Resource Inventory REST API Specification

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Bell

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1 Introduction

The following document is the specification of the REST API for the Resource Inventory (Physical and Logical). It includes the model definition as well as all available operations. The main action that can be performed is to retrieve logical and physical resource inventory. Furthermore, the GET allows filtering using standard filter criteria.

The Resource Inventory API provides a standardized client interface to Resource Inventory Management for creating, tracking and managing logical and physical resources by a customer or another system. In our case, the API is focused on retrieval. Examples of Resource Inventory API originators (clients) include network management or fault management systems.

Resource is an abstract entity. The intent is to describe the common set of attributes shared by all concrete resources (e.g. TPE, EQUIPMENT) in the inventory.

Physical resource is a type of resource that describes the common set of attributes shared by all concrete physical resources (e.g. EQUIPMENT) in the inventory. Physical resources can also represent things that are sold, leased, and so forth, like a phone and SIM card.

Logic resource is a type of resource that describes the common set of attributes shared by all concrete logical resources (e.g. TPE, MSISDN, IP Addresses, Topological Link, etc.).

The Resource Inventory API supports the following functions:

Sr No.	Operation	Flow	Origin	Description
1	List Resources	Partner > Bell	Customer Initiated	Partner requests to retrieve a list of CIs depending on the search parameters.
2	Retrieve Resource	Partner > Bell	Customer Initiated	Partner requests to retrieve the full details of a specific CI.

2 High-level design

All services below are TMF compliant REST services with JSON payloads.
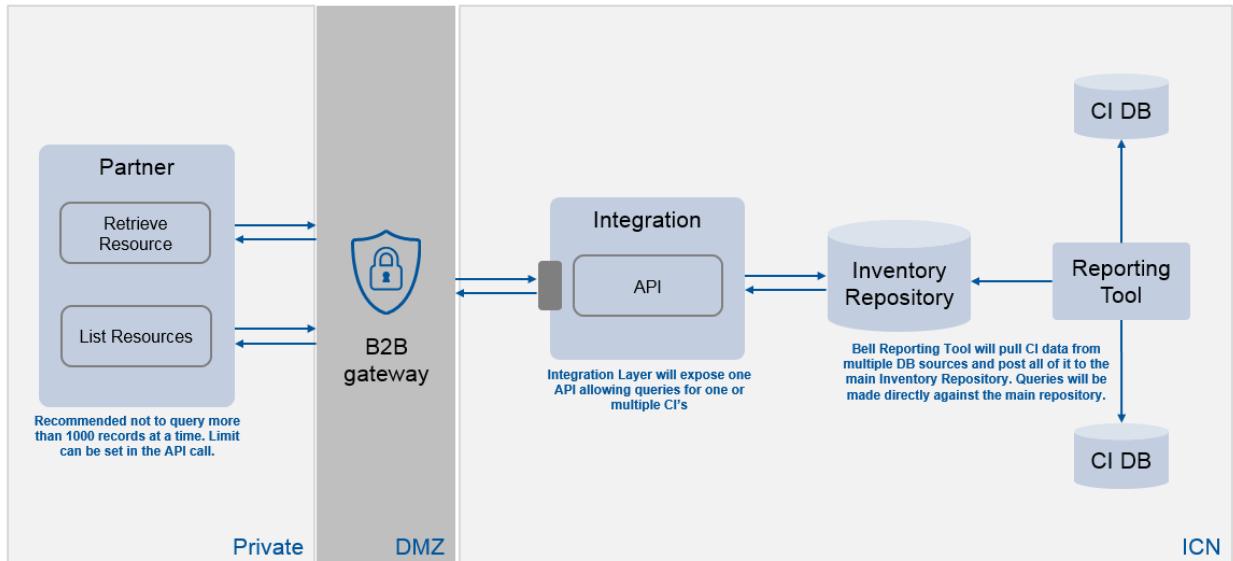
3 Sample Use Cases

Resource inventory query for a party

The Resource Inventory API can be used to query the resource instances by Bell Partners to get the Resource inventory updates which occurred in the Bell CMDB as part of resource provisioning (change management flow).

Resource inventory update as part of resource provisioning

The Resource Inventory API can be called by Bell Partners to create a new resource instance or update an existing resource instance in their Resource Inventory CMDB.

Note: These operations are only allowed to be used when a partner is the owner of the resource being created or updated.

4 Authentication

Currently, Bell Gateway accepts 2 forms of authentication; Basic and oAuth. Basic is the legacy method while all new request will be made using oAuth 2.0.

For oAuth 2.0, two calls must be made to the gateway – the first call is done to retrieve the Gateway token. This call is made by passing a client_id, client_secret, scope and grant type.

Once the token is received, the main call is made with the token for authorization (Bearer Token)
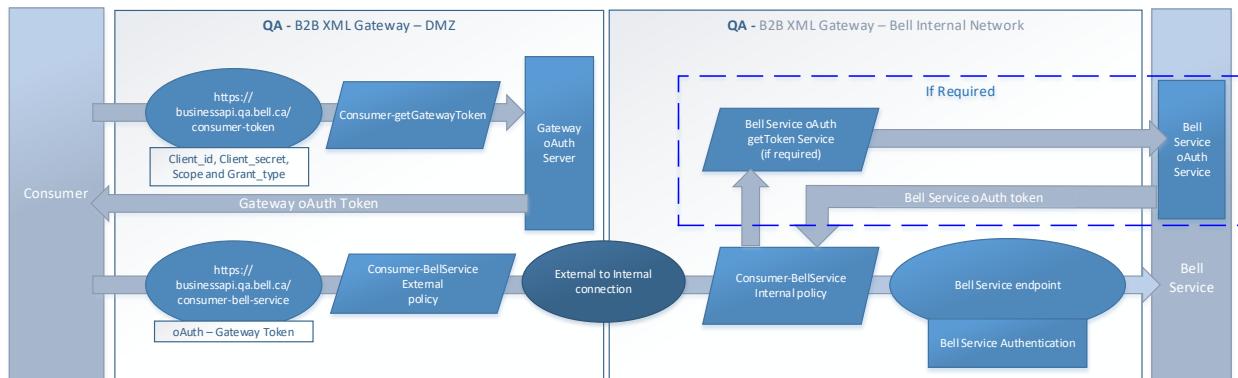
4.1 Encryption

Messages exchanged with the API Gateway, both between the gateway and client, and between the gateway and the endpoint, are at minimum protected with 1-way server-style TSL. Additional TSL options are available.

The API gateway enforces:

- TLS1.2 256 bits AES256-SHA

The Bell API gateway supports the following ciphers:

- TLS_ECDHE_RSA_WITH_AES_128_GCM_SHA256
- TLS_ECDHE_RSA_WITH_AES_256_GCM_SHA384

5 TMF API Definitions

5.1 Retrieve Resource Inventory

The following table is the API definition for a GET retrieveResource API call.

Attribute	Length	Description
name	200	Description of the Device.
description	32000	Used to capture the Details of the Device
id	150	Used to capture the Bell device name
relatedParty.role='Manufacturer'.name	200	Used to capture the Manufacurer name of the device
resourceCharacteristics.name='ModelNumber'.value	150	Used to capture the Model Number of the device
category	30	Used to identify the Service of the device.
place.value.id	50	Used to capture the Bell Location ID
place.value.name	200	Used to capture the full address for the device
place.value.streetName	50	Used to capture the street name for the device
place.value.city	30	Used to capture the city for the device
place.value.postcode	12	Used to capture the postal code for the device
place.value.stateOrProvince	50	Used to capture the state or Province for the device
place.value.country	50	Used to capture the country for the device
serialNumber	300	Used to capture the Serial Number of the device
resourceStatus	20	Used to capture the status of the Device
resourceCharacteristics.name='IPAddress'.value	30	Used to capture the IP Address of the Device
resourceCharacteristics.name='MaintenanceContractNumber'.value	50	Used to capture the Maintence Contract Number
startOperatingDate	DATETIME	Used to capture the date the device was activated
endOperatingDate	DATETIME	Used to capture the date the device was deactivated
resourceCharacteristics.name='LeaseStartDate'.value	DATETIME	Used to capture the date the Lease on the device began
resourceCharacteristics.name='LeaseEndDate'.value	DATETIME	Used to capture the date the Lease on the device ended

Attribute	Length	Description
lastUpdate	DATETIME	Used to capture the last date/time the device was updated

5.2 List Resource Inventory

The following table is the API definition for a GET listResource API call.

Attribute	Length	Description
name	200	Description of the Device.
description	32000	Used to capture the Details of the Device
id	150	Used to capture the Bell device name
relatedParty.role='Manufacturer'.name	200	Used to capture the Manufacurer name of the device
resourceCharacteristics.name='ModelNumber'.value	150	Used to capture the Model Number of the device
category	30	Used to identify the Service of the device.
place.value.id	50	Used to capture the Bell Location ID
place.value.name	200	Used to capture the full address for the device
place.value.streetName	50	Used to capture the street name for the device
place.value.city	30	Used to capture the city for the device
place.value.postcode	12	Used to capture the postal code for the device
place.value.stateOrProvince	50	Used to capture the state or Province for the device
place.value.country	50	Used to capture the country for the device
serialNumber	300	Used to capture the Serial Number of the device
resourceStatus	20	Used to capture the status of the Device
resourceCharacteristics.name='IPAddress'.value	30	Used to capture the IP Address of the Device
resourceCharacteristics.name='MaintenanceContractNumber'.value	50	Used to capture the Maintence Contract Number
startOperatingDate	DATETIME	Used to capture the date the device was activated
endOperatingDate	DATETIME	Used to capture the date the device was deactivated
resourceCharacteristics.name='LeaseStartDate'.value	DATETIME	Used to capture the date the Lease on the device began
resourceCharacteristics.name='LeaseEndDate'.value	DATETIME	Used to capture the date the Lease on the device ended

lastUpdate	DATETIME	Used to capture the last date/time the device was updated

5.3 Create Resource Inventory

The following table is the API definition for a POST BellGenericResource_Create API call.

Attribute	Length	Description
category	30	Used to identify the Service of the device.
description	32000	Used to capture the Details of the Device
name	150	Description of the Device
operationalState	20	Used to capture the current state of the Device
resourceStatusType	50	Used to capture the Status of the Device
startOperatingDate	DATETIME	Used to capture the date the device was activated
externalId	50	Used to capture the external Id
versionNumber	300	Used to capture the Version Number of the device
resourceType	50	Used to capture the Type of Device
serialNumber	300	Used to capture the Serial Number of the device
sourceSystemId	50	Used to capture the Source System of the Device
resourceCharacteristics.name='AlternateDeviceName'.value	50	Used to capture an Alternate Name for the Device
resourceCharacteristics.name='ClassStructureID'.value	20	Used to capture the Class of Device
resourceCharacteristics.name='SpecialLongDescription'.value	32000	Used to capture the Long Descrption for the Device
resourceCharacteristics.name='ServiceCINum'.value	150	Used to capture the Device Name associated to the Service Group
resourceCharacteristics.name='ModelDescription'.value	50	Used to capture the Model of the Device
resourceCharacteristics.name='AssetTag'.value	50	Used to capture the Asset Tag Number of the Device
resourceCharacteristics.name='MACAddress'.value	20	Used to capture the MAC Address of the Device
resourceCharacteristics.name='ManagementIPAddress'.value	20	Used to capture the IP Address of the Device
resourceCharacteristics.name=' CHANGEREFERENCENUMBER'.value	20	Used to capture the Bell Change Number associated to the Modification on the record
place.value.streetNR	12	Used to capture the Street Number of the Device

Attribute	Length	Description
place.value.streetName	50	Used to capture the Street Name of the Device
place.value.city	30	Used to capture the City of the Device
place.value.stateOrProvince	50	Used to capture the State or Province of the Device
place.value.country	50	Used to capture the Country of the Device
place.value.postcode	12	Used to capture the Postal Code of the Device
relatedParty.role='Customer'.name	30	Used to capture the Primary Customer of the Device
relatedParty.role='Manufacturer'.name	30	Used to capture the Manufacturer of the Device
relatedParty.role='Manager'.name	15	Used to capture the Partner Managing the Device
resourceRelationship.relationshipType	30	Used to capture the Relationship Type of the Device
resourceRelationshipCharacteristic.name='ServiceLevelType'.valueType='String'.value	30	Used to capture the Service Level Type of the Device
resourceRelationshipCharacteristic.name='AutomatedInstall'.valueType='String'.value	5	Flag used to change the Device state once the Installation Date is reached
resourceRelationshipCharacteristic.name='Priority'.valueType='String'.value	12	Used to capture the Criticallity of the Device

5.4 Update Resource Inventory

The following table is the API definition for a PATCH BellGenericResource_Update API call.

Attribute	Length	Description
category	30	Used to identify the Service of the device.
description	32000	Used to capture the Details of the Device
name	150	Description of the Device
operationalState	20	Used to capture the current state of the Device
resourceStatusType	50	Used to capture the Status of the Device
startOperatingDate	DATETIME	Used to capture the date the device was activated
externalId	50	Used to capture the external Id
versionNumber	300	Used to capture the Version Number of the device
resourceType	50	Used to capture the Type of Device

serialNumber	300	Used to capture the Serial Number of the device
sourceSystemId	50	Used to capture the Source System of the Device
resourceCharacteristics.name='AlternateDeviceName'.value	50	Used to capture an Alternate Name for the Device
resourceCharacteristics.name='ClassStructureID'.value	20	Used to capture the Class of Device
resourceCharacteristics.name='SpecialLongDescription'.value	32000	Used to capture the Long Descrption for the Device
resourceCharacteristics.name='ServiceCINum'.value	150	Used to capture the Device Name associated to the Service Group
resourceCharacteristics.name='ModelDescription'.value	50	Used to capture the Model of the Device
resourceCharacteristics.name='AssetTag'.value	50	Used to capture the Asset Tag Number of the Device
resourceCharacteristics.name='MACAddress'.value	20	Used to capture the MAC Address of the Device
resourceCharacteristics.name='ManagementIPAddress'.value	20	Used to capture the IP Address of the Device
resourceCharacteristics.name=' CHANGEREFERENCENUMBER'.value	20	Used to capture the Bell Change Number associated to the Modification on the record
place.value.streetNR	12	Used to capture the Street Number of the Device
place.value.streetName	50	Used to capture the Street Name of the Device
place.value.city	30	Used to capture the City of the Device
place.value.stateOrProvince	50	Used to capture the State or Province of the Device
place.value.country	50	Used to capture the Country of the Device
place.value.postcode	12	Used to capture the Postal Code of the Device
relatedParty.role='Customer'.name	30	Used to capture the Primary Customer of the Device
relatedParty.role='Manufacturer'.name	30	Used to capture the Manufacturer of the Device
relatedParty.role='Manager'.name	15	Used to capture the Partner Managing the Device
resourceRelationship.relationshipType	30	Used to capture the Relationship Type of the Device
resourceRelationshipCharacteristic.name='ServiceLevelType'.valueType='String'.value	30	Used to capture the Service Level Type of the Device
resourceRelationshipCharacteristic.name='AutomatedInstall'.valueType='String'.value	5	Flag used to change the Device state once the Installation Date is reached
resourceRelationshipCharacteristic.name='Priority'.valueType='String'.value	12	Used to capture the Criticallity of the Device

6 Endpoints

6.1 List Resources

GET

Request Type

```
GET /resource?offset=0&limit=2&lastUpdated=lte:2021-04-14T17:12:50Z
```

Description: This operation will return a list of resource entities based on the filter parameters. Full details for each resource will be returned.

Note: It is recommended not to query more than 1000 records at a time. Limit field should be leveraged.

6.1.1 Header and Parameters

Below is a list of header and parameter properties for List Resources

Name	Description	Type
X-Correlation-Id	ID used to correlate request and response payloads	Header
offset	Requested index for start of resources to be provided in response	Header
limit	Requested number of devices to be provided in response	Header
lastUpdate	The date or date range when a device was last modified	Parameter

6.1.2 Usage samples

Request

Status Code: 200
Message: Accepted
Content-Type: application/json
Schema: #/definitions/Resource

Success Response Message

```
[
    {
        "id": "05ARAP000013-817BLCA-###",
        "category": "Circuit",
        "name": "05ARAP000013-817BLCA-###",
            "description": null,
        "place": {
            "value": {
                "id": "000000000382027273732",
                "name": "CLIENT SITE - 1 Main St FLOOR - 1",
                "city": "PENTICTON",
                "country": "CA",
                "postcode": "A0A 0A0",
                "stateOrProvince": "BC",
                "streetName": "1 MAIN ST"
            }
        },
            "relatedParty": [
        {
            "@baseType": "RelatedParty",
            "@type": "BellRelatedPartyWithValue",
```

```json
                "name": "Manufacturer Name",
                "role": "Manufacturer",
        }
                ],
        "resourceCharacteristic": [
            {
                "name": "ModelNumber",
                "value": null
            },
                    {
                "name": "MaintenanceContractNumber",
                "value": null
            },
                    {
                "name": "LeaseStartDate",
                "value": null
            },
                    {
                "name": "LeaseEndDate",
                "value": null
            },
            {
                "name": "IPAddress",
                "value": null
            }
        ],
        "resourceStatus": "OPERATING",
                "startOperatingDate": "2020-01-19T20:35:28Z",
                "endOperatingDate": "2021-01-19T20:35:28Z",
        "serialNumber": null,
        "lastUpdate": "2020-03-19T20:56:37Z"
    },
    {
        "id": "15ARAP000013-817BLCA-###",
        "category": "Circuit",
        "name": "15ARAP000013-817BLCA-###",
                "description": null,
        "place": {
            "value": {
                "id": "000000000382027273732",
                "name": "CLIENT SITE - 1 Main St FLOOR - 1",
                "city": "PENTICTON",
                "country": "CA",
                "postcode": "A0A 0A0",
                "stateOrProvince": "BC",
                "streetName": "1 MAIN ST"
            }
        },
                "relatedParty": [
        {
            "@baseType": "RelatedParty",
            "@type": "BellRelatedPartyWithValue",
            "name": "Manufacturer Name",
            "role": "Manufacturer",
        }
                ],
        "resourceCharacteristic": [
            {
                "name": "ModelNumber",
                "value": null
            },
                    {
                "name": "MaintenanceContractNumber",
                "value": null
            },
                    {
                "name": "LeaseStartDate",
                "value": null
            },
                    {
                "name": "LeaseEndDate",
```

```
                "value": null
        },
        {
                "name": "IPAddress",
                "value": null
        }
    ],
    "resourceStatus": "OPERATING",
            "startOperatingDate": "2020-01-19T20:35:28Z",
            "endOperatingDate": "2022-01-19T20:35:28Z",
    "serialNumber": null,
    "lastUpdate": "2021-04-14T17:12:50Z"
    }
]
```

Status Code: 500
Message: Internal Server Error
Content-Type: application/json
Schema: #/definitions/Error

Failure Response Message – Internal Server Error

```
{
    "code": 500,
    "status": "FAIL",
    "reason": "Internal Server Error : ITSM system unavailable"
}
```

6.2 Retrieve Resource

GET

Request Type

```
GET /resource?id=05ARAP000013-817BLCA-###
```

Description: This operation will return a single resource associated with the provided ID of the Bell CI.

6.2.1 Headers and Parameters

Below is a list of header and parameter properties for Retrieve Resource

Name	Description	Type
X-Correlation-Id	ID used to correlate request and response payloads	Header
id	The Bell Device to be retrieved	Parameter

6.2.2 Usage samples

Request

Status Code: 200
Message: Accepted
Content-Type: application/json
Schema: #/definitions/Resource

Success Response Message

```
{
        "id": "05ARAP000013-817BLCA-###",
        "category": "Circuit",
        "name": "05ARAP000013-817BLCA-###",
            "description": null,
        "place": {
            "value": {
                "id": "000000000382027273732",
                "name": "CLIENT SITE - 1 Main St FLOOR - 1",
                "city": "PENTICTON",
                "country": "CA",
                "postcode": "A0A 0A0",
                "stateOrProvince": "BC",
                "streetName": "1 MAIN ST"
            }
        },
            "relatedParty": [
        {
            "@baseType": "RelatedParty",
            "@type": "BellRelatedPartyWithValue",
            "name": "Manufacturer Name",
            "role": "Manufacturer",
        }
            ],
        "resourceCharacteristic": [
            {
                "name": "ModelNumber",
                "value": null
            },
                    {
                "name": "MaintenanceContractNumber",
                "value": null
            },
                    {
                "name": "LeaseStartDate",
                "value": null
            },
                    {
                "name": "LeaseEndDate",
                "value": null
            },
            {
                "name": "IPAddress",
                "value": null
            }
        ],
        "resourceStatus": "OPERATING",
            "startOperatingDate": "2020-01-19T20:35:28Z",
            "endOperatingDate": "2021-01-19T20:35:28Z",
        "serialNumber": null,
        "lastUpdate": "2020-03-19T20:56:37Z"
}
```

Status Code: 404
Message: Not Found
Content-Type: application/json
Schema: #/definitions/Error

Failure Response Message – Resource Not found

```
{
    "code": 404,
    "message": "Not found",
    "status": "FAIL"
}
```

Status Code: 500
Message: Internal Server Error
Content-Type: application/json
Schema: #/definitions/Error

Failure Response Message – Internal Server Error

```
{
    "code": 500,
    "status": "FAIL",
    "reason": "Internal Server Error : ITSM system unavailable"
}
```

6.3 postResource

`POST`

Summary: Creates a 'Resource' in Bell from a customer

Description: This API enables a partner to create a Resource that they own in Bell's Configuration Management Database.

6.3.1 Behavior

Returns HTTP/1.1 status code 202 if the request was successful.
Returns HTTP/1.1 status code 500 for Internal Error.

6.3.2 Headers and Parameters

Below is a list of header and parameter properties for Post Resource

Name	Description	Type
X-Correlation-Id	ID used to correlate request and response payloads	Header

6.3.3 Usage samples

Here's an example of a request for creating a resource.

Request

Content-Type: application/json
Schema: #/definitions/BellGenericResource_Create

Create Resource Request Message

```
{
    "description": "Access Controller",
    "externalId": "TEST-DEVICE-VP1",
    "id": "mx_TEST-DEVICE-VP1",
    "name": "TEST-DEVICE-VP1",
    "operationId": "3994a561-809e-4fb8-ad3b-70b47f167015",
    "operationalState": "enable",
    "place": {
        "@type": "BellGeographicAddress",
        "city": "montreal",
        "country": "canada",
        "postcode": "H3W 1Y3",
        "stateOrProvince": "qc",
```

```json
            "streetName": ", chemin Queen-Mary",
            "streetNr": "5275"
    },
    "relatedParty": [
        {
            "@referredType": "Organization",
            "@type": "BellRelatedPartyWithValue",
            "id": "111111111",
            "role": "Customer"
        },
        {
            "@referredType": "Organization",
            "@type": "BellRelatedPartyWithValue",
            "name": "Meraki",
            "role": "Manufacturer"
        },
{
            "@referredType": "Organization",
            "@type": "BellRelatedPartyWithValue",
            "name": "Partner",
            "role": "Manager"
        }
    ],
    "resourceCharacteristic": [
        {
            "name": "ManagementIPAddress",
            "value": "0.0.0.0",
            "valueType": "string"
        },
        {
            "name": "MACAddress",
            "value": "11:aa:22:bb:cc",
            "valueType": "string"
        },
        {
            "name": "AssetTag",
            "value": "Test",
            "valueType": "string"
        },
        {
            "name": "ClassStructureID",
            "type": "StringCharacteristic",
            "value": "11111",
            "valueType": "string'"
        },
        {
 "name": "SpecialLongDescription",
            "type": "StringCharacteristic",
            "value": "<p>long description 1<\/p>\r\n<p>billing 2<\/p>",
            "valueType": "string'"
        },
        {
            "name": "ServiceCINum",
            "type": "StringCharacteristic",
            "value": "1009666626-MISP",
            "valueType": "string'"
        },
        {
            "name": "CHANGEREFERENCENUMBER",
            "value": "C1111111",
            "valueType": "string"
        },
        {
            "name": "ModelDescription",
            "type": "StringCharacteristic",
            "value": "AP-305",
            "valueType": "string'"
        }
    ],
    "resourceRelationship": [{"resourceRelationshipCharacteristic": [
        {
```

```
            "name": "ServiceLevelType",
            "value": "SLA",
            "valueType": "string"
        },
        {
            "name": "AutomatedInstall",
            "value": "Y",
            "valueType": "string"
        },
        {
        "name": "Priority",
            "value": "6",
            "valueType": "string"
        }
    ]}}],
    "resourceStatus": "reserved",
    "serialNumber": "1122334455",
    "sourceSystemId": "Partner",
    "startOperatingDate": "2022-09-30T19:52:28.334Z",
    "versionNumber": "mr 2.7"
}
```

Responses

Status Code: 202
Message: Accepted (An Acknowledgement to Create Request)
Content-Type: application/json
Schema: #/definitions/BellGenericResource_Create

Successful Response Message

```
{
    "description": "Access Controller",
    "externalId": "TEST-DEVICE-VP1",
    "id": "mx_TEST-DEVICE-VP1",
    "name": "TEST-DEVICE-VP1",
    "operationId": "3994a561-809e-4fb8-ad3b-70b47f167015",
    "operationalState": "enable",
    "place": {
        "@type": "BellGeographicAddress",
        "city": "montreal",
        "country": "canada",
        "postcode": "H3W 1Y3",
        "stateOrProvince": "qc",
        "streetName": ", chemin Queen-Mary",
        "streetNr": "5275"
    },
    "relatedParty": [
        {
            "@referredType": "Organization",
            "@type": "BellRelatedPartyWithValue",
            "id": "111111111",
            "role": "Customer"
        },
        {
            "@referredType": "Organization",
            "@type": "BellRelatedPartyWithValue",
            "name": "Meraki",
            "role": "Manufacturer"
        },
{
            "@referredType": "Organization",
            "@type": "BellRelatedPartyWithValue",
            "name": "Partner",
            "role": "Manager"
        }
```

```
    ],
    "resourceCharacteristic": [
        {
            "name": "ManagementIPAddress",
            "value": "0.0.0.0",
            "valueType": "string"
        },
        {
            "name": "MACAddress",
            "value": "11:aa:22:bb:cc",
            "valueType": "string"
        },
        {
            "name": "AssetTag",
            "value": "Test",
            "valueType": "string"
        },
        {
            "name": "CHANGEREFERENCENUMBER",
            "value": "C1111111",
            "valueType": "string"
        },
        {
            "name": "ClassStructureID",
            "type": "StringCharacteristic",
            "value": "11111",
            "valueType": "string'"
        },
        {
 "name": "SpecialLongDescription",
            "type": "StringCharacteristic",
            "value": "<p>long description 1<\/p>\r\n<p>billing 2<\/p>",
            "valueType": "string'"
        },
        {
            "name": "ServiceCINum",
            "type": "StringCharacteristic",
            "value": "1009666626-MISP",
            "valueType": "string'"
        },
        {
            "name": "ModelDescription",
            "type": "StringCharacteristic",
            "value": "AP-305",
            "valueType": "string'"
        }
    ],
    "resourceRelationship": [{"resourceRelationshipCharacteristic": [
        {
            "name": "ServiceLevelType",
            "value": "SLA",
            "valueType": "string"
        },
        {
            "name": "AutomatedInstall",
            "value": "Y",
            "valueType": "string"
        },
        {
        "name": "Priority",
            "value": "6",
            "valueType": "string"
        }
    ]}]],
    "resourceStatus": "reserved",
    "serialNumber": "1122334455",
    "sourceSystemId": "Partner",
    "startOperatingDate": "2022-09-30T19:52:28.334Z",
    "versionNumber": "mr 2.7"
}
```

Message: Asynchronous Create Response
Content-Type: application/json
Schema: #/definitions/BellGenericResource_Update

Successful Response Message

```
{
    "error": [],
    "operationId": "3994a561-809e-4fb8-ad3b-70b47f167015",
    "resource": {
        "@baseType": "Resource",
        "@schemaLocation": "http://jsonregistry.it.ms.bell.ca/json/tmf/resource-
inventory/v1.0.0/bell-resource-inventory-entities-v1.0.0.json",
        "@type": "BellGenericResource",
        "attachment": [],
        "category": "MISP",
        "characteristic": [
            {
                "@baseType": "Characteristic",
                "@type": "Characteristic",
                "name": "classstructureid",
                "value": "11909"
            },
            {
                "@baseType": "Characteristic",
                "@type": "Characteristic",
                "name": "specialLongDescription",
                "value": "<p>long description 1<\/p>\r\n<p>billing 2<\/p>"
            },
            {
                "@baseType": "Characteristic",
                "@type": "Characteristic",
                "name": "ciservicecinum",
                "value": "1009666626-MISP"
            },
            {
                "@baseType": "Characteristic",
                "@type": "Characteristic",
                "name": "modelDescription",
                "value": "AP-305"
            },
            {
                "@baseType": "Characteristic",
                "@type": "Characteristic",
                "name": "ASSETTAG",
                "value": "",
                "valueType": "string"
            },
            {
                "@baseType": "Characteristic",
                "@type": "Characteristic",
                "name": "FIRMWAREVERSIONNUMBER",
                "value": "mr 2.7",
                "valueType": "string"
            }
        ],
        "description": "Access Controller",
        "entitySpec": [
            {
                "@baseType": "EntitySpec",
                        "@type": "ServiceInfo",
                "automatedInstall": "Y",
                "category": "Service",
                "priority": "6",
                "serviceLevelType": "SLA"
            },
            {
                "@baseType": "Entity",
                "@type": "MiscInfo2",
```

```
                    "bl_sourceId": "mx_TEST-DEVICE-VP1",
                    "btc_sourceSystem": "Datavalet",
                    "category": "Misc2"
                }
            ],
            "lifecycleState": "PREPROD",
            "macAddress": "11:aa:22:bb:cc",
            "name": "TEST-DEVICE-VP1",
            "note": [],
            "place": {
                "@baseType": "Place",
                "@type": "Place",
                "name": "OBA-EF0C471706BF498F8A09"
            },
            "publicIdentifier": "TEST-DEVICE-VP1",
            "relatedParty": [
                {
                    "@baseType": "RelatedPartyRef",
                    "@referredType": "RelatedPartyRef",
                    "@type": "BellRelatedPartyRef",
                    "characteristic": [{
                                        "@baseType": "Characteristic",
                        "@type": "Characteristic",
                        "name": "custprefix",
                        "valueType": "string"
                    }],
                    "externalId": "1009666626",
                    "id": "mx_1009666626",
                    "name": "3rd Party Billing 1",
                    "role": "Customer",
                    "sourceSystemId": "Maximo"
                },
                {
                    "@baseType": "RelatedPartyRef",
                    "@referredType": "Organization",
                    "@type": "RelatedPartyRef",
                    "id": "mx_Meraki",
                    "name": "Meraki",
                    "role": "Manufacturer"
                },
                {
                    "@baseType": "RelatedPartyRef",
                    "@referredType": "Partner",
                    "@type": "RelatedPartyRef",
                    "name": "Datavalet",
                    "role": "Manager"
                }
            ],
            "resourceRelationship": [],
            "serialNumber": "1122334455",
            "sourceSystemId": "MAXIMO",
                "tag": [],
            "validFor": {"startDateTime": "2022-09-30T19:52:28.334Z"}
        },
        "sourceSystemId": "Partner",
        "status": "Pending"
}
```

Status Code: 500
Message: Asynchronous Internal Server Error
Content-Type: application/json
Schema: #/definitions/BellGenericResource_Update

Failure Response Message – Internal server error

```
{
```

```
    "error": [{
        "@baseType": "ErrorRepresentation",
        "@type": "BellErrorRepresentation",
        "code": "Error",
        "message": "Interal Server Error",
        "timestamp": "2022-08-11T05:00:07.583Z"
    }],
    "operationId": "29d4c26f1b2cdd10b7acdbd9dc4bcb75",
    "sourceSystemId": "Partner",
    "status": "Failed"
}
```

6.4 patchResource

`PATCH`

Summary: Request to partially update a 'Resource' by Resource ID.

Description: Partner requests to update a Resource in Bell's Configuration Management Database on Resource ID.

6.4.1 Behavior

Returns HTTP/1.1 status code 200 if the request was successful.
Returns HTTP/1.1 status code 500 for Internal Error.

6.4.2 Headers and Parameters

Below is a list of header and parameter properties for Patch Resource

Name	Description	Type
X-Correlation-Id	ID used to correlate request and response payloads	Header

6.4.3 Usage samples

Here's an example of a request for updating a resource.

Request

Content-Type: application/json
Schema: #/definitions/BellGenericResource_Update

Update Resource Request Message

```
{
    "description": "GW4 (BID BYOI) 99010 - Access Point",
    "externalId": "MCD-QC-MON-99010-CRTEST26",
    "id": "8c5fd7681bec2510abb2c995604bcba5",
    "name": "MCD-QC-MON-99010-CRTEST26",
    "operationId": "39ff53a81bec2510abb2c995604bcbcb",
    "operationalState": "enable",
    "place": {
        "@type": "BellGeographicAddress",
        "city": "montreal",
```

```
            "country": "canada",
            "postcode": "H3B 2M8",
            "stateOrProvince": "quebec",
            "streetName": "DE LA GAUCHETIERE",
            "streetNr": "671"
        },
        "relatedParty": [
            {
                "@referredType": "Organization",
                "@type": "BellRelatedPartyWithValue",
                "id": "1111111",
                "role": "Customer"
            },
            {
                "@referredType": "Organization",
                "@type": "BellRelatedPartyWithValue",
                "name": "MERAKI",
                        "role": "Manufacturer"
            },
            {}
        ],
        "resourceCharacteristic": [
            {
                "name": "IPAddress",
                "value": "0.0.0.0",
                "valueType": "string"
            },
            {
                "name": "MACAddress",
                "value": "11:FF:44:DD:55",
                "valueType": "string"
            },
            {
                "name": "AssetTag",
                "value": "Test",
                "valueType": "string"
            },
            {
                "name": "ClassStructureID",
                "type": "StringCharacteristic",
                "value": "3838",
                "valueType": "string'"
            },
            {
                "name": "SpecialLongDescription",
                "type": "StringCharacteristic",
                "value": "<p>long description 1<\/p>\r\n<p>billing 2<\/p>",
                "valueType": "string'"
            },
            {
                "name": "ServiceCINum",
                "type": "StringCharacteristic",
                "value": "MCD-WIFI-01",
                "valueType": "string'"
            },
            {
                "name": "ModelDescription",
                "type": "StringCharacteristic",
                "value": "MR-33HW",
                "valueType": "string'"
            },
            {
                "name": "CHANGEREFERENCENUMBER",
                "value": "C1111111",
                "valueType": "string"
            }
        ],
        "resourceRelationship": [{"resourceRelationshipCharacteristic": [
            {
                "name": "ServiceLevelType",
                "value": "SLA",
```

```
                "valueType": "string"
            },
            {
                "name": "AutomatedInstall",
                "value": "N",
  "valueType": "string"
            },
            {
                "name": "Priority",
                "value": "4",
                "valueType": "string"
            }
    ]}}],
    "resourceStatus": "available",
    "serialNumber": "C1:10:9D:DF:3D:5C",
    "sourceSystemId": "Partner",
    "startOperatingDate": "01-31-2023 14:12:46",
    "versionNumber": "1.1.1"
}
```

Responses

Status Code: 200
Message: Accepted
Content-Type: application/json
Schema: #/definitions/BellGenericResource_Update

Success Response Message

```
{
    "description": "GW4 (BID BYOI) 99010 - Access Point",
    "externalId": "MCD-QC-MON-99010-CRTEST26",
    "id": "8c5fd7681bec2510abb2c995604bcba5",
    "name": "MCD-QC-MON-99010-CRTEST26",
    "operationId": "39ff53a81bec2510abb2c995604bcbcb",
    "operationalState": "enable",
    "place": {
        "@type": "BellGeographicAddress",
        "city": "montreal",
        "country": "canada",
        "postcode": "H3B 2M8",
        "stateOrProvince": "quebec",
        "streetName": "DE LA GAUCHETIERE",
        "streetNr": "671"
    },
    "relatedParty": [
        {
            "@referredType": "Organization",
            "@type": "BellRelatedPartyWithValue",
            "id": "1111111",
            "role": "Customer"
        },
        {
            "@referredType": "Organization",
            "@type": "BellRelatedPartyWithValue",
            "name": "MERAKI",
                        "role": "Manufacturer"
        },
        {}
    ],
    "resourceCharacteristic": [
        {
            "name": "IPAddress",
            "value": "0.0.0.0",
            "valueType": "string"
        },
        {
            "name": "MACAddress",
            "value": "11:FF:44:DD:55",
            "valueType": "string"
```

```
        },
        {
            "name": "AssetTag",
            "value": "Test",
            "valueType": "string"
        },
        {
            "name": "ClassStructureID",
            "type": "StringCharacteristic",
            "value": "3838",
            "valueType": "string'"
        },
        {
            "name": "SpecialLongDescription",
            "type": "StringCharacteristic",
            "value": "<p>long description 1<\/p>\r\n<p>billing 2<\/p>",
            "valueType": "string'"
        },
        {
            "name": "ServiceCINum",
            "type": "StringCharacteristic",
            "value": "MCD-WIFI-01",
            "valueType": "string'"
        },
        {
            "name": "ModelDescription",
            "type": "StringCharacteristic",
            "value": "MR-33HW",
            "valueType": "string'"
        },
        {
            "name": "CHANGEREFERENCENUMBER",
            "value": "C1111111",
            "valueType": "string"
        }
    ],
    "resourceRelationship": [{"resourceRelationshipCharacteristic": [
        {
            "name": "ServiceLevelType",
            "value": "SLA",
            "valueType": "string"
        },
        {
            "name": "AutomatedInstall",
            "value": "N",
 "valueType": "string"
        },
        {
            "name": "Priority",
            "value": "4",
            "valueType": "string"
        }
    ]}]],
    "resourceStatus": "available",
    "serialNumber": "C1:10:9D:DF:3D:5C",
    "sourceSystemId": "Partner",
    "startOperatingDate": "01-31-2023 14:12:46",
    "versionNumber": "1.1.1"
}
```

Status Code: 404
Message: Not Found
Content-Type: application/json
Schema: #/definitions/Error

Failure Response Message – Not found

```
{
    "code": 404,
    "message": "Not found",
    "status": "FAIL"
}
```

Status Code: 500
Message: Internal Server Error
Content-Type: application/json
Schema: #/definitions/Error

Failure Response Message – Internal Server Error

```
{
    "code": 500,
    "status": "FAIL",
    "reason": "Internal Server Error : ITSM system unavailable"
}
```

7 Appendix

Field	Value	Description
CI Status	DECOMMISSIONED	The resource was previously in use, but is no longer in service.
	NOT READY	The resource is not ready for use.
	OPERATING	The resource is currently in use.
	PREPROD	The resource is not yet being used, and could be undergoing testing due to a recent modification.

8 Version history

Version	Change description	Date
1.0	Initial version	September 20th, 2020
1.1	Included "Status Change Date" field	November 15th, 2020
1.2	Updated the Swagger link	November 20th, 2020
1.3	Bell Branding	November 25th, 2020
1.4	Extended Resource Model: • ManagementIPaddress • Resourcetype • CI_Environment under resourceRelationship	March 21st, 2021
1.5	Updated Endpoint Samples to TMF 639 Version 17.5	April 5th, 2022
1.6	Updated TMF version from 17.5 to 20.5.0 and subsequent payload samples	March 16th, 2023