

TM Forum Specification

Self-Care Component Suite API Specification

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EXECUTIVE SUMMARY

The following document deals with the API Component Suite for a SelfCare app, defining the set of operations that should be offered in order to enable a selfCare app of a Service Provider.

INTRODUCTION

This component suite covers the operations required to be exposed in order to provide the functionality required by a SelfCare application used by a Service Provider to allow its customers to manage the services it has subscribed to.

1. REQUIREMENTS AND USE CASES

1.1. REQUIREMENTS

The following functionalities are expected to be provided by a SelfCare component requirements are expected to be covered in the.

- Identification
 - To provide identity information and the list of entities/assets that are manageable by an individual

- Account management
 - To manage the accounts associated to a customer. To request information (e.g.: balance or cycle specification) about accounts of a customer

 - To provide information about the bills associated to customer accounts. To request details (e.g.: amount and applied charges) of the bills of a customer account.

- Consumption management
 - To retrieve information about the consumption of a customer over a given product (e.g.: number of sms sent, number of MB used, ...)

 - To retrieve list of billing events (e.g.: details of each call or each sms sent)

- eCommerce
 - To retrieve products instantiated to a customer and/or associated to a customer account and list characteristics of each product instantiated

 - Provide the list of product offers (and related products) available in CSP catalog

 - Subscribe a customer to a product offer

 - Pay online for subscription to a product offer (e.g.: using credit card)

- Ticketing
 - To allow a customer raise a ticket/complain and review the tickets previously raised

1.2. USE CASES

1.2.1. USER MANAGES HIS ACCOUNT

The user opens the application and identifies the elements that he can manage (customer entities, billing accounts and subscribed products).

The user selects one of the subscribed products, for instance a mobile line, and checks the usage consumption tab in order to understand how many messages can still send or data consume till the end of the period.

The user selects one of the subscribed products, for instance a mobile line, and checks the latest calls performed and received as well as the data transferred in the last days.

The user selects one of his billing accounts (probably identified as the one where a given product is billed) and downloads the latest bill as well as compare with previous bills.

1.2.2. USER UPDATES HIS OFFER

The user checks the “special offers” area in the application and looks for an offer that is better than his current plan.

The user finds a new offer that is appealing and requests the change of plan to subscribe to the new offer.

The new offer is added to the list of subscribed products.

1.2.3. USER RAISES AN ISSUE

The user checks his last bill and is not convinced that the charged amount is appropriate.

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The user wants to dispute the bill and opens an issue (a commercial ticket) to initiate the claim.

The new issue is added to the list of issues already open by the user.

After some time, the user checks the status of the complaint in the app to understand if it has been resolved and the resolution details.

2. FUNCTIONS

getIdentity

precondition: The application makes use of an Open ID Connect operation to authenticate and obtain a ticket to request identity information for the individual (user) making use of the application

postCondition: The identity information related to the individual using the application that has logged in

error: Token is invalid

getAssets

precondition: The application makes use of an Open ID Connect operation to authenticate and obtain a ticket to request identity information for the individual (user) making use of the application

postCondition: The list of assets, or manageable entities (e.g.: customer, account or telephone line number) that the individual using the application can manage

error: Token is invalid

getAccountInfo

precondition: The application is aware of the customer and account entities that can be managed by the individual using the application

postCondition: The details of the account (the one selected to review by the user) is provided. The balance, the cycle information, The request could include a query to filter the information that must be included in the response depending on the needs of the application (for instance, depending on the data to be presented to the user)

error: None identified. The identifier of the account (accountId) should be valid because it is known before hand by the application as defined in the precondition

getBills

precondition: The application is aware of the account entities that can be managed by the individual using the application

postCondition: The list of the last bills issued for the account. The request could include a query to filter the number of bills expected and the information expected in the response (for instance, typically only the date and href is required)

error: None identified. The identifier of the account (accountId) should be valid because it is known before hand by the application as defined in the precondition

getBillInfo

precondition: The application is aware of the bill resources whose information can be requested via function getBills being previously invoked

postCondition: The details of the bill (amount, issue date, ...) is provided

error: None identified. The identifier of the bill (billId) should be valid because it is known before hand by the application as defined in the precondition

getBillCharges

precondition: The application is aware of the bill resources whose information can be requested

postCondition: The details of the applied charges for the bill is provided

error: None identified. The identifier of the bill (billId) should be valid because it is known before hand by the application as defined in the precondition

getUsageReport

precondition: The application is aware of the product entities that can be managed to request consumption by the individual using the application

postCondition: The usage consumption for specific product is provided. The report includes the units consumed and units still available for consumption from each of the counters created for the product under review during the latest billing cycle

error: None identified. The identifier of the product and the user should be valid because it is known before hand by the application as defined in the precondition

getBillingEvents

precondition: The application is aware of the individual (user) requesting the list of billing events (usage events) over products of a customer

postCondition: The billing events (for instance, calls originated, text messages sent, data transferred, ...) over the product used (for instance over a mobile line) are provided

error: None identified. The identifier of the user should be valid because it is known before hand by the application as defined in the precondition.

getUserProducts

precondition: The application is aware of the customer and account entities that can be managed by the individual using the application

postCondition: The details of the products acquired by each customer entity (and/or associated to each account entity) managed by the individual using the application is provided

error: None identified. If the individual using the application is not entitled to manage any customer or account entity (i.e.: is an authorized user but cannot check any commercial information) then the request will not be triggered by the application

getOffers

precondition: The application is aware of the criteria required to filter the product catalog

postCondition: The details of the offerings that are appropriate for the specific criteria are provided

error: None identified.

subscribeToOffer

precondition: The application is aware of the offerings available via function getOffers

postCondition: The customer is registered to a given offer

error: If the subscription operation is not accepted (e.g.: due to some criteria not met by the customer) then the request will be rejected

raiseIssue

precondition: The application is aware of the individual (user) opening a new issue

postCondition: A new issue is recorded in the commercial system associated to the user raising it (and the corresponding customer entity)

error: None identified

getIssues

precondition: The application is aware of the individual (user) requesting information about issues previously opened

postCondition: The details of the issues previously open by the user are provided

error: None identified

getIssueInfo

precondition: The application is aware of the ticket resources whose information can be requested via function getIssues being previously invoked

postCondition: The details of the ticket (amount, issue date, ...) is provided

error: None identified. The identifier of the ticket (ticketId) should be valid because it is known before hand by the application as defined in the precondition

3. COMPONENT CAPABILITIES, FLOWS AND SEQUENCE DIAGRAM

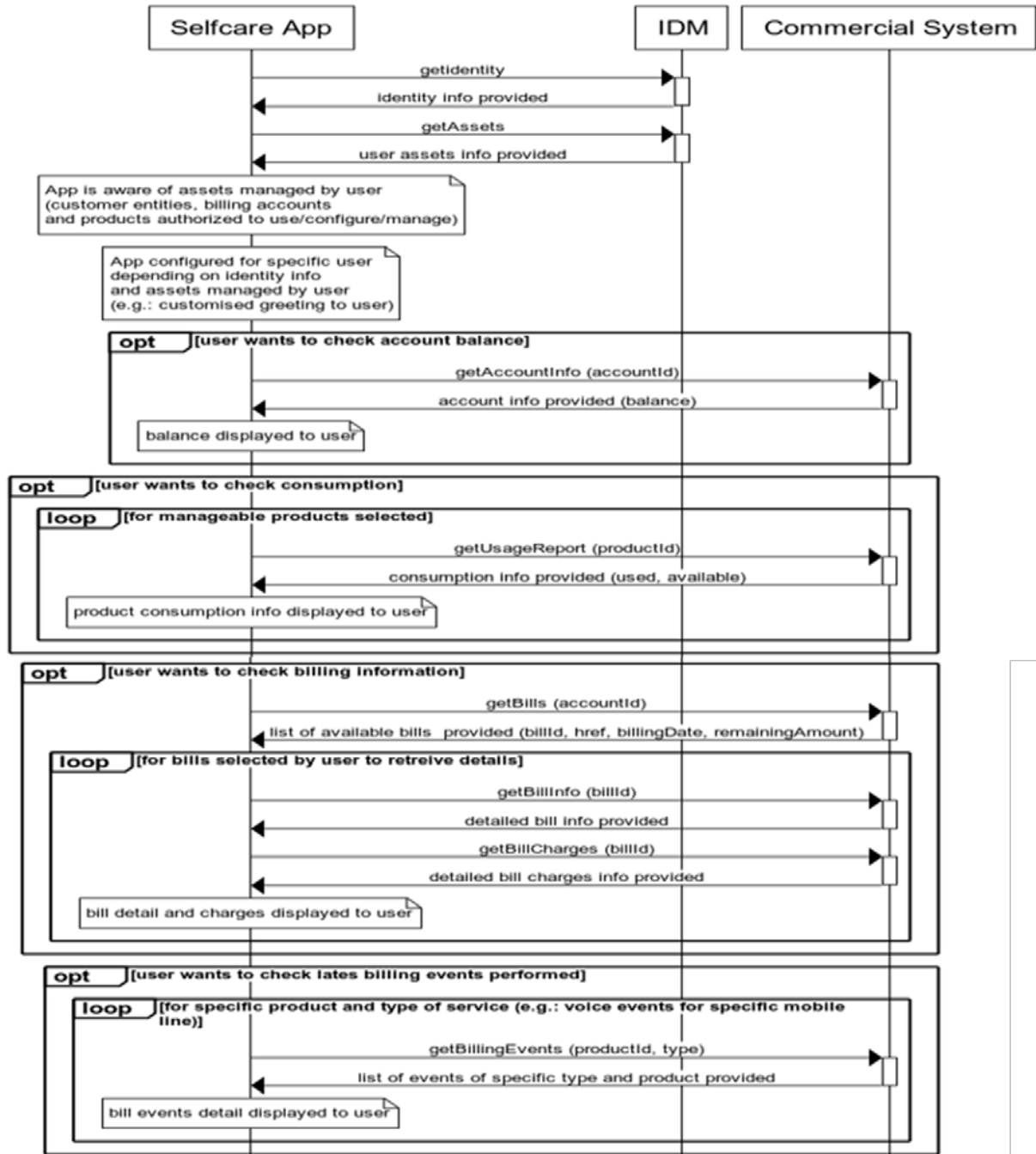
Mapping to requirements.

Requirement	Function
Identification	getIdentity getAssets
Account management	getAccountInfo getBills getBillInfo getBillCharges
Consumption management	getUsageReport getBillingEvents
eCommerce	getUserProducts getOffers subscribeToOffer
Ticketing	raiseIssue getIssues getIssueInfo

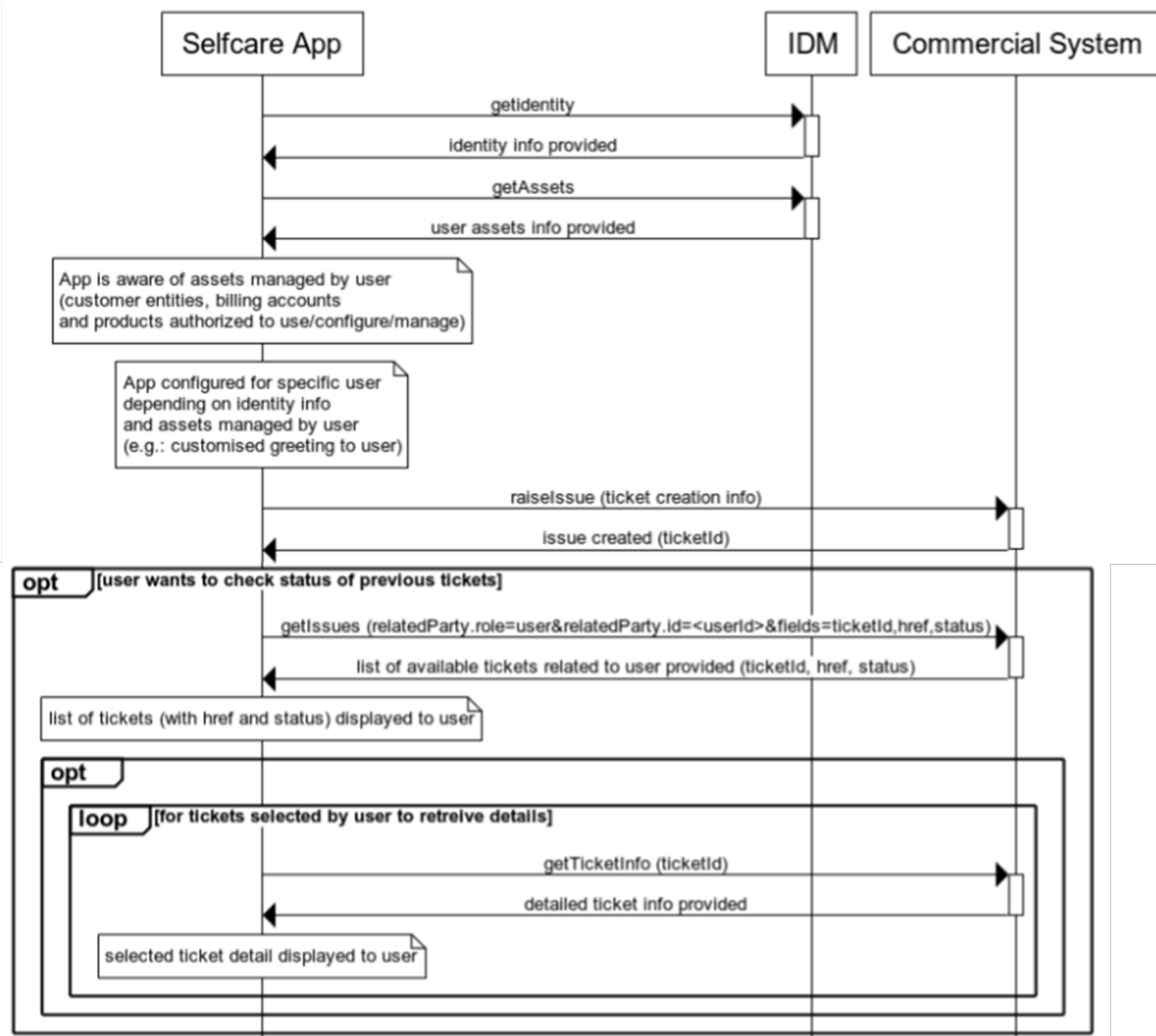
3.3. SEQUENCE DIAGRAMS

Sequence Diagram for main Function Interactions supported. In the context of a specific flow (mini E2E interaction).

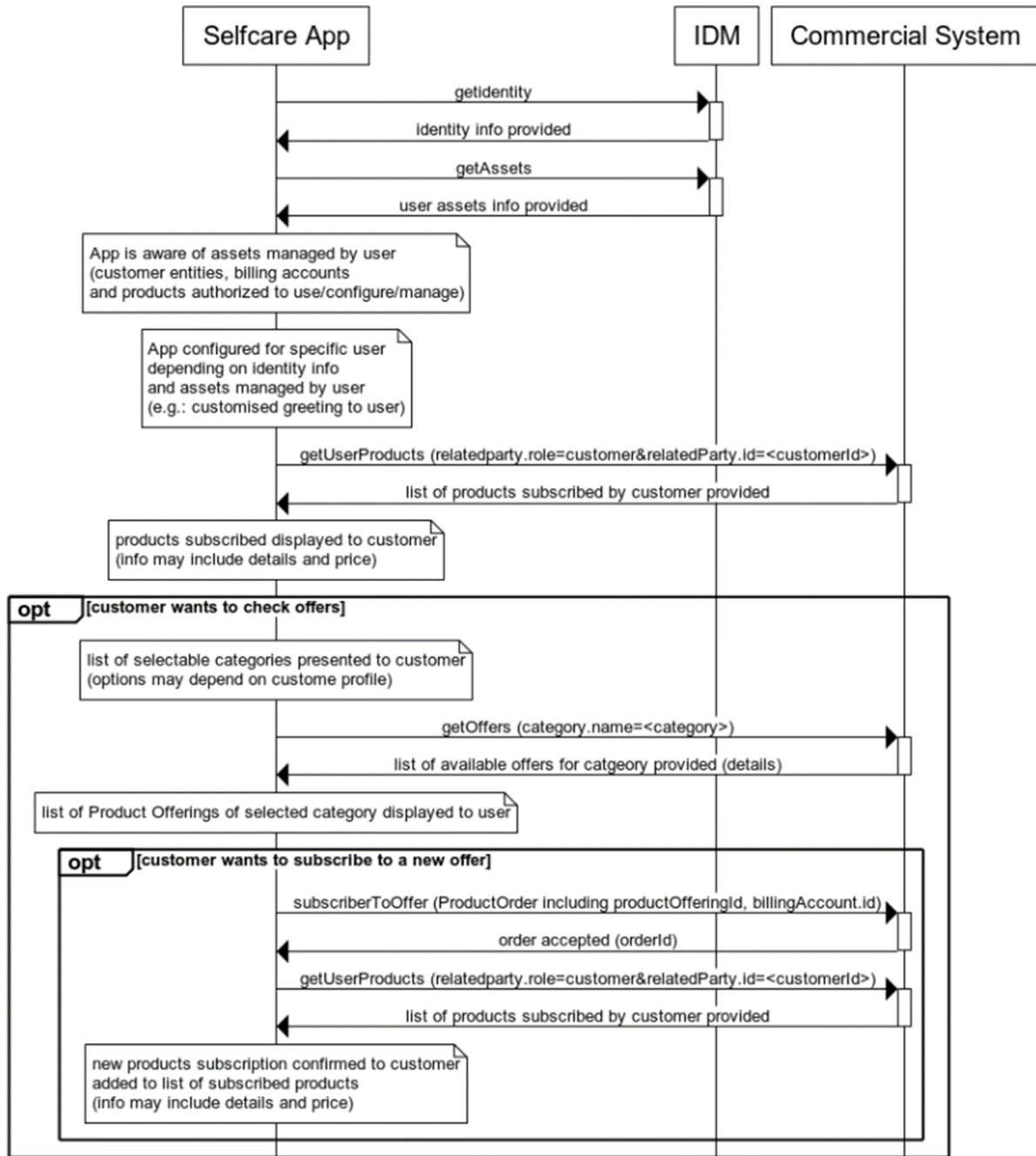
3.3.1. ACCOUNT MANAGEMENT



3.3.1. ISSUE MANAGEMENT



3.3.1. PRODUCT SUBSCRIPTION MANAGEMENT



4. FUNCTIONS AND API MAPPINGS

In this section we should describe if the function can be exposed via an existing API operation.

Table Mappings:

The links in the table below correspond to those APIs published as part of the TM Forum Open APIs (<https://projects.tmforum.org/wiki/display/API/Open+API+Table>).

Those marked as “Planned to be released” refer to the TM Forum Confluence page where the document under review is available

Function Name	Already Defined	Candidate for Common API	API Operation and Notification Mapping	Comment and Constraints
getIdentity	Y	NA	Federated Identity API (TMF691) https://projects.tmforum.org/wiki/display/AP/TMF691+Federated+ID+API+Release+Candidate+for+R18.0+Team+Review GET /userinfo	Released in R18.0
getAssets	Y	NA	Federated Identity API (TMF691) https://projects.tmforum.org/wiki/display/AP/TMF691+Federated+ID+API+Release+Candidate+for+R18.0+Team+Review GET /userinfo?fields=userAssets	Released in R18.0
getAccountInfo	Y	NA	Account Management API (TMF666) https://projects.tmforum.org/wiki/display/API/TMF666+Account+Management+API+REST+Specification+R17.0.1 GET /billingAccount/{id}?fields=...	“{id}” is obtained from response to getAssets

Function Name	Already Defined	Candidate for Common API	API Operation and Notification Mapping	Comment and Constraints
getBills	Y	NA	<p>Customer Bill Management API (TMF678)</p> <p>https://projects.tmforum.org/wiki/display/API/TMF678+Customer+Bill+Management+API+REST+Specification+R17.5.0</p> <p>GET /customerBill/?&billingAccount.id=<accountId>&fields=id,href,billDate,remainingAmount,paymentDueDate</p>	
getBillInfo	Y	NA	<p>Customer Bill Management API (TMF678)</p> <p>https://projects.tmforum.org/wiki/display/API/TMF678+Customer+Bill+Management+API+REST+Specification+R17.5.0</p> <p>GET / customerBill/{id}</p>	“{id}” is obtained from response to getBills
getBillCharges	Y	NA	<p>Customer Bill Management API (TMF678)</p> <p>https://projects.tmforum.org/wiki/display/API/TMF678+Customer+Bill+Management+API+REST+Specification+R17.5.0</p> <p>GET /appliedCustomerBillingRate?bill.id=<billId></p>	“bill.id” is obtained from response to getBills
getUsageReport	Y	NA	<p>Usage Consumption Management API (TMF677)</p> <p>https://projects.tmforum.org/wiki/display/API/TMF677+Usage+Consumption+API+REST+Specification+R17.5.0</p> <p>GET /usageConsumptionReport?product.publicIdentifier=<product number></p>	“<product number>”, for instance the msisdn for a mobile product is obtained from response to getAssets
getBillingEvents	Y	NA	<p>Usage Management API (TMF635)</p> <p>https://projects.tmforum.org/wiki/display/API/Usage+Management+API+REST+Specification+(TMF635)+R14.5.1</p> <p>GET /usage?relatedParty.role=customer&relatedParty.id=<customerId></p>	“<customerId>” and/or “<userId>” are obtained from response to getIdentity and getAssets

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Function Name	Already Defined	Candidate for Common API	API Operation and Notification Mapping	Comment and Constraints
			<p>or</p> <p>GET /usage?relatedParty.role=user&relatedParty.id=<contactId></p>	<p>TMF635 should be updated to add a query parameter to request billing events for a specific product (e.g.: an specific mobile line)</p>
getUserProducts	Y	NA	<p>Product Inventory Management API (TMF637)</p> <p>https://projects.tmforum.org/wiki/display/API/TMF637+Product+Inventory+Management+API+REST+Specification+R16.5.1</p> <p>GET / product?billingAccount.id=<accountId></p> <p>or</p> <p>GET / product?relatedparty.role=customer&relatedParty.id =<customerId></p>	<p>“<product number>”, for instance the msisdn for a mobile product is obtained from response to getAssets</p>
getOffers	Y	NA	<p>Product Catalog API (TMF620)</p> <p>https://projects.tmforum.org/wiki/display/API/TMF620+Product+Catalog+Management+API+REST+Specification+R17.5.0</p> <p>GET /productOffering?{filtering}</p>	<p>“filtering” criteria (for instance category.name) used by catalog system is known by application</p>
subscribeToOffer	Y	NA	<p>Product Order Management API (TMF622)</p> <p>https://projects.tmforum.org/wiki/display/API/TMF622+Product+Ordering+API+REST+Specification+R17.5.0</p> <p>POST /productOrder</p> <pre>{ Structure ProductOrder }</pre>	<p>Identifier of the offering as well as parameters required to be filled in order to complete a subscription to an offering is known by application via response to getOffers function</p>

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Function Name	Already Defined	Candidate for Common API	API Operation and Notification Mapping	Comment and Constraints
raiseIssue	Y	NA	<p>Trouble Ticket API (TMF621)</p> <p>https://projects.tmforum.org/wiki/display/API/Trouble+Ticket+API+REST+Specification+(TMF621)+R14.5.1</p> <p>POST /troubleTicket</p> <pre>{ Structure <i>Ticket</i> including relatedParty referring to <userId> }</pre>	“<userId>” is obtained from response to getIdentity and getAssets
getIssues	Y	NA	<p>Trouble Ticket API (TMF621)</p> <p>https://projects.tmforum.org/wiki/display/API/Trouble+Ticket+API+REST+Specification+(TMF621)+R14.5.1</p> <p>GET /troubleTicket? relatedParty.role=user&relatedParty.id=<userId></p>	“<userId>” is obtained from response to getIdentity and getAssets
getIssueInfo	Y	NA	<p>Trouble Ticket API (TMF621)</p> <p>https://projects.tmforum.org/wiki/display/API/Trouble+Ticket+API+REST+Specification+(TMF621)+R14.5.1</p> <p>GET /troubleTicket/id</p>	“{id}” is obtained from response to getBills

5. COMPONENT API SPECIFICATION

No need to define any new API for this version of the API Component

6. ACKNOWLEDGEMENTS

6.4. REFERENCES

Reference	Description	Source	Brief Use Summary
0			
1			
2			

6.5. DOCUMENT HISTORY

6.5.1. VERSION HISTORY

Version Number	Date Modified	Modified by:	Description of changes
0.1	07-Mar-2018	Luis Velarde	first issue of document
1.0	25-Jun-2018	Luis Velarde	Update reflecting R18 review comments
1.0.1	29-Jun-2018	Adrienne Walcott	Formatting/style edits prior to R18 publishing
1.0.2	10-Sep-2018	Adrienne Walcott	Updated to reflect TM Forum Approved Status

6.5.1. RELEASE HISTORY

Version Number	Date Modified	Modified by:	Description of changes
18.0.0	June 2018	Luis Velarde	Initial Release
18.0.1	10-Sep-2018	Adrienne Walcott	Updated to reflect TM Forum Approved Status

6.6. CONTRIBUTORS TO THIS DOCUMENT

This document was prepared by the members of the TM Forum Open API team:

- Luis Velarde, Telefónica
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- API Governance Group, TM Forum (review, comments, explanations)