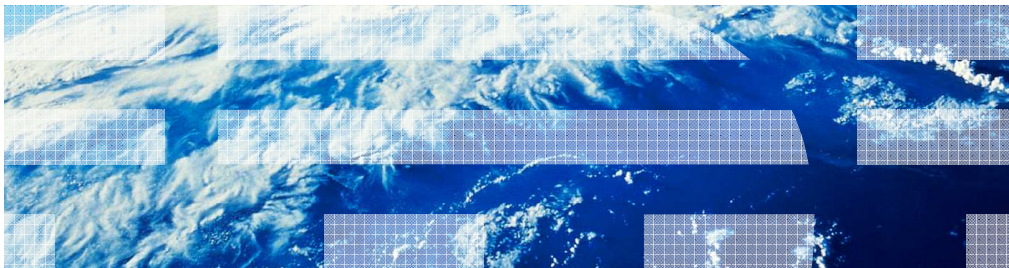

IBM Business Process Manager V7.5

IBM BPM Telecom Pack V7.5



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This presentation provides an introduction to IBM Business Process Manager (BPM) Telecom Pack V7.5

Goals and Agenda

- Goals
 - Introduction to BPM Telecom pack V7.5
 - Introduction to different models within Telecom pack
- Agenda
 - Telecom pack standards
 - Telecom pack assets
 - Capability models
 - Process models
 - Service models
 - Common components
 - Business vocabulary
 - Business objects models
 - Summary

The goal of this presentation is to provide an introduction to the IBM BPM Telecom Pack V7.5.



Section

Telecom pack standards

3

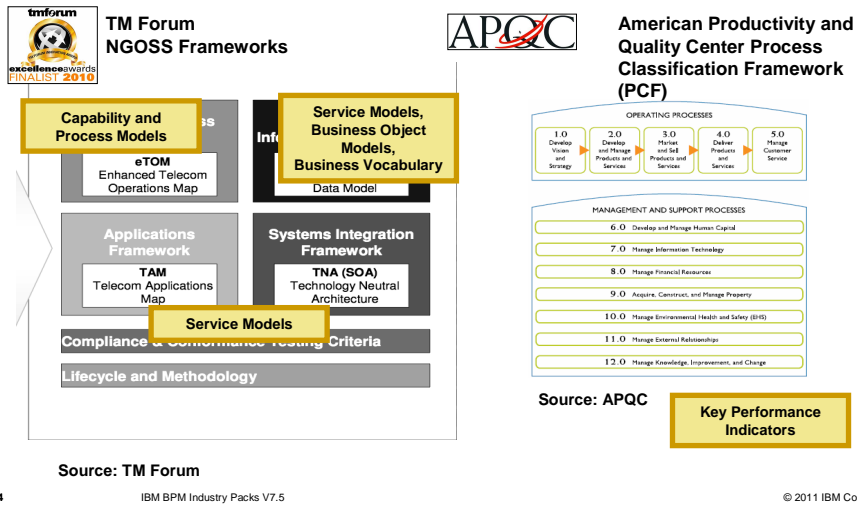
IBM BPM Industry Packs V7.5

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This section provides a list of standards that are supported by the BPM Telecom Pack V7.5

Summary of Key Standards Leveraged

"The TM Forum Solution Frameworks are the industry standard suite of frameworks and best practices for the enhancement of the information, communications and entertainment industries' business operations, support processes and systems."



The key standards leveraged by the BPM Telecom Pack are the TM Forum's Business Process Framework (eTOM), Application Framework (TAM), and Solution Frameworks (NGOSS) Shared Information and Data (SID) model.

The BPM Telecom Pack supports billing, fulfillment, assurance, customer interaction, inventory, catalog, and media lifecycle processing operations for communication enterprises. It includes pre-built telecom-specific assets based on the above industry standards and IBM best practices. It is not a replacement of Telecom standards – it provides derivative works based on TM Forum's standards.

Telecom pack assets

This section provides details about different assets of BPM Telecom Pack V7.5

IBM Business Process Manager Telecom Pack v7.5

Telecom "Solution Scenarios"
for Order Handling and Incident and Problem Management

Process Flows Coach Flows KPIs / Reports Integration Services

Pre-built scenario that combines the Telecomassets into an end-to-end BPM solution

TelecomAssets

<p>Process Models</p> <p><i>Process Flows to visualize human workflows & automate processes</i></p> <p>IBM BPM Process Designer</p>	<p>Service Models</p> <p><i>Service Interfaces & Schemas to facilitate creation & assembly of process implementations</i></p> <p>IBM BPM Process Designer and Integration Designer</p>	<p>Business Object Models</p> <p><i>Conceptual Data Models to provide a foundation for information management</i></p> <p>IBM Rational Software Architect</p>
<p>Capability Models</p> <p><i>Capability Maps & Process Maps to align business strategy with process execution</i></p> <p>WebSphere Business Compass</p>	<p>Business Vocabulary</p> <p><i>Business Concepts, Terms & Relationships to ensure consistency</i></p> <p>IBM BPM Integration Designer</p>	<p>Common Components</p> <p><i>Common Services & Utilities to enable interoperability with the application ecosystem</i></p> <p>IBM BPM Integration Designer</p>

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The BPM Telecom Pack provides the Order Handling and the Incident and Problem Management Solution Scenarios to demonstrate the capabilities of assets in developing an end-to-end Business Process Management (BPM) solution based on common scenarios within the telecom industry.


The Telecom provider can use the Order Handling Solution Scenario to demonstrate the process of checking whether a customer order can be provisioned for a product that is ordered. A Customer Service Representative can execute the Order Handling Solution Scenario by logging in, initiating a request, providing details using forms, and submitting the data for processing. A Business Manager can view and analyze information using the various graphs and diagrams displayed in the generated reports and scoreboards.


The Telecom provider can use the Incident and Problem Management Solution Scenario to demonstrate the key process steps such as Detect, Enrich, Diagnose, Fix, Verify, and Close. These steps are streamlined using automation and orchestration methods in the business process. A Customer Service Representative can execute the Incident and Problem Management Solution Scenario by logging in, creating a trouble ticket for a customer or network-related problem, providing details using forms, and submitting the data for processing. After the problem is resolved, the Customer Service Representative can verify and close the trouble ticket.

The various artifacts that are used in the Order Handling and the Incident and Problem Management Solution Scenarios can be viewed by using the different tooling for each of these artifacts as mentioned in the boxes.

A demonstration is provided on how to run the Order Handling Solution Scenario.

The next few slides discuss about telecom assets that different users can use based on their business requirements.

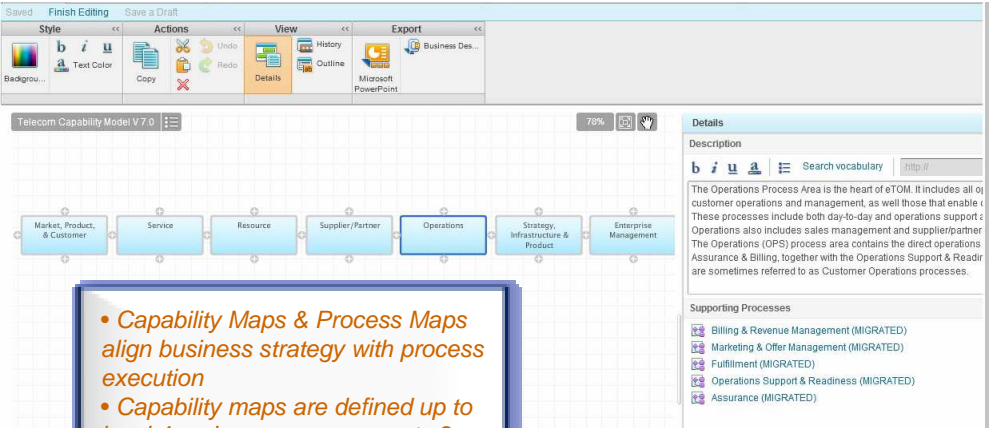




Business Leader

Telecom Capability Model to identify target business areas

- Based on *TM forum's eTOM standards*
- Tooling with *WebSphere Business Compass*; Packaged as *Business Document Archive*
- E.g. *Service Deployment & Management, Service Strategy & Planning, Design Management & Operations*



- *Capability Maps & Process Maps align business strategy with process execution*
- *Capability maps are defined up to level 4 and process maps up to 2*
- *Links capabilities with process maps*

7


IBM BPM Industry Packs V7.5

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The Telecom Capability Model consists of Capability Maps which represent the telecom domain decomposition of business capabilities. Based on TM Forum's Business Process Framework (eTOM) standards, the capability models help in service deployment and management, service strategy and planning, and design management and operations.

In the previous release of the BPM Telecom Pack, processes and sub processes were part of process maps, which were mapped to capability maps. In this release, these processes and sub processes have been moved such that they form the next level of sub capabilities in an existing capability map.

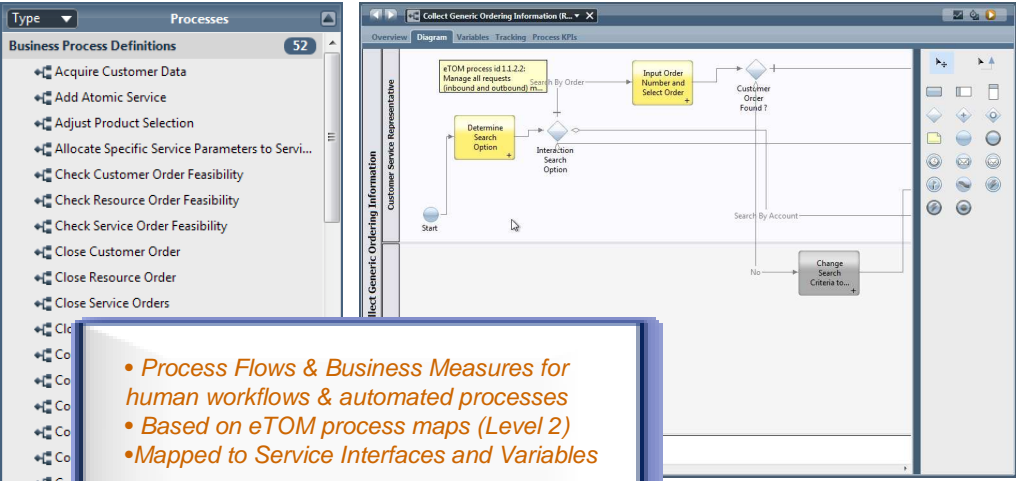
These assets are packaged as a Business Document Archive (.bda) files and can be easily viewed using WebSphere Business Compass. Before you can begin using the capability maps you need to identify the business area that corresponds to your requirement. This identification helps in aligning the business strategy with process execution.



Business Analyst

Model detailed process flows, sub processes using *Process Model*

- Based on *TM forum's eTOM standards*
- Tooling with *IBM BPM Process Designer*
- E.g. *Close Service Call, Order Entry, Price Validation, Order Feasibility, Resolution process, Price Validation, Resolve Compliant*



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The Telecom Process Models are modeled as Business Process Definitions (BPDs) inside the IBM Process Designer. A BPD defines the process workflow for users, creates logic inside a process, and integrates with other applications and data sources. The process acts as a container for all the components of a process definition, which includes participant groups, lanes, services, activities, gateways, sequence lines, rules, and variables.

Each of the BPDs related to a specific focus area are packaged as part of the Toolkits. The Telecom Process Models include the Assurance, Fulfillment, and Billing Toolkits.

The BPDs that are available as a part of the Telecom Pack serve as templates that can be used to start, or in some cases, accelerate the development of a Process Application. This provides the user an ability to use the provided assets as a starting point and customize them as per their requirements.

In the earlier release, the Process Models were provided as WebSphere Business Modeler artifacts.



Model detailed process flows, sub processes using *Process Model*

- Based on *TM forum's eTOM standards*
- Tooling with *IBM BPM Process Designer*
- E.g. *Close Service Call, Order Entry, Price Validation, Order Feasibility, Resolution process, Price Validation, Resolve Compliant*

Performance

Type: Performance

Reports (6)

- Average Cycle Time in Hours Report
- Average Order Handling
- Nationwide Distribution of Received Orders
- Order Fulfill Rate Report
- Percentage of Sales Report
- Volume of Orders

Scoreboards (2)

- Order Entry Validation Dashboard
- Order Handling Dashboard

Timing Intervals (3)

- AverageCycleTime
- AverageOrderHandling
- OrderResolutionTime

Tracking Groups (2)

- OrderEntry/Validation
- OrderHandling

ScoreBoard

Order Handling Dashboard (Read-Only)

Common

Name: Order Handling Dashboard

Modified: ts_admin (May 10, 2011 12:59:01 PM EDT)

Documentation:

Layout

Enabled:

ScoreBoard title:

ScoreBoard Layout: [Default ScoreBoard Layout](#) [System Data](#)

Reports

Report title:

- Nationwide Distribution of Received Orders
- Volume of Orders
- Average Order Handling

Exposing

Exposed to: [Business Manager](#) [Telecom Common](#)

- *Predefined Telecom KPIs and Business Measures*
- *Defined at process and sub-process level*

The toolkits contain predefined Reports and Scoreboards for monitoring process-related performance. Reports are used to analyze the process performance-related data as a graph or chart that easily depicts the data in an easy to understand format, as opposed to a tabular format of information. Scoreboards are an aggregation of reports that can be seen in the IBM Process Portal.



Developer

Assemble Integration Solution by using Telecom **Service Models**

- Based on *TM Forum's Application Framework (TAM), Information Framework (SID) standards and IBM Best Practices*
- Tooling with *IBM BPM Integration Designer; Packaged as SCA libraries*
- E.g. *Query Resource Order, Activate Physical Port, Receive Customer Order Status Update*

The screenshot displays the IBM BPM Integration Designer interface. On the left, a tree view lists various service models such as Notification-3.0, OrderFeasibility-3.0, and SupplierPartnerFulfillment-3.0. The main area shows the configuration for the 'approveAccessItemIssuanceDocument' interface. This configuration includes a table for 'Operations and their parameters' with columns for Name and Type. The table lists 'approveAccessItemIssuanceDocument' with its input and output schemas, and a fault handler 'ErrorResponseType'.

Name	Type
approveAccessItemIssuanceDocument	ApproveAccessItemIssuanceDocumentRequest
approveAccessItemIssuanceDocument	ApproveAccessItemIssuanceDocumentResponse
ErrorResponseType	ErrorInfo

• *Service Interface & Schemas facilitate creation & assembly of process implementations*

• *Service definition includes input, output, operations, etc*

The Telecom Service Models are pre-built service interfaces and schemas that facilitate interoperability across diverse platforms for a specific industry. You can use the service interfaces and the associated schemas to create and assemble process implementations that can later be used as endpoints for process flow executions.

The service interfaces are created based on Industry Best Practices and are packaged as SCA libraries which can be viewed in the IBM Integration Designer.



Developer

Achieve component reuse using Telecom **Common Components**

- Based on *TM Forum's Solution Frameworks (NGOSS)* and *IBM Best Practices*
- Tooling with *IBM BPM Integration Designer*; Packaged as *SCA Modules*
- E.g. *Notify Customer, Transform OSS/J to SID, Error Identification Service, Rules Engine, Transform SID to OSS/J, Error Handler*

The screenshot displays the configuration of the `CustomerNotificationNotifyCustomer` interface. The configuration table is as follows:

Configuration	Value	Refactor name
Name	CustomerNotificationNotifyCustomer	
Namespace	http://www.ibm.com/xmlns/prod/websphere/fabric/2009/12/telecom/operations/CustomerNotification	Refactor_namespace
Binding Style	Mixed	More...

The operations table shows the following details:

Operations and their parameters	Name	Type
notifyCustomer		
Inputs	notifyCustomerRq	StandardCommunicationMessage
Outputs	notifyCustomerRs	StandardCommunicationMessage

The left-hand tree view shows the project structure for `TelecomOperationsCommonServices-3.0`, including Dependencies, Integration Logic, Data Types, Interfaces (with `CustomerNotificationNotifyCustomer` selected), ErrorHandler, ErrorIdentificationServicePortType, OssSidTransformationTransformOssJT, OssSidTransformationTransformSidTo, RulesEnginePT, Transformations, and Web Service Ports.

• *Common Services & Utilities enable interoperability with the application ecosystem*
 • *Pre-built implementation logic to allow custom implementation using configurations*

The Telecom Common Components includes a set of Telecom-specific common service definitions and implementations. The common services help achieve component reuse and serve as accelerators for BPM solutions, where you can use the provided implementations or customize their configurations to suit your application needs. The Common Components are based on the TM Forum's Solution Frameworks (NGOSS) Information Framework (SID), MTOSI, NGOSS OSS/J standards, and IBM best practices. The Rule Engine common services can be configured to work with different Rule engines such as a JSR94-complaint rules engine or IBM WebSphere Transformation Extender.

These assets are packaged as SCA Modules that can be imported within IBM Integration Designer and then deployed onto the IBM Process Server runtime. The entire list of Common Components packaged with the BPM Telecom Pack is available in the Information Center for BPM Industry Packs



Developer

Use **Business Vocabulary** to map to business data in messages

- Based on *IFW and IBM best practices*
- Tooling with *IBM BPM Integration Designer*
- E.g. *Service Characteristic, Service, Is service enabled, Customer, Entity Specification, Characteristic Value, Status, Expression, Operation*

TelecomVocabulary			
ProductOfferingPriceBI			
	Name	string	/Name
Aliases	CurrencyValue	string	/CharacteristicValue/Characteristic/Name = 'Currency'/Value
	ComponentPriceItem	PriceItemBI	/ComponentPriceItem
	PricingRuleList	PricingRuleBI	/PricingRule
ProductOrderBI			
	ProductId	string	/Id
Aliases	Name	string	/Name
	Description	string	/Description
	Price	string	/CharacteristicValue/Characteristic/Name = 'Price'/Value
	PricingModel	string	/CharacteristicValue/Characteristic/Name = 'Pricing Model'/Value
ProductOrderItemBI			
	Id	string	/Id
Aliases	Name	string	/Name
	Action	string	/Action
	Address	UrbanPropertyAddressBI	/Address
	Product	OrderedProductBI	/Product
	CustomerAccountOrderItemId	string	/CustomerAccountOrderItemId

- *Taxonomy of Telecom business vocabulary terms*
- *Aliases to map business vocabulary to message elements containing business data*

The Telecom Business Vocabulary is a collection of business concepts, terms, and data definitions. These are collectively used to ease collaboration between the business and Information Technology (IT) users. The Business Vocabulary is available in a Business Process Modeling Notation (BPMN) document, and is packaged as a Service Component Architecture (SCA) library.

The Business Vocabulary provided for a domain can be used as-is or can be extended based on business requirements. The predefined Business Items and aliases are used to define a set of common XPath expressions, which can be used within a solutions library.



Implement Logical Data Model using *Business Object Models*

Developer

- Based on *SID model*, and *IBM best practices*
- Tooling with *Rational Software Architect*; Packaged as *Project Interchange File*

The screenshot displays the Rational Software Architect interface. On the left, a 'Business Objects' list shows various object types. The main workspace shows a UML class diagram for 'CustomerAccount' and 'Product' with their relationships. A 'Parameters' panel lists attributes like 'name', 'accountType', and 'customer'. A 'Parameter Properties' panel shows details for the 'customer' parameter, including its name and variable type.

- *Conceptual Data Models to provide a foundation for information management*
- *Data Types leveraged by Service Model*
- *Starting point for logical data model and physical data model*

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The Telecom Business Object Models are conceptual data models that provide the foundation for information management. You can implement a logical data model (LDM) and physical data model (PDM) using the Business Object Models. These assets are based on TM Forum's Solution Frameworks (NGOSS) Information Framework (SID) standards and IBM best practices. The SID model provides the Telecom industry with a common vocabulary, set of information, data definitions, and relationships used in the definition of NGOSS architectures.

The Telecom Business Object Model is made available as a UML model that can be imported in a UML modeling tool such as Rational Software Architect.

Telecom pack features V7.5

This section provides details about the different features of the BPM Telecom Pack V7.5.

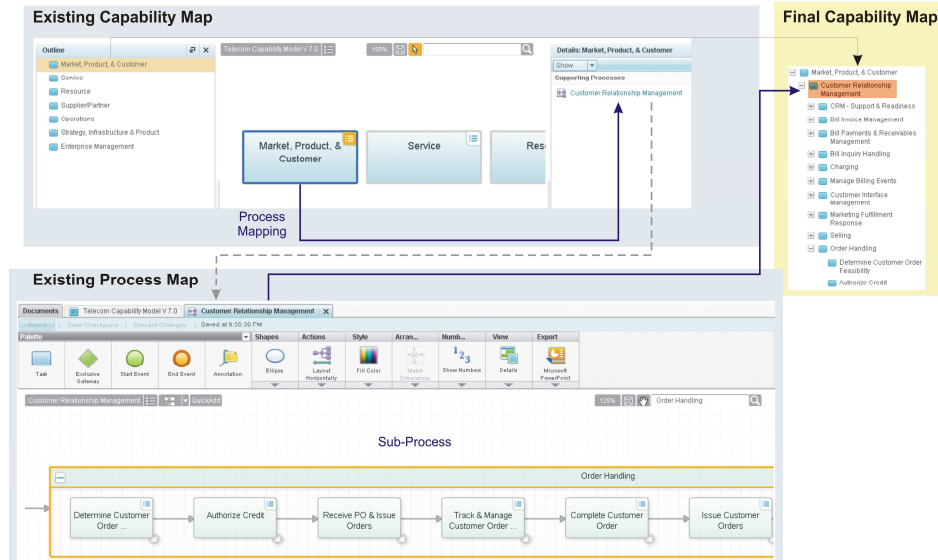
Telecom Pack Features

Feature	Telecom Pack 7.0	Telecom Pack 7.5
Capability Models		Process Maps are mapped as sub capabilities level 3 onwards
Process Models		New models for Process Designer
Service Models		New Schema Extension Points for service interfaces
Business Object Models		Enhanced to simplify customer extension.
Common Components		New templates for integration with Tivoli Netcool / Impact
Solution Scenarios <i>New Account Opening</i>		Updated for Express, Standard, and Advanced editions, including: <ul style="list-style-type: none"> • Process Flows • Coach Flows • Scorecards / KPIs • Integration Services
Dynamic Service Selection and Business Vocabulary	Dynamic Assembler	2 New options: <ul style="list-style-type: none"> • Integration Designer + Decision Service • Process Designer + Decision Service

A comparison of the assets and the features provided in the previous release and the current V7.5 is shown in a tabular format.

Capability Model - Updates

Capability Model - Updates



16

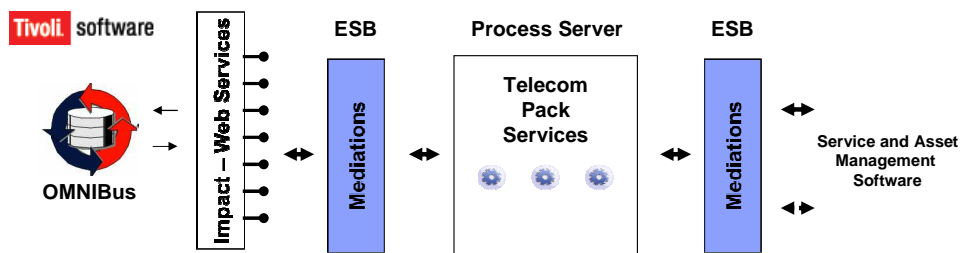
IBM BPM Industry Packs V7.5

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In the previous release of the BPM Telecom Pack, processes and sub processes were part of process maps, which were mapped to capability maps. In this release, these processes and sub processes have been moved such that they form the next level of sub capabilities in an existing capability map. As shown here the Customer Relationship Management is now a sub-capability under Market, Product, & Customer.

Integration with Tivoli Netcool/Impact

- Out of the box mediation templates for Service Assurance Interfaces:
 - Trouble Identification
 - Trouble Reasoning & Linking
 - Customer Problem Management & Resolution
- Updated Incident and Problem Management Solution Scenario with Netcool / Impact integration.

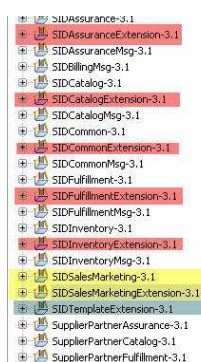


IBM Tivoli Netcool/Impact can be integrated with the Incident and Problem Management Solution Scenario in this release. Out of the box mediation templates such as Trouble Identification, Trouble Reasoning & Linking, and Customer Problem Management & Resolution are available for the Service Assurance interface.

Mediation templates provided with the BPM Telecom Pack are Trouble Ticket Management, Incident Management, and Diagnostic Test Management. You can use these templates to accept incoming data from Tivoli Netcool/Impact, transform them with the mediation flow, and pass it to the solution or implementation of any process flow. After the process flow completes processing, the response is transformed and returned back to Tivoli Netcool/Impact. Tivoli Netcool/Impact sends messages that are processed by the Incident and Problem Management Solution Scenario using Inbound and Outbound policies.

Schema Extension Points

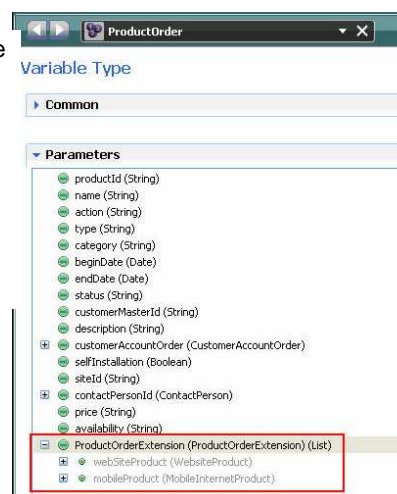
- Simplified approach for extending data types in the core Telecom Pack schema.
- Static extension templates provide for common extensions (e.g. – new product offerings).
- Extensions isolated in separate libraries to simplify maintenance.



Schema extension points

New marketing based SCA library and its extension point

SCA Library having template



In this release, Schema Extension Points are provided for the BPM Telecom Pack. These extension points provide a static way of extending data types in core schemas. Templates are provided within the extension points that can be used as-is or in combination with other templates while extending a business object from the core schema. Using this method of extension, you can ensure that the customization made to the extension libraries do not impact the core libraries of the pack.

Summary and References

This section provides information about references that can be used to learn more about the BPM Telecom Pack V7.5.

Goals and Agenda

- Summary
 - Learned about different industry standards that are supported by BPM Telecom pack
 - Provided details of telecom-specific assets
 - Capability models
 - Process models
 - Service models
 - Common components
 - Business vocabulary
 - Business objects models
- References
 - Industry Packs Infocenter V7.5
 - <http://publib.boulder.ibm.com/infocenter/dmndhelp/v7r5mx/index.jsp?topic=/com.ibm.ws.wicp.icmaster.doc/ic-homepage.html>

In summary, you have learned about different standards that are supported by BPM Telecom Pack V7.5. You have also learned about different telecom-specific assets.



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