

INFORMATION FRAMEWORK FUNDAMENTALS - MODULE 0

INTRODUCTION

WELCOME

The slide features the tmforum logo at the top right. The main title "Welcome and INTRODUCTION" is displayed, with "INTRODUCTION" in large red capital letters. Below the title, a description of the course is provided, followed by a bulleted list of benefits. Three small images show people at a booth, a group of people talking, and a man speaking on stage. A red button at the bottom right encourages users to click "NEXT".

Welcome and

INTRODUCTION

The course:

- shows you how to take the thousands of words and concepts related to managing a business and create a common and simple way to define and communicate them;
- teaches you to avoid common misunderstandings by using a standardized format to identify and define entities;
- is presented in an easy to follow and engaging video format and includes quizzes and exercises to test your learning as you go along.

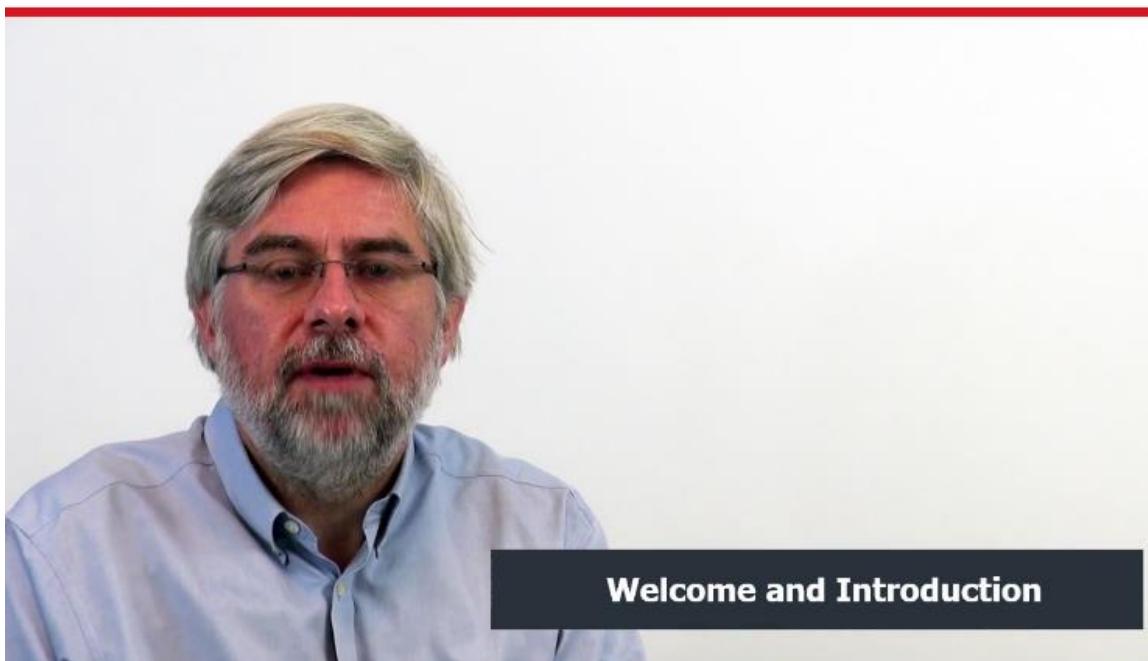
Click the NEXT button to continue throughout this course.

Notes:

COURSE INTRODUCTION

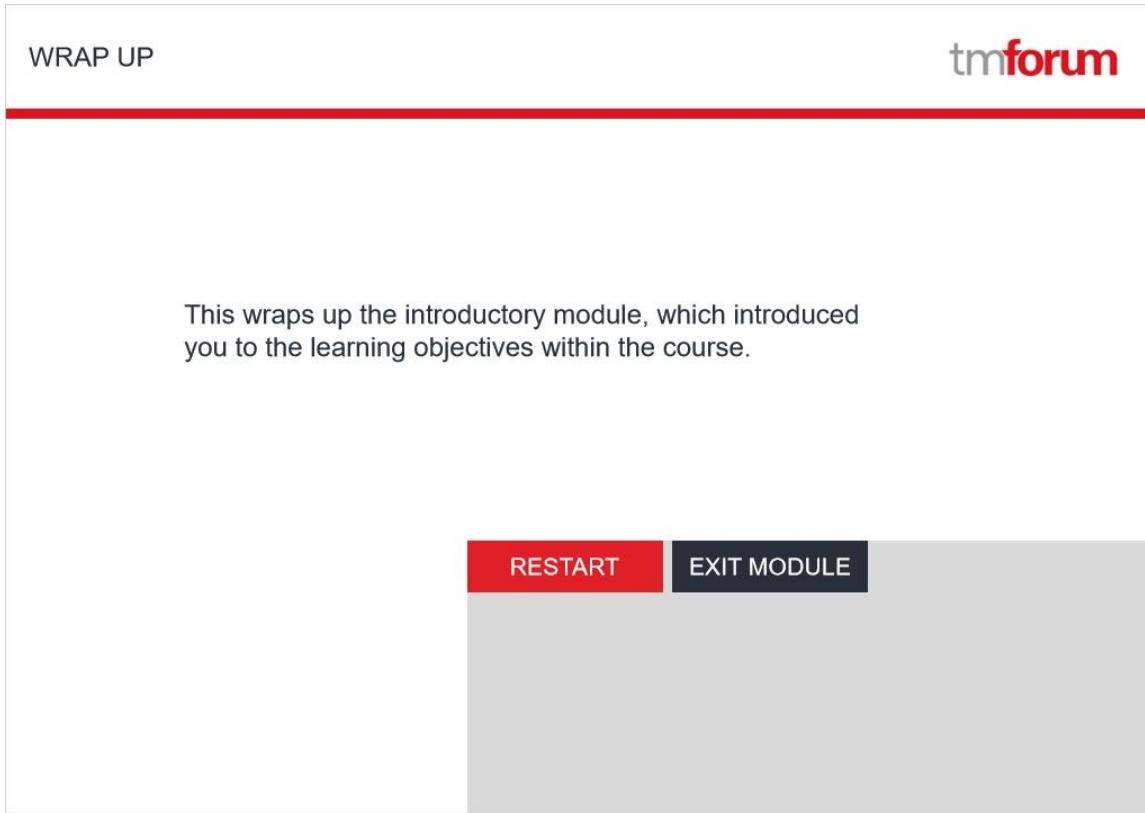
COURSE INTRODUCTION

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Notes:

WRAP UP



The image shows a 'WRAP UP' module interface. At the top left is the text 'WRAP UP'. At the top right is the 'tmforum' logo. Below this is a red horizontal bar. In the center of the module, there is a message: 'This wraps up the introductory module, which introduced you to the learning objectives within the course.' At the bottom right of the module is a grey rectangular area containing two buttons: 'RESTART' (in white text on a red background) and 'EXIT MODULE' (in white text on a black background).

This wraps up the introductory module, which introduced you to the learning objectives within the course.

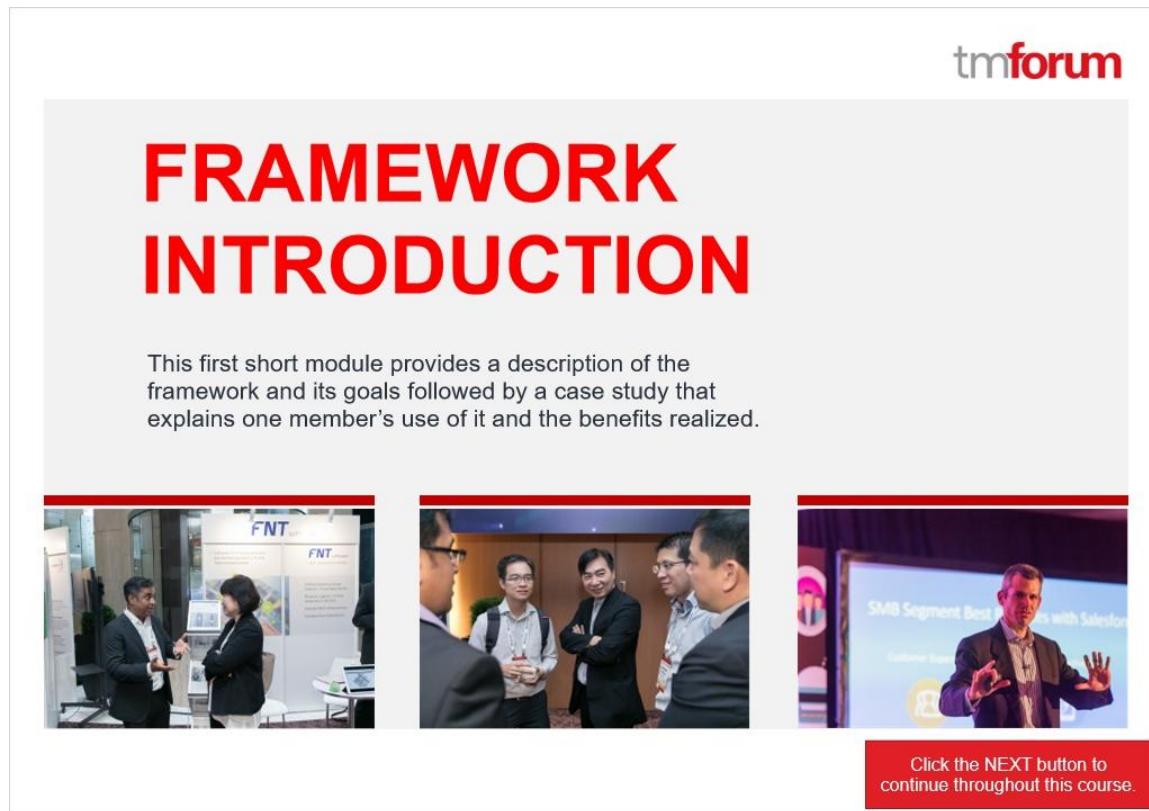
RESTART EXIT MODULE

Notes:

INFORMATION FRAMEWORK FUNDAMENTALS - MODULE 1

INTRODUCTION

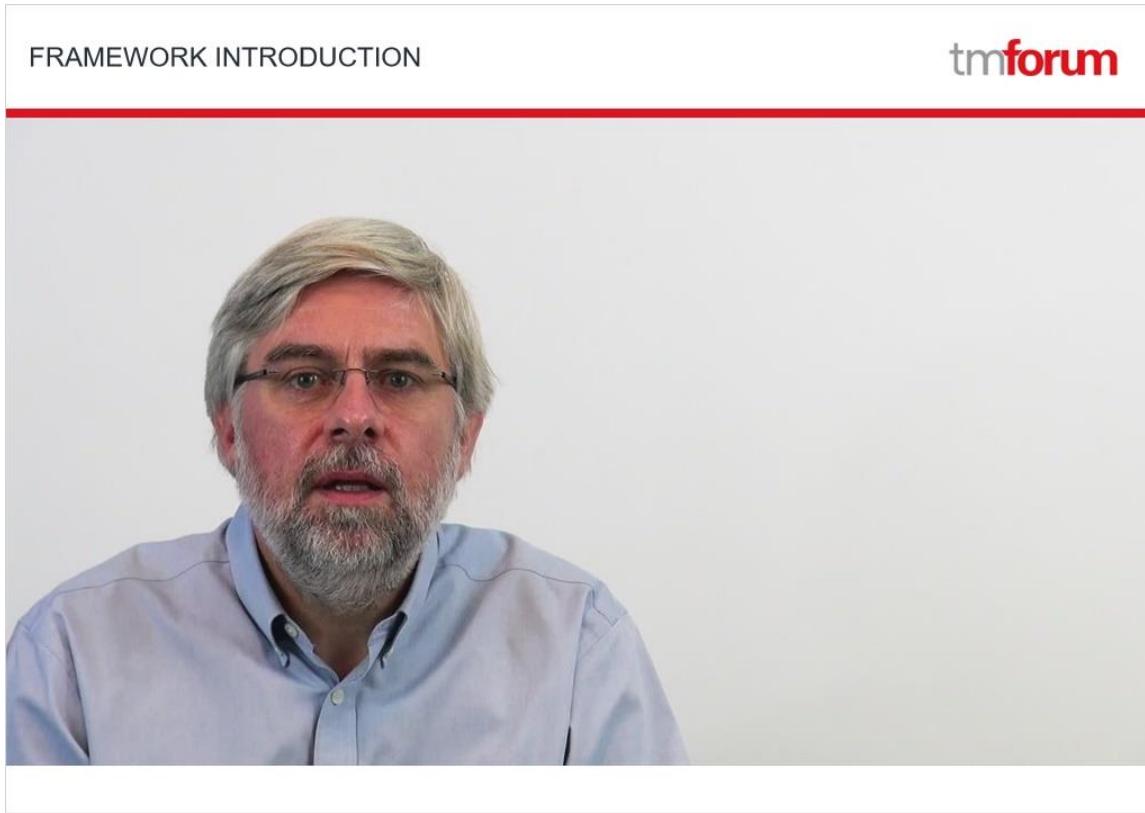
WELCOME



The slide features the tmforum logo at the top right. The main title 'FRAMEWORK INTRODUCTION' is displayed in large red capital letters. A descriptive text below the title states: 'This first short module provides a description of the framework and its goals followed by a case study that explains one member's use of it and the benefits realized.' Three small images are shown at the bottom left: two people talking at a booth, a group of four people standing together, and a man speaking at a podium. A red call-to-action button at the bottom right says 'Click the NEXT button to continue throughout this course.'

Notes:

FRAMEWORK INTRODUCTION



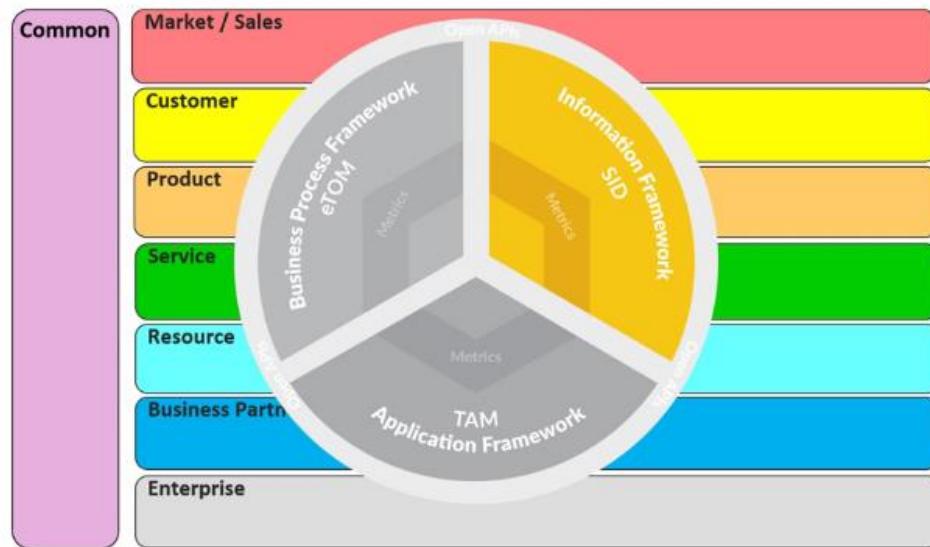
Notes:

THE INFORMATION FRAMEWORK

THE INFORMATION FRAMEWORK

THE INFORMATION FRAMEWORK

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Notes:

ABOUT THE INFORMATION FRAMEWORK

ABOUT THE INFORMATION FRAMEWORK



Five common questions that help explain what the framework is:

How is it structured?

The framework is an enterprise-wide process decomposition or structured outline.

What are its origins?

The Information Framework was not developed from scratch.

Why have an information framework model?

The Information Framework covers the breadth of an entire organization.

What does the framework include?

The model includes all concepts typical of a process model.

Is it a standard?

The Information Framework is a de-facto standard because of its use throughout the world.



Notes:

GOALS ACHIEVED BY THE FRAMEWORK

GOALS ACHIEVED BY THE FRAMEWORK

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Time to market/introduction of new technologies

Reducing the cost of integration

Multiple implementations from a single model

New/existing development

Reducing management time and cost

Notes:

CASE STUDY

INFORMATION FRAMEWORK CASE STUDY

INFORMATION FRAMEWORK CASE STUDY

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Around the World
with the
Information Framework



Notes:

WRAP UP

WRAP UP

The slide features a red header bar with the text "WRAP UP" on the left and the "tmforum" logo on the right. Below the header is a large white area containing text about the module summary. At the bottom is a grey footer bar with two buttons: "RESTART" on the left and "EXIT MODULE" on the right.

This wraps up the first module – Framework Introduction. When you are done with the course you may want to return here and see if you can explain what the framework is and the goals that can be achieved by using it.

RESTART **EXIT MODULE**

Notes:

INFORMATION FRAMEWORK FUNDAMENTALS - MODULE 2

(PART I of II)

INTRODUCTION

WELCOME

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FRAMEWORK STRUCTURE - PART I of II

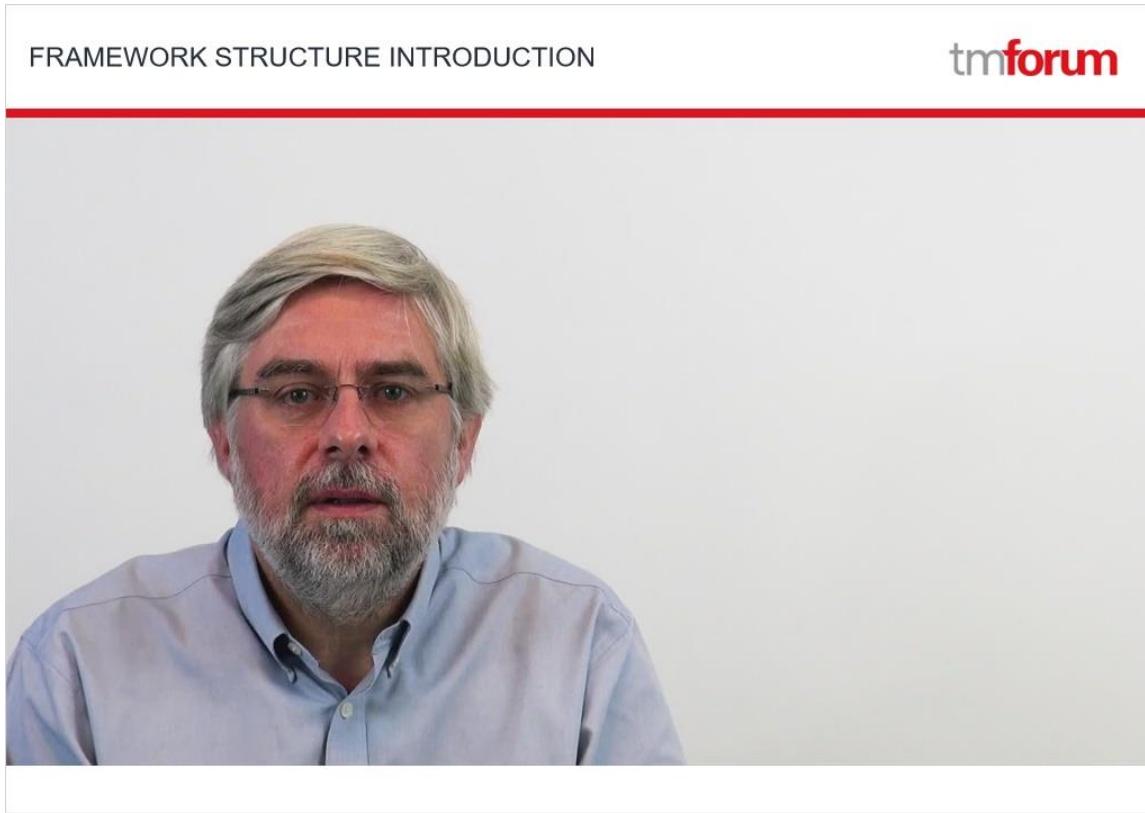
In this module you will learn about three key framework concepts that will reinforce the need for a standard process decomposition.



Click the NEXT button to continue throughout this course.

Notes:

FRAMEWORK STRUCTURE INTRODUCTION



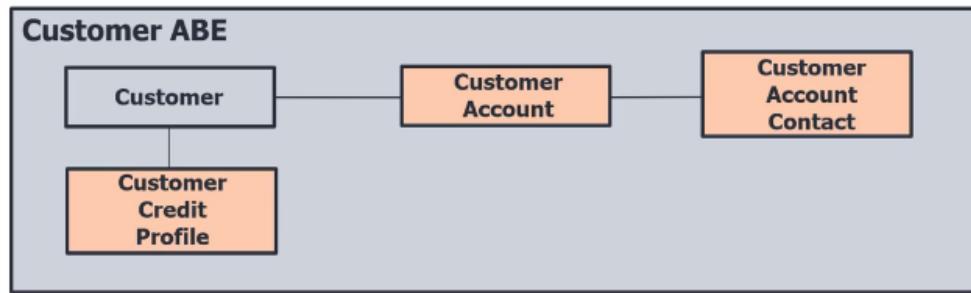
Notes:

KEY FRAMEWORK CONCEPTS

KEY FRAMEWORK CONCEPTS – STRUCTURE OF AN ABE

KEY FRAMEWORK CONCEPTS – STRUCTURE OF AN ABE

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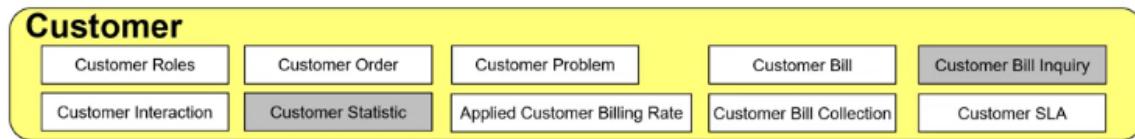
Notes:

KEY FRAMEWORK CONCEPTS – STRUCTURE OF A DOMAIN

KEY FRAMEWORK CONCEPTS – STRUCTURE OF A DOMAIN

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All ABEs that completely define a key management area are grouped together



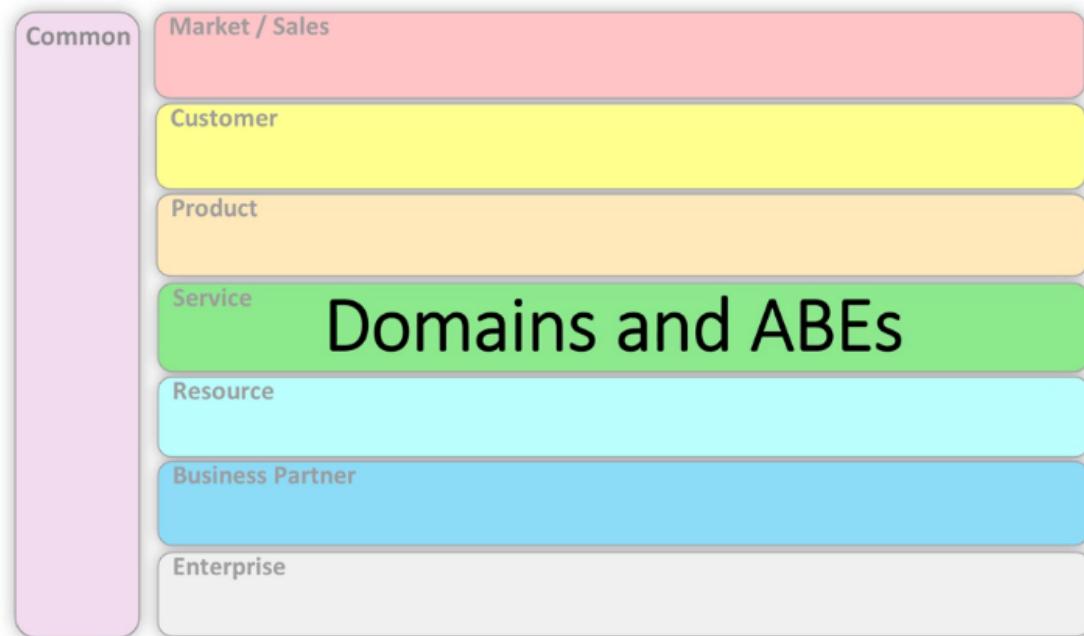
Notes:

DOMAINS AND ABES

DOMAINS AND ABEs INTRODUCTION

DOMAINS AND ABEs INTRODUCTION

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Notes:

INFORMATION FRAMEWORK DOMAINS

INFORMATION FRAMEWORK DOMAINS

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1. MARKET AND SALES

2. PRODUCT

3. CUSTOMER

4. SERVICE

5. RESOURCE

6. BUSINESS PARTNER
(Formerly Engaged Party prior to R19.5 of SID)

7. ENTERPRISE

8. COMMON

Click each domain to learn more.

Click NEXT after reviewing the domains.

Notes:

Market and Sales (Slide Layer)

INFORMATION FRAMEWORK DOMAINS

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1. MARKET AND SALES	Sales includes:
2. PRODUCT	<ul style="list-style-type: none">• Sales contacts
3. CUSTOMER	<ul style="list-style-type: none">• Leads and prospects through to the sales-force and sales statistics
4. SERVICE	Market includes:
5. RESOURCE	<ul style="list-style-type: none">• Market strategy and plans
6. BUSINESS PARTNER <small>(Formerly Engaged Party prior to R19.5 of SID)</small>	<ul style="list-style-type: none">• Market segments
7. ENTERPRISE	<ul style="list-style-type: none">• Competitors and their products
8. COMMON	

Click each domain to learn more. 

Click NEXT after reviewing the domains.

Notes:

Product (Slide Layer)

INFORMATION FRAMEWORK DOMAINS

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1. MARKET AND SALES

2. PRODUCT

3. CUSTOMER

4. SERVICE

5. RESOURCE

6. BUSINESS PARTNER
(Formerly Engaged Party prior to R19.5 of SID)

7. ENTERPRISE

8. COMMON

Is concerned with the lifecycle of products' lifecycle.

It includes:

- Strategic portfolio plans
- Products offered
- Product performance
- Product usage
- Product instances

Click each domain to learn more.

Click NEXT after reviewing the domains.

Notes:

Customer (Slide Layer)

INFORMATION FRAMEWORK DOMAINS

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1. MARKET AND SALES	It represents: <ul style="list-style-type: none">Individuals or organizations that obtain products from an enterprise, such as a service provider.
2. PRODUCT	
3. CUSTOMER	
4. SERVICE	
5. RESOURCE	
6. BUSINESS PARTNER <small>(Formerly Engaged Party prior to R19.5 of SID)</small>	
7. ENTERPRISE	
8. COMMON	

Click each domain to learn more. 

Click NEXT after reviewing the domains.

Notes:

Service (Slide Layer)

INFORMATION FRAMEWORK DOMAINS

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1. MARKET AND SALES	Is concerned with the definition, development and operational aspects of Services used to realize offerings to the market. This includes: <ul style="list-style-type: none">• Agreement on Service levels to be offered• Deployment and configuration of Services• Management of problems in Service installation• Deployment• Usage or performance• Quality analysis• Planning for future services• Service enhancement or retirement• Capacity
2. PRODUCT	
3. CUSTOMER	
4. SERVICE	
5. RESOURCE	
6. BUSINESS PARTNER (Formerly Engaged Party prior to R19.5 of SID)	
7. ENTERPRISE	
8. COMMON	

Click each domain to learn more. 

Click NEXT after reviewing the domains.

Notes:

Resource (Slide Layer)

INFORMATION FRAMEWORK DOMAINS

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1. MARKET AND SALES	Resources: <ul style="list-style-type: none">• Consists of information used to manage the definition, development, and operational aspects of networks, computing, and application resources that enable products to be realized.• Supports the Business Process Framework processes that deal with the definition, development and management of the infrastructure of an enterprise.• Provide usage information which is subsequently aggregated to the customer level for billing purposes.• Enables strategy and planning processes to be defined.
2. PRODUCT	
3. CUSTOMER	
4. SERVICE	
5. RESOURCE	
6. BUSINESS PARTNER <small>(Formerly Engaged Party prior to R19.5 of SID)</small>	
7. ENTERPRISE	
8. COMMON	

Click each domain to learn more. 

Click NEXT after reviewing the domains.

Notes:

Business Partner (Slide Layer)

INFORMATION FRAMEWORK DOMAINS

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1. MARKET AND SALES	Includes all data associated with individuals or organizations that are of interest to an enterprise.
2. PRODUCT	Engaged Party represents: <ul style="list-style-type: none">• All types of contact with the party• The management of the relationship• The administration of party data
3. CUSTOMER	The Engaged Party Domain also includes: <ul style="list-style-type: none">• Data and processes related to the party bills for products• Collection of payment• Overdue accounts• Billing inquiries and adjustments
4. SERVICE	
5. RESOURCE	
6. BUSINESS PARTNER <small>(Formerly Engaged Party prior to R19.5 of SID)</small>	
7. ENTERPRISE	
8. COMMON	

Click each domain to learn more. 

Click NEXT after reviewing the domains.

Notes:

Enterprise (Slide Layer)

INFORMATION FRAMEWORK DOMAINS

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1. MARKET AND SALES	Represents information necessary to support the overall business, corporation or firm, such as Human Resources and Financial & Asset Management.
2. PRODUCT	
3. CUSTOMER	
4. SERVICE	
5. RESOURCE	
6. BUSINESS PARTNER (Formerly Engaged Party prior to R19.5 of SID)	
7. ENTERPRISE	
8. COMMON	

Click each domain to learn more. 

Click NEXT after reviewing the domains.

Notes:

Common (Slide Layer)

INFORMATION FRAMEWORK DOMAINS

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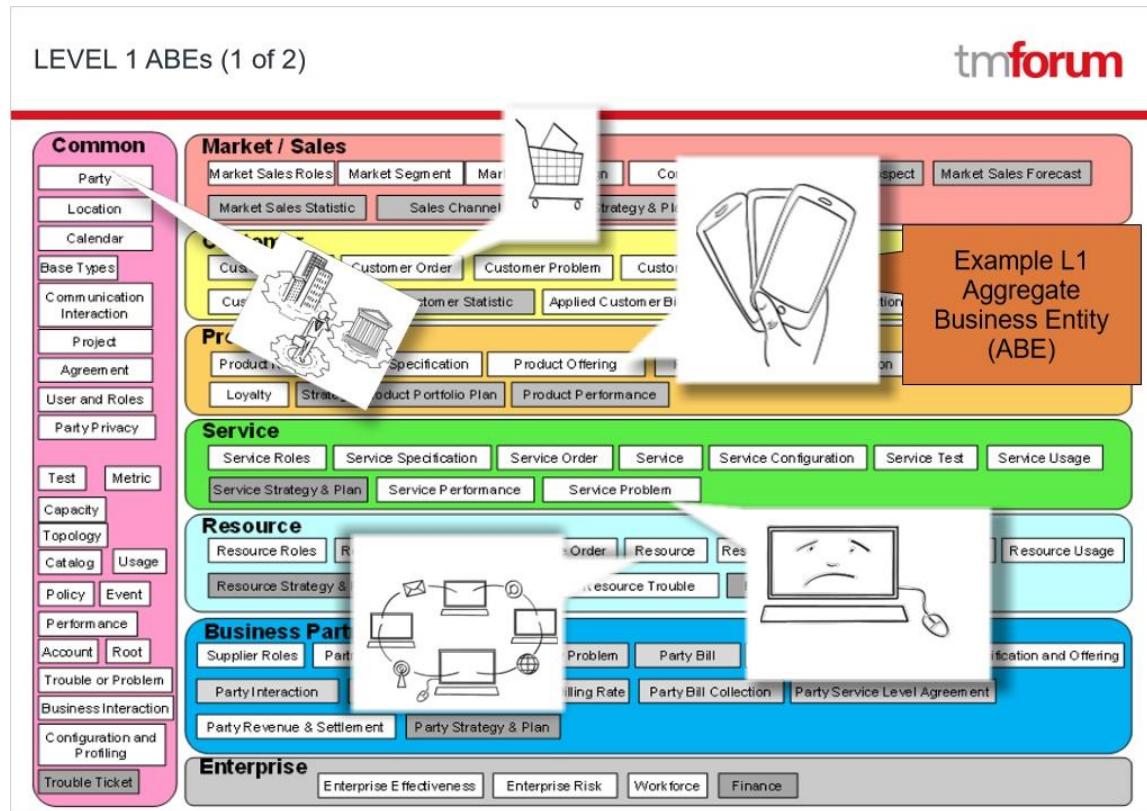
1. MARKET AND SALES	Represents business entities that are shared across two or more domains.
2. PRODUCT	These business entities: <ul style="list-style-type: none">• Are not "owned" by any particular domain.• Represents a generic abstraction of other real-world business entities.
3. CUSTOMER	
4. SERVICE	
5. RESOURCE	
6. BUSINESS PARTNER <small>(Formerly Engaged Party prior to R19.5 of SID)</small>	
7. ENTERPRISE	
8. COMMON	

Click each domain to learn more. 

Click NEXT after reviewing the domains.

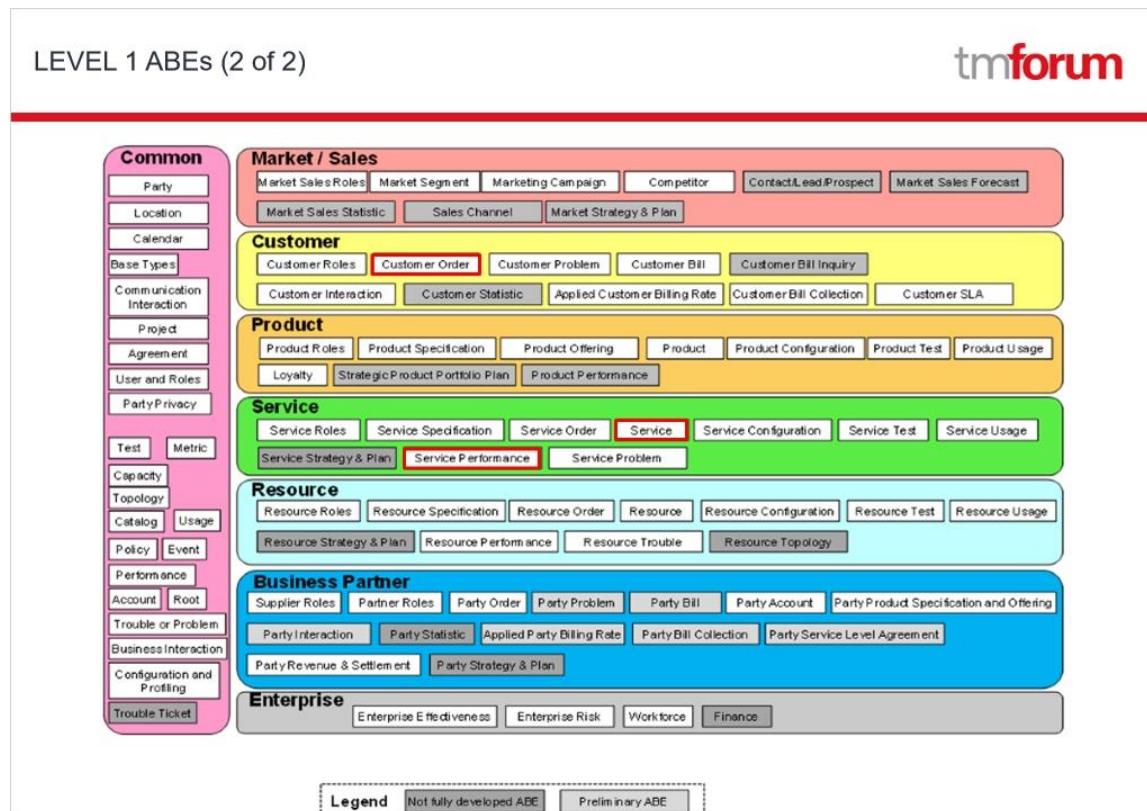
Notes:

LEVEL 1 ABEs (1 of 2)



Notes:

LEVEL 1 ABEs (2 of 2)

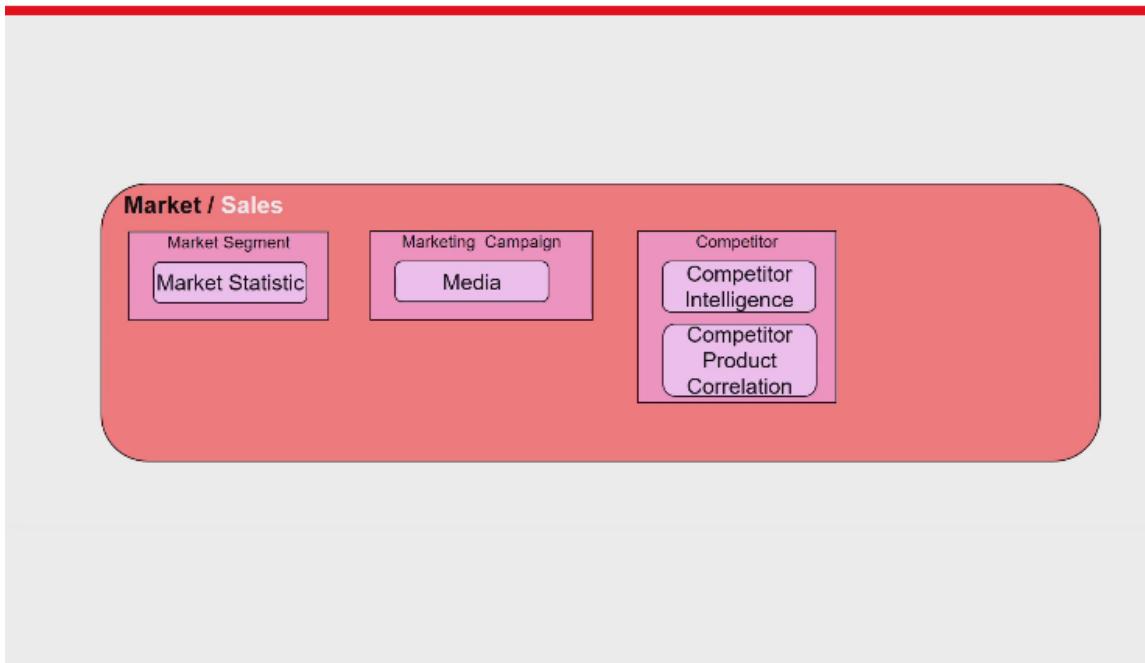


Notes:

MARKET/SALES DOMAIN DECOMPOSITION

MARKET/SALES DOMAIN DECOMPOSITION

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Notes:

CASE STUDY - SCOPING A PROJECT

CASE STUDY INTRODUCTION – SCOPING A PROJECT

CASE STUDY INTRODUCTION – SCOPING A PROJECT

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Case Study –
Scoping a
Project

Notes:

SCOPING A PROJECT (1 of 2)

SCOPING A PROJECT (1 of 2)

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The screenshot shows the TM Forum Conformance Certification landing page. At the top, there's a navigation bar with links to Home, Standards, and Conformance Certification. The main title "Conformance Certification" is displayed prominently. On the left, a sidebar menu lists various options under "Conformance Certification": Overview, FAQs, Success Stories, Case Studies, Procurement Support, Videos, Webinars, Qualifying Questionnaire, Readiness Diagnostic, Practitioner Training, and Certified Companies. Below the sidebar, a large text block explains the purpose of certification: "Engage TM Forum to independently verify and certify how well your business processes and information models align with the industry standards found in Framework". It also mentions the "Framework Adoption Survey" and its findings. A red-bordered callout box highlights that 72% of service providers mandate Framework in many or all specifications, and 75% claim it influences buying decisions. To the right, there's a small video thumbnail showing two men in a meeting, with the caption "Click here for a 6 min video". At the bottom, a section titled "Why Do a Conformance Certification Assessment?" is visible.

Notes:

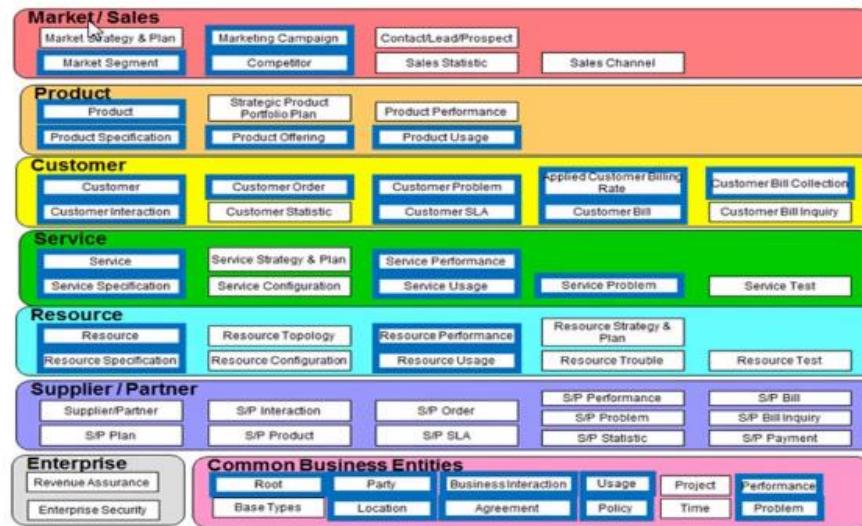
SCOPING A PROJECT (2 of 2)

SCOPING A PROJECT (2 of 2)



Scope of Assessment – Information Framework Footprint

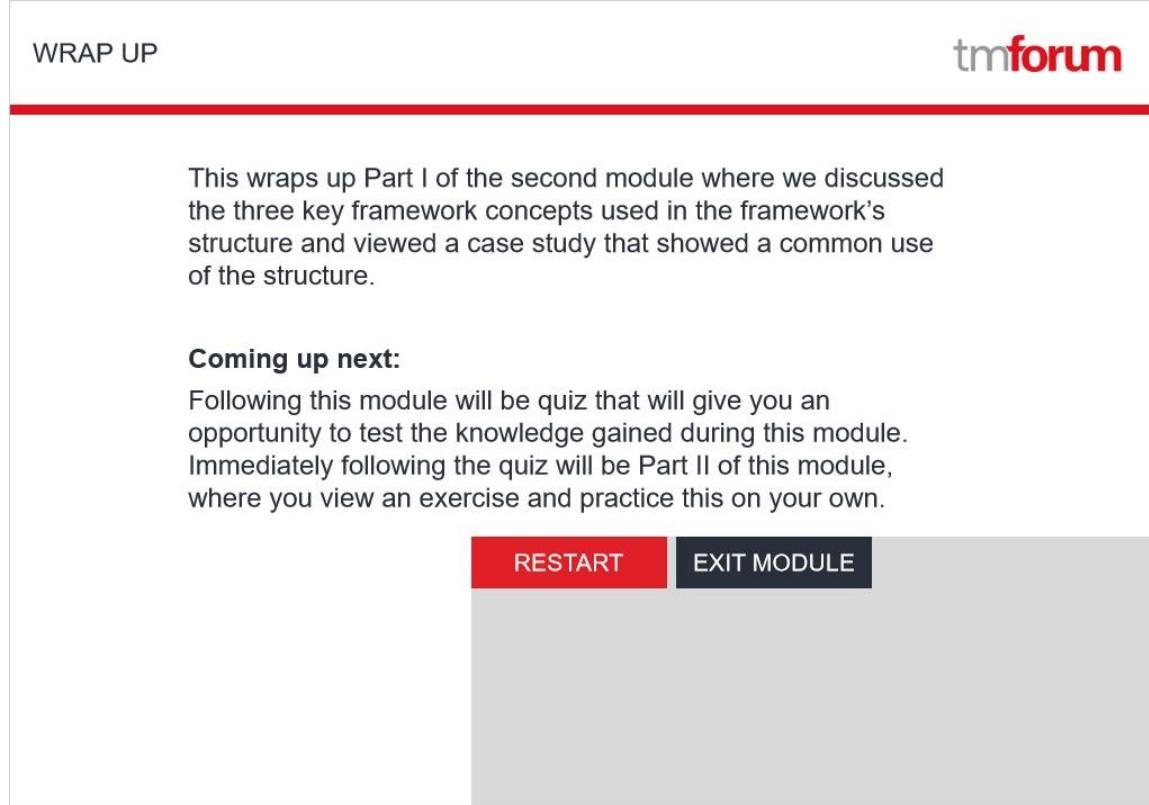
The following figure illustrate the Information Framework Level 1 ABEs that were presented in scope for the Assessment.



Notes:

WRAP UP

WRAP UP



The image shows a digital interface for a 'WRAP UP' module. At the top left is the text 'WRAP UP'. At the top right is the 'tmforum' logo. Below this is a red horizontal bar. The main content area contains text about the module's purpose and a 'Coming up next:' section. At the bottom are two buttons: 'RESTART' in a red box and 'EXIT MODULE' in a dark grey box.

WRAP UP

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This wraps up Part I of the second module where we discussed the three key framework concepts used in the framework's structure and viewed a case study that showed a common use of the structure.

Coming up next:

Following this module will be quiz that will give you an opportunity to test the knowledge gained during this module. Immediately following the quiz will be Part II of this module, where you view an exercise and practice this on your own.

RESTART **EXIT MODULE**

Notes:

INFORMATION FRAMEWORK FUNDAMENTALS - MODULE 2

(PART II of II)

INTRODUCTION

WELCOME

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FRAMEWORK STRUCTURE - PART II of II

In this second part of module you will be given a business scenario and asked to identify the Aggregate Business Entities that represent the scope of the project using the framework figure as a guide to assist you.



Click the NEXT button to continue throughout this course.

Notes:

SCOPING A PROJECT

SCOPING A PROJECT EXERCISE INTRODUCTION (1 of 2)

SCOPING A PROJECT EXERCISE INTRODUCTION



The challenges faced by a futuristic converged (telecom, content, media, and other digital services) service provider, F-Con, are your challenges throughout this course. F-Con plans to further develop IP access networks that will provide fiber to a customer premise and to expand its current IP access networks. Each challenge will be described to a sufficient level of detail for you to use the Information Framework to meet the challenge.

Notes:

SCOPING A PROJECT EXERCISE INTRODUCTION (2 of 2)

SCOPING A PROJECT EXERCISE INTRODUCTION

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Tornado M10 Digital Media Center

Product Overview

Tornado M10 Digital Media Center is an advanced customer premises equipment (CPE) device for delivering streaming audio, video, and data directly to consumers' TV sets and/or Home Entertainment systems. Tornado M10 supports advanced MPEG4 video and MP3 audio compression algorithms and can deliver content streams with optimal quality over networks with limited bandwidth. Besides audio and video, Tornado M10 also offers advanced Voice-over-IP capabilities, which enable consumers to make inexpensive phone calls over the Internet. Additional services supported by Tornado M10 include video conferencing, chat, email, news, local weather information, program scheduling, video recording, voicemail and many more.

Tornado M10 DMC



SOLUTIONS

[IPTV Solution](#) >
[Secure IPTV/VOD](#) >

NEXT STEPS

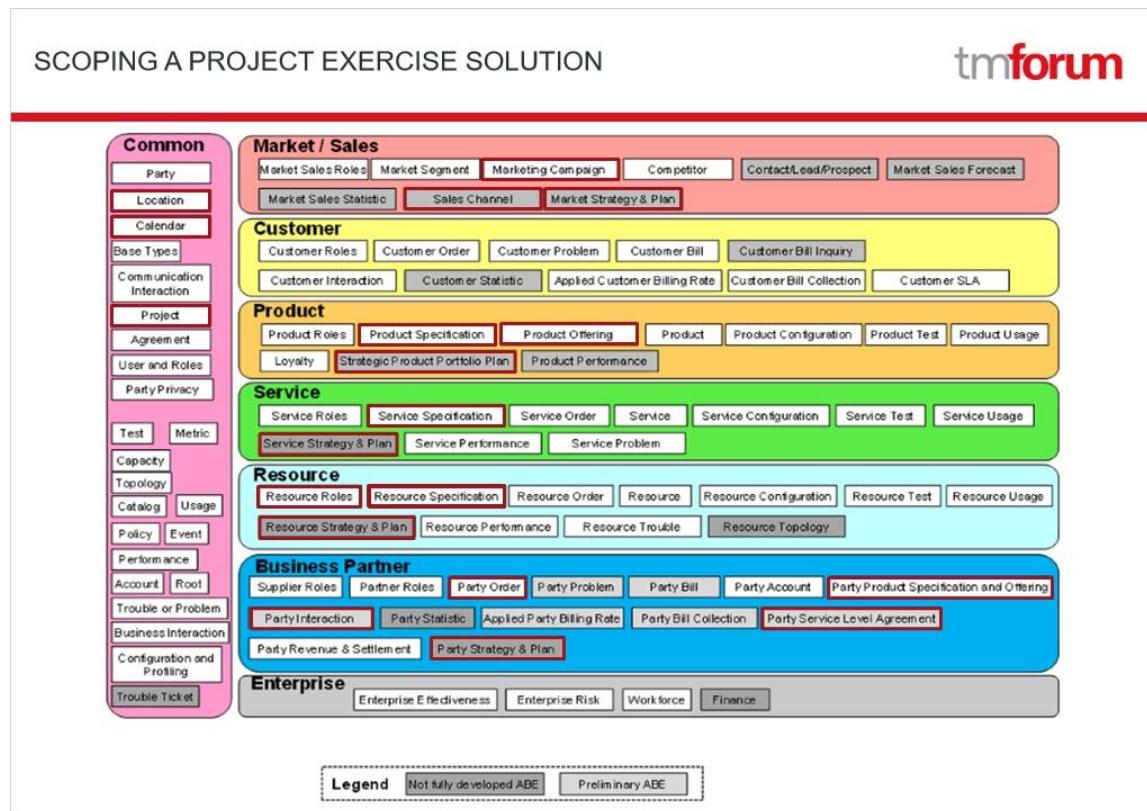
[Download brochure](#) >
[Request information](#) >
[Chat with a sales rep](#) >
[Call us: 1-877-900-3993](#) >

Key Features

- IPTV and Video-on-Demand Support
- Digital Music and Internet Radio Delivery

Notes:

SCOPING A PROJECT EXERCISE SOLUTION



Notes:

WRAP UP

WRAP UP

The slide features a red header bar with the word "WRAP UP" on the left and the "tmforum" logo on the right. Below the header is a large white area containing text about the module's content. At the bottom is a grey footer bar with two buttons: "RESTART" (red) and "EXIT MODULE" (dark grey).

This wraps up Part II of the second module - Framework Structure, where we discussed key concepts used in the framework's structure and what the structure looks like. A case study showed a common use of the structure, a quiz gave you the opportunity to test the knowledge gained during the module, and an exercise allowed you to practice this use on your own.

RESTART **EXIT MODULE**

Notes:

INFORMATION FRAMEWORK FUNDAMENTALS - MODULE 3

(PART I of III)

INTRODUCTION

WELCOME

The slide features the tmforum logo at the top right. The title 'INFORMATION FRAMEWORK' is in a small black font above 'MODELING PATTERNS' in large red bold letters, followed by '- PART I of III'. Below the title is a descriptive paragraph. Three small images show people at a conference booth, a group of people talking, and a man speaking on stage. A red button at the bottom right says 'Click the NEXT button to continue throughout this course.'

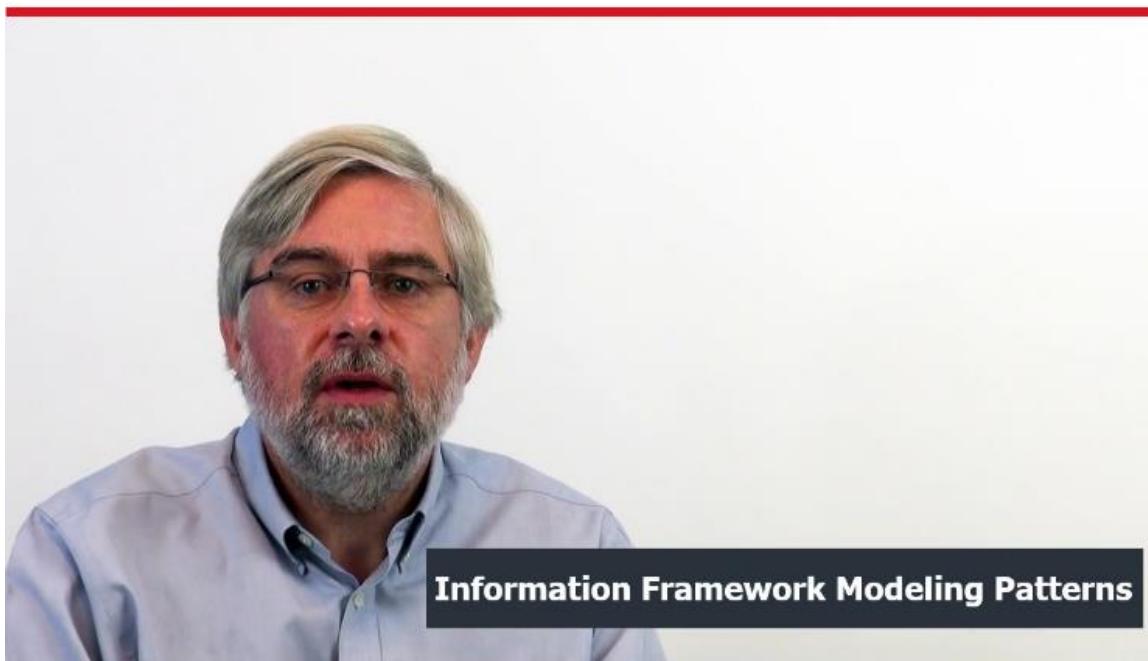
In this part of the course we will look at the modeling patterns that have been used to develop the framework's model. It is preceded by an optional Unified Modeling Language (UML) tutorial that can be viewed if you are not familiar with this way of expressing information models.

Notes:

INFORMATION FRAMEWORK MODELING PATTERNS INTRODUCTION

INFORMATION FRAMEWORK MODELING PATTERNS INTRODUCTION

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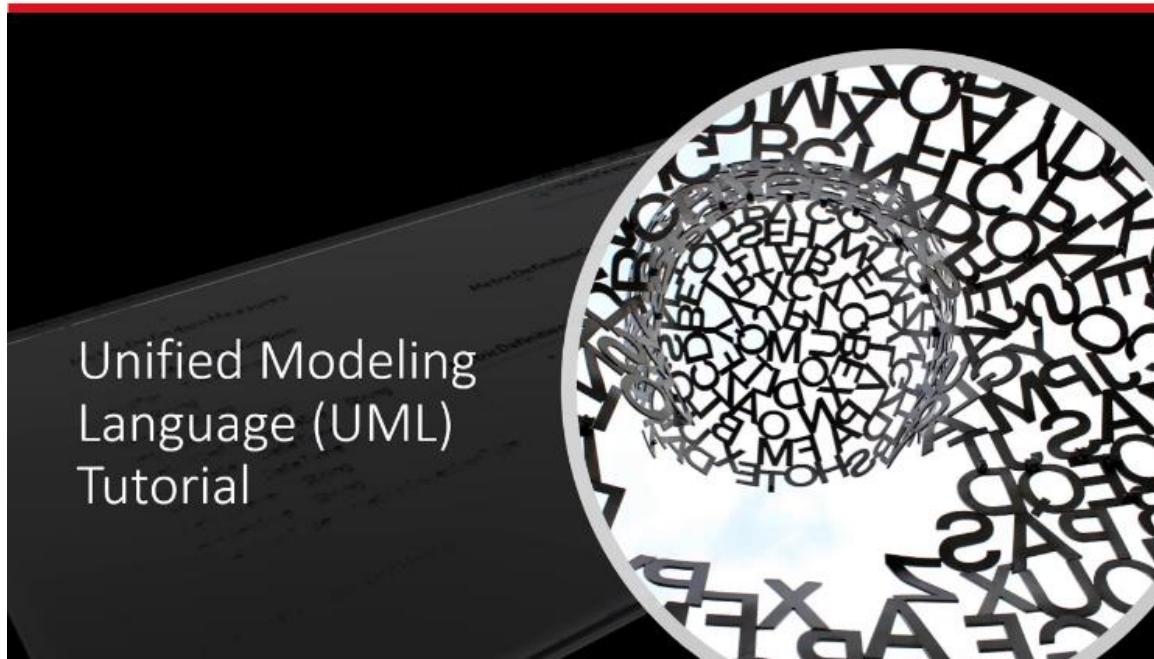
Notes:

UNIFIED MODELING LANGUAGE (UML) TUTORIAL

UNIFIED MODELING LANGUAGE (UML) TUTORIAL

UNIFIED MODELING LANGUAGE (UML) TUTORIAL

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Notes:

UNIFIED MODELING LANGUAGE (UML) SCENARIO

UNIFIED MODELING LANGUAGE (UML) SCENARIO



GeorgeG has found his way to the Home Shoppers' Network web site and has signed in as a past shopper. He is identified as a business type of shopper. Shoppers of this type are provided with a business rewards account number so that they can earn points on their purchases.

George goes about filling up his shopping cart with items he plans to purchase. He may choose to empty his cart and not purchase anything. Home Shoppers' Network hopes he will checkout his purchases and pay for them.

We'll look at how to model a shopper and shopping cart with UML.

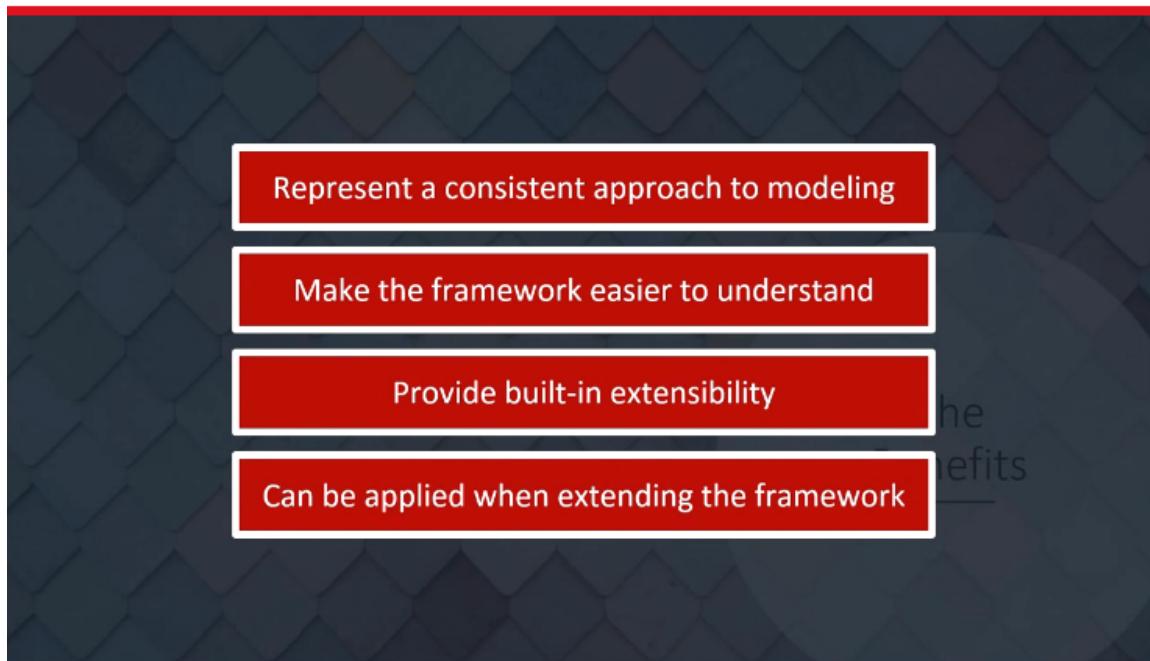
Notes:

THE PATTERNS

THE BENEFITS

THE BENEFITS

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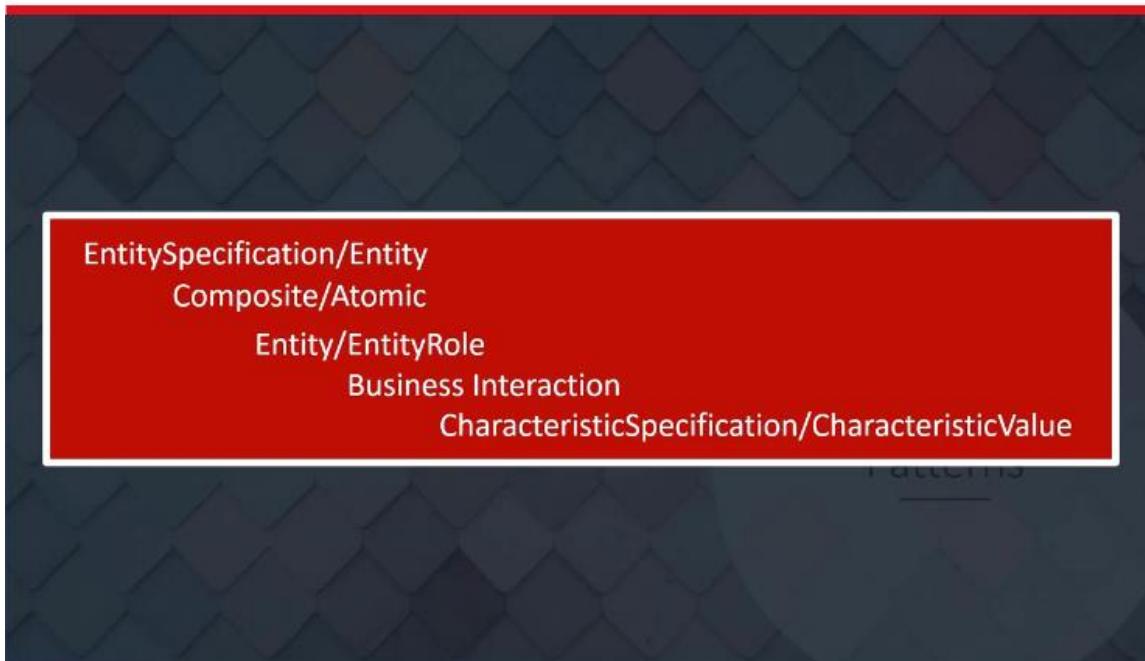


Notes:

THE PATTERNS

THE PATTERNS

tm**forum**



Notes:

THE SCENARIO (1 of 8)

THE SCENARIO



An individual named George G has decided to order wireless service, IPTV, and Broadband Internet from a single provider at one time.

The IPTV service is a bundle that consists of a set-top box, wireless router, basic TV service, Internet connectivity, and video on demand (VoD). Once installed VoD can be accessed by the customer, who can choose from a variety of video categories, such as comedy, drama, sports, and so forth. The request for service can include VoD in standard or high-definition format as well as whether to watch the video now or at a specific date and time.

Notes:

THE SCENARIO (2 of 8)

THE SCENARIO



Entity Specification

Model:	Linksys E1000
Technology:	Wireless-N
Banda:	2.4 GHz
Transmit / receive:	2 x 2
Antennas:	2 Internal
Ethernet ports x speed:	4 x 10/100
USB port:	No USB port
Software setup:	CD Install
Cisco Connect software:	Yes
Support:	24/7 Award-winning Online Support Resources 90 days Complimentary Assisted Support

Notes:

THE SCENARIO (3 of 8)

THE SCENARIO

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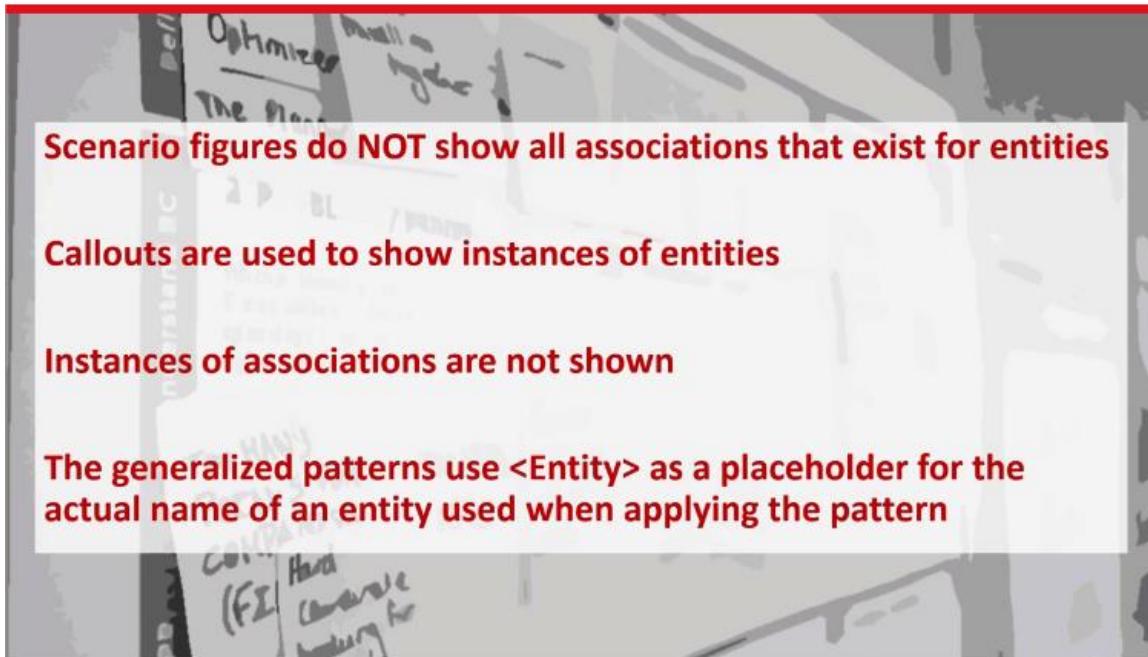
**Entity - George's
installed Router
serial number
X107y**

Notes:

THE SCENARIO (4 of 8)

THE SCENARIO

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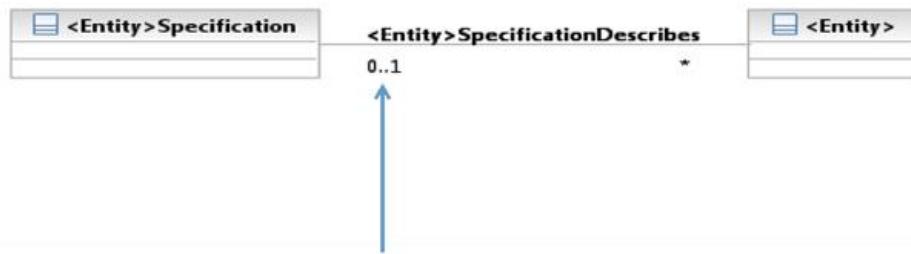


Notes:

THE SCENARIO (5 of 8)

THE SCENARIO

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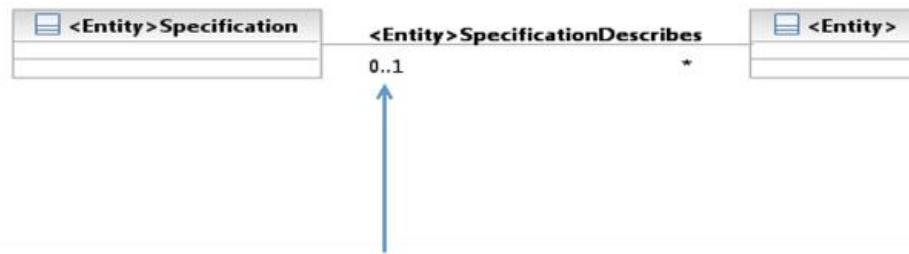


Notes:

THE SCENARIO (6 of 8)

THE SCENARIO

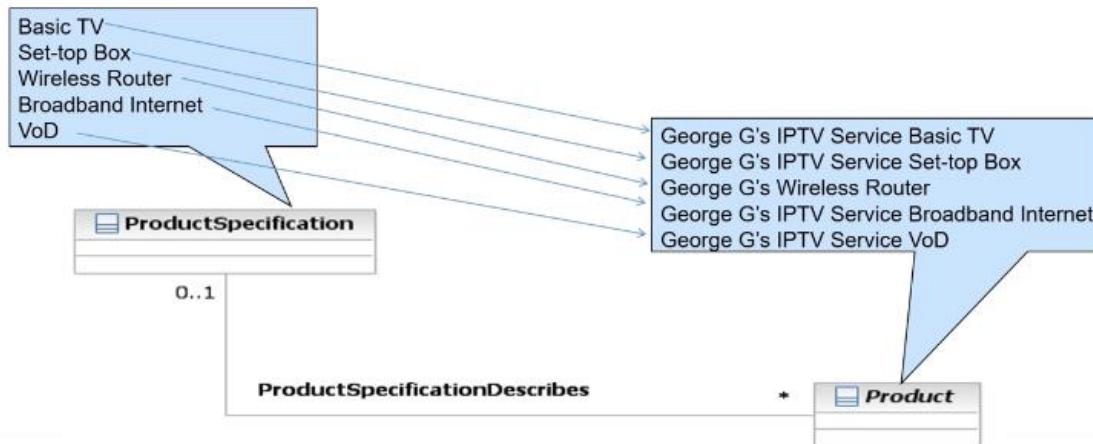
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Notes:

THE SCENARIO (7 of 8)

THE SCENARIO



Notes:

THE SCENARIO (8 of 8)

THE SCENARIO

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Notes:

THE PATTERNS

COMPOSITE ATOMIC PATTERN

COMPOSITE ATOMIC PATTERN

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Notes:

EXAMPLE OF COMPOSITE/ATOMIC

The image shows a composite atomic example. At the top left is the text "EXAMPLE OF COMPOSITE/ATOMIC". At the top right is the "tmforum" logo. The background is a blurred screenshot of a web page with code snippets. Overlaid on this is a red-bordered callout box containing promotional text for FIOS Double Play:

FIOS Double Play: FIOS TV + FiOS Internet

Order Online Now!

- A multi-room DVR FREE for 3 months or selected items.
- Price includes \$5/month online discount for 12 months.
- Plus, \$10 off per month for first 6 months.
- No activation fee with online order (\$49.99 value).

Also includes:

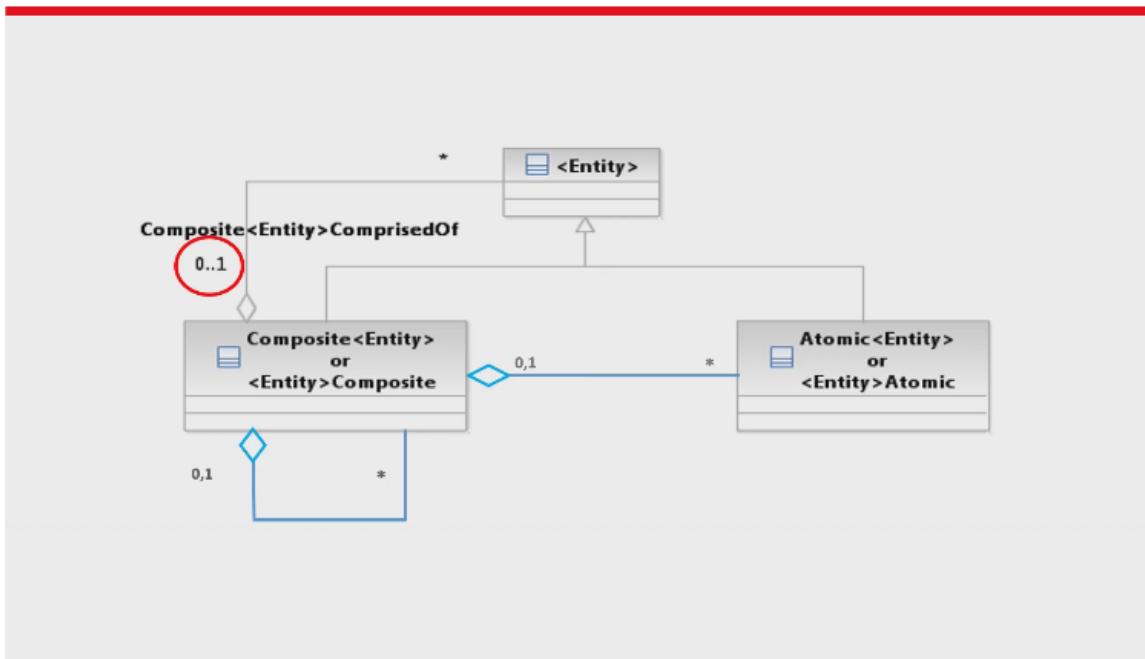
- A wireless router at no additional cost.

Notes:

COMPOSITE/ATOMIC IN UML

COMPOSITE/ATOMIC IN UML

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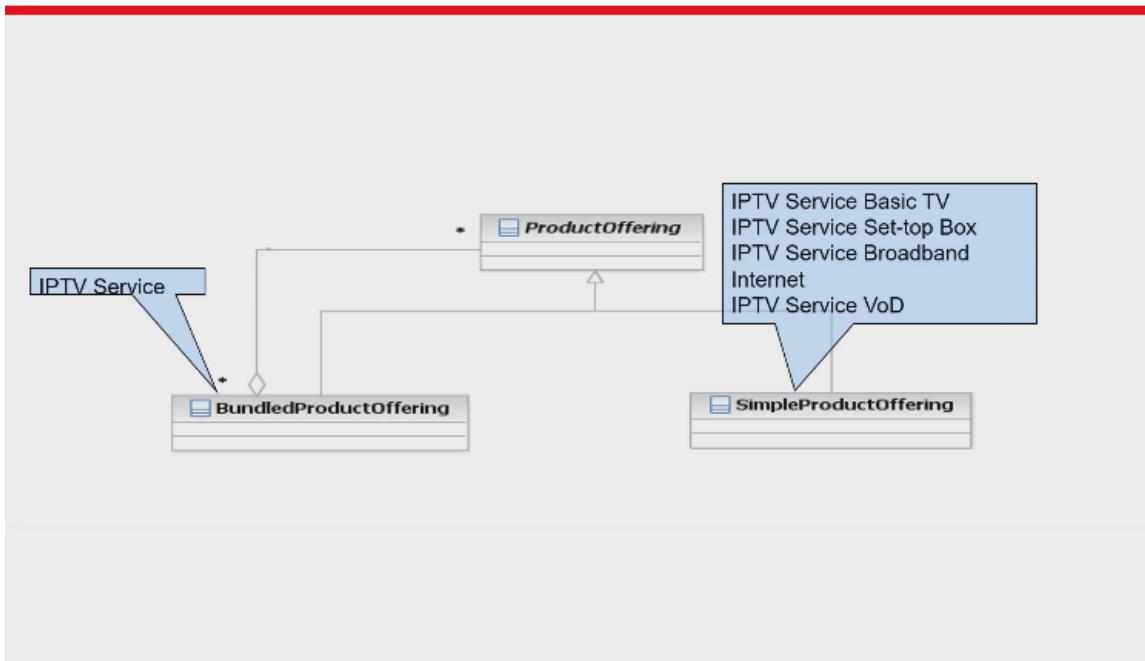


Notes:

COMPOSITE/ATOMIC ENABLING BUNDLED OFFERING

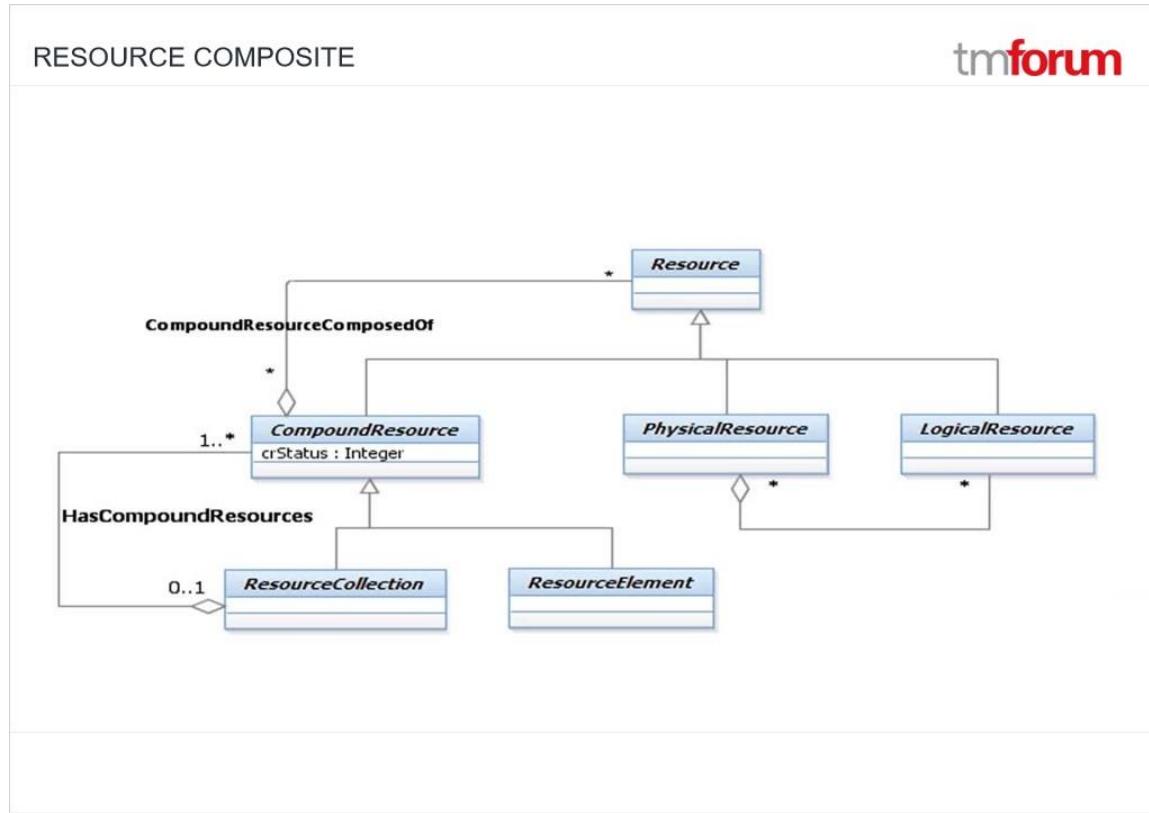
COMPOSITE/ATOMIC ENABLING BUNDLED OFFERING

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Notes:

RESOURCE COMPOSITE



Notes:

ENTITY/ENTITYROLE PATTERN

ENTITY/ENTITYROLE PATTERN

ENTITY/ENTITYROLE PATTERN

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Entity/
EntityRole Pattern

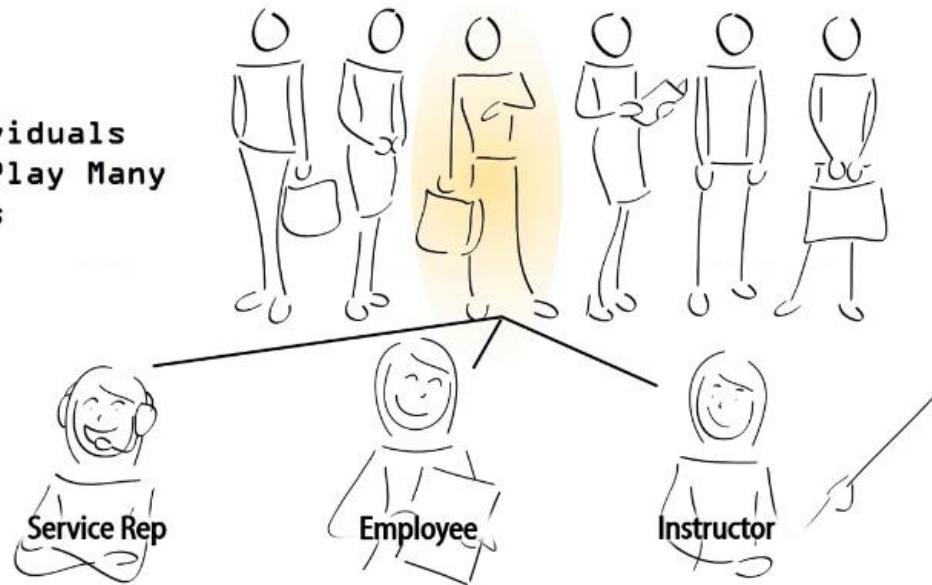
Notes:

ENTITY/ENTITYROLE EXAMPLE

ENTITY/ENTITYROLE EXAMPLE

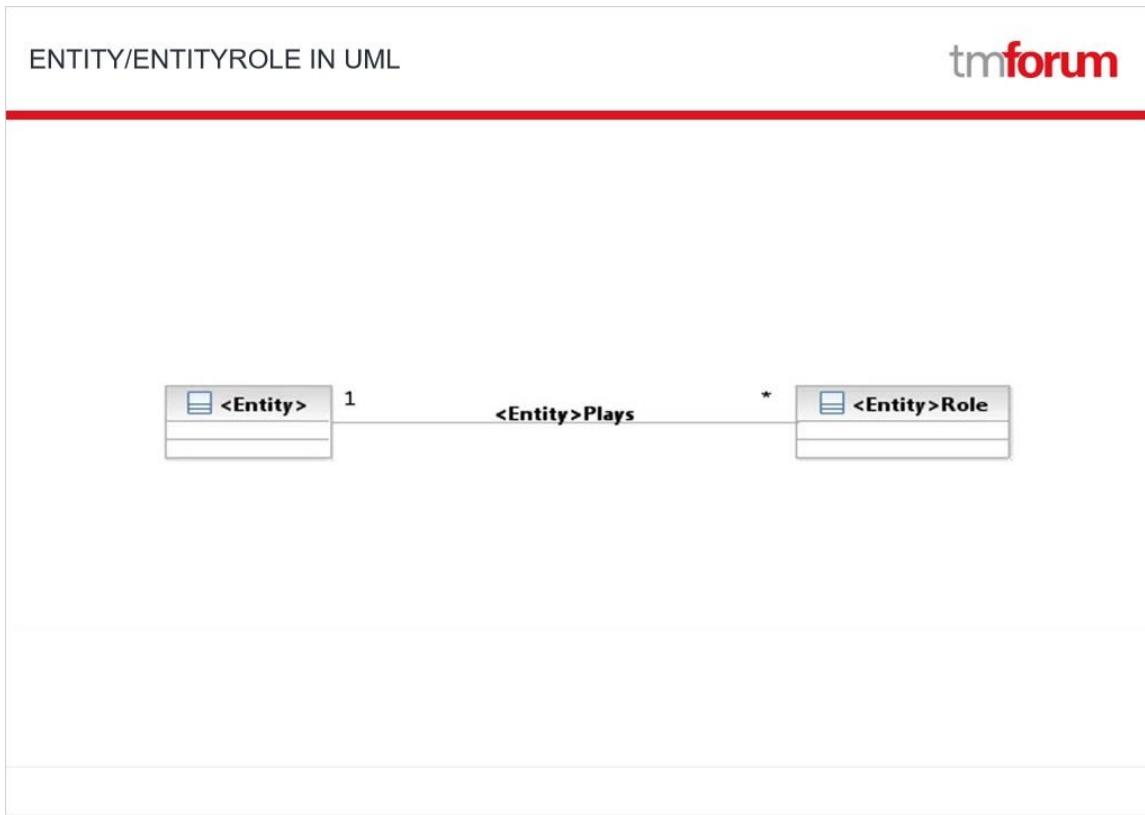
tm**forum**

**Individuals
Can Play Many
Roles**



Notes:

ENTITY/ENTITYROLE IN UML

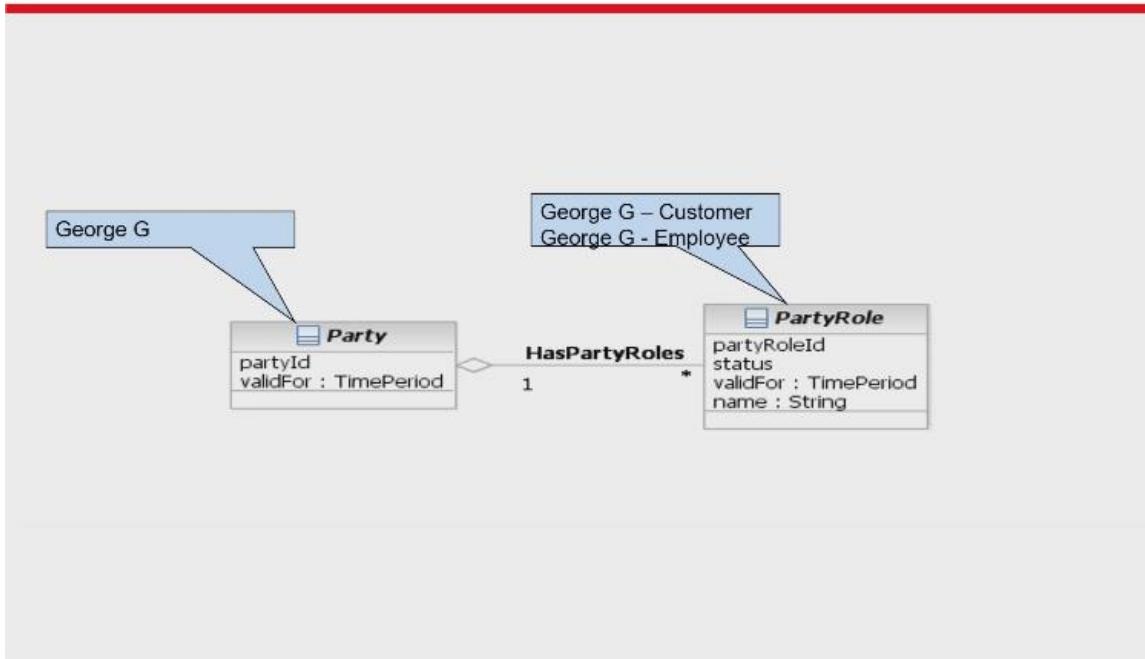


Notes:

PARTY/PARTYROLE EXAMPLE

PARTY/PARTYROLE EXAMPLE

tm**forum**

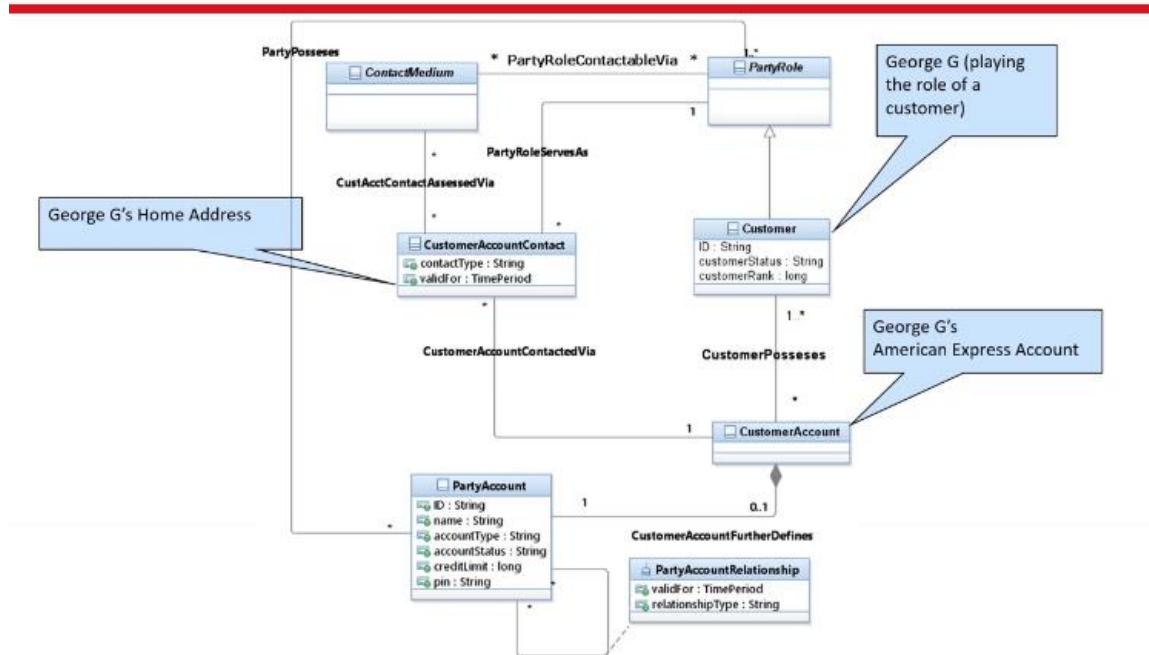


Notes:

PARTY ROLE AS AN ABE EXAMPLE

PARTY ROLE AS AN ABE EXAMPLE

tmforum



Notes:

BUSINESS INTERACTION PATTERN

BUSINESS INTERACTION PATTERN

BUSINESS INTERACTION PATTERN

tmforum



Notes:

BUSINESSINTERACTION EXAMPLES

BUSINESSINTERACTION EXAMPLES

tmforum

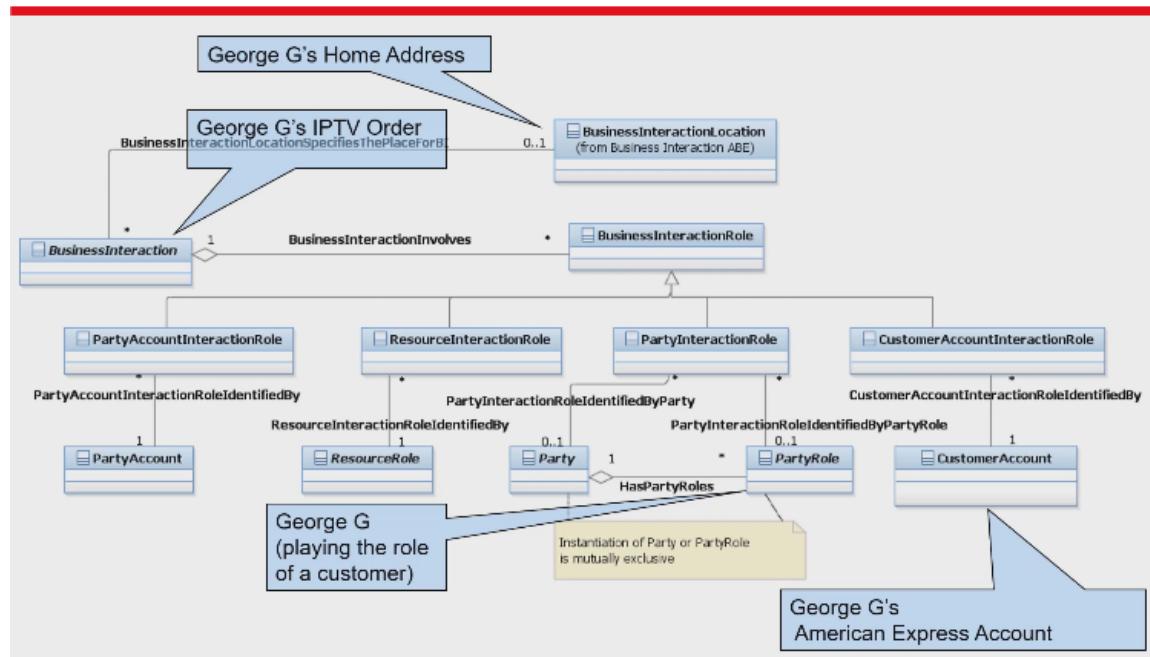
The screenshot shows a web page with a red header bar. Below it, on the left, is a form titled "1 - Billing Information". The form contains fields for First Name, Middle Initial, Last Name, Company, Address, City, State (with a dropdown menu), Zip Code, Country (set to United States), Phone Number, and Cell Phone Number. A checkbox at the bottom of the form is checked, with the text "Yes, send me SMS wireless alerts abc and upcoming TigerDirect.com deals ar". A note above the form says: "Please enter your billing information as it would appear on your credit card statement. Accurate information will prevent delays in your order." A small asterisk indicates required fields. On the right side of the page, there is a large text message: "Interactions have a lot in common!". Below this message is another form with fields for First Name, Last Name, Street Address, City, State (set to Alabama), Zip Code, and Order Number. A note above this second form says: "Please provide all information as you submitted on your original rebate application. If you've moved or have a different address you can note that in the explanation section." A small asterisk indicates required fields.

Notes:

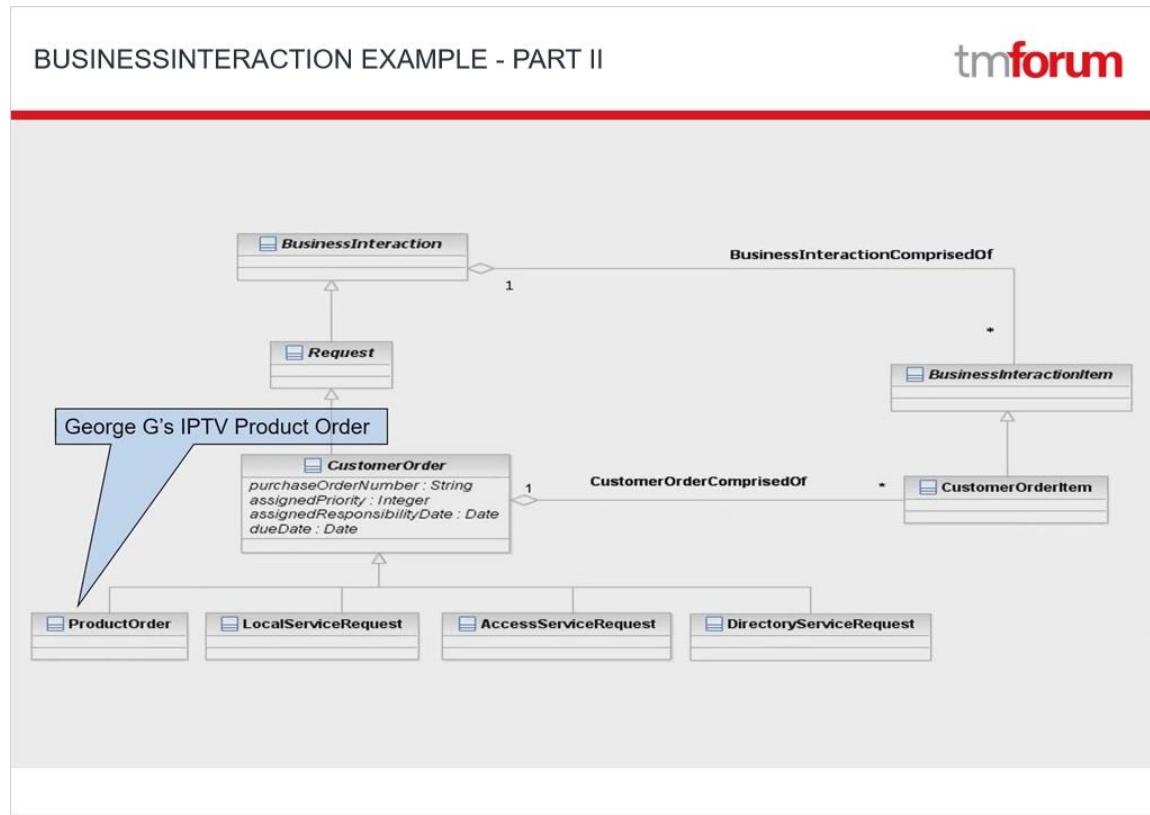
BUSINESSINTERACTION EXAMPLE - PART I

BUSINESSINTERACTION EXAMPLE - PART I

tmforum

**Notes:**

BUSINESSINTERACTION EXAMPLE - PART II



Notes:

CHARACTERISTICSSPECIFICATION/CHARACTERISTICVALUE

PATTERN

CHARACTERISTICSSPECIFICATION/CHARACTERISTICVALUE PATTERN

CHARACTERISTICSSPECIFICATION/CHARACTERISTICVALUE
PATTERN

tmforum



CharacteristicSpecification/
CharacteristicValue Pattern

Notes:

CHARACTERISTICSSPECIFICATION EXAMPLE

CHARACTERISTICSSPECIFICATION EXAMPLE

tmforum

Linksys E1000
Wireless-N Router

\$69.99

Add to Cart

FREE Overnight Shipping

90 Day Return Policy

Best For: Standard wireless Internet usage and home office productivity

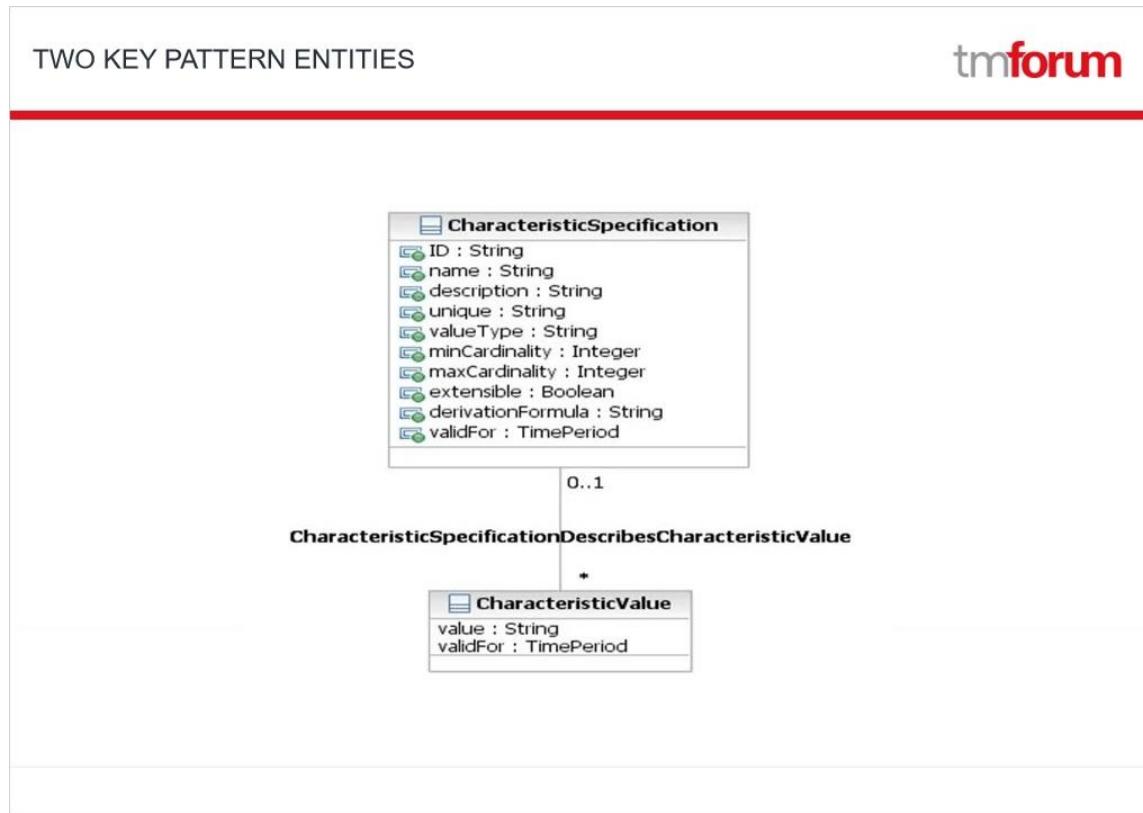
Features:
• 2.4 GHz Band for wireless access
• Fast Ethernet (10/100 Mbps) ports to connect wired devices to the network

How are varying properties supported?

Features	Specifications	Videos	Related Items
Model: Linksys E1000	Technology: Wireless-N		
Bands: 2.4 GHz			
Transmit / receive: 2 Internal			
Antennas: 4 x 10/100			
Ethernet ports x speed: No USB port			
USB port: CD Install			
Software setup: Yes			
Cisco Connect software: 24/7 Award-winning Online Support Resources			
Support: 90 days Complimentary Assisted Support			

Notes:

TWO KEY PATTERN ENTITIES



Notes:

PARTIAL SCENARIO DESCRIPTION

PARTIAL SCENARIO DESCRIPTION

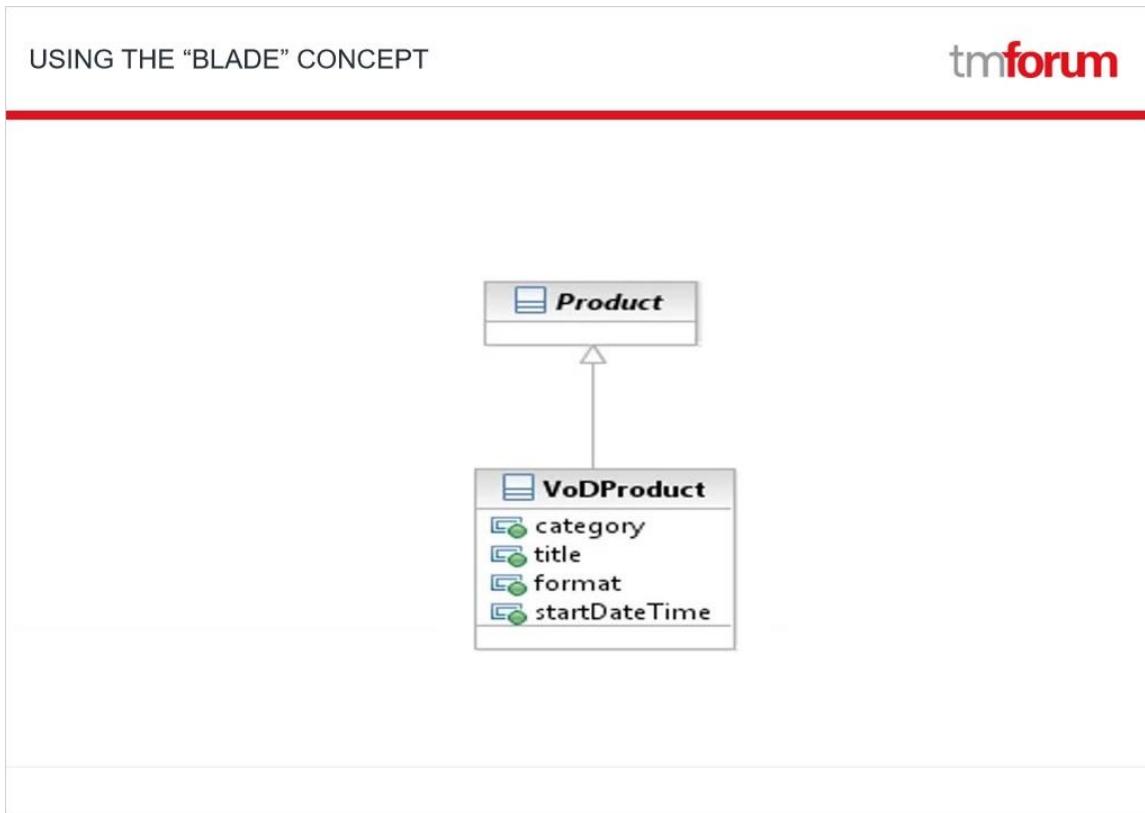


The VoD has a category and set of titles associated to it, as well as the format (hi-definition or standard) and an optional date and time at which the customer wants to start viewing the video.

There are two options that could be used

Notes:

USING THE “BLADE” CONCEPT

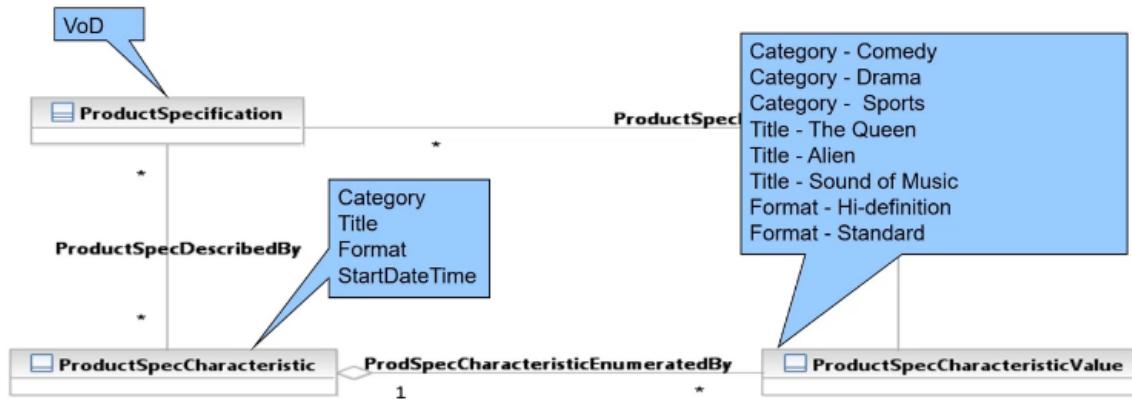


Notes:

7.6 USING CHARACTERISTICSPECIFICATION/CHARACTERISTICVALUE

USING CHARACTERISTICSPECIFICATION/
CHARACTERISTICVALUE

tm**forum**

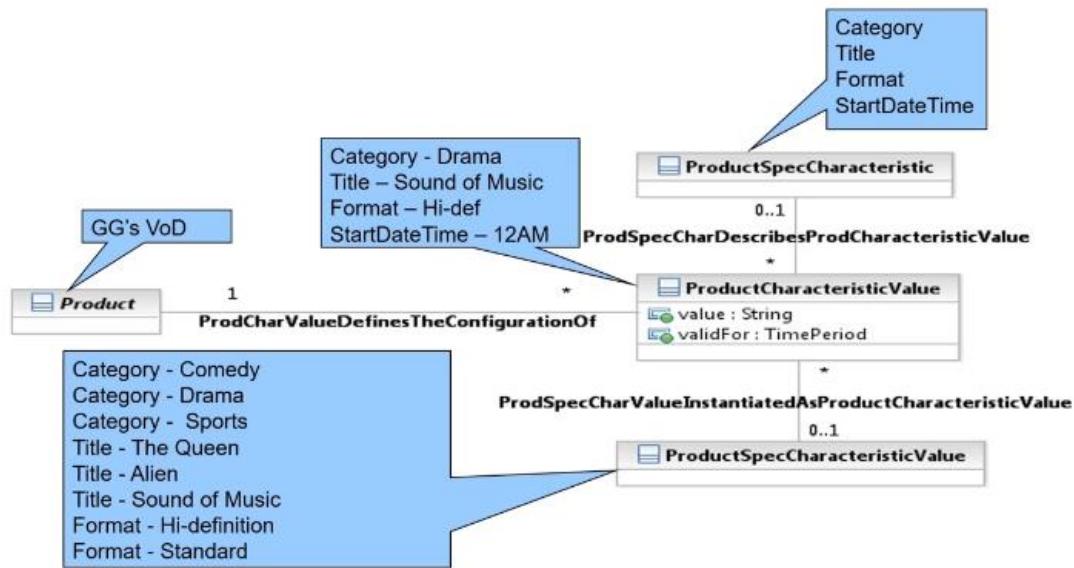


Notes:

CHARACTERISTICVALUE EXAMPLE

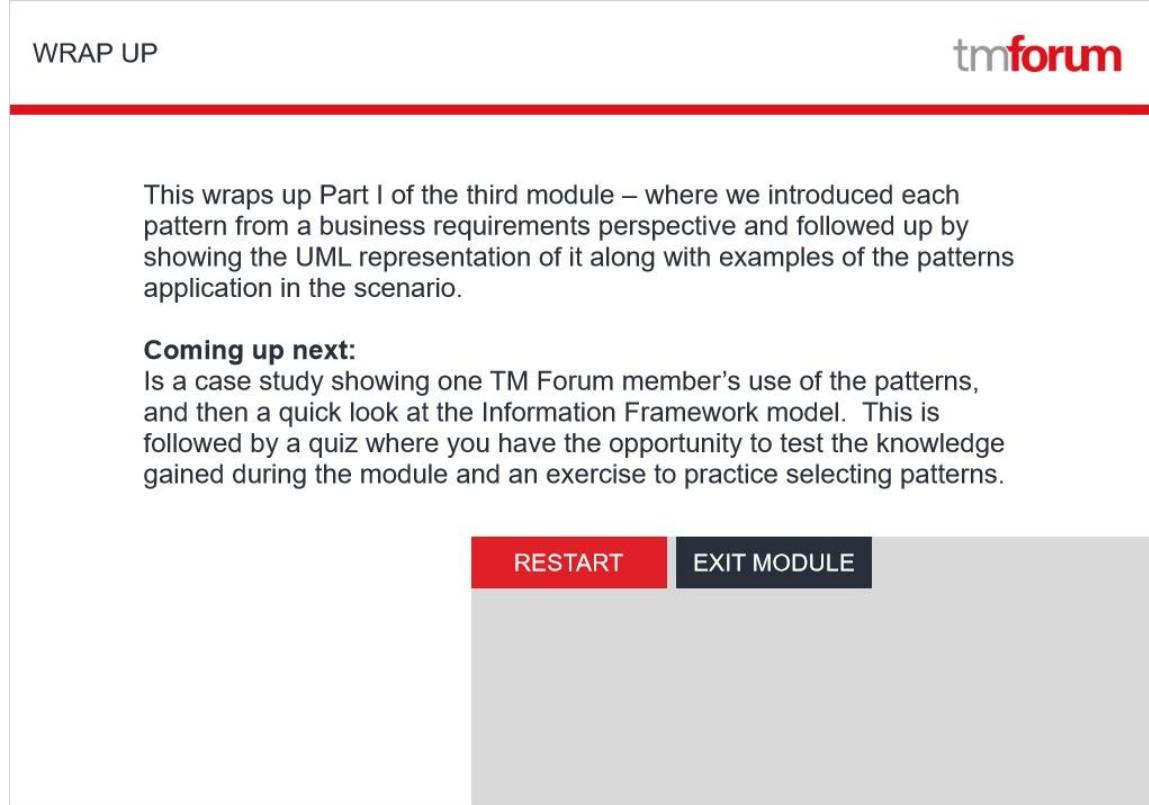
CHARACTERISTICVALUE EXAMPLE

tmforum

**Notes:**

WRAP UP

WRAP UP



The image shows a 'WRAP UP' module interface. At the top left is the text 'WRAP UP'. At the top right is the 'tmforum' logo. Below this is a red horizontal bar. The main content area contains text about the module's purpose, followed by a section titled 'Coming up next:' describing the next steps. At the bottom are two buttons: 'RESTART' in a red box and 'EXIT MODULE' in a dark grey box.

WRAP UP

tmforum

This wraps up Part I of the third module – where we introduced each pattern from a business requirements perspective and followed up by showing the UML representation of it along with examples of the patterns application in the scenario.

Coming up next:

Is a case study showing one TM Forum member's use of the patterns, and then a quick look at the Information Framework model. This is followed by a quiz where you have the opportunity to test the knowledge gained during the module and an exercise to practice selecting patterns.

RESTART **EXIT MODULE**

Notes:

INFORMATION FRAMEWORK FUNDAMENTALS - MODULE 3

(PART II of III)

INTRODUCTION

WELCOME

The slide features the tmforum logo at the top right. The title 'INFORMATION FRAMEWORK' is in a small black font above 'MODELING PATTERNS' in large red bold letters, followed by '- PART II of III'. Below the title is a descriptive paragraph. Three small images show people at a conference booth, a group of people talking, and a man speaking on stage. A red button at the bottom right says 'Click the NEXT button to continue throughout this course.'

INFORMATION FRAMEWORK

MODELING PATTERNS

- PART II of III

In this second part of the module, we will view a case study where the patterns were applied and take a tour of the model by looking at a few selected Aggregate Business Entities. Afterwards you will again have a chance to test your knowledge by taking a quiz and practice applying your knowledge via an exercise.

Click the NEXT button to continue throughout this course.

Notes:

PATTERN USE CASE STUDY

PATTERN USE CASE STUDY

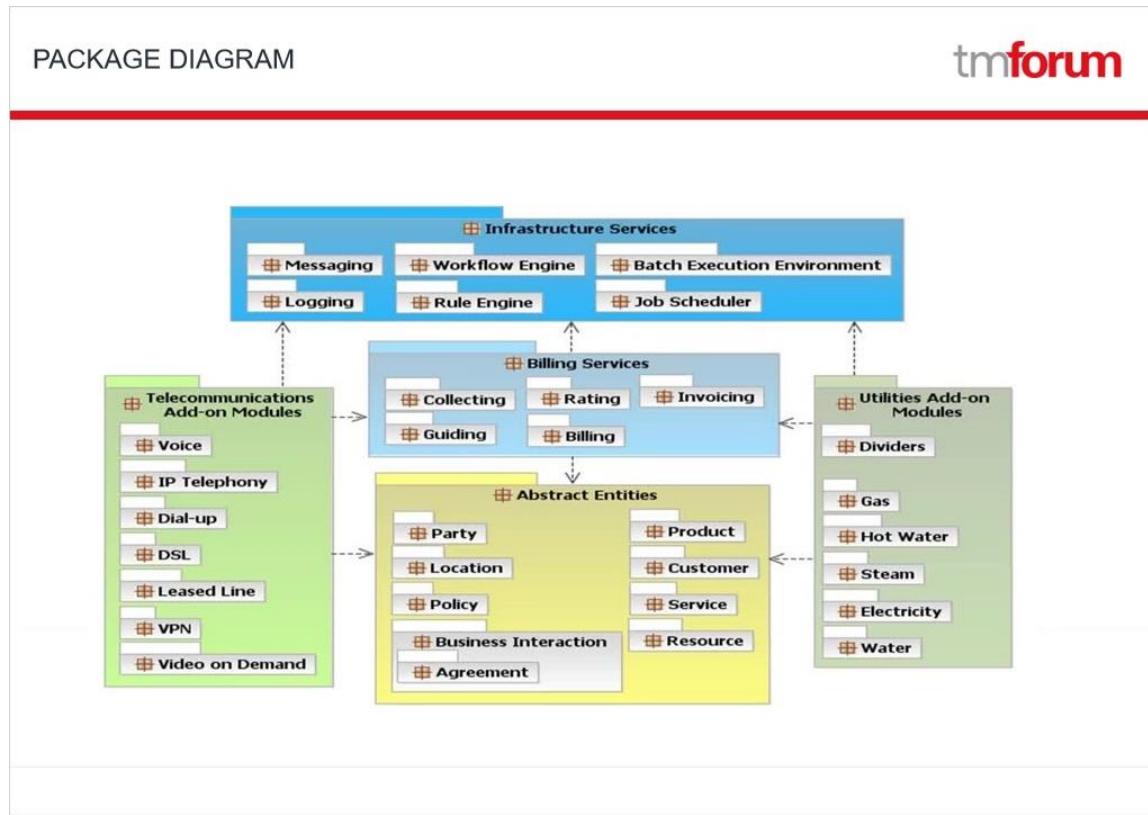
PATTERN USE CASE STUDY

tm**forum**



Notes:

PACKAGE DIAGRAM



Notes:

WHICH PARTS OF THE FRAMEWORK WERE USED?

WHICH PARTS OF THE FRAMEWORK WERE USED?

tmforum

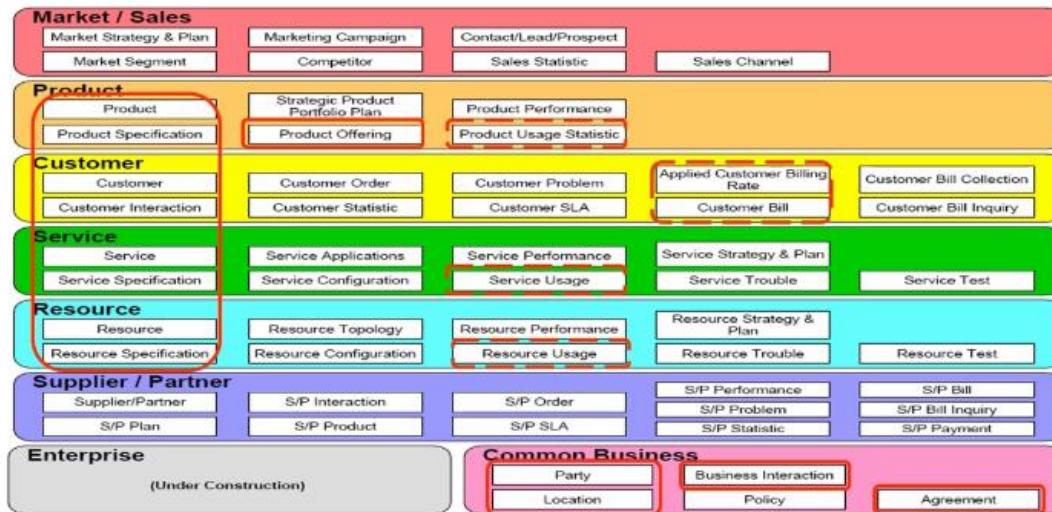


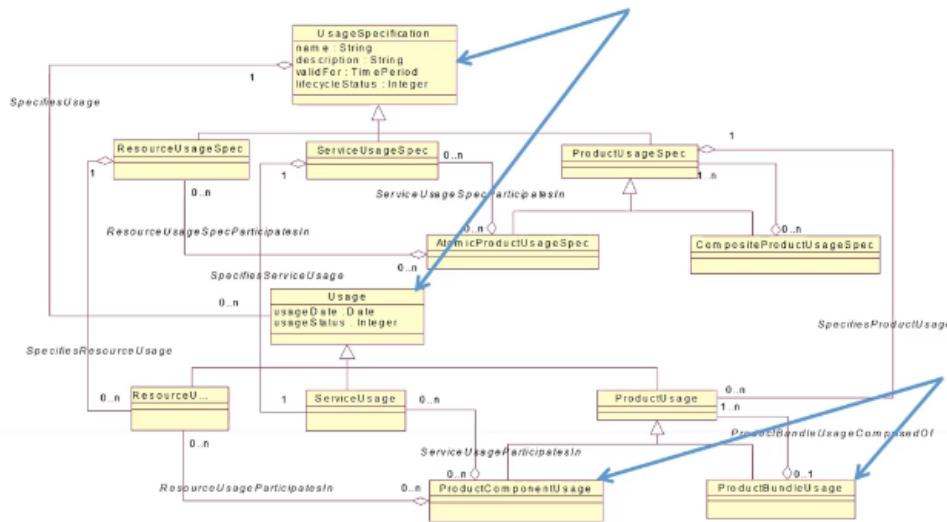
Figure 4.2 - SID Framework

Notes:

PRODUCT, SERVICE AND RESOURCE USAGE

PRODUCT, SERVICE AND RESOURCE USAGE

tmforum



Notes:

QUICK LOOK AT THE INFORMATION FRAMEWORK MODEL

QUICK LOOK AT THE INFORMATION FRAMEWORK MODEL

QUICK LOOK AT THE INFORMATION FRAMEWORK MODEL

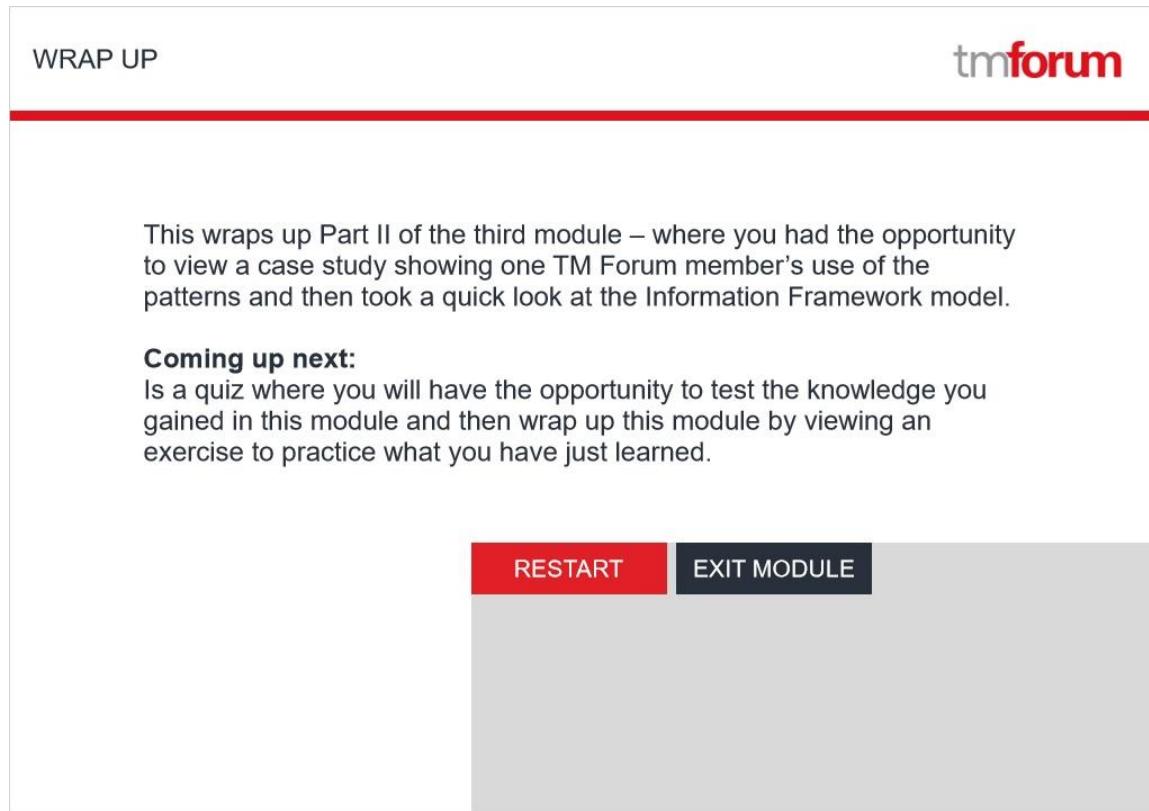
tmforum



Notes:

WRAP UP

WRAP UP



The image shows a 'WRAP UP' module interface. At the top left is the text 'WRAP UP'. At the top right is the 'tmforum' logo. Below this is a red horizontal bar. The main content area contains text about wrapping up Part II of the third module, followed by a section titled 'Coming up next:' describing a quiz and exercise. At the bottom are two buttons: 'RESTART' in a red box and 'EXIT MODULE' in a dark blue box.

This wraps up Part II of the third module – where you had the opportunity to view a case study showing one TM Forum member's use of the patterns and then took a quick look at the Information Framework model.

Coming up next:
Is a quiz where you will have the opportunity to test the knowledge you gained in this module and then wrap up this module by viewing an exercise to practice what you have just learned.

RESTART **EXIT MODULE**

Notes:

INFORMATION FRAMEWORK FUNDAMENTALS - MODULE 3

(PART III of III)

INTRODUCTION

WELCOME

The slide features the tmforum logo at the top right. The title 'INFORMATION FRAMEWORK' is in a small, dark font above the large, bold red text 'MODELING PATTERNS – PART III of III'. Below the title, a subtitle reads: 'In this third part of the module, you will practice what you previously learned by applying your knowledge via an exercise.' Three smaller images are shown below the subtitle: two people talking at a booth, a group of four people standing together, and a man giving a presentation on stage. A red button at the bottom right says 'Click the NEXT button to continue throughout this course.'

INFORMATION FRAMEWORK

MODELING PATTERNS – PART III of III

In this third part of the module, you will practice what you previously learned by applying your knowledge via an exercise.

Click the NEXT button to continue throughout this course.

Notes:

SELECTING PATTERNS

SELECTING PATTERNS EXERCISE INTRODUCTION

SELECTING PATTERNS EXERCISE INTRODUCTION

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Notes:

SELECTING PATTERNS SUGGESTED SOLUTION (1 of 7)

SELECTING PATTERNS SUGGESTED SOLUTION

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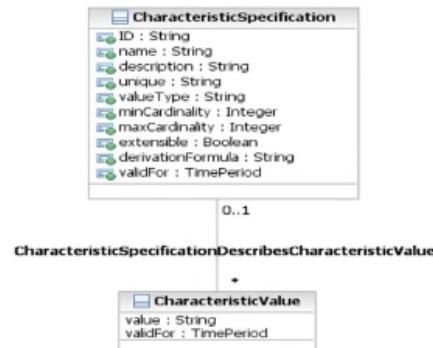


Notes:

SELECTING PATTERNS SUGGESTED SOLUTION (2 of 7)

SELECTING PATTERNS SUGGESTED SOLUTION

tmforum

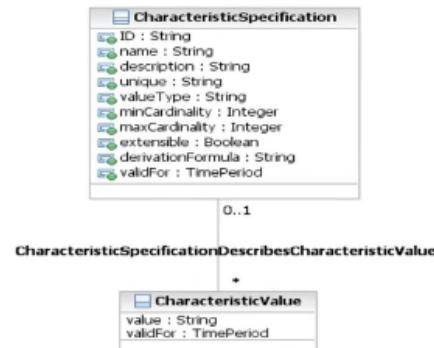


Notes:

SELECTING PATTERNS SUGGESTED SOLUTION (3 of 7)

SELECTING PATTERNS SUGGESTED SOLUTION

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Notes:

SELECTING PATTERNS SUGGESTED SOLUTION (4 of 7)

SELECTING PATTERNS SUGGESTED SOLUTION

tmforum

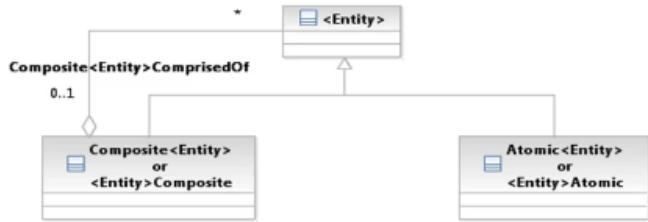


Notes:

SELECTING PATTERNS SUGGESTED SOLUTION (5 of 7)

SELECTING PATTERNS SUGGESTED SOLUTION

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Notes:

SELECTING PATTERNS SUGGESTED SOLUTION (6 of 7)

SELECTING PATTERNS SUGGESTED SOLUTION

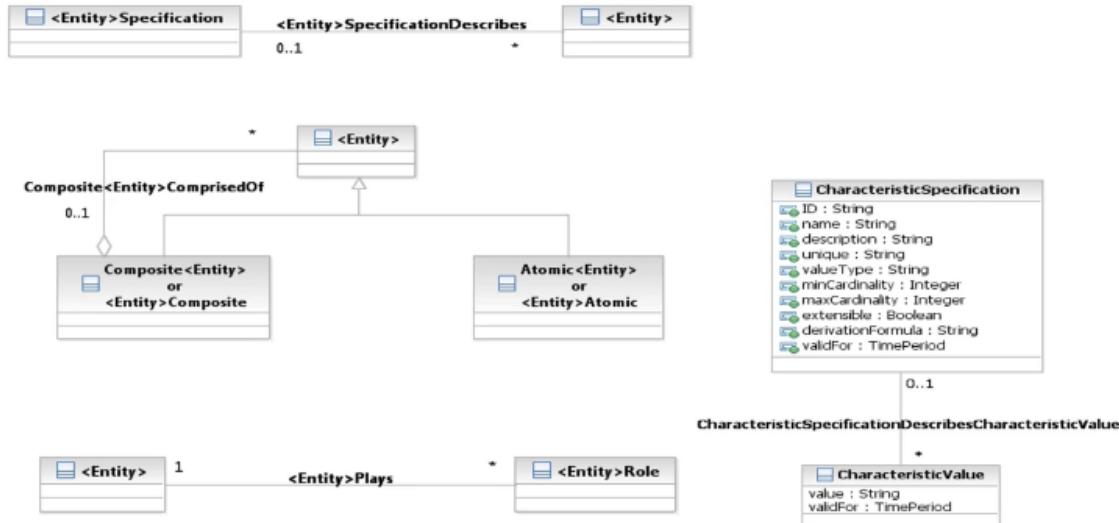
tmforum



Notes:

SELECTING PATTERNS SUGGESTED SOLUTION (7 of 7)

SELECTING PATTERNS SUGGESTED SOLUTION



Notes:

WRAP UP

WRAP UP

The slide features a red header bar with the word "WRAP UP" on the left and the "tmforum" logo on the right. Below the header is a large white area containing text about the module's content. At the bottom is a grey footer bar with two buttons: "RESTART" on the left and "EXIT MODULE" on the right.

This wraps up Part III of the third module – Framework modeling patterns. Where you saw a short UML tutorial, we discussed the modeling patterns used to develop the frameworks model and took a tour of the model.

A case study showed how a member used the patterns to extend the model, a quiz gave you the opportunity to test the knowledge gained during the module and an exercise allowed you to practice selecting patterns to use to meet a set of business requirements.

RESTART **EXIT MODULE**

Notes:

INFORMATION FRAMEWORK FUNDAMENTALS - MODULE 4

(PART I of II)

INTRODUCTION

WELCOME

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MODELING AND
EXTENSION GUIDELINES
- PART I of II

In part I of this fourth module, we will look at how the framework is documented, the framework's relationship to the Business Process Framework, and modeling and extension guidelines. You will then see a case study that shows the application of the guidelines.

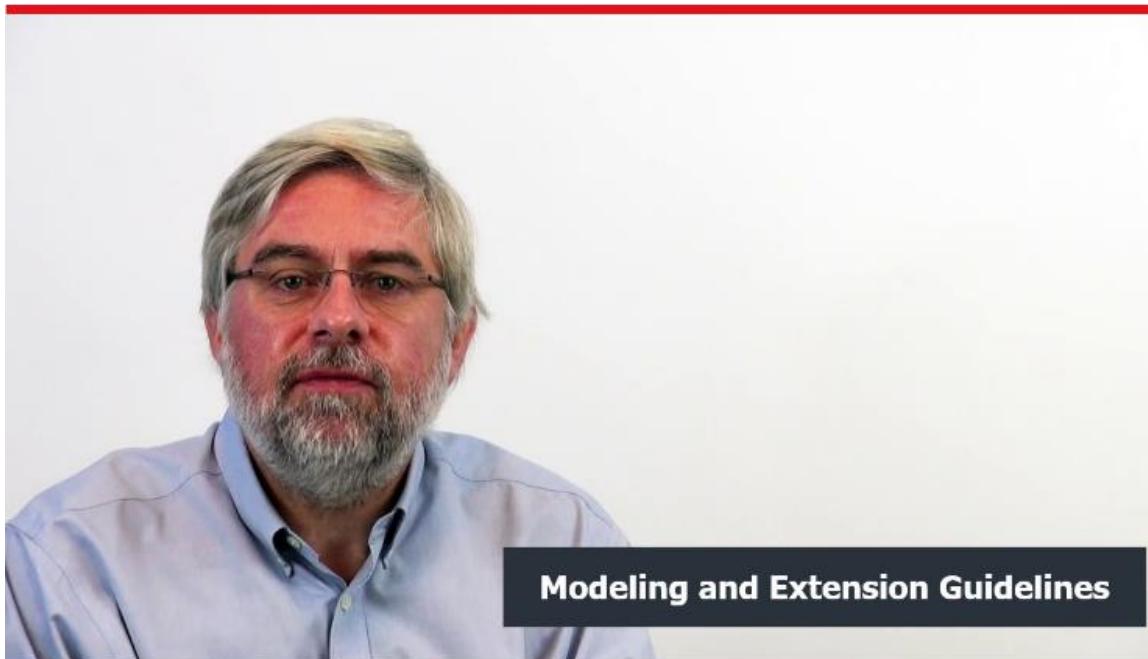
Click the **NEXT** button to continue throughout this course.

Notes:

MODELING AND EXTENSION GUIDELINES INTRODUCTION

MODELING AND EXTENSION GUIDELINES INTRODUCTION

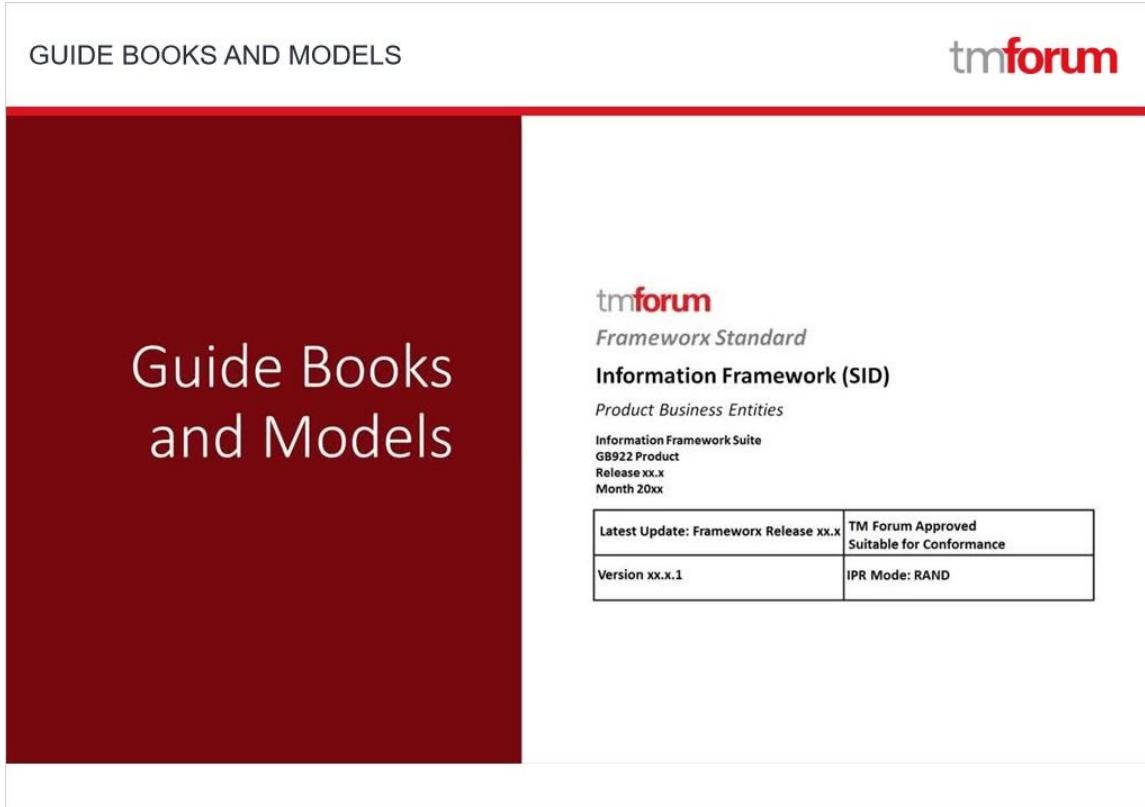
tmforum



Notes:

GUIDE BOOKS AND MODELS

GUIDE BOOKS AND MODELS



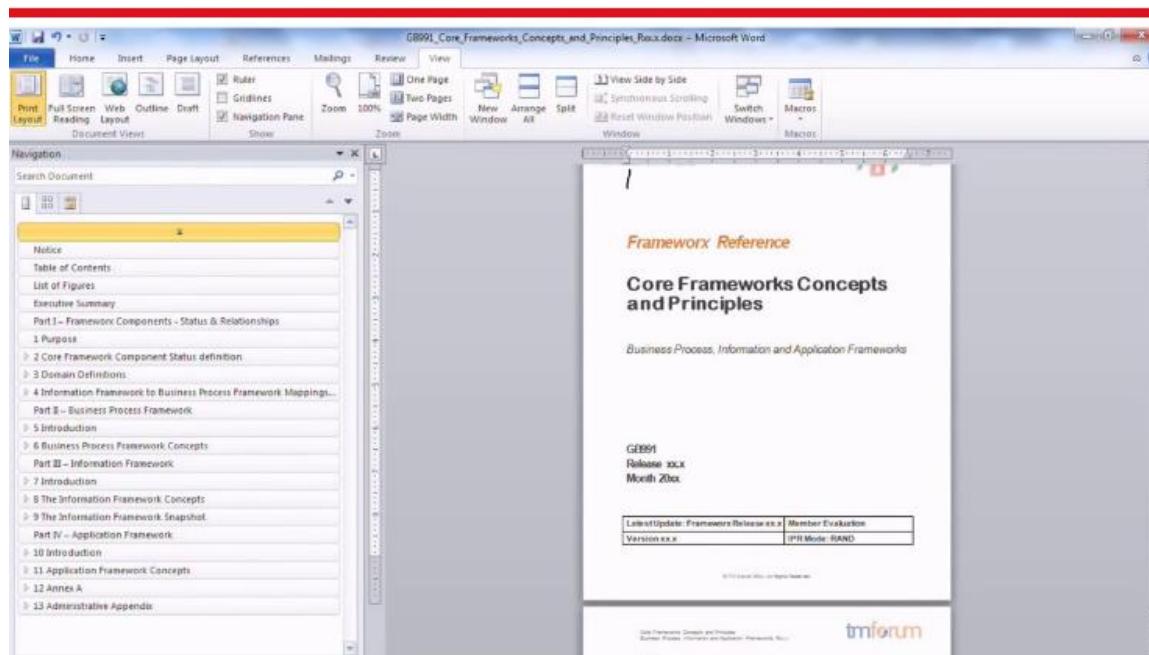
Notes:

MAPPING TO THE PROCESS FRAMEWORK

MAPPING TO THE PROCESS FRAMEWORK

MAPPING TO THE PROCESS FRAMEWORK

tmforum



Notes:

MODELING AND EXTENSION GUIDELINES INTRODUCTION

MODELING AND EXTENSION GUIDELINES INTRODUCTION (1 of 2)

The screenshot shows a presentation slide titled "MODELING AND EXTENSION GUIDELINES INTRODUCTION". The slide features a large red background area containing the title "Modeling and Extension Guidelines". In the top right corner, the "tmforum" logo is displayed. On the left side of the slide, there is a sidebar with a tree structure of "SD Models" and a detailed diagram of a business process flow.

SD Models

- Approval Notice
- Common Business Entities Domain
 - Base Types ABE
 - Calendar ABE
 - Capacity ABE
 - Catalog ABE
 - Configuration and Profiling ABE
 - Location ABE
 - Metric ABE
 - Performance ABE
 - Policy ABE
 - Project ABE
 - Root Business Entities ABE
 - likelyToChange-TIP Common ABE
 - Trouble or Problem ABE
 - Trouble Ticket ABE
 - Usage ABE
 - Users and Roles ABE
- Customer Domain
- External Party Domains (EPD) Library

Business Process Flow Diagram

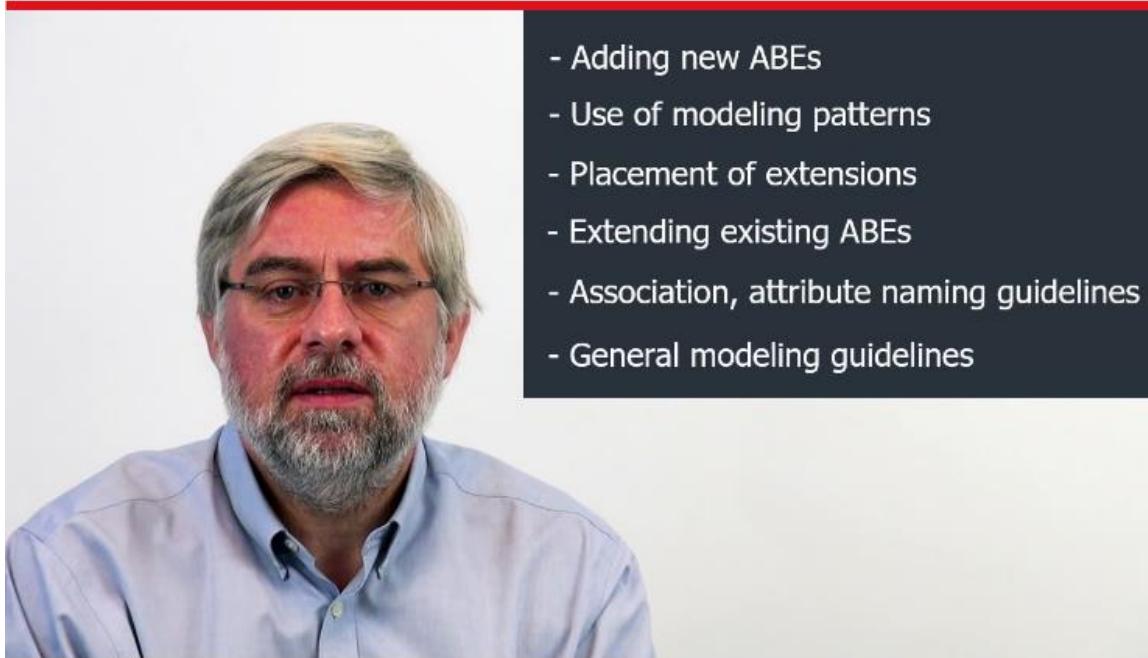
```
graph TD; Start((Start)) --> Decision1{Decision 1}; Decision1 --> Path1[Path 1]; Decision1 --> Path2[Path 2]; Path1 --> Activity1[Activity 1]; Path1 --> Activity2[Activity 2]; Path2 --> Activity3[Activity 3]; Activity1 --> Activity4[Activity 4]; Activity2 --> Activity4; Activity3 --> Activity4; Activity4 --> Decision2{Decision 2}; Decision2 --> Path3[Path 3]; Decision2 --> Path4[Path 4]; Path3 --> Activity5[Activity 5]; Path4 --> Activity6[Activity 6]; Activity5 --> Activity7[Activity 7]; Activity6 --> Activity7;
```

Notes:

MODELING AND EXTENSION GUIDELINES INTRODUCTION (2 of 2)

MODELING AND EXTENSION GUIDELINES INTRODUCTION

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The image shows a middle-aged man with a beard and glasses, wearing a light blue button-down shirt. He is looking directly at the camera with a neutral expression. To his right is a dark rectangular box containing a bulleted list of modeling guidelines.

- Adding new ABEs
- Use of modeling patterns
- Placement of extensions
- Extending existing ABEs
- Association, attribute naming guidelines
- General modeling guidelines

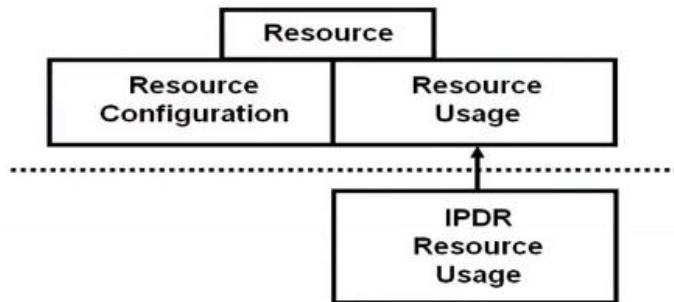
Notes:

A FRAMEWORK OF FRAMEWORKS

A FRAMEWORK OF FRAMEWORKS

tm**forum**

- Each framework is built according to a set of common generalized concepts (patterns)
- As such, each ABE in the framework is designed to accept domain-specific additions/specializations using sub-classing (often referred to as "blades")



Notes:

EXTENSION GUIDELINES

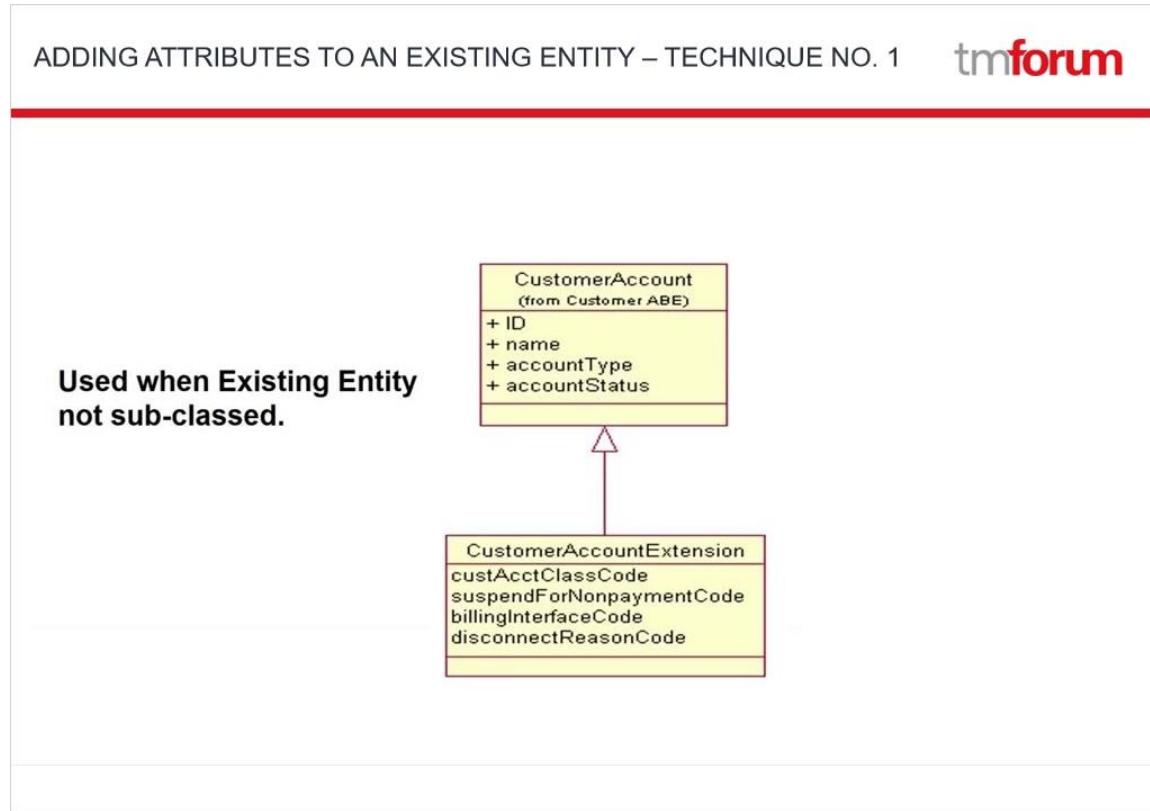
EXTENSION GUIDELINES



- ▶ Product Domain
 - ▷ Product ABE
 - ▷ Product Addendum Figures
 - ▷ Product Configuration ABE
 - ▶ Product Offering ABE
 - ▷ Associations
 - ▷ Pricing Logic Algorithm ABE
 - ▷ Product Catalog ABE
 - ▷ Product Offering Price ABE
 - ▷ Product Offering Price Rule ABE
 - ▷ Product Placement ABE

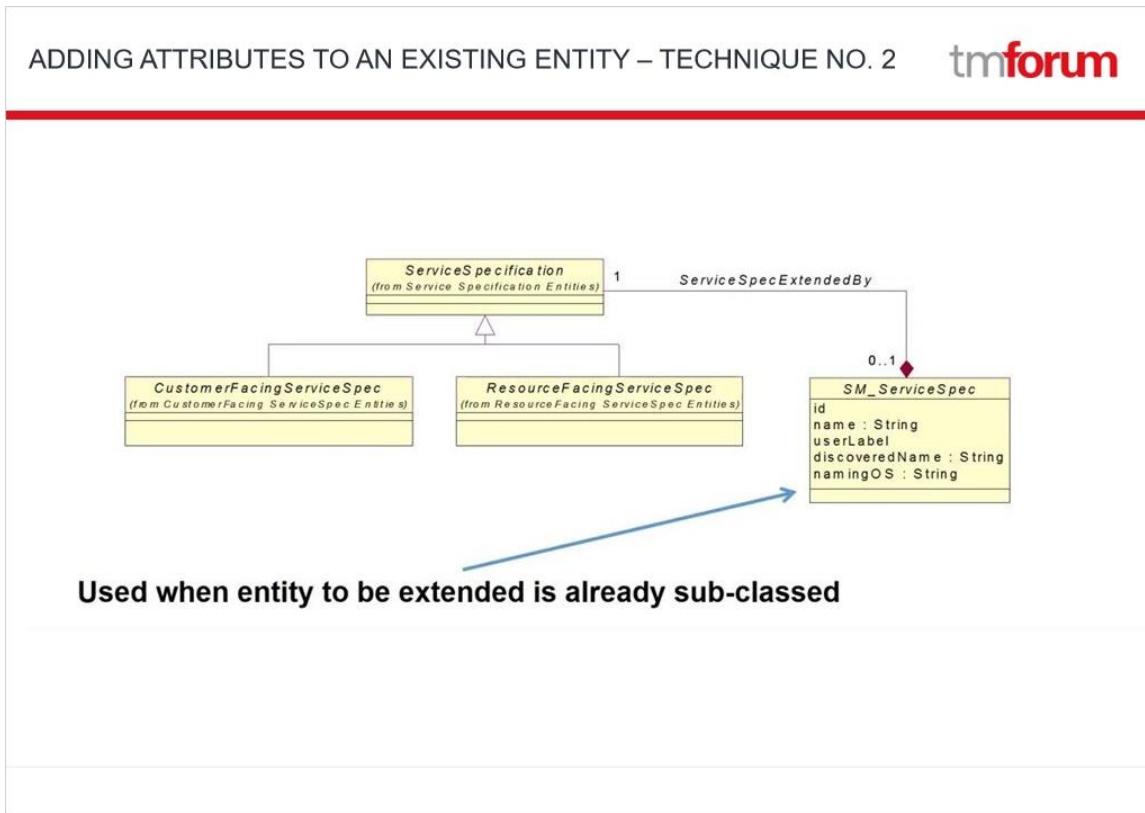
Notes:

ADDING ATTRIBUTES TO AN EXISTING ENTITY – TECHNIQUE NO. 1



Notes:

ADDING ATTRIBUTES TO AN EXISTING ENTITY – TECHNIQUE NO. 2

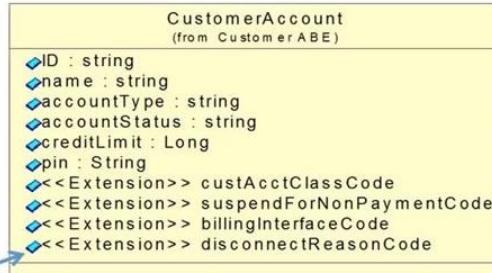


Notes:

ADDING ATTRIBUTES TO AN EXISTING ENTITY – TECHNIQUE NO. 3

ADDING ATTRIBUTES TO AN EXISTING ENTITY – TECHNIQUE NO. 3

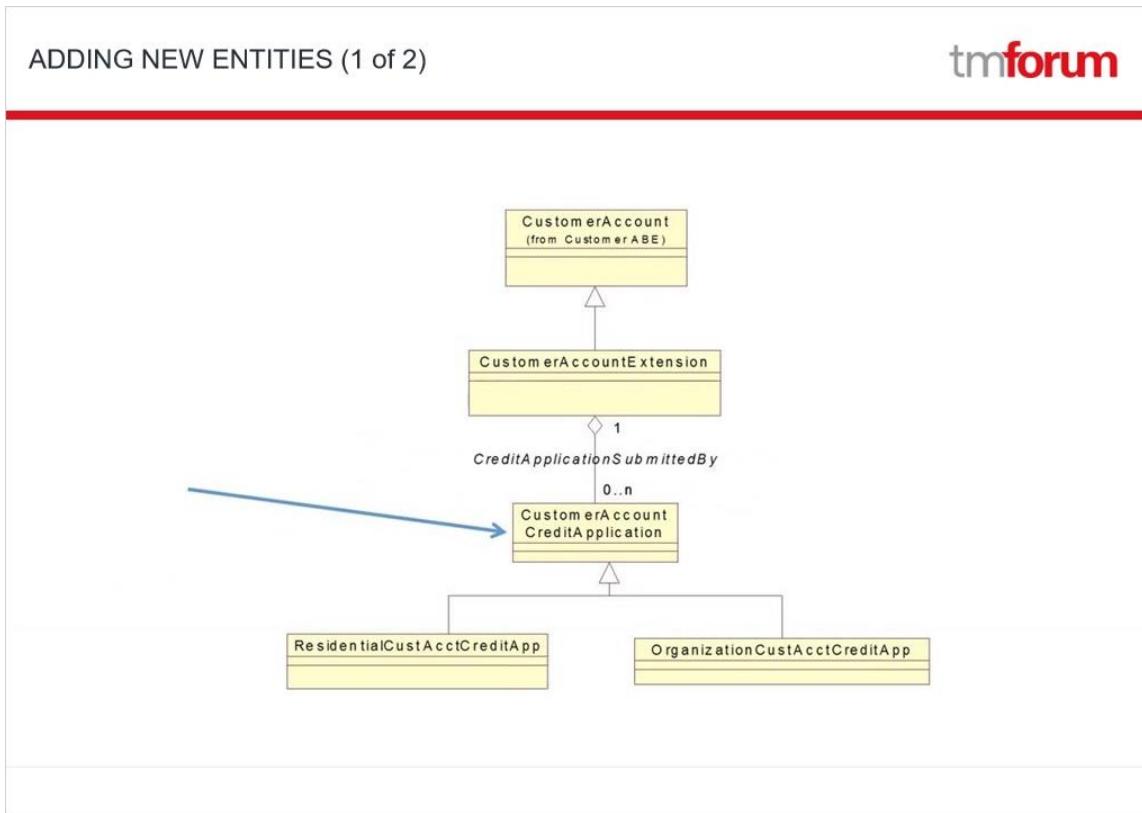
tmforum



Used when entity to be extended is stable and there are a large number of entities to be extended

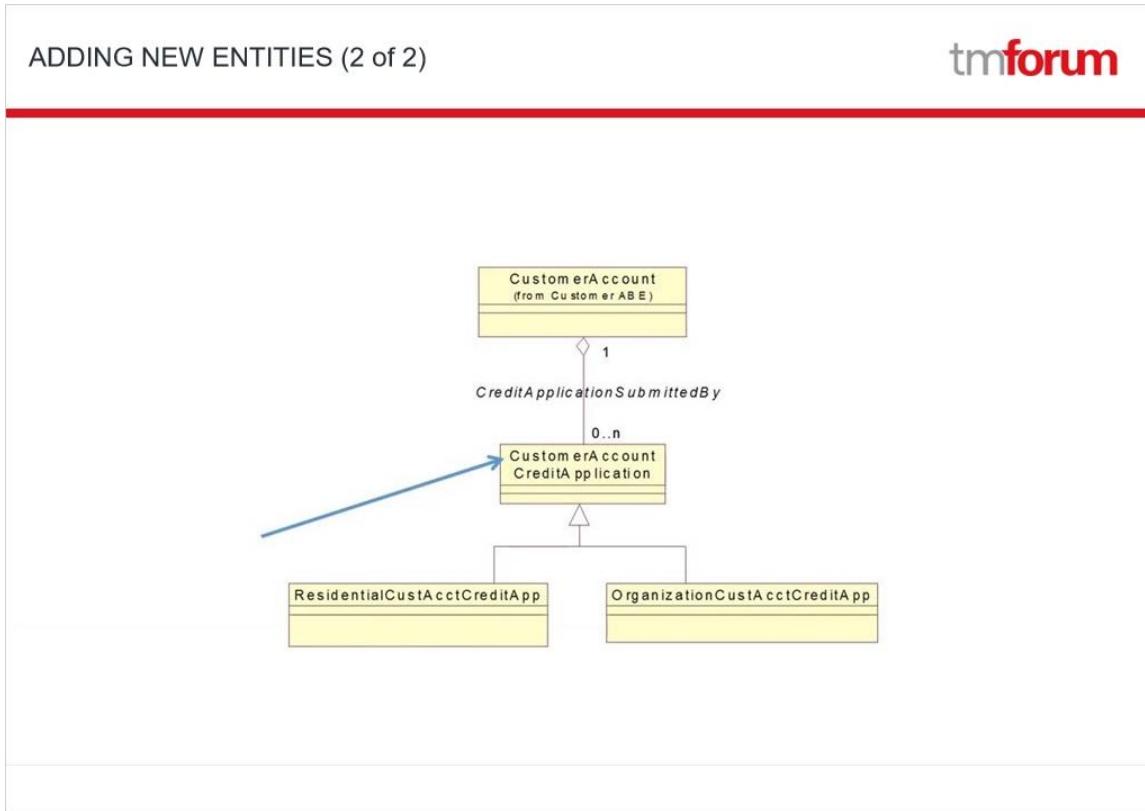
Notes:

ADDING NEW ENTITIES (1 of 2)



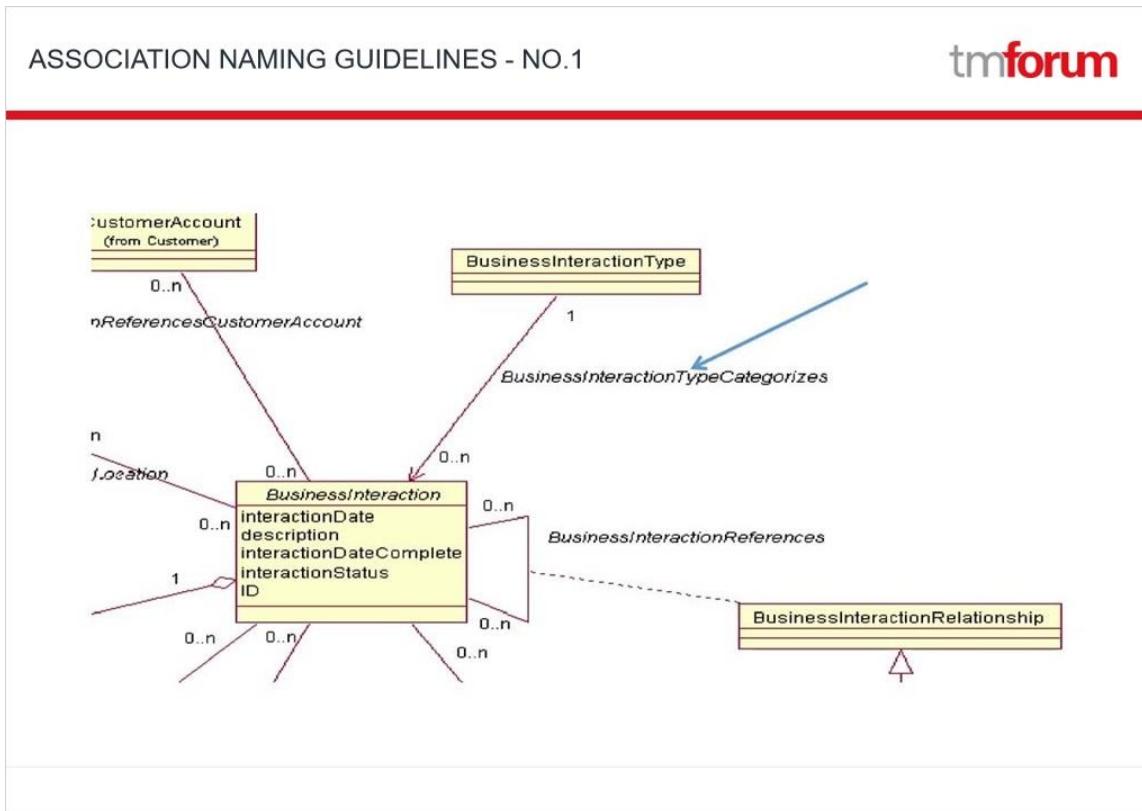
Notes:

ADDING NEW ENTITIES (2 of 2)



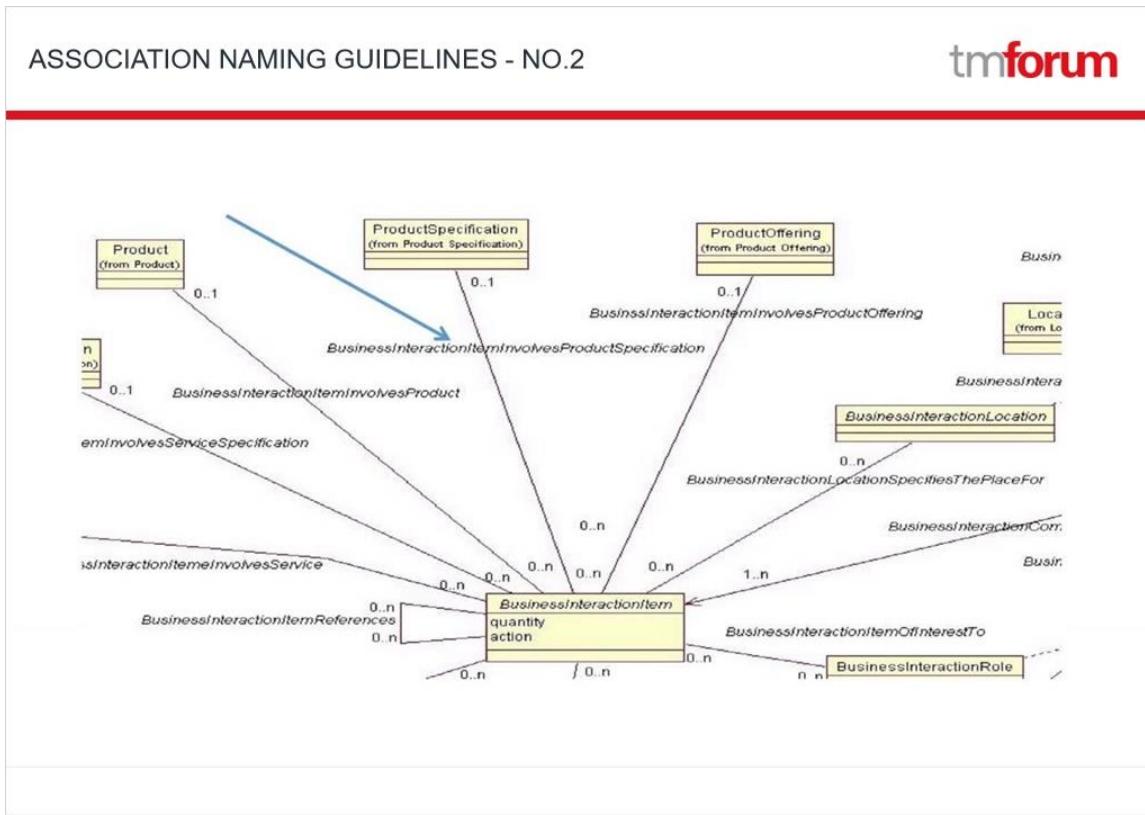
Notes:

ASSOCIATION NAMING GUIDELINES - NO.1



Notes:

ASSOCIATION NAMING GUIDELINES - NO.2



Notes:

ATTRIBUTE NAMING GUIDELINES

ATTRIBUTE NAMING GUIDELINES

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```
Card
cardCompatibilityResults : String
daughterCardInstallStatus : Integer
daughterCardOperatingStatus : Integer
daughterCardRequirements : Integer
isConfigurablePhysically : Boolean
isMotherBoard : Boolean
isUniquePhysical : Boolean
maxDataWidth : Integer
slotLayout : String
slotsRequired : Integer = 1
uniqueRequirementsPhysical : String
hardwareVersion : String
getAllPhysicalPorts()
```

Notes:

GENERAL MODELING GUIDELINES

GENERAL MODELING GUIDELINES

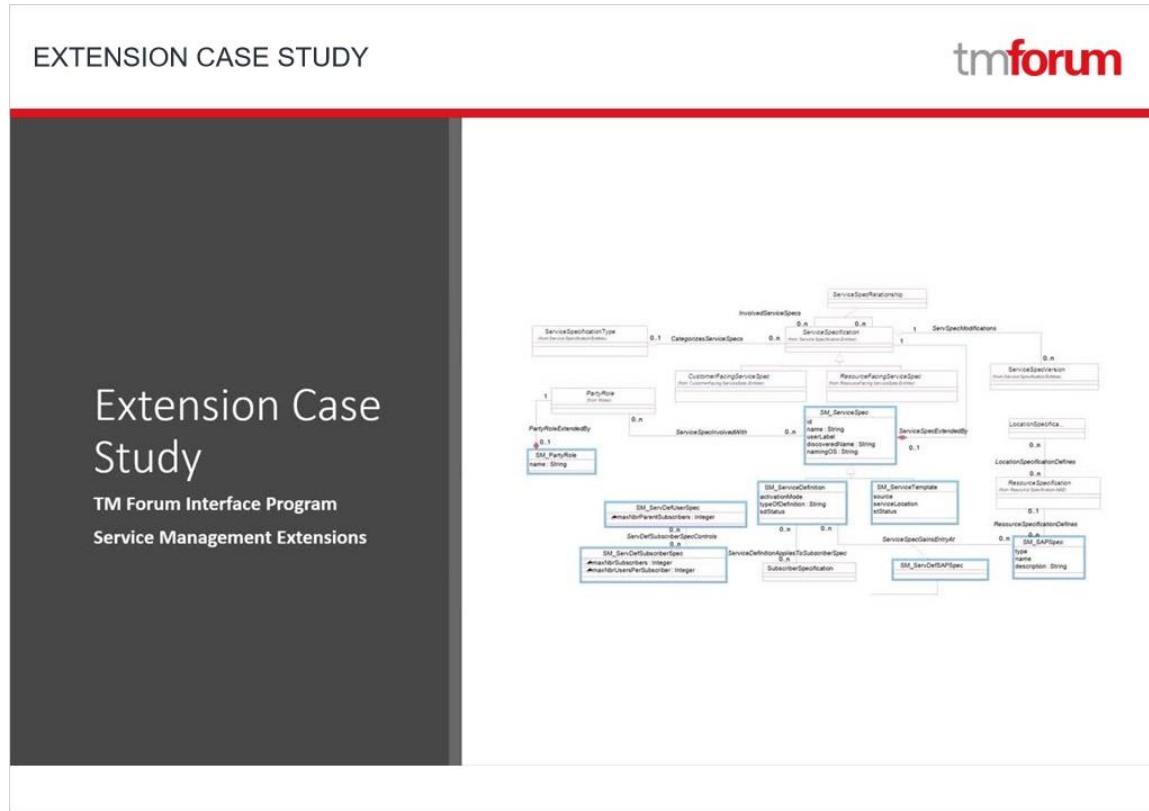


Describe each artifact
No multiple inheritance
Minimal (if any) association classes
Only binary associations
Documentation should follow GB922 format and content – see GB922-1U – User Guidelines for rules

Notes:

EXTENSION CASE STUDY

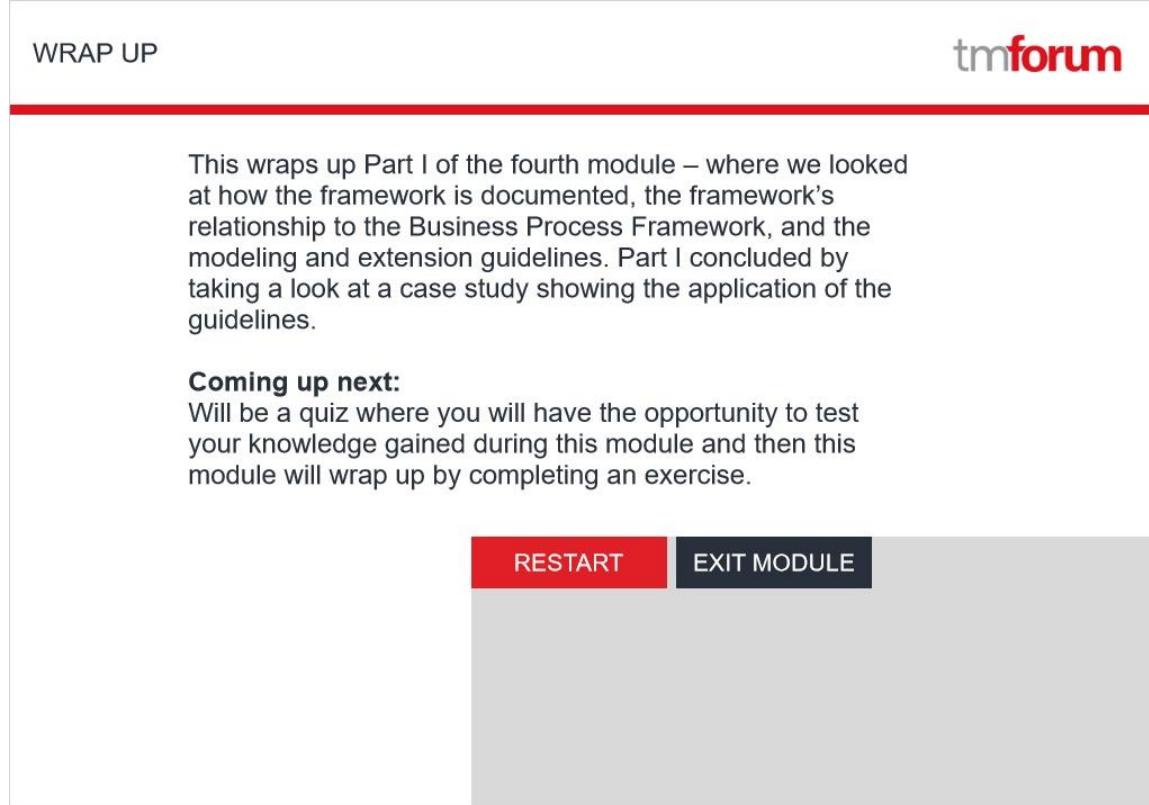
EXTENSION CASE STUDY



Notes:

WRAP UP

WRAP UP



The image shows a 'WRAP UP' module interface. At the top left is the text 'WRAP UP'. At the top right is the 'tmforum' logo. Below this is a red horizontal bar. The main content area contains text about concluding Part I of the module, followed by a section titled 'Coming up next:' describing a quiz and exercise. At the bottom are two buttons: 'RESTART' in a red box and 'EXIT MODULE' in a dark grey box.

This wraps up Part I of the fourth module – where we looked at how the framework is documented, the framework's relationship to the Business Process Framework, and the modeling and extension guidelines. Part I concluded by taking a look at a case study showing the application of the guidelines.

Coming up next:
Will be a quiz where you will have the opportunity to test your knowledge gained during this module and then this module will wrap up by completing an exercise.

RESTART **EXIT MODULE**

Notes:

INFORMATION FRAMEWORK FUNDAMENTALS - MODULE 4

(PART II of II)

INTRODUCTION

WELCOME

The slide features the tmforum logo at the top right. The title 'MODELING AND EXTENSION GUIDELINES - PART II of II' is displayed prominently in the center, with 'MODELING AND' in smaller black text above 'EXTENSION GUIDELINES - PART II of II' in large red text. Below the title, a descriptive text reads: 'In part II of this fourth module, you will get the opportunity to practice what you just learned in Part I, by completing the Modeling and Extension Guidelines exercise.' Three small images are shown below the text: two people talking at a booth, a group of four people standing together, and a man speaking at a podium. A red button at the bottom right says 'Click the NEXT button to continue throughout this course.'

Notes:

MODELING AND EXTENSION GUIDELINES EXERCISE

MODELING AND EXTENSION GUIDELINES EXERCISE

tmforum

Modeling and Guidelines Exercise

Notes:

WRAP UP

WRAP UP



This wraps up the fourth module – Modeling and Extension Guidelines, where you saw how the model is documented, we discussed mapping to the Business Process Framework, and went through the guidelines used in development of the model and that you should consider using, as well as guidelines for adding extensions to your implementation of the model.

A case study showed how a TM Forum project team applied the guidelines in their work, a quiz gave you the opportunity to test the knowledge gained during the module, an exercise allowed you to practice on your own.

[RESTART](#)

[EXIT MODULE](#)

Notes:

INFORMATION FRAMEWORK FUNDAMENTALS - MODULE 5

INTRODUCTION

WELCOME

The slide features the tmforum logo at the top right. The main title 'CONFORMANCE TO THE FRAMEWORK' is displayed in large red capital letters. Below the title, a text box states: 'In this final module we will look at what it means to be conformant, sometimes referred to as compliant to the Information Framework model.' Three small images are shown below the text: two people talking at a booth, a group of four people standing together, and a man speaking at a podium. A red button at the bottom right encourages users to click 'NEXT'.

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CONFORMANCE TO THE FRAMEWORK

In this final module we will look at what it means to be conformant, sometimes referred to as compliant to the Information Framework model.

Click the NEXT button to continue throughout this course.

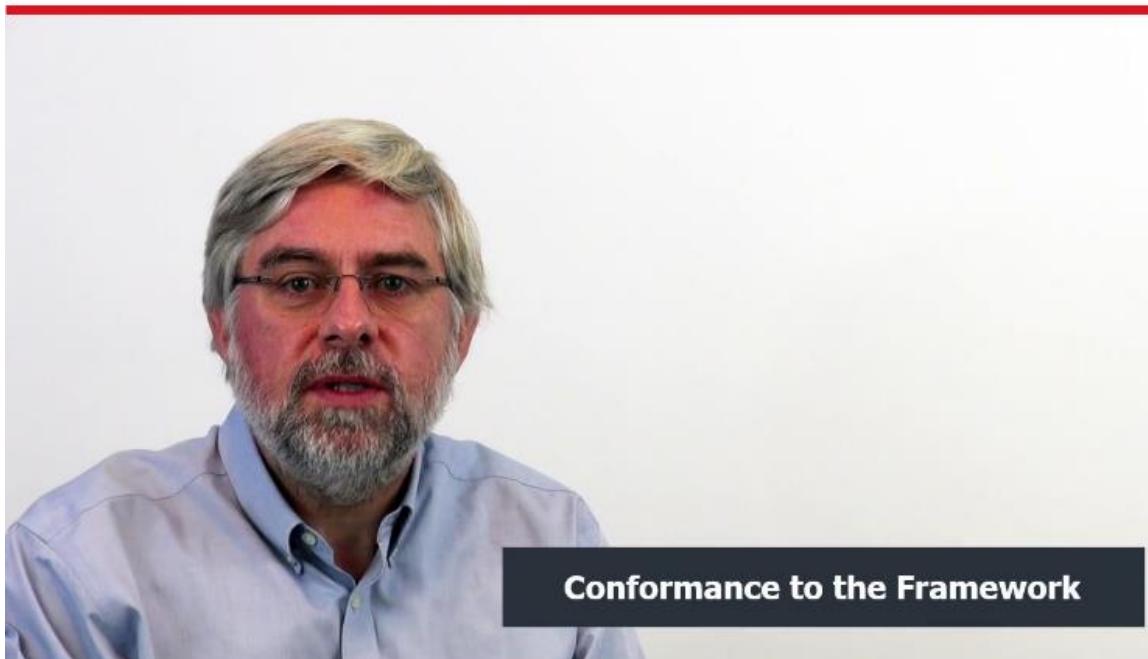
Notes:

CONFORMANCE TO THE FRAMEWORK

CONFORMANCE TO THE FRAMEWORK INTRODUCTION

CONFORMANCE TO THE FRAMEWORK INTRODUCTION

tmforum

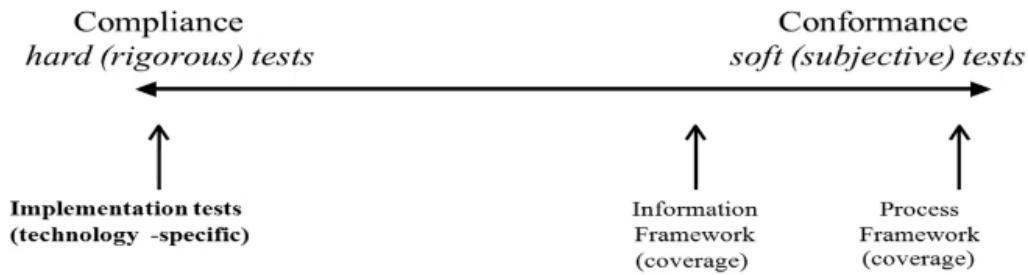


Notes:

COMPLIANCE/CONFORMANCE CONTINUUM

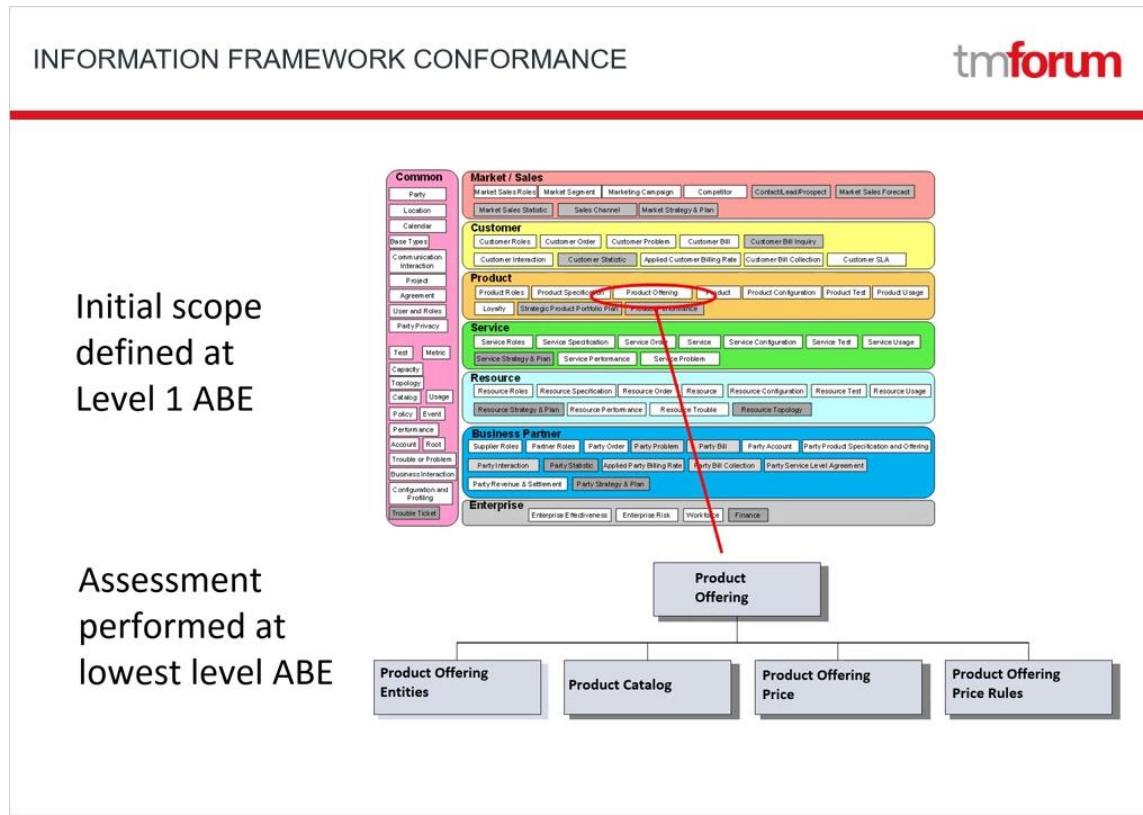
COMPLIANCE/CONFORMANCE CONTINUUM

tmforum



Notes:

INFORMATION FRAMEWORK CONFORMANCE



Notes:

INFORMATION FRAMEWORK PROGRESSIVE LEVELS

INFORMATION FRAMEWORK PROGRESSIVE LEVELS

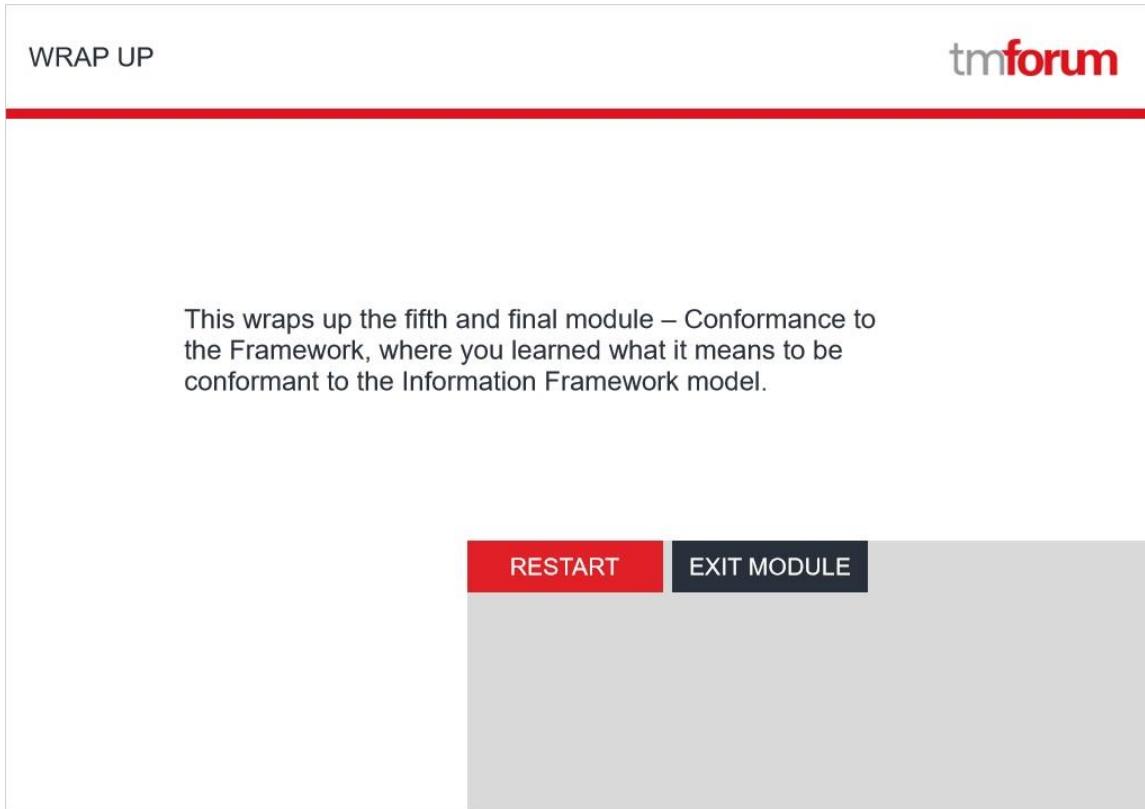


Information Framework R17.0: Adoption Conformance Scoring Guidelines	
SID Component	Weighted Scoring Calculation
Lowest Level ABE (ABE)	Equivalent – 1 score point
Core Entity (CE)	Equivalent – 2 score points
Core Entity Required Attribute (CR)	% equivalent * 2 [Must support min 50% of Required Attributes]
Dependent Entity (DE)	% equivalent * 1.5
Dependent Entities – Required Attributes (DR)	% equivalent * 1.5
Core Entity – Optional Attributes (CO)	% equivalent * 1.2
Dependent Entity – Optional Attributes (DO)	% equivalent * 0.8
Adoption Conformance Score Graduation	
Non Conformance [Score = 1 to 3]	Very Low Conformance [3.0 < Score <= 4.0]
Low Conformance [4.0 < Score <= 5.0]	Medium Conformance [5.0 < Score <= 6.0]
High Conformance [6.0 < Score <= 8.0]	Very High Conformance [8.0 < Score < 10.0]
	Full Conformance [Score = 10.0]

Notes:

WRAP UP

WRAP UP



The slide template features a white header bar with the word "WRAP UP" on the left and the "tmforum" logo on the right. Below this is a large white area for content, which contains the following text:

This wraps up the fifth and final module – Conformance to the Framework, where you learned what it means to be conformant to the Information Framework model.

At the bottom right of the slide are two buttons: a red "RESTART" button and a dark blue "EXIT MODULE" button.

Notes:

INFORMATION FRAMEWORK FUNDAMENTALS - MODULE 6

INTRODUCTION

COURSE WRAP-UP

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Course Wrap-up

After a short overview of the framework, you learned about the structure of the framework and the patterns used to develop it. In addition, you learned about modeling and extension guidelines, as well as what it means to be conformant to it. Along the way you had opportunities to test your knowledge and practice what you learned.



Click the NEXT button to continue throughout this course.

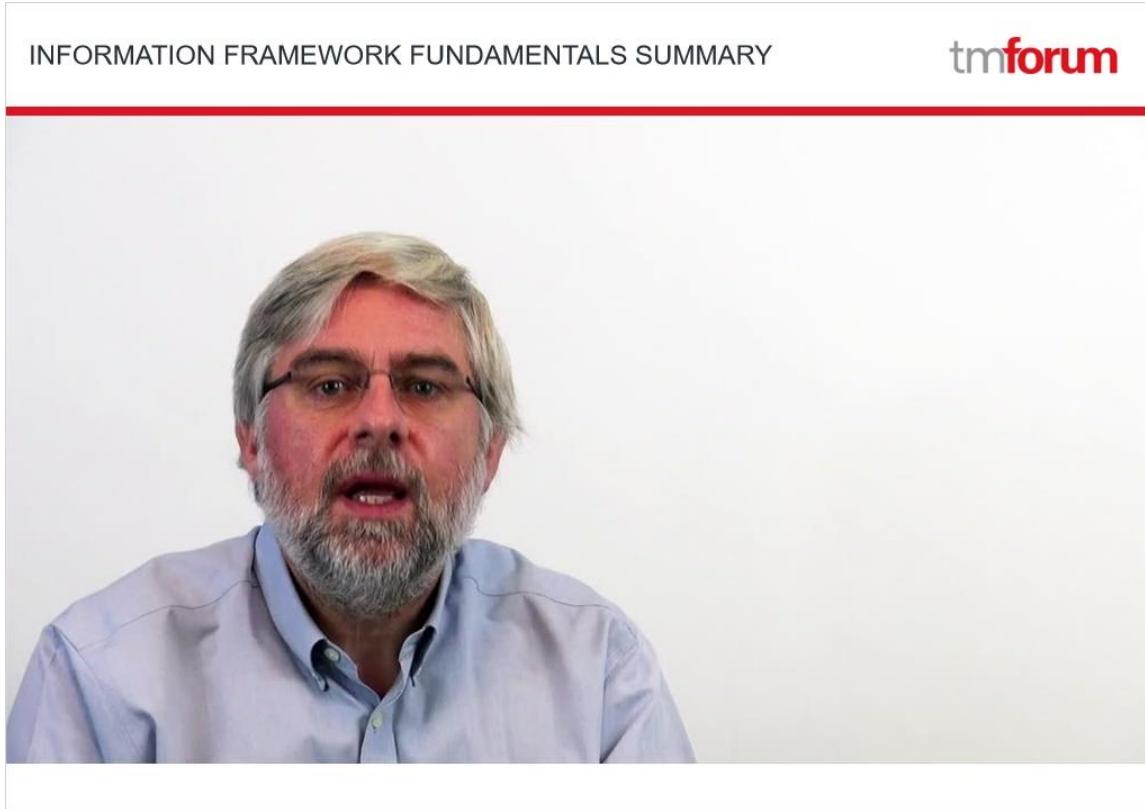
Notes:

Property of TM Forum.

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COURSE SUMMARY

INFORMATION FRAMEWORK FUNDAMENTALS SUMMARY



Notes:

CONGRATULATIONS

CONGRATULATIONS...



...on completing this TM Forum training course. You are now equipped with a better understanding of the role of information/data to more easily bring a solution to market as well as giving you the ability to source the right solutions to satisfy the information requirements that enable you to run your business more effectively. You are also now ready to progress your learning journey to more in-depth courses on the components of Frameworx, and wider, related topics:

- Business Process Framework (**eTOM**)
- Application Framework (**TAM**)
- Revenue Assurance and Billing
- Customer Centricity
- Transition to Virtualized Networks
- TM Forum Open APIs



Simply complete the feedback survey in the next module and you'll have the option to download and print your ***course completion certificate**.

NOTE: *The course completion certificate attests to completion only of this course and should not be confused with a Knowledge/exam certification, which must be completed separately.

Notes:

CERTIFICATION

CERTIFICATION

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Having completed this course, you would be eligible to attempt the related Knowledge Certification exam.

The certification exam is free to TM Forum members and they will be enrolled within one week of course completion, while non-members may contact education@tmforum.org to arrange exam purchase and enrolment.

Candidates will have a 30-day period in which to take the 40 question / multiple-choice exam, at their convenience. Once launched, the candidate will have one hour to submit their exam.

More details on TM Forum Certification can be found here: <https://www.tmforum.org/training-certification/career-certification/>

Notes:

FURTHER INFORMATION

FURTHER INFORMATION



The TM Forum Training Team hope that you found this course enjoyable and useful. You can contact us via education@tmforum.org.

For further information about the framework, refer to the Information Framework (SID) pages on the TM Forum website here: <https://www.tmforum.org/information-framework-sid/>

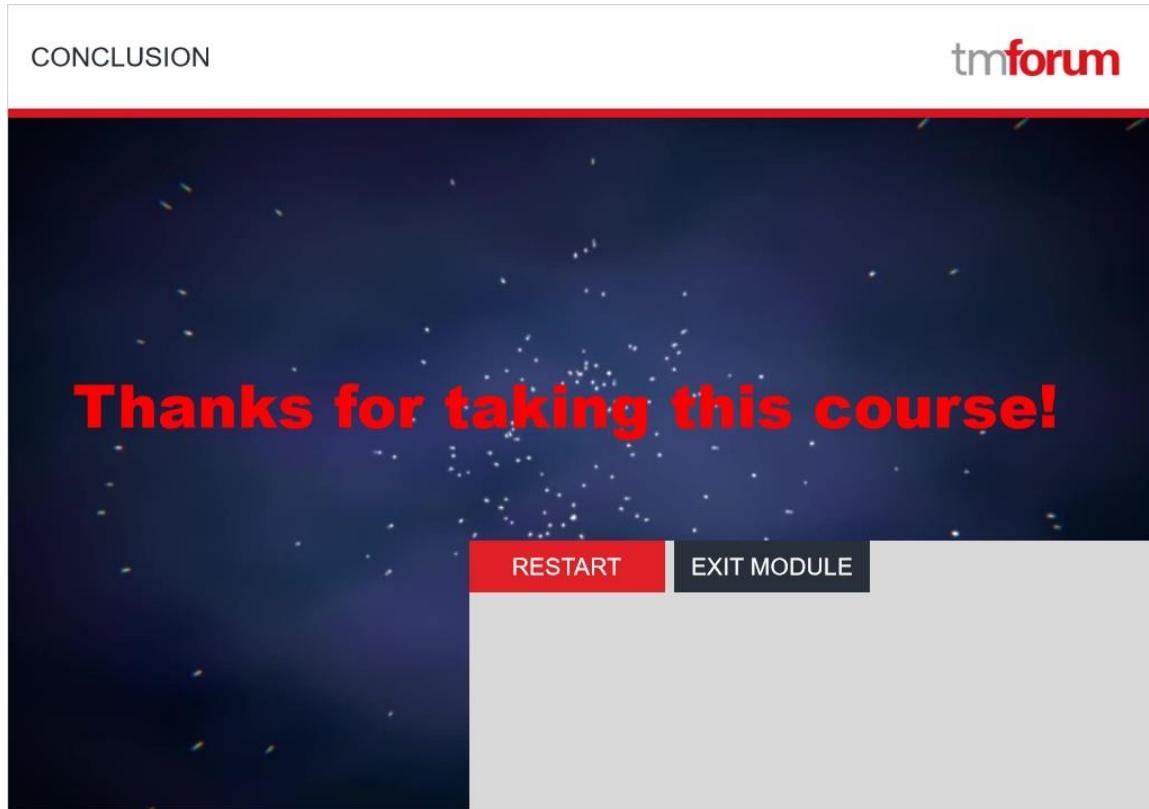
Advanced training and coaching are available for Frameworx and associated topics. Select further training courses here: <https://www.tmforum.org/training-certification/>

You can learn about TM Forum's collaboration communities and join in [here](#).

Notes:

CONCLUSION

CONCLUSION



Notes: