Tibco Fulfillment Orchestration Suite R

TM Forum Frameworx 17.0 Certification

Business Process Framework (eTOM) Release 17.0

Self-Assessment Process Mapping Report

Level 2 Processes in Scope – Service Domain

1.4.3 - Service Development & Retirement
1.4.4 - SM&O Support & Readiness
1.4.5 - Service Configuration & Activation

Version 1.0

January 3rd, 2018

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Guidelines

- For each Level 2 process in scope a Mapping Document should be created.
- In each Level 2 based document, the mapping team should provide mappings for each of the underlying Level 4 processes belonging to the Level 3 processes within the Level 2s in scope.
- If there are no Level 4 processes defined for a Level 3 process in scope for the assessment, the member should provide the mapping support against the Brief & Extended descriptions of the Level 3 process.
- Note that the descriptions should be the descriptions of the underlying Level 4 processes and specifically the description in the “Mandatory” field of the process.
- If the Level 4 process does not have a completed “Mandatory” field, then the “Extended Description” should be used. If there is no “Extended Description” available (sometimes this can happen), then the mappings should be provided against the “Brief Description”.
- This template provides the structure for the Self-Assessment Mapping Document taking into account the use of Level 4 processes to demonstrate mapping support and also Level 3 processes for the situations where a Level 3 process does not or cannot decompose further to a Level 4 process with Business Process Framework 17.0

1.4.3 Service Development & Retirement

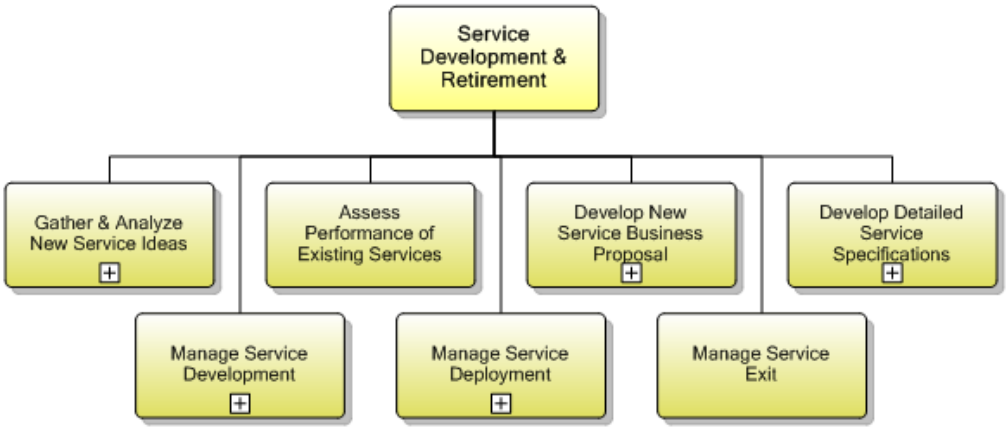

Figure 1 1.4.3 Service Development & Retirement decomposition

Process Identifier: 1.4.3

Brief Description
Develop and deliver new or enhanced service types.

Extended Description
Service Development & Retirement processes are project oriented in that they develop and deliver new or enhanced service types. These processes include process and procedure implementation, systems changes and customer documentation. They also undertake rollout and testing of the service type, capacity management and costing of the service type. It ensures the ability of the enterprise to deliver service types according to requirements.

Explanatory
Reserved for future use.

Mandatory
Reserved for future use.

Optional
Reserved for future use.

Interactions
Reserved for future use.

1.4.3.4 Develop Detailed Service Specifications

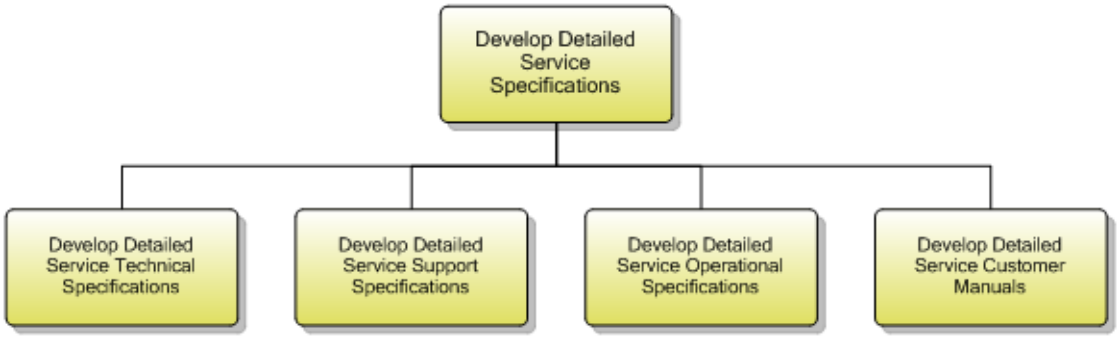

Figure 2 1.4.3.4 Develop Detailed Service Specifications decomposition

Process Identifier: 1.4.3.4

Brief Description
Develop and document the detailed service-related technical and operational specifications, and customer manuals.

Extended Description
The Develop Detailed Service Specifications processes develop and document the detailed service-related technical and operational specifications, and customer manuals. These processes develop and document the required service features, the specific underpinning resource requirements and selections, the specific operational, and quality requirements and support activities, any service specific data required for the systems and network infrastructure as agreed through the Develop New Service Business Proposal processes. The Develop Detailed Product Specifications processes provide input to these specifications. The processes ensure that all detailed specifications are produced and appropriately documented. Additionally the processes ensure that the documentation is captured in an appropriate enterprise repository.

Explanatory
Reserved for future use.

Mandatory
Reserved for future use.

Optional
Reserved for future use.

Interactions
Reserved for future use.

Develop Detailed Service Technical Specifications

Process Identifier: 1.4.3.4.1

Brief Description

These processes develop and document the required service features for the systems and network infrastructure as agreed through the Develop New Service Business Proposal processes. **AM**

The TIBCO Fulfillment Provisioning catalog is the placeholder to define all CFS and RFS specifications (called Product and Technical Product in FP) as well as the corresponding valid actions and associated processes which define the required resources and actions on them. The Fulfillment Provisioning catalog specification or documentation is directly used as the configuration of the generic catalog–driven runtime part of the application making documentation and development a similar activity.

FP Dev Guide: "TIBCO Fulfillment Provisioning Catalog Details - Object Model and Processing" / "Product Order Flows"

The processes ensure that all detailed specifications are produced and appropriately documented. **AM**

TIBCO Fulfillment Provisioning catalog provides control mechanisms to validate that entered data are correct validating that a Parameter value match valid values, range, mi, max or regular expression depending on Parameter type. Cyclical relationships and dependencies through rules are also detected. At last, creation or editing of any catalog concept is controlled and guided by specific web page assuring catalog consistency.

FP Dev Guide: "TIBCO Fulfillment Provisioning Catalog Details - Object Model and Processing" / "Technical Configuration" / "Catalog Configuration"

Additionally the processes ensure that the documentation is captured in an appropriate enterprise repository. **AM**

TIBCO Fulfillment Provisioning catalog acts as an enterprise repository which is responsible to the storage of all specifications on disk and permits the consultation and editing using a Web interface and user access control.

FP Dev Guide: "Configuring TIBCO Fulfillment Provisioning" / "User Administration"

Extended Description

Not used for this process element

Explanatory
Reserved for future use.

Mandatory
Reserved for future use.

Optional
Reserved for future use.

Interactions
Reserved for future use.

Develop Detailed Service Support Specifications

Process Identifier: 1.4.3.4.2

Brief Description
These processes develop and document the specific underpinning resource requirements and selections required for the systems and network infrastructure as agreed through the Develop New Service Business Proposal processes. **AM**

FP Dev Guide: "Object Model and Processing" / "Product Order Flows"

The processes ensure that all detailed specifications are produced and appropriately documented. **AM**

The RFS specification includes, for each valid action, a BPMN process (called Product Order Flow) consisting of a workflow of resource orders. This BMPN process documented in Eclipse application is also actionable is used by Fulfillment Provisioning to execute RFS orders. Similarly, a Resource order is defined by a BPMN process (called Work Order Flow) consisting of a workflow of resource commands.

FP Dev Guide: "Product Order Flows"

FS User's Guide: "Adding a Product Order Flow" / "Adding a Work Order Flow"

Additionally, the processes ensure that the documentation is captured in an appropriate enterprise repository. **A**

TIBCO Fulfillment Provisioning catalog acts as an enterprise repository which is responsible to the storage of all specifications on disk and permits the consultation and editing using a Web interface and user access control.

FP Dev Guide: "Configuring TIBCO Fulfillment Provisioning" / "User Administration"

Extended Description
Not used for this process element

Explanatory
Reserved for future use.

Mandatory
Reserved for future use.

Optional
Reserved for future use.

Interactions
Reserved for future use.

Develop Detailed Service Operational Specifications

Process Identifier: 1.4.3.4.3

Brief Description
These processes develop and document the specific operational, and quality requirements and support activities, and any service specific data required for the systems and network infrastructure required for the systems and network infrastructure as agreed through the Develop New Service Business Proposal processes. **AM**

TIBCO Fulfillment Provisioning provides support for this process by extending capability described for process "Develop Detailed Service Technical Specifications" with specific data. The catalog component permits to add any number of new parameters of any types to any RFS specification to handle service specific data.

FP Dev Guide: "Object Model and Processing" / "Product Order Flows"

The processes ensure that all detailed specifications are produced and appropriately documented. **AM**

The TIBCO Fulfillment Provisioning catalog provides control mechanisms to validate that entered data are correct validating that a Parameter value match valid values, range, mi, max or regular expression depending on Parameter type. Cyclical relationships and dependencies through rules are also detected. At last, creation or editing of any catalog concept is controlled and guided by specific web page assuring catalog consistency.

The TIBCO Fulfillment Provisioning catalog provides a testing capability that permits to validate that catalog specification is properly documented or configured by simulating service order execution and controlling that generated plan corresponds to expected result.

FP Dev Guide: "Object Model and Processing" / "Technical Configuration" / "Catalog Configuration"/ "Testing Fulfillment Provisioning Catalog Configuration"

Additionally, the processes ensure that the documentation is captured in an appropriate enterprise repository. **AM**

The TIBCO Fulfillment Provisioning catalog acts as an enterprise repository which is responsible of the storage of all specifications on disk and permits the consultation and editing using a Web interface and user access control.

FP Dev Guide: "Configuring TIBCO Fulfillment Provisioning" / "User Administration"

Extended Description
Not used for this process element

Explanatory
Reserved for future use.

Mandatory
Reserved for future use.

Optional
Reserved for future use.

Interactions
Reserved for future use.

Develop Detailed Service Customer Manuals

Process Identifier: 1.4.3.4.4

Brief Description
These processes develop and document the customer manuals as agreed through the Develop New Service Business Proposal processes. The processes ensure that all detailed specifications are produced and appropriately documented. Additionally, the processes ensure that the documentation is captured in an appropriate enterprise repository.

Extended Description
Not used for this process element

Explanatory
Reserved for future use.

Mandatory
Reserved for future use.

Optional
Reserved for future use.

Interactions
Reserved for future use.

1.4.3.5 Manage Service Development

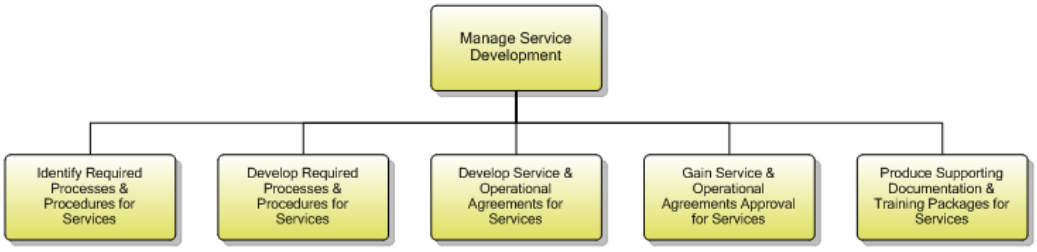

Figure 3 1.4.3.5 Manage Service Development decomposition

Process Identifier: 1.4.3.5

Brief Description
Ensure the co-coordinated development in line with the approved business case of all required new or enhanced service classes/components for that business case across the enterprise

Extended Description
The Manage Service Development processes ensure the co-coordinated development in line with the approved business case of all required new or enhanced service classes/components for that business case across the enterprise. These processes ensure that all operational processes and procedures, IT systems changes, network changes, channel changes, operational procedures, testing tools and procedures, etc.

required to support the new service class/component are identified and developed. These processes ensure that the necessary documentation and training packages are produced to support the operation of the new service class. These processes also ensure that the required service level agreements and operational level agreements to support the detailed service specifications are developed and agreed for each service class deployed, and that any party operational support has been identified and agreed. These processes have both program/project management aspects and technical/operational specification aspects, with the detailed management of individual service class deployment managed by the Manage Service Deployment processes.
As well as developing new service classes these processes manage upgrades or enhancements to existing service classes, as the need to review operational and other support is also relevant for upgrading existing classes/components.
Note that management of major new or enhanced infrastructure delivery to support service development is managed within the Service Capability Delivery process.

Explanatory
Reserved for future use.

Mandatory
Reserved for future use.

Optional
Reserved for future use.

Interactions
Reserved for future use.

Identify Required Processes & Procedures for Services

Process Identifier: 1.4.3.5.1

Brief Description
These processes ensure that all operational processes and procedures, IT systems changes, network changes, channel changes, operational procedures, testing tools and procedures, etc. required to support the new service class/component are identified.
AM

TIBCO Fulfillment Provisioning catalog provides support for these processes by maintaining and identifying complete set of actionable specifications required for the successful execution of fulfillment activities on services including service specification, processes involving resources and fulfillment rules.

FP Dev Guide: “Object Model and Processing” / “Product Order Flows”

FS User’s Guide: “Adding a Product Order Flow”/ “Adding a Work Order Flow”

Extended Description
Not used for this process element

Explanatory
Reserved for future use.

Mandatory
Reserved for future use.

Optional
Reserved for future use.

Interactions
Reserved for future use.

Develop Required Processes & Procedures for Services

Process Identifier: 1.4.3.5.2

Brief Description
These processes ensure that all operational processes and procedures, IT systems changes, network changes, channel changes, operational procedures, testing tools and procedures, etc. required to support the new service class/component are developed.
AM

The TIBCO Fulfillment Provisioning catalog provides support for these processes by providing the infrastructure to develop complete set of actionable specifications required for the successful execution of fulfillment activities on services including services specification, processes involving resources and fulfillment rules.

FP Dev Guide: “Object Model and Processing”/ “Product Order Flows”

FS User’s Guide: “Adding a Product Order Flow”/ “Adding a Work Order Flow”

Extended Description
Not used for this process element

Explanatory
These processes ensure the co-coordinated development in line with the approved business case of all required new or enhanced service classes/components for that

business case across the enterprise. These processes have both program/project management aspects and technical/operational specification aspects, with the detailed management of individual service class deployment managed by the Manage Service Deployment processes.
As well as developing new service classes these processes manage upgrades or enhancements to existing service classes, as the need to review operational and other support is also relevant for upgrading existing classes/components.
Note that management of major new or enhanced infrastructure delivery to support service development is managed within the Service Capability Delivery process.

Mandatory
Reserved for future use.

Optional
Reserved for future use.

Interactions
Reserved for future use.

Develop Service & Operational Agreements for Services

Process Identifier: 1.4.3.5.3

Brief Description
These processes ensure that the required service level agreements and operational level agreements are developed and agreed for each resource class deployed, and that any party operational support has been identified.

Extended Description
Not used for this process element

Explanatory
Reserved for future use.

Mandatory
Reserved for future use.

Optional
Reserved for future use.

Interactions
Reserved for future use.

Gain Service & Operational Agreements Approval for Services

Process Identifier: 1.4.3.5.4

Brief Description
These processes ensure that the required service level agreements and operational level agreements are agreed for each service class deployed, and that any party operational support has been agreed.

Extended Description
Not used for this process element

Explanatory
Reserved for future use.

Mandatory
Reserved for future use.

Optional
Reserved for future use.

Interactions
Reserved for future use.

Produce Supporting Documentation & Training Packages for Services

Process Identifier: 1.4.3.5.5

Brief Description
These processes ensure that the necessary documentation and training packages are produced to support the operation of the new service class.

Extended Description
Not used for this process element

Explanatory
Reserved for future use.

Mandatory
Reserved for future use.

Optional
Reserved for future use.

Interactions
Reserved for future use.

1.4.3.6 Manage Service Deployment

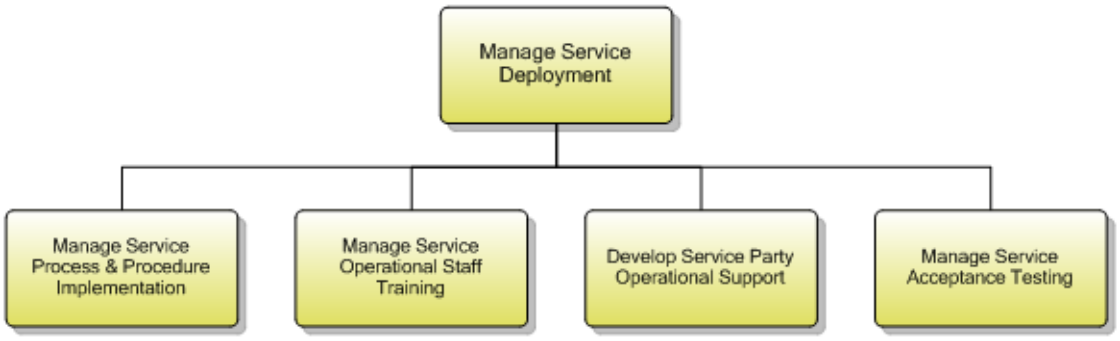

Figure 4 1.4.3.6 Manage Service Deployment decomposition

Process Identifier: 1.4.3.6

Brief Description
Ensure the co-coordinated deployment in line with the approved business case of all required service classes/components for that business case across the enterprise.

Extended Description
The Manage Service Deployment processes ensure the co-coordinated deployment in line with the approved business case of all required service classes/components for that business case across the enterprise. These processes ensure that all operational processes and procedures, IT systems changes, network changes, channel changes, operational procedures, testing tools and procedures, etc. required to support the new service class/component have been implemented. These processes ensure that appropriate operational staff are identified and have received the necessary training. These processes ensure that the agreed party operational support has been implemented. These processes also ensure that acceptance testing is successfully performed to assure that the new or enhanced services comply with the specifications. These processes have both program/project and management aspects.

Explanatory
Reserved for future use.

Mandatory
Reserved for future use.

Optional
Reserved for future use.

Interactions
Reserved for future use.

Manage Service Process & Procedure Implementation

Process Identifier: 1.4.3.6.1

Brief Description
These processes ensure that all operational processes and procedures, IT systems changes, network changes, channel changes, operational procedures, testing tools and procedures, etc. required to support the new service class/component have been implemented.

Extended Description
Not used for this process element

Explanatory
Reserved for future use.

Mandatory
Reserved for future use.

Optional
Reserved for future use.

Interactions
Reserved for future use.

Manage Service Operational Staff Training

Process Identifier: 1.4.3.6.2

Brief Description
These processes ensure that appropriate operational staff are identified and have received the necessary training.

Extended Description
Not used for this process element

Explanatory
Reserved for future use.

Mandatory
Reserved for future use.

Optional
Reserved for future use.

Interactions
Reserved for future use.

Develop Service Party Operational Support

Process Identifier: 1.4.3.6.3

Brief Description
These processes ensure that the agreed party operational support has been implemented.

Extended Description
Not used for this process element

Explanatory
Reserved for future use.

Mandatory
Reserved for future use.

Optional
Reserved for future use.

Interactions
Reserved for future use.

Manage Service Acceptance Testing

Process Identifier: 1.4.3.6.4

Brief Description

These processes ensure that acceptance testing is successfully performed to assure that the new or enhanced services comply with the specifications. **AM**

TIBCO Fulfillment Provisioning provides support for these processes by offering a testing framework.

FP Dev Guide: "Provtest"

Extended Description

Not used for this process element

Explanatory

Reserved for future use.

Mandatory

Reserved for future use.

Optional

Reserved for future use.

Interactions

Reserved for future use.

1.4.3.7 Manage Service Exit

Process Identifier: 1.4.3.7

Brief Description

Identify existing service which are unviable and manage the processes to exit the Service Class from the market. **AM**

TIBCO Fulfillment Provisioning permits to model specific action (called verb in FP) and associate processes (called product Order Flow in FP) on services that can handle service migration or specific exit.

FP Dev Guide: "TIBCO Fulfillment Provisioning Catalog Details – Object Model and Processing" / "Product Order Flows"

FS User's Guide: "Adding a Product Order" / "Adding a Work Order Flow"

Extended Description

The Manage Service Exit processes identify existing service classes which are unviable and manage the process to exit the Service from the products they support. The processes analyze existing service classes to identify economically or strategically unviable classes, identify products & customers impacted by any exit, develop product & customer specific exit or migration strategies, develop service infrastructure transition and/or replacement strategies, and manage the operational aspects of the exit process. A business proposal identifying the competitive threats, risks and costs may be required as a part of developing the exit strategy. These processes include any cross-enterprise co-ordination and management functions to ensure that the needs of all stakeholders are identified and managed.

Explanatory
Reserved for future use.

Mandatory
Reserved for future use.

Optional
Reserved for future use.

Interactions
Reserved for future use.

1.4.4 SM&O Support & Readiness

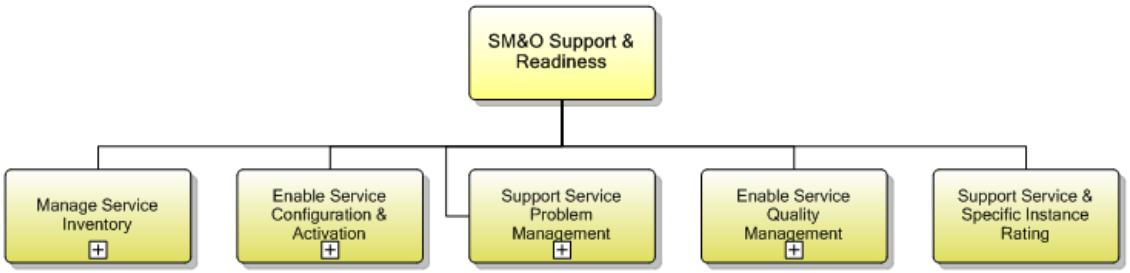

Figure 5 1.4.4 SM&O Support & Readiness decomposition

Process Identifier: 1.4.4

Brief Description
Manage service infrastructure, ensuring that the appropriate service capacity is available and ready to support the SM&O Fulfillment, Assurance and Billing processes

Extended Description
SM&O Support & Readiness processes manage service infrastructure, ensuring that the appropriate service capacity is available and ready to support the SM&O Fulfillment, Assurance and Billing processes in instantiating and managing service instances, and for monitoring and reporting on the capabilities and costs of the individual SM&O FAB processes.
The responsibilities of these processes include, but are not limited to:

- Supporting the operational introduction of new and/or modified service infrastructure;
- Managing and ensuring the ongoing quality of the Service Inventory;
- Applying service capacity rules from Infrastructure Lifecycle Management processes;
- Analyzing availability and quality over time on service infrastructure and service instances, including trend analysis and forecasting;
- Ensuring the operational capability of the SM&O processes
- Maintaining rating and tariff information for service infrastructure and service instances.
- Conducting Vulnerability Management;
- Conducting Threat Assessments;
- Conducting Risk Assessments;
- Conducting Risk Mitigation;
- Conducting Secure Configuration Activities

Explanatory

Reserved for future use.

Mandatory

Reserved for future use.

Optional

Reserved for future use.

Interactions

Reserved for future use.

1.4.4.1 Manage Service Inventory

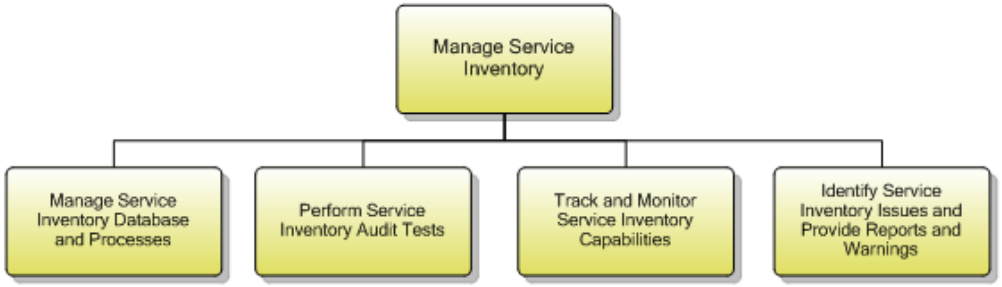

Figure 6 1.4.4.1 Manage Service Inventory decomposition

Process Identifier: 1.4.4.1

Brief Description

Establish, manage and administer the enterprise's service inventory, as embodied in the Service Inventory Database, and monitor and report on the usage and access to the service inventory, and the quality of the data maintained in it. **AM**

TIBCO Fulfillment Subscriber Inventory stores product, service, or other tangible or intangible entities that have been ordered by a party, and are present as components of that party's image to determine what is available. Although FSI, does not implement the complete behavior, TIBCO Fulfillment Orchestration Suite permits to implement the process and interaction(s) with an external resource inventory. Fulfillment Orchestration Suite does not implement the complete behavior but permits to implement the process and interaction(s) with external resource inventory.

This process can be modeled, in Fulfillment Provisioning, as a separate action for RFS specifications or RFS order specification (called Technical Product Order in FP) which can be invoked through service orders by north bound systems including Fulfillment Order Management. The process will implement the actions required to reserve specific resources for a RFS order.

Designers model graphically processes in Fulfillment Studio as a workflow of actions on resource type (called Work Order in FP) per RFS order specification. A type of resource can be anything ranging for resource inventory to access network elements or service platforms. The instance of the resource type such as a specific HLR from a specific vendor is resolved during routing. The transitions between actions on resource types can be conditional and permit to execute certain branches based on order input data or previously executed step.

Moreover a RFS order specification can be linked to other RFS order specifications through rules in Fulfillment provisioning catalog. Rules (such as Append and Prepend) can permit to add pre-requisite RFS orders that satisfies conditions. These conditions are based on order input data.

This RFS order specification can be associated to a dedicated CFS order specification and possibly to other CFS order specifications so that it can be instantiated and executed at the beginning of the resource implementation or activation processes as a pre-requisite which will make the service order fail in case of unavailability.

FSI User's Guide: "Data Managed by Inventory"

FP Dev Guide: "TIBCO Fulfillment Provisioning Catalog Details - Object Model and Processing" / "TIBCO Fulfillment Provisioning Catalog Details - Defining Verbs" / "Product Order Flows"

Extended Description
The responsibilities of the Manage Service Inventory processes are twofold - establish, manage and administer the enterprise's service inventory, as embodied in the Service Inventory Database, and monitor and report on the usage and access to the service inventory, and the quality of the data maintained in it.
The service inventory maintains records of all service infrastructure and service instance configuration, version, and status details. It also records test and performance results and any other service related- information, required to support SM&O and other processes.
The service inventory is also responsible for maintaining the association between customer purchased product offering instances and service instances, created as a result of the Service Configuration & Activation processes.
Responsibilities of these processes include, but are not limited to:
• Identifying the inventory-relevant information requirements to be captured for service infrastructure and service instances ;
• Identifying, establishing and maintaining service inventory repository facilities;
• Establishing and managing the service inventory management and information capture processes;
• Managing the registration and access control processes that enable processes to create, modify, update, delete and/or download service data to and from the service inventory;
• Ensuring the service inventory repository accurately captures and records all identified service infrastructure and service instance details, through use of automated or manual audits;
• Tracking and monitoring of the usage of, and access to, the service inventory repository and associated costs, and reporting on the findings

• Identifying any technical driven shortcomings of the service inventory repository, and providing input to Resource Development & Management processes to rectify these issues.

Explanatory
Reserved for future use.

Mandatory
Reserved for future use.

Optional
Reserved for future use.

Interactions
Reserved for future use.

Manage Service Inventory Database and Processes

Process Identifier: 1.4.4.1.1

Brief Description
Establishing, managing and administering the enterprise's service inventory, **AM**

TIBCO Fulfillment Subscriber Inventory stores product, service, or other tangible or intangible entities that have been ordered by a party, and are present as components of that party's image to determine what is available. Although FSI, does not implement the complete behavior, TIBCO Fulfillment Orchestration Suite permits to implement the process and interaction(s) with an external resource inventory.

Fulfillment Orchestration Suite does not implement the complete behavior but permits to implement the process and interaction(s) with external resource inventory. This process can be modeled, in Fulfillment Provisioning, as a separate action for RFS specifications or RFS order specification (called Technical Product Order in FP) which can be invoked through service orders by north bound systems including Fulfillment Order Management. The process will implement the actions required to reserve specific resources for a RFS order.

Designers model graphically processes in Fulfillment Studio as a workflow of actions on resource type (called Work Order in FP) per RFS order specification. A type of resource can be anything ranging for resource inventory to access network elements or service platforms. The instance of the resource type such as a specific HLR from a specific vendor is resolved during routing. The transitions between actions on resource types can be

conditional and permit to execute certain branches based on order input data or previously executed step.

Moreover, a RFS order specification can be linked to other RFS order specifications through rules in Fulfillment provisioning catalog. Rules (such as Append and Prepend) can permit to add pre-requisite RFS orders that satisfies conditions. These conditions are based on order input data.

This RFS order specification can be associated to a dedicated CFS order specification and possibly to other CFS order specifications so that it can be instantiated and executed at the beginning of the resource implementation or activation processes as a pre-requisite which will make the service order fail in case of unavailability.

FSI User's Guide: "Data Managed by Inventory"

FP Dev Guide: "TIBCO Fulfillment Provisioning Catalog Details - Object Model and Processing" / "TIBCO Fulfillment Provisioning Catalog Details - Defining Verbs" / "Product Order Flows"

Extended Description
• Identifying the inventory-relevant information requirements to be captured for service infrastructure and service instances;
• Identifying, establishing and maintaining service inventory repository facilities;
• Establishing and managing the service inventory management and information capture processes;
• Managing the registration and access control processes that enable processes to create, modify, update, delete and/or download service data to and from the service inventory

Explanatory
Reserved for future use.

Mandatory
Reserved for future use.

Optional
Reserved for future use.

Interactions
Reserved for future use.

Perform Service Inventory Audit Tests

Process Identifier: 1.4.4.1.2

Brief Description

Performing audit if inventory repository accurately captures and records all identified service infrastructure and service instance details **AM**

Fulfillment Orchestration Suite does not implement the complete behavior but permits to implement the process and interaction(s) with external resource inventory. This process can be modeled, in Fulfillment Provisioning, as a separate action for RFS specifications or RFS order specification (called Technical Product Order in FP) which can be invoked through service orders by north bound systems including Fulfillment Order Management.

Designers model graphically processes in Fulfillment Studio as a workflow of actions on resource type (called Work Order in FP) per RFS order specification. A type of resource can be anything ranging for resource inventory to access network elements or service platforms. The instance of the resource type such as a specific HLR from a specific vendor is resolved during routing. The transitions between actions on resource types can be conditional and permit to execute certain branches based on order input data or previously executed step.

Moreover a RFS order specification can be linked to other RFS order specifications through rules in Fulfillment provisioning catalog. Rules (such as Append and Prepend) can permit to add pre-requisite RFS orders that satisfies conditions. These conditions are based on order input data.

This RFS order specification can be associated to a dedicated CFS order specification and possibly to other CFS order specifications so that it can be instantiated and executed at the beginning of the resource implementation or activation processes as a pre-requisite which will make the service order fail in case of unavailability.

FP Dev Guide: "TIBCO Fulfillment Provisioning Catalog Details - Object Model and Processing" / "TIBCO Fulfillment Provisioning Catalog Details - Defining Verbs" / "Product Order Flows"

Extended Description

• Ensuring the service inventory repository accurately captures and records all identified service infrastructure and service instance details, through use of automated or manual audits;

Explanatory

Reserved for future use.

Mandatory

Reserved for future use.

Optional
Reserved for future use.

Interactions
Reserved for future use.

Track and Monitor Service Inventory Capabilities

Process Identifier: 1.4.4.1.3

Brief Description
Monitoring and reporting on the usage and access to the service inventory, and the quality of the data maintained in it. **AM**

Fulfillment Orchestration Suite does not implement the complete behavior but permits to implement the process and interaction(s) with external resource inventory. This process can be modeled, in Fulfillment Provisioning, as a separate action for RFS specifications or RFS order specification (called Technical Product Order in FP) which can be invoked through service orders by north bound systems including Fulfillment Order Management.

FP Dev Guide: "TIBCO Fulfillment Provisioning Catalog Details - Object Model and Processing" / "TIBCO Fulfillment Provisioning Catalog Details - Defining Verbs" / "Product Order Flows"

Extended Description
• Tracking and monitoring of the usage of, and access to, the service inventory repository and associated costs, and reporting on the findings;

Explanatory
Reserved for future use.

Mandatory
Reserved for future use.

Optional
Reserved for future use.

Interactions
Reserved for future use.

Identify Service Inventory Issues and Provide Reports and Warnings

Process Identifier: 1.4.4.1.4

Brief Description
Managing and Identifying any service Inventory Repository issues and providing warnings. **AM**

Fulfillment Orchestration Suite does not implement the complete behavior but permits to implement the process and interaction(s) with external resource inventory. This process can be modeled, in Fulfillment Provisioning, as a separate action for RFS specifications or RFS order specification (called Technical Product Order in FP) which can be invoked through service orders by north bound systems including Fulfillment Order Management.

FP Dev Guide: "TIBCO Fulfillment Provisioning Catalog Details - Object Model and Processing" / "TIBCO Fulfillment Provisioning Catalog Details - Defining Verbs" / "Product Order Flows"

Extended Description
• Identifying any technical driven shortcomings of the service inventory repository, and providing input to Service Development & Management processes to rectify these issues.

Explanatory
Reserved for future use.

Mandatory
Reserved for future use.

Optional
Reserved for future use.

Interactions
Reserved for future use.

1.4.5 Service Configuration & Activation

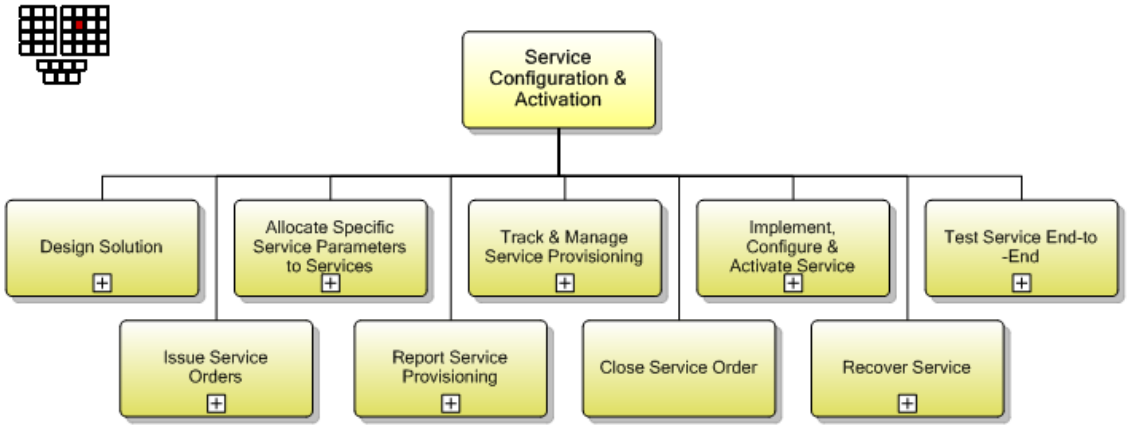

Figure 7 1.4.5 Service Configuration & Activation decomposition

Process Identifier: 1.4.5

Brief Description

Allocation, implementation, configuration, activation and testing of specific services to meet customer requirements.

Extended Description

Service Configuration & Activation processes encompass allocation, implementation, configuration, activation and testing of specific services to meet customer requirements, or in response to requests from other processes to alleviate specific service capacity shortfalls, availability concerns or failure conditions. Where included in the service provider offering, these processes extend to cover customer premises equipment. Responsibilities of the Service Configuration & Activation processes include, but are not limited to:

• Verifying whether specific service designs sought by customers are feasible as part of pre-order feasibility checks;
• Allocating the appropriate specific service parameters to support service orders or requests from other processes;
• Reserving specific service parameters (if required by the business rules) for a given period of time until the initiating customer order is confirmed, or until the reservation period expires (if applicable);
• Implementing, configuring and activating specific services, as appropriate;
• Testing the specific services to ensure the service is working correctly;
• Recovery of specific services;
• Updating of the Service Inventory Database to reflect that the specific service has

been allocated, modified or recovered;
• Assigning and tracking service provisioning activities;
• Managing service provisioning jeopardy conditions
• Reporting progress on service orders to other processes.

Explanatory
Reserved for future use.

Mandatory
Reserved for future use.

Optional
Reserved for future use.

Interactions
Reserved for future use.

1.4.5.1 Design Solution

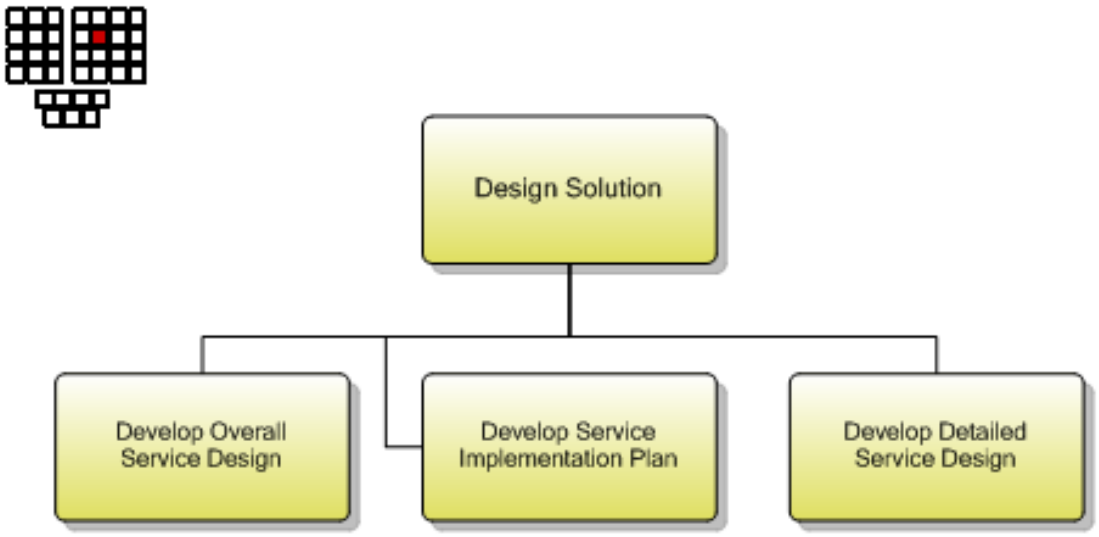

Figure 8 1.4.5.1 Design Solution decomposition

Process Identifier: 1.4.5.1

Brief Description
Develop an end-end specific service design which complies with a particular customer's requirement

Extended Description
The purpose of the Design Solution processes is to develop an end-end specific service design which complies with a particular customer's requirement.
These processes are invoked when a customer order requires special or unusual end-end service arrangements, which are not able to be satisfied using standard service arrangements. These processes may be invoked as part of a service feasibility assessment, or as a result of a confirmed customer order.
The responsibilities of these processes include, but are not limited to:
•Developing an overall service solution design for a particular customer, including customer premises equipment, operational methods, resource assignments and pre-order feasibility;
•Developing an implementation plan considering training and operational support measures and needs, such as the proper parameter information for the Service Quality Management process;
•Consideration of current and future service and underlying resources infrastructure, as

well as expected solution results, budget, duration and risks;
•Consideration of the time schedule according with customer requirements;
•Ensure service and provisioning efficiency;
•Undertaking a business assessment, ensuring an appropriate time-to-revenue as a result of the service and underlying resource investment
•Developing a detailed design identifying the relevant service orders to be issued to the Implement,
Configure & Activate Service process and the Allocate Specific Service Parameters to Services processes.
A specific service design may require inclusion of some or all of the above aspects depending on whether the service design is being undertaken as part of a feasibility assessment, or is being developed as a result of a committed customer order.
These processes invoke requests to Resource Domain provisioning processes to determine the availability of suitable specific resources, or parties though the Service Domain process in the event that the service design requires either the inclusion of outsourced or partner provided specific services.

Explanatory
Reserved for future use.

Mandatory
Reserved for future use.

Optional
Reserved for future use.

Interactions
Reserved for future use.

Develop Overall Service Design

Process Identifier: 1.4.5.1.1

Brief Description
Develop an overall service solution design for a particular customer, including customer premises equipment, operational methods, resource assignments and pre-order feasibility; **AM**

Fulfillment Provisioning includes a catalog component that allows designers of the solution to create new services by creating new specifications for CFS and RFS and re-use existing specifications for RFSs. Designers can create new services entirely from scratch

or through re-use of existing building blocks. Designers can also create new action for existing specifications of CFS and RFS to model new processes for existing services.

Services are defined in Fulfillment Provisioning catalog component as CFS (called Product in FP) and RFS (called Technical Product in FP) specifications. Each CFS specification is associated with one or many RFS specifications. Each association can be made conditional based on order parameter. Arbitrary actions can be defined and associated to CFS and RFS specifications. The CFS to RFS specification composition is used during order plan generation to derive an action for a CFS to an action on a set of RFS. The instantiation of an action on a RFS specification is a RFS order. If decomposition is more complex, it is possible to define specifically how an action on a CFS specification (called Product Order in FP) shall be decomposed into. In that case, designer selects target RFS specifications and action for each RFS specification (called Technical Product Order in FP). This permits to handle not standard cases.

Moreover, rules can be defined between actions on RFS specifications such as sequencing so that resulting RFS orders can be assembled into a workflow with order dependencies. Other rules permits to add new specific RFS orders required for the execution of RFS orders in the plan or remove RFS orders in the plan which implementation is made obsolete by other RFS orders in the plan.

Designers create the processes of resource orders (called ProductOrderFlow in FP) that implement each action for RFS specification which can conduct a pre-order feasibility check, reserve resources and prepare service inventory, implement, configure and activate any resources including customer premises equipment, commit resources in network inventory and update service inventories

Designers can also create new cartridges if new network elements are introduced in the network with associated routing rules. Cartridges to existing network elements can be extended to support new actions and model associated implementation process (called WorkOrderFlow in FP).

FP Dev Guide: “Object Model and Processing” / “Product Order Flows” / “Cartridge Network Element Configuration”

Extended Description
Not used for this process element

Explanatory
Not used for this process element

Mandatory
Develop an overall service solution design for a particular customer, including customer premises equipment, operational methods, resource assignments and pre-order feasibility; **AM**

See Brief Description

Optional
Not used for this process element

Interactions
Not used for this process element

Develop Service Implementation Plan

Process Identifier: 1.4.5.1.2

Brief Description
Develop an implementation plan considering training and operational support measures and needs, such as the proper parameter information for the Service Quality Management process.

• Consideration of current and future service and underlying resources infrastructure, as well as expected solution results, budget, duration and risks;
• Consideration of the time schedule according with customer requirements;
• Ensure service and provisioning efficiency;
• Undertaking a business assessment, ensuring an appropriate time-to-revenue as a result of the service and underlying resource investment;

Extended Description
Not used for this process element

Explanatory
Consideration of current and future service and underlying resources infrastructure, as well as expected solution results, budget, duration and risks;
· Consideration of the time schedule according with customer requirements;
· Ensure service and provisioning efficiency;

· Undertaking a business assessment, ensuring an appropriate time-to-revenue as a result of the service and underlying resource investment;

Mandatory

Develop an implementation plan considering training and operational support measures and needs, such as the proper parameter information for the Service Quality Management process;

Optional

Not used for this process element

Interactions

Not used for this process element

Develop Detailed Service Design

Process Identifier: 1.4.5.1.3

Brief Description

Develop a detailed design identifying the relevant service orders to be issued to the Implement, Configure & Activate Service process and the Allocate Specific Service Parameters to Services processes. **AM**

Fulfillment Provisioning includes a catalog component that allows designers of the solution to create new services by creating new specifications for CFS and RFS and re-use existing specifications for RFSs. Designers can create new services entirely from scratch or through re-use of existing building blocks. Designers can also create new action for existing specifications of CFS and RFS to model new processes for existing services.

Services are defined in Fulfillment Provisioning catalog component as CFS (called Product in FP) and RFS (called Technical Product in FP) specifications. Each CFS specification is associated with one or many RFS specifications. Each association can be made conditional based on order parameter. Arbitrary actions can be defined and associated to CFS and RFS specifications. The CFS to RFS specification composition is used during order plan generation to derive an action for a CFS to an action on a set of RFS. The instantiation of an action on a RFS specification is a RFS order. If decomposition is more complex, it is possible to define specifically how an action on a CFS specification (called Product Order in FP) shall be decomposed into. In that case, designer selects target RFS specifications and action for each RFS specification (called Technical Product Order in FP). This permits to handle not standard cases.

Moreover, rules can be defined between actions on RFS specifications such as sequencing so that resulting RFS orders can be assembled into a workflow with order dependencies. Other rules permits to add new specific RFS orders required for the execution of RFS orders in the plan or remove RFS orders in the plan which implementation is made obsolete by other RFS orders in the plan.

Designers creates the processes of resource orders (called ProductOrderFlow in FP) that implement each action for RFS specification which can conduct a pre-order feasibility check, reserve resources and prepare service inventory, implement, configure and activate any resources including customer premises equipment, commit resources in network inventory and update service inventories…

Designers can also create new cartridges if new network elements are introduced in the network with associated routing rules. Cartridges to existing network elements can be extended to support new actions and model associated implementation process (called WorkOrderFlow in FP).

FP Dev Guide: "Object Model and Processing" / "Product Order Flows" / "Cartridge Network Element Configuration"

Extended Description
Not used for this process element

Explanatory
Not used for this process element

Mandatory
Develop a detailed design identifying the relevant service orders to be issued to the Implement, Configure & Activate Service process and the Allocate Specific Service Parameters to Services processes. **AM**

See Brief Description

Optional
Not used for this process element

Interactions
Not used for this process element

1.4.5.2 Allocate Specific Service Parameters to Services

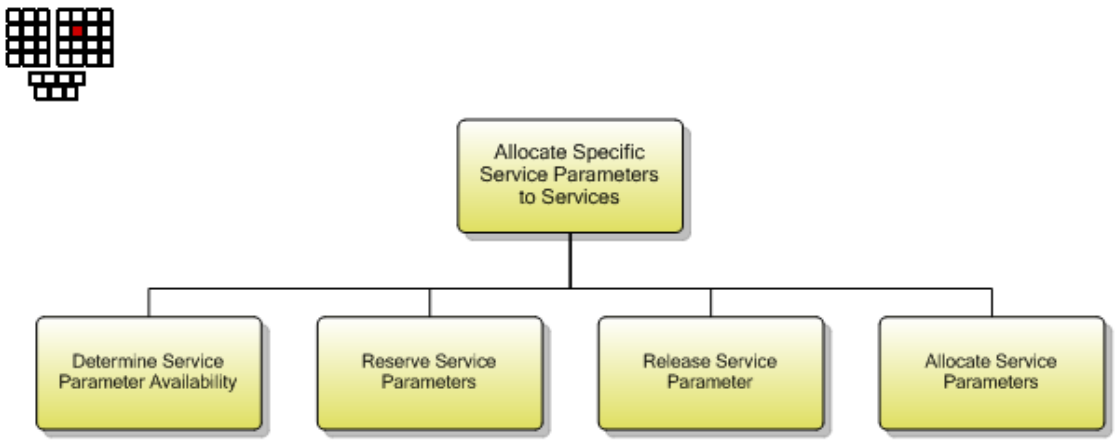

Figure 9 1.4.5.2 Allocate Specific Service Parameters to Services decomposition

Process Identifier: 1.4.5.2

Brief Description
Issue service identifiers for new services.

Extended Description
The purpose of the Allocate Specific Service Parameters to Services processes is to issue service identifiers for new services.
Where the Allocate Specific Service Parameters to Services processes are requested by a pre-feasibility service order, or by the Design Services processes, these processes determine whether the requested service parameters are available. Depending on business rules, and on any specific levels of commitment contained in the initiating service order or service design request, these processes may reserve specific service parameters linked to the initiating service order or service design request for a period of time, and releasing them when the time period has expired. These processes are responsible for creating a response to the initiating processes with respect to the feasibility assessment.
Where the Allocate Specific Service Parameters to Services processes are requested by a service order issued in response to a confirmed customer order, these processes are responsible for allocating the specific service parameters required to satisfy the initiating service order. Any previously reserved specific service parameters are marked as allocated.

Explanatory
Reserved for future use.

Mandatory
Reserved for future use.

Optional
Reserved for future use.

Interactions
Reserved for future use.

Determine Service Parameter Availability

Process Identifier: 1.4.5.2.1

Brief Description
Where the Allocate Specific Service Parameters to Services processes are requested by a pre-feasibility service order, or by the Design Services processes, these processes determine whether the requested service parameters are available. **AM**

TIBCO Fulfillment Orchestration Suite does not implement the complete behavior but permits to implement the process and interaction(s) with external network and service inventory.

This process can be modeled, in Fulfillment Provisioning, as a separate action for CFS specifications or CFS order specification (called Product Order in FP) which can be invoked through service orders by north bound systems including Fulfillment Order Management. The process implementing the steps required to determine the service parameter availability will be modeled and attached to corresponding RFS order specification (called Technical Product Order in FP).

This RFS order specification can be invoked also by other CFS order specifications and could be executed at the beginning of the service configuration, implementation or activation processes as a pre-requisite which will make the service order fail in case of unavailability.

FP Dev Guide: "Defining Verbs" / "Product Order Flows"

Extended Description
Not used for this process element

Explanatory
Where the Allocate Specific Service Parameters to Services processes are requested by a pre-feasibility service order, or by the Design Services processes,

Mandatory
these processes determine whether the requested service parameters are available. **AM**

Optional
Not used for this process element

Interactions
Not used for this process element

Reserve Service Parameters

Process Identifier: 1.4.5.2.2

Brief Description
Depending on business rules, and on any specific levels of commitment contained in the initiating service order or service design request, these processes may reserve specific service parameters linked to the initiating service order or service design request for a period of time. **AM**

TIBCO Fulfillment Orchestration Suite does not implement the complete behavior but permits to implement the process and interaction(s) with external network and service inventory.

This process can be modeled, in Fulfillment Provisioning, as a separate action for CFS specifications or CFS order specification (called Product Order in FP) which can be invoked through service orders by north bound systems including Fulfillment Order Management. The process implementing the steps required to reserve service parameters will be modeled and attached to corresponding RFS order specification (called Technical Product Order in FP).

This RFS order specification can be invoked also by other CFS order specifications and could be executed after service parameter availability (if part of the process) and before the service configuration, implementation and activation process as a pre-requisite which will make the service order fail in case of reserve failure. It must be noted that a recovery of the service order will entail the recovery of the reservation.

FP Dev Guide: "Defining Verbs" / "Product Order Flows"

Extended Description
Not used for this process element

Explanatory
Depending on business rules, and on any specific levels of commitment contained in the initiating service order or service design request,

Mandatory
these processes may reserve specific service parameters linked to the initiating service order or service design request for a period of time. **AM**

Optional
Not used for this process element

Interactions
Not used for this process element

Release Service Parameter

Process Identifier: 1.4.5.2.3

Brief Description
Release the reservation when the time period has expired. **AM**

TIBCO Fulfillment Orchestration Suite does not implement the complete behavior but permits to implement the process and interaction(s) with external network and service inventory.

Fulfillment Provisioning does not manage the reservation through a time period but through a reserve, commit or abort approach. The reservation of service parameter is defined by a RFS order specification and implemented by its attached process. It can be released by the rollback process which will be called during service order recovery.

FP User's Guide: "Service-order level rollback"

FP Dev Guide: "Product Order Flows"

Extended Description
Not used for this process element

Explanatory
Not used for this process element

Mandatory

Release the reservation when the time period has expired. **AM**

Optional

Not used for this process element

Interactions

Not used for this process element

Allocate Service Parameters

Process Identifier: 1.4.5.2.4

Brief Description

Where the Allocate Specific Service Parameters to Services processes are requested by a service order issued in response to a confirmed customer order, this process is responsible for allocating the specific service parameters required to satisfy the initiating service order. Any previously reserved specific service parameters are marked as allocated. **AM**

TIBCO Fulfillment Orchestration Suite does not provide a resource and service inventory and so does not implement the complete behavior but permits to implement the process and interaction(s) with external network and service inventory.

This process can be modeled, in Fulfillment Provisioning, as a separate action for CFS specifications or CFS order specification (called Product Order in FP) which can be invoked through service orders by north bound systems including Fulfillment Order Management. The process implementing the steps required to allocate service parameters will be modeled and attached to corresponding RFS order specification (called Technical Product Order in FP).

This RFS order specification can be invoked also by other CFS order specifications and could be executed after service parameter reservation (if part of the process) and before the service configuration, implementation and activation process as a pre-requisite which will make the service order fail in case of reserve failure.

FP Dev Guide: “Defining Verbs” / “Product Order Flows”

Extended Description

Not used for this process element

Explanatory
Where the Allocate Specific Service Parameters to Services processes are requested by a service order issued in response to a confirmed customer order,

Mandatory
this process is responsible for allocating the specific service parameters required to satisfy the initiating service order. Any previously reserved specific service parameters are marked as allocated. **AM**

Optional
Not used for this process element

Interactions
Not used for this process element

1.4.5.3 Track & Manage Service Provisioning

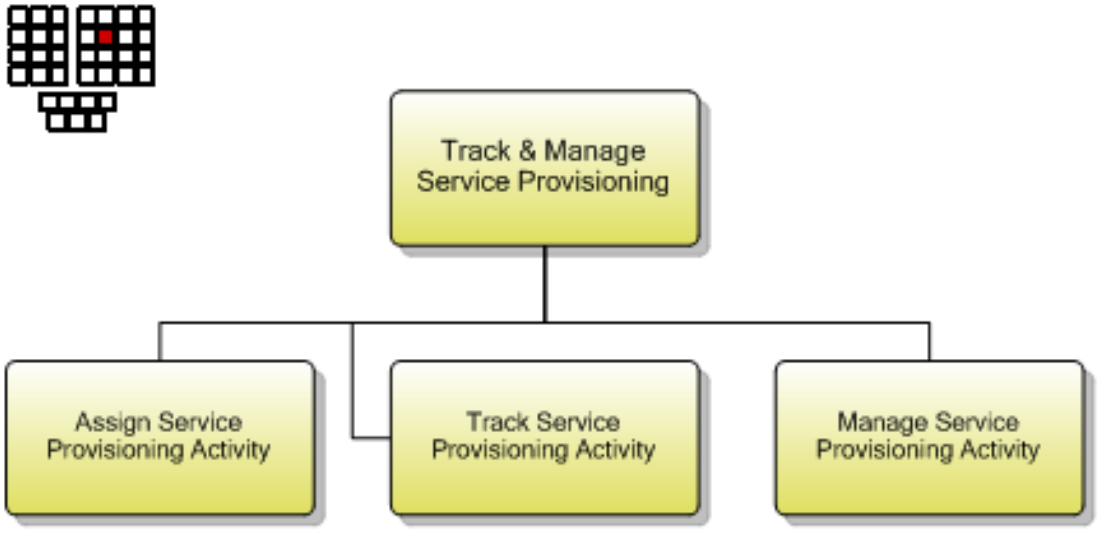

Figure 10 1.4.5.3 Track & Manage Service Provisioning decomposition

Process Identifier: 1.4.5.3

Brief Description
Ensure service provisioning activities are assigned, managed and tracked efficiently.

Extended Description
The objective of the Track & Manage Service Provisioning processes is to ensure service provisioning activities are assigned, managed and tracked efficiently.
Responsibilities of these processes include, but are not limited to:

• Scheduling, assigning and coordinating service provisioning related activities;
• Generating the respective resource order creation request(s) to Issue Resource Orders based on specific service orders;
• Escalating status of service orders in accordance with local policy; • Undertaking necessary tracking of the execution process;
• Adding additional information to an existing service order;
• Modifying information in an existing service order;
• Modifying the service order status;
• Canceling a service order when the initiating customer order is cancelled;
• Monitoring the jeopardy status of service orders, and escalating service orders as necessary
• Indicating completion of a service order by modifying the service order status.

Note that some specific service components may be delivered by other parties. In these cases the Track & Manage Service Provisioning process is responsible for initiating requests, through Party Order handling for the delivery by the party of the specific service components.

Explanatory
Reserved for future use.

Mandatory
Reserved for future use.

Optional
Reserved for future use.

Interactions
Reserved for future use.

Assign Service Provisioning Activity

Process Identifier: 1.4.5.3.1

Brief Description

Schedule, assign and coordinate service provisioning related activities. **A**

TIBCO Fulfillment Provisioning (FP) receives service orders through Drivers and injects them into the provisioning flow for execution. The service order goes through a series of steps in the flow called modules. A flow controller coordinates the execution of each service order. Each module is responsible for a specific processing on the service order such as:

- *scheduling service orders for a later date,*
- *sequencing of the execution to start after completion of another service order,*
- *decomposing the provided service order line items or CFS orders (called Product Order in FP) into a workflow of RFS orders (called Technical Product Orders). This dynamic transformation is using the catalog that defines CFS specifications (called Product in FP) and RFS specifications (called Technical Product in FP) and how an action on a CFS specification translates into a workflow of RFS orders using decomposition and optimization rules,*
- *executing the workflow of RFS orders. A static workflow of Resource Orders (called ProductOrderFlow in FP) is attached to each RFS order in the catalog. Executing an action on a RFS amounts to orchestrate the execution of Resource Orders (called Work Orders in FP). Each Resource Order is assigned to the target resource to provision.*
- *Roll backing execution in case of problem*
- *Responding to the initiator of the request*

FP Dev Guide: “Streams and Provisioning Flows”

FP User’s Guide: “Scheduling service orders” / Sequencing customers service orders” / “Service-order level rollback” / “Flow Controller”/ “Overview of The Fulfillment Provisioning Catalog”

Extended Description

Not used for this process element

Explanatory

Not used for this process element

Mandatory

Schedule, assign and coordinate service provisioning related activities. **A**

See Brief Description

Optional

Not used for this process element

Interactions
Not used for this process element

Track Service Provisioning Activity

Process Identifier: 1.4.5.3.2

Brief Description
Undertake necessary tracking of the execution process. **A**

Monitor the jeopardy status of service orders, and escalating service orders as necessary. **AM**

TIBCO Fulfillment Provisioning tracks execution of the service order at each module. When an error is detected the service order is directed to a sub-flow linked to the failed output port of the module permitting to take necessary action.

The execution of the workflow of CFS orders is orchestrated so that each CFS order result is tracked to determine necessary next step. If a CFS order has failed, depending CFS orders are not provisioned and overall workflow can be roll-backed.

The priority of the service order is monitored to make sure higher priority orders queued in a module are de-queued before lower priority orders to continue processing. The Fulfillment Provisioning escalates the priority of queued service order using time by which is has been queued to make sure low priority orders are still served properly.

The service order can be associated with a timer that will permit to necessary action upon timer expiration such as cancelling an order that reach its maximum life-time and validating order execution time against expected completion time and take escalation action.

Designers of the system can implement the escalation action such as cancelling the order, increase the priority of the order or notify an external system that the order enters jeopardy condition. Cancelling an order will be done by using the admin API, increasing the priority by using the order API and notifying an external system will be done by interacting with a cartridge.

Moreover, Fulfillment Order Management, which manages customer orders and issues service orders, provides a built-in jeopardy engine that control customer order SLA based on each service order expected and maximum duration. Upon jeopardy condition, notification can be forwarded by email, tibbr (TIBCO social network) and to external system using web services.

FP Dev Guide: ""Streams and Provisioning Flows"

FP User's Guide: "Controlling Request Flow" / "Service-order level rollback" / "Controlling Administrative States of Orders"

FP DOCAPI: P.FP - prov – "SOTimerConfig" / "SOTimerEventHandler" / "ServiceOrder. setupTimer"

FP DOCAPI: P.FP - "soadmin"

FP DOCAPI: P.FP – basesodata - "ServiceOrderData"

FOM Concepts Guide: "Jeopardy Management"

FOM User's Guide: "Orders Page"

Extended Description
Not used for this process element

Explanatory
Not used for this process element

Mandatory
Undertake necessary tracking of the execution process. **A**

Monitor the jeopardy status of service orders, and escalating service orders as necessary. **AM**

See Brief Description

Optional
Not used for this process element

Interactions
Not used for this process element

Manage Service Provisioning Activity

Process Identifier: 1.4.5.3.3

Brief Description
Responsibilities of this processes include, but are not limited to:
- Generating the respective resource order creation request(s) to Issue Resource Orders based on specific service orders; **A**

TIBCO Fulfillment Provisioning decomposes a service order in a workflow of RFS Orders each of which being a workflow of Resource Orders (called Work Order in FP). Resource Orders are issued during the execution of the RFS Order. A Resource Order is first routed to a cartridge that connects physically to the Resource and submitted.

FP User's Guide: "Product Order Processing"

• Escalating status of service orders in accordance with local policy; **AM**

See Track Service Provisioning Activity

• Undertaking necessary tracking of the execution process;
• Adding additional information to an existing service order;
• Modifying information in an existing service order;
• Modifying the service order status;
• Indicating completion of a service order by modifying the service order status. **AM**

The service order can be modified at various steps including:

- *By the Client Adapter driver that receives the Service Order. Drivers can embed scripted or custom code that can; modify attribute value & add/modify/remove user defined fields at Service Order level or Order Line level and also add Order Lines (called Product Order in FP).*
- *By pre-processing modules that perform enrichment for example. They can do similar actions.*
- *During catalog enrichment which overwrite field values and/or add new fields required for proper provisioning.*
- *After execution of a Resource Order or a RFS order which can modify the value of user defined fields or add new ones.*
- *By post-processing modules that prepare the order for proper response and can update customer specific status for example. They can do similar actions that pre-processing modules.*
- *By the Fulfillment Provisioning OMS order tracking function that permits to repair and attach comments to a service order.*

The service order status is modified by Fulfillment Provisioning during service order execution but can also be modified by custom modules through custom code. The status of Resource Orders can be also forced manually using Fulfillment Provisioning OMS.

FP Dev Guide: "Client Adapters" / "Developing New Modules" / "TIBCO Fulfillment Provisioning Order Management System"

FP User's Guide: "Overview of the Fulfillment Provisioning Catalog" / "Product Order Processing"

• Canceling a service order when the initiating customer order is cancelled; **AM**

TIBCO Fulfillment Provisioning supports the OSS/J OM interface and exposes the abortRequestByKey() an tryAbortRequestsByKeys() operation. An administrative interface also permits through the command line or through the customer code to cancel Service Orders.

TIBCO Fulfillment Order Management (FOM) is responsible for customer and product order management. It receives customer orders and produces dynamically (based on Product and Service specifications defined in Fulfillment Catalog) a corresponding order plan of service orders in the form of order plan items. FOM issues the service orders to Fulfillment Provisioning (FP) during the order plan orchestration passing the order item ID. The service order ID in FP is set with the passed FOM order plan item ID establishing a link between both systems. If a customer order is cancelled in FOM, the custom code would be necessary to propagate this cancellation to the corresponding service order in Fulfillment Provisioning.

FOM Concepts: "Fulfillment Orchestration Overview"

FP User's Guide: "Controlling Administrative States of Orders"

Note that some specific service components may be delivered by other parties. In these cases the Track & Manage Service Provisioning process is responsible for initiating requests, through Party Order handling for the delivery by the party of the specific service components.

Extended Description
Not used for this process element

Explanatory
Not used for this process element

Mandatory
Responsibilities of this processes include, but are not limited to:
- Generating the respective resource order creation request(s) to Issue Resource Orders based on specific service orders; **A**

· Escalating status of service orders in accordance with local policy; · Undertaking necessary tracking of the execution process; **AM**

· Adding additional information to an existing service order; **AM**
· Modifying information in an existing service order;· **AM**
· Modifying the service order status; **AM**

· Canceling a service order when the initiating customer order is cancelled; **AM**
· Indicating completion of a service order by modifying the service order status. **AM**

See Brief Description

Optional
Not used for this process element

Interactions
Note that some specific service components may be delivered by suppliers/partners. In these cases the Track & Manage Service Provisioning process is responsible for initiating requests, through S/P Requisition Management for the delivery by the supplier/partner of the specific service components

1.4.5.4 Implement, Configure & Activate Service

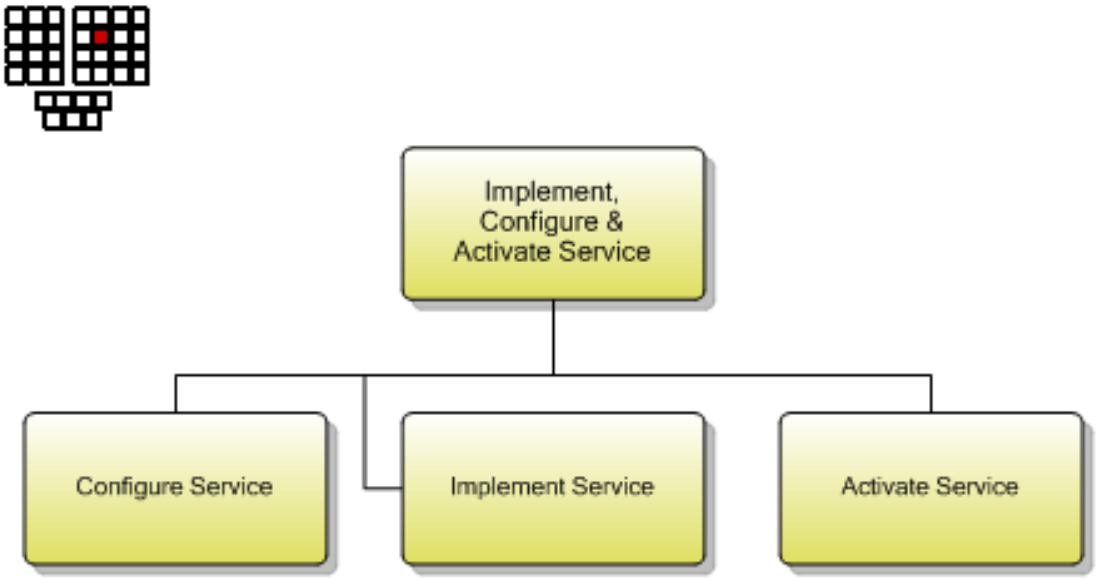

Figure 11 1.4.5.4 Implement, Configure & Activate Service decomposition

Process Identifier: 1.4.5.4

Brief Description
Implement, configure and activate the specific services allocated against an issued service order.

Extended Description
The purpose of the Implement, Configure & Activate Service processes is to implement, configure and activate the specific services allocated against an issued service order. These processes are responsible for, but not limited to:
•Assessing and planning the approach to be undertaken for implementation, configuration and activation;
•Re-using standard implementation, configuration and activation processes applicable to specific services;
•Implementing, configuring and reconfiguring specific services, including customer premises equipment if part of the service provider offering.
•Providing notifications as required if the implementation, configuration and activation activity requires a planned outage or is likely to initiate false specific service alarm event notifications
•Updating the information contained in the service inventory as to the configuration of specific services and their status.
At the successful conclusion of these activities, the status of the specific services will be changed from allocated to activated, which means they are in-use.

Explanatory
Reserved for future use.

Mandatory
Reserved for future use.

Optional
Reserved for future use.

Interactions
Reserved for future use.

Configure Service

Process Identifier: 1.4.5.4.1

Brief Description
Assess and plan the approach to be undertaken for configuration. **A**

TIBCO Fulfillment Provisioning decomposes the issued service order line items or CFS orders (called Product Order in FP) into a workflow (or plan) of RFS orders (called Technical Product Orders). This dynamic transformation is using the Fulfillment Provisioning catalog that defines CFS specifications (called Product in FP) and RFS specifications (called Technical Product in FP) and how an action on a CFS specification translates into a workflow of RFS order specification (an action on a RFS specification) using decomposition and optimization rules.

FP User's Guide: "Fulfillment Provisioning Flow Overview"

The catalog permits to define any arbitrary actions on all CFS specifications and RFS specifications to cover all customer types of orders including configuration.

FP Dev Guide: "Defining Verbs"

Re-use standard configuration and processes applicable to specific services. **A**
The process of plan generation is driven by the catalog which specifies decomposition, sequencing and other optimization rules applicable to all service orders. The plan is generated through instantiation of re-usable processes and not statically defined.

FP User's Guide: "Fulfillment Provisioning Flow Overview"

Configure and reconfigure specific services, including customer premises equipment if part of the service provider offering. **A**
The generated plan for a service order can configure services and associated customer premises multiple times at different steps in the workflow. The process of plan generation is generic and based on the catalog specification. The catalog can define that a CFS consists of multiple RFSs which can include services on value added service platforms, network access equipment or customer premises equipment. Then, an action on this CFS (or CFS order) will be translated or decomposed into corresponding RFS orders. The catalog permits to define rules such as sequencing rules between RFS orders which will permit to dynamically assemble them into a workflow. As a result, a CFS order can configure associated RFS services and customer premises equipment if defined as part of the service provider offering in the catalog.

It must be noted that different RFS orders can configure differently a same service or a same customer premises equipment. And, a single RFS order can configure multiple times a same service and even include the configuration of associated customer premises equipment.

Provide notifications as required if the configuration activity requires a planned outage or is likely to initiate false specific service alarm event notifications. **AM**

The Fulfillment Provisioning implements a publish & subscribe mechanism and manages the routing of events between producers and readers. The Fulfillment Provisioning monitors the execution of CFS and RFS orders and generates events at start and at completion of each of their associated process.

A component can be built to receive service configuration process start (event `EventPoExecStarted`*) and ending (event* `EventPoExecEnded`*) and execute required specific actions using custom code.*

An alternative will be to have a dedicated task (Called Resource Order in FP) in the process that will invoke a cartridge that will generate a specific event and forward it to an external system that would need to be notified. Such a task is re-usable and can be added in multiple processes in case many services have recovery actions requiring such notification.

FP Dev Guide: "Event Dictionary" / "Product Order Flows" / "Cartridge Network Element Configuration"
FP DOCAPI: POPDIC: "`EventPoExecStarted`" / "`EventPoExecEnded`"

Update the information contained in the service inventory as to the configuration of specific services and their status. **AM**

TIBCO Fulfillment Orchestration Suite does not implement the complete behavior but permits to model in the RFS order configuring the service as a separate step the interaction(s) with external service inventory to reflect the result of the service configuration. The update of the service inventory can also be modeled in a separate RFS order.

Extended Description
Not used for this process element

Explanatory
Not used for this process element

Mandatory
Assess and plan the approach to be undertaken for configuration. **A**
Re-use standard configuration and processes applicable to specific services. **A**
Configure and reconfigure specific services, including customer premises equipment if part of the service provider offering. **A**

Provide notifications as required if the configuration activity requires a planned outage or is likely to initiate false specific service alarm event notifications. **AM**

Update the information contained in the service inventory as to the configuration of specific services and their status. **AM**

See Brief Description

Optional
Not used for this process element

Interactions
Provide notifications as required if the configuration activity requires a planned outage or is likely to initiate false specific service alarm event notifications.

Implement Service

Process Identifier: 1.4.5.4.2

Brief Description
Assess and plan the approach to be undertaken for implementation. **A**

TIBCO Fulfillment Provisioning decomposes the issued service order line items or CFS orders (called Product Order in FP) into a workflow (or plan) of RFS orders (called Technical Product Orders). This dynamic transformation is using the Fulfillment Provisioning catalog that defines CFS specifications (called Product in FP) and RFS specifications (called Technical Product in FP) and how an action on a CFS specification translates into a workflow of RFS order specification (an action on a RFS specification) using decomposition and optimization rules.

FP User's Guide: "Fulfillment Provisioning Flow Overview"

The catalog permits to define any arbitrary actions on all CFS specifications and RFS specifications to cover all customer types of orders including configuration.

FP Dev Guide: "Defining Verbs"

Re-use standard implementation processes applicable to specific services. **A**

The process of plan generation is driven by the Fulfillment Provisioning catalog which specifies decomposition, sequencing and other optimization rules applicable to all service orders. The plan is generated through instantiation of re-usable processes and is not statically defined.

Implement specific services, including customer premises equipment if part of the service provider offering. **A**

The generated plan for a service order can implement services and associated customer premises at different steps in the workflow. The process of plan generation is generic and based on the catalog specification. The catalog can define that a CFS consists of multiple RFSs which can include services on value added service platforms, network access equipment or customer premises equipment. Then, an action on this CFS (or CFS order) will be translated or decomposed into corresponding RFS orders. The catalog permits to define rules such as sequencing rules between RFS orders which will permit to dynamically assemble them into a workflow. As a result, a CFS order can implement associated RFS services and customer premises equipment if defined as part of the service provider offering in the catalog.

It must be noted that a single RFS order can implement multiple services and even include the implementation of associated customer premises equipment.

Provide notifications as required if the implementation activity requires a planned outage or is likely to initiate false specific service alarm event notifications. **AM**

TIBCO Fulfillment Provisioning implements a publish & subscribe mechanism and manages the routing of events between producers and readers. The Fulfillment Provisioning monitors the execution of CFS and RFS orders and generates events at start and at completion of each of their associated process.

A component can be built to receive service configuration process start (event `EventPoExecStarted`*) and ending (event* `EventPoExecEnded`*) and execute required specific actions using custom code.*

An alternative will be to have a dedicated task (Called Resource Order in FP) in the process that will invoke a cartridge that will generate a specific event and forward it to an external system that would need to be notified. Such a task is re-usable and can be added in multiple processes in case many services have recovery actions requiring such notification.

FP Dev Guide: "Event Dictionary" / "Product Order Flows" / "Cartridge Network Element Configuration"
FP DOCAPI: POPDIC: "`EventPoExecStarted`" / "`EventPoExecEnded`"

Extended Description
Not used for this process element

Explanatory
Not used for this process element

Mandatory

Assess and plan the approach to be undertaken for implementation. **A**
Re-use standard implementation processes applicable to specific services. **A**
Implement specific services, including customer premises equipment if part of the service provider offering. **A**

Provide notifications as required if the implementation activity requires a planned outage or is likely to initiate false specific service alarm event notifications. **AM**

See Brief Description

Optional

Not used for this process element

Interactions

Provide notifications as required if the implementation activity requires a planned outage or is likely to initiate false specific service alarm event notifications.

Activate Service

Process Identifier: 1.4.5.4.3

Brief Description

Assess and plan the approach to be undertaken for activation. **A**

TIBCO Fulfillment Provisioning decomposes the issued service order line items or CFS orders (called Product Order in FP) into a workflow (or plan) of RFS orders (called Technical Product Orders). This dynamic transformation is using the Fulfillment Provisioning catalog that defines CFS specifications (called Product in FP) and RFS specifications (called Technical Product in FP) and how an action on a CFS specification translates into a workflow of RFS order specification (an action on a RFS specification) using decomposition and optimization rules.

FP User's Guide: "Fulfillment Provisioning Flow Overview"

The catalog permits to define any arbitrary actions on all CFS specifications and RFS specifications to cover all customer types of orders including activation.

FP Dev Guide: "Defining Verbs"

Re-used standard activation processes applicable to specific services. **A**

The process of plan generation is driven by the catalog which specifies decomposition, sequencing and other optimization rules applicable to all service orders. The plan is generated through instantiation of re-usable processes and not statically defined.

FP User's Guide: "Fulfillment Provisioning Flow Overview"

Provide notifications as required if the activation activity requires a planned outage or is likely to initiate false specific service alarm event notifications. **AM**

TIBCO Fulfillment Provisioning implements a publish & subscribe mechanism and manages the routing of events between producers and readers. The Fulfillment Provisioning monitors the execution of CFS and RFS orders and generates events at start and at completion of each of their associated process.

A component can be built to receive service configuration process start (event `EventPoExecStarted`*) and ending (event* `EventPoExecEnded`*) and execute required specific actions using custom code.*

An alternative will be to have a dedicated task (Called Resource Order in FP) in the process that will invoke a cartridge that will generate a specific event and forward it to an external system that would need to be notified. Such a task is re-usable and can be added in multiple processes in case many services have recovery actions requiring such notification.

FP Dev Guide: "Event Dictionary" / "Product Order Flows" / "Cartridge Network Element Configuration"
FP DOCAPI: POPDIC: "EventPoExecStarted" / "EventPoExecEnded"

At the successful conclusion of this activity, the status of the specific services will be changed from allocated to activated, which means they are in-use. **AM**

TIBCO Fulfillment Orchestration Suite does not implement the complete behavior but permits to model in the RFS order configuring the service as a separate step the interaction(s) with external service inventory to reflect the result of the service activation. The update of the service inventory can also be modeled in a separate RFS orders specification process.

FP Dev Guide: "Product Order Flows"

Extended Description
Not used for this process element

Explanatory
At the successful conclusion of this activity, the status of the specific services will be changed from allocated to activated, which means they are in-use.

Mandatory
Assess and plan the approach to be undertaken for activation. **A**
Re-used standard activation processes applicable to specific services. **A**

Provide notifications as required if the activation activity requires a planned outage or is likely to initiate false specific service alarm event notifications. **AM**

See Brief Description

Optional
Not used for this process element

Interactions
Provide notifications as required if the activation activity requires a planned outage or is likely to initiate false specific service alarm event notifications.

1.4.5.6 Issue Service Orders

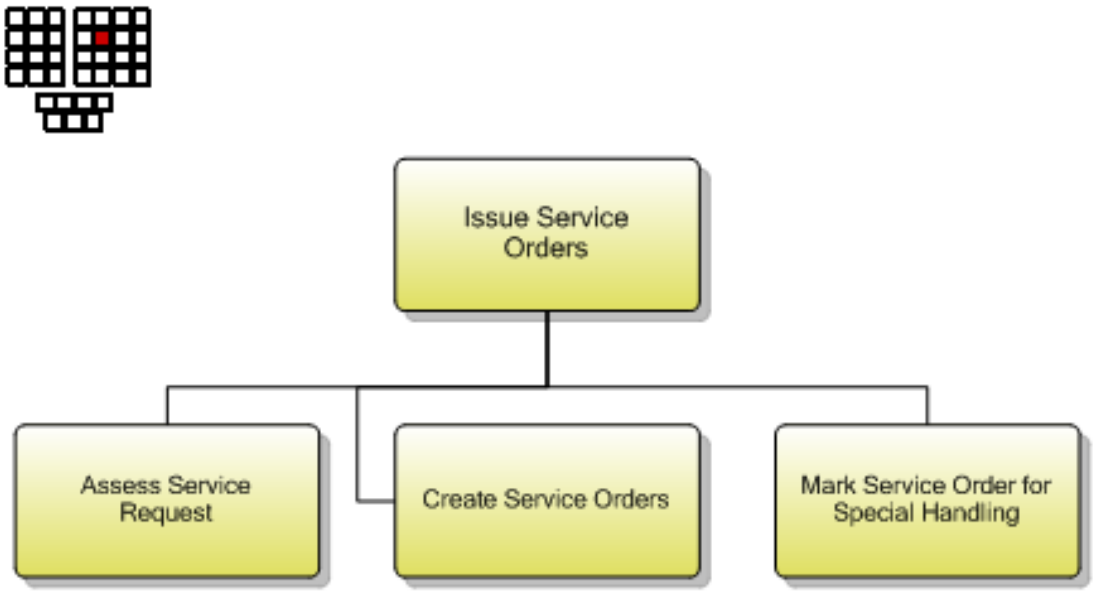

Figure 12 1.4.5.6 Issue Service Orders decomposition

Process Identifier: 1.4.5.6

Brief Description

Issue correct and complete service orders

Extended Description

The purpose of the Issue Service Orders processes is to issue correct and complete service orders.

The service orders may be required to satisfy pertinent customer order information received, may arise as a result of requests for service provisioning to satisfy service problem recovery activities, may arise to alleviate service performance issues, or may arise as a result of information received from parties in relations to specific services.

These processes assess the information contained in the customer order, through a service order request, relating to the purchased product offering, initiating service process or external party initiated request, to determine the associated service orders that need to be issued.

The issued service order may require a service feasibility assessment or a service design to be produced, may require new provisioning activities for specific services, may require a change to a previously issued service order, or may require deletion and/or recovery of previously delivered specific services. Where, the initiating request or the purchased product offering has a standard set of associated service orders this process is responsible for issuing the service orders, and for creating a record of the relevant initiating request or customer order information and the associated service orders.

Where the initiating request or the purchased product offering has special or unusual requirements, and a specific feasibility assessment and/or service design has been previously created, this process is responsible for issuing the service orders, and for creating a record of the relevant initiating request or customer order information and the associated service orders.

Where the purchased product offering has special or unusual requirements, and a specific feasibility assessment and/or specific service design has not been previously created, this process marks the issued service order as requiring special handling, and passes management for further processing to the Track & Manage Service Provisioning process.

The orchestration, if required, and tracking of the service order progress is the responsibility of the Track & Manage Service Provisioning processes.

Explanatory

Reserved for future use.

Mandatory

Reserved for future use.

Optional
Reserved for future use.

Interactions
Reserved for future use.

Assess Service Request

Process Identifier: 1.4.5.6.1

Brief Description
This process assesses the information contained in the customer order, through a service order request, relating to the purchased product offering, initiating service process or party initiated request, to determine the associated service orders that need to be issued. **A**

TIBCO Fulfillment Order Management receives customer orders with order lines each of which identifying a product and an action on this product. The customer order is validated against the catalog rules which verify that products are eligible for the customer, compatible and with correct information. Then an order plan of service orders is produced based on the Fulfillment Catalog product to service specification and provisioning rules such as sequencing and optimization.

FOM Concepts: "TIBCO Fulfillment Orchestration Suite Overview" / "TIBCO Fulfillment Orchestration Components" / "User Interface Integration" / "Order"

Extended Description
Not used for this process element
Explanatory
Not used for this process element

Mandatory
This process assesses the information contained in the customer order, through a service order request, relating to the purchased product offering, initiating service process or supplier/partner initiated request, to determine the associated service orders that need to be issue **A**

See Brief Description

Optional
Not used for this process element

Interactions
Not used for this process element

Create Service Orders

Process Identifier: 1.4.5.6.2

Brief Description
The service orders may be required to satisfy pertinent customer order information received, may arise as a result of requests for service provisioning to satisfy service problem recovery activities, may arise to alleviate service performance issues, or may arise as a result of information received from parties in relations to specific services. The issued service order may require a service feasibility assessment or a service design to be produced, may require new provisioning activities for specific services, may require a change to a previously issued service order, or may require deletion and/or recovery of previously delivered specific services. Where, the initiating request or the purchased product offering has a standard set of associated service orders this process is responsible for issuing the service orders, and for creating a record of the relevant initiating request or customer order information and the associated service orders. Where the initiating request or the purchased product offering has special or unusual requirements, and a specific feasibility assessment and/or service design has been previously created, this process is responsible for issuing the service orders, and for creating a record of the relevant initiating request or customer order information and the associated service orders. **A**

TIBCO Fulfillment Order Management produces an order plan of service orders in the form of order plan items based on catalog product to service decomposition. The order plan is linked to initial customer order. Customer orders and order plans are recorded in database and can be consulted using OMS GUI.

FOM Concept's Guide: "Order"

FOM User's Guide: "Orders Page"

Extended Description
Not used for this process element

Explanatory
The service orders may be required to satisfy pertinent customer order information received, may arise as a result of requests for service provisioning to satisfy service problem recovery activities, may arise to alleviate service performance issues, or may arise as a result of information received from suppliers/partners in relations to specific

services.
The issued service order may require a service feasibility assessment or a service design to be produced, may require new provisioning activities for specific services, may require a change to a previously issued service order, or may require deletion and/or recovery of previously delivered specific services.

Mandatory
Where, the initiating request or the purchased product offering has a standard set of associated service orders this process is responsible for issuing the service orders, and for creating a record of the relevant initiating request or customer order information and the associated service orders.
Where the initiating request or the purchased product offering has special or unusual requirements, and a specific feasibility assessment and/or service design has been previously created, this process is responsible for issuing the service orders, and for creating a record of the relevant initiating request or customer order information and the associated service orders. **A**

Optional
Not used for this process element

Interactions
Not used for this process element

Mark Service Order for Special Handling

Process Identifier: 1.4.5.6.3

Brief Description
Where the purchased product offering has special or unusual requirements, and a specific feasibility assessment and/or specific service design has not been previously created, this process marks the issued service order as requiring special handling, and passes management for further processing to the Track & Manage Service Provisioning process. **AM**

A CFS order can detect that prerequisite actions have not been done after the failure or value of specific parameters within one of its decomposed RFS orders. Additionally, a specific RFS can be added by design for that CFS in the catalog to control special handling cases. Either way, this can force the CFS order to fail and require manual correction/resubmission or to take a specific branch in RFS orders processes that handle that special case. In all cases, an event can be produced to notify operators that an issued resource order requires special handling.

The orchestration, if required, and tracking of the service order progress is the responsibility of the Track & Manage Service Provisioning processes.

Extended Description
Not used for this process element

Explanatory
Not used for this process element

Mandatory
Where the purchased product offering has special or unusual requirements, and a specific feasibility assessment and/or specific service design has not been previously created, this process marks the issued service order as requiring special handling, **AM**

Optional
Not used for this process element

Interactions
and passes management for further processing to the Track & Manage Service Provisioning process.

1.4.5.7 Report Service Provisioning

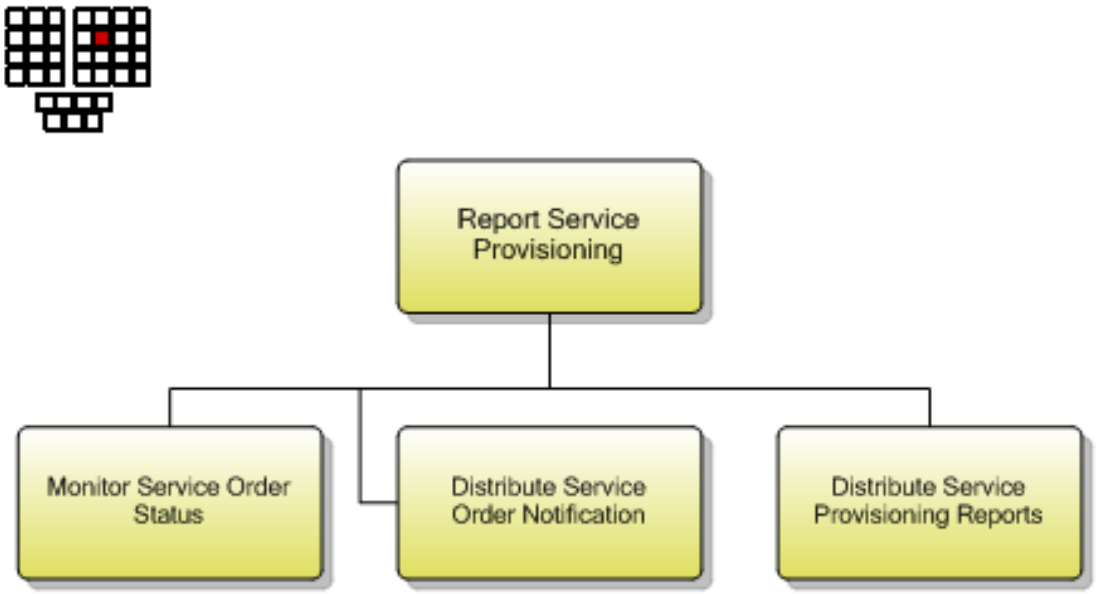

Figure 13 1.4.5.7 Report Service Provisioning decomposition

Process Identifier: 1.4.5.7

Brief Description
Monitor the status of service orders, provide notifications of any changes and provide management reports.

Extended Description
The objective of the Report Service Provisioning processes is to monitor the status of service orders, provide notifications of any changes and provide management reports. These processes are responsible for continuously monitoring the status of service orders and managing notifications to processes and other parties registered to receive notifications of any status changes. Notification lists are managed and maintained by the Enable Service Configuration & Activation processes.
These processes record, analyze and assess the service order status changes to provide management reports and any specialized summaries of the efficiency and effectiveness of the overall Service Configuration & Activation process. These specialized summaries could be specific reports required by specific audiences.

Explanatory
Reserved for future use.

Mandatory
Reserved for future use.

Optional
Reserved for future use.

Interactions
Reserved for future use.

Monitor Service Order Status

Process Identifier: 1.4.5.7.1

Brief Description
responsible for continuously monitoring the status of service orders; record, analyze and assess the service order status changes. **AM**

TIBCO Fulfillment Provisioning monitors service orders at each of step of execution and generates events for each service order when entering and leaving each of the provisioning flow modules. Upon generation of these events, the Fulfillment Provisioning updates logs and the OMS database for recording. The execution status of each of these modules is analyzed to decide what branch of the provisioning flow to be routed to. Upon completion of execution, service orders are routed to a post-processing flow which is responsible to format a response to north bound systems.

FP Dev Guide: "TIBCO Fulfillment Provisioning Order Management System" / "Event Dictionary"

Extended Description
Not used for this process element

Explanatory
Not used for this process element

Mandatory
responsible for continuously monitoring the status of service orders; record, analyze and assess the service order status changes **AM**

Optional
Not used for this process element

Interactions
Not used for this process element

Distribute Service Order Notification

Process Identifier: 1.4.5.7.2

Brief Description
Provide notifications of any changes the status of service orders. Notifications are used to notify the owner of the current status of the order and also distributed to the other parties who require it. Notification lists are managed and maintained by the Enable Service Configuration & Activation processes. **A**

TIBCO Fulfillment Provisioning implements a publish & subscribe mechanism and manages the routing of events between producers and readers. Each event is defined in a dictionary. Each component is responsible to subscribe to the event topics it is interested in. The Fulfillment Provisioning monitors service orders at each of step of execution and generates events for each service order when entering and leaving each of the provisioning flow modules.

The Fulfillment Provisioning maintains the consistency of the order status at service order and all sub-orders levels (aka order lines, RFS orders and resource order) in POP module. The status of the service order is reassessed each time a sub-order status changes via propagation. A change at resource order level can entail a change of status at RFS order, order line and service order level.

The Fulfillment Provisioning notifies service order status and content changes through events defined in the event dictionary. All components that subscribe to these events receive them and can trigger necessary actions. OMS component subscribes to these events and updates database for consultation and administrative actions. Customer components can be written to implement specific behaviors.

FP Dev Guide: “Event Dictionary” / “TIBCO Fulfillment Provisioning Order Management System”

FP User’s Guide: “Product Order Processing”

Extended Description
Not used for this process element

Explanatory
Notifications are used to notify the owner of the current status of the order and also distributed to the other parties who require it.

Mandatory
provide notifications of any changes the status of service orders. **A**

Optional
Not used for this process element

Interactions
Notification lists are managed and maintained by the Enable Service Configuration & Activation processes.

Distribute Service Provisioning Reports

Process Identifier: 1.4.5.7.3

Brief Description
Provide management reports and any specialized summaries of the efficiency and effectiveness of the overall Service Configuration & Activation process. These specialized summaries could be specific reports required by specific audiences. **AM**

TIBCO Fulfillment Provisioning OMS component permits to visualize all the details of execution of a service order including it-self and all decomposed sub-orders status, data and execution logs. Order and sub-order processes execution status can be visualized as a process flow with task colored per status or with a textual representation of the tasks. Views can be configured to display or hide specific data depending on audience need. All the information is available in database and can be used by 3rd party report generator systems.

TIBCO Fulfillment Order Management OMS component provides a dashboard that displays real time indicators such as number of service orders, order line or resource orders processed daily grouped per status or average, min and max latency of order lines and resource orders per order types. Query can be configured to reflect audience need.

FP Dev Guide: "TIBCO Fulfillment Provisioning Order Management System"

FOM User's Guide: "Dashboard"

Extended Description
Not used for this process element

Explanatory
These specialized summaries could be specific reports required by specific audiences.

Mandatory
provide management reports and any specialized summaries of the efficiency and effectiveness of the overall Service Configuration & Activation process. **AM**

Optional
Not used for this process element

Interactions
Not used for this process element

1.4.5.8 Close Service Order

Process Identifier: 1.4.5.8

Brief Description
Close a service order when the service provisioning activities have been completed. **A**

Extended Description
The objective of the Close Service Order processes is to close a service order when the service provisioning activities have been completed.
These processes monitor the status of all open service orders, and recognize that a service order is ready to be closed when the status is changed to completed. **A**

Service orders that are completed reach the terminator module in the provisioning flow which closes the service order and updates the service order status and data to the OMS database.

FP User's Guide: "Removing service orders"

Explanatory
Reserved for future use.

Mandatory
Reserved for future use.

Optional
Reserved for future use.

Interactions
Reserved for future use.

1.4.5.9 Recover Service

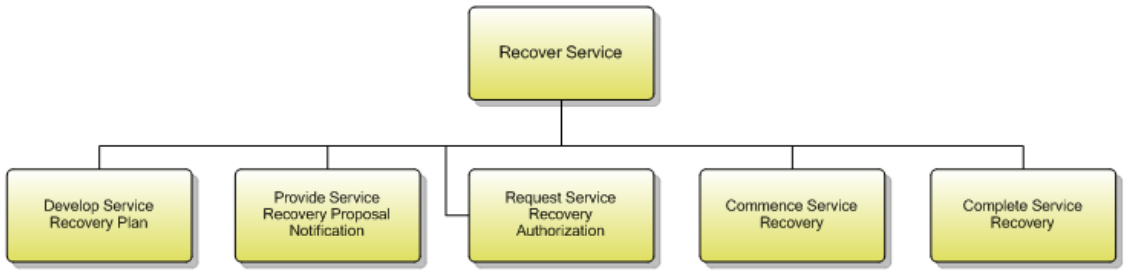

Figure 14 1.4.5.9 Recover Service decomposition

Process Identifier: 1.4.5.9

Brief Description
Recover specific services that are no longer required by customers.

Extended Description
The responsibility of the Recover Service processes is to recover specific services that are no longer required by customers.
These processes follow recovery plans specified by the external party, or against recovery plans developed by the service provider.
Where appropriate recovery plans are not available these processes are responsible for developing appropriate recovery plans.
Where recovery of services is likely to impact other in-use specific services, this process is responsible for providing appropriate notification of the recovery proposal and ensuring authorization is received to proceed with the recovery plan. When the recovery activity is about to commence, these processes are responsible for notifying when recovery work is commencing and when it is completed.
When recovered, the specific services and/or associated service specific parameters will be marked as unallocated.

Explanatory
Reserved for future use.

Mandatory
Reserved for future use.

Optional
Reserved for future use.

Interactions
Reserved for future use.

Develop Service Recovery Plan

Process Identifier: 1.4.5.9.1

Brief Description
Where appropriate recovery plans are not available this process is responsible for developing appropriate recovery plans. **M**

TIBCO Fulfillment Provisioning does not provide a project management functions but offers capability to create process to recover a service.

TIBCO Fulfillment Provisioning includes a catalog component that allows designers of the solution to create actions for existing specifications of CFS and RFS to model the recovery processes.

FP Dev Guide: "Object Model and Processing" / "Product Order Flows"

Extended Description
Not used for this process element

Explanatory
Where appropriate recovery plans are not available

Mandatory
this process is responsible for developing appropriate recovery plans.

Optional
Not used for this process element

Interactions
Not used for this process element

Provide Service Recovery Proposal Notification

Process Identifier: 1.4.5.9.2

Brief Description
Where recovery of services is likely to impact other in-use specific services, this process is responsible for providing appropriate notification of the recovery proposal. **AM**

The Fulfillment Provisioning implements a publish & subscribe mechanism and manages the routing of events between producers and readers. The Fulfillment Provisioning monitors the execution of CFS and RFS orders and generates events at start and at completion of each of their associated process.

A component can be built to receive service recovery process start (event `EventPoExecStarted`*) and ending (event* `EventPoExecEnded`*) and execute required specific actions using custom code.*

An alternative will be to have a dedicated task (Called Resource Order in FP) in the process that will invoke a cartridge that will generate a specific event and forward it to an external system that would need to be notified. Such a task is re-usable and can be added in multiple processes in case many services have recovery actions requiring such notification.

FP Dev Guide: "Event Dictionary" / "Product Order Flows" / "Cartridge Network Element Configuration"
FP DOCAPI: POPDIC: "`EventPoExecStarted`" / "`EventPoExecEnded`"

Extended Description
Not used for this process element
Explanatory
Where recovery of services is likely to impact other in-use specific services,

Mandatory
this process is responsible for providing appropriate notification of the recovery proposal. **AM**

See Brief Description

Optional
Not used for this process element

Interactions
Not used for this process element

Request Service Recovery Authorization

Process Identifier: 1.4.5.9.3

Brief Description
Ensure authorization is received to proceed with the recovery plan. **AM**

The service recovery process can include a pre-requisite task (called Resource Order in FP) that can request an external system for authorization. A negative response can make the recovery process fail by branching out to the "Fail" final state while a positive response will transition to the recovery activity it-self.

FP Dev Guide: "Product Order Flows"

Extended Description
Not used for this process element

Explanatory
Not used for this process element

Mandatory
Ensure authorization is received to proceed with the recovery plan. **AM**

See Brief Description

Optional
Not used for this process element

Interactions
Not used for this process element

Commence Service Recovery

Process Identifier: 1.4.5.9.4

Brief Description
When the recovery activity is about to commence, this processes is responsible for notifying when recovery work is commencing. **A**

The service recovery process will generate the event `EventPoExecStarted` *upon start.*

FP DOCAPI: POPDIC: "`EventPoExecStarted`"

Extended Description
Not used for this process element

Explanatory
When the recovery activity is about to commence,

Mandatory
this processes is responsible for notifying when recovery work is commencing. **A**

Optional
Not used for this process element

Interactions
Not used for this process element

Complete Service Recovery

Process Identifier: 1.4.5.9.5

Brief Description
This process is responsible for notifying when it is completed. **A**

FP DOCAPI: POPDIC: "`EventPoExecEnded`"

When recovered, the specific services and/or associated service specific parameters will be marked as unallocated. **AM**

TIBCO Fulfillment Orchestration Suite does not implement the complete behavior but permits to model in the rollback process the interaction(s) with external service inventory to set the parameters of the specific services and/or associated service specific parameters as unallocated.

Extended Description
Not used for this process element

Explanatory
When recovered, the specific services and/or associated service specific parameters will be marked as unallocated.

Mandatory
This process is responsible for notifying when it is completed. **A**

See Brief Description

Optional

Not used for this process element

Interactions

This process is responsible for notifying when it is completed.