream

UNIT 7	Request to Fulfill Value Stream
Purpose	The purpose of this Learning Unit is to help the Candidate understand the objectives and functional components of the Request to Fulfill value stream.
KLP Reference	7.*
Learning Outcome	The Candidate must be able to: 1. Describe the objectives of the Request to Fulfill (R2F) value stream (KLP 7.1-1, KLP 7.1-2, KLP 7.1-3) 2. Explain the benefits of implementing the R2F value stream for the business (KLP 7.2-1) 3. List the KPIs (KLP 7.3-1) 4. Explain the distinction between the purpose of primary and secondary functional components within the R2F value stream (KLP 7.4-1) 5. Explain the objectives of the Engagement Experience Portal (KLP 7.4-2) 6. Explain the purpose of the Engagement Experience Portal secondary functional component (KLP 7.4.1-1) 7. Briefly describe the key data object(s) associated with the Engagement Experience Portal secondary functional component (KLP 7.4.1-2) 8. Explain the purpose of the Offer Consumption functional component (KLP 7.4.4-1) 9. Briefly describe the key data object(s) associated with the Offer Consumption functional component (KLP 7.4.2-2) 10. Explain the purpose of the Offer Management functional component (KLP 7.4.3-1) 11. Briefly describe the key data object(s) associated with the Offer Management functional component (KLP 7.4.3-2) 12. Explain the purpose of the Catalog Composition functional component (KLP 7.4.4-1) 13. Briefly describe the key data object(s) associated with the Catalog Composition functional component (KLP 7.4.4-2) 14. Explain the purpose of the Request Rationalization functional component (KLP 7.4.5-1) 15. Briefly describe the key data object(s) associated with the Request Rationalization functional component (KLP 7.4.5-2) 16. Explain the purpose of the Fulfillment Execution functional component (KLP 7.4.6-1) 17. Briefly describe the key data object(s) associated with the Fulfillment Execution functional component (KLP 7.4.6-2) 18. Explain the purpose of the Usage functional component (KLP 7.4.7-1) 19. Briefly describe the key data object(s) associated with the Usage functional component (KLP 7.4.7-2) 20. Explain the purpose of the Chargeback/Showback functional component (KLP 7.4.8-1) 21. Briefly describe the key data object(s) associated with the Chargeback/Showback functional component (KLP 7.4.8-2) 22. Explain the purpose of the Knowledge & Collaboration supporting function (KLP 7.4.9-1) 23. Briefly describe the key data object(s) associated with the Knowledge & Collaboration supporting function (KLP 7.4.9-2)

3.8 Detect to Correct Value Stream

UNIT 8	Detect to Correct Value Stream
Purpose	The purpose of this Learning Unit is to help the Candidate understand the objectives and functional components model of the Detect to Correct value stream.
KLP Reference	8.*
Learning Outcome	The Candidate must be able to: 1. Describe the objectives of the Detect to Correct (D2C) value stream (KLP 8.1-1, KLP 8.1-2) 2. Explain the benefits of implementing the D2C value stream for the business (KLP 8.2-1) 3. List the KPIs (KLP 8.3-1) 4. *(Not in use.)* 5. Explain the purpose of the Service Monitoring functional component (KLP 8.4.1-1) 6. Briefly describe the key data object(s) associated with the Service Monitoring functional component (KLP 8.4.1-2) 7. Explain the purpose of the Event functional component (KLP 8.4.2-1) 8. Briefly describe the key data object(s) associated with the Event functional component (KLP 8.4.2-2) 9. Explain the purpose of the Incident functional component (KLP 8.4.3-1) 10. Briefly describe the key data object(s) associated with the Incident functional component (KLP 8.4.3-2) 11. Explain the purpose of the Problem functional component (KLP 8.4.4-1) 12. Briefly describe the key data object(s) associated with the Problem functional component (KLP 8.4.4-2) 13. Explain the purpose of the Change Control functional component (KLP 8.4.5-1) 14. Briefly describe the key data object(s) associated with the Change Control functional component (KLP 8.4.5-2) 15. Explain the purpose of the Configuration Management functional component (KLP 8.4.6-1) 16. Briefly describe the key data object(s) associated with the Configuration Management functional component (KLP 8.4.6-2) 17. Explain the purpose of the Diagnostic & Remediation functional component (KLP 8.4.7-1) 18. Briefly describe the key data object(s) associated with the Diagnostic & Remediation functional component (KLP 8.4.7-2) 19. Explain the purpose of the Service Level functional component (KLP 8.4.8-1) 20. Briefly describe the key data object(s) associated with the Service Level functional component (KLP 8.4.8-2) 21. List other IT operations capabilities that are not part of the D2C value stream (KLP 8.4.9-1)

3.9 IT4IT Certification Program

UNIT 9	IT4IT Certification Program
Purpose	The purpose of this Learning Unit is to help the Candidate understand the IT4IT Certification Program.
KLP Reference	None.
Learning Outcome	The Candidate must be able to: 1. Explain the IT4IT Certification Program, and distinguish between the levels of certification.

4. Indicators of Compliance

The Indicators of Compliance for the Program are The Open Group examinations.

The descriptions of the examinations for each level are maintained by the Certification Authority and displayed on The Open Group website. This includes a description of the examination type (for example, simple multiple choice, complex scenario, etc.), the number of questions, the duration, supervision requirements, whether an examination is open book, the pass score, the language(s) the examination is offered in, and the pre-requisites for taking the examination.

5. Key Learning Point Mapping to the Body of Knowledge

Key Learning Points that are excluded from Level 1 are denoted by "(X)". A future revision of this document is expected to include additional certification levels.

Section		Key Learning Point(s)
Part I: Introduction		
1	Introduction	None
1.1	Objective	None
1.2	Overview	KLP 1.2-1 (1) The Open Group IT4IT Reference Architecture and its approach
1.3	Conformance	None
1.4	Normative References	None
1.5	Terminology	None
1.6	Future Directions	KLP 1.6-1 (1) Scenarios coming in future releases of standard
2	Definitions	KLP 2.1-1 (1) Service Lifecycle Data Object (Data Object) KLP 2.2-1 (1) IT Value Chain KLP 2.3-1 (1) Value Chain KLP 2.4-1 (1) Value Stream KLP 2.5-1 (1) Functional Component KLP 2.6-1 (1) Service Model Backbone Data Object KLP 2.7-1 (1) Relationship KLP 2.8-1 (1) System of Record KLP 2.9-1 (1) IT Service
3	Overview	None
3.1	What is the IT Value Chain?	KLP 3.1-1 (1) The IT Value Chain KLP 3.1-2 (1) Primary activities and supporting activities KLP 3.1-3 (1) The primary activities of the IT Value Chain KLP 3.1-4 (1) The supporting activities of the IT Value Chain KLP 3.1-5 (1) The guiding principles that the IT4IT framework adheres to
3.2	IT Value Chain and IT4IT Reference Architecture	KLP 3.2-1 (1) The four key pillars of IT (Service Model, Functional Model, Information Model, Integration Model) and relationship to IT value streams KLP 3.2-2 (1) The difference between value chain and value stream KLP 3.2-3 (1) Strategy to Portfolio (S2P) value stream overview KLP 3.2-4 (1) Requirement to Deploy (R2D) value stream overview KLP 3.2-5 (1) Request to Fulfill (R2F) value stream overview KLP 3.2-6 (1) Detect to Correct (D2C) value stream overview KLP 3.2-7 (1) The properties of functional components and data objects KLP 3.2-8 (1) The relationships between functional components and data objects KLP 3.2-9 (X) The importance of System of Record integrations KLP 3.2-10 (X) How the IT4IT Reference Architecture is used in relation to

Section		Key Learning Point(s)
		improving IT processes, IT capabilities, or existing industry standard best practice models
3.3	IT Value Streams	KLP 3.3-1 (1) The relationship of the IT Value Chain to the IT service lifecycle KLP 3.3-2 (1) The relationship of the four value streams to the IT service lifecycle KLP 3.3-3 (1) The scope of S2P KLP 3.3-4 (1) S2P value propositions KLP 3.3-5 (1) S2P typical activities KLP 3.3-6 (1) The scope of R2D KLP 3.3-7 (1) R2D value propositions KLP 3.3-8 (1) R2D typical activities KLP 3.3-9 (1) The scope of R2F KLP 3.3-10 (1) R2F value propositions KLP 3.3-11 (1) R2F typical activities KLP 3.3-12 (1) The scope of D2C KLP 3.3-13 (1) D2C value propositions KLP 3.3-14 (1) D2C typical activities
3.4	IT4IT Reference Architecture	KLP 3.4-1 (1) The four pillars anchoring the IT Value Chain – the Service Model, the Information Model, the Functional Model, and the Integration Model KLP 3.4-2 (1) The difference between traditional IT lifecycles and the new lifecycle prescribed by IT4IT KLP 3.4-3 (1) The IT4IT Service Model KLP 3.4-4 (1) The IT4IT Service Model Backbone KLP 3.4-5 (1) The IT4IT Information Model KLP 3.4-6 (1) Service lifecycle data objects KLP 3.4-7 (X) Characteristics of data objects KLP 3.4-8 (1) The difference between key and auxiliary data objects KLP 3.4-9 (X) The notation for data object relationships KLP 3.4-10 (1) The IT4IT Functional Model KLP 3.4-11 (1) Functional components and how they relate to IT capability KLP 3.4-12 (1) The difference between primary functional components and secondary functional components KLP 3.4-13 (1) The interactions between functional components and data objects KLP 3.4-14 (X) The IT4IT Integration Model KLP 3.4-15 (X) The three types of integration (sor, soe, soi) KLP 3.4-16 (X) System of Record integration KLP 3.4-17 (X) System of Engagement integration KLP 3.4-18 (X) System of Insight integration
3.5	IT Service	KLP 3.5-1 (1) IT Service
Part II: IT4IT Core		
4	IT4IT Core	None
4.1	Introduction	KLP 4.1-1 (1) The intended use of IT4IT Reference Architecture for organizations KLP 4.1-2 (1) The intended use of IT4IT Reference Architecture for suppliers of IT management products and services

Section		Key Learning Point(s)
4.2	IT4IT Abstraction Levels and Class Structure	None
4.2.1	IT4IT Abstractions	KLP 4.2.1-1 (1) The five levels of IT4IT abstractions and identification of which are vendor-agnostic and which are vendor-specific KLP 4.2.1-2 (1) The informal notation chosen for Levels 1 and 2
4.2.2	Concepts at Level 1: End-to-End Overview	KLP 4.2.2-1 (1) The core concepts introduced at Level 1: • Value Streams • Functional Components • Service Lifecycle Data Objects (key data objects) • Service Model Backbone Data Objects (service backbone data objects) • Relationships KLP 4.2.2-2 (1) The Level 1 class model KLP 4.2.2-3 (1) The objective of the IT4IT Reference Architecture as it relates to Level 1 KLP 4.2.2-4 (1) The IT4IT Reference Architecture uses the value stream concept KLP 4.2.2-5 (1) The things a functional component must have: • It must have defined input(s) and output(s) that are data objects and must have an impact on a key data object; for example, create, update, delete KLP 4.2.2-6 (1) The OMG definition that is aligned contextually with the service lifecycle data object (artifact) KLP 4.2.2-7 (1) The system of record fabric for IT management
4.2.3	Level 1 Reference Architecture Diagram	KLP 4.2.3-1 (1) The Level 1 Reference Architecture diagram
4.2.4	Concepts at Level 2: Value Stream Documentation	KLP 4.2.4-1 (1) The additional concepts introduced at Level 2: • Relationships between data objects are updated with multiplicity/cardinality attributes (e.g., one-to-one, one to many, many-to-many) • The concept of data flow between functional components is introduced • The data flows are refined to depict integrations to build out the system of record fabric • The relationships between capability disciplines and functional components are introduced but they are not part of the normative reference and are presented as guidance KLP 4.2.4-2 (1) The Level 2 class model KLP 4.2.4-3 (X) The concept of multiplicity KLP 4.2.4-4 (X) The concept of data flow KLP 4.2.4-5 (X) The concept of System of Record integration KLP 4.2.4-6 (X) The concept of System of Engagement integration
4.2.5	Level 2 Reference Architecture Diagram	KLP 4.2.5-1 (1) The Level 2 Reference Architecture Diagram
4.2.6	Concepts at Level 3: Vendor-Independent Architecture	KLP 4.2.6-1 (1) The primary method for communicating the IT4IT Reference Architecture specification at Level 3 KLP 4.2.6-2 (1) The additional concepts introduced at Level 3: • Scenarios

Section		Key Learning Point(s)
		• Essential attributes • Essential services • Capability Discipline KLP 4.2.6-3 (X) The concept of scenarios KLP 4.2.6-4 (X) The elements included in scenario master document content: • Requirements • Process flow • Automation specification using the reference architecture • Essential services supporting the scenario • Data objects and essential attributes KLP 4.2.6-5 (X) The concept of essential attributes KLP 4.2.6-6 (X) The most basic essential attributes: • Unique identifier • Data object lifecycle status KLP 4.2.6-7 (X) The concept of essential services
4.2.7	Level 3 Reference Architecture Diagram	KLP 4.2.7-1 (1) The Level 3 Reference Architecture Diagram Notation KLP 4.2.7-2 (X) The Level 3 Reference Architecture Diagram
4.2.8	Concepts at Levels 4 and 5: Vendor Extensions	KLP 4.2.8-1 (1) Ownership and control of Levels 4 and 5 KLP 4.2.8-2 (1) The kind of content included in Level 4 KLP 4.2.8-3 (1) The kind of content included in Level 5
Part III: IT4IT Value Streams		
5	Strategy to Portfolio (S2P) Value Stream	None
5.1	Objectives	KLP 5.1-1 (1) The goal of the S2P value stream KLP 5.1-2 (1) Overview of the primary functional components KLP 5.1-3 (1) Common limitations for current S2P practices
5.2	Business Value Proposition	KLP 5.2-1 (1) The key value propositions: • Provides holistic IT portfolio view across the IT PMO and the Enterprise Architecture and Service Portfolio functional components • Enables IT portfolio decisions based on business priorities • Provides accurate visibility of business and IT demand • Enables IT portfolio data consistency • Provides service lifecycle tracking through conceptual, logical, and physical domains • Enables prioritized IT investment based on all IT portfolio facets including cost/value analysis, impacts on architecture, service roadmap, business priorities, etc. • Enables re-balanced IT investments between strategic and operational demand • Enables solid communication with business stakeholders through roadmaps
5.3	Key Performance Indicators	KLP 5.3-1 (1) The Critical Success Factors and their related KPI metric types: • Business and IT alignment: ratio of new *versus* maintenance service • Accurate visibility into overall demands from the business: demand requests, types, and delivery per service % overall IT budget that can be

Section		Key Learning Point(s)
		traced back to formal requests • Service Portfolio rationalization: Service Portfolio functional component, taxonomy and processes are implemented • Service Portfolio financial analysis: accounting record produced and compared with business outcomes and financial objectives achieved • Service Portfolio reporting and analysis: a Service Portfolio exists and is used for decisions on service offerings • Service investment tracking: the investment in each service is quantified in the Service Portfolio • Improve customer satisfaction: satisfied customers per service/application • Stewardship of IT investment: CapEx *versus* OpEx, software license percentage in use, planned *versus* actual service costs, average cost of IT delivery per customer • Enterprise security alignment: frequency of security assessment against latest standards and guidelines, noted deficiencies against security standards and policies
5.4	Value Stream Definition	KLP 5.4-1 (1) S2P key functional components KLP 5.4-2 (X) S2P Level 2 value stream diagram
5.4.1	Enterprise Architecture Functional Component	KLP 5.4.1-1 (1) The purpose of the Enterprise Architecture functional component KLP 5.4.1-2 (1) The Enterprise Architecture data object KLP 5.4.1-3 (X) The Enterprise Architecture data object key attributes KLP 5.4.1-4 (X) The key data object relationships of the Enterprise Architecture functional component: • Enterprise Architecture to Conceptual Service (n:m) KLP 5.4.1-5 (X) The functional criteria for the Enterprise Architecture functional component: • Create and manage long-term IT investment and execution plan-of-action • Identify strategic IT architectural components based on current business vision, strategy, goals, and requirements • Develop target state business, information, application, technology, and security blueprints based on strategies, principles, and policies
5.4.2	Policy Functional Component	KLP 5.4.2-1 (1) The purpose of the Policy functional component KLP 5.4.2-2 (1) The Policy data object KLP 5.4.2-3 (X) The key attributes of the Policy data object KLP 5.4.2-4 (X) The key data object relationships of the Policy functional component: • The Policy to Conceptual Service (n:m) relationship • The Policy to Requirement functional component (n:m) relationship KLP 5.4.2-5 (X) The functional criteria for the Policy functional component: • Align and map IT Policies to Enterprise Architectures • Enable review and approval of IT Policies based on roles and responsibilities; it shall manage Policy distribution and acceptance based on predefined templates and schedules for designated IT stakeholders • Provide visibility into IT Policy attributes such as types, status, non-compliance, audit history, and issues • Manage overall IT governance Policies, and Policies applied to or associated with the particular services that may be managed downstream during service design

Section		Key Learning Point(s)
		• Manage IT security and regulatory Policies by incorporating external and internal security and regulatory compliances • Define pricing/costing Policies and capture information related to Service Contracts • Maintain complete Policy revision history, and review period or obsolescence rules set for all Policies • Optionally log and track IT Policy exceptions through an issue management mechanism; it may provide a consistent tracking feature for exception identification, evaluation, and status report leading to corrective action KLP 5.4.2-6 (X) The Data Architecture Criteria of the Policy functional component: • If a Service Portfolio functional component exists, the Policy functional component associates one or more Policies to one or more Conceptual Services
5.4.3	Proposal Functional Component	KLP 5.4.3-1 (1) The purpose of the Proposal functional component KLP 5.4.3-2 (1) The Scope Agreement data object KLP 5.4.3-3 (X) The key attributes of the Scope Agreement data object KLP 5.4.3-4 (X) The key data object relationships of the Proposal functional component: • The Scope Agreement to Portfolio Backlog Item (n:m) • The Scope Agreement to IT Budget Item (n:1) • The Scope Agreement to IT Initiative (1:n) KLP 5.4.3-5 (X) The functional criteria for the Proposal functional component: • Create a Scope Agreement from rationalized Portfolio Backlog Items in the data object repository • Manage activities for Scope Agreements following an expedited analysis and approval • Manage activities for proposals following structured analysis and approval • Review the Scope Agreement change request from the R2D value stream • Create project portfolio views for specific organizations like line of business portfolio or functions like financial views • Identify security controls necessary for protecting the various classifications of data
5.4.4	Portfolio Demand Functional Component	KLP 5.4.4-1 (1) The purpose of the Portfolio Demand functional component KLP 5.4.4-2 (1) The Portfolio Backlog Item data object KLP 5.4.4-3 (X) The key attributes of the Portfolio Backlog Item data object KLP 5.4.4-4 (X) The Portfolio Backlog Item data object relationships: • Portfolio Backlog Item to Conceptual Service (n:1) relationship • Portfolio Backlog Item to Requirement (1:n) relationship • Portfolio Backlog Item to Scope Agreement (n:1) relationship KLP 5.4.4-5 (X) The functional criteria for the Portfolio Demand functional component: • Capture Portfolio Backlog Items from business • Capture Portfolio Backlog Items from Problem Management activities • Capture Portfolio Backlog Items from the Service Portfolio functional component activities • May capture Portfolio Backlog Items for defect fix requests which exceed the operations budget or require high urgency due to business impact on

Section		Key Learning Point(s)
		existing service • May support backlog item data object backlog ranking, trending, and analysis based on requested services, timeline, business unit origination, etc. • Categorize and group the demands and push demands to the Proposal functional component if a Proposal functional component exists • Receive scoping and investment decisions from the Proposal functional component if a Proposal functional component exists • Associate one or more requirements (user stories, use-cases, business rules, etc.) to a Portfolio Backlog Item if a Requirement functional component exists
5.4.5	Service Portfolio Functional Component	KLP 5.4.5-1 (1) The purpose of the Service Portfolio functional component KLP 5.4.5-2 (1) The Service Portfolio functional component data objects: • The Conceptual Service data object • The Conceptual Service Blueprint auxiliary data object KLP 5.4.5-3 (X) The key attributes of the Service Portfolio functional component data objects KLP 5.4.5-4 (X) The Service Portfolio functional component data objects relationships: The Conceptual Service data object relationships: • Conceptual Service to Logical Service (1:n) • Enterprise Architecture to Conceptual Service (n:m) • Conceptual Service to Portfolio Backlog Item (1:n) • Conceptual Service to IT Budget Item (1:n) • Conceptual Service to Policy (n:m) The Conceptual Service Blueprint data object relationships: • Conceptual Service to Conceptual Service Blueprint (1:n) • IT Cost Model to Conceptual Service Blueprint (1:n) • Conceptual Service Blueprint to Logical Service Blueprint (1:n) KLP 5.4.5-5 (X) The functional criteria for the Service Portfolio functional component: • Assess the effectiveness and efficiency of current services delivered to business • Manage all inventory information about services or applications; including business benefits, risk, quality, fitness-for-purpose, etc. • Compare similar services or applications to identify rationalization opportunities • Evaluate the portfolio with regard to value/cost performance and risk/criticality; these methods are used to maximize portfolio value, align and prioritize resource allocations, and balance supply and demand • Review proposed portfolio changes; decide whether to keep, retire, or modernize services or applications • Create, review, and update service roadmaps • Determine and track the TCO of a service and associated return on investment • Determine and track operations spend • Create and maintain service blueprints and endpoints • Comply with one or more applicable Policies, if a Policy exists • Receive the subscribed service charge from the Chargeback/Showback functional component if a Chargeback/Showback functional component

Section		Key Learning Point(s)
		exists • Send the operation charge acceptance to the Chargeback/Showback functional component if a Chargeback/Showback functional component exists KLP 5.4.5-6 (X) The Data Architecture Criteria of the Service Portfolio functional component: • Associate a Conceptual Service to one or more Portfolio Backlog Items if a Portfolio Backlog Item exists
5.4.6	IT Investment Portfolio Auxiliary Functional Component	KLP 5.4.6-1 (1) The purpose of the IT Investment Portfolio auxiliary functional component KLP 5.4.6-2 (1) The IT Budget Item data object KLP 5.4.6-3 (X) The key attributes of the IT Budget Item data object KLP 5.4.6-4 (X) The IT Investment Portfolio auxiliary functional component data object relationships: • IT Budget Item to Conceptual Service (n:1) • IT Budget Item to Scope Agreement (1:n) KLP 5.4.6-5 (X) The functional criteria for the IT Investment Portfolio auxiliary functional component: • Be the authoritative source for all IT investments requested over a given time period • Manage the entire IT investment lifecycle • Receive proposed IT investments for development from the Proposal functional component • Receive proposed IT investments for run and maintain and non-service investments from investment owners • Assess proposal feasibility for cost, value, etc. and obtain required approval from finance • Communicate the status of the final scoping and investment decisions back to the respective stakeholders
6	Requirement to Deploy (R2D) Value Stream	None
6.1	Objectives	KLP 6.1-1 (1) The goal of the R2D value stream KLP 6.1-2 (1) Key objectives of the R2D value stream: • Make service delivery predictable, even across geographically dispersed teams, multiple suppliers, and multiple development methodologies • Ensure that each Service Release is high quality, fit-for-purpose, and meets customer expectations • Understand the evolving relationship between planning and building • Standardize service development and delivery to the point where re-use of service components is the norm • Build a culture of collaboration between IT operations and IT development to support Service Release success • Put rigorous information management controls in place to lessen the impact of the IT reality – high staff turnover • Drive predictable outcomes without driving out innovation
6.2	Business Value Proposition	KLP 6.2-1 (1) The key value propositions:

Section		Key Learning Point(s)
		• Maximize the pipeline of projects and smaller grained demand requests for faster time-to-market in service realization • Predictable outcomes that ensure that the application or service delivered actually performs as requested • Establish control points to manage the quality, utility, security, and cost of services, independent of development method or delivery source • Increased management information for traceability and benchmarking of internal and external service developers and suppliers. • Ensure that all services are designed in accordance with standards and policies • Improved inputs to IT Financial Management on service cost • Relate applications and services with business value by creating and maintaining the service blueprint • Accelerate the sourcing and delivery of applications and services through best practices such as re-use, automation, and collaboration
6.3	Key Performance Indicators	KLP 6.3-1 (1) The Critical Success Factors and their related KPI metric types: • Improve quality: defects, tests • Improve project and feature execution: projects, hours, issues, risks, backlogs, work rate • Improve stewardship of IT investment: project cost, budget • Increase automation adoption: tests • Achieve development process excellence: requirements, builds, incidents, defects • Improve early life success of releases: incidents, project deployments, emergency change requests, requirements • Operations and development collaboration: support/UAT metrics, rework • Improve financial visibility: cost • Maintain a linkage between business services and IT initiatives: service development cost • High quality service design specifications at the outset: rework cost • Integration test success: installation errors, application/service exceptions • Design-review to ensure application design complies with all policies, including security: application design review • Early testing of applications for security vulnerabilities: security defects
6.4	Value Stream Definition	KLP 6.4-1 (X) *(Not in use.)* KLP 6.4-2 (1) R2D functional components KLP 6.4-3 (X) R2D Level 2 value stream diagram
6.4.1	Project Functional Component	KLP 6.4.1-1 (1) The purpose of the Project functional component KLP 6.4.1-2 (1) The IT Initiative data object KLP 6.4.1-3 (X) The IT Initiative data object key attributes KLP 6.4.1-4 (X) The key data object relationships of the Project functional component: • Scope Agreement to IT Initiative (1:n) • IT Initiative to Service Release (1:n) • IT Initiative to Request for Change (RFC) (1:n) KLP 6.4.1-5 (X) The functional criteria for the Project functional component: • Be the system of record (authoritative source) for all IT Initiatives • Manage the lifecycle of the IT Initiative

Section		Key Learning Point(s)
		• Manage the status of the IT Initiative • Coordinate resources, finances, tasks, and milestones for IT Initiatives, and provide ongoing execution oversight of IT Initiatives when creating new services or enhancements to existing services • Create IT Initiatives based on the specifications outlined in the Scope Agreement, including cost, time, scope, and quality • Aggregate, track, and report status, resources consumed against project plan, or project burn down, and communicate these to stakeholders via auxiliary functional components such as Resource Management, Supplier Management, and IT Financial Management • Govern, coordinate, influence, and direct IT Initiative execution • Ensure financial goals and boundary conditions are adhered to • Maintain traceability between IT Initiatives and associated applications and service(s) being developed • Maintain the linkage/traceability between Scope Agreements, IT Initiatives, and Service Releases • Produce various request artifacts associated with financial, human, and technology resources (that is, feedback to the S2P value stream when variances cross thresholds) • Coordinate the acquisition of resources (hardware, software, and people) required to source/create a service in a particular project • Track spend for IT Initiatives attached to each Scope Agreement and pass it to the Service Design functional component • Submit one or more RFCs required for the IT Initiative if a Change Control functional component exists • Manage the Subscription data flow to the Request Rationalization functional component if a Request Rationalization functional component exists • Send a request to the Request Rationalization functional component when resources are required for the IT Initiative if a Request Rationalization functional component exists • Be able to receive the Scope Agreement from the Proposal functional component if a Proposal functional component exists • Provide IT Initiative information required for Service Design to the Service Design functional component if a Service Design functional component exists • Receive the subscribed service charges from the Chargeback/Showback functional component if a Chargeback/Showback functional component exists • Send charge acceptance to the Chargeback/Showback functional component if a Chargeback/Showback functional component exists • Receive the development scope and agreement from the Service Portfolio functional component if a Service Portfolio functional component exists KLP 6.4.1-6 (X) The Data Architecture Criteria of the Project functional component: • Allow recursive relationships between IT Initiatives • Associate an IT Initiative to a service • Associate an IT Initiative to one or more RFCs if a Change Control functional component exists • May associate an IT Initiative with an IT Budget Item in the IT Financial Management supporting function • Associate a Scope Agreement to one or more IT Initiatives if a Proposal functional component exists

Section		Key Learning Point(s)
6.4.2	Requirement Functional Component	KLP 6.4.2-1 (1) The purpose of the Requirement functional component KLP 6.4.2-2 (1) The Requirement data object KLP 6.4.2-3 (X) The Requirement data object key attributes KLP 6.4.2-4 (X) The key data object relationships of the Requirement functional component: • Logical Service to Requirement (1:n) • Service Release to Requirement (1:n) • Requirement to Test Case (1:n) • Portfolio Backlog Item to Requirement (1:n) • Policy to Requirement (n:m) • Requirement to Source (n:m) KLP 6.4.2-5 (X) The functional criteria for the Requirement functional component: • Be the system of record (authoritative source) for all Requirements • Manage the lifecycle of the Requirement • Manage the state of a Requirement • Manage Requirements through the lifecycle of a service • Capture service-level Requirements • Collect, refine, scope, and track progress of Requirements even before and after an IT Initiative has concluded • Maintain traceability of each Requirement to the original source (demand, IT or business standard or policy, and/or requestor) and to appropriate source and/or Test Cases throughout the service lifecycle • Derive product or program backlogs which will ultimately serve as queues for enhancing IT services • Manage the data flow to provide Requirement information to the Service Design functional component if a Service Design functional component exists • Allow a Requirement to be traced to one or more Test Cases designed to test this Requirement if a Test functional component exists • Allow one or more Requirements to be associated to one or more policies that these Requirements originate from if a Policy functional component exists • Allow one or more Requirements to be traced to one or more Sources if a Source data object exists KLP 6.4.2-6 (X) The Data Architecture Criteria of the Requirement functional component: • Allow recursive relationships between Requirements • Allow hierarchical relationships between Requirements • Associate a Requirement to a service • Associate one or more Requirements to a single Logical Service if a Service Design functional component exists • Associate one or more Requirements to a Service Release that will fulfill these Requirements if a Release Composition functional component exists • Associate one or more Requirements to a Portfolio Backlog Item from which these Requirements originate if a Portfolio Demand functional component exists
6.4.3	Service Design Functional Component	KLP 6.4.3-1 (1) The purpose of the Service Design functional component KLP 6.4.3-2 (1) The data objects:

Section		Key Learning Point(s)
		• The Logical Service data object • The Logical Service Blueprint auxiliary data object KLP 6.4.3-3 (X) The key attributes for: • The Logical Service data object • The Logical Service Blueprint data object KLP 6.4.3-4 (X) The key data object relationships of the Service Design functional component: • Conceptual Service to Logical Service (1:n) • Logical Service to Requirement (1:n) • Logical Service to Service Release (1:n) • Logical Service to Logical Service Blueprint (1:1) KLP 6.4.3-5 (X) The functional criteria for the Service Design functional component: • Be the system of record (authoritative source) for all Logical Services • Identify the new or existing services required to meet the needs of the Scope Agreement and IT Initiative, including both service systems and service offers • Leverage the Conceptual Service and Portfolio Backlog Items from the S2P value stream along with Requirements to produce a Logical Service that describes the service structure and behavior considering both the service system and the service offer • Create various architectural artifacts (data flow diagrams, technical schematics, etc.) that comply with the IT Initiative specifications and boundaries • Create a service design specification document (Logical Service Blueprint) • Identify the service delivery model (in-source, outsource, etc.) • May identify service suppliers to meet the Requirements within the chosen delivery model • Enable interaction with IT operations to develop support plan/requirements for an IT service • Ensure that the architecture and Logical Service Blueprint are compliant with all standards and policies, including security standards and policies • Ensure that the architecture and Logical Service Blueprint meet all Requirements, including security requirements, to ensure the confidentiality, integrity, and availability of the service • Put instrumentation in place so that IT can capture empirical data about how IT services are performing, rather than relying only on anecdotal input from the user community • Ensure that the service is architected to meet the KPIs and SLAs • Ensure output of the Service Design functional component is used by the Source data object to source, create, and secure the service • Ensure traceability is done through the Requirement functional component • Receive the Conceptual Service specification and design several Logical Services that represent it if a Service Portfolio functional component exists • Receive the development spend from the Project functional component and pass it to the Service Portfolio functional component if a Service Portfolio functional component exists • Receive IT Initiative information which includes the scope and some content based on which the service is designed if a Project functional component exists • Receive Requirement information from the Requirement functional

Section		Key Learning Point(s)
		component used to design the Logical Service and create design specifications if a Requirement functional component exists KLP 6.4.3-6 (X) The Data Architecture Criteria of the Service Design functional component: • Associate a Logical Service to a Conceptual Service • Can associate a Logical Service to a Logical Service Blueprint • Track the actual spend of a Logical Service • Associate one or more Requirements to the Logical Service if a Requirement functional component exists • Associate one or more Logical Services to a Conceptual Service if a Service Portfolio functional component exists • Associate a Logical Service to one or more Service Releases which are detailed and designed to deliver the Logical Service if a Release Composition functional component exists
6.4.4	Source Control Functional Component	KLP 6.4.4-1 (1) The purpose of the Source Control functional component KLP 6.4.4-2 (1) The Source data object KLP 6.4.4-3 (X) The Source data object key attributes KLP 6.4.4-4 (X) The key data object relationships of the Source Control functional component: • Source to Requirement (n:m) • Source to Build (1:n) KLP 6.4.4-5 (X) The functional criteria for the Source Control functional component: • Be the system of record (authoritative source) for all Source • Manage the lifecycle of the Source • Develop source code or infrastructure based on the Logical Service Blueprint, Service Design Package, and IT Initiative priorities • Ensure that the source code meets the design specifications, organizational policies, standards, and non-functional requirements so that the service can be operated successfully and meets customer expectations • Manage the development backlog of Requirements and Defects in accordance with the Service Design Package and Service Release • Receive Defects and input from the Defect functional component to enable the development of fixes or documented workarounds • Create automated test scripts including unit testing and scripts for static application security testing that follow a formal software security assurance methodology • Run security tests on core code to identify existing security issues at the start of the development cycle so that assessment of scope/requirements set/schedule for existing services being changed can be negotiated early • Manage source code images and store them in a Source data object repository • Receive Defect information from the Defect functional component so that Defects can be fixed in future versions of that Source if a Defect functional component exists KLP 6.4.4-6 (X) The Data Architecture Criteria of the Source Control functional component: • Allow recursive relationships between Source • Allow hierarchical relationships between Source • Associate Source to a service

Section		Key Learning Point(s)
		• Associate one or many Requirements to one or many Sources, which includes the content that fulfills these Requirements, if a Requirement functional component exists • Associate one or many Builds to the related Source if a Build functional component exists
6.4.5	Build Functional Component	KLP 6.4.5-1 (1) The purpose of the Build functional component KLP 6.4.5-2 (1) The Build data object KLP 6.4.5-3 (X) The Build data object key attributes KLP 6.4.5-4 (X) The key data object relationships of the Build functional component: • Source to Build (1:n) • Build to Test Case (n:m) • Build Package to Build (1:n) KLP 6.4.5-5 (X) The functional criteria for the Build functional component: • Receive the Source data object from the Source Control functional component and manage the creation, implementation, automation, and security and storage of all Builds • Create the Build from the Source data object for a particular service component • Automate the Build process to support the Build schedule and build frequency requirements in order to support daily Build and smoke test plans or continuous integration plans • Run dynamic application security testing no later than when the final Build data object is received and before the RFCs are created for moving the new or changed service into production • May manage Builds and versioning in a Definitive Media Library (DML) • May develop automated Build storage procedures and automated compilation techniques and tools • Monitor and report on the results of each integration Build • May initiate or automate the delivery of Builds to the Build Package functional component for validation by the acceptance testing team as candidate release builds KLP 6.4.5-6 (X) The Data Architecture Criteria of the Build functional component: • Be the system of record (authoritative source) for all Builds • Manage the version of each individual Build • Associate a Build to a service • Associate Source to one or many Builds if a Source Control functional component exists • Associate one or many Builds to one or many Test Cases that are executed as part of the Build creation if a Test functional component exists • Associate one or many Builds to a Build Package if a Build Package functional component exists
6.4.6	Build Package Functional Component	KLP 6.4.6-1 (1) The purpose of the Build Package functional component KLP 6.4.6-2 (1) The Build Package data object KLP 6.4.6-3 (X) The Build Package data object key attributes KLP 6.4.6-4 (X) The key data object relationships of the Build Package functional component: • Build Package to Build (1:n)

Section		Key Learning Point(s)
		• Build Package to Service Release Blueprint (n:m) KLP 6.4.6-5 (X) The functional criteria for the Build Package functional component: • Create a deployable package made up of one or many Builds • Manage the Build Packages and relationships to the Service Release Blueprints • Be the system of record (authoritative source) for all Build Packages KLP 6.4.6-6 (X) The Data Architecture Criteria of the Build Package functional component: • Associate a Build Package to a service • Associate one or more Builds to a Build Package if a Build functional component exists • Associate one or more Service Release Blueprints to one or more Build Packages if a Release Composition functional component exists
6.4.7	Release Composition Functional Component	KLP 6.4.7-1 (1) The purpose of the Release Composition functional component KLP 6.4.7-2 (1) The Service Release and Service Release Blueprint data objects KLP 6.4.7-3 (X) The key attributes for the: • Service Release data object • Service Release Blueprint data object KLP 6.4.7-4 (X) The key data object relationships of the Release Composition functional component: The Service Release data object: • Logical Service to Service Release (1:n) • IT Initiative to Service Release (1:n) • Service Release to Service Release Blueprint (1:n) • Service Release to Requirement (1:n) • Service Release to Test Case (1:n) The Service Release Blueprint data object: • Service Release to Service Release Blueprint (1:n) • Service Release Blueprint to Build Package (n:m) • Service Release Blueprint to Desired Service (1:n) • Service Release Blueprint to Fulfillment Request (1:n) • Service Release Blueprint to Service Contract (n:m) • Service Catalog Entry to Service Release Blueprint (1:n) • Service Release Blueprint to Defect (n:m) KLP 6.4.7-5 (X) The functional criteria for the Release Composition functional component: • Be the system of record (authoritative source) for all Service Releases • Be the system of record for all Service Release Blueprints • Manage the Release Package, Service Release, Service Release Blueprints, and overall Service Release for developing and delivering new or changed services to the R2F value stream Fulfillment Execution functional component to facilitate a smooth transition to IT operations • Create the Service Release, Service Release Blueprint, and Release Packages that will be utilized by the Test functional component and later the Fulfillment Execution functional component (R2F value stream) to create a specific deployment for a specific IT service instance (including service system and/or service offer) • May begin the creation of monitors, batch processing, backup/restore, etc.

Section		Key Learning Point(s)
		for the service, to ensure supportability as part of IT operations enablement KLP 6.4.7-6 (X) The Data Architecture Criteria of the Release Composition functional component: • Associate a Service Release to a service • Allow a recursive relationship between Service Releases • Associate a Service Release to one or more Service Release Blueprints • Associate a Service Release Blueprint to a service • Associate a Service Release Blueprint to a Release Package • Associate one IT Initiative to one or more Service Releases that are defined to deliver this IT Initiative if a Project functional component exists • Associate one Logical Service to one or more Service Releases, which are designed to deliver this Logical Service if a Service Design functional component exists • Associate one Service Release with one or more Requirements, which are fulfilled in this release if a Requirement functional component exists • Associate one Service Release with one or more Test Cases if a Test functional component exists • Can receive test-related information that should be included in the Release Package from Test Management if a Test functional component exists • Associate one or more Service Release Blueprints to one or more Build Packages if a Build Package functional component exists • Can receive one or more Build Packages that should be included in the Service Release Blueprint if a Build Package functional component exists • Can provide service contract information for creating a Service Contract if a Service Level functional component exists • Associate one or more Service Release Blueprints to one or more Service Contracts if a Service Level functional component exists • Provide information required for service instantiation to the Fulfillment Execution functional component if a Fulfillment Execution functional component exists • Associate a Service Release Blueprint to one or more Desired Services if a Fulfillment Execution functional component exists • Associate a Service Release Blueprint to one or more Fulfillment Requests if a Fulfillment Execution functional component exists • Can provide information required for creating a Service Catalog Entry to the Catalog Composition functional component if a Catalog Composition functional component exists • Associate a Service Release Blueprint to one or more Service Catalog Entry(ies) if a Catalog Composition functional component exists • Associate one or more Service Release Blueprints to one or more Defects if a Defect functional component exists • Can receive Defect-related information that should be included in the Release Package if a Defect functional component exists
6.4.8	Test Functional Component	KLP 6.4.8-1 (1) The purpose of the Test functional component KLP 6.4.8-2 (1) The Test Case data object KLP 6.4.8-3 (X) The Test Case data object key attributes KLP 6.4.8-4 (X) The key data object relationships of the Test functional component: • Requirement to Test Case (1:n) • Service Release to Test Case (1:n)

Section		Key Learning Point(s)
		• Test Case to Build (n:m) • Test Case to Defect (1:n) KLP 6.4.8-5 (X) The functional criteria for the Test functional component: • Ensure traceability between tests and Requirements • Plan and execute tests that ensure the IT service will support the customer's requirements at the agreed service levels • Create Defect data objects that are consumed by the Defect functional component • Plan and design tests, including automated test scripts for both code images and monitors • Leverage input from service development • Prepare test environments • Execute tests to include: functionality tests, usability tests, acceptance tests, risk-based security tests (dynamic application security and infrastructure security testing), performance tests, stress tests • Create Defects found during testing which are consumed by the Defect functional component • Manage test data • Provide test execution reports per tested Requirements • Ensure follow-on value stream functionality works as expected (service monitors, service provisioning, etc.) • Be the system of record (authoritative source) for all Test Cases • Manage the lifecycle of the Test Case • May drive automation • May ensure test automation re-use and test scripts KLP 6.4.8-6 (X) The Data Architecture Criteria of the Test functional component: • Allow recursive relationships between Test Cases • Associate a Test Case to a service • Associate one or more Test Cases to one or more Builds that uses this Test Case as part of the Build creation if a Build functional component exists • Associate a Requirement to one or more Test Cases that validates this Requirement if a Requirement functional component exists • Associate a Test Case to one or more Defects that result from this test if a Defect functional component exists • Provide Defect information to the Defect functional component if a Defect functional component exists
6.4.9	Defect Functional Component	KLP 6.4.9-1 (1) The purpose of the Defect functional component KLP 6.4.9-2 (1) The Defect data object KLP 6.4.9-3 (X) The Defect data object key attributes KLP 6.4.9-4 (X) The key data object relationships of the Defect functional component: • Test Case to Defect (1:n) • Defect to Service Release Blueprint (n:m) • Known Error to Defect (1:1) • Incident to Defect (1:1) KLP 6.4.9-5 (X) The functional criteria for the Defect functional component: • Be the system of record (authoritative source) for all Defects • Manage the lifecycle of the Defect • Keep track of all Defects; including their origin, status, importance, and

Section		Key Learning Point(s)
		relation to Requirements and Known Errors • Register Defects of all types (including security-related) with all relevant details such as description, severity, application version, related requirements, etc. • Analyze Defects and find resolution • May document issues that should be communicated to the Release Composition functional component • May consume Defects from the D2C value stream Problem functional component as well as the Test functional component that are in turn consumed by the Source Control functional component for review and resolution • May update Defect details • May decide on target release • Report Defect status and provide Defect reports • Convert Defects not resolved by service development to Known Errors for Problem Management (D2C value stream) to document or develop work-around and report in knowledge management articles • Receive Defect information from the Test functional component if a Test functional component exists • Receive Defect information from a Known Error if a Problem functional component exists • Can provide Defect information to the Source Control functional component if a Source Control functional component exists KLP 6.4.9-6 (X) The Data Architecture Criteria of the Defect functional component: • Associate a Defect to a service • Associate Defects with Requirements • Associate one or more Service Release Blueprints to one or more Defects, which reflects Defects that should be published as Problems/Known Errors if a Release Composition functional component exists • Associate a Test Case to one or more Defects if a Test functional component exists • Associate a Known Error to a Defect if a Problem functional component exists
7	Request to Fulfill (R2F) Value Stream	None
7.1	Objectives	KLP 7.1-1 (1) The goal of the R2F value stream KLP 7.1-2 (1) (Not in use) KLP 7.1-3 (1) Common limitations for current R2F practices
7.2	Business Value Proposition	KLP 7.2-1 (1) The key value propositions: • Provides a blueprint for increasing business innovation velocity • Provides a functional framework for reducing complexity in the IT shopping experience • Provides an architectural foundation for the service brokerage model • Promotes standard change deployment and automation • Improves IT Financial Management with a Service-based traceability and accounting • Enables increased cost optimization

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7.3	Key Performance Indicators	KLP 7.3-1 (1) The Critical Success Factors and their related KPI metric types: • Ability to meet customer expectations: subscription, incident, request • Reduce costs: cost, fulfillment, request • External service provider compliance: order, incident • Increase speed/agility/flexibility (operational performance): request, delivery, SLA • Enterprise security alignment: time
7.4	Value Stream Definition	KLP 7.4-1 (1) The distinction between R2F primary and secondary functional components KLP 7.4-2 (1) The main objectives of the Engagement Experience Portal KLP 7.4-3 (X) R2F Level 2 value stream diagram
7.4.1	Engagement Experience Portal (Secondary Functional Component)	KLP 7.4.1-1 (1) The purpose of the Engagement Experience Portal KLP 7.4.1-2 (1) The User Profile data object KLP 7.4.1-3 (X) The User Profile data object key attributes KLP 7.4.1-4 (X) The User Profile data object relationships: • User Profile to Offer Catalog (n:m) • User Profile to Shopping Cart (1:1) • User Profile to Subscription (1:n) KLP 7.4.1-5 (X) The functional criteria for the Engagement Experience Portal: • Be available to all users that desire to consume IT services • Expose various IT functions and capabilities in a single place with different type of devices, unifying the experience • May allow consumers to manage their User Profile KLP 7.4.1-6 (1) The Experience Engagement Portal sub-components: • Service Catalog functional sub-component • Collaboration functional sub-component • Knowledge functional sub-component • Self-Service Support functional sub-component
7.4.2	Offer Consumption Functional Component	KLP 7.4.2-1 (1) The purpose of the Offer Consumption functional component KLP 7.4.2-2 (1) The Shopping Cart data object KLP 7.4.2-3 (X) The Shopping Cart data object key attributes KLP 7.4.2-4 (X) The Shopping Cart data object relationships: • Shopping Cart to User Profile (1:1) • Shopping Cart to Offer (n:m) • Shopping Cart to Request (1:n) KLP 7.4.2-5 (X) The functional criteria for the Offer Consumption functional component: • Can provide information on the existing Subscription • Provide information to guarantee the fulfillment • Can provide functionality of multi-ordering • Enable consumers to order services on behalf of another • Provide visibility about the user's services consumption. • Expose information on the Service Level status for the services the user subscribed to if the Service Level functional component exists
7.4.3	Offer Management Functional Component	KLP 7.4.3-1 (1) The purpose of the Offer Management functional component KLP 7.4.3-2 (1) The key data objects of the Offer Management functional

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		component: • Offer data object • Offer Catalog auxiliary data object KLP 7.4.3-3 (X) The key attributes of the Offer Management functional component data objects: • Offer data object key attributes • Offer Catalog data object key attributes KLP 7.4.3-4 (X) The key data object relationships of the Offer Management functional component: • Offer to Service Catalog Entry (n:m) • Offer to Shopping Cart (n:m) • Offer Catalog to Offer (n:m) • Offer Catalog to User Profile (n:m) KLP 7.4.3-5 (X) The functional criteria for the Offer Management functional component: • Contain all of the Offers available to consumers • Can group services from multiple providers into a single Offer (bundle) • May create the Service Contract template • Aggregate (mash-up) all Catalog Composition items and external supplier catalogs into consumable Offers that users can order through the Offer Consumption functional component • Build and publish the various offerings into Offer Catalogs for various populations to consume and determine prices, and valid options that consumers can select • Enable Offers to be grouped into an Offer Catalog to expose them as a collection of consumable items for a given group of consumers • Fulfill each Offer through numerous underlying Catalog Compositions as determined by the Offer Management functional component • May send the labor and asset cost estimates to the Proposal functional component if a Proposal functional component exists • May receive estimation about labor and asset configuration from the Proposal functional component if a Proposal functional component exists
7.4.4	Catalog Composition Functional Component	KLP 7.4.4-1 (1) The purpose of the Catalog Composition functional component KLP 7.4.4-2 (1) The Service Catalog Entry data object KLP 7.4.4-3 (X) The Service Catalog Entry data object key attributes KLP 7.4.4-4 (X) The key data object relationships of the Catalog Composition functional component: • Service Catalog Entry to Service Release Blueprint (n:1) • Service Catalog Entry to Offer (n:m) KLP 7.4.4-5 (X) The functional criteria for the Catalog Composition functional component: • Manage inter-dependencies within the services • Create and publish the Service Catalog Entries, including all of their dependencies, at the level at which these can be presented as Offers in the Offer Management functional component • Create Service Catalog Entries from the Service Release Blueprint in the Release Composition functional component (R2D value stream) • Accurately define services, as well as their dependencies and details, including the necessary information for the service to be instantiated

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		• Create and update Service Catalog Entries to prepare them for consumption, including configurable options (e.g., pricing, subscription terms, bundles, service level, support conditions, etc.)
7.4.5	Request Rationalization Functional Component	KLP 7.4.5-1 (1) The purpose of the Request Rationalization functional component KLP 7.4.5-2 (1) The key data objects of the Request Rationalization functional component: • Request data object • Subscription data object KLP 7.4.5-3 (X) The key attributes of the Request Rationalization functional component data objects: • Request data object key attributes • Subscription data object key attributes KLP 7.4.5-4 (X) The key data object relationships of the Request Rationalization functional component • Request to Shopping Cart (n:1) • Request to Subscription (n:m) • Request to Fulfillment Request (1:n) • Subscription to User Profile (n:1) • Subscription to Offer (n:1) • Subscription to Chargeback Contract (1:n) • Subscription to Desired Service (n:1) KLP 7.4.5-5 (X) The functional criteria for the Request Rationalization functional component: • Provide information to the consumer on the fulfillment status • Provide Subscription information for the creation of the associated Chargeback Contract • Provide information on Request delivery times for SLA measurements • Break down the composite request (described by the Shopping Cart and consumer-selected values) into the individual Requests that need to be fulfilled • Send the bound Service Catalog Entry to the Fulfillment Execution functional component in order for it to create the Fulfillment Requests needed to satisfy the order • Provide Subscription information to the Project functional component for associated Fulfillment Requests • Rationalize, break down, and route "clean order" requests (ready for fulfillment) to appropriate Fulfillment Execution engines or providers in order to deliver services to consumers • May break down a single order/request into multiple Fulfillment Requests • Ensure appropriate fulfillment-related Subscription information is kept up-to-date, such as approval/rejections, modifications, cancellations, and so on • Enable the recording of patterns of service consumption that can be used to shape demand for new and/or improved services • Break the request down into the IT services and provide these to the Fulfillment Execution functional component and create the Subscriptions for these services upon their successful fulfillment • Track fulfillment status and completion notifications from fulfillment channel(s) as received • Update consumers on order status at the Subscription level, not at the level of the underlying Requests needed to fulfill the Subscription

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		• Should send the instances of the Service Contracts to the Service Level functional component if a Service Level functional component exists
7.4.6	Fulfillment Execution Functional Component	KLP 7.4.6-1 (1) The purpose of the Fulfillment Execution functional component KLP 7.4.6-2 (1) The two paradigms in which the Fulfillment Execution functional component can be used: • Consumer-driven • Direct access (without a Service Catalog Entry) KLP 7.4.6-3 (X) The key data objects of the Fulfillment Execution functional component: • Fulfillment Request data object • Desired Service data object KLP 7.4.6-4 (X) The key attributes of the Fulfillment Execution functional component data objects: • Fulfillment Request data object key attributes • Desired Service data object key attributes KLP 7.4.6-5 (X) The key data object relationships of the Fulfillment Execution functional component: • Fulfillment Request to Request (n:1) • Fulfillment Request to Service Release Blueprint (n:1) • Fulfillment Request to Desired Service (n:1) • Fulfillment Request to RFC (1:1) • Desired Service to Subscription (n:1) • Desired Service to Service Release Blueprint (n:1) • Desired Service to Actual Service (1:1) KLP 7.4.6-6 (X) The functional criteria for the Fulfillment Execution functional component: • Orchestrate the delivery of the various Requests amongst (one or more) fulfillment engines in order to deliver the IT service • May engage fulfillment systems that perform actions directly, or engage other systems in order to perform actions • May engage external providers in order to fulfill Subscriptions • May manage a registry of the available fulfillers to include what each fulfiller does (capabilities) and how to engage each fulfiller (where they are located and how to invoke them) • May take the bound Service Catalog Entry and generate both the relevant Fulfillment Requests in order to realize/fulfill the originating consumer request and the Desired Service data object which represents the Service Model in its pre-configured or consumer-configured state • May update the IT asset inventory as they are ordered • May request standard changes and update the Configuration Management functional component (if needed) on delivery of components • Maintain visibility into supplier capacity levels and raise alerts if capacity appears to be insufficient for immediate demand • Select the appropriate fulfillment mechanism • Coordinate if multiple fulfillment mechanisms are needed and manage the dependencies required to fulfill the IT service request • Create one or more Desired Services based on the Service Release Blueprint and associated Subscription for new service deployment Requests • Create an associated Desired Service for all consumer Subscriptions to the

Section		Key Learning Point(s)
		service • Provide the Subscription status to the Request Rationalization functional component • Create the Actual Service as a copy of the Desired Service within the Configuration Management functional component • Create an RFC associated with the service instantiation that is created within the Change Control functional component (D2C value stream); the RFC type, standard or normal, is determined within the Change Control functional component • Create a new service monitor or modify an existing one for the service provided in the Request as part of fulfillment • Create/route a Request to an external service provider to fulfill part or all of the service • Request IT assets necessary for fulfillment (such as licenses); this also enables the tracking of assets being requested or procured and links them with the services that require them • Trigger deployment engines to enable fulfillment of the service
7.4.7	Usage Functional Component	KLP 7.4.7-1 (1) The purpose of the Usage functional component KLP 7.4.7-2 (1) The Usage Record data object KLP 7.4.7-3 (X) The key attributes of the Usage Record data object KLP 7.4.7-4 (X) The Usage Record to Chargeback Contract relationship KLP 7.4.7-5 (X) The functional criteria for the Usage functional component: • May track actual Usage of subscribed IT services by gathering IT service Usage metrics, activity, and history for both internal and external sourced IT services associated to an aspect of the Desired Service • May process and break down Usage information for each Subscription, its consumers (singular, group), provider, etc. • May collect service Usage metrics from the Service Monitoring functional component (D2C value stream) • Encrypt sensitive Usage information or set appropriate access controls • Generate service Usage history and activity reports • May provide Usage information to the Chargeback/Showback functional component enabling usage-based showback or chargeback • Collect cost associated with sub-services if a service is further decomposed; this will be cost reported as Chargeback Records on the sub-services and will be reported as Usage back-up to the next level in the service composition • Collect Usage information from vendor invoices that represent resources used by the service • Collect cost of assets partaking in delivery of the service
7.4.8	Chargeback/Showback Functional Component	KLP 7.4.8-1 (1) The purpose of the Chargeback/Showback functional component KLP 7.4.8-2 (1) The data objects: • Chargeback Contract data object • Chargeback Record data object KLP 7.4.8-3 (X) The key attributes of the data objects for the Chargeback/Showback functional component: • Chargeback Contract data object key attributes • Chargeback Record data object key attributes KLP 7.4.8-4 (X) The key data object relationships for the Chargeback/Showback

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		functional component: • Chargeback Contract to Subscription (n:1) • Chargeback Contract to Chargeback Record (1:n) KLP 7.4.8-5 (X) The functional criteria for the Chargeback/Showback functional component: • Calculate the chargeback/showback of consuming/subscribing to a service to the subscriber • Can take actual usage into consideration when calculating the charge of consuming a service • Consolidate the charges from all subscribed services once Usage is collected for the given billing period • May send the consolidated service charges to the Project functional component if a Project functional component exists • Send the subscribed service charges to the Service Portfolio functional component for an Actual Service if a Service Portfolio functional component exists • Should send a Chargeback Record for approval and internal reconciliation request to the Finance function if a Finance function (external to IT) exists
7.4.9	Knowledge & Collaboration Supporting Function	KLP 7.4.9-1 (1) The purpose of the Knowledge & Collaboration supporting function KLP 7.4.9-2 (1) The Knowledge & Collaboration supporting function data objects: • Knowledge data object • Conversation data object KLP 7.4.9-3 (X) The key attributes of the Knowledge and Conversation data objects KLP 7.4.9-4 (X) The Knowledge and Conversation data objects relationships: • Knowledge to Problem relationship (n:m) • Knowledge to Conversation relationship (n:m) KLP 7.4.9-5 (X) The functional criteria for the Knowledge & Collaboration supporting function: • Enable SMEs to submit and/or approve Knowledge data objects • Enable the IT service consumers and IT staff to rank Knowledge data objects and Conversations • Enable IT service consumers to participate in Conversations relating to the IT services they consume • Can aggregate multiple (internal and external) Knowledge sources • Provide Knowledge in the form of content and Conversations that help to address the needs of IT service consumers • May include structured IT/supplier produced articles, or unstructured Conversations from business/IT users, webinars, videos, training materials, etc. which are searchable by the IT service consumers • Increase the contribution to Knowledge by providing all users with the ability to generate new content, either through informal Conversations, or by more formal submissions of Knowledge • May encourage contributions by promoting a collaborative culture through various techniques such as gamification • May improve accessibility of Knowledge in the organization by: — Supporting keyword search capabilities — Providing filter capabilities based on various attributes of the Knowledge, such as subject category, time range, source types

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		(internal *versus* external), etc. — Supporting natural language queries to reduce the complexity of finding relevant information — Providing users with access to third-party Knowledge and forums — Providing natural language processing analytics so (for example) "trending topics" can be reported from service desk interactions • Reduce the number of requests for information/Knowledge that arrive at the IT service desk through self-service • Provide Knowledge for consumption by additional value streams in general and specifically by the D2C value stream • IT staff may participate in Conversations related to IT services that they plan, develop, or operate • IT service consumers and IT staff may consume third-party Knowledge through the same experience as the formal and informal forms of Knowledge the company provides
8	Detect to Correct (D2C) Value Stream	None
8.1	Objectives	KLP 8.1-1 (1) The purpose and objectives of the D2C value stream. KLP 8.1-2 (1) The typical limitations IT organizations may have in detecting and resolving operational issues.
8.2	Business Value Proposition	KLP 8.2-1 (1) The three types of improvements enabled by the D2C value stream to IT organizations: • Increase efficiency and reduce cost • Reduce risk • Continuous service improvement
8.3	Key Performance Indicators	KLP 8.3-1 (1) The Critical Success Factors and their related KPI metric types: • Achieve operational excellence: events, incidents, problems, changes, knowledge • Improve customer satisfaction: number of failed agreements, OLA/SLA, % availability of critical business systems, incidents, % success rate for user self-fix • Improve staff effectiveness: events, incidents, changes • Alignment with business strategy: hours spent, number of services
8.4	Value Stream Definition	KLP 8.4-1 (1) Initiators of the D2C value stream KLP 8.4-2 (X) *(Not in use.)* KLP 8.4-3 (X) D2C Level 2 value stream diagram
8.4.1	Service Monitoring Functional Component	KLP 8.4.1-1 (1) The purpose of the Service Monitoring functional component KLP 8.4.1-2 (1) The Service Monitor data object KLP 8.4.1-3 (X) The key attributes of the Service Monitor data object KLP 8.4.1-4 (X) The Service Monitor data object relationships: • Service Monitor to Event (1:n) • Service Monitor to Actual Service (1:n) KLP 8.4.1-5 (X) The functional criteria for the Service Monitoring functional component: • Be the system of record for all Service Monitors • Perform monitoring of all aspects of an IT service

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		• Store all of the results of the measurements being done on the IT service • Calculate the results of the measurements being done on the IT service • Manage the lifecycle of the Service Monitor • Create, run, and manage monitors that measure all aspects/layers of a service • May receive monitor definitions from the Fulfillment Execution functional component in the R2F value stream KLP 8.4.1-6 (X) The Data Architecture Criteria of the Service Monitoring functional component: • Create an association between the Service Monitor data object and the related Actual Service(s) • Initiate the creation of an Event or alert that is passed to the Event functional component if an Event functional component exists • Can provide service monitoring status if an Offer Consumption functional component exists • Can provide service Usage measurements if a Usage functional component exists • Can provide business/IT measurements if a Service Level component exists • Can receive Service Monitor definitions if a Fulfillment Execution functional component exists
8.4.2	Event Functional Component	KLP 8.4.2-1 (1) The purpose of the Event functional component KLP 8.4.2-2 (1) The Event data object KLP 8.4.2-3 (X) The key attributes of the Event data object KLP 8.4.2-4 (X) The Event data object relationships: • Event to Incident (n:m) • Event to RFC (1:n) • Event to Actual Service (n:m) • Service Monitor to Event (1:n) KLP 8.4.2-5 (X) The functional criteria for the Event functional component: • Be the system of records of all Events • Manage the state and lifecycle of the Events • Manage the correlation between Events • Categorize Event data • Forward Events categorized as Incidents to the Incident functional component • May initiate a change request (RFC) based on Event data to the Change Control functional component • May send Events for diagnostics and remediation processing if a Diagnostics & Remediation functional component exists KLP 8.4.2-6 (X) The Data Architecture Criteria of the Event functional component: • Create an association between the Event data object and the related Actual Service(s)
8.4.3	Incident Functional Component	KLP 8.4.3-1 (1) The purpose of the Incident functional component KLP 8.4.3-2 (1) The key data objects of the Incident functional component: • Incident data object • Interaction data object KLP 8.4.3-3 (X) The key attributes of the Incident functional component data

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		objects: • Incident data object key attributes • Interaction data object key attributes KLP 8.4.3-4 (X) The key data object relationships of the Incident functional component: • Incident to Problem, Known Error (n:m) • Incident to RFC (1:n) • Incident to Defect (1:1) • Incident to Actual Service (n:m) • Event to Incident (n:m) KLP 8.4.3-5 (X) The functional criteria for the Incident functional component: • Be the system of record for all Incidents • Manage the state escalation paths and general lifecycle of the Incident • Allow an Incident to be initiated from an Event • Create an Incident when an Interaction cannot be associated with an existing one • Create an association between the Incident data object and the related Actual Service • May initiate the creation of a Defect when Incident diagnostics determines that an emergency fix is required from development for resolution; the Defect is created and forwarded to the Defect functional component in the R2D value stream if a Defect functional component exists • Can trigger the execution of a Run Book (either automated or manual) to provide diagnostic information or remediation steps if a Diagnostics & Remediation functional component exists • May create a Problem record when the Incident is severe, requires further deep investigation, or is repeating if a Problem functional component exists • Can trigger the creation of an RFC in order to implement a fix to the Incident fault if a Change Control functional component exists • Can allow the initiation of an Interaction or an Incident if a Self-Service Support functional component (R2F value stream) exists • Can provide business measurements of Incident data if a Service Level functional component exists
8.4.4	Problem Functional Component	KLP 8.4.4-1 (1) The purpose of the Problem functional component KLP 8.4.4-2 (1) The Problem, Known Error data object KLP 8.4.4-3 (X) The key attributes of the Problem, Known Error data object KLP 8.4.4-4 (X) The Problem, Known Error data object relationships: • Problem, Known Error to RFC (1:n) • Problem, Known Error to Portfolio Backlog Item (1:1) • Problem, Known Error to Defect (1:1) • Incident to Problem, Known Error (n:m) • Problem, Known Error to Actual Service(s) (n:m) • Problem, Known Error to Knowledge (n:m) KLP 8.4.4-5 (X) The functional criteria for the Problem functional component: • Be the system of record for all Problem records • Manage the state and lifecycle of the Problem • Create Known Error data object instances from unsolved Problems • Can push Problem data to trigger the execution of a Run Book data object to provide diagnostics information or remediation steps if a Diagnostics &

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		Remediation functional component exists • Creates an RFC associated to a Problem in order to implement a fix to the issue that is documented by the Problem if a Change Control functional component exists • Uses existing Knowledge data to solve a Problem if a Knowledge & Collaboration functional component exists • Create a new Knowledge data object based on Problem Management activities if a Knowledge & Collaboration functional component exists • Push Problem data requiring emergency/specific development to the Defect functional component (R2D value stream) if a Defect functional component exists • May push a Portfolio Backlog Item to the Portfolio Demand functional component for backlog processing if a Portfolio Demand functional component exists KLP 8.4.4-6 (X) The Data Architecture Criteria of the Problem functional component: • Associate Problem(s) to Actual Service(s) • Associate Incident data to the corresponding Problem record and continue the investigation around the Incident reported fault within the Problem lifecycle if an Incident functional component exists
8.4.5	Change Control Functional Component	KLP 8.4.5-1 (1) The purpose of the Change Control functional component KLP 8.4.5-2 (1) The RFC data object KLP 8.4.5-3 (X) The key attributes of the RFC data object KLP 8.4.5-4 (X) The RFC data object relationships: • Fulfilment Request to RFC (1:1) • RFC to Actual Service (n:m) • Problem, Known Error to RFC (1:n) • Incident to RFC (1:n) • RFC to Event (n:1) KLP 8.4.5-5 (X) The functional criteria for the Change Control functional component: • Act as an authoritative system of record • Manage the state and lifecycle of the change • Facilitate communication with stakeholders • Assess the risk of proposed changes and their implementation • Support the impact and risk assessments to minimize risk of production disruptions involved when rolling out changes • Enable management of organizational changes and training needed for making a new release a success (which may include oversight that ensures that these tasks are included as part of the deployment package) • Enable notification of all affected change stakeholders and facilitate their collaboration on change execution • May support automation of changes so that human participation is reserved for the highest added value and most complex change work For example, the Event functional component or Incident functional component may use a manual or automated Run Book to resolve well understood issues without an active RFC. These classes of pre-approved RFCs will vary by company and by criticality of service. For these pre-approved RFCs, it is assumed that the RFC is recorded and that the Change Management process has access to that information. A typical example

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		would be a Run Book automation script that both fixes the issue and logs what was changed as a closed RFC record. The relationship to the Actual Service is maintained to allow Configuration Management to have access to change information. • Enable RFC management against a change calendar and avoid change collisions • Check and steer conflict resolutions between parallel planned deployments • Provide change data in the context of change impact analysis KLP 8.4.5-6 (X) The Data Architecture Criteria of the Change Control functional component: • Associate change(s) to Actual Service(s) • Associate changes with Incidents bi-directionally if an Incident functional component exists • May associate changes with Events when a change triggers an Event or an Event occurs during a change period if an Event functional component exists • Associate the Fulfillment Request with the RFC record as the overall framework that facilitates the IT service implementation/instantiation if a Fulfillment Execution functional component exists • Associate RFCs to the Problem in order to implement a fix to the issue that is documented by the Problem if a Problem functional component exists
8.4.6	Configuration Management Functional Component	KLP 8.4.6-1 (1) The purpose of the Configuration Management functional component KLP 8.4.6-2 (1) The Actual Service data object KLP 8.4.6-3 (X) The key attributes of the Actual Service data object KLP 8.4.6-4 (X) The Actual Service data object relationships: • Desired Service to Actual Service (1:1) • RFC to Actual Service (n:m) • Problem, Known Error to Actual Service (n:m) • Run Book to Actual Service (n:m) • Incident to Actual Service (n:m) • Actual Service to Event (n:m) • Actual Service to Service Contract (1:n) • Service Monitor to Actual Service (1:n) KLP 8.4.6-5 (X) The functional criteria for the Configuration Management functional component: • Be a system of record for all Actual Services and their associated relationships • Manage the lifecycle of the Actual Service • Serve as the data store for the realization of the service in the production environment • Can be populated by service discovery • Calculate and provide the change impact based on the proposed change and the Actual Service relationships if a Change Control functional component exists • Calculate and provide the business impact of the Incident to help in the prioritization process if a Change Control functional component exists • Calculate and provide the business impact of the Event to help in the prioritization process if an Event functional component exists KLP 8.4.6-6 (X) The Data Architecture Criteria of the Configuration Management

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		functional component: • Allow hierarchical relationships between Actual Services • Associate a Run Book with the Actual Service against which the Run Book is associated if a Diagnostics & Remediation functional component exists • Associate an Actual Service with an RFC with which the change is associated if a Change Control functional component exists • Associate the Actual Service with the Problem record against which the Problem is associated if a Problem functional component exists • Associate the Actual Service with the Incident with which the Incident is associated if an Incident functional component exists • Associate the Actual Service with the Event with which the change is associated if an Event functional component exists • Associate the Actual Service with the Service Monitor with which the change is associated if a Service Monitoring functional component exists
8.4.7	Diagnostics & Remediation Functional Component	KLP 8.4.7-1 (1) The purpose of the Diagnostic & Remediation functional component KLP 8.4.7-2 (1) The Run Book data object KLP 8.4.7-3 (X) The key attributes of the Run Book data object KLP 8.4.7-4 (X) The Run Book data object relationship: • Actual Service to Run Book (n:m) KLP 8.4.7-5 (X) The functional criteria for the Diagnostic & Remediation functional component: • Be the system of record for all Run Books • Manage the Run Book lifecycle • Can allow an Event to trigger a Run Book mainly for diagnostics purposes if an Event functional component exists • Can allow an Incident to trigger a Run Book for diagnostics or remediation purposes (remediation that does not require RFCs) if an Incident functional component exists • Can allow a Problem to trigger a Run Book for remediation purposes (after an RFC has been opened) if a Problem functional component exists KLP 8.4.7-6 (X) The Data Architecture Criteria of the Diagnostics & Remediation functional component: • Allow hierarchical relationships between Run Books • Associate a Run Book with an Actual Service
8.4.8	Service Level Functional Component	KLP 8.4.8-1 (1) The purpose of the Service Level functional component KLP 8.4.8-2 (1) The key data objects of the Service Level functional component: • Service Contract data object • Key Performance Indicator data object KLP 8.4.8-3 (X) The key attributes of the Service Level functional component data objects: • Service Contract data object key attribute • Key Performance Indicator data object key attribute KLP 8.4.8-4 (X) The key data object relationships of the Service Level functional component: • Service Release Blueprint to Service Contract (n:m) • Actual Service to Service Contract (1:n) • Service Contract to KPI (n:m)

Section		Key Learning Point(s)
		• Subscription to Service Contract (1:1) KLP 8.4.8-5 (X) The functional criteria for the Service Level functional component: • Be the system of record for the Service Contract • Manage the Service Contract lifecycle (create, store, and maintain) • Manage the lifecycle (create, store, and maintain) of KPIs • Manage the state of the Service Contract • Manage the relations between the Service Contract data object and the KPI data object throughout their lifecycle • Receive measurements such as Incident data as well as other information that may be covered by the Service Contract and used for calculating the KPI measurements • Create reports on the Service Contracts to show the quality of service per SLO • Can receive business/IT measurements from Service Monitoring if a Service Monitoring functional component exists • Can instantiate a Service Contract from a Service Release Blueprint using the Service Contract (template) if a Release Composition functional component exists • May instantiate a Service Contract from a Service Contract (template) originating from the Offer Management functional component (R2F value stream) if an Offer Management functional component exists • Create a Service Contract (instance) and start measuring it once a Subscription is instantiated if a Request Rationalization functional component exists • May receive Incident business measurements from the Incident functional component if an Incident functional component exists • Can send reporting data on the Service Level status if an Offer Consumption functional component exists KLP 8.4.8-6 (X) The Data Architecture Criteria of the Service Level functional component: • Allow hierarchical relationships between Service Contracts
8.4.9	Other IT Operations Areas	KLP 8.4.9-1 (1) IT operations capabilities that are not part of the D2C value stream: • Capacity planning • Availability Management • Intelligence, trending, proactive alerting
Part IV: Rationale		
A.1	Introduction	KLP 3.1-1 (1) Demonstrate understanding of related IT industry standards and IT4IT relationship to standards.
A.2	Definitions	None
A.3	Overview	None
A.3.1	Business Drivers for an Improved IT Operating Model	None
A.3.2	The IT Value Chain	None

Section		Key Learning Point(s)
A.4	IT4IT Core	None
A.4.1	Value Streams	None
A.4.2	Functional Components	None
A.5	Strategy to Portfolio Value Stream	None
A.5.1	Related Standards, Frameworks, and Guidance	None
A.6	Requirement to Deploy Value Stream	None
A.6.1	Related Standards, Frameworks, and Guidance	None
A.7	Request to Fulfill Value Stream	None
A.7.1	Related Standards, Frameworks, and Guidance	None
A.8	Detect to Correct Value Stream	None
A.8.1	Related Standards, Frameworks, and Guidance	None

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