**3GPP TSG-SA WG4 Meeting #133-eS4-251347\_r01**

**Online, 18-25 July 2025**

**Source: Samsung Electronics Co., Ltd., Qualcomm, InterDigital**

**Title: [AvCall-MED] On BAR API**

**Agenda item: 10.7**

**Document for: Agreement**

**1. Introduction**

This contribution presents details on a BAR API, including the addition of data elements as based on the comments received regarding S4aR250110 from the post-SA4 #132 RTC SWG adhoc telco.

**2. Discussion**

During SA4 #132 it was agreed that avatar management can be realized via the IMS network using the already defined interfaces in the IMS DC architecture. A sub clause placeholder for a call flow detailing this procedure on avatar management was also created in the latest version of the base CR.

During the post-SA4#132 RTC SWG adhoc telco, it was commented that further data elements related to the proposed API operations would be needed. A related liaison to SA2 was also suggested to check for alignment.

This contribution proposes:

* A BAR RESTful API with associated operations for avatar management
* Data elements associated with the operations for avatar management

**3. Proposal**

It is proposed to agree the following changes to the latest version of the CR for 3GPP TR 26.264.

\* \* \* First change \* \* \* \*

## Annex A (Informative)

## A.X Mbar\_Management service

### A.X.1 Overview

This clause defines the BAR management API offered by the BAR and used by the DC AS or MF to manage avatar related data in the BAR. A summary of the resource structure is shown in table A.2.2-1 below.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **HTTP request path element hierarchy** | **Description** | **Allowed HTTP methods** | **Resource** | **OpenAPI** |
| **Create** | **Retrieve** | **Update** | **Destroy** | **Non-RESTful operation** | **structure definition clause** | **definition clause** |
| avatars | Avatar collection | POST |  |  |  |  | A.X.2 | X.X.X |
|  *{avatarId}* | Avatar resource |  | GET | PUT | DELETE |  |
|  assets | Asset collection | POST |  |  |  |  | A.X.3 | X.X.X |
|  *{assetId}* | Asset resource |  | GET | PUT | DELETE |  |
|  associatedInfo | Associated Information resource |  | GET |  |  |  | A.X.4 | X.X.X |

### A.X.2 Avatars API

### A.X.2.1 Overview

The Avatars API is used by the DC AS or MF to manage Base Avatars (including related assets and associated information) in the BAR, providing operational functions such as Base Avatar creation, retrieval, update and deletion.

### A.X.2.1.1 Resource structure

The Avatars API is accessible through the following URL base path:

{apiRoot}/3gpp-mbar-management/{apiVersion}/avatars/

Table A.X.2.1.1-1 specifies the operations and the corrresopnding HTTP methods that are supported by this API. In each case, the sub-resource path specified in the second column of the table shall be appended to the above URL base path.

Table A.X.2.1.1-1: Operations supported by the Avatars API

|  |  |  |  |
| --- | --- | --- | --- |
| Operation name | Sub‑resource path | Allowed HTTP method(s) | Description |
| Create Avatar |  | POST | Creates a new avatar resource in the BAR. |
| Get Avatar | {avatarId} | GET | Used to retrieve a previously created or uploaded base avatar in the BAR. |
| Update Avatar | PUT | Used to upload or update Base Avatar data corresponding to an Avatar ID. |
| Delete Avatar | DELETE | Removes and deletes a Base Avatar, as well as its related assets and associated information. |

|  |  |  |  |
| --- | --- | --- | --- |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |

### A.X.2.1.2 Data model

### A.X.2.1.2.1 Avatar resource

Table A.X.2.1.2.1-1: Definition of Avatar resource

| Property name | Data type | Cardinality | Description |
| --- | --- | --- | --- |
| avatarId | ResourceId | 1..1 | A unique identifier assigned to a Base Avatar by the BAR on creation. |
| assetIds | array(ResourceId) | 0..1 | A list of assets associated with the Base Avatar. |
|  |  |  |  |
| avatarContainer | URL | 0..1 | Payload containing the Base Avatar data and associated assets. This provides access to the full binary avatar container, including all of the contained assets. For creation and update operations, the URL shall point to a multi-part mime part with MIME type “model/vnd.mpeg.arf+zip”. |
| associatedInfo | AssociatedInfo | 0..1 | Associated information related to the Base Avatar. |

### A.X.3 Assets API

### A.X.3.1 Overview

The Assets API is used by the DC AS or MF to manage individual assets of the base avatar in the BAR, providing operational functions such as asset creation, retrieval, update and deletion.

### A.X.3.1.1 Resource structure

The Assets API is accessible through the following URL base path:

{apiRoot}/3gpp-mbar-management/{apiVersion}/avatars/{avatarId}

Table A.X.3.1.1-1 specifies the operations and the corrresopnding HTTP methods that are supported by this API. In each case, the sub-resource path specified in the second column of the table shall be appended to the above URL base path.

Table A.X.3.1.1-1: Operations supported by the Assets API

|  |  |  |  |
| --- | --- | --- | --- |
| Operation name | Sub‑resource path | Allowed HTTP method(s) | Description |
| Create Asset |  | POST | Creates a new asset resource in the BAR. |
| Get Asset | {assetId} | GET | Used to retrieve a previously created or uploaded asset in the BAR. |
| Update Asset | PUT | Used to upload or update asset data corresponding to an Asset ID. |
| Delete Asset | DELETE | Removes and deletes an asset. |

### A.X.3.1.2 Data model

### A.X.3.1.2.1 Asset resource

Table A.X.2.1.2.1-1: Definition of Asset resource

| Property name | Data type | Cardinality | Description |
| --- | --- | --- | --- |
| assetId | ResourceId | 1..1 | A unique identifier assigned to an asset by the BAR on creation. |
| namespace | string | 1..1 | A namespace defining the intended usage of the asset, as exemplified by names such as "human/head" or "accessory/hat" |
| LoD | array(string) | 0..1 | The level of details available for the asset.The LoDs includes at least one of the followings: "Dense", "Moderate", or "Sparse". NOTE: The labels for LoDs require further discussions. |
| assetData | array(URL) | 0..1 | List of URLs that point to the asset data. The primary URL shall point into an ARF document that describes all components of the asset. For creation/update of an asset, all components shall be provided as part of a multi-part mime body.  |
| associatedInfo | AssociatedInfo | 0..1 | Associated information related to the Base Avatar. |

### A.X.4 Associated Information API

### A.X.4.1 Overview

The Associated Information API is used by the DC AS or MF to fetch Associated Information related to a Base Avatar from the BAR.

### A.X.4.1.1 Resource structure

The Associated Information API is accessible through the following URL base path:

{apiRoot}/3gpp-mbar-management/{apiVersion}/avatars/{avatarId}

Table A.X.4.1.1-1 specifies the operations and the corrresopnding HTTP methods that are supported by this API. In each case, the sub-resource path specified in the second column of the table shall be appended to the above URL base path.

Table A.X.3.1.1-1: Operations supported by the Avatar API

|  |  |  |  |
| --- | --- | --- | --- |
| Operation name | Sub‑resource path | Allowed HTTP method(s) | Description |
| Get Associated Information |  | GET | Used to retrieve associated information corresponding to a Base Avatar (identified by its Base Avatar) in the BAR. |

### A.X.3.1.2 Data model

### A.X.3.1.2.1 Associated information resource

Table A.X.2.1.2.1-1: Definition of Avatar resource

| Property name | Data type | Cardinality | Description |
| --- | --- | --- | --- |
| associatedInfo | Object | 1..1 | A list of assets associated with the Base Avatar. |
|  | avatarId | ResourceId | 1..1 | A unique identifier assigned to a Base Avatar by the BAR on creation. |
|  | avatarMetada | Object | 1..1 | Metadata related to the Avatar, |
|  | assetIds | array(ResourceId) | 1..1 | A list of assets associated with the Base Avatar. |
|  |  | assetLoDs | array(array(string)) | 1..1 | A list of arrays where each array contains a list of available LoDs for a corresponding asset.The resulting size in bytes shall be associated with each LoD..NOTE: LODs descriptions/labels and their associated complexity require further discussion. |
|  |  | selectionInfo | Object | 0..1 | Provides information that the user can use to select this avatar. This may contain a name, a nickname of the asset, usage context e.g. casual, work, and images of renditions of the asset. |
|  | supportedAnimations | array(string) | 1..1 | A list of the URNs that identify the supported animation frameworks by this base avatar. |
|  | infoUpdatedAt | number | 1..1 | A timestamp (in wall clock time) describing the time of the last update to the associated information for the corresponding Base Avatar. This field is updated whenever an asset is modified by the owner of the Base Avatar or BAR. Users may utilize the infoUpdatedAt field to verify the latest validity of previously downloaded Base Avatar data. Comparing the infoUpdatedAt value with the downloaded time allows users to determine if the downloaded data requires updating, |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |  |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  |  |  |  |  |
|  |  |  |  |  |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |

\* \* \* End of Changes \* \* \* \*