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CHARTER
VERSION 2.9

Charter - REST Services NPC Product- Configuration-Options - IDD

Service Design Document

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Table of Contents

1	Overview.....	1
1.1	Related Documentation	1
1.2	Assumptions	1
2	Service Definition.....	2
2.1	Service Name	2
2.2	Service Endpoints.....	2
2.3	Required Projects	2
2.4	Service WSDL - N/A	2
3	Operation Definition	3
3.1	getProductConfigurationOptions	3
3.1.1	Request Parameters	3
3.1.2	Request Sample	8
3.1.3	Response	9
3.1.4	Response Sample	50
3.1.5	Sequence Diagram.....	50
3.1.6	Operation Synchronicity	50
3.1.7	Operation Type.....	50
3.1.8	Related Services	50
3.1.9	Operation Specific Header Information	50
3.1.10	Operation Specific Logging	51
3.1.11	Operation Specific Error Handling.....	51
4	Open Issues – N/A	53
	Appendix A. Fields derived from MEC.....	54
	Document Release Information.....	55

1 Overview

This Service Design Document (SDD) provides the service implementation design details for the product configuration options step.

The Product Configuration Options REST retrieves the product configuration of a product in an order from Ordering system. The returned configuration includes the current implemented configuration and all the available changes that can be applied on the product within the order. This REST is expected to be called by Charter per each Order Action ID retrieves from Product Order Items REST.

1.1 Related Documentation

Charter - COP Order Flow - HLS: 2424229

1.2 Assumptions

#	Assumption
1	As a result of MEC and BPT Data Gathering, Valid Values may be refined.
2	As a result of Detail Design Additional Error Message(s) may be added (section 3.1.11.3)
3	Fields that are of 'Date' data type in the request and in the response will be expected in Long format. for Example: "Tuesday, August 4, 2015 6:50:20 AM GMT" is translated to: "1438671020480"

2 Service Definition

2.1 Service Name

getProductConfigurationOptions

2.2 Service Endpoints

Environment	Endpoint
Dev	Not available
QA	Not available
UAT	Not available
Prod	Not available

2.3 Required Projects

The URL for this REST will be: POST /commerce/customer/{id}/product-order-item/{product-order-item-id}/product-configuration-options

2.4 Service WSDL - N/A

3 Operation Definition

Name	Request Parameters	Response	Status
getProductConfigurationOptions	ImplProductConfigurationOptionsRequest	ImplProductConfigurationOptionsResponse	

3.1 getProductConfigurationOptions

This REST will return the current assigned configuration of the product, and the available changes can be applied on the product.

3.1.1 Request Parameters

3.1.1.1 ImplProductConfigurationOptionsRequest

Field Name	Data Type	Valid values	Mandatory/Optional	Description
implRetrieveProductInOrderConfigurationRequest	ImplRetrieveProductInOrderConfigurationRequest	N/A	Optional	Main input
serviceabilityObject	ServiceabilityObject	N/A	Mandatory	Additional information to support serviceability

3.1.1.2 ImplRetrieveProductInOrderConfigurationRequest

Field Name	Data Type	Valid Values	Mandatory /Optional	Description
Links	Link[]	N/A	Not in use	Not in use
activityForConfiguration	String	BPT Values defined by MEC	Mandatory	The parameter used to filter the Product Catalog rules and the Activity Designer display information. The activity name can have any value that represents the action performed by the client and does not necessarily have to map to an activity (step) in the Ordering process
serviceRequiredDate	Date as Long	Current date (system date).	Mandatory	Charter must send system date. Expected Date as Long. see assumption #3

Field Name	Data Type	Valid Values	Mandatory /Optional	Description
configurationLevel	ConfigurationLevelFilter	N/A	Mandatory	The level of configuration to be returned. Charter must always send FULL
SubscriptionGroupID	String	N/A	Not in use	The ID of the SubscriptionGroup.(the organization hierarchy id).
settingsView	SettingsViewFilter	N/A	Mandatory	The Settings View Filter of the ProductSpecifications. Charter should always send FULL
LoadFirstStep	Boolean	N/A	Not in use	Indicates whether to load first ConfigurationStepDisplay defined for the Product
AttachmentCriteria	AttachmentTypes[]	N/A	Not in use	Holds the Retrieve Product Configuration attachment types. Must be populated with the types of the required attachment to be used.
returnConfigurationData	ReturnConfigurationData	N/A	Optional	Configuration data
StepIDs	String[]	N/A	Not in use	The ID of the steps to be returned
StepIDs	String	N/A	Not in use	Single Step ID
ReturnRemovedItems	Boolean	True/false	Not in use	Indicates whether to return the removed ProductSpecifications in the order

3.1.1.3 ConfigurationLevelFilter

Field Name	Data Type	Valid Values	Mandatory /Optional	Description
value	String	FULL,NOT_SELECTED	Mandatory	NOT_SELECTED - return all configuration that is available for selection FULL - return all configuration (selected and available)

3.1.1.4 SettingsViewFilter

Field Name	Data Type	Valid Values	Mandatory /Optional	Description
value	String	FULL,QUICK_SETTINGS	Mandatory	NOT_SELECTED - return all configuration that is available for selection FULL - return all configuration (selected and available)

3.1.1.5 AttachmentTypes – Not in use

Field Name	Data Type	Valid Values	Mandatory /Optional	Description
Links	Link[]	N/A	Not in use	Not in use
purpose	String	N/A	Mandatory	If specific attachments need to be retrieved for devices this filter attribute must be populated The purpose of the Attachment, Examples of Valid Values might include: Marketing, Training
type	String	N/A	Mandatory	A logical type for the Attachment, Examples Valid Values might include: Document, Picture

3.1.1.6 ReturnConfigurationData

Field Name	Data Type	Valid Values	Mandatory /Optional	Description
Links	Link[]	N/A	Not in use	Not in use
productConfigurationInd	Boolean	True/False	Mandatory – always send true.	Indicates that the entire configuration of the requested product/offer/bundle, the existing and the available options must be returned
catalogDataInd	Boolean	True/False	Mandatory – always send True.	Indicates that the returned information includes the detailed catalog information of the requested product/offer/bundle. the details does not include prices

Field Name	Data Type	Valid Values	Mandatory /Optional	Description
CrossProductsDiscountsDataInd	Boolean	True/False	Not in use	Indicates that the returned information includes the cross-product discounts that the customer is gaining as part of the changes applied on the requested product/offer/bundle. The prices do not include tax information
PreviousQuotedRecurringPricesInd	Boolean	True/False	Not in use	Indicates that the returned information includes the previous quoted recurring prices as was before the current change configuration of the requested product/offer/bundle. The prices do not include tax information.
quotedPricesInd	Boolean	True/False	Mandatory – always send True.	Indicates that the returned information includes the quoted prices of the requested product/offer/bundle. The prices do not include tax information
QuotedProrationInd	Boolean	True/False	Not in use	Indicates that the returned information includes the prorated quoted prices of the requested product/offer/bundle. The prices do not include tax information. If set to True then quotedPricesInd must be sent as well as True

Field Name	Data Type	Valid Values	Mandatory /Optional	Description
QuotedTaxInd	Boolean	True/False	Not in use	Indicates that the returned information includes tax information. If this indication is marked as True then the quotedPricesInd must be sent as well as True.
summaryInd	Boolean	True/False	Mandatory – always send True.	Indicates that summary information of the requested product/offer/bundle must be returned. The summary details include information of the catalog data and the instance information. The summary details do not include pricing details.

3.1.1.7 ServiceabilityObject

Field Name	Data Type	Valid values	Mandatory/Optional	Description
sys	String	N/A	Optional	Value of sys
prin	String	N/A	Optional	Value of prin
agent	String	N/A	Optional	Value of agent
LOBServiceability	LOBServiceability[]	N/A	Mandatory	LOB name and status
availabilityGroup	String	BPT Values defined by MEC	Mandatory	Parameter used for phone
dwelType	String	BPT Values defined by MEC	Mandatory	Type used for competitive areas
customerIsNew	Boolean	Default value - false	Mandatory	Indicator to indicate whether this is a new or existing customer
customerHasActiveAccount	Boolean	Default value - true	Mandatory	Indicator to indicate whether the customer has an active account.
customerType	String	'Business', 'Residential'	Mandatory	Business, Residential – Currently all implementation are Residential

Field Name	Data Type	Valid values	Mandatory/Optional	Description
orderActionType	String	CH- Change CE – Cease SU – Suspend HM – Change Move RT – Restart CR – Cease Restart PR – Provide	Mandatory	ActionType - Provide, Change, Cease, etc.
userRole	String	BPT Values defined by MEC	Mandatory	User roles: manager, CSR
offerCode	String[]	N/A	Mandatory	Offer code
additionalAttribute []	AdditionalAttribute	N/A	Optional	If some of the parameters for eligibility rules/serviceability are necessary (and were not in the initial list) can be added here

3.1.1.8 AdditionalAttribute

Field Name	Data Type	Valid values	Mandatory/Optional	Description
name	String	N/A	Mandatory	Attribute name.
value	String	N/A	Mandatory	Attribute value.

3.1.1.9 LOBServicability

Field Name	Data Type	Valid values	Mandatory/Optional	Description
LOBName	String	BPT Values defined by MEC	Mandatory	LOB Name
LOBServicableStatus	String	true, false	Mandatory	An indication whether the LOB is serviceable or not

3.1.2 Request Sample

TBD

3.1.3 Response

3.1.3.1 ImplProductConfigurationOptionsResponse

Field Name	Data Type	Valid Values	Mandatory /Optional	Description
implRetrieveProductInOrderConfigurationResponse	ImplRetrieveProductInOrderConfigurationResponse	N/A	Optional	Main output
transactionId	String	N/A	Mandatory	A unique ID for a certain REST call
timeStamp	Date as Long	N/A	Mandatory	The time of the response Expected Date as Long. see assumption #3
implErrorInfo	ImplErrorInfo[]	N/A	Optional	Used for business errors (for technical/unexpected error – HTTP error codes will be returned). See section 3.1.10.1

3.1.3.2 ImplRetrieveProductInOrderConfigurationResponse

Field Name	Data Type	Valid Values	Mandatory /Optional	Description
Links	Link[]	N/A	Not in use	Not in use
productOrderItemID	String	N/A	Mandatory	The ID of the ProductOrderItem, which was sent in the input.
productOrderItemReference Number	String	N/A	Mandatory	The Reference number of the ProductOrderItem
productConfiguration	TopLevelProductConfiguration	N/A	Mandatory	If the TopLevelProductConfiguration is not sent by the back end (only the SUMMARY mask was sent to Ordering) the rest doesn't return the TopLevelProductConfiguration

Field Name	Data Type	Valid Values	Mandatory /Optional	Description
productID	String	N/A	Optional	The ID of the Product (AP ID)
productOrderItemType	String	BPT Values defined by MEC	Mandatory	The action that is taken on the Product. For example: PR (Provide)

3.1.3.3 TopLevelProductConfiguration

Field Name	Data Type	Valid Values	Mandatory /Optional	Description
implCalculatedPrices	ImplCalculatedPrices []	N/A	Optional	Prices for the TopLevelProductConfiguration as configured and maintained in the CATALOG PRICE table. It will not be from price quoting engine
Links	Link[]	N/A	Not in use	Not in use
TotalOneTimeCalculatedPrice	TotalOneTimeCalculatedPrice	N/A	Not in use	Not in use
TotalRecurringCalculatedPrice	TotalRecurringCalculatedPrice	N/A	Not in use	Not in use
displayableItems	ProductDisplay []	N/A	Optional	Contains Products and Characteristic Values that are defined as related to this Configuration group
compatibilityStatus	CompatibilityStatus	N/A	Optional	Compatibility status after applying the changes
DisplayableSimpleProductReferences	SimpleProductReferenceDisplay[]	N/A	Not in use	Represents a Simple Product that can be added to a Product, or that is already part of a Product.
productID	String	N/A	Mandatory	Catalog product ID.

Field Name	Data Type	Valid Values	Mandatory /Optional	Description
temporaryID	String	N/A	Mandatory	Operation Extension attribute. This attribute is used differently on an operation by operation basis when an operation requires non-business data as a parameter to the operation. The operation must document explicitly how it is used. An example of its use is for the consumer technical identifier of new anonymous data types instances such as a product instance that has not been created yet
serviceID	String	N/A	Optional	The Service ID of the Product.
messages	RuleExecution Message[]	N/A	Optional	A message resulting from the execution of a rule-based operation. The results of these operations typically include an array of these messages
Steps	ConfigurationStepDisplay[]	N/A	Not in use	Contains Products and Characteristic values that are defined as related to this Configuration group
productSpecification	ProductSpecification	N/A	Optional	Product specification
displayableActivityCharges	ActivityCharge Display	N/A	not in use	Represents an activity charge that is part of a product.
effectiveCatalogVersion	String	N/A	Mandatory	The effective Catalog version of the ProductSpecification this Product belongs to.
lineOfBusiness	String	BPT Values defined by MEC	Optional	Describes which LineOfBusiness the ProductSpecifications associated to this category belong to.

Field Name	Data Type	Valid Values	Mandatory /Optional	Description
QuoteStatus	QuoteStatus	N/A	Not in use	Status of Quote call
productOffering	ProductOffering	N/A	Optional	Entity that defines the elements that can be sold.

3.1.3.4 ProductDisplay

Field Name	Data Type	Valid Values	Mandatory /Optional	Description
implCalculatedPrices	ImplCalculatedPrices []	N/A	Optional	Total prices for the ProductDisplay as configured and maintained in the CATALOG PRICE table. It will not be from price quoting engine
Links	Link[]	N/A	Not in use	Not in use
TotalOneTimeCalculatedPrice	TotalOneTimeCalculatedPrice	N/A	Not in use	Not in use
TotalRecurringCalculatedPrice	TotalRecurringCalculatedPrice	N/A	Not in use	Not in use
displayableItems	ProductDisplay[]	N/A	Optional	Products and Characteristic values that are defined as related to this Configuration group
DisplayableSimpleProductReferences	SimpleProductReferenceDisplay[]	N/A	Not in use	Represents a Simple Product that can be added to a Product, or that is already part of a Product.
productID	String	N/A	Mandatory	The ID of the Product
productSpecContainmentID	String	N/A	Optional	The ID of the ProductSpecContainment between this ProductDisplay and its parent Product
displayInformation	ProductSpecDisplay	N/A	Mandatory	How the ProductSpecification must be displayed in a User Interface application.

Field Name	Data Type	Valid Values	Mandatory /Optional	Description
productSpecContainment	ProductSpecContainment	N/A	Optional	The details of the ProductSpecContainment leading to the parent Product. By reference relation.
originalCatalogDisplayInformation	ProductSpecDisplay	N/A	Optional	The display information defined in the Product catalog. Should be used by the consumer when adding new child ProductDisplay instance and the parent @LABEL ProductDisplay} can be added in quantity
temporaryID	String	N/A	Mandatory	Temporary ID
implDisplayablePricePlan	ImplAssignedPricePlan[]	N/A	Optional	List of child AssignedPricePlan of this Product. The PP of the component.
displayableActivityCharges	ActivityChargeDisplay[]	N/A	not in use	List of child ActivityCharges of this Product
displayableCharacteristics	CharacteristicValueDisplay[]	N/A	Optional	Contains Products and Characteristicvalues that are defined as related to this Configuration group
allowedActions	AllowedAction[]	N/A	Optional	Actions that are allowed to be done on the product.
totalDeposit	TotalDepositCalculationResult	N/A	Optional	The total Deposits of the Product.
Selected	Boolean	True/False	Mandatory	Status
businessType	ProductBusinessType	N/A	Optional	The Business type of the Product.
serviceID	String	N/A	Optional	The Service ID of the Product.
name	String	N/A	Mandatory	The name of the Product

Field Name	Data Type	Valid Values	Mandatory /Optional	Description
action	ProductConfigurationActionType	N/A	Optional	Action that was taken on the Product.
status	ProductActivationStatus	N/A	Optional	The status of the Product. For example, ordered, provisioned.

3.1.3.5 ProductSpecDisplay

Field Name	Data Type	Valid Values	Mandatory /Optional	Description
Links	Link[]	N/A	Not in use	Not in use
enabled	Boolean	True/False	Mandatory	If value is TRUE then the ProductSpecification is editable.
dynamicProperties	FlexAttr[]	N/A	Optional	List of additional properties that were assigned to the ProductSpecDisplay .
visible	Boolean	True/False	Mandatory	If value is TRUE then the ProductSpecification must be displayed.
mandatory	Boolean	True/False	Mandatory	If value is TRUE then the ProductSpecification must be enforced as mandatory.
showStructure	Boolean	True/False	Mandatory	If value is True, then consumer is expected to show the structure of the Product, including ProductCharacteristics, contained Products and so on. If value is False, then consumer is expected to show the Product in abbreviated form, for example just the title.

3.1.3.6 ProductSpecContainment

Field Name	Data Type	Valid Values	Mandatory /Optional	Description
Links	Link[]	N/A	Not in use	Not in use
dynamicProperties	FlexAttr[]	N/A	Optional	List of additional properties that were assigned to the ProductSpecContainment. Core Provider software does not use these properties but specific implementations can add such properties and change behavior accordingly
minimumQuantity	Integer	N/A	Mandatory	The minimum number of copies of ProductSpecification that must be instantiated as Products contained within the parent Product.
containedProduct	ProductSpecification	N/A	Optional	ProductSpecification that is contained by another ProductSpecification. When the cardinality is more than one then the ProductSpecContainment defines a group that can be selected from allowing a choice of different ProductSpecifications up to the maximum number
defaultQuantity	Integer	N/A	Mandatory	The default number of copies of the child Product that are created contained within in the parent Product. When ProductSpecContainment-containedProducts is an array of different ProductSpecifications then this value has no meaning.
maximumQuantity	Integer	N/A	Mandatory	The maximum number of copies of ProductSpecification that can be instantiated as Products contained within the parent Product

3.1.3.7 FlexAttr

Field Name	Data Type	Valid Values	Mandatory /Optional	Description
name	String	N/A	Mandatory	Name
value	FlexAttrValue	N/A	Mandatory	Flex attribute value

3.1.3.8 FlexAttrValue

Field Name	Data Type	Valid Values	Mandatory /Optional	Description
integerValue	Integer	N/A	Optional	Value as Integer
stringValue	String	N/A	Optional	Value as String
dateValue	Date as Long	N/A	Optional	Value as Date Expected Date as Long. see assumption #3
decimalValue	BigDecimal	N/A	Optional	Value as Double
booleanValue	Boolean	N/A	Optional	Value as Boolean
valueType	FlexAttrValueType	N/A	Mandatory	Value types

3.1.3.9 FlexAttrValueType

Field Name	Data Type	Valid Values	Mandatory /Optional	Description
value	String	BOOLEAN,DATE,DECIMAL,INTEGER,STRING	Mandatory	Flexible Attribute value types.

3.1.3.10 ImplAssignedPricePlan

Field Name	Data Type	Valid Values	Mandatory /Optional	Description
Links	Link[]	N/A	Not in use	Not in use
TotalOneTimeCalculatedPrice	TotalOneTimeCalculatedPrice	N/A	Not in use	Not in use
TotalRecurringCalculatedPrice	TotalRecurringCalculatedPrice	N/A	Not in use	Not in use
implCalculatedPrices	ImplCalculatedPrices []	N/A	Optional	Total prices by type as configured and maintained in the CATALOG PRICE table. It will not be from price quoting engine

Field Name	Data Type	Valid Values	Mandatory /Optional	Description
displayInformation	PriceSchemaDisplay	N/A	Mandatory	The display information of the AssignedPricePlan
allowedActions	AllowedAction[]	N/A	Optional	Actions that are allowed to be done on the AssignedPricePlan
selected	Boolean	N/A	Mandatory	This indicates whether the AssignedPricePlan is part of the Product configuration or not.
assignedPricePlanID	String	N/A	Mandatory	A unique identifier of the AssignedPricePlan.
productSpecPricingID	String	N/A	Mandatory	ID of the ProductSpecPricing
recurringCalculatedPrices	RecurringCalculatedPrice[]	N/A	Not in use	Not in use
crossProductDiscount	Boolean	N/A	Mandatory	Indicates whether this AssignedPricePlan was added to the Product as result of cross-product discounts.
productSpecPricing	ProductSpecPricing	N/A	Mandatory	The details of the ProductSpecPricing leading to the parent Product.
OneTimeCalculatedPrices	OneTimeCalculatedPrice[]	N/A	Not in use	Not in use

Field Name	Data Type	Valid Values	Mandatory /Optional	Description
crossProductDiscountRuleDescription	String	N/A	Mandatory	Contains the description of the cross-products discount rule, that added this AssignedPricePlan.
name	String	N/A	Mandatory	A word, term, or phrase by which the PriceSchema is known and distinguished from other PriceSchemas
action	ProductConfigurationActionType	N/A	Optional	Action that was performed on the AssignedPricePlan
status	ProductActivationStatus	N/A	Optional	The status of the AssignedPricePlan, For example Active, Cease, Suspended. When a AssignedPricePlan is not saved yet (Catalog definition) this field will be empty.

3.1.3.11 PriceSchemaDisplay

Field Name	Data Type	Valid Values	Mandatory /Optional	Description
Links	Link[]	N/A	Not in use	Not in use
enabled	Boolean	N/A	Mandatory	If value is TRUE then the PriceSchema is editable
visible	Boolean	N/A	Mandatory	If value is TRUE then the PriceSchema must be displayed.

3.1.3.12 ProductSpecPricing

Field Name	Data Type	Valid Values	Mandatory /Optional	Description
Links	Link[]	N/A	Not in use	Not in use
dynamicProperties	FlexAttr[]	N/A	Mandatory	List of additional properties that were assigned to the association.
includeByDefault	InclusionType	N/A	Optional	If value is TRUE then the pricing is included when the Product is instantiated from the ProductSpecification.
childPricingSchema	PriceSchema	N/A	Optional	The PriceSchema that defines the pricing.
id	String	N/A	Mandatory	A unique identifier.

3.1.3.13 InclusionType

Field Name	Data Type	Valid Values	Mandatory /Optional	Description
value	String	INCLUDED_BY_DEFAULT, MANDATORY, NOT_INCLUDED_BY_DEFAULT	Mandatory	INCLUDED_BY_DEFAULT - The element is included, but can be removed. MANDATORY - The element is included and cannot be removed. NOT_INCLUDED_BY_DEFAULT - The element is not included and can be added.

3.1.3.14 CharacteristicValueDisplay

Field Name	Data Type	Valid Values	Mandatory /Optional	Description
Links	Link[]	N/A	Not in use	Not in use
ExternalWidget	ExternalWidget	N/A	Not in use	Represents External widget that must capture data used for product configuration.
displayInformation	CharacteristicDisplay	N/A	Mandatory	The display information of a Characteristic defined by in the Product catalog.

Field Name	Data Type	Valid Values	Mandatory /Optional	Description
originalCatalogDisplayInformation	CharacteristicDisplay	N/A	Optional	The display information of a Characteristic defined by in the Product catalog.
ActionDisplay	CharacteristicActionDisplay	N/A	Not in use	Not in use
BusinessType	CharacteristicBusinessType	N/A	Not in use	Not in use
productSpecCharacteristicID	String	N/A	Optional	The ID of the ProductSpecCharacteristic.
productSpecCharacteristic	ProductSpecCharacteristic	N/A	Mandatory	The ProductSpecCharacteristics used by a ProductSpecification.
resourceSpec	ResourceSpec	N/A	not in use	Represents the Catalog resource information
value	String	N/A	Optional	A value that the Characteristic can take on. In the case of a Range value, this represents the lower value of the range. See the class notes for the formatting rules for a value whose type is other than String.

3.1.3.15 ExternalWidget – not in use

Field Name	Data Type	Valid Values	Mandatory /Optional	Description
Links	Link[]	N/A	Not in use	Not in use
LogicalName	String	N/A	Mandatory	The logical name of the external widget.
PhysicalName	String	N/A	Mandatory	The physical name of the external widget.
InputParameters	ExternalWidgetParameters[]	N/A	Mandatory	Represents a parameter of the external widget that must capture data used for product configuration.

3.1.3.16 ExternalWidgetParameters – not in use

Field Name	Data Type	Valid Values	Mandatory /Optional	Description
Links	Link[]	N/A	Not in use	Not in use
Name	String	N/A	Mandatory	Parameter name.
Value	String	N/A	Mandatory	Parameter value. If type = CONSTANT: it contains the constant value if origin = PRODUCT_CHARACTERISTIC_VALUE: it contains the Relation ID of the sub product and the Characteristic caption, or only the Characteristic caption - if the attribute is under the same component that its attribute caused opening the widget.

3.1.3.17 CharacteristicDisplay

Field Name	Data Type	Valid Values	Mandatory /Optional	Description
Links	Link[]	N/A	Not in use	Not in use
enabled	Boolean	True/False	Mandatory	If True then the Characteristic is editable.
showHelpText	Boolean	True/False	Mandatory	If TRUE then Help text must be displayed with the Characteristic. The description of the Characteristic is typically used as the Help text.
dynamicProperties	FlexAttr[]	N/A	Optional	List of additional properties that were assigned to the CharacteristicDisplay.
visible	Boolean	True/False	Mandatory	If True then the Characteristic must be displayed.
displayFormat	CharacteristicDisplayFormat	N/A	Mandatory	The format for display for the Characteristic. Typically a User Interface type of control such as a button or calendar widget.
numberOfLines	Integer	N/A	Mandatory	The vertical size that best suits the display of the Characteristic.

Field Name	Data Type	Valid Values	Mandatory /Optional	Description
mandatory	Boolean	True/False	Mandatory	If True then the Characteristic must be assigned a value.
name	String	N/A	Mandatory	The name that must be used as a label for Characteristic. It is an alternative to the Characteristic name.
mask	String	N/A	Mandatory	The Display mask to be used for the Characteristic.

3.1.3.18 CharacteristicDisplayFormat

Field Name	Data Type	Valid Values	Mandatory /Optional	Description
value	String	CALENDAR,CALENDAR_AND_TIME,CHECKBOX,DATE_ONLY,DROPDOWN_LISTBOX,LISTBOX,MULTI_LINE_TEXTBOX,RADIO_BUTTON,TEXTBOX	Mandatory	List of values for Characteristic display format.

3.1.3.19 CharacteristicActionDisplay – not in use

Field Name	Data Type	Valid Values	Mandatory /Optional	Description
Links	Link[]	N/A	Not in use	Not in use
ActionDisplayType	CharacteristicActionDisplayType	N/A	Optional	The format for display for the CharacteristicActionDisplay. Typically a type of User Interface control such as a button or hyperlink.
FunctionActionType	String	N/A	Optional	Indicates whether the function that is invoked for this CharacteristicActionDisplay sets a single value or multiple values.
FunctionParameters	String	N/A	Optional	The list of parameters that is sent to the function that is invoked for this CharacteristicActionDisplay. Multiple values are separated by a comma.

Field Name	Data Type	Valid Values	Mandatory /Optional	Description
Enabled	Boolean	True/False	Optional	If True then the CharacteristicActionDisplayed is enabled.
Function	String	N/A	Optional	The name of the function that is invoked for this CharacteristicActionDisplayed. The function is assumed to be accessible by the User interface and will be invoked according to the relevant technology of the User interface. For example, in a channel using HTML this might be the name of a JavaScript procedure Name
Name	String	N/A	Optional	The name that must be used as a label for this CharacteristicActionDisplayed.

3.1.3.20 CharacteristicActionDisplayType – not in use

Field Name	Data Type	Valid Values	Mandatory /Optional	Description
Value	String	BUTTON	Mandatory	Value list for Characteristic action display type

3.1.3.21 CharacteristicBusinessType – not in use

Field Name	Data Type	Valid Values	Mandatory /Optional	Description
Value	String	COMMITMENT_DURATION,FRIENDS_AND_FAMILY,RESOURCE_CATEGORY	Mandatory	Value list for Characteristic business type

3.1.3.22 ProductSpecCharacteristic

Field Name	Data Type	Valid Values	Mandatory /Optional	Description
Links	Link[]	N/A	Not in use	Not in use
enabled	Boolean	True/False	Optional	If True then the Characteristic is editable.

Field Name	Data Type	Valid Values	Mandatory /Optional	Description
showHelpText	Boolean	True/False	Optional	If True then Help text must be displayed with the Characteristic. The description of the Characteristic is typically used as the Help text.
valueBasicType	CharacteristicValueBasicType	N/A	Mandatory	The underlying (basic) type of value that the CharacteristicValueType represents.
valueRestriction	CharacteristicValueRestrictionType	N/A	Mandatory	Defines how the possible set of values for the CharacteristicValueType are restricted.
ActionDisplay	CharacteristicActionDisplay	N/A	Not in use	Not in use
dynamicProperties	FlexAttr[]	N/A	Mandatory	List of additional properties that were assigned to the Characteristic.
visible	Boolean	True/False	Mandatory	If True then the Characteristic must be displayed.
displayFormat	CharacteristicDisplayFormat	N/A	Optional	The format for display for the Characteristic. Typically a User interface type of control such as a button or calendar widget.
numberOfLines	Integer	N/A	Optional	The vertical size that best suits the display of the Characteristic.
mandatory	Boolean	True/False	Optional	If True then the Characteristic must be assigned.
name	String	N/A	Mandatory	Free format short textual description.
defaultValue	CharacteristicValue	N/A	Optional	Represents the default value that is placed into the CharacteristicValue when a ConfigurableCharacteristic is instantiated
length	Integer	N/A	Mandatory	Maximum length of the value.
id	String	N/A	Mandatory	A unique identifier.

Field Name	Data Type	Valid Values	Mandatory /Optional	Description
mask	String	N/A	Optional	The Display mask to be used for the Characteristic.
values	CharacteristicValue[]	N/A	Mandatory	Represents the set of Valid Values of a Characteristic which valueType is DISCRETE or the set of valid ranges of a Characteristic} which have a valueType that is RANGE.
values	CharacteristicValue	N/A	Mandatory	Single value
description	String	N/A	Mandatory	Characteristic description.
code	String	N/A	Mandatory	A value that the Characteristic can take on. In the case of a Range value, this represents the lower value of the range. See the class notes for the formatting rules for a value whose type is other than String.

3.1.3.23 CharacteristicValueBasicType

Field Name	Data Type	Valid Values	Mandatory /Optional	Description
value	String	BL,CH,CX,DB,DT,NU	Mandatory	“BL” - BOOLEAN, “CH” - STRING, “CX” - COMPLEX, “DB” - DOUBLE, “DT” - DATE, “NU” - INTEGER

3.1.3.24 CharacteristicValueRestrictionType

Field Name	Data Type	Valid Values	Mandatory /Optional	Description
value	String	DI,GE,RA	Mandatory	“DI” - DISCRETE, “GE” - GENERAL, “RA” - RANGE

3.1.3.25 CharacteristicValue

Field Name	Data Type	Valid Values	Mandatory /Optional	Description
Links	Link[]	N/A	Not in use	Not in use
valueForDisplay	String	N/A	Mandatory	<p>A representation of the value suitable for display to human users.</p> <p>For example in Amdocs Shared Product Information Model, represents the decode (translation into current national language) where the value is a code. For example, a codeAC might be used to represent Active state of a Product. The English decode would be Active.</p>
valueTo	String	N/A	Mandatory	<p>The upper range value that a range-type Characteristic can take on.</p> <p>See the class notes for the formatting rules for a value whose type is other than String.</p>
value	String	N/A	Mandatory	<p>A value that the Characteristic can take on. In the case of a Range value, this represents the lower value of the range.</p> <p>See the class notes for the formatting rules for a value whose type is other than String.</p>

3.1.3.26 ResourceSpec – not in use

Field Name	Data Type	Valid Values	Mandatory /Optional	Description
Links	Link[]	N/A	Not in use	Not in use
categoryDefaultValue	Option	N/A	Optional	Represents the default value of the Resource category

Field Name	Data Type	Valid Values	Mandatory /Optional	Description
categoryValues	Option	N/A	Optional	In the case of a single Category value.
categoryValues	Option[]	N/A	Optional	Represents the list of Resource category Valid Values
type	String	N/A	Optional	Resource Type - derived from the Resource Type dynamic property

3.1.3.27 Option – not in use

Field Name	Data Type	Valid Values	Mandatory /Optional	Description
Links	Link[]	N/A	Not in use	Not in use
value	String	N/A	Mandatory	Displayable string for the value
code	String	N/A	Mandatory	Code of value

3.1.3.28 AllowedAction

Field Name	Data Type	Valid Values	Mandatory /Optional	Description
Links	Link[]	N/A	Not in use	Not in use
allowed	Boolean	N/A	Mandatory	Indicates whether or not the action is allowed for this Product.
type	ProductConfigurationActionType	N/A	Optional	Indicates the type of the action.

3.1.3.29 TotalDepositCalculationResult

Field Name	Data Type	Valid Values	Mandatory /Optional	Description
Links	Link[]	N/A	Not in use	Not in use
actualAmount	BigDecimal	N/A	Mandatory	The total amount to be used to when paying the {@LABEL TotalDepositCalculationResult}. This amount includes any waiving or overrides.

Field Name	Data Type	Valid Values	Mandatory /Optional	Description
overrideAmount	BigDecimal	N/A	Mandatory	The total of all the overrides and waives amount of the {@LABEL DepositCalculatedResult}.
originalAmount	BigDecimal	N/A	Mandatory	The total amount to be paid as a {@LABEL TotalDepositCalculationResult} recommended by the calculation.
currency	String	'USD'	Mandatory	The currency in which the money amounts are applied.

3.1.3.30 ProductBusinessType

Field Name	Data Type	Valid Values	Mandatory /Optional	Description
value	String	DEVICE,FRIENDS_AND_FAMILY,TV_CHANNEL,TV_PACKAGE	Mandatory	List of Valid Values for product business type

3.1.3.31 ProductConfigurationActionType

Field Name	Data Type	Valid Values	Mandatory /Optional	Description
value	String	AD, ES, RM, RS, SU, UP	Mandatory	“AD” - Add, “ES” - Reestablish, “RM” - Remove, “RS” - Resume, “SU” - Suspend, “UP” - Change

3.1.3.32 ProductActivationStatus

Field Name	Data Type	Valid Values	Mandatory /Optional	Description
value	String	AC, CE, SU	Mandatory	“AC” - ACTIVE, “CE” - CEASED, “SU” - SUSPENDED

3.1.3.33 CompatibilityStatus

Field Name	Data Type	Valid Values	Mandatory /Optional	Description
value	String	BLOCKING,COMPATIBLE,NOT_CHECKED	Mandatory	BLOCKING - in case that there is error in compatibility COMPATIBLE - all validation passed. NOT_CHECKED - compatibility was not performed.

3.1.3.34 SimpleProductReferenceDisplay –not in use

Field Name	Data Type	Valid Values	Mandatory /Optional	Description
Links	Link[]	N/A	Not in use	Not in use
implCalculatedPrices	ImplCalculatedPrices []	N/A	Optional	Total prices by type as configured and maintained in the CATALOG PRICE table. It will not be from price quoting engine.
productID	String	N/A	Mandatory	The ID of the Product.
productSpecContainmentID	String	N/A	Mandatory	The ID of the ProductSpecContainment between this ProductDisplay and its parent Product
displayInformation	ProductSpecDisplay	N/A	Optional	The display information defined by in the Product catalog. Should be used by the consumer when adding new child ProductDisplay instance and the parent @LABEL ProductDisplay} can be added in quantity.
productSpecContainment	ProductSpecContainment	N/A	Optional	The details of the ProductSpecContainment leading to the parent Product.
originalCatalogDisplayInformation	ProductSpecDisplay	N/A	Optional	The display information defined by in the Product catalog. Should be used by the consumer when adding new child ProductDisplay instance and the parent @LABEL ProductDisplay} can be added in quantity.
temporaryID	String	N/A	Mandatory	Temporary ID

Field Name	Data Type	Valid Values	Mandatory /Optional	Description
implDisplayablePricePlan	ImplAssignedPricePlan[]	N/A	Optional	List of child AssignedPricePlan of this Product.
displayableActivityCharges	ActivityChargeDisplay[]	N/A	Optional	List of child ActivityCharges of this Product.
displayableCharacteristics	CharacteristicValueDisplay[]	N/A	Optional	Contains Products and Characteristic values that are defined as related to this Configuration group.
allowedActions	AllowedAction[]	N/A	Optional	Actions that are allowed to be done on the product.
TotalDeposit	TotalDepositCalculationResult	N/A	Not in use	Not in use
selected	Boolean	True/False	Mandatory	Status
businessType	ProductBusinessType	N/A	Optional	The business type of the Product.
simpleProductSpecID	String	N/A	Mandatory	
serviceID	String	N/A	Mandatory	The Service ID of the Product.
productSpecRelationshipID	String	N/A	Mandatory	The ID that is used to select this mobile device.
originalProductSpecification	ProductSpecification	N/A	Optional	
browsingCategory	BrowsingCategory	N/A	Optional	A category of Catalog items
name	String	N/A	Mandatory	The name of the Product
default	Boolean	True/False	Mandatory	
action	ProductConfigurationActionType	N/A	Optional	Action that was taken on the Product
status	ProductActivationStatus	N/A	Optional	The status of the Product. For example, ordered, provisioned.

3.1.3.35 BrowsingCategory – not in use

Field Name	Data Type	Valid Values	Mandatory /Optional	Description
Links	Link[]	N/A	Not in use	Not in use
FilterFacets	FilterFacet[]	N/A	Not in use	Not in use
Lob	LineOfBusinessDetails[]	N/A	Not in use	Represents LOB details
AdditionalProperties	FlexAttr[]	N/A	Not in use	Not in use
Comparable	Boolean	True/False	Not in use	Not in use
name	String	N/A	Optional	Free format short textual description.
Type	BrowsingCategoryType	N/A	Not in use	Not in use
id	String	N/A	Optional	A unique identifier.
code	String	N/A	Optional	A language-independent, human-readable string that uniquely identifies the Catalog item type. Typically used in integration scenarios where reference data needs to be matched between multiple systems, since using the Catalog item type identifier would create an undesirable dependency between the Catalog and the external system

3.1.3.36 FilterFacet – not in use

Field Name	Data Type	Valid Values	Mandatory /Optional	Description
Links	Link[]	N/A	Not in use	Not in use
Lob	String[]	N/A	Optional	Line Of Business
Lob	String	N/A	Optional	Single value of line of business
ValueRestriction	CharacteristicValueRestrictionType	N/A	Optional	Defines how the possible set of values for the Value Type are restricted.
AdditionalProperties	FlexAttr[]	N/A	Optional	List of additional properties that were assigned to the FilterFacet
ValueType	CharacteristicValueBasicType	N/A	Optional	The underlying (basic) type of values.
Name	String	N/A	Optional	Free format short textual description.
Id	String	N/A	Optional	A unique identifier.
Values	FilterFacetValue[]	N/A	Optional	List of values of the Facet to be used for filtering.
Code	String	N/A	Optional	A unique identifier that is human readable.

3.1.3.37 FilterFacetValue – not in use

Field Name	Data Type	Valid Values	Mandatory /Optional	Description
Links	Link[]	N/A	Not in use	Not in use
ValueTo	String	N/A	Optional	The upper range value that a Range-type item property can take on.
Value	String	N/A	Optional	A value that the item can take on. In the case of a Range value, this represents the lower value of the range.
Id	String	N/A	Optional	A unique identifier.

3.1.3.38 LineOfBusinessDetails – not in use

Field Name	Data Type	Valid Values	Mandatory /Optional	Description
Links	Link[]	N/A	Not in use	Not in use
DisplayIdentifier	String	N/A	Optional	Defines the identifier for each LOB; used for presentation; example for Wireless LOB, Service ID (MSISDN) is used in UI, for TV the Address, and so on. Valid value: SERVICE_ID, ADDRESS
DisplaySPOName	Boolean	True/False	Optional	Define the logic whether to display the SPO name before the Plan name according to the implementation.
PlansCategoryStructureID	String	N/A	Optional	The associated Category ID of the plans for the LOB.
SmallPicture	String	N/A	Optional	Small Picture URL.
BigPicture	String	N/A	Optional	Big Picture URL of the line of business
Name	String	N/A	Optional	Line of business name.
Code	String	N/A	Optional	Line of business identifier/code.

3.1.3.39 BrowsingCategoryType – not in use

Field Name	Data Type	Valid Values	Mandatory /Optional	Description
Value	String	LIST,NAVIGATION	Mandatory	List of Browsing Category type Valid Values

3.1.3.40 RuleExecutionMessage

Field Name	Data Type	Valid Values	Mandatory /Optional	Description
Links	Link[]	N/A	Not in use	Not in use
objectId	String	N/A	Mandatory	Identifies the object that this message pertains to.
severity	String	BPT Values defined by MEC	Mandatory	The message severity.
configurationStepSpecID	String	N/A	not in use	Not in use
productSpecCharacteristicID	String	N/A	Mandatory	The ProductSpecCharacteristics used by a ProductSpecification.
messageId	String	N/A	Mandatory	An identifier that uniquely identifies this message. Used by certain applications in conjunction with RuleExecutionMessage parameters to create a truncated message suitable for some UI devices.
ruleLevel	ConfigurationRuleLevel	N/A	Optional	Indicates the configuration level that the rule runs on.
objectName	String	N/A	Mandatory	
configurationStepSpecName	String	N/A	not in use	Not in use
parameters	FlexAttr[]	N/A	Optional	Named values that were used to build the message text.Used by certain applications in conjunction with MessageId to create a truncated message suitable for some UI devices.
text	String	N/A	Mandatory	The message formatted in the client's locale.

3.1.3.41 ConfigurationRuleLevel

Field Name	Data Type	Valid Values	Mandatory /Optional	Description
value	String	A,P,S	Mandatory	A - ALL_STEPS, P – PRODUCT S - STEP

3.1.3.42 ConfigurationStepDisplay – not in use

Field Name	Data Type	Valid Values	Mandatory /Optional	Description
Links	Link[]	N/A	Not in use	Not in use
displayableItems	ProductDisplay[]	N/A	Optional	Contains Products and CharacteristicValues that are defined as related to this Configuration group.
ExternalWidget	ExternalWidget	N/A	Not in use	Represents External widget that must capture data used for Product configuration.
compatibilityStatus	CompatibilityStatus	N/A	Optional	This indicates the Compatibility status of the step. It takes into consideration all Products related to the ConfigurationStepSpecification.
PrerequisiteSteps	ConfigurationStepDisplay[]	N/A	Not in use	Contains Products and Characteristicvalues that are defined as related to this Configuration group.
displayableSimpleProductReferences	SimpleProductReferenceDisplay[]	N/A	Optional	Represents a Simple Product that can be added to a Product, or that is already part of a Product.
enabled	Boolean	True/False	Mandatory	An indication of whether the Configuration Step must be enabled or disabled to the user. Default value is True.
name	String	N/A	Mandatory	Configuration step name.
message	String	N/A	Mandatory	A message that is related to the Configuration Step. Example: when Step is disabled due to Point of No Return passing, then a message can be set on the step to be displayed to the user.
type	String	N/A	Optional	Configuration step type.

Field Name	Data Type	Valid Values	Mandatory /Optional	Description
id	String	N/A	Mandatory	Configuration Step ID
description	String	N/A	Mandatory	Configuration step description.

3.1.3.43 ProductSpecification

Field Name	Data Type	Valid Values	Mandatory /Optional	Description
Links	Link[]	N/A	Not in use	Not in use
RecurringPrice	RecurringCharge	N/A	Not in use	Not in use
OneTimePrice	OnetimeCharge	N/A	Not in use	Not in use
OfferingToProductId	String	N/A	Not in use	Offering to Product Relation ID.
Lob	String	N/A	Not in use	Line of business code
plan	PriceSchema	N/A	Mandatory	pricing object
DetailsGroups	CatalogItemCharacteristicGroup	N/A	Not in use	Not in use
dynamicProperties	FlexAttr[]	N/A	Optional	Dynamic properties
MinimumQuantity	Integer	N/A	Not in use	Not in use
MaximumQuantity	Integer	N/A	Not in use	Not in use
LobImage	String	N/A	Not in use	Not in use
attachments	Attachment[]	N/A	Optional	Documents associated to the ProductSpecification.
characteristics	ProductSpecCharacteristic[]	N/A	Optional	The ProductSpecCharacteristics used by a ProductSpecification.
SharedProduct	Boolean	True/False	Not in use	The shared product in the family
LobName	String	N/A	Not in use	Line of business name according to the language
name	String	N/A	Mandatory	The Reference number of the ProductOrderItem.
id	String	N/A	Mandatory	The unique primary key of the ProductSpecification, together with the related ProductCatalogVersion
type	String	N/A	Optional	The type of the ProductSpecification. A means of classification.

Field Name	Data Type	Valid Values	Mandatory /Optional	Description
level	String	BPT Values defined by MEC	Optional	Level of the product, in other words whether it is GLP or not.
description	String	N/A	Mandatory	The ID of the ProductOrderItem.
code	String	N/A	Mandatory	The ID of the Product

3.1.3.44 RecurringCharge – not in use

Field Name	Data Type	Valid Values	Mandatory /Optional	Description
Links	Link[]	N/A	Not in use	Not in use
Max	BigDecimal	N/A	Mandatory	The maximum price that can be applied.
Min	BigDecimal	N/A	Mandatory	The minimum price that can be applied
ChargeFrequencyFactor	Integer	N/A	Optional	The factor number to be applied
ChargeFrequencyUnit	TimeUnits	N/A	Optional	The frequency of the charge
OriginalAmount	BigDecimal	N/A	Mandatory	Original price before discounts were applied.
Amount	BigDecimal	N/A	Mandatory	Charge amount.
Description	String	N/A	Not in use	Charge description
Currency	String	N/A	Mandatory	The currency of the price.

3.1.3.45 OnetimeCharge – not in use

Field Name	Data Type	Valid Values	Mandatory /Optional	Description
Links	Link[]	N/A	Not in use	Not in use
Max	BigDecimal	N/A	Mandatory	The maximum price that can be applied.
Min	BigDecimal	N/A	Mandatory	The minimum price that can be applied.
OriginalAmount	BigDecimal	N/A	Mandatory	Original charge amount before discounts were applied
Amount	BigDecimal	N/A	Mandatory	Charge amount.
Currency	String	N/A	Mandatory	The currency of the price.

3.1.3.46 PriceSchema

Field Name	Data Type	Valid Values	Mandatory /Optional	Description
Links	Link[]	N/A	Not in use	Not in use
CrossProductDiscounts	CustomerDiscounts[]	N/A	Not in use	Not in use
Summary	CatalogItemCharacteristic[]	N/A	Not in use	Not in use
DetailsGroups	CatalogItemCharacteristicGroup[]	N/A	Not in use	Not in use
Overview	CatalogItemCharacteristic[]	N/A	Not in use	Not in use

Field Name	Data Type	Valid Values	Mandatory /Optional	Description
dynamicProperties	FlexAttr[]	N/A	Optional	List of additional properties that were assigned to the PriceSchema.
implCalculatedPrices	ImplCalculatedPrices []	N/A	Optional	Total charges by type as configured and maintained in the CATALOG PRICE table. It will not be from price quoting engine.
PlanType	String	N/A	Not in use	Not in use
ContainingOfferDetailsGroup	CatalogItemCharacteristicGroup[]	N/A	Not in use	Not in use
ChangeToThisPlanAllowed	Boolean	True/False	Not in use	Indicates if the Catalog plan can replace the assigned plan
marketingDescription	String	N/A	Optional	URL to the marketing description of the plan
name	String	N/A	Mandatory	A word, term, or phrase by which the PriceSchema is known and distinguished from other PriceSchemas
id	String	N/A	Mandatory	A unique identifier
type	PriceSchemaType	N/A	Optional	The type of the PriceSchema
DisplayName	String	N/A	Not in use	Not in use

Field Name	Data Type	Valid Values	Mandatory /Optional	Description
level	String	N/A	Optional	The level that the PriceSchema can be applied
image	String	N/A	Optional	URL to the image of the plan
description	String	N/A	Mandatory	A long textual description of the PriceSchema

3.1.3.47 PriceSchemaType

Field Name	Data Type	Valid Values	Mandatory /Optional	Description
value	String	ADDITIONAL,BASIC,DISCOUNT,PRIMARY	Mandatory	List of Valid Values for price schema type

3.1.3.48 CatalogItemCharacteristicGroup

Field Name	Data Type	Valid Values	Mandatory /Optional	Description
Links	Link[]	N/A	Not in use	Not in use
characteristics	CatalogItemCharacteristic[]	N/A	Optional	A Characteristic of an item.
name	String	N/A	Mandatory	Free format short textual description.

3.1.3.49 CatalogItemCharacteristic

Field Name	Data Type	Valid Values	Mandatory /Optional	Description
Links	Link[]	N/A	Not in use	Not in use
valueRestriction	CharacteristicValueRestrictionType	N/A	Optional	Defines how the possible set of values are restricted.
additionalProperties	FlexAttr[]	N/A	Optional	Additional properties list of the item

Field Name	Data Type	Valid Values	Mandatory /Optional	Description
valueType	CharacteristicValueBasicType	N/A	Optional	The underlying (basic) type of value of the characteristic
name	String	N/A	Optional	Free format short textual description.
values	CatalogItemCharacteristicValue[]	N/A	Optional	A number, text, or date that can be assigned to an instance of characteristic

3.1.3.50 CatalogItemCharacteristicValue

Field Name	Data Type	Valid Values	Mandatory /Optional	Description
Links	Link[]	N/A	Not in use	Not in use
valueTo	String	N/A	Optional	The upper range value that a range-type characteristic can take on.
value	String	N/A	Optional	A value that the characteristic can take on. In the case of a range value, this represents the lower value of the range.

3.1.3.51 ImplCalculatedPrices

Field Name	Data Type	Valid Values	Mandatory /Optional	Description
sequenceId	Integer	N/A	Mandatory	Sequence ID
ppCid	String	N/A	Mandatory	The Price Plan Catalog ID (PP CID) automatically generated in MEC.
ppName	String	N/A	Optional	the Price Plan description, free text for maintenance purposes

Field Name	Data Type	Valid Values	Mandatory /Optional	Description
ppType	String	RP – retail price (regular price). Each Price Plan is associated to a Retail price (the record with this PP TYPE is mandatory) DP – Percentage Discount (the record with this PP TYPE is optional) DF – Flat Discount (this amount overrides the regular price) (the record with this PP TYPE is optional) DD – Dollar Off Discount (the record with this PP TYPE is optional)	Mandatory	The Price Plan type
tierFrom	String	N/A	Optional	The discount tiers start (in month), for example 1, meaning from the 1 month, or 13, meaning from the second year
tierTo	String	N/A	Optional	The discount tiers end (in months), for example 12, meaning until the 12-th month (discount is applied for one year only). The value 999 will mean that discount is not limited in time.
quantityAtt	String	N/A	Optional	The ID of the Quantity attribute on the component. This code, which is defined in MEC for each attribute, will help the target application to find the Quantity value set during the Product configuration
quantityFrom	Integer	N/A	Optional	The number of the service instances from which the discount is applied.
quantityTo	Integer	N/A	Optional	The number of the service instances to which the discount is applied. The value 999 will mean that discount is not limited in number of instances.
amountType	String	OC – One-Time price RC – Recurring price DC – Discount	Mandatory	Type of the amount price in the next column.
amount	BigDecimal	N/A	Mandatory	The value of the dollar amount for the retail price, flat discount or dollar off discount, or percentage in case of percentage discount.
quantity	Integer	N/A	Optional	Number of related price plans

Field Name	Data Type	Valid Values	Mandatory /Optional	Description
startDate	Date as Long	N/A	Mandatory	The Price Plan effective date Expected Date as Long. see assumption #3
endDate	Date as Long	N/A	Optional	The Price Plan expiration date. The empty field will mean that no expiration date was set Expected Date as Long. see assumption #3
biller	String	N/A	Mandatory	Name of the biller (CSG)
market	String	N/A	Mandatory	Name of the Market
subMarket	String	N/A	Mandatory	Name of the submarket
ftaFrom	String	N/A	Mandatory	FTA from
ftaTo	String	N/A	Mandatory	FTA to
custType	String	N/A	Mandatory	Type of customer
code	String	N/A	Mandatory	Value of the CSG code
codeType	String	I - Installation S - Service code P - Package code T - Tracking code D - Discount	Mandatory	type of the code to be sent to the Biller (for CSG maintenance use)

3.1.3.52 ActivityChargeDisplay – not in use

Field Name	Data Type	Valid Values	Mandatory /Optional	Description
Links	Link[]	N/A	Not in use	Not in use
activityCharge	ActivityCharge	N/A	Optional	Link to the ActivityCharge
oneTimeCalculatedPrice	OneTimeCalculatedPrice	N/A	Not in use	Not in use
implCalculatedPrices	ImplCalculatedPrices []	N/A	Optional	Prices as configured and maintained in the CATALOG PRICE table. It will not be from price quoting engine.
activityChargeID	String	N/A	Mandatory	A unique identifier of the {@PATH ActivityCharge}.

3.1.3.53 ActivityCharge – not in use

Field Name	Data Type	Valid Values	Mandatory /Optional	Description
Links	Link[]	N/A	Not in use	Not in use
dynamicProperties	FlexAttr[]	N/A	Optional	List of additional properties that were assigned to the ActivityCharge
name	String	N/A	Mandatory	A word, term, or phrase by which the ActivityCharge is known and distinguished from other ActivityCharges for different purposes
id	String	N/A	Mandatory	A unique identifier
description	String	N/A	Mandatory	Texts that describe the ActivityCharge for different purposes
code	String	N/A	Mandatory	The ID of the activity

3.1.3.54 OneTimeCalculatedPrice – not in use

Field Name	Data Type	Valid Values	Mandatory /Optional	Description
Links	Link[]	N/A	Not in use	Not in use
OriginalAmount	BigDecimal	N/A	Mandatory	The original amount of the CalculatedPrice - before any discounts.
DiscountPercentage	BigDecimal	N/A	Mandatory	The percentage of discount amount of the CalculatedPrice}. Calculated as $\text{CalculatedPrice.discountAmount} / \text{CalculatedPrice.originalAmount} * 100$
FinalAmount	BigDecimal	N/A	Mandatory	The final amount of the CalculatedPrice after any discounts and override/waive.
FinalTaxAmount	BigDecimal	N/A	Mandatory	The final tax amount of the CalculatedPrice after any discounts.
OriginalTaxAmount	BigDecimal	N/A	Mandatory	The original tax amount of the CalculatedPrice - before any discounts.
DiscountAmount	BigDecimal	N/A	Mandatory	The discount amount of the CalculatedPrice..
ChargeDescription	String	N/A	Not in use	The description of the actual charge, depending on the reference data model, which may differ from the description in the Catalog definition.
Name	String	N/A	Mandatory	The Catalog name of the originating PriceSchema or ActivityCharge
Description	String	N/A	Mandatory	The Catalog description of the originating PriceSchema or ActivityCharge
Currency	String	N/A	Mandatory	The currency of the CalculatedPrice

3.1.3.55 QuoteStatus – not in use

Field Name	Data Type	Valid Values	Mandatory /Optional	Description
Value	String	FAILED,NOT_CALLED,SUCCESS	Mandatory	Valid Values list for Quote status.

3.1.3.56 ProductOffering

Field Name	Data Type	Valid Values	Mandatory /Optional	Description
Links	Link[]	N/A	Not in use	Not in use
CrossProductDiscounts	CustomerDiscounts[]	N/A	Not in use	Not in use
OneTimePrice	OnetimeCharge	N/A	Not in use	Not in use
products	ProductSpecification[]	N/A	Optional	
detailsGroups	CatalogItemCharacteristicGroup[]	N/A	Optional	
dynamicProperties	FlexAttr[]	N/A	Optional	List of additional properties that are assigned to the ProductOffering
attachments	Attachment[]	N/A	Optional	Documents that are associated with the ProductOffering
implCalculatedPrices	ImplCalculatedPrices []	N/A	Optional	Total Charge of an item as configured and maintained in the CATALOG PRICE table. It will not be from price quoting engine
name	String	N/A	Mandatory	The reference number of the ProductOrderItem
id	String	N/A	Mandatory	A unique identifier
bundle	Boolean	N/A	Mandatory	If value is TRUE then the ProductOffering is a bundle. A bundle is a ProductOffering that is composed of more than one ProductSpecifications, regardless if it is more than one instance of the same product or instances of different products

Field Name	Data Type	Valid Values	Mandatory /Optional	Description
description	String	N/A	Mandatory	The ID of the ProductOrderItem
code	String	N/A	Mandatory	The ID of the Product

3.1.3.57 CustomerDiscounts – not in use

Field Name	Data Type	Valid Values	Mandatory /Optional	Description
Links	Link[]	N/A	Not in use	Not in use
ProductOfferingInstanceID	String	N/A	Optional	
ProductOfferingName	String	N/A	Optional	
SimpleProductOfferingName	String	N/A	Optional	
RecurringPrice	RecurringPriceForOrder	N/A	Not in use	Not in use
OneTimePrice	OneTimePriceForOrder	N/A	Not in use	Not in use
ProductOrderItemID	String	N/A	Optional	
ProductServiceID	String	N/A	Optional	Service ID of the product the discount was given
ProductLineOfBusiness	String	N/A	Optional	Name of the product the discount was given
ProductName	String	N/A	Optional	Name of the product the discount was given
ProductCatalogID	String	N/A	Optional	Catalog ID of the discount
ActionID	String	N/A	Optional	A unique identifier of the Order item
DiscountCatalogID	String	N/A	Optional	The ID of the discount in the Catalog
DiscountStatus	String	N/A	Optional	Status of the discount, can be new, removed, no change
RuleDescription	String	N/A	Optional	Description of the rule

Field Name	Data Type	Valid Values	Mandatory /Optional	Description
Name	String	N/A	Optional	Name of discount
Id	String	N/A	Optional	APID of the product the discount was given
Description	String	N/A	Optional	Description of the discount

3.1.3.58 RecurringPriceForOrder – not in use

Field Name	Data Type	Valid Values	Mandatory /Optional	Description
Links	Link[]	N/A	Not in use	Not in use
OriginalAmount	BigDecimal	N/A	Optional	The original amount of the price - before any discounts
ProratedAmount	BigDecimal	N/A	Optional	The amount of the quoted recurring price proportionate to the required period of the first bill.
ProratedDiscountAmount	BigDecimal	N/A	Optional	The discount amount of the quoted recurring price calculated proportionately to the required period.
ProratedTaxAmount	BigDecimal	N/A	Optional	The tax amount of the quoted recurring price calculated proportionately to the required period of the first bill.
DiscountPercentage	BigDecimal	N/A	Optional	Discount percentage
Frequency	String	N/A	Optional	The price frequency, for example: monthly, weekly, bi-weekly.

Field Name	Data Type	Valid Values	Mandatory /Optional	Description
FinalAmount	BigDecimal	N/A	Optional	The final amount of the price after any discounts and override/waive.
FinalAmountWithTax	BigDecimal	N/A	Optional	The finalAmount + finalTaxAmount
FinalTaxAmount	BigDecimal	N/A	Optional	The final tax amount of the price after any discounts
OriginalTaxAmount	BigDecimal	N/A	Optional	The original tax amount of the price - before any discounts.
Currency	String	N/A	Optional	The currency of the price.

3.1.3.59 OneTimePriceForOrder – not in use

Field Name	Data Type	Valid Values	Mandatory /Optional	Description
Links	Link[]	N/A	Not in use	Not in use
OriginalAmount	BigDecimal	N/A	Optional	The original amount of the price - before any discounts
DiscountPercentage	BigDecimal	N/A	Optional	Discount percentage
FinalAmount	BigDecimal	N/A	Optional	The final amount of the price after any discounts and override/waive
FinalAmountWithTax	BigDecimal	N/A	Optional	The finalAmount + finalTaxAmount
FinalTaxAmount	BigDecimal	N/A	Optional	The final tax amount of the price after any discounts.
OriginalTaxAmount	BigDecimal	N/A	Optional	The original tax amount of the price - before any discounts.

Field Name	Data Type	Valid Values	Mandatory /Optional	Description
Description	String	N/A	Optional	One Time Price description such as Activation fee, Termination fee, Installation fee
Currency	String	N/A	Optional	The currency of the price

3.1.3.60 Attachment

Field Name	Data Type	Valid Values	Mandatory /Optional	Description
Links	Link[]	N/A	Not in use	Not in use
purpose	String	BPT Values defined by MEC	Optional	The purpose of the Attachment, Valid Values from Attachment Purpose. Examples might include: Marketing, Training
attachmentLocation	String	N/A	Optional	A URL (or some other location string) that defines the logical location of the Attachment within some external repository
type	String	BPT Values defined by MEC	Optional	A logical type for the Attachment, Valid Values from AttachmentType. Examples might include: Document, Picture Contrast with mime_type, which is the technical type of the content.

3.1.3.61 ProductSpecification

Field Name	Data Type	Valid Values	Mandatory /Optional	Description
Links	Link[]	N/A	Not in use	Not in use
offeringToProductId	String	N/A	Mandatory	Offering to Product Relation ID.
lob	String	BPT Values defined by MEC	Optional	Line of business code
plan	PriceSchema	N/A	Mandatory	The PriceSchema that defines the plan
DetailsGroups	CatalogItemCharacteristicGroup	N/A	Not in use	Not in use
DynamicProperties	FlexAttr[]	N/A	Not in use	Not in use
minimumQuantity	Integer	N/A	Mandatory	Minimum quantity
maximumQuantity	Integer	N/A	Mandatory	Maximum quantity
lobImage	String	N/A	Optional	Lob image
Attachments	Attachment[]	N/A	Not in use	Not in use
Characteristics	ProductSpecCharacteristic[]	N/A	Not in use	Not in use
SharedProduct	Boolean	True/False	Not in use	The shared product in the family
lobName	String	BPT Values defined by MEC	Optional	Line of business name according to the language
name	String	N/A	Mandatory	The Reference number of the ProductOrderItem.
Id	String	N/A	Not in use	Not in use
Type	String	N/A	Not in use	The type of the ProductSpecification. A means of classification.
Level	String	N/A	Not in use	Level of the product in other words, whether it is GLP or not.
Description	String	N/A	Not in use	The ID of the ProductOrderItem.
Code	String	N/A	Not in use	The ID of the Product

3.1.3.62 Link – not in use

Field Name	Data Type	Valid Values	Mandatory /Optional	Description
Rel	String	N/A	Not in use	Not in use
Href	String	N/A	Not in use	Not in use

3.1.4 Response Sample

TBD

3.1.5 Sequence Diagram

N/A

3.1.6 Operation Synchronicity

Synchronous

3.1.7 Operation Type

Proxy

3.1.8 Related Services

N/A

3.1.9 Operation Specific Header Information

3.1.9.1 Request Header

Field Name	Valid Values	Data Type	Type	Mandatory /Optional	Description
username	N/A	String	Header	Mandatory	User name
password	N/A	String	Header	Mandatory	Password
applicationId	N/A	String	Header	Mandatory	For example, Charter Gateway
transactionId	N/A	String	Header	Mandatory	A Unique ID for a certain REST call.
timeStamp	N/A	Date as Long	Header	Mandatory	The time the REST was called. Expected Date as Long. see assumption #3
lo(locale)	en_US	String	Query	Mandatory	Locale
sc (sales channel)	CC	String	Query	Mandatory	Sales channel
poi (product order)	N/A	String	query	Optional	The Product Order ID that this product is part of. Optional parameter. If sent might impact the pricings of the product
rp	N/A	Boolean	query	Optional	Indicates whether to retrieve the Price Schema options
rpc	N/A	Boolean	Object	Optional	Indicates whether to return the List prices of available components

Field Name	Valid Values	Data Type	Type	Mandatory /Optional	Description
id	N/A	String	path	Optional	The Business Customer ID , in case of anonymous send 0
product-order-item-id	N/A	String	path	Mandatory	The Order Action ID (or Product Order Item ID) of the order that contains the product that is having its device changed.

3.1.10 Operation Specific Logging

N/A

3.1.11 Operation Specific Error Handling

#	Exception	Error Code	Description/Scenario
1	Unauthorized	401	Security issue
2	Forbidden	403	Security issue
3	BadRequest	400	The request could not be understood by the server
4	RequestTimeout	408	Request timed out.
5	PreconditionFailed	412	Re-Authentication Failed
6	NotFound	404	Resource Not Found
7	InternalServerError	500	Server encountered problem
8	EntityNotFound	404	Error for Entity Not Found
9	MissingMandatoryQueryParameter	400	Mandatory query parameters are missing.
10	InvalidUsage	400	Thrown when the API is not used in the defined way
11	OperationFailed	500	This is a generic error returned for any back-end system exception not mapped to any other REST API error.
12	PartialContent	206	If the required PP CODE does not exist in the table or no effective record was found, the error message No valid record for the Price Plan <PP CODE> was found.

3.1.11.1 Error code structure - ImplErrorInfo

Field Name	Data Type	Mandatory /Optional	Description
errorCode	String	Mandatory	Error code, single string.
description	String	Mandatory	A description of the error.
errorMessage	String	Mandatory	Error message.
errorUUID	String	Mandatory	Unique number to identify the error.

3.1.11.2 Sample Error Code

```
{  
  "implErrorInfo": {  
    "errorCode": "AuthorizationFailed",  
    "description": "You are not Authorized",  
    "errorMessage": "login of user {FAKE_USER} has failed: {status:4} {userStatus:0}  
    {error:User account is unknown or password is wrong}",  
    "errorUUID": "1a719fd5-01eb-4b78-ad9d-b80296bc548a"  
  }  
}
```

3.1.11.3 Possible Error Messages

#	Exception	Scenario	Error Message
1	BadRequest	Entity not found	ProductNotFound
2	BadRequest	Inconsistent parameters	InvalidUsage
3	BadRequest	Mandatory parameter is missing	BadRequest
4	BadRequest	Invalid mask	InvalidFilter
5	InternalServerError	General exception in the BE system.	InternalServerError
6	PartialContent	If the required PP CODE does not exist in the table or no effective record was found	No valid record for the Price Plan <PP CODE> was found.For multiple missing records the PP CODE will be separated by a comma.

4 Open Issues – N/A

Appendix A. Fields derived from MEC

The valid values for the following fields are BPT values, defined in MEC.

Field Name	Data Type	section
activityForConfiguration	ImplRetrieveProductInOrderConfigurationRequest	3.1.1.1
productOrderItemType	ImplRetrieveProductInOrderConfigurationResponse	3.1.3.2
lineOfBusiness	TopLevelProductConfiguration	3.1.3.3
severity	RuleExecutionMessage	3.1.3.40
level	ProductSpecification	3.1.3.43
purpose	Attachment	3.1.3.60
type	Attachment	3.1.3.60
lob	ProductSpecification	3.1.3.61
lobName	ProductSpecification	3.1.3.61
availabilityGroup	ServiceabilityObject	3.1.1.7
dwellType	ServiceabilityObject	3.1.1.7
customerType	ServiceabilityObject	3.1.1.7
orderActionType	ServiceabilityObject	3.1.1.7
userRole	ServiceabilityObject	3.1.1.7
LOBName	LOBServicability	3.1.1.9

Document Release Information

Every change made to the document following the initial delivery **MUST** be shown in detail in this table

Software Version	Editor/Author	Application	Edit Date [Mmm-dd-yyyy]	Section	Changes	Sent to site	Approving Manager	DC Ver.
00.00	Malki Sabag		Jun-15-2015	Initial Version		N		0.6
	Vicki Nathan		Jun-15-2015		Initial TW review converted to Development template, aligned with Services Design document skeleton, and reviewed with track changes.	N		0.7
	Orit Sarfaty Preisler		Jun-15-2015	All	Finalized	Y		1.0
	Malki Sabag		Jun-22-2015	3.1.3.1	Updated the section name for ImplProductConfigurationOptionsResponse	N		1.8
	Malki Sabag		Jun-22-2015	3.1.3.29	Added valid value to 'currency' field	N		1.9
	Tammy Shalev		Jul-05-2015	3.1.1	Updated the request parameters with: 3.1.1.1 ImplProductConfigurationOptionsRequest	N		1.10
	Tammy Shalev		Jul-05-2015	3.1.3.51	Changed 'amount' field type to be BigDecimal from Integer. - Added 2 new fields (quantity, provisioningDate) - Fixed the request parameters	N		1.10
	Tammy Shalev		Jul-05-2015	3.1.1	Added the 'ServiceabilityObject' to the request	N		1.11

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Soft ware Versi on	Editor/Au thor	Appli cation	Edit Date [Mmm-dd- yyyy]	Section	Changes	Sent to site	Appr oving Mana ger	DC Ver.
	Tammy Shalev		Jul-07-2015	3.1.1.1, 3.1.3.2, 3.1.3.3, 3.1.3.40, 3.1.3.43, 3.1.3.60, 3.1.3.61, 3.1.1.7, 3.1.1.9	Updated valid values to - BPT Values defined by MEC for this fields: - activityForConfiguratio n - productOrderItemType - lineOfBusiness - severity - level - purpose - type - lob - lobName - availabilityGroup - dwellType - customerType - orderActionType - userRole - LOBName	N		1.13
	Malki Sabag		Jul-13-2015	3.1.3.43 3.1.3.61	Removed implCalculatedPrices object. Marked price schema as in use	Y		1.15
	Orit Sarfaty Preisler		July-23-2015	ALL	Doc Signed off Accept all changes and promote to Major version.	Y		2.0
	Malki Sabag	REST	Jul-23-2015	3.1.3.51	Added new fields ppName,startDate,endD ate. Removed provisioningDate	N		2.1
	Malki Sabag	REST	Jul-23-2015	3.1.1.7	Updated valid values for fields: customerType and orderActionType	N		2.2
	Malki Sabag	REST	Jul-29-2015	3.1.1.7	Added new valid value PR – Provide for orderActionType	N		2.3

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Soft ware Versi on	Editor/Au thor	Appli cation	Edit Date [Mmm-dd- yyyy]	Section	Changes	Sent to site	Appr oving Mana ger	DC Ver.
	Tammy Shalev	REST	Aug-04-2015	All	Added assumption for Date fields and updated description for all Date fields in the document	N		2.4
	Malki Sabag	REST	Aug-05-2015	3.1.1.7 3.1.3.51	The field sysPrinAgent was split into 3 separate fields. ImplCalculatedPrices object was updated with new fields.	N		2.5
	Tammy Shalev	REST	Aug-11-2015	3.1.9.1	Changed the valid value for the locale field	N		2.6
	Malki Sabag	REST	Aug-18-2015	3.1.3.3 3.1.3.4	Changed serviceId to be optional. Changed totalDepoist to be optional	N		2.7
	Harel Madar	REST	Aug-19-2015	3.1.3, 3.1.3.63	Removed ImplBaseResponse from response because the response extends it and not have it as field	N		2.8
	Tammy Shalev	REST	Aug-20-2015	3.1.3.1	Added 3 base fields to the response and changed transactionId and timestamp to be Mandatory	N		2.9