

Network Slicing API Specifications

- 1. Select NST API
 - 1.1. Request Header
 - 1.2. Request Body
 - serviceProfile Object
 - RequestInfo Object
 - 1.3. Synchronous Response Body
 - 1.4. Asynchronous Response Header
 - 1.5. Asynchronous Response Body
 - Solution Object
 - NSTSolutions Object
- 2. Select NSI API
 - 2.1. Request Header
 - 2.2. Request Body
 - serviceProfile Object
 - nstInfo Object
 - RequestInfo Object
 - 2.3. Synchronous Response Body
 - 2.4. Asynchronous Response Header
 - 2.5. Asynchronous Response Body
 - Solution Object
 - sharedNSISolution Object
 - newNSISolution Object
 - NSTResponseInfo Object
 - NSISolution Object
 - NSTResponseInfo Object
 - NSSI Object
- 3. Select NSSI API
 - 3.1. Request Header
 - 3.2. Request Body
 - sliceProfile Object
 - nsstInfo Object
 - RequestInfo Object
 - 3.3. Synchronous Response Body
 - 3.4. Asynchronous Response Header
 - 3.5. Asynchronous Response Body
 - Solution Object
 - NSSI Object
- 4. HTTP Response Code

1. Select NST API

Interface Definition	Description
Content-Type	application/json
Operation Type	POST
URI	https://{host}:{port}/api/oof/v1/selection/nst

1.1. Request Header

Header	Required	Description
Accept	N	Determines the format of the body of the response. Valid value is "application/json"
Authoriza tion	Y	Supplies Basic Authentication credentials for the request. If the Authorization header is missing, then an HTTP 400 Invalid Request response is returned. If the string supplied is invalid, then an HTTP 401 Unauthorized response is returned.
Content- Length	N	Number of bytes in the body of the request. Note that content length is limited to 1 MB.
Content- Type	Y	Determines the format of the request content. Only application/json is supported.

1.2. Request Body

Attribute	Required?	Cardinality	Content	Values	Description
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serviceProfile	Y	1	serviceProfile Object		The content of the serviceProfile Object
requestInfo	Y	1	requestInfo Object		The content of the requestInfo Object

serviceProfile Object

Attribute	Required?	Cardinality	Content	Values	Description
serviceProfileParameters	Y	1	JSON BLOB		A JSON object containing service profile parameters. The contents are based on 3GPP TS 23.541 Release 16 contents, and will be in the form of attribute value pairs.

RequestInfo Object

Attribute	Required?	Cardinality	Content	Values	Description
transactionId	Y	1	UUID/String		A unique ID to track an ONAP transaction.
requestId	Y	1	UUID/String		A unique ID to track multiple requests associated with a transaction.
callbackUrl	Y	1	URL		The end point of a callback service where recommendations are posted.
callbackHeader	N	1	JSON blob		The header information a client expecting in a async callback.
sourceId	Y	1	String		The unique ID of a client making an optimization call.
timeout	N	1	Integer		A tolerance window (in secs) for expecting solutions. Default is 600 secs.

1.3. Synchronous Response Body

Attribute	Required?	Cardinality	Content	Values	Description
requestId	Y	1	UUID/String		A unique Id for an ONAP transaction.
transactionId	Y	1	UUID/String		A unique ID to track multiple requests associated with a transaction.
statusMessage	N	1	String		Reasoning if a requestStatus is failed.
requestStatus	Y	1	String	accepted, failed	The status of a request.

1.4. Asynchronous Response Header

Header Name	Required?	Description
Accept	N	Determines the format of the body of the response. Valid value is "application/json"
Authorization	Y	Supplies Basic Authentication credentials for the request. If the Authorization header is missing, then an HTTP 400 Invalid Request response is returned. If the string supplied is invalid, then an HTTP 401 Unauthorized response is returned.
Content-Type	Y	Determines the format of the request content. Only application/json is supported.
Attribute	N	Attribute and respective value that a client has sent in the callbackHeader field of a request.
Content-Length	N	Number of bytes in the body of the request. Note that content length is limited to 1 MB.

1.5. Asynchronous Response Body

Attribute	Required?	Cardinality	Content	Values	Description
requestId	Y	1	UUID/String		A unique Id for an ONAP transaction.
transactionId	Y	1	UUID/String		A unique ID to track multiple requests associated with a transaction.
statusMessage	N	1	String		Reasoning if requestStatus is failed.
requestStatus	Y	1	String	completed, failed, pending	The status of a request.
solutions	Y	1	Solution Object		Solutions related to a request.

Solution Object

Attribute	Required?	Cardinality	Content	Values	Description
NSTsolutions	Y	1..N	List of NSTSolution Object		A list of matching NSTs

NSTSolution Object

Attribute	Required?	Cardinality	Content	Values	Description
invariantUUID	Y	1	UUID/String		Invariant UUID
UUID	Y	1	UUID/String		UUID of NST
NSTName	Y	1	String		Name of NST
matchLevel	Y	1	JSON BLOB		Details of match of requirements in service profile

2. Select NSI API

Interface Definition	Description
Content-Type	application/json
Operation Type	POST
URI	https://{host}:{port}/api/oof/v1/selection/nsi

2.1. Request Header

Header	Required	Description
Accept	N	Determines the format of the body of the response. Valid value is "application/json"
Autho rization	Y	Supplies Basic Authentication credentials for the request. If the Authorization header is missing, then an HTTP 400 Invalid Request response is returned. If the string supplied is invalid, then an HTTP 401 Unauthorized response is returned.
Content- Length	N	Number of bytes in the body of the request. Note that content length is limited to 1 MB.
Content- Type	Y	Determines the format of the request content. Only application/json is supported.

2.2. Request Body

Attribute	Required?	Cardinality	Content	Values	Description
serviceProfile	Y	1	serviceProfile Object		The content of the serviceProfile Object
NSTInfoList	Y	1..N	nstInfo Object		The content of nstInfo Object
requestInfo	Y	1	requestInfo Object		The content of the requestInfo Object

serviceProfile Object

Attribute	Required?	Cardinality	Content	Values	Description
serviceProfileP arameters	Y	1	JSON BLOB		A JSON object containing service profile parameters. The contents are based on 3GPP TS 23.541 Release 16 contents, and will be in the form of attribute value pairs.

nstInfo Object

Attribute	Required?	Cardinality	Content	Values	Description
UUID	Y	1	UUID/String		UUID of NST
invariantUUID	Y	1	UUID/String		Invariant UUID

RequestInfo Object

Attribute	Required?	Cardinality	Content	Values	Description
transactionId	Y	1	UUID/String		A unique ID to track an ONAP transaction.
requestId	Y	1	UUID/String		A unique ID to track multiple requests associated with a transaction.
callbackUrl	Y	1	URL		The end point of a callback service where recommendations are posted.
callbackHeader	N	1	JSON blob		The header information a client expecting in a async callback.
sourceId	Y	1	String		The unique ID of a client making an optimization call.
timeout	N	1	Integer		A tolerance window (in secs) for expecting solutions. Default is 600 secs.

2.3. Synchronous Response Body

Attribute	Required?	Cardinality	Content	Values	Description
requestId	Y	1	UUID/String		A unique Id for an ONAP transaction.
transactionId	Y	1	UUID/String		A unique ID to track multiple requests associated with a transaction.
statusMessage	N	1	String		Reasoning if a requestStatus is failed.
requestStatus	Y	1	String	accepted, failed	The status of a request.

2.4. Asynchronous Response Header

Header Name	Required?	Description
Accept	N	Determines the format of the body of the response. Valid value is "application/json"
Authorization	Y	Supplies Basic Authentication credentials for the request. If the Authorization header is missing, then an HTTP 400 Invalid Request response is returned. If the string supplied is invalid, then an HTTP 401 Unauthorized response is returned.
Content-Type	Y	Determines the format of the request content. Only application/json is supported.
Attribute	N	Attribute and respective value that a client has sent in the callbackHeader field of a request.
Content-Length	N	Number of bytes in the body of the request. Note that content length is limited to 1 MB.

2.5. Asynchronous Response Body

Attribute	Required?	Cardinality	Content	Values	Description
requestId	Y	1	UUID/String		A unique Id for an ONAP transaction.
transactionId	Y	1	UUID/String		A unique ID to track multiple requests associated with a transaction.
statusMessage	N	1	String		Reasoning if requestStatus is failed.
requestStatus	Y	1	String	completed, failed, pending	The status of a request.
solutions	Y	1	Solution Object		Solutions related to a request.

Solution Object

Attribute	Required?	Cardinality	Content	Values	Description
sharedNSISolutionList	N	1..N	List of shareNSISolution Objects		A list of matching NSIs from existing NSIs
newNSISolutionList	N	1..N	List of newNSISolution Objects		Details of the constituents of the new NSIs that can be instantiated to meet the request

sharedNSISolution Object

Attribute	Required?	Cardinality	Content	Values	Description
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invariantUUID	Y	1	UUID /String		Invariant UUID
UUID	Y	1	UUID /String		UUID of NSI
NSIName	Y	1	String		Name of NSI
NSIId	Y	1	String		Id of NSI
matchLevel	Y	1	JSON BLOB		Details of match of requirements in service profile, and recommendation rank (future enhancement, based on telemetry, capacity, etc.)

newNSISolution Object

Attribute	Required?	Cardinality	Content	Values	Description
NSTInfo	Y	1	NSTResponseInfo object		NST information
NSSIList	Y	1..N	List of NSSISolution objects		List of NSSIs which when concatenated shall form the NSI, in case NSSI is not present, only the sliceProfile will be included.
matchLevel	Y	1	JSON BLOB		Details of match of requirements in service profile, and recommendation rank (future enhancement, based on telemetry, capacity, etc.)

NSTResponseInfo Object

Attribute	Required?	Cardinality	Content	Values	Description
UUID	Y	1	UUID/String		UUID of NST
invariantUUID	Y	1	UUID/String		Invariant UUID
NSTName	Y	1	String		Name of NST

NSSISolution Object

Attribute	Required?	Cardinality	Content	Values	Description
sliceProfile	Y	1	JSON BLOB		A JSON object containing slice profile parameters. The contents are based on 3GPP TS 23.541 Release 16 contents, and will be in the form of attribute value pairs.
NSSTInfo	Y	1	NSSTResponseInfo Object contents		NSST info
NSSIObject	N	1	NSSI Object contents		Details of the NSSI that is already existing, if present.

NSTResponseInfo Object

Attribute	Required?	Cardinality	Content	Values	Description
UUID	Y	1	UUID/String		UUID of NSST
invariantUUID	Y	1	UUID/String		Invariant UUID
NSSTName	Y	1	String		Name of NSST

NSSI Object

Attribute	Required?	Cardinality	Content	Values	Description
invariantUUID	Y	1	UUID /String		Invariant UUID
UUID	Y	1	UUID /String		UUID of NSSI
NSSIName	Y	1	String		Name of NSSI
NSSIId	Y	1	String		Id of NSSI
matchLevel	Y	1	JSON BLOB		Details of match of requirements in slice profile, and percentage of fit (future enhancement, based on telemetry, capacity, etc.)

3. Select NSSI API

Interface Definition	Description
Content-Type	application/json
Operation Type	POST
URI	https://{host}:{port}/api/oof/v1/selection/nssi

3.1. Request Header

Header	Required	Description
Accept	N	Determines the format of the body of the response. Valid value is "application/json"
Authorization	Y	Supplies Basic Authentication credentials for the request. If the Authorization header is missing, then an HTTP 400 Invalid Request response is returned. If the string supplied is invalid, then an HTTP 401 Unauthorized response is returned.
Content-Length	N	Number of bytes in the body of the request. Note that content length is limited to 1 MB.
Content-Type	Y	Determines the format of the request content. Only application/json is supported.

3.2. Request Body

Attribute	Required?	Cardinality	Content	Values	Description
sliceProfile	Y	1	sliceProfile Object		The content of the sliceProfile Object
nsstInfo	Y	1	nsstInfo Object		The content of nsstInfo Object
requestInfo	Y	1	requestInfo Object		The content of the requestInfo Object

sliceProfile Object

Attribute	Required?	Cardinality	Content	Values	Description
sliceProfileParameters	Y	1	JSON BLOB		A JSON object containing slice profile parameters. The contents are based on 3GPP TS 23.541 Release 16 contents, and will be in the form of attribute value pairs.

nsstInfo Object

Attribute	Required?	Cardinality	Content	Values	Description
UUID	Y	1	UUID/String		UUID of NSST
invariantUUID	Y	1	UUID/String		Invariant UUID

RequestInfo Object

Attribute	Required?	Cardinality	Content	Values	Description
transactionId	Y	1	UUID/String		A unique ID to track an ONAP transaction.
requestId	Y	1	UUID/String		A unique ID to track multiple requests associated with a transaction.
callbackUrl	Y	1	URL		The end point of a callback service where recommendations are posted.
callbackHeader	N	1	JSON blob		The header information a client expecting in a async callback.
sourceId	Y	1	String		The unique ID of a client making an optimization call.
timeout	N	1	Integer		A tolerance window (in secs) for expecting solutions. Default is 600 secs.

3.3. Synchronous Response Body

Attribute	Required?	Cardinality	Content	Values	Description
requestId	Y	1	UUID/String		A unique Id for an ONAP transaction.
transactionId	Y	1	UUID/String		A unique ID to track multiple requests associated with a transaction.
statusMessage	N	1	String		Reasoning if a requestStatus is failed.
requestStatus	Y	1	String	accepted, failed	The status of a request.

3.4. Asynchronous Response Header

Header Name	Required?	Description
Accept	N	Determines the format of the body of the response. Valid value is "application/json"
Authorization	Y	Supplies Basic Authentication credentials for the request. If the Authorization header is missing, then an HTTP 400 Invalid Request response is returned. If the string supplied is invalid, then an HTTP 401 Unauthorized response is returned.
Content-Type	Y	Determines the format of the request content. Only application/json is supported.
Attribute	N	Attribute and respective value that a client has sent in the callbackHeader field of a request.
Content-Length	N	Number of bytes in the body of the request. Note that content length is limited to 1 MB.

3.5. Asynchronous Response Body

Attribute	Required?	Cardinality	Content	Values	Description
requestId	Y	1	UUID/String		A unique Id for an ONAP transaction.
transactionId	Y	1	UUID/String		A unique ID to track multiple requests associated with a transaction.
statusMessage	N	1	String		Reasoning if requestStatus is failed.
requestStatus	Y	1	String	completed, failed, pending	The status of a request.
solutions	Y	1	Solution Object		Solutions related to a request.

Solution Object

Attribute	Required?	Cardinality	Content	Values	Description
NSSISolutions	Y	1..N	List of NSSI Objects		A list of matching NSSIs

NSSI Object

Attribute	Required?	Cardinality	Content	Values	Description
UUID	Y	1	UUID /String		UUID of NSSI
NSSIName	Y	1	String		Name of NSSI
NSSIId	Y	1	String		Id of NSSI
matchLevel	Y	1	JSON BLOB		Details of match of requirements in slice profile, and percentage of fit (future enhancement, based on telemetry, capacity, etc.)

4. HTTP Response Code

HTTP Code	Response Phrase	Description
201	Created	An optimization solution is found.
202	Accepted	An optimization request is accepted.
400	Bad request	Bad request.

401	Unauthorized	Request body is not compliant with the API definition.
404	Not found	The server cannot find the requested URI.
405	Method not found	The requested method is not supported by a server.
500	Internal server error	The server encountered an internal server error or timed out.
520	Solver error	Requested number of solutions cannot be found.