



# Mesh Firmware Migration API

This API only applies to CGRs running CG-OS software.

This chapter describes the Firmware Migration API:

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- [Mesh Firmware Migration API Method Calls, page 37](#)

## Using the Mesh Firmware Migration API

In your IoT FND NB API client application, use the following IoT FND server URL to access the Mesh Firmware Migration API WSDL:

`http://<server_address>/nbapi/reprovision?wsdl`

## Mesh Firmware Migration API Method Calls

IoT FND allows you to update earlier versions of CGR firmware to allow Cisco mesh networking using the following APIs:

- [cancelReprovision, page 38](#)
- [showReprovisionStatus, page 39](#)
- [startReprovisionByEidList, page 41](#)
- [startReprovisionByEidListAbridged, page 42](#)
- [startReprovisionByGroup, page 43](#)
- [startReprovisionByGroupAbridged, page 44](#)

The mesh firmware migration process also requires editing of the Router Configuration and FAR Addition templates in IoT FND. See the IoT FND User Guide.

## cancelReprovision

This call cancels a scheduled reprovisioning operation. Devices are queued in batches of 12 in FIFO order. As soon as the top reprovisioning operation completes, reprovisioning begins on the next device in the queue. When a reprovisioning operation is canceled, reprovisioning operations in progress complete. If the operation is scheduled for the future, then this call cancels the entire operation.

### Prototype

```
cancelReprovision(String uid)
```

### Parameters

[Table 1](#) describes the parameters in the interface.

**Table 1** cancelReprovision Parameters

Parameter	Type	Description
uid	string	The UID of the scheduled reprovision operation.

### Results

If the uid parameter references an unknown UID, the UID of an operation in progress, or a UID of a device that completed the reprovisioning process, the resultStatus is FAILED, and an appropriate errorDetails message is set. If the resultStatus is SUCCESS, the operation was canceled and will not execute.

[Table 2](#) describes the parameters in the response.

**Table 2** cancelReprovision Results

Parameter	Type	Description
resultStatus	string	SUCCESS or FAILED. FAILED returns only on a bad UID.  For all other results such as the UID of an operation in progress or UID of a device that completed the reprovisioning process, resultStatus is SUCCESS and the cancel operation did not run.
errorDetails	string	Error description if resultStatus is FAILED.

## showReprovisionStatus

This call retrieves the status of the reprovision operation correlating to the specified UID.

### Prototype

```
showReprovisionStatus(String uid)
```

### Parameters

Table 3 describes the parameters in the interface.

**Table 3 showReprovisionStatus Parameters**

Parameter	Type	Description
uid	string	The UID of the scheduled reprovision operation.

### Results

```
ShowReprovisionStatusReport showReprovisionStatus(String uid)
```

A ShowReprovisionStatusReport always returns. resultStatus is ERROR if the UID does not reference a known operation, which happens if the UID was incorrect or if the UID referenced an operation that completed and was cleaned up by the automatic pruning logic. Data retention time defaults to 7 days after an operation completes, which is configurable in IoT FND.

Table 4 describes the parameters in the response.

**Table 4 showReprovisionStatus Results**

Parameter	Type	Description
resultStatus	string	SUCCESS or FAILED.
errorDetails	string	Error description if resultStatus is FAILED.
uid	string	The UID of the reprovision operation correlating to this status.
operationStatus	string	The ReprovisionOperationStatus value correlating to this operation.
scheduledFor	int	Date specified in <a href="#">startReprovisionByEidList</a> , <a href="#">startReprovisionByEidListAbridged</a> , <a href="#">startReprovisionByGroup</a> , or <a href="#">startReprovisionByGroupAbridged</a> for operation execution.
submittedAt	int	Date when this operation was submitted to <a href="#">startReprovisionByEidList</a> .
totalCount	int	Total number of devices specified in the list of EIDs in <a href="#">startReprovisionByEidList</a> , <a href="#">startReprovisionByEidListAbridged</a> , <a href="#">startReprovisionByGroup</a> , or <a href="#">startReprovisionByGroupAbridged</a> .
processedAt	int	Date when the operation began.
completedAt	int	Date when the operation finished processing all devices listed in <a href="#">startReprovisionByEidList</a> , <a href="#">startReprovisionByEidListAbridged</a> , <a href="#">startReprovisionByGroup</a> , or <a href="#">startReprovisionByGroupAbridged</a> if COMPLETED or FAILED; otherwise this parameter is null.
successCount	int	Number of devices successfully processed.
failedCount	int	Number of items that failed the processing operation.
itemReports	int	List of ReprovisionItemReport objects. Each object defines the status for a single EID specified in <a href="#">startReprovisionByEidList</a> , <a href="#">startReprovisionByEidListAbridged</a> , <a href="#">startReprovisionByGroup</a> , or <a href="#">startReprovisionByGroupAbridged</a> .

For a ShowReprovisionStatusReport object with an operationStatus of SCHEDULED or CANCELED, ReprovisionItemReport is null because no information is available for those objects until processing begins. For all other operationStatus values, a ReprovisionItemReport object will be returned for each EID that is to be processed.

Table 5 describes the parameters in the ReprovisionItemReport for the specified device.

**Table 5 showReprovisionStatus ReprovisionItemReport Results**

Parameter	Type	Description
eid	int	The EID of the device.
itemStatus	string	The ReprovisionItemStatus value related to this device.
errorDetails	string	Detailed error message if operationStatus is ERROR.
processedAt	int	Date when the operation began.
completedAt	int	Date when the operation finished processing the device.

## startReprovisionByEidList

This call is general for all reprovisioning actions, not just for mesh migration. Some input parameters are not applicable to mesh migration operations. This call schedules an operation to execute at a future date.

For `startReprovisionByEidList` and `startReprovisionByGroup`, specify the interface name and interface type if all FARs have the same interface name and type. This is normally used for internal testing.

### Prototype

```
startReprovisionByEidList(String action, List<String> eidList, String interfaceName,
                          String interfaceType, Date executionDate)
```

### Parameters

Table 6 describes the parameters in the interface.

**Table 6 startReprovisionByEidList Parameters**

Parameter	Type	Description
action	string	The name of the reprovisioning action to run. For mesh migration, this is MESH_FIRMWARE_ACTIVATION.
eidList	string	List of EIDs to perform the action on.  <b>Note:</b> The list is limited to a maximum of 1000 IP addresses. An error returns and the operation is not scheduled if more than 1000 are specified.
interfaceName	string	(For test purposes only.) The name of the interface involved in the action.  <b>Note:</b> Use the abridged calls for groups of mesh devices.
interfaceType	string	(For test purposes only.) The type of the interface involved in the action  <b>Note:</b> Use the abridged calls for groups of mesh devices.
executionDate	date	Date to execute the action. This is a required parameter. Specify the current time or a time in the past to execute immediately.

### Results

This method always returns a `StartReprovisionReport` object. If the operation failed to execute due to invalid parameters or if the EID list was determined invalid, `FAILED` returns. An operation is only scheduled and the UID returns if `resultStatus` is `SUCCESS`.

Table 7 describes the parameters in the response.

**Table 7 startReprovisionByEidList Results**

Parameter	Type	Description
resultStatus	int	SUCCESS or FAILED.
errorDetails	string	Error description if resultStatus is FAILED.
uid	string	The UID of the reprovision operation correlating to this status.

## startReprovisionByEidListAbridged

This call schedules an operation to execute at a future date.

### Prototype

```
startReprovisionByEidListAbridged(String action, List<String> eidList,
                                   String interfaceName, String interfaceType,
                                   Date executionDate)
```

### Parameters

Table 8 describes the parameters in the interface.

**Table 8 startReprovisionByEidListAbridged Parameters**

Parameter	Type	Description
action	string	The name of the reprovisioning action to run. For mesh migration, this is “Mesh Activation.”
eidList	string	List of EIDs to perform the action on.  <b>Note:</b> The list is limited to a maximum of 1000 IP addresses. An error returns and the operation is not scheduled if more than 1000 are specified.
executionDate	date	Date to execute the action. This is a required parameter. Specify the current time or a time in the past to execute immediately.

### Results

This method always returns a StartReprovisionReport object. If the operation failed to execute due to invalid parameters or if the EID list was determined invalid, FAILED returns. An operation is only scheduled and the UID returns if resultStatus is SUCCESS.

Table 9 describes the parameters in the response.

**Table 9 startReprovisionByEidListAbridged Results**

Parameter	Type	Description
resultStatus	int	SUCCESS or FAILED.
errorDetails	string	Error description if resultStatus is FAILED.
uid	string	The UID of the reprovision operation correlating to this status.

## startReprovisionByGroup

This call executes the reprovisioning operation on the specified group.

### Prototype

```
startReprovisionByGroup(String action, String groupName, String interfaceName,
                          String interfaceType, Date executionDate)
```

### Parameters

[Table 10](#) describes the parameters in the interface.

**Table 10 startReprovisionByGroup Parameters**

Parameter	Type	Description
action	string	The name of the reprovisioning action to run. For mesh migration, this is “Mesh Activation.”
groupName	string	The name of the tunnel provisioning group.
executionDate	date	Date to execute the action. This is a required parameter. Specify the current time or a time in the past to execute immediately.

### Results

This method always returns a StartReprovisionReport object. If the operation failed to execute due to invalid parameters or if the EID list was determined invalid, FAILED returns. An operation is only scheduled and the UID returns if resultStatus is SUCCESS.

[Table 11](#) describes the parameters in the response.

**Table 11 startReprovisionByGroup Results**

Parameter	Type	Description
resultStatus	int	SUCCESS or FAILED.
errorDetails	string	Error description if resultStatus is FAILED.
uid	string	The UID of the reprovision operation correlating to this status.

## startReprovisionByGroupAbridged

This call executes the reprovisioning operation on the specified group.

### Prototype

```
startReprovisionByGroupAbridged(String action, String groupName, Date executionDate)
```

### Parameters

Table 12 describes the parameters in the interface.

**Table 12 startReprovisionByGroupAbridged Parameters**

Parameter	Type	Description
action	string	<b>Note:</b> For mesh migration, this parameter is “Mesh Activation.” The name of the reprovisioning action to run.
groupName	string	The name of the tunnel provisioning group.
executionDate	int	Date to execute the action. This is a required parameter. Specify the current time or a time in the past to execute immediately.

### Results

This method always returns a StartReprovisionReport object. If the operation failed to execute due to invalid parameters or if the EID list was determined invalid, FAILED returns. An operation is only scheduled and the UID returns if resultStatus is SUCCESS.

Table 13 describes the parameters in the response.

**Table 13 startReprovisionByGroupAbridged Results**

Parameter	Type	Description
resultStatus	int	SUCCESS or FAILED.
errorDetails	string	Error description if resultStatus is FAILED.
uid	string	The UID of the reprovision operation correlating to this status.