R3 - API Documentation

Introduction

5G MEC BP inherits some APIs implemented by OpenNESS, which can be used in the so-called on-premises deployment where kubernetes is not available.

In this release, APIs exposed include those related to :

1. Application Life Cycle Management
2. Edge Application API.

API Definitions

Application Life Cycle Management

These API provides an abstraction layer for an operations admin, enabling them to configure and manage the lifecycle of applications.

Get a list of applications

1.API Name	Get a list of applications		Type	GET
Description	The GET method is used to get a list of applications from the controller			
Resource URI	/apps			
Parameters-None				
Request Body-None				
Response Codes	200			
Response Parameters				
Parameter Name	Cardinality		Type	Description
apps	1		json	Application Info

Create a new application

2.API Name	Create a new application	Type	POST
Description	The POST method is used to create a new application on the controller		
Resource URI	/apps		

Parameters-None			
Request Body			
Parameter Name	Cardinality	Type	Description
id	1	string	The ID of the application
type	1	string	Enum:[container,vm]
name	1	string	The name of the application
version	1	string	The version of the application
vendor	1	string	The vendor of the application
description	1	string	Description of the application
cores	1	integer	The number of cores to allocate to the application
memory	1	integer	The memory in MB to allocate to the application
ports	1	complex	A list of port/protocol combinations to expose
source	1	string	Source URI of the app
Response Codes	201		
Response Parameters			
Parameter Name	Cardinality	Type	Description
id	1	string	The ID of the node

Get an application

3.API Name	**Get an application**	**Type**	**GET**
Description	The GET method is used to get an application from the controller		
Resource URI	/apps/{app_id}		
Parameters			
Parameter Name	Cardinality	Type	Description
app_id	1	string	The ID of the application
Request Body-None			
Response Codes	200		
Response Parameters			
Parameter Name	Cardinality	Type	Description
id	1	string	The ID of the application
type	1	string	Enum:[container,vm]
name	1	string	The name of the application
version	1	string	The version of the application
vendor	1	string	The vendor of the application
description	1	string	Description of the application
cores	1	integer	The number of cores to allocate to the application
memory	1	integer	The memory in MB to allocate to the application
ports	1	complex	A list of port/protocol combinations to expose
source	1	string	Source URI of the app
Response Codes	404		
App ID not found			

Update an existing application

4.API Name	**Update an existing application**	**Type**	**PATCH**
Description	The PATCH method is used to update an existing application from the controller		
Resource URI	/apps/{app_id}		

Parameters			
Parameter Name	Cardinality	Type	Description
app_id	1	string	The ID of the application
Request Body Parameters			
Parameter Name	Cardinality	Type	Description
id	1	string	The ID of the application
type	1	string	Enum:[container,vm]
name	1	string	The name of the application
version	1	string	The version of the application
vendor	1	string	The vendor of the application
description	1	string	Description of the application
cores	1	integer	The number of cores to allocate to the application
memory	1	integer	The memory in MB to allocate to the application
ports	1	complex	A list of port/protocol combinations to expose
source	1	string	Source URI of the app
Response Codes	200		
Application was updated			
Response Codes	404		
App ID not found			

Delete an existing application

5.API Name	Delete an existing application	Type	DELETE
Description	The DELETE method is used to delete an existing application from the controller		
Resource URI	/apps/{app_id}		
Parameters			
Parameter Name	Cardinality	Type	Description
app_id	1	string	The ID of the application
Request Body-None			
Response Codes	204		
Application was deleted			
Response Codes	404		
App ID not found			

Get a list of applications on a node

6.API Name	Get a list of applications on a node	Type	GET
Description	The GET method is used to get a list of applications on a node from the controller		
Resource URI	/nodes/{node_id}/apps		
Parameters			
Parameter Name	Cardinality	Type	Description
node_id	1	string	The ID of the node
Request Body-None			
Response Codes	200		
Response Parameters			
Parameter Name	Cardinality	Type	Description
apps	1	json	Application Info
Response Codes	404		

Node ID not found

Deploy an application to a node

7.API Name	Deploy an application to a node	Type	POST
Description	The POST method is used to deploys an application to a node from the controller		
Resource URI	/nodes/{node_id}/apps		
Parameters			
Parameter Name	Cardinality	Type	Description
node_id	1	string	The ID of the node
Request Body			
Parameter Name	Cardinality	Type	Description
id	1	string	The ID of the application
Response Codes	200		
Deployed the application to the specified node			
Response Codes	404		
Node ID or app ID not found			

Get an application on a node

8.API Name	Get an application on a node	Type	GET
Description	The GET method is used to get an application on a node from the controller		
Resource URI	/nodes/{node_id}/apps/{app_id}		
Parameters			
Parameter Name	Cardinality	Type	Description
node_id	1	string	The ID of the node
app_id	1	string	The ID of the application
Request Body-None			
Response Codes	200		
Parameter Name	Cardinality	Type	Description
id	1	string	The ID of the application
status	1	string	The status of the application Enum:[unknown, deploying, ready, starting, running, stopping, stopped, error]
command	1	string	The lifecycle command for the application Enum:[start, stop, restart]
Response Codes	404		
Node ID or app ID not found			

Update an application on a node

9.API Name	Update an application on a node	Type	PATCH
Description	The PATCH method is used to update an application on a node from the controller		
Resource URI	/nodes/{node_id}/apps/{app_id}		
Parameters			
Parameter Name	Cardinality	Type	Description
node_id	1	string	The ID of the node
app_id	1	string	The ID of the application
Request Body			
Parameter Name	Cardinality	Type	Description

id	1		string	The ID of the application
status	1		string	The status of the application Enum:[unknown, deploying, ready, starting, running, stopping, stopped, error]
command	1		string	The lifecycle command for the application Enum:[start, stop, restart]
Response Codes	200			
Updated application for the specified node and application				
Response Codes	404			
Node ID or app ID not found				

Delete an application on a node

10.API Name	Delete an application on a node	Type	DELETE
Description	The DELETE method is used to delete an application on a node from the controller		
Resource URI	/nodes/{node_id}/apps/{app_id}		
Parameters			
Parameter Name	Cardinality	Type	Description
node_id	1	string	The ID of the node
app_id	1	string	The ID of the application
Request Body-None			
Response Codes	204		
Deleted the application for the specified node and application			
Response Codes	404		
Node ID or app ID not found			

Edge Application API

Edge Application APIs enable developers to build edge compute services capable of taking advantage of tactile applications that respond to the changing user, network or resource scenarios.

Connection Establishment

1.API Name	Connection Establishment	Type	GET
Description	The GET method is used to connect to a secure WebSocket to receive streaming notifications		
Resource URI	/notifications		
Parameters-None			
Request Body-None			
Response Codes	101		
Upgrade to Websockets			
Response Codes	403		
Unauthorized			

Publish Notification

2.API Name	Publish Notification	Type	POST
Description	The POST method is used to push a single notification to all subscribed application		
Resource URI	/notifications		
Parameters			
Parameter Name	Cardinality	Type	Description
body	1	json	The information of the notification

Request Body-None	
Response Codes	202
Notification was received and will be forwarded	
Response Codes	403
Unauthorized	

Service Discovery

3.API Name	**Service Discovery**		**Type**	**GET**
Description	The GET method is used to list all currently activated producers on the local appliance and get their status, subscribable notification types, and address			
Resource URI	/services			
Parameters-None				
Request Body-None				
Response Codes	200			
Parameter Name	Cardinality		Type	Description
service	1		json	The information of the service
Response Codes	403			
Unauthorized				

Service Deactivation

4.API Name	**Service Deactivation**	**Type**	**DELETE**
Description	The DELETE method is used to unregister a producer for all of its notification types in the local MEC environment		
Resource URI	/services		
Parameters-None			
Request Body-None			
Response Codes	204		
Service registration removed			
Response Codes	403		
Unauthorized			

Service Activation

5.API Name	**Service Activation**	**Type**	**POST**
Description	The POST method is used to register a producer to begin publishing notifications in the local MEC environment		
Resource URI	/services		
Parameters			
Parameter Name	Cardinality	Type	Description
body	1	json	The information of the service
Request Body-None			
Response Codes	200		
OK			
Response Codes	400		
Invalid content, a required property is missing			
Response Codes	403		
Unauthorized			

List Subscriptions

6.API Name	List Subscriptions		Type	GET
Description	The GET method is used to list all producers currently subscribed to and their registered notification types			
Resource URI	/subscriptions			
Parameters-None				
Request Body-None				
Response Codes	200			
Parameter Name	Cardinality		Type	Description
Subscription	1		json	The information of the subscription
Response Codes	400			
Invalid content, a required property is missing				
Response Codes	403			
Unauthorized				

Mass Unsubscription

7.API Name	Mass Unsubscription		Type	DELETE
Description	The DELETE method is used to unsubscribe from all producers except the platform defaults			
Resource URI	/subscriptions			
Parameters-None				
Request Body-None				
Response Codes	204			
Non-default subscriptions removed				
Response Codes	403			
Unauthorized				

Service Unsubscription

8.API Name	Service Unsubscription	Type	DELETE
Description	The DELETE method is used to unsubscribe from a particular or entire namespace of producers		
Resource URI	/subscriptions/{urn.namespace}		
Parameters			
Parameter Name	Cardinality	Type	Description
urn.namespace	1	string	The non-unique portion of the URN that identifies the class excluding a trailing separator
urn.id	1	string	The per-namespace unique portion of the URN that when appended to the namespace with a separator forms the complete URN
Request Body-None			
Response Codes	204		
Subscription removed			
Response Codes	403		
Unauthorized			

Service Subscription

9.API Name	Service Subscription	Type	POST
Description	The POST method is used to subscribe to a set of notification types, optionally specifying the exact producer by URN		
Resource URI	/subscriptions/{urn.namespace}		
Parameters			

Parameter Name	Cardinality		Type	Description
urn.namespace	1		string	The non-unique portion of the URN that identifies the class excluding a trailing separator
body	1		json	The list of all notification types registered by all producers in this namespace
Request Body-None				
Response Codes	204			
Subscription added				
Response Codes	403			
Unauthorized				

Service Unsubscription

10.API Name	**Service Unsubscription**	**Type**	**DELETE**
Description	The DELETE method is used to unsubscribe from a particular or entire namespace of producers		
Resource URI	/subscriptions/{urn.namespace}/{urn.id}		
Parameters			

Parameter Name	Cardinality	Type	Description
urn.namespace	1	string	The non-unique portion of the URN that identifies the class excluding a trailing separator
urn.id	1	string	The per-namespace unique portion of the URN that when appended to the namespace with a separator forms the complete URN.
Request Body-None			
Response Codes	204		
Subscription removed			
Response Codes	403		
Unauthorized			

Service Subscription

11.API Name	**Service Subscription**	**Type**	**POST**
Description	The POST method is used to subscribe to a set of notification types, optionally specifying the exact producer by URN		
Resource URI	/subscriptions/{urn.namespace}/{urn.id}		
Parameters			

Parameter Name	Cardinality	Type	Description
urn.namespace	1	string	The non-unique portion of the URN that identifies the class excluding a trailing separator
urn.id	1	string	The per-namespace unique portion of the URN that when appended to the namespace with a separator forms the complete URN.
body	1	json	The list of all notification types registered by all producers in this namespace
Request Body-None			
Response Codes	201		
Subscription added			
Response Codes	403		
Unauthorized			