

Syllabus
B.I.A.N. Foundation Certification



Version 5.0

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This material contains diagrams and text information based upon:
BIAN - the Banking Industry Architecture Network.

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Description

The BIAN Foundation Exam is the exam for the official BIAN Foundation level certification by the Banking Industry Architecture Network and is carried out by Van Haren Learning Solutions.

The BIAN Foundation Certification Exam is to test the delegate's knowledge about the BIAN standard. This is the common framework for banking interoperability and integration cost issues. By successfully passing the BIAN Foundation Exam delegates will achieve the BIAN Foundation level certification which ensures that they have been audited and have successfully mastered the required BIAN Foundation level. This includes their ability to describe and recognize certain knowledge about BIAN such as: the benefits BIAN provides to financial services providers, the BIAN design principles and artifacts, the abilities to reduce integration cost and to maximize interoperability.

The BIAN certification exam is intended for professionals in the financial services industry such as: enterprise- and solution architects, consultants, that all operate in the financial services industry.

Summary Certification

Being certified in The BIAN Foundation level acknowledges that a certified professional has mastered the BIAN Standard and is aware that financial institutions can be modelled in a standard way, which enables maximum interoperability and re-use and minimum IT integration cost. A BIAN Foundation certified person is able to recognize and use this in dealings with other financial services providers.

Key Benefits

- This certification qualifies professionals and demonstrates their knowledge of BIAN
- It is necessary for professionals to have this basic knowledge in order to model a bank to the BIAN standard
- It qualifies professionals in the financial services industry to demonstrate that they have the proper understanding of the standards in architecture required for financial organizations.

Certification Scope

The BIAN Banking Architecture Certification will consist of two certifications:

- The BIAN Banking Architecture Foundation Certification
- The BIAN Banking Architecture Practitioner Certification

Target group

The BIAN certification is intended for enterprise architects, solution architects, consultants and advisors in the banking- and financial services industry.

Job descriptions such as:

- Enterprise- and Solution Architects who work in the financial services industry.
- Consultants and Senior Consultants that operate in the financial services industry.
- Tooling providers that operate in the financial services industry
 - Software Solution Providers that operate in the financial services industry
 - Integrators and 3th party service providers that operate in the financial services industry .

About BIAN

The Banking Industry Architecture Network is created to establish, promote and provide a common framework for banking interoperability issues and to become and to be recognized as a world-class reference point for interoperability and reduction of integration cost in the financial services industry.

The Banking Industry Architecture Network (BIAN) is a collaborative not-for-profit ecosystem formed of leading banks, technology providers, consultants and academics from all over the globe.

Together this network of professionals is dedicated to lowering the cost of banking and boosting speed to innovation in the industry. Members combine their industry expertise to define a revolutionary banking technology framework that standardises and simplifies core banking architecture, which has typically been convoluted and outdated. Based on service oriented architecture principles, the comprehensive model provides a future-proofed solution for banks that fosters industry collaboration.

learn more about BIAN at www.bian.org.

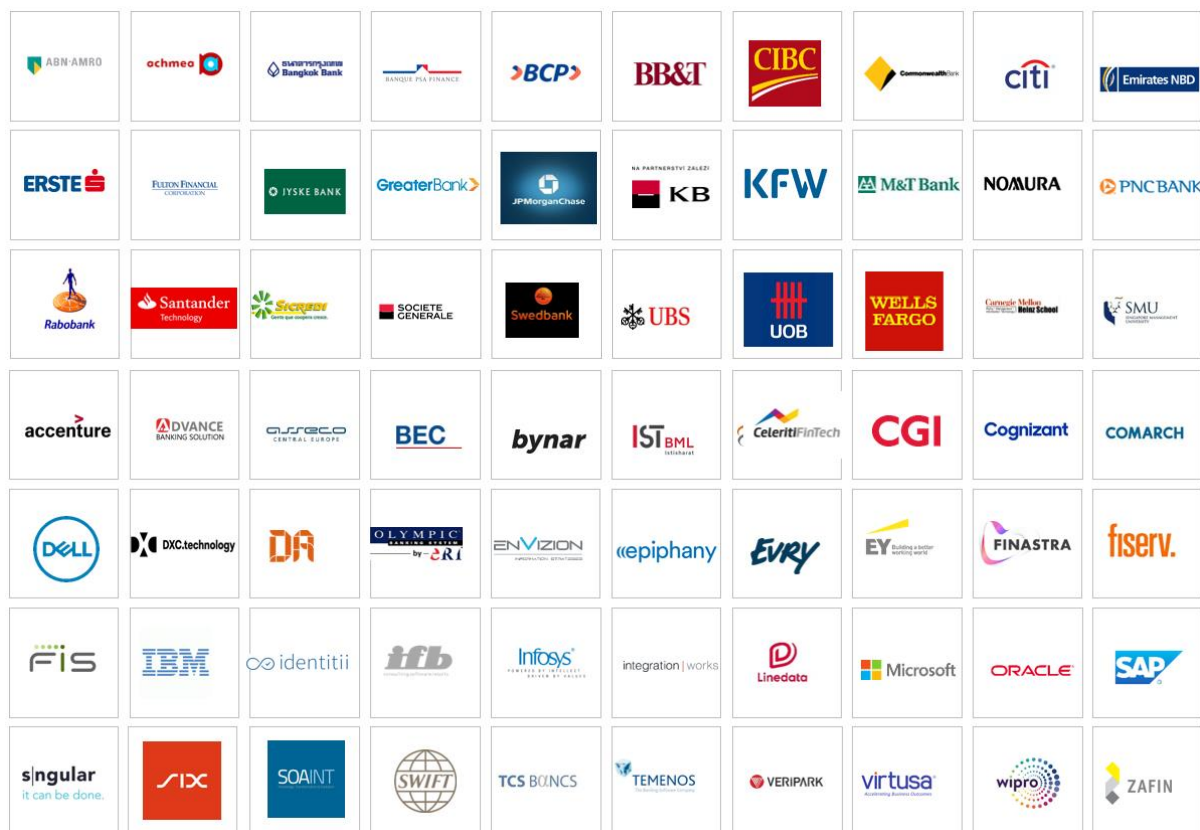
BIAN Members

BIAN members are banks, software vendors and system integrators: BIAN membership participation allows to help shape the future of banking services, whilst increasing the agility of IT infrastructures, which in turn will reduce development and integration costs while providing a competitive edge.

BIAN accredited training organizations are recognised at Educational.

To become a member, please go to www.bian.org/members/

The figure below provides is a visual representation of some BIAN members.



(Figure 1 visual representation of BIAN members in 2019)

Exam Format & Requirements

| | |
|---|--|
| Number of questions: | 60 |
| Duration (minutes) of exam: | 60 min. |
| Pass Mark – X% (X marks): | 70% |
| Open/Closed book: | Closed |
| Language: | English |
| Re-exam included: | For accredited courses a re-exam is included |
| Paper based & online availability: | Online availability, on location possible upon request. |
| Are Negative questions part of the exam (which of the following is NOT correct) | Yes, reading ability will also be tested. So delegates are advised to pay particularly close attention to these during the exam. |
| Are multiple answer questions part of the exam (which two of the following statements are correct about...) | Yes, this will enable a more detail-orientated exam result. |

Study Effort (ECTS)

30 hours, depending on existing knowledge. The recommended number of contact hours for this training course is 15. It is recommended that delegates already have Enterprise Architecture experience or knowledge, such as a certificate in The TOGAF® Standard or Enterprise Architecture experience in or with the financial services industry is preferred.

Level in the Bloom Taxonomy

The BIAN Banking Architecture Foundation Certification audits candidates at the Bloom Levels 1 and 2. This is according to Bloom's Revised Taxonomy:

- Remembering: Bloom Level 1:

The delegate will be tested in the ability to: **Remember** factual information including lists, **Recognize** symptoms of exhaustion, **Recall** how to perform like to execute a process, and finally **Identify** strategies for retaining information.

- Understanding: Bloom Level 2:

Understand. Meaning the delegate will be tested in the ability to: **Summarize** features, **Classify** the different BIAN artefacts, **Clarify** create Business Scenario's and **Predict** a correct response or situation.

Literature

The BIAN Foundation Certification is based on knowledge articulated in the publication BIAN Edition 2019 – a framework for the financial services industry (ISBN Hardcopy 9789401803151).

Overall regulation and policy

Being a BIAN certified architect is an honorary title, so fraud will not be tolerated. If there is any fraud detected in the exam execution the person taking the exam will directly fail the exam. This will not be reimbursed.

Failing the exam by not having enough questions correct to achieve the minimum passing rate will result in a failure to achieve certification. A delegate can do one single trial per exam order; meaning you get one chance per exam to pass. If an exam was not passed, then a new exam needs to be taken.

Learning objectives – Foundation Certification

The learning objectives state what the delegate will need to know and be able to execute after passing this certification. For the Foundation Certification the student needs to show that he/she is able to describe and recognize certain knowledge of BIAN and can also understand and apply it. The certificate that the student will receive after passing the certification proves that the candidate has learned everything and needs to:

- Have an understanding of what BIAN is and is able to describe the purpose of BIAN and its design principles:
 - o Be able to describe and recognize what BIAN is and its benefits for the financial services industry
 - o Reduce integration cost
 - o Maximize interoperability

- Be able to describe and recognize fully the BIAN Design principles:
 - o Non-overlapping functionality
 - o Discrete service centers to model a bank
 - o Dynamic behavior of static assets

- Be able to describe and recognize fully the BIAN's artefacts in the correct context:
 - o Business scenarios
 - o Functional patterns
 - o Action terms
 - o Behavior qualifiers
 - o Asset types
 - o Control records

Learning objectives – Practitioner Certification

The learning objectives state what the delegate will need to know and be able to execute after passing this certification. For the Practitioner Certification the student needs to show that he/she can analyze organizations and apply BIAN in the correct manner.

The certificate that the student will receive after passing the certification proves that the candidate has learned everything and needs to:

- Be able to remember, understand, analyze an organization and apply the correct BIAN's design principles to:
 - o reduce integration cost
 - o maximize interoperability
 - o model dynamic behavior of static assets

- Be able to remember, understand, apply the BIAN Design principles:
 - o non-overlapping functionality
 - o use discrete service centers (Service Domains) to model a bank

- Be able to analyze an organization and apply the BIAN artefacts in the correct context:
 - o business scenario's
 - o Functional patterns
 - o action terms
 - o behavior qualifiers
 - o asset types
 - o control records

- Be able to describe use-cases with BIAN Business Scenario's

- Be able to create an application architecture according to BIAN

- Be able to describe a migration path from the current infrastructure to a BIAN compliant infrastructure

List of Key terms and concepts

Before we look into the BIAN design principles and techniques in more detail, we will explain the key terms and concepts that are used in BIAN to give you a better understanding of the underlying principles.

Please be aware that knowledge of the terms alone will not be sufficient enough to pass the exam.

| | |
|--|---|
| Key terms and concepts | Rational |
| Application 2 Application - Enterprise Application Integration (EAI) | The use of software and computer systems' architectural principles to integrate a set of enterprise computer applications. |
| Business Capability | Represents a consistent set of actions to realize a specific goal that can be applied to a specific object. |
| Business Role/Purpose | A Service Domain enables an enterprise to exact value from an object directly through its use (e.g. assign work to an employee) or by influencing the object to ensure/increase its value-generating potential (e.g. pay and train an employee). |
| Business Scenario | Like any process model, the Business Scenario defines a linked sequence of interactions between Service Domains in response to a business event. The Business Scenario also clearly defines the specific Service Domains and Service Operation exchanges responsible for each action involved in the sequence. |
| Canonical Level | Rather than a definition of the term, the implication of this concept needs to be spelled out. The basis for BIAN defining Service Domains and their associated Service Operations needs to be established precisely and why these designs are canonical. For example, if two independent designers applied the BIAN techniques to identify Service Domains for the same requirement, they would necessarily derive the same partitions |
| Control Record | Manages the lifecycle state of the Object within the Service Domain. |
| Enterprise | Describes an organizational unit, organization, or collection of organizations that share a set of common goals and collaborates to provide specific products or services to customers. |
| First Order Connection | The First Order Interactions for a Service Domain establishes its required service connections. These connections provide an aspect of the definition of the Service Domain as a business capability building block. |
| Functional Pattern | Each Service Domain has a dominant Functional Pattern associated to the Service Operations that classifies the role of the Object within the Service Domain. |
| Implementation Agnostic | The high-level semantic Service Operation designs do not include anything specific to any particular implementation approach. They can, for example, be interpreted in a wrapped legacy host, a three-tiered architecture and a fully service enabled 'cloud' architecture, or any combination of these. |
| Lifecycle | A Service Domain handles all relevant states of instances of the object it acts on. These states define a 'lifecycle' that reflects the role/purpose of a Service Domain. |

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| Object | Is a tangible or intangible thing the bank can own or influence its behavior e.g. a customer relationship, cash or a payment capability. |
| Semantic Level | In approximate terms this can be defined as the spoken language description. It is important to note that when the model is complete, all the main business concepts will be addressed such that in further, more detailed, interpretation no new concepts are required. It will simply be a matter of establishing better definition and resolution of those concepts. |
| Service Domain | The BIAN Service Operations define interactions between business capability building blocks that are more fully defined in terms of the organization, procedures and associated information systems that support them. In general attention is more typically aligned with the supporting information systems and systems interfaces, but this focus should not obscure the fact that a Service Domain represents a coherent aspect of the business enterprise combining its people, procedures and systems. |
| Service Landscape | Is a reference model containing one of each identified Service Domains, organized in groups to help with their identification and selection. |
| Service Operation | Lifecycle changes are triggered through Service Operation (action) calls between Service Domains, or they can result from internally scheduled activity (such as periodic analysis). |
| Technology Agnostic | The BIAN Service Operation specifications are unbiased towards the use of different technology tools to solve different problems. |
| Wireframe | Is a narrow selection of Service Domains (with the available service connections between them) needed to address an area of business activity. For example, all the Service Domains directly and indirectly involved in customer relationship development. |
| Behavior qualifiers | As additional level of detail to the Service Domain specification this is a mechanism that breaks down the behavioral characteristics of the Service Domain's functional pattern. This additional detail is used to expand the description of the business information governed and accessed through its offered Service Operations. It is also used to define a more precise purpose/definition for those individually offered Service Operations when necessary. |

Exam requirements and Specification

To cover the learning objectives the certification is divided into exam requirements.

These exam requirements consist of specific exam specifications.

The table below lists the different modules (in exam requirements) and subtopics (exam specifications). It also indicates the weight per exam requirement which indicates the amount of questions that can be expected per module.

| Module | Exam Requirements | Exam Specification | Weight % |
|--------|---|--|----------|
| 1. | INTRODUCTION TO BIAN | | 10% |
| 1.1 | | BIAN, the Banking Industry Architecture Network | |
| 1.2 | | BIAN Service landscape, an overview | |
| 2 | BIAN'S PRIMARY PURPOSE AND APPROACH. | | 10% |
| 2.1 | | Introduction to BIAN's primary purpose and approach | |
| 2.2 | | Describe different approach to a well-established problem | |
| 2.3 | | BIAN in the context of other standard efforts in the industry | |
| 3 | UNDERSTANDING THE THEORY OF BIAN | | 25% |
| 3.1 | | Introduction to understanding the theory of BIAN | |
| 3.2 | | Some key terms/concepts | |
| 3.3 | | Business capability partitions | |
| 3.4 | | The BIAN standard can be interpreted in different situations | |
| 3.5 | | How to combine a static and a dynamic view in your model | |
| 3.6 | | BIAN's model view on the business | |
| 3.7 | | The BIAN Framework | |
| 4 | THE BIAN SERVICE LANDSCAPE. | | 20% |
| 4.1 | | Introduction to the BIAN service landscape | |
| 4.2 | | High-level Service Domain definition | |
| 4.3 | | The BIAN Service Domains | |
| 5 | HOW TO APPLY THE BIAN STANDARD. | | 20% |
| 5.1 | | Introduction on how to apply the BIAN standard | |
| 5.2 | | BIAN's alignment to TOGAF | |
| 5.3 | | Mapping BIAN to other industry standards (e.g. IFX, ISO 20022) | |
| 5.4 | | Translating at the business architecture level | |
| 5.5 | | Applying BIAN Service Domains in different environments | |
| 5.6 | | Using the BIAN models to define (open) APIs | |
| 5.7 | | Service-based access | |
| 5.8 | | Applying BIAN in different technical architectures | |
| 5.9 | | Support for emerging industry approaches | |
| 5.10 | | Using BIAN Service Domain partitions to define APIs | |
| 5.11 | | Support for incremental adoption/migration | |
| 6 | ASSEMBLING A REPRESENTATIVE ENTERPRISE BLUEPRINT. | | 5% |
| 6.1 | | Building the enterprise blueprint for a bank | |
| 7 | AN ENTERPRISE BLUEPRINT IS A FRAMEWORK FOR ANALYSIS | | 5% |

| | | | |
|-----|------------------------------|---|----|
| 7.1 | | The BIAN specifications can be augmented | |
| 7.2 | | Track business and technical performance | |
| 7.3 | | Overlay resources to identify shortfalls | |
| 7.4 | | Analysis supported by the enterprise blueprint | |
| 8 | BIAN AND TOGAF'S ADM PHASES. | | 5% |
| 8.1 | | BIAN and the TOGAF Architecture Content Framework | |

Literature mapping

The BIAN Banking Architecture Foundation Certification is fully based on the publication BIAN Edition 2019 – a framework for the financial services industry ISBN Hardcopy 9789401803151.

| Module | Exam Requirements | Exam Specification | Weight % | Literature Mapping book |
|--------|--------------------------------------|--|----------|-------------------------|
| 1. | INTRODUCTION TO BIAN | | 10% | 1 |
| 1.1 | | BIAN, the Banking Industry Architecture Network | | 1.3 |
| 1.2 | | The BIAN Service landscape, an overview | | 1.4 |
| 2 | BIAN'S PRIMARY PURPOSE AND APPROACH. | | 10% | 2 |
| 2.1 | | Introduction to understanding the theory of BIAN | | 2.1 |
| 2.2 | | A different approach to a well-established problem | | 2.2 |
| 2.2.1 | | BIAN's capability view versus a traditional process view | | 2.2.1 |
| 2.3 | | BIAN in the context of other standard efforts in the industry | | 2.3 |
| 2.3.1 | | Standardization in the financial services industry | | 2.3.1 |
| 2.3.1 | | Support for industry standards | | 2.3.2 |
| 3 | UNDERSTANDING THE THEORY OF BIAN | | 25% | 3 |
| 3.1 | | Introduction to understanding the theory of BIAN | | 3.1 |
| 3.2 | | Some key terms/concepts | | 3.2 |
| 3.3 | | Business capability partitions | | 3.3 |
| 3.4 | | The BIAN standard can be interpreted in different situations | | 3.5 |
| 3.5 | | How to combine a static and a dynamic view in your model | | 3.6 |
| 3.5.1 | | The difference between capability model views (static) and process model views (dynamic) | | 3.6.1 |
| 3.5.2 | | A capability (static) model is better suited for defining a standard | | 3.6.2 |
| 3.5.3 | | Defining canonical capability partitions | | 3.6.3 |
| 3.5.4 | | Why use capabilities as the building blocks for the BIAN model? | | 3.6.4 |
| 3.5.5 | | Business capability, business capability building block or business capacity? | | 3.6.5 |
| 3.6 | | BIAN's model view on the business | | 3.7 |
| 3.6.1 | | Business behavior is modeled using Service Domains | | 3.7.1 |
| 3.6.2 | | Service Domain interactions | | 3.7.2 |
| 3.7 | | The BIAN Framework | | 3.9 |
| 3.7.1 | | The BIAN Framework – an overview | | 3.9.1 |
| 4 | THE BIAN SERVICE LANDSCAPE | | 20% | 4 |
| 4.1 | | Introduction to the BIAN service landscape | | 4.1 |
| 4.2 | | High-level Service Domain definition | | 4.2 |
| 4.3 | | The BIAN Service Domains | | 4.3 |

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|---------|--------------------------------|---|-----|---------|
| 4.3.1 | | The Service Domain Control Record | | 4.3.1 |
| 4.3.2 | | Rightsizing the BIAN Service Domain | | 4.3.2 |
| 4.3.4 | | The BIAN Service Domain specification | | 4.3.4 |
| 4.3.5 | | Service Operation details | | 4.3.5 |
| 4.3.6 | | The BIAN Business Scenario | | 4.3.6 |
| 4.3.7 | | Wireframe models | | 4.3.7 |
| 5 | HOW TO APPLY THE BIAN STANDARD | | 20% | 5 |
| 5.1 | | Introduction on how to apply the BIAN standard | | 5.1 |
| 5.2 | | BIAN's alignment to TOGAF | | 5.2 |
| 5.3 | | Mapping BIAN to other industry standards (e.g. IFX, ISO 20022) | | 5.3 |
| 5.4.1 | | Translating at the business architecture level | | 5.5.1 |
| 5.4.2 | | Translating at the information architecture level | | 5.5.2 |
| 5.4.3 | | The Control Record can be modeled | | 5.5.3 |
| 5.5 | | Applying BIAN Service Domains in different environments | | 5.6 |
| 5.5.1 | | Using BIAN specifications as a high-level implementation design | | 5.6.1 |
| 5.5.2 | | Service-oriented architectures and the benefits of 'externalization' | | 5.6.2 |
| 5.5.3 | | Defining BIAN's concept of 'externalization' | | 5.6.3 |
| 5.5.4 | | Externalization in business application design | | 5.6.4 |
| 5.5.6 | | Business architecture versus systems architecture views of a Service Domain | | 5.6.6 |
| 5.5.7 | | Service Domain clusters | | 5.6.7 |
| 5.5.9 | | Possible Service Domain functional specializations | | 5.6.9 |
| 5.5.10 | | Extending the functional definition of the Service Domain | | 5.6.10 |
| 5.6 | | Using the BIAN models to define (open) APIs | | 5.7 |
| 5.6.1 | | Semantic APIs | | 5.7.1 |
| 5.7 | | Service-based access. | | 5.8 |
| 5.8 | | Applying BIAN in different technical architectures | | 5.9 |
| 5.8.1 | | Level 1 - Conventional (legacy/core) system rationalization | | 5.9.1 |
| 5.8.2 | | Level 2 - Host renewal/ESB integration and application/system assembly | | 5.9.2 |
| 5.8.2.1 | | Host alignment | | 5.9.2.1 |
| 5.8.2.2 | | Multiple candidate hosts | | 5.9.2.2 |
| 5.8.3 | | Level 3 - Loose coupled distributed/cloud systems | | 5.9.3 |
| 5.8.3.1 | | Service information precision | | 5.9.3.1 |
| 5.9 | | Support for emerging industry approaches | | 5.10 |
| 5.9.1 | | Application Program Interfaces (APIs) | | 5.10.1 |
| 5.9.2 | | Micro-services | | 5.10.2 |
| 5.10 | | Using BIAN Service Domain partitions to define APIs | | 5.11 |
| 5.10.2 | | Business case development | | 5.11.2 |
| 5.10.3 | | Select and amend Business Scenario(s) | | 5.11.3 |

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|----------|---|---|----|----------|
| 5.10.3.1 | | Develop a Wireframe model | | 5.11.3.1 |
| 5.10.4 | | Define the implementation requirements | | 5.11.4 |
| 5.10.4.2 | | Service Operations | | 5.11.4.2 |
| 5.10.4.3 | | Business Scenarios and Wireframes | | 5.11.4.3 |
| 5.11 | | Support for incremental adoption/migration. | | 5.12 |
| 5.11.1 | | Using BIAN as an API 'inventory' | | 5.12.1 |
| 5.11.2 | | API inventory | | 5.12.2 |
| 5.11.3 | | Three levels of architectural alignment | | 5.12.3 |
| 5.11.3.1 | | Direct to core | | 5.12.3.1 |
| 5.11.3.2 | | Wrapped host | | 5.12.3.2 |
| 5.11.3.3 | | Micro-service architecture Limitations | | 5.12.3.3 |
| 6 | ASSEMBLING A REPRESENTATIVE ENTERPRISE BLUEPRINT | | 5% | 6 |
| 6.1 | | Building the enterprise blueprint for a bank | | 6.1 |
| 6.1.1 | | Select Service Domains that match the enterprise activity | | 6.1.1 |
| 6.1.2 | | Adapt the general BIAN specifications as necessary | | 6.1.2 |
| 6.1.3 | | Assemble Service Domains in a structure matching the enterprise | | 6.1.3 |
| 6.1.4 | | Matching the enterprise segmentation approach | | 6.1.4 |
| 7 | AN ENTERPRISE BLUEPRINT IS A FRAMEWORK FOR ANALYSIS | | 5% | 7 |
| 7.1 | | The BIAN specifications can be augmented | | 7.1 |
| 7.1.1 | | Feature attribution | | 7.1.1 |
| 7.2 | | Track business and technical performance | | 7.2 |
| 7.3 | | Overlay resources to identify shortfalls | | 7.3 |
| 7.4 | | Analysis supported by the enterprise blueprint | | 7.4 |
| 8 | BIAN AND TOGAF'S ADM PHASES | | 5% | A2 |
| 8.1 | | BIAN and the TOGAF Architecture Content Framework | | A2.4 |
| 8.1.1 | | Deliverables, artifacts and building blocks | | A2.4.1 |
| 8.1.2 | | Mapping the BIAN deliverables to the TOGAF Content Metamodel | | A2.4.2 |