**3GPP TSG- Meeting # *rev1***

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| *CR-Form-v12.1* |
| **CHANGE REQUEST** |
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|  |  | **CR** |  | **rev** |  | **Current version:** |  |  |
|  |
| *For* [***HE******LP***](http://www.3gpp.org/3G_Specs/CRs.htm#_blank)*on using this form: comprehensive instructions can be found at* [*http://www.3gpp.org/Change-Requests*](http://www.3gpp.org/Change-Requests)*.* |
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| ***Proposed change affects:*** | UICC apps |  | ME |  | Radio Access Network | **X** | Core Network | **X** |

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| ***Title:***  |  |
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| ***Source to WG:*** |  |
| ***Source to TSG:*** | SA5 |
|  |  |
| ***Work item code:*** |  |  | ***Date:*** |  |
|  |  |  |  |  |
| ***Category:*** |  |  | ***Release:*** |  |
|  | *Use one of the following categories:****F*** *(correction)****A*** *(mirror corresponding to a change in an earlier release)****B*** *(addition of feature),* ***C*** *(functional modification of feature)****D*** *(editorial modification)*Detailed explanations of the above categories canbe found in 3GPP [TR 21.900](http://www.3gpp.org/ftp/Specs/html-info/21900.htm). | *Use one of the following releases:Rel-8 (Release 8)Rel-9 (Release 9)Rel-10 (Release 10)Rel-11 (Release 11)…Rel-15 (Release 15)Rel-16 (Release 16)Rel-17 (Release 17)Rel-18 (Release 18)* |
|  |  |
| ***Reason for change:*** | There are some errors in the definitions:- fileFormat parameter is defined as encoding but actually means the file format schema- REST SS has some wrong spellings of data type names- Clause on file transfer protocls is moved here from clause 11.3.2.1.1 |
|  |  |
| ***Summary of change:*** | Correct the errors. |
|  |  |
| ***Consequences if not approved:*** | Definitions cannot be implemeted and are not interoperable. |
|  |  |
| ***Clauses affected:*** | 11.6.1.1.1, 11.6.1.1.2, 11.6.2 (new), 12.6.1.1.2, 12.6.1.3.2.1.3.1, 12.6.1.4.6.2, A.7.2 |
|  |  |
|  | **Y** | **N** |  |  |
| ***Other specs*** |  | **X** |  Other core specifications  | TS/TR ... CR ...  |
| ***affected:*** |  | **X** |  Test specifications | TS/TR ... CR ...  |
| ***(show related CRs)*** |  | **X** |  O&M Specifications | TS/TR ... CR ...  |
|  |  |
| ***Other comments:*** |  |
|  |  |
| ***This CR's revision history:*** |  |

|  |
| --- |
| **First modification** |

## 11.6 File data reporting service

### 11.6.1 Operations and notifications

#### 11.6.1.1 Notification notifyFileReady

##### 11.6.1.1.1 Definition

A MnS producer sends this notification to subscribed MnS consumers when a new file becomes ready (available) on the MnS producer for upload by MnS consumers. The "fileInfoList" parameter provides information (meta data) about the new file and optionally, in addition to that, information about all other files, which became ready for upload earlier and are still available for upload when the notification is sent.

The "objectClass" and "objectInstance" parameters identify the object representing the function (process) making the file available for retrieval, such as the "PerfMetricJob" or the "TraceJob" defined in TS 28.622 [11]. When no dedicated object is standardized or instantiated, the "ManagedElement", where the file is processed, shall be used. For the case that the file is processed on a mangement node, the "ManagementNode", where the file is processed, shall be used instead.

##### 11.6.1.1.2 Input parameters

| Parameter Name | S | Information Type | Comment |
| --- | --- | --- | --- |
| objectClass | M | Entity.objectClass | See clause 11.6.1.1.1 for the definition of Entity |
| objectInstance | M | Entity.objectInstance | See clause 11.6.1.1.1 for the definition of Entity |
| notificationId | M | -- |  |
| notificationType | M | "notifyFileReady" |  |
| eventTime | M | -- | Time when the file, that triggered this notification, was ready for upload. |
| systemDN | M |  |  |
| fileInfoList | M | List of struct < fileLocation, fileSize, fileReadyTime, fileExpirationTime, fileCompression, fileFormat, fileDataType,>Each element is defined as following:- "fileLocation": Location of the file. The location may be a directory path or a URL, for example "\\202.112.101.1\D:\user\Files\<xxx>", or "ftp://nms.telecom\_org.com/datastore/<xxx>, where <xxx> is the filename.- "fileSize": Size of the file. Its value is a positive Integer. The unit is byte.- "fileReadyTime": Date and time when the file was closed (the last time) and made available on the MnS producer.The file content will not be changed any more.- "fileExpirationTime": Date and time after which the file may be deleted. It shall not be empty and shall be later than "fileReadyTime".- "fileCompression": Name of the algorithm used for compressing the file. An empty or absent "fileCompression" parameter indicates the file is not compressed. The MnS producer selects the compression algorithm. It is encouraged to use popular algorithms such as GZIP.- "fileFormat": Identifier of the XML or ASN.1 schema (incl. its version) used to produce the file content.- "fileDataType": Type of the management data stored in the file. Following are the allowed values:- For performance data (including measurement data and KPI) files, the value is assigned to "PERFORMANCE".- For trace data files, the value is assigned to "TRACE".- For analytic data files, the value is assigned to "ANALYTICS".- For proprietary data files, the value is assigned to "PROPRIETARY". | Information (meta data) about the new file, that became ready for upload and triggered this notification, and information about files, which became ready for upload earlier and are still available for upload when the notification is sent. |
| additionalText | O | -- | Allows a free form text description to be reported as defined in ITU-T Rec. X. 733 [4] |

#### 11.6.1.2 Notification notifyFilePreparationError

##### 11.6.1.2.1 Definition

A MnS producer sends this notification to subscribed MnS consumers when an error occurs while preparing a file. For many error reasons, such as low memory or hard disk full, it is very likely that all ongoing file preparation process fail at the same time. For that reason, it is possible to report with this notification that multiple file preparation processes failed.

In case the MnS producer keeps the file, where an error occurred during preparation, the "fileInfoList" parameter contains a list item with information about that file, otherwise, if the file is deleted or not created at all, the "fileInfoList" parameter has no list item related to that file.

##### 11.6.1.2.2 Input parameters

| Parameter Name | S | Information Type | Comment |
| --- | --- | --- | --- |
| objectClass | M | Entity.objectClass. | See clause 11.6.1.1.1 for the definition of Entity |
| objectInstance | M | Entity.objectInstance | See clause 11.6.1.1.1 for the definition of Entity. |
| notificationId | M | -- | See Table 11.6.1.1.2-1. |
| notificationType | M | "notifyFilePreparationError" |  |
| eventTime | M | -- | Time when the file preparation error occured |
| systemDN | M |  |  |
| fileInfoList | M | See Table 11.6.1.1.2-1. | Each list item contains information about a file where a file preparation error occurred and that is kept on the MnS producer. Files, that are deleting or not created at all, have no list item. |
| reason | M | -- | Detailed error reason, including- errorInPreparation- hardDiskFull- hardDiskFailure- tooManyFiles- collectionTimeOut- incompleteTruncatedFile- corruptedFile- lowMemory- dataNotAvailable |
| additionalText | O | -- | Allows a free form text description to be reported as defined in ITU-T Rec. X. 733 [4] |

#### 11.6.1.3 Operation subscribe

##### 11.6.1.3.1 Definition

This operation enables the authorized file data reporting service consumer to subscribe to the notification(s) related to the services provided by the file data reporting service producer.

##### 11.6.1.3.2 Input parameters

| Parameter Name | S | Information Type | Comment |
| --- | --- | --- | --- |
| consumerReference | M | It specifies the reference of the consumer to which the notifications shall be sent. | The format of the reference may have dependency on the solution set. |
| timeTick | O | It specifies the value of a timer the subscription is hold by the file data reporting service producer for the subject consumer. The value is in unit of whole minute.  | A special infinite value is assumed when parameter is absent or present but equal to zero. |
| filter | O | It specifies a filter constraint that the file data reporting service producer shall use to filter notification(s). Filter constraint grammar is solution set dependent | If this parameter is absent, then no filter constraint shall be applied. |

##### 11.6.1.3.3 Output parameters

| **Parameter Name** | **S** | **Matching Information** | **Comment** |
| --- | --- | --- | --- |
| subscriptionId | M | An unambiguous identity of this subscription. |  |
| status | M | ENUM (OperationSucceeded, OperationFailedExistingSubscription, OperationFailed) | If subscription is successfully created, status = OperationSuceeded.If subscription is not created because it is duplicated or conflict with existing subscription(s), status = OperationFailedExistingSubscriptionIf the operation is failed for any other reason than being duplicated or conflict with existing subscription(s), status = OperationFailed. |

##### 11.6.1.3.4 Exceptions

|  |  |
| --- | --- |
| **Name** | **Definition** |
| operation\_failed\_existing\_subscription | **Condition:** The subscription is duplicated or conflict with existing subscription(s)**Returned Information:** The output parameter status |
| operation\_failed | **Condition:** The operation is failed for any other reason than being duplicated or conflict with subscription(s)**Returned Information:** The output parameter status |

#### 11.6.1.4 Operation unsubscribe

##### 11.6.1.4.1 Definition

This operation enables the authorized file data reporting service consumer cancel subscription(s) at a management service producer.

The authorized file data reporting service consumer can cancel one subscription made with a consumerReference by providing the corresponding subscriptionId or all subscriptions made with the same consumerReference by leaving the subscriptionId parameter absent.

##### 11.6.1.4.2 Input parameters

| **Parameter Name** | **S** | **Information Type** | **Comment** |
| --- | --- | --- | --- |
| consumerReference | M | It specifies the reference of the authorized file data reporting service consumer whose subscription(s) are to be cancelled. | The format of the reference may have dependency on the solution set. |
| subscriptionId | O | It holds a subscriptionId carried as the output parameter in the subscribe operation. | If this parameter is absent, all subscriptions made with the same consumerReference shall be cancelled. |

##### 11.6.1.4.3 Output parameters

| **Parameter Name** | **S** | **Matching Information** | **Comment** |
| --- | --- | --- | --- |
| status | M | ENUM (OperationSucceeded, OperationFailed) | If subscription(s) as identified in the input parameter are cancelled, status = OperationSucceeded.If the operation is failed, status = OperationFailed. |

##### 11.6.1.4.4 Exceptions

|  |  |
| --- | --- |
| **Name** | **Definition** |
| operation\_failed | **Condition:** the operation is failed**Returned Information:** The output parameter status |

#### 11.6.1.5 Operation listAvailableFiles

##### 11.6.1.5.1 Definition

This operation allows a MnS consumer to retrieve a list of files available for upload on a MnS producer. The request contains the file data type for the files, that shall be listed. In addition to that it is possible to specify that only files shall be included with the file ready time being within a specific time window defined by the "beginTime" and "endTime" parameters.

##### 11.6.1.5.2 Input parameters

| **Parameter Name** | **S** | **Information type** | **Comment** |
| --- | --- | --- | --- |
| fileDataType | M | It specifies the type of the management data stored in the file. | For performance data (including measurement data and KPI) files, the value is assigned to "PERFORMANCE".For trace data files, the value is assigned to "TRACE".For analytic data files, the value is assigned to "ANALYTICS".For proprietary data files, the value is assigned to "PROPRIETARY". |
| beginTime | M | The consumer requests to list information about the available file(s) whose ready time(s) are later or equal to this time.This parameter is expressed in UTC time. | This parameter indicates date and time.If this parameter is empty or absent, no restriction on begin time is applied on the file ready time. |
| endTime | M | The consumer requests to list information about the available file(s) whose ready time(s) are earlier than this time.This parameter is expressed in UTC time. | This parameter indicates date and time.If this parameter is empty or absent, no restriction on end time is applied on the file ready time. |

##### 11.6.1.5.3 Output parameters

| **Parameter Name** | **S** | **Matching Information** | **Comment** |
| --- | --- | --- | --- |
| fileInfoList | M | See "fileInfoList" defined in notifyFileReady notification (clause 11.6.1.1.1) |  |
| status | M | ENUM (Success, Failure) |  |

##### 11.6.1.5.4 Exceptions

| **Exception Name** | **Definition** |
| --- | --- |
| invalidTimes | **Condition:** Either "beginTime" or "endTime" is invalid.**Returned information:** output parameter status is set to Failure. |

### 11.6.2 File transfer protocols

The MnS producer shall support at least one of the following file transfer protocols:

- FTP;

- SFTP.

The MnS producer shall always act as the server while the MnS consumer shall always act as the initiator (client) of file transfer actions:

|  |
| --- |
| **Next modification** |

## 12.6 File data reporting service

### 12.6.1 RESTful HTTP-based solution set

#### 12.6.1.1 Mapping of operations

##### 12.6.1.1.1 Introduction

The IS operations are mapped to SS equivalents according to table 12.6.1.1.1-1.

Table 12.6.1.1.1-1: Mapping of IS operations to SS equivalents

|  |  |  |  |
| --- | --- | --- | --- |
| IS operation | HTTP Method | Resource URI | S |
| listAvailableFiles | GET | /files | M |
| subscribe | POST | /subscriptions | M |
| unsubscribe | DELETE | /subscriptions/{subscriptionId} | M |

##### 12.6.1.1.2 Operation listAvailableFiles

The IS operation parameters are mapped to SS equivalents according to table 12.6.1.1.2-1 and table 12.6.1.1.2-2.

Table 12.6.1.1.2-1: Mapping of IS operation input parameters to SS equivalents (HTTP GET)

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **IS parameter name** | **SS parameter location** | **SS parameter name** | **SS parameter type** | **S** |
| fileDataType | query | fileDataType | FileDataType | M |
| beginTime | query | beginTime | DateTime | M |
| endTime | query | endTime | DateTime | M |

Table 12.6.1.1.2-2: Mapping of IS operation output parameters to SS equivalents (HTTP GET)

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **IS parameter name** | **SS parameter location** | **SS parameter name** | **SS parameter type** | **S** |
| fileInfoList | response body | n/a | array(FileInfo) | M |
| status | response status codes | n/a | n/a | M |
| response body | error | ErrorResponse | O |

The message flow is as follows:

- 1. The MnS consumer sends a HTTP GET request to the MnS producer.

- The URI identifies the "…/files" collection resource.

- The query part may contain filter parameters. Absence of the query component means all available files shall be returned.

- The request message body shall be empty.

2. The MnS producer sends a HTTP GET response to the MnS consumer.

- On success "200 OK" shall be returned. The response message body shall carry the information of available files. The response format is defined by " array(FileInfo) ".

- On failure, an appropriate error code shall be returned. The response message body may provide additional error information..

##### 12.6.1.1.3 Operation subscribe

See clause 12.2.1.1.8.

##### 12.6.1.1.4 Operation unsubscribe

See clause 12.2.1.1.9.

#### 12.6.1.2 Mapping of notifications

##### 12.6.1.2.1 Introduction

The IS notifications are mapped to SS equivalents according to table 12.6.1.2.1-1.

**Table 12.6.1.2.1-1: Mapping of IS notifications to SS equivalents**

|  |  |  |  |
| --- | --- | --- | --- |
| **IS notification** | **HTTP Method** | **Resource URI** | **S** |
| notifyFileReady | POST | {notificationTarget} | M |
| notifyFilePreparationError | POST | {notificationTarget} | M |

##### 12.6.1.2.2 Notification notifyFileReady

The IS notification parameters are mapped to SS equivalents according to table 12.6.1.2.2-1.

Table 12.6.1.2.2-1: Mapping of IS notification input parameters to SS equivalents (HTTP POST)

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **IS parameter name** | **SS parameter location** | **SS parameter name** | **SS parameter type** | **S** |
| objectClass | request body | href | Uri | M |
| objectInstance |
| notificationId | request body | notificationId | NotificationId | M |
| notificationType | request body | notificationType | NotificationType | M |
| eventTime | request body | eventTime | DateTime | M |
| systemDN | request body | systemDN | SystemDN | M |
| fileInfoList | request body | fileInfoList | array(FileInfo) | M |
| additionalText | request body | additionalText | string | O |

##### 12.6.1.2.3 Notification notifyFilePreparationError

The IS notification parameters are mapped to SS equivalents according to table 12.6.1.2.3-1.

Table 12.6.1.2.3-1: Mapping of IS notification input parameters to SS equivalents (HTTP POST)

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **IS parameter name** | **SS parameter location** | **SS parameter name** | **SS parameter type** | **S** |
| objectClass | request body | href | Uri | M |
| objectInstance |
| notificationId | request body | notificationId | NotificationId | M |
| notificationType | request body | notificationType | NotificationType | M |
| eventTime | request body | eventTime | DateTime | M |
| systemDN | request body | systemDN | SystemDN | M |
| fileInfoList | request body | fileInfoList | array(FileInfo) | M |
| reason | request body | reason | string | O |
| additionalText | request body | additionalText | string | O |

#### 12.6.1.3 Resources

##### 12.6.1.3.1 Resource structure

###### 12.6.1.3.1.1 Resource structure on the MnS producer

Figure 12.6.1.3.1.1-1 shows the resource structure of the File Data Reporting MnS on the MnS producer.

Figure 12.6.1.3.1.1-1: Resource URI structure of the File Data Reporting MnS on the MnS producer

Table 12.2.1.3.1.1-1 provides an overview of the resources and applicable HTTP methods.

Table 12.2.1.3.1.1-1: Resources and methods overview

|  |  |  |  |
| --- | --- | --- | --- |
| Resource name | Resource URI | HTTP method | Description |
| Files | …/files | GET | Retrieve the information of the available files |
| Subscriptions | …/subscriptions | POST | Create a subscription |
| Subscription | …/subscriptions/{subscriptionId} | DELETE | Delete a single subscription |
| Notification Target | {notificationTarget} | POST | Send a notification to the notification target |

###### 12.6.1.3.1.2 Resource structure on the MnS consumer

Figure 12.6.1.3.1.2-1 shows the resource structure of the File Data Reporting MnS on the MnS consumer.

Figure 12.6.1.3.1.2-1: Resource URI structure of the File Data Reporting MnS on the MnS consumer

Table 12.6.1.3.1.2-1 provides an overview of the resources and applicable HTTP methods.

Table 12.6.1.3.1.2-1: Resources and methods overview

|  |  |  |  |
| --- | --- | --- | --- |
| Resource name | Resource URI | HTTP method | Description |
| Notification Target | {notificationTarget} | POST | Send a notification to the notification target |

##### 12.6.1.3.2 Resource definitions

12.6.1.3.2.1 Resource "…/files"

12.6.1.3.2.1.1 Description

This resource represents the information about a collection of available files.

12.6.1.3.2.1.2 URI

Resource URI = {MnSRoot}/FileDataReportingMnS/{MnSVersion}/files

The resource URI variables are defined in table 12.6.1.3.2.1.1-1.

Table 12.6.1.3.2.1.1-1: URI variables

|  |  |
| --- | --- |
| **Name** | **Definition** |
| MnSRoot | See clause 4.4.2 of TS 32.158 [15] |
| MnSVersion | See clause 4.4.2 of TS 32.158 [15] |

12.6.1.3.2.1.3 HTTP methods

12.6.1.3.2.1.3.1 HTTP GET

This method shall support the URI query parameters specified in the following table.

**Table 12.6.1.3.2.1.3.1-1: URI query parameters supported by the GET method on this resource**

|  |  |  |  |
| --- | --- | --- | --- |
| **Name** | **Data type** | **Description** | **S** |
| fileDataType | FileDataType | Selects files based on the file data type. | M |
| beginTime | DateTime | Selects files based on the earliest time they became available | M |
| endTime | DateTime | Selects files based on the latest time they became available | M |

This method shall support the request data structures, the response data structures and response codes specified in the following tables.

**Table 12.6.1.3.2.1.3.1-2: Data structures supported by the GET request body on this resource**

|  |  |  |
| --- | --- | --- |
| **Data type** | **Description** | **S** |
| n/a | n/a | n/a |

**Table 12.6.1.3.2.1.3.1-3: Data structures supported by the GET response body on this resource**

|  |  |  |  |
| --- | --- | --- | --- |
| **Data type** | **Response codes** | **Description** | **S** |
| array(FileInfo) | 200 OK | Information about the files identified in the request | M |
| ErrorResponse | 4xx/5xx | Returned in case of an error | M |

12.6.1.3.2.2 Resource "…/subscriptions"

12.6.1.3.2.2.1 Description

This resource is a container resource for individual subscriptions.

12.6.1.3.2.2.2 URI

Resource URI: {MnSRoot}/FileDataReportingMnS/{MnSVersion}/subscriptions

The resource URI variables are defined in table 12.6.1.3.3.2.2.2-1:

Table 12.6.1.3.3.2.2.2-1: URI variables

|  |  |
| --- | --- |
| **Name** | **Definition** |
| MnSRoot | See clause 4.4.2 of TS 32.158 [15] |
| MnSVersion | See clause 4.4.2 of TS 32.158 [15] |

12.6.1.3.2.2.3 HTTP methods

12.6.1.3.2.2.3.1 POST

This method shall support the URI query parameters specified in table 12.6.1.3.2.2.3.1-1.

Table 12.6.1.3.2.2.3.1-1: URI query parameters supported by the POST method on this resource

|  |  |  |  |
| --- | --- | --- | --- |
| Name | Data type | Description | S |
| n/a | n/a | n/a | n/a |

This method shall support the request data structures specified in table 12.6.1.3.2.2.3.1-2 and the response data structures and response codes specified in table 12.6.1.3.2.2.3.1-3.

Table 12.6.1.3.2.2.3.1-2: Data structures supported by the POST Request Body on this resource

|  |  |  |
| --- | --- | --- |
| Data type | Description | S |
| Subscription | Details of the subscription to be created | M |

Table 12.6.1.3.2.2.3.1-3: Data structures supported by the POST Response Body on this resource

|  |  |  |  |
| --- | --- | --- | --- |
| Data type | Response codes | Description | S |
| Subscription | 201 Created | In case of success the representation of the created subscription is returned. | M |
| ErrorResponse | 4xx/5xx | In case of failure the error object is returned. | M |

12.6.1.3.2.2.3.2 Void

12.6.1.3.2.3 Resource ".../subscriptions/{subscriptionId}"

12.6.1.3.2.3.1 Description

This resource represents a subscription.

12.6.1.3.2.3.2 URI

Resource URI: {MnSRoot}/FileDataReportingMnS/{MnSVersion}/subscriptions/{subscriptionId}

The resource URI variables are defined in table 12.6.1.3.2.3.2-1.

Table 12.6.1.3.2.3.2-1: URI variables

|  |  |
| --- | --- |
| Name | Definition |
| MnSRoot | See clause 4.4.2 of TS 32.158 [15] |
| MnSVersion | See clause 4.4.2 of TS 32.158 [15] |
| subscriptionId | Subscription identifier |

12.6.1.3.2.3.3 HTTP methods

12.6.1.3.2.3.3.1 DELETE

This method shall support the URI query parameters specified in table 12.6.1.3.2.3.3-1.

Table 12.6.1.3.2.3.3-1: URI query parameters supported by the DELETE method on this resource

|  |  |  |  |
| --- | --- | --- | --- |
| Name | Data type | Description | S |
| n/a | n/a | n/a | n/a |

This method shall support the request data structures specified in table 12.6.1.3.2.3.3-2 and the response data structures and response codes specified in table 12.6.1.3.2.3.3-3.

Table 12.6.1.3.2.3.3-2: Data structures supported by the DELETE Request Body on this resource

|  |  |  |
| --- | --- | --- |
| Data type | Description | S |
| n/a | n/a | n/a |

Table 12.6.1.3.2.3.3-3: Data structures supported by the DELETE Response Body on this resource

|  |  |  |  |
| --- | --- | --- | --- |
| Data type | Response codes | Description | S |
| n/a | 204 No Content | In case of success no message body is returned | M |
| ErrorResponse | 4xx/5xx | In case of failure the error object is returned. | M |

12.6.1.3.2.4 Resource "/notificationTarget"

12.6.1.3.2.4.1 Description

This resource represents a notification target on the MnS consumer.

12.6.1.3.2.4.2 URI

Resource URI: {notificationTarget}

The resource URI variables are defined in table 12.6.1.3.2.4.2-1.

Table 12.6.1.3.2.4.2-1: URI variables

|  |  |
| --- | --- |
| Name | Definition |
| notificationTarget | URI of the notification target on the MnS consumer, contained in the notification subscription |

12.6.1.3.2.4.3 HTTP methods

12.6.1.3.2.4.3.1 POST

This method shall support the URI query parameters specified in table 12.6.1.3.2.4.3.1-1.

Table 12.6.1.3.2.4.3.1-1: URI query parameters supported by the POST method on this resource

|  |  |  |  |
| --- | --- | --- | --- |
| Name | Data type | Description | S |
| n/a | n/a | n/a | n/a |

This method shall support the request data structures specified in table 12.6.1.3.2.4.3.1-2 and the response data structures and response codes specified in table 12.6.1.3.2.4.3.1-3.

Table 12.6.1.3.2.4.3.1-2: Data structures supported by the POST Request Body on this resource

|  |  |  |
| --- | --- | --- |
| Data type | Description | S |
| NotifyFileReady | Type in case a notifyFileReady notification is sent | M |
| NotifyFilePreparationError | Type in case a notifyFilePreparationError notification is sent | M |

Table 12.6.1.3.2.4.3.1-3: Data structures supported by the POST Response Body on this resource

|  |  |  |  |
| --- | --- | --- | --- |
| Data type | Response codes | Description | S |
| n/a | 204 No Content | In case of success no message body is returned | M |
| ErrorResponse | 4xx/5xx | In case of failure the error object is returned. | M |

#### 12.6.1.4 Data type definitions

##### 12.6.1.4.1 General

Table 12.6.1.4.1-1: Data types defined in this specification

|  |  |  |
| --- | --- | --- |
| **Data type** | **Reference** | **Description** |
| FileInfo | 12.6.1.4.2.1 | Information describing a file |
| NotifyFileReady | 12.6.1.4.2.2 | Used in the request body of HTTP POST for the notification type notifyFileReady |
| NotifyFilePreparationError | 12.6.1.4.2.3 | Used in the request body of HTTP POST for the notification type notifyFilePreparationError |
| FileDataType | 12.6.1.4.6.3 | File data types |
| FileNotificationTypes | 12.6.1.4.6.4 | File notification types |

Table 12.6.1.4.1-2: Data types imported

|  |  |  |
| --- | --- | --- |
| **Data type** | **Reference** | **Description** |
| DateTime | TS 28.623 [44] | Date and time |
| Float | TS 28.623 [44] | Float type |
| Uri | TS 28.623 [44] | URI type |
| SystemDN | TS 28.623 [44] | systemDN type |
| NotificationId | TS 28.623 [44] | Notification identifier as defined in ITU-T Rec. X. 733 [4] |
| NotificationHeader | TS 28.623 [44] | Notification header |
| ErrorResponse | TS 28.623 [44] | Used in the response body of multiple HTTP methods in case of error |
| Subscription | 12.2.1.4.1a.8 | Subscription resource |

##### 12.6.1.4.2 Structured data types

12.6.1.4.2.1 Type FileInfo

Table 12.6.1.4.2.1-1: Definition of FileInfo

|  |  |  |  |
| --- | --- | --- | --- |
| **Attribute name** | **Data type** | **Description** | **S** |
| fileLocation | Uri | Location of the file | M |
| fileSize | integer | Size of the file, unit is byte | M |
| fileReadyTime | DateTime | Date and time when the file was last closed and made available in the MnS producer. The file content will not be changed any more. | M |
| fileExpirationTime | DateTime | Date and time after which the file may be deleted | M |
| fileCompression | string | Name of the compression algorithm used for compressing the file | M |
| fileFormat | string | Encoding technique used for encoding the file. Its value should indicate the version of the file format specification plus to indicate if "ASN1" or "XML-schema" is used | M |
| fileDataType | FileDataType | Type of management data stored in the file | M |

12.6.1.4.2.2 Type NotifyFileReady

**Table 12.6.1.4.2.2-1: Definition of type NotifyFileReady**

|  |  |  |  |
| --- | --- | --- | --- |
| **Attribute name** | **Data type** | **Description** | **S** |
| href | Uri | URI of the object representing the process, managed element or management node, which made the file available | M |
| notificationId | NotificationId | Notification identifier as defined in ITU-T Rec. X. 733 [4] | M |
| notificationType | NotificationType | Notification type (notifyFileReady, etc.) | M |
| eventTime | DateTime | Event occurrence time (e.g., the file ready time) | M |
| systemDN | SystemDN | DN of the MnS Agent emitting the notification | M |
| fileInfoList | array(FileInfo) | Information describing the available files | M |
| additionalText | string | Allows a free form text description to be reported as defined in ITU-T Rec. X. 733 [4] | O |

12.6.1.4.2.3 Type NotifyFilePreparationError

**Table 12.6.1.4.2.3-1: Definition of type NotifyFilePreparationError**

|  |  |  |  |
| --- | --- | --- | --- |
| **Attribute name** | **Data type** | **Description** | **S** |
| href | Uri | URI of the object representing the process, managed element or management node, where the file preparation error occured | M |
| notificationId | NotificationId | Notification identifier as defined in ITU-T Rec. X. 733 [4] | M |
| notificationType | NotificationType | Notification type (notifyFileReady, etc.) | M |
| eventTime | DateTime | Event occurrence time (e.g., the file ready time) | M |
| systemDN | SystemDN | DN of the MnS Agent emitting the notification | M |
| fileInfoList | array(FileInfo) | Information about the files with a preparation error. | M |
| reason | string | Reason for the file preparation error | O |
| additionalText | string | Allows a free form text description to be reported as defined in ITU-T Rec. X. 733 [4] | O |

##### 12.6.1.4.3 Void

##### 12.6.1.4.4 Void

##### 12.6.1.4.5 Void

##### 12.6.1.4.6 Simple data types and enumerations

12.6.1.4.6.1 General

This clause defines simple data types and enumerations that are used by the data structures defined in the previous clauses.

12.6.1.4.6.2 Simple data types

Table 12.6.1.4.6.2-1: Simple data types

|  |  |  |
| --- | --- | --- |
| Type name | Type definition | Description |
| n/a | n/a | n/a |

12.6.1.4.6.3 Enumeration FileDataType

Table 12.6.1.4.6.3-1: Enumeration FileDataType

|  |  |
| --- | --- |
| Enumeration value | Description |
| PERFORMANCE | Performance data file (measurements and KPIs) |
| TRACE | Trace data file |
| ANALYTICS | Analytics data file |
| PROPRIETARY | Proprietary data file |

12.6.1.4.6.4 Enumeration FileNotificationTypes

Table 12.6.1.4.6.4-1: Enumeration FileNotificationTypes

|  |  |
| --- | --- |
| Enumeration value | Description |
| notifyFileReady | Notification type is notifyFileReady |
| notifyFilePreparationError | Notification type is notifyFilePreparationError |

|  |
| --- |
| **Next modification** |

## A.7.2 OpenAPI document "fileDataReportingMnS.yaml"

openapi: 3.0.1

info:

 title: File Data Reporting MnS

 version: 16.7.0

 description: >-

 OAS 3.0.1 definition of the File Data Reporting MnS

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 All rights reserved.

externalDocs:

 description: 3GPP TS 28.532; Generic management services

 url: http://www.3gpp.org/ftp/Specs/archive/28\_series/28.532/

servers:

 - url: '{MnSRoot}/FileDataReportingMnS/{MnSVersion}'

 variables:

 MnSRoot:

 description: See clause 4.4.2 of TS 32.158

 default: http://example.com/3GPPManagement

 MnSVersion:

 description: Version number of the OpenAPI definition

 default: XXX

paths:

 /files:

 get:

 summary: Read information about available files

 description: >-

 Information about available files is read with HTTP GET. The files for

 which information shall be returned are identified with the path

 component (base resource) and the query component (fileDataType, beginTime,

 endTime) of the URI.

 parameters:

 - name: fileDataType

 in: query

 description: >-

 This parameter selects files based on the file data type.

 required: true

 schema:

 $ref: '#/components/schemas/FileDataType'

 - name: beginTime

 in: query

 description: >-

 This parameter selects files based on the earliest time they

 became available

 required: false

 schema:

 $ref: 'comDefs.yaml#/components/schemas/DateTime'

 - name: endTime

 in: query

 description: >-

 This parameter selects files based on the latest time they

 became available

 required: false

 schema:

 $ref: 'comDefs.yaml#/components/schemas/DateTime'

 responses:

 '200':

 description: >-

 'Success case ("200 OK").

 The resources identified in the request for retrieval are returned

 in the response message body.'

 content:

 application/json:

 schema:

 type: array

 items:

 $ref: '#/components/schemas/FileInfo'

 default:

 description: Error case.

 content:

 application/json:

 schema:

 $ref: 'comDefs.yaml#/components/schemas/ErrorResponse'

 /subscriptions:

 post:

 summary: Create a subscription

 description: >-

 To create a subscription the representation of the subscription is

 POSTed on the /subscriptions collection resource.

 requestBody:

 required: true

 content:

 application/json:

 schema:

 $ref: 'faultMnS.yaml#/components/schemas/Subscription'

 responses:

 '201':

 description: >-

 Success case ("201 Created").

 The representation of the newly created subscription resource shall

 be returned.

 content:

 application/json:

 schema:

 $ref: 'faultMnS.yaml#/components/schemas/Subscription'

 headers:

 Location:

 description: URI of the newly created subscription resource

 required: true

 schema:

 type: string

 default:

 description: Error case.

 content:

 application/json:

 schema:

 $ref: 'comDefs.yaml#/components/schemas/ErrorResponse'

 callbacks:

 notifyFileReady:

 '{request.body#/consumerReference}':

 post:

 requestBody:

 required: true

 content:

 application/json:

 schema:

 $ref: '#/components/schemas/NotifyFileReady'

 responses:

 '204':

 description: >-

 Success case ("204 No Content").

 The notification is successfully delivered. The response message

 body is absent.

 default:

 description: Error case.

 content:

 application/json:

 schema:

 $ref: 'comDefs.yaml#/components/schemas/ErrorResponse'

 notifyFilePreparationError:

 '{request.body#/consumerReference}':

 post:

 requestBody:

 required: true

 content:

 application/json:

 schema:

 $ref: '#/components/schemas/NotifyFilePreparationError'

 responses:

 '204':

 description: >-

 Success case ("204 No Content").

 The notification is successfully delivered. The response message

 body is absent.

 default:

 description: Error case.

 content:

 application/json:

 schema:

 $ref: 'comDefs.yaml#/components/schemas/ErrorResponse'

 /subscriptions/{subscriptionId}:

 delete:

 summary: Delete a subscription

 description: >-

 The subscription is deleted by deleting the corresponding subscription

 resource. The resource to be deleted is identified with the path

 component of the URI.

 parameters:

 - name: subscriptionId

 in: path

 description: Identifies the subscription to be deleted.

 required: true

 schema:

 type: string

 responses:

 '204':

 description: >-

 Success case ("204 No Content").

 The subscription resource has been deleted. The response message body

 is absent.

 default:

 description: Error case.

 content:

 application/json:

 schema:

 $ref: 'comDefs.yaml#/components/schemas/ErrorResponse'

components:

 schemas:

 FileDataType:

 type: string

 enum:

 - Performance

 - Trace

 - Anatytics

 - Proprietary

 FileNotificationTypes:

 type: string

 enum:

 - notifyFileReady

 - notifyFilePreparationError

 FileInfo:

 type: object

 properties:

 fileLocation:

 $ref: 'comDefs.yaml#/components/schemas/Uri'

 fileSize:

 type: integer

 fileReadyTime:

 $ref: 'comDefs.yaml#/components/schemas/DateTime'

 fileExpirationTime:

 $ref: 'comDefs.yaml#/components/schemas/DateTime'

 fileCompression:

 type: string

 fileFormat:

 type: string

 fileDataType:

 $ref: '#/components/schemas/FileDataType'

 NotifyFileReady:

 allOf:

 - $ref: 'comDefs.yaml#/components/schemas/NotificationHeader'

 - type: object

 properties:

 fileInfoList:

 type: array

 items:

 $ref: '#/components/schemas/FileInfo'

 additionalText:

 type: string

 NotifyFilePreparationError:

 allOf:

 - $ref: 'comDefs.yaml#/components/schemas/NotificationHeader'

 - type: object

 properties:

 fileInfoList:

 type: array

 items:

 $ref: '#/components/schemas/FileInfo'

 reason:

 type: string

 additionalText:

 type: string

|  |
| --- |
| **Next modification** |