

**Research & Vehicle Technology**

**“Infotainment Systems Product Development”**

**Feature – Augmented Reality**

**PDC Infotainment Subsystem Part Specific Specification (SPSS)**

Version 1.0

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**Revision History**

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# Overview

Augmented Reality feature (AR) displays virtual augmented information (guide, situational awareness, night vision capability) to the driver. It aligns with natural human performance to reduce cognitive workload, enhance the information perception and reaction time for the driver.

## Terminology and Abbreviations

The following table lists terminologies that are used in this document along with a brief description.

| **Term** | **Description** |
| --- | --- |
| ABS | Anti-lock Braking System |
| ADAS | Advanced Driver Assistance System |
| APIM | Auxiliary Protocol Interface Module |
| AR | Augmented Reality |
| BCM | Body Control Module |
| BLIS | Blind Spot Information System |
| ECG | Enhanced Central Gateway |
| FIR-CAM | Far Infrared Camera |
| FNV3 | Fully Networked Vehicle III |
| GNSS | Global Navigation Satellite System |
| HHDD | High Head Down Display (Panoramic Display) |
| HMI | Human Machine Interface |
| KOL | Key OFF Load |
| MVP | Minimum Viable Product |
| PDC | Phoenix Domain Controller |
| POI | Point of Interest |
| SCCM | Steering Column Control Module |
| TCU | Telematics Control Unit |

# Architectural Design

## AR-CLD-REQ-403362/A-AR Server

The AR Server (ARServer) is responsible for the tasks listed below:

* Receive and process driver’s requests from ARInterfaceClient and send back current AR settings status.
* Aggregate information received from in-vehicle modules to generate the AR view and send video feed to ARInterfaceClient for display.

## AR-CLD-REQ-403363/A-AR Interface Client

The AR Interface Client (ARInterfaceClient) is responsible for the tasks listed below:

* Provide HMI to the driver for AR settings
* Send Navigation data to ARServer
* Display and control AR view on HHDD

## AR-CLD-REQ-409908/A-Vehicle Status Server

The Vehicle Status Server (VehicleStatusServer) is responsible for providing vehicle Key Off Load status.

## Physical Mapping of Classes

The table below shows an example of how the logical classes that make up the Augmented Reality feature may be mapped into physical modules. This mapping example is specific to the FNV3 architecture and does not necessarily carryover to other carlines or vehicle architectures.

|  |  |
| --- | --- |
| **Logical Class** | **Physical Module (ECU)** |
| ARServer | ARM |
| ARInterfaceClient | PDC |
| VehicleStatusServer | BCM |

## Logical Signal Mapping

The CAN signals mentioned throughout this document shall refer to the CAN signal’s logical name. The logical names shall be mapped to their actual CAN signal names. Please use the table below to perform the mapping. The InfoCAN database file is the master file for the actual CAN signal names. Note: There may be cases where the actual CAN signal name is used in this documentation.

|  |  |
| --- | --- |
| **Logical Name** | **CAN Signal Name** |
| KeyOffMode\_St | KeyOffMde\_D\_Actl |

## ARInterfaceClient Interface

### AR-IIR-REQ-403364/A-ARInterfaceClient \_Rx

#### MD-REQ-434379/A-KeyOffMode\_St

Message Type: Status

The signal is used to receive Key Off Load status from VehicleStatusServer.

|  |  |  |  |
| --- | --- | --- | --- |
| **Name** | **Literals** | **Value** | **Description** |
| KeyOffMode\_St | - | - | The status of Key Off Load |
|  | NormalPower | 0x0 |  |
|  | FactoryPower | 0x1 |  |
|  | TransportPower | 0x2 |  |
|  | Hibernate | 0x3 |  |
|  | CriticalBattery | 0x4 |  |
|  | NotUsed\_1 | 0x5 |  |
|  | NotUsed\_2 | 0x6 |  |
|  | NotUsed\_3 | 0x7 |  |
|  | NotUsed\_4 | 0x8 |  |
|  | NotUsed\_5 | 0x9 |  |
|  | NotUsed\_6 | 0xA |  |
|  | NotUsed\_7 | 0xB |  |
|  | NotUsed\_8 | 0xC |  |
|  | NotUsed\_9 | 0xD |  |
|  | NotUsed\_10 | 0xE |  |
|  | NotUsed\_11 | 0xF |  |

#### MD-REQ-434686/A-setARFeature

This API is used to send the request to ARServer to activate/deactivate AR feature. The ARServer also uses this API for its response.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | | | | | | |
| **Method Type** | | One-Shot (Synch) | | | | |
| **QoS Level** | | Default | | | | |
| **Retained** | | No | | | | |
|  | | | | | | |
| **R/O** | **Name** | | **Type** | **Literals** | **Value** | **Description** |
| **Request** | | | | | | |
| R | SetAR | | Enum | - | - | N/A |
|  |  | |  | OFF | 0x0 | Used to turn OFF the AR feature |
|  |  | |  | ON | 0x1 | Used to turn ON the AR feature |
| **Response** | | | | | | |
| R | ARStatus | | Enum | - | - | Used to indicate current status of AR feature |
|  |  | |  | OFF | 0x0 |  |
|  |  | |  | ON | 0x1 |  |

#### MD-REQ-434728/A-setARVideoMode

This API is used to send the request to ARServer to select AR video mode. The ARServer also uses this API for its response.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | | | | | | |
| **Method Type** | | One-Shot (Synch) | | | | |
| **QoS Level** | | Default | | | | |
| **Retained** | | No | | | | |
|  | | | | | | |
| **R/O** | **Name** | | **Type** | **Literals** | **Value** | **Description** |
| **Request** | | | | | | |
| R | SetVideoMode | | Enum | - | - | N/A |
|  |  | |  | Disable | 0x0 | The AR feature uses AR visible camera only |
|  |  | |  | Enable | 0x1 | The AR feature switches automatically between the AR vs FIR camera based on the AR Outside Light Level Adaptation (if vehicle is equipped with FIR camera) |
| **Response** | | | | | | |
| R | VideoModeStatus | | Enum | - | - | Used to indicate current status of video mode |
|  |  | |  | Disabled | 0x0 |  |
|  |  | |  | Enabled | 0x1 |  |

#### MD-REQ-434730/A-VideoFeedControl

This API is used to receive the request from ARServer to start/stop the AR view display.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | | | | | | |
| **Method Type** | | Fire&Forget | | | | |
| **QoS Level** | | Default | | | | |
| **Retained** | | No | | | | |
|  | | | | | | |
| **R/O** | **Name** | | **Type** | **Literals** | **Value** | **Description** |
| **Request** | | | | | | |
| R | DisplayARView | | Enum | - | - | The request to start/stop showing the AR view on HHDD |
|  |  | |  | Start | 0x0 |  |
|  |  | |  | Stop | 0x1 |  |
| **Response** | | | | | | |
| - | - | | - | - | - | N/A |

### AR-IIR-REQ-403367/A-ARInterfaceClient \_Tx

#### MD-REQ-434686/A-setARFeature

This API is used to send the request to ARServer to activate/deactivate AR feature. The ARServer also uses this API for its response.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | | | | | | |
| **Method Type** | | One-Shot (Synch) | | | | |
| **QoS Level** | | Default | | | | |
| **Retained** | | No | | | | |
|  | | | | | | |
| **R/O** | **Name** | | **Type** | **Literals** | **Value** | **Description** |
| **Request** | | | | | | |
| R | SetAR | | Enum | - | - | N/A |
|  |  | |  | OFF | 0x0 | Used to turn OFF the AR feature |
|  |  | |  | ON | 0x1 | Used to turn ON the AR feature |
| **Response** | | | | | | |
| R | ARStatus | | Enum | - | - | Used to indicate current status of AR feature |
|  |  | |  | OFF | 0x0 |  |
|  |  | |  | ON | 0x1 |  |

#### MD-REQ-436737/A-CurrentARSetting

This API is used to broadcast the current AR setting (ON/OFF).

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | | | | | | |
| **Method Type** | | On Change | | | | |
| **QoS Level** | | Default | | | | |
| **Retained** | | Yes | | | | |
|  | | | | | | |
| **R/O** | **Name** | | **Type** | **Literals** | **Value** | **Description** |
| **Request** | | | | | | |
| - | - | | - | - | - | N/A |
| **Response** | | | | | | |
| R | ARSetting | | Enum | - | - | Used to indicate current setting of AR feature |
|  |  | |  | OFF | 0x0 |  |
|  |  | |  | ON | 0x1 |  |

#### MD-REQ-434728/A-setARVideoMode

This API is used to send the request to ARServer to select AR video mode. The ARServer also uses this API for its response.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | | | | | | |
| **Method Type** | | One-Shot (Synch) | | | | |
| **QoS Level** | | Default | | | | |
| **Retained** | | No | | | | |
|  | | | | | | |
| **R/O** | **Name** | | **Type** | **Literals** | **Value** | **Description** |
| **Request** | | | | | | |
| R | SetVideoMode | | Enum | - | - | N/A |
|  |  | |  | Disable | 0x0 | The AR feature uses AR visible camera only |
|  |  | |  | Enable | 0x1 | The AR feature switches automatically between the AR vs FIR camera based on the AR Outside Light Level Adaptation (if vehicle is equipped with FIR camera) |
| **Response** | | | | | | |
| R | VideoModeStatus | | Enum | - | - | Used to indicate current status of video mode |
|  |  | |  | Disabled | 0x0 |  |
|  |  | |  | Enabled | 0x1 |  |

#### MD-REQ-436738/A-CurrentARVideoSetting

This API is used to broadcast the current AR video setting.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | | | | | | |
| **Method Type** | | On Change | | | | |
| **QoS Level** | | Default | | | | |
| **Retained** | | Yes | | | | |
|  | | | | | | |
| **R/O** | **Name** | | **Type** | **Literals** | **Value** | **Description** |
| **Request** | | | | | | |
| - | - | | - | - | - | N/A |
| **Response** | | | | | | |
| R | ARVideoSetting | | Enum | - | - | Used to indicate current setting of video mode |
|  |  | |  | Disable | 0x0 |  |
|  |  | |  | Enable | 0x1 |  |

#### MD-REQ-434729/A-NavigationData

This API is used to send the navigation data to ARServer. (TBD, details of this API will be provided by Google)

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | | | | | | |
| **Method Type** | | On Change | | | | |
| **QoS Level** | | Default | | | | |
| **Retained** | | No | | | | |
|  | | | | | | |
| **R/O** | **Name** | | **Type** | **Literals** | **Value** | **Description** |
| **Request** | | | | | | |
| - | - | | - | - | - | N/A |
| **Response** | | | | | | |
| R | LaneCountInfo | |  |  |  |  |
| R | SpeedLimitValue | |  |  |  |  |
| R | RouteGeometry | |  |  |  |  |
| R | ElevationData (3D Road Geometry) | |  |  |  |  |
| R | DistancetoNextManeuver | |  |  |  |  |
| R | ManeuverIntersectionGeoLocation | |  |  |  |  |
| R | ManeuverPhasesfromNavSystem | |  |  |  |  |
| R | RoadNetworkGeometryAndTopology (roundabout geometry) | |  |  |  |  |
| R | FollowingManeuverInfo | |  |  |  |  |
| R | DestinationPositionAndAddress | |  |  |  |  |
| R | DistanceToDestination | |  |  |  |  |

# General Requirements

## AR-REQ-413473/A-Power Moding – AR

The AR feature shall NOT be powered unless the last known KeyOffMode\_St value of the vehicle is “NormalPower” or “FactoryPower”.

## AR-REQ-416261/A-DTC

ARInterfaceClient shall monitor published ARServer DTCs and set a DTC when:

1. Loss of communication and invalid data

2. Stuck image

## AR-REQ-416262/A-Data Analytics

ARInterfaceClient shall use FNV Analytics for data analytics for AR feature as below:

**Feature Status On/Off and Info Icon Usage**

When the driver turns the AR feature On/Off on the physical HMI, ARInterfaceClient shall provide the data analytics of this action through the connected vehicle services to have data analysis throughout the following timelines:

* How many users are still in the default state (AR feature status ON)?
* How many users that changed the default feature setting status from ON to Off
* How many users that changed the feature setting status from OFF to ON
* How many users push the info icon of AR feature setting to learn about the feature status settings

**Failure Mode: Feature Status On/Off and Info Icon Usage**

The failure mode of AR feature HMI setting shall be recorded as the data analytics and diagnostic events based on below events:

* When customer turns AR feature status OFF, how often per vehicle, days, etc. the feature still ON and display AR event?
* When customer turns AR feature status ON, how often per vehicle, days, etc. the feature still OFF and display no AR event?
* When customer presses to display AR feature status info icon, how often per vehicle, days, etc. the info icon not shown?
* When customer presses to close AR feature status info icon, how often per vehicle, days, etc. the info icon still shown?

**AR Video Mode Status Enable/Disable and Info Icon Usage**

When the driver enable/disable the AR video mode on the physical HMI, ARInterfaceClient shall provide the data analytics of this action through the connected vehicle services to have data analysis throughout the following timelines:

* How many users are still in the default state (AR video mode enabled)?
* How many users that changed the default AR video mode setting status from enable to disable
* How many users that changed the AR video mode setting status from disable to enable
* How many users push the info icon of AR video mode setting to learn about the AR video setting

**Failure Mode: AR Video Mode Status Enable/Disable and Info Icon Usage**

The failure mode of AR video mode HMI setting shall be recorded as the data analytics and diagnostic events based on below events:

* When customer disables AR video mode, how often per vehicle, days, etc. the video mode setting still enabled and display AR event using FIR camera background?
* When customer enables AR video mode, how often per vehicle, days, etc. the video mode setting still disabled and not shown the AR display event using FIR camera background when low light threshold is detected?
* When customer enables AR video mode, how often per vehicle, days, etc. the video mode setting still disabled and not shown the AR display event using AR camera background when high light threshold is detected?
* When customer presses to display AR video mode setting info icon, how often per vehicle, days, etc. the info icon not shown?
* When customer presses to close AR video mode setting info icon, how often per vehicle, days, etc. the info icon still shown

**AR Events Data Analytics for Output to HHDD**

ARInterfaceClient shall provide and record the data analytics and diagnostic events of the AR events through the connected vehicle services to have data analysis throughout the following:

* When ARInterfaceClient receives a request to show AR video, how long it takes to appear on HHDD
* When ARInterfaceClient receives a request to stop showing AR video, how long it takes to stop it on HHDD
* How often does the 2D map is Not shifted to the right and/or Not minimized, when AR view is displayed on HHDD
* How often does the 2D map audio chime for turn by turn is Not synchronized when AR turn by turn window is displayed on HHDD (e.g., time differences when AR turn by turn appear on the HHDD vs time when turn by turn 2D map chime is generated by nav system)
* How often does the 2D map audio chime for destination is Not synchronized when AR destination window is displayed on HHDD (e.g., time differences when AR destination appear on the HHDD vs time when turn by turn 2D map chime is generated by nav system)

**AR Failure Messages**

ARInterfaceClient shall record the faults messages appear on the HMI and the reason of the faults based on below events through the connected vehicle services as data analytics and diagnostic events:

* How many times the fault messages are due to fault in AR camera
* How many times the fault messages are due to fault in FIR camera
* How many times the fault messages are due to missing communication between components or invalid data

## AR-REQ-416263/A-HMI Latency

The HMI latency of ARInterfaceClient shall be ≤ (5 ms).

## AR-REQ-416270/A-Configuration DID

The ARInterfaceClient shall have a DID to allow it to be configurable for different AR feature configurations:

0 x 0 == OFF

0 x 1 == ON with No FIR Camera (if vehicle is not equipped with FIR camera)

0 x 2 == ON with FIR Camera (if vehicle is equipped with FIR camera)

# Functional Definition

## AR-FUN-REQ-403370/A-Customization Settings

### Requirements

#### AR-REQ-413474/A-Power Moding – ARInterfaceClient

The ARInterfaceClient shall operate with full functionality to support AR feature and shall allow the driver to select the AR settings if the last known KeyOffMode\_St value of the vehicle is “NormalPower” or “FactoryPower”.

#### AR-REQ-413475/A-Turn AR ON/OFF by Physical Control

The ARInterfaceClient shall provide the driver an HMI physical control to turn AR feature ON/OFF.

#### AR-REQ-413477/A-AR Default State

The AR feature shall have the default state of being turned ON.

#### AR-REQ-413478/A-Information Icon

The ARInterfaceClient shall provide the following AR settings with an information icon to educate the driver about what feature selections and options to choose from the menu:

* Turn AR ON/OFF
* Select AR video mode

#### AR-REQ-413479/A-Select AR Video Mode by Physical Control

The ARInterfaceClient shall provide the driver an HMI physical control to Enable/Disable AR video mode if vehicle is equipped with FIR camera. (Enable: The AR feature switches automatically between the AR vs FIR camera based on the AR Outside Light Level Adaptation; Disable: The AR feature uses AR visible camera only)

#### AR-REQ-413481/A-AR Video Mode Default State

The AR video mode shall have the default state of being Enabled.

#### AR-REQ-413482/A-AR Selection Memory

The customer selection for AR ON/OFF and AR video mode shall stay as driver preference for the upcoming ignition key cycles unless the driver overwrites it on the HMI settings.

#### AR-REQ-433167/A-AR Selection - Enhanced Memory

If the ARInterfaceClient supports the Enhanced Memory feature (see Enhanced Memory SPSS), the customer selection for AR ON/OFF and AR video mode shall be stored by the ARInterfaceClient for each personality profile (ex. Vehicle, Pers1, Pers2, Pers3, Pers4) between power mode changes, bus asleep / awake and between B+ resets.

### Use Cases

#### AR-UC-REQ-413460/A-Activate/Deactivate AR

|  |  |
| --- | --- |
| **Actors** | Driver, ARServer, ARInterfaceClient |
| **Pre-conditions** | KOL is in Normal or Factory mode (REQ-413474)  AR is OFF/ON (default) |
| **Scenario Description** | Driver selects the physical HMI option to turn ON or OFF the AR feature on the screen of ARInterfaceClient.  ARInterfaceClient sends a signal to ARServer.  ARServer responds back with current AR status. |
| **Post-conditions** | AR feature is ON/OFF based on selection and driver can see visual impact of his/her choice |
| **List of Exception Use Cases** |  |
| **Interfaces** | Ethernet |

#### AR-UC-REQ-413461/A-Select AR Video Mode (Vehicles Equipped with FIR Cameras)

|  |  |
| --- | --- |
| **Actors** | Driver, ARServer, ARInterfaceClient |
| **Pre-conditions** | KOL is in Normal or Factory mode (REQ-413474)  AR is ON  Vehicle is equipped with FIR camera  AR video mode is Disable/Enable (default)  (Disable: use AR-Camera only;  Enable: allow camera switches from AR-Camera to FIR Camera when low level of light is detected and return to AR-Camera when light level is above the threshold) |
| **Scenario Description** | Driver selects the physical HMI option to Enable/Disable the AR video mode on the screen of ARInterfaceClient.  ARInterfaceClient sends a signal to ARServer.  ARServer responds back with current video mode status. |
| **Post-conditions** | AR video mode is Enable/Disable based on selection |
| **List of Exception Use Cases** |  |
| **Interfaces** | Ethernet |

### White Box View

#### Activity Diagrams

##### AR-ACT-REQ-403376/A-Activate/Deactivate AR



##### AR-ACT-REQ-436751/A-Current AR Setting



##### AR-ACT-REQ-436753/A-Select AR Video Mode



##### AR-ACT-REQ-436755/A-Current AR Video Setting



#### Sequence Diagrams

##### AR-SD-REQ-403377/A-Activate/Deactivate AR



##### AR-SD-REQ-436752/A-Current AR Setting



##### AR-SD-REQ-436754/A-Select AR Video Mode



##### AR-SD-REQ-436756/A-Current AR Video Setting



## AR-FUN-REQ-434361/A-Provide Navigation Data

### Requirements

#### AR-REQ-413484/A-Navigation Information

The ARInterfaceClient shall send navigation information via NavigationData API to ARServer.

#### AR-REQ-416264/A-Navigation Data Latency

The navigation data latency shall be ≤ (10 ms).

#### AR-REQ-416265/A-Navigation Data Accuracy

The navigation data accuracy shall be ≤ 1 m.

### Use Cases

#### AR-UC-REQ-434358/A-Provide Navigation Data

|  |  |
| --- | --- |
| **Actors** | Driver, ARInterfaceClient, ARServer |
| **Pre-conditions** | KOL is in Normal or Factory mode  AR is ON  Navigation data is available |
| **Scenario Description** | ARInterfaceClient sends navigation data to ARServer. |
| **Post-conditions** | ARServer receives the navigation information |
| **List of Exception Use Cases** |  |
| **Interfaces** | Ethernet |

### White Box View

#### Activity Diagrams

##### AR-ACT-REQ-434362/A-Provide Navigation Data



#### Sequence Diagrams

##### AR-SD-REQ-434363/A-Provide Navigation Data



## AR-FUN-REQ-434367/A-AR View Display

### Requirements

#### AR-REQ-413485/A-AR Display

The ARInterfaceClient shall provide an adequate display on HHDD to show driver AR events upon receiving the video feed and VideoFeedControl API (DisplayARView == 0x0) from ARServer.

#### AR-REQ-413486/A-Stop AR Display

The ARInterfaceClient shall stop displaying the AR view/content on HHDD upon receiving VideoFeedControl API (DisplayARView == 0x1) from ARServer and the screen goes back to normal state.

#### AR-REQ-416266/A-AR Display Resolution

The ARInterfaceClient shall resize the video stream received from ARServer to (1155 x 640) pix to fit the HHDD AR window.

#### AR-REQ-416267/A-Video Interface to ARServer

The ARInterfaceClient shall receive the video feed from ARServer through LVDS connection / FPD-Link with 60Hz frame rate and YUV422 data format.

#### AR-REQ-416268/A-AR Display Latency

The ARInterfaceClient shall show/remove the video on HHDD with latency ≤ (5 ms) from receiving the request to show/remove the video from ARServer.

#### AR-REQ-416269/A-Video Interface to HHDD

The ARInterfaceClient shall send the video feed to HHDD through LVDS connection / FPD-Link with 60Hz frame rate and YUV422 data format.

#### AR-REQ-433064/A-Hide or Delay AR View

The ARInterfaceClient shall hide the AR view if AR view is active and other events with high priority are triggered (e.g. Global Alert popups, Warning popup messages or user actions that result in information being presented in the area of AR view).

The ARInterfaceClient shall delay the AR view when receiving a start displaying request from ARServer but a higher priority event is active until the event expires and no stop displaying request received from ARServer.

#### AR-REQ-433065/A-AR Display Control

The ARInterfaceClient shall coordinate the fade in and out transition between AR video and 2D map and shall coordinate the AR video with 2D map voice prompt upon receiving the request to start/stop displaying the AR view from ARServer.

### Use Cases

#### AR-UC-REQ-434364/A-Display AR View

|  |  |
| --- | --- |
| **Actors** | Driver, ARInterfaceClient, ARServer |
| **Pre-conditions** | KOL is in Normal or Factory mode  AR is ON  AR video feed is available |
| **Scenario Description** | ARServer sends the request via VideoFeedControl API to ARInterfaceClient for AR view display.  ARInterfaceClient displays AR view on HHDD. |
| **Post-conditions** | AR view is displayed on HHDD |
| **List of Exception Use Cases** | See AR-REQ-433064. |
| **Interfaces** | Ethernet, LVDS |

#### AR-UC-REQ-434366/A-Stop Displaying AR View

|  |  |
| --- | --- |
| **Actors** | Driver, ARInterfaceClient, ARServer |
| **Pre-conditions** | KOL is in Normal or Factory mode  AR is ON |
| **Scenario Description** | ARServer sends the request via VideoFeedControl API to ARInterfaceClient to stop the AR view display.  ARInterfaceClient removes the AR view from HHDD. |
| **Post-conditions** | AR view is removed from HHDD |
| **List of Exception Use Cases** |  |
| **Interfaces** | Ethernet |

### White Box View

#### Activity Diagrams

##### AR-ACT-REQ-434368/A-Display AR View



##### AR-ACT-REQ-436757/A-Stop Displaying AR View



#### Sequence Diagrams

##### AR-SD-REQ-434369/A-Display AR View



##### AR-SD-REQ-436758/A-Stop Displaying AR View



# Appendix: Reference Documents

|  |  |
| --- | --- |
| Reference # | Document Title |
| 1 | Enhanced Memory SPSS |
| 2 |  |
| 3 |  |
| 4 |  |
| 5 |  |
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