

**Research & Vehicle Technology**

**“Infotainment Systems Product Development”**

**Feature – Personal Portable Profile Server**

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

Version 1.0

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**Version Date: May XX, 20XX**

**FORD CONFIDENTIALF**

**Revision History**

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| --- | --- | --- | --- |
| **Date** | **Ver** | **Notes** | |
| **May XX, 20XX** | **1.0** | **Initial Release** |  |
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# Overview

Personal Portable Profiles is a cloud-based platform / ecosystem used to deliver a personalized in-vehicle experience that is seamlessly transferrable between Ford/Lincoln vehicles. This reduces the time and effort a customer needs to setup and customize their vehicle (a known pain point for subscription-based ownership). Creating a personalized experience will increase customer loyalty and provide a data platform for vehicle and cloud-based predictions, Digital Assistant, in-vehicle purchases and other monetization strategies. This in-vehicle profile will link with the centralized member profile for a common profile across all channels of the ecosystem.

Personal Portable Profiles also includes positional Auto Save, which is the automatic saving of seat and positional setting adjustments made within a specified threshold. When the adjustment is outside of the specified threshold, the user is prompted for feedback.

## Terms and Definitions

|  |  |
| --- | --- |
| **Abbreviation** | **Description** |
| CAN | Controller Area Network |
| CCS | Customer Connectivity Setting |
| DID | Data Identifier |
| FCI | Ford Cloud Interface |
| FNV2.0 | Fully Networked Vehicle 2nd Generation |
| FTCP | Ford Telematics Communication Protocol |
| IPPT | IP pass-through |
| POI | Points of interest |
| PPP | Portable Personal Profile |
| RS | Rocket Setup |
| SDN | Service Delivery Network |
| SOA | Service Oriented Architecture |
| SPSS | Subsystem Part Specific Specification |
| WIR | Wireless Interface Router |

|  |  |
| --- | --- |
| **Term** | **Description** |
| PPP Settings | The settings or preferences selected by the user via the PPPOffBoardClient to be loaded in-vehicle |
| PPP Settings payload | Specifically referring to the FTCP payload containing the PPP Settings |
| SyncP | A Ford standard mechanism for secure communication. |
|  |  |

# Architectural Design

## Boundary Diagram

### PPP-BD-REQ-406790/A-PPP Boundary Diagram



## PPP-CLD-REQ-406791/A-Portable Profile Server

The Portable Profile Server (PPPServer) is responsible for the tasks listed below:

* Receive payload from PPPOffBoardClient
* Send acknowledgement to PPPOffBoardClient
* Parse payload and store to Central Portable Profile
* Send settings via relative interfaces to all PPPSettingServers
* Provide Profile Protection via Positive ID
* Synchronize Personal Profile settings with Central Portable Profile
* Send payload to PPPOffBoardClient for Synchronization
* Manage Profile to FordPass Account associations

Please review the implementation guide/ block diagram to locate the Portable Profile Server class.

## PPP-CLD-REQ-406792/A-Portable Profile OffBoard Client

The Portable Profile OffBoardClient (PPPOffBoardClient) is responsible for the tasks listed below:

* Receive/Manage user input via FordPass
* Compile user preferences into payload
* Send payload to PPPServer
* Receive acknowledgement from PPPServer
* Receive payload from PPPServer for Export/Synchronization

Please review the implementation guide/ block diagram to locate the Portable Profile OffBoardClient class.

## PPP-CLD-REQ-406793/A-Portable Profile Interface Client

The Portable Profile InterfaceClient (PPPInterfaceClient) is responsible for the tasks listed below:

* Receive and save settings from PPPServer
* Provide HMI information/screens for the feature
* Provide a means to perform Authentication
* Provide a user interface to enable/disable Positive ID
* Provide a user interface to associate/disassociate FordPass Account

Please review the implementation guide/ block diagram to locate the Portable Profile InterfaceClient class.

## PPP-CLD-REQ-406794/A-Portable Profile Setting Server

The Portable Profile Setting Server (PPPSettingServer) is responsible for the tasks listed below:

* Receive settings from PPPServer
* Apply settings to local memory for requested profile
* Send settings to PPPServer OnChange and on demand (upon Export)

Please review the implementation guide/ block diagram to locate the Portable Profile Setting Server class.

## PPP-CLD-REQ-420641/A-Auto Save Position Client

The Auto Save PositionClient (AutoSavePositionClient) is responsible for the tasks listed below:

* Receive Auto Save requests (save, exit, etc.) from PPPServer
* Request positional modules to perform actions (save/recall)

Please review the implementation guide/ block diagram to locate the Auto Save PositionClient class.

## Physical Mapping of Classes

The table below shows an example of how the logical classes that make up the Portable Personal Profiles feature can be mapped into physical modules. This mapping is an example only and does not necessarily carryover to other carlines or vehicle architectures.

|  |  |
| --- | --- |
| **Logical Class** | **Physical Module (ECU)** |
| PPPServer | ECG |
| PPPOffBoardClient | SDN/TMC (PPP-FI) |
| PPPInterfaceClient | SYNC |
| PPPSettingServer(s) | SYNC, AHU, DSP, IPC, etc. |
| AutoSavePositionClient | DSM |

## PPPServer Interface

### PPP-IIR-REQ-406796/A-PPPServer\_Rx

#### MD-REQ-386004/B-PublishProfilePreferencesR2Command

Message Type: FTCP

This command is used to send preference/profile data to the vehicle.

**Note:** Refer to the latest “Ford Telematics Communication Protocol Specification” and Protofile for the most up to date FTCP messages/definitions.

|  |  |
| --- | --- |
| **Command** | **Description** |
| PublishProfilePreferences R2Command | Command used to send preference/profile data to the vehicle |

#### MD-REQ-027149/A-IgnitionStatus\_St (TcSE ROIN-225464-1)

Message Type: Status

Signal used to indicate ignition state.

|  |  |  |  |
| --- | --- | --- | --- |
| **Name** | **Literals** | **Value** | **Description** |
| Type | - | - | Indicates ignition state |
|  | Unknown | 0x0 |  |
|  | Off | 0x1 |  |
|  | Accessory | 0x2 |  |
|  | Run | 0x4 |  |
|  | Start | 0x8 |  |
|  | Invalid | 0xF |  |

#### MD-REQ-028253/A-GearLeverPosition\_St (TcSE ROIN-282103-1)

Message Type: Status

Status used to indicate the current gear selected.

|  |  |  |  |
| --- | --- | --- | --- |
| **Name** | **Literals** | **Value** | **Description** |
| Type | - | - | Used to indicate current gear selected. |
|  | Park | 0x0 |  |
|  | Reverse | 0x1 |  |
|  | Neutral | 0x2 |  |
|  | Drive | 0x3 |  |
|  | Sport\_DriveSport | 0x4 |  |
|  | Low | 0x5 |  |
|  | First | 0x6 |  |
|  | Second | 0x7 |  |
|  | Third | 0x8 |  |
|  | Fourth | 0x9 |  |
|  | Fifth | 0xA |  |
|  | Sixth | 0xB |  |
|  | Undefined\_Treat\_as\_Fault | 0xC |  |
|  | Undefined\_Treat\_as\_Fault1 | 0xD |  |
|  | Unknown\_Position | 0xE |  |
|  | Fault | 0xF |  |

#### MD-REQ-014025/A-VehicleSpeed\_St (TcSE ROIN-223023-1)

Message Type: Status

Status used to indicate vehicle speed.

|  |  |  |  |
| --- | --- | --- | --- |
| **Name** | **Literals** | **Value** | **Description** |
| Type | - | - | Indicates vehicle speed.  Unit: kph  Resolution:0.01  Offset:0 |
|  | kph | 0x0 to 0xFFFF |  |

#### MD-REQ-086348/A-CarMode\_St

Message Type: Status

|  |  |  |  |
| --- | --- | --- | --- |
| Name | Literals | Value | Description |
| Type | - | - | Defines what car mode state is active. |
|  | Normal | 0x0 |  |
|  | Factory | 0x1 |  |
|  | NotUsed | 0x2 |  |
|  | Transportation | 0x3 |  |

#### MD-REQ-420760/A-PppFeature\_St

Message Type: Status

Represents the current status of a feature setting in regards to PPP.

|  |  |  |  |
| --- | --- | --- | --- |
| **Name** | **Literals** | **Value** | **Description** |
| Response | - | - | Response to requested operation |
|  | NULL | 0x0 |  |
|  | SUCCESS | 0x1 |  |
|  | PENDING | 0x2 |  |
|  | REJECTED | 0x3 |  |
|  | INTERRUPTED | 0x4 |  |
|  | FAILED | 0x5 |  |
|  | IN\_PROG | 0x6 |  |
|  | INVALID | 0x7 |  |
|  | NotUsed | 0x8 - 0xF |  |
| TransID | - | - | Transaction ID of the request |
|  | Unitless | 0x0 – 0x7 |  |
| Counter | - | - | Indicates total number of feature settings to be sent in the response (if many are being sent) |
|  | unitless | 0x0 – 0x1F |  |
| FeatureNumber | - | - | Active feature number |
|  |  | 0x0000 – 0xFFFF |  |
| FeatureValue | - | - | Active feature value |
|  |  | 0x0000 – 0xFFFF |  |

#### MD-REQ-420761/A-PppSettingsChange\_St

Message Type: Status

The signal is used to notify the PPPServer of a settings change.

|  |  |  |  |
| --- | --- | --- | --- |
| **Name** | **Literals** | **Value** | **Description** |
| Type | - | - | Indicates a setting change |
|  | NULL | 0x0 |  |
|  | PROFILE\_UPDATED | 0x1 |  |
|  | DATA\_LOST | 0x2 |  |
|  | NotUsed | 0x3 |  |

#### MD-REQ-420762/A-pppFeatureOp

This API is used to the request a feature change for a PPP setting (change feature settings, query feature settings, etc.). The PPPSettingServer also uses this API for its response.

|  |  |  |  |  |  |  |
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| --- | --- | --- | --- | --- | --- | --- | --- |
|  | | | | | | | |
| **Method Type** | | | OneShot (asynchronous) | | | | |
| **QoS Level** | | | Default | | | | |
| **Retained** | | | Yes | | | | |
|  | | | | | | | |
| **R/O** | **Name** | | | **Type** | **Literals** | **Value** | **Description** |
| **Request** | | | | | | | |
| R | PersCommand | | | Enum | - | - | Command being requested |
|  |  | | |  | QUERY\_ONE | 0x0 |  |
|  |  | | |  | QUERY\_ALL | 0x1 |  |
|  |  | | |  | SET | 0x2 |  |
|  |  | | |  | COPY | 0x3 |  |
| R | PersID | | | Enum | - | - | Personality profile is being accessed |
|  |  | | |  | PROFILE\_1 | 0x0 |  |
|  |  | | |  | PROFILE\_2 | 0x1 |  |
|  |  | | |  | PROFILE\_3 | 0x2 |  |
|  |  | | |  | PROFILE\_4 | 0x3 |  |
|  |  | | |  | VEHICLE | 0x4 |  |
| R | SettingsType | | | Enum | - | - | Type of setting being accessed |
|  |  | | |  | PERSONALIZED\_USER\_SETTINGS | 0x0 |  |
|  |  | | |  | REJUVENATE\_RELAX\_MODE\_SETTINGS | 0x1 |  |
|  |  | | |  | REJUVENATE\_INVIGORATE\_MODE\_SETTINGS | 0x2 |  |
| Rep | FeatureMap | FeatureCode | | uint32 | - | 0x00000000 – 0xFFFFFFFF | Feature code/number being requested |
| FeatureValue | | uint32 | - | 0x00000000 – 0xFFFFFFFF | Feature value being requested |
| **Response** | | | | | | | |
| R | ResponseCode | | | Enum | - | - | Response to requested operation |
|  |  | | |  | SUCCESS | 0x0 |  |
|  |  | | |  | FAILED | 0x1 |  |
|  |  | | |  | INVALID | 0x2 |  |
| R | ParameterCount | | | uint32 | - | 0x00000000 – 0xFFFFFFFF | Parameter Count of the response |
| Rep | FeatureMap | FeatureCode | | uint32 | - | 0x00000000 – 0xFFFFFFFF | Feature code/number being requested |
| FeatureValue | | uint32 | - | 0x00000000 – 0xFFFFFFFF | Feature value being requested |

#### pppCreateProfile

This API is used to the request PPPServer to create/store a new profile. The PPPServer also uses this API for its response.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | | | | | | |
| **Method Type** | | OneShot (asynchronous) | | | | |
| **QoS Level** | | Default | | | | |
| **Retained** | | Yes | | | | |
|  | | | | | | |
| **R/O** | **Name** | | **Type** | **Literals** | **Value** | **Description** |
| **Request** | | | | | | |
| R | profileName | | string | - | XX Chars | Name of Profile to be created |
| R | PersID | | Enum | - | - | Personality profile is being accessed |
|  |  | |  | PROFILE\_1 | 0x0 |  |
|  |  | |  | PROFILE\_2 | 0x1 |  |
|  |  | |  | PROFILE\_3 | 0x2 |  |
|  |  | |  | PROFILE\_4 | 0x3 |  |
|  |  | |  | VEHICLE | 0x4 |  |
| **Response** | | | | | | |
| R | ResponseCode | | Enum | - | - | Response to requested operation |
|  |  | |  | SUCCESS | 0x0 |  |
|  |  | |  | FAILED | 0x1 |  |
|  |  | |  | INVALID | 0x2 |  |
| R | ErrorCode | | Enum | - | - | Error Code to requested operation |
|  |  | |  | DUPLICATE\_PROFILE | 0x0 |  |
|  |  | |  | INVALID\_PROFILE\_INDEX | 0x1 |  |

#### MD-REQ-420763/A-pppSettingsChangeBroadcast

This API is used to notify the PPPServer of a settings change.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | | | | | | |
| **Method Type** | | Fire&Forget | | | | |
| **QoS Level** | | Default | | | | |
| **Retained** | | Yes | | | | |
|  | | | | | | |
| **R/O** | **Name** | | **Type** | **Literals** | **Value** | **Description** |
| **Request** | | | | | | |
| - | - | | - | - | - | N/A |
| **Response** | | | | | | |
| R | Response | | Enum | - | - | Indicates a setting change |
|  |  | |  | NULL | 0x0 |  |
|  |  | |  | PROFILE\_UPDATED | 0x1 |  |
|  |  | |  | DATA\_LOST | 0x2 |  |
|  |  | |  | NotUsed | 0x3 |  |

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  | | | | | | | |
| **Method Type** | | | Fire&Forget | | | | |
| **QoS Level** | | | Default | | | | |
| **Retained** | | | Yes | | | | |
|  | | | | | | | |
| **R/O** | **Name** | | | **Type** | **Literals** | **Value** | **Description** |
| **Request** | | | | | | | |
| - | - | | | - | - | - | N/A |
| **Response** | | | | | | | |
| R | PersID | | | Enum | - | - | Personality profile being updated |
|  |  | | |  | PROFILE\_1 | 0x0 |  |
|  |  | | |  | PROFILE\_2 | 0x1 |  |
|  |  | | |  | PROFILE\_3 | 0x2 |  |
|  |  | | |  | PROFILE\_4 | 0x3 |  |
|  |  | | |  | VEHICLE | 0x4 |  |
| Rep | FeatureMap | FeatureCode | | uint32 | - | 0x00000000 – 0xFFFFFFFF | Feature code/number being updated |
| FeatureValue | | uint32 | - | 0x00000000 – 0xFFFFFFFF | Feature value being updated |

**Internal VIP signals:**

When SYNC receives the SoA API above for pppFeatureOp (request), SYNC must send the below requests to VIP:

#### PersCommand\_Rq

Message Type: Request

The signal is used to request an operation on the PPP settings personalized by VIP.

|  |  |  |  |
| --- | --- | --- | --- |
| **Name** | **Literals** | **Value** | **Description** |
| Type | - | - | Requested operation |
|  | NULL | 0x0 |  |
|  | QUERY | 0x1 |  |
|  | SET | 0x2 |  |
|  | COPY | 0x3 |  |
|  | NotUsed | 0x4 - 0x7 |  |

#### PersIndex\_Rq

Message Type: Request

The signal is used to indicate the Personality Index for the relative operation.

|  |  |  |  |
| --- | --- | --- | --- |
| **Name** | **Literals** | **Value** | **Description** |
| Type | - | - | Indicates which personality profile is being accessed |
|  | PROFILE\_1 | 0x0 |  |
|  | PROFILE\_2 | 0x1 |  |
|  | PROFILE\_3 | 0x2 |  |
|  | PROFILE\_4 | 0x3 |  |
|  | VEHICLE | 0x4 |  |
|  | NotUsed | 0x5 - 0x7 |  |

#### SettingType\_Rq

Message Type: Request

The signal is used to indicate the Setting Type for the relative operation.

|  |  |  |  |
| --- | --- | --- | --- |
| **Name** | **Literals** | **Value** | **Description** |
| Type | - | - | Indicates which Setting Type being requested |
|  | PERSONALIZED\_USER\_SETTINGS | 0x0 |  |
|  | REJUVENATE\_RELAX\_MODE\_SETTINGS | 0x1 |  |
|  | REJUVENATE\_INVIGORATE\_MODE\_SETTINGS | 0x2 |  |

#### FeatureCode\_Rq

Message Type: Request

The signal is used to indicate the Feature Code/Number for the relative operation.

|  |  |  |  |
| --- | --- | --- | --- |
| **Name** | **Literals** | **Value** | **Description** |
| Type | **-** | **-** | Feature code/number being requested |
|  |  | 0x0000 – 0xFFFF |  |

#### FeatureValue\_Rq

Message Type: Request

The signal is used to indicate the Feature Value for the relative operation.

|  |  |  |  |
| --- | --- | --- | --- |
| **Name** | **Literals** | **Value** | **Description** |
| Type | **-** | **-** | Feature value being requested |
|  |  | 0x0000 – 0xFFFF |  |

SYNC must receive the below status from VIP to populate the SoA API above for pppFeatureOp (response), as well as to notify SYNC of any settings changes made on VIP (this only includes PersIndex, FeatNumber, FeatureValue):

#### ResponseCode\_St

Message Type: Status

The signal is used to provide a response code for a given settings request.

|  |  |  |  |
| --- | --- | --- | --- |
| **Name** | **Literals** | **Value** | **Description** |
| Type | - | - | Response to requested operation |
|  | SUCCESS | 0x0 |  |
|  | FAILED | 0x1 |  |
|  | INVALID | 0x2 |  |

#### ParameterCount\_St

Message Type: Status

The signal is used to provide the number of parameters to be sent for a given settings request.

|  |  |  |  |
| --- | --- | --- | --- |
| **Name** | **Literals** | **Value** | **Description** |
| Type | **-** | **-** | Parameter count status |
|  |  | 0x0000 – 0xFFFF |  |

#### FeatureCode\_St

Message Type: Status

The signal is used to provide a Feature Code/Number status.

|  |  |  |  |
| --- | --- | --- | --- |
| **Name** | **Literals** | **Value** | **Description** |
| Type | **-** | **-** | Feature code/number status |
|  |  | 0x0000 – 0xFFFF |  |

#### FeatureValue\_St

Message Type: Request

The signal is used to provide a Feature Value status.

|  |  |  |  |
| --- | --- | --- | --- |
| **Name** | **Literals** | **Value** | **Description** |
| Type | **-** | **-** | Feature value status |
|  |  | 0x0000 – 0xFFFF |  |

#### MD-REQ-420471/A-AutoSave\_St

Message Type: Status

The signal is used to indicate the active status of Auto Save.

|  |  |  |  |
| --- | --- | --- | --- |
| **Name** | **Literals** | **Value** | **Description** |
| Type | - | - | Indicates the active status of Auto Save |
|  | Inactive | 0x0 |  |
|  | Disable | 0x1 |  |
|  | Enable | 0x2 |  |
|  | NotUsed | 0x3 |  |

#### MD-REQ-420472/A-MirrorAutoSaveLeft\_St

Message Type: Status

The signal is used to indicate that changes have occurred on the left mirror.

|  |  |  |  |
| --- | --- | --- | --- |
| **Name** | **Literals** | **Value** | **Description** |
| Type | - | - | Indicates that changes have occurred on the left mirror |
|  | None | 0x0 |  |
|  | InProgress | 0x1 |  |
|  | Major | 0x2 |  |
|  | Minor | 0x3 |  |

#### MD-REQ-420473/A-MirrorAutoSaveRight\_St

Message Type: Status

The signal is used to indicate that changes have occurred on the right mirror.

|  |  |  |  |
| --- | --- | --- | --- |
| **Name** | **Literals** | **Value** | **Description** |
| Type | - | - | Indicates that changes have occurred on the right mirror |
|  | None | 0x0 |  |
|  | InProgress | 0x1 |  |
|  | Major | 0x2 |  |
|  | Minor | 0x3 |  |

#### MD-REQ-420474/A-DriverSeatAutoSave\_St

Message Type: Status

The signal is used to indicate that changes have occurred on the driver seat.

|  |  |  |  |
| --- | --- | --- | --- |
| **Name** | **Literals** | **Value** | **Description** |
| Type | - | - | Indicates that changes have occurred on the driver seat |
|  | None | 0x0 |  |
|  | InProgress | 0x1 |  |
|  | Major | 0x2 |  |
|  | Minor | 0x3 |  |

#### MD-REQ-420475/A-DriverMcsAutoSaveDriver\_St

Message Type: Status

The signal is used to indicate that changes have occurred on the drivers multi contour seat.

|  |  |  |  |
| --- | --- | --- | --- |
| **Name** | **Literals** | **Value** | **Description** |
| Type | - | - | Indicates that changes have occurred on the drivers multi contour seat |
|  | None | 0x0 |  |
|  | InProgress | 0x1 |  |
|  | Major | 0x2 |  |
|  | Minor | 0x3 |  |

#### MD-REQ-420476/A-PedalAutoSave\_St

Message Type: Status

The signal is used to indicate that changes have occurred on the pedals.

|  |  |  |  |
| --- | --- | --- | --- |
| **Name** | **Literals** | **Value** | **Description** |
| Type | - | - | Indicates that changes have occurred on the pedals |
|  | None | 0x0 |  |
|  | InProgress | 0x1 |  |
|  | Major | 0x2 |  |
|  | Minor | 0x3 |  |

#### MD-REQ-420477/A-SteeringAutoSave\_St

Message Type: Status

The signal is used to indicate that changes have occurred on the steering column.

|  |  |  |  |
| --- | --- | --- | --- |
| **Name** | **Literals** | **Value** | **Description** |
| Type | - | - | Indicates that changes have occurred on the steering column |
|  | None | 0x0 |  |
|  | InProgress | 0x1 |  |
|  | Major | 0x2 |  |
|  | Minor | 0x3 |  |

#### MD-REQ-420478/A-DriverSeatPosition\_St

Message Type: Status

The signal is used to indicate the status of the DSM during recall and easy entry/exit.

|  |  |  |  |
| --- | --- | --- | --- |
| **Name** | **Literals** | **Value** | **Description** |
| Type | - | - | Indicates the status of the DSM during recall and easy entry/exit. |
|  | Null | 0x0 |  |
|  | EasyEntry | 0x1 |  |
|  | Pending | 0x2 |  |
|  | Moving | 0x3 |  |
|  | Drive | 0x4 |  |
|  | Error | 0x5 |  |
|  | NotUsed | 0x6 |  |
|  | NotUsed | 0x7 |  |

#### MD-REQ-420479/A-ClassicMemory\_Rq

Message Type: Request

The signal is used to request a store or recall of the classic memory/positional modules.

|  |  |  |  |
| --- | --- | --- | --- |
| **Name** | **Literals** | **Value** | **Description** |
| Type | - | - | Indicates that current save cycle should end |
|  | Null | 0x0 |  |
|  | Store\_1 | 0x1 |  |
|  | Store\_2 | 0x2 |  |
|  | Store\_3 | 0x3 |  |
|  | Store\_4 | 0x4 |  |
|  | Recall\_1 | 0x5 |  |
|  | Recall\_2 | 0x6 |  |
|  | Recall\_3 | 0x7 |  |
|  | Recall\_4 | 0x8 |  |
|  | NotUsed | 0x9 -0xF |  |

#### MD-REQ-420482/A-setAutoSavePrompt

This API is used to request a prompt to be displayed on the PPPInterfaceClient for the Auto Save feature. The PPPInterfaceClient 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 | PromptControl | | Enum | - | - | Used to control the visibility of the prompt |
|  |  | |  | Close | 0x0 |  |
|  |  | |  | Display | 0x1 |  |
| R | PromptType | | Enum | - | - | Used to indicate the type of prompt |
|  |  | |  | Multiple | 0x0 |  |
|  |  | |  | Seat | 0x1 |  |
|  |  | |  | Mirror | 0x2 |  |
|  |  | |  | Pedal | 0x3 |  |
|  |  | |  | Steering Wheel | 0x4 |  |
|  |  | |  | HUD | 0x5 |  |
|  |  | |  | Simple | 0x6 |  |
|  |  | |  | ~~Save Confirm~~ | ~~0x6~~ |  |
|  |  | |  | ~~Ignore Confirm~~ | ~~0x7~~ |  |
| **Response** | | | | | | |
| R | PromptResponse | | Enum | - | - | Used to indicate the user or program response to the requested prompt |
|  |  | |  | None | 0x0 |  |
|  |  | |  | No Save | 0x1 |  |
|  |  | |  | Save | 0x2 |  |
|  |  | |  | Change Profile | 0x3 |  |
|  |  | |  | Blocked | 0x4 |  |
|  |  | |  | Timeout | 0x5 |  |
|  |  | |  | ~~Confirm Close~~ | ~~0x6~~ |  |
|  |  | |  | Ignore | 0x6 |  |

#### MD-REQ-420588/A-setAutoSaveSetting

This API is used to change the Auto Save user setting on the PPPServer.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | | | | | | |
| **Method Type** | | Fire & Forget | | | | |
| **QoS Level** | | Default | | | | |
| **Retained** | | Yes | | | | |
|  | | | | | | |
| **R/O** | **Name** | | **Type** | **Literals** | **Value** | **Description** |
| **Request** | | | | | | |
| R | AutoSaveSettingRequest | | Enum | - | - | Used to change the Auto Save user setting |
|  |  | |  | Off | 0x0 |  |
|  |  | |  | On | 0x1 |  |
| **Response** | | | | | | |
| - | - | | - | - | - | N/A |

#### MD-REQ-420589/A-getAutoSaveSetting

This API is used to request transmission of the Auto Save user setting (via autoSaveSettingBroadcast) from the PPPServer.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | | | | | | |
| **Method Type** | | Fire & Forget | | | | |
| **QoS Level** | | Default | | | | |
| **Retained** | | No | | | | |
|  | | | | | | |
| **R/O** | **Name** | | **Type** | **Literals** | **Value** | **Description** |
| **Request** | | | | | | |
| - | - | | - | - | - | N/A |
| **Response** | | | | | | |
| - | - | | - | - | - | N/A |

#### MD-REQ-420590/A-getAutoSaveFeatureStatus

This API is used to request transmission of the Auto Save Feature Status (via autoSaveFeatureStatusBroadcast) from the PPPServer.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | | | | | | |
| **Method Type** | | Fire & Forget | | | | |
| **QoS Level** | | Default | | | | |
| **Retained** | | No | | | | |
|  | | | | | | |
| **R/O** | **Name** | | **Type** | **Literals** | **Value** | **Description** |
| **Request** | | | | | | |
| - | - | | - | - | - | N/A |
| **Response** | | | | | | |
| - | - | | - | - | - | N/A |

### PPP-IIR-REQ-406798/A-PPPServer\_Tx

#### MD-REQ-386005/C-PublishProfilePreferencesR2CommandResponse

Message Type: FTCP

This command response is used to acknowledge the receipt of the PublishProfilePreferencesR2Command.

**Note:** Refer to the latest “Ford Telematics Communication Protocol Specification” and Protofile for the most up to date FTCP messages/definitions.

|  |  |
| --- | --- |
| **Command** | **Description** |
| PublishProfilePreferences  R2CommandResponse | Response sent acknowledging receipt of the Command |

#### MD-REQ-403123/A-PortableProfileUpdateStatusR2Alert

Message Type: FTCP

This non correlated alert is used to indicate different success/failure statuses regarding received/applied preference/profile data.

**Note:** Refer to the latest “Ford Telematics Communication Protocol Specification” and Protofile for the most up to date FTCP messages/definitions.

|  |  |
| --- | --- |
| **Command** | **Description** |
| PortableProfileUpdate StatusR2Alert | Alert sent for various preference/profile data payload success/failure statuses. |

#### MD-REQ-420759/A-PppFeature\_Rq

Message Type: Request

Represents the request used for PPP to command a feature change (change feature settings, query feature settings, etc.).

|  |  |  |  |
| --- | --- | --- | --- |
| **Name** | **Literals** | **Value** | **Description** |
| Operation | - | - | Type of operation being requested |
|  | NULL | 0x0 |  |
|  | QUERY | 0x1 |  |
|  | SET | 0x2 |  |
|  | COPY | 0x3 |  |
|  | NotUsed | 0x4 - 0x7 |  |
| TransID | - | - | Transaction ID of the request |
|  | Unitless | 0x0 – 0x7 |  |
| PersIndex | - | - | Indicates which personality profile is being accessed |
|  | PROFILE\_1 | 0x0 |  |
|  | PROFILE\_2 | 0x1 |  |
|  | PROFILE\_3 | 0x2 |  |
|  | PROFILE\_4 | 0x3 |  |
|  | VEHICLE | 0x4 |  |
|  | NotUsed | 0x5 - 0x7 |  |
| FeatureNumber | - | - | Feature number being requested |
|  |  | 0x0000 – 0xFFFF |  |
| FeatureValue | - | - | Feature value being requested |
|  |  | 0x0000 – 0xFFFF |  |

#### MD-REQ-420762/A-pppFeatureOp

This API is used to the request a feature change for a PPP setting (change feature settings, query feature settings, etc.). The PPPSettingServer also uses this API for its response.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | | | | | | |
| **Method Type** | | OneShot (asynchronous) | | | | |
| **QoS Level** | | Default | | | | |
| **Retained** | | Yes | | | | |
|  | | | | | | |
| **R/O** | **Name** | | **Type** | **Literals** | **Value** | **Description** |
| **Request** | | | | | | |
| R | Operation | | Enum | - | - | Type of operation being requested |
|  |  | |  | NULL | 0x0 |  |
|  |  | |  | QUERY | 0x1 |  |
|  |  | |  | SET | 0x2 |  |
|  |  | |  | COPY | 0x3 |  |
|  |  | |  | NotUsed | 0x4 - 0x7 |  |
| R | TransID | | uint8 | - | 0x0 – 0x7 | Transaction ID of the request |
| R | PersIndex | | Enum | - | - | Indicates which personality profile is being accessed |
|  |  | |  | PROFILE\_1 | 0x0 |  |
|  |  | |  | PROFILE\_2 | 0x1 |  |
|  |  | |  | PROFILE\_3 | 0x2 |  |
|  |  | |  | PROFILE\_4 | 0x3 |  |
|  |  | |  | VEHICLE | 0x4 |  |
|  |  | |  | NotUsed | 0x5 - 0x7 |  |
| R | FeatureNumber | | uint16 | - | 0x0000 – 0xFFFF | Feature number being requested |
| R | FeatureValue | | uint16 | - | 0x0000 – 0xFFFF | Feature value being requested |
| **Response** | | | | | | |
| R | Response | | Enum | - | - | Response to requested operation |
|  |  | |  | NULL | 0x0 |  |
|  |  | |  | SUCCESS | 0x1 |  |
|  |  | |  | PENDING | 0x2 |  |
|  |  | |  | REJECTED | 0x3 |  |
|  |  | |  | INTERRUPTED | 0x4 |  |
|  |  | |  | FAILED | 0x5 |  |
|  |  | |  | IN\_PROG | 0x6 |  |
|  |  | |  | INVALID | 0x7 |  |
|  |  | |  | NotUsed | 0x8 - 0xF |  |
| R | TransID | | uint8 | - | 0x0 – 0x7 | Transaction ID of the request |
| Rep | FeatureNumber | | uint16 | - | 0x0000 – 0xFFFF | Active feature number |
| Rep | FeatureValue | | uint16 | - | 0x0000 – 0xFFFF | Active feature value |

#### MD-REQ-420480/A-AutoSaveExit\_Rq

Message Type: Request

The signal is used to indicate that the current save cycle should end.

|  |  |  |  |
| --- | --- | --- | --- |
| **Name** | **Literals** | **Value** | **Description** |
| Type | - | - | Indicates that current save cycle should end |
|  | No | 0x0 |  |
|  | Yes | 0x1 |  |

#### MD-REQ-420481/A-AutoSaveSet\_Rq

Message Type: Request

The signal is used to request a save operation.

|  |  |  |  |
| --- | --- | --- | --- |
| **Name** | **Literals** | **Value** | **Description** |
| Type | - | - | Request for a save operation |
|  | No | 0x0 |  |
|  | Yes | 0x1 |  |

#### MD-REQ-420482/A-setAutoSavePrompt

This API is used to request a prompt to be displayed on the PPPInterfaceClient for the Auto Save feature. The PPPInterfaceClient 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 | PromptControl | | Enum | - | - | Used to control the visibility of the prompt |
|  |  | |  | Close | 0x0 |  |
|  |  | |  | Display | 0x1 |  |
| R | PromptType | | Enum | - | - | Used to indicate the type of prompt |
|  |  | |  | Multiple | 0x0 |  |
|  |  | |  | Seat | 0x1 |  |
|  |  | |  | Mirror | 0x2 |  |
|  |  | |  | Pedal | 0x3 |  |
|  |  | |  | Steering Wheel | 0x4 |  |
|  |  | |  | HUD | 0x5 |  |
|  |  | |  | Simple | 0x6 |  |
|  |  | |  | ~~Save Confirm~~ | ~~0x6~~ |  |
|  |  | |  | ~~Ignore Confirm~~ | ~~0x7~~ |  |
| **Response** | | | | | | |
| R | PromptResponse | | Enum | - | - | Used to indicate the user or program response to the requested prompt |
|  |  | |  | None | 0x0 |  |
|  |  | |  | No Save | 0x1 |  |
|  |  | |  | Save | 0x2 |  |
|  |  | |  | Change Profile | 0x3 |  |
|  |  | |  | Blocked | 0x4 |  |
|  |  | |  | Timeout | 0x5 |  |
|  |  | |  | ~~Confirm Close~~ | ~~0x6~~ |  |
|  |  | |  | Ignore | 0x6 |  |

#### MD-REQ-420483/A-autoSaveSettingBroadcast

This API is used to broadcast the user selected Auto Save feature setting on the PPPServer.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | | | | | | |
| **Method Type** | | Fire & Forget | | | | |
| **QoS Level** | | Default | | | | |
| **Retained** | | Yes | | | | |
|  | | | | | | |
| **R/O** | **Name** | | **Type** | **Literals** | **Value** | **Description** |
| **Request** | | | | | | |
| - | - | | - | - | - | N/A |
| **Response** | | | | | | |
| R | AutoSaveSettingStatus | | Enum | - | - | Used to indicate the status of the Auto Save user setting |
|  |  | |  | Off | 0x0 |  |
|  |  | |  | On | 0x1 |  |

#### MD-REQ-420587/A-autoSaveFeatureStatusBroadcast

This API is used to broadcast the Auto Save Feature Status on the PPPServer.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | | | | | | |
| **Method Type** | | Fire & Forget | | | | |
| **QoS Level** | | Default | | | | |
| **Retained** | | Yes | | | | |
|  | | | | | | |
| **R/O** | **Name** | | **Type** | **Literals** | **Value** | **Description** |
| **Request** | | | | | | |
| - | - | | - | - | - | N/A |
| **Response** | | | | | | |
| R | AutoSaveFeatureStatus | | Enum | - | - | Used to indicate the status of the Auto Save Feature |
|  |  | |  | Inactive | 0x0 |  |
|  |  | |  | Disable | 0x1 |  |
|  |  | |  | Enable | 0x2 |  |

# General Requirements

## PPP-REQ-406669/A-Profile Attribute Specification Reference

The list of personalized settings that are to be supported by PPP shall be defined in the Profile Attribute Specification.

## PPP-REQ-406671/A-Powermode Conditions

Personal Portable Profiles shall follow the powermode conditions of Enhanced Memory (see REQ-198389 & REQ-099699). However, profile synchronization shall be allowed as per REQ-XXXXXX.

## PPP-REQ-408148/A-PPPServer Feature Configuration

The PPPServer shall have a configurable parameter/DID to allow the feature to be enabled/disabled.

* When the parameter indicates that PPP is Enabled, all the functionality and signals defined in this SPSS shall be supported.
* When the parameter indicates that PPP is Disabled, none of the functionality defined in this SPSS shall be supported.
  + The default value for this parameter shall be Disabled.

## PPP-REQ-408149/A-PPPInterfaceClient Feature Configuration

The PPPInterfaceClient shall have a configurable parameter/DID to allow the feature to be enabled/disabled.

* When the parameter indicates that PPP is Enabled, all the functionality and signals defined in this SPSS shall be supported.
* When the parameter indicates that PPP is Disabled, none of the functionality defined in this SPSS shall be supported.
  + The default value for this parameter shall be Disabled.

## PPP-REQ-XXXXXX-PPPServer Auto Save Configuration

The PPPServer shall have a configurable parameter/DID to allow the Auto Save function to be enabled/disabled.

* When the parameter indicates that Auto Save is Disabled, none of the functionality defined in REQ-420485 shall be supported.
  + The default value for this parameter shall be Disabled
* When the parameter indicates that Auto Save is Simple, all the functionality and signals defined in REQ-420485 in support of the Simple variant shall be supported.
* When the parameter indicates that Auto Save is Smart, all the functionality and signals defined in REQ-420485 in support of the Smart variant shall be supported.

# Functional Definition

## PPP-FUN-REQ-406668/A-Profile Management

### Use Cases

#### PPP-UC-REQ-406749/A-In-Vehicle Personal Profile Deleted, Association Removed

|  |  |
| --- | --- |
| **Actors** | Portable Profile User(s) |
| **Pre-conditions** | Vehicle has cloud connectivity.  Personal Profile associated to FordPass Account. |
| **Scenario Description** | User deletes the associated Personal Profile from the vehicle.  PPPServer sends a request to the PPPOffBoardClient to disassociate the OffBoard Profile from the specified VIN. |
| **Post-conditions** | OffBoard Profile disassociated from specified vehicle.  Personal Profile deleted from vehicle. |
| **List of Exception Use Cases** |  |
| **Interfaces** | HMI, CAN, SoA, FTCP |

#### PPP-UC-REQ-406750/A-Profile Creation via PPPOffBoardClient

|  |  |
| --- | --- |
| **Actors** | Portable Profile User(s) |
| **Pre-conditions** | User does not have an OffBoard Profile associated with their FordPass Account  User has a FordPass Account  User has a means to access the FordPass Account (FordPass App or Owners site) |
| **Scenario Description** | User opens PPPOffBoardClient interface and selects to create a profile.  The PPPOffBoardClient interface displays profile settings and preferences for the user to configure.  Once completed, the OffBoard Profile is stored by the PPPOffBoardClient.  OffBoard Profile is created and associated with FordPass Account. |
| **Post-conditions** | OffBoard Profile is associated with the user's FordPass Account.  OffBoard Profile is created and stored. |
| **List of Exception Use Cases** |  |
| **Interfaces** | HMI, CAN, SoA, FTCP |

#### PPP-UC-REQ-406751/A-Edit Profile via PPPOffBoardClient < LEFT OFF HERE

|  |  |
| --- | --- |
| **Actors** | Portable Profile User(s) |
| **Pre-conditions** | OffBoard Profile previously created for FordPass Account.  User logged into FordPass Account. |
| **Scenario Description** | User selects to edit their OffBoard Profile.  PPPOffBoardClient interface displays OffBoard Profile settings/preferences that are able to be edited via PPPOffBoardClient interface.  User makes changes and saves OffBoard Profile |
| **Post-conditions** | All OffBoard Profile changes are saved and stored in the PPPOffBoardClient. |
| **List of Exception Use Cases** |  |
| **Interfaces** | HMI, CAN, SoA, FTCP |

#### PPP-UC-REQ-406752/A-Remote Vehicle Setup - Send OffBoard Profile To Vehicle

|  |  |
| --- | --- |
| **Actors** | Portable Profile User(s) |
| **Pre-conditions** | User has a FordPass Account  User has an OffBoard Profile associated to their FordPass Account |
| **Scenario Description** | User navigates to desired vehicle in FordPass garage.  FordPass displays the option to send the user's OffBoard Profile to the vehicle.  The user selects the option and the OffBoard Profile is sent to the vehicle.  In the vehicle, the user is positively identified and then welcomed to the vehicle.  The user is prompted to create a vehicle Personal Profile.  OffBoard Profile settings are applied to the newly created Personal Profile. |
| **Post-conditions** | OffBoard Profile settings are imported and applied to a newly created Personal Profile.  Personal Profile is associated to the user's FordPass Account. |
| **List of Exception Use Cases** |  |
| **Interfaces** | HMI, CAN, SoA, FTCP |

#### PPP-UC-REQ-406753/A-Remove Request via PPPOffBoardClient

|  |  |
| --- | --- |
| **Actors** | Portable Profile User(s) |
| **Pre-conditions** | Receiving vehicle has cellular connection to PPPOffBoardClient  User has FordPass Account  User has an OffBoard Profile associated to their FordPass Account  Personal Profile associated to FordPass Account is saved to specified vehicle |
| **Scenario Description** | User navigates to OffBoard Profile menu in FordPass or Owners Site.  User selects to remove their Personal Profile from a specific vehicle.  Request is sent from the PPPOffBoardClient to the specified vehicle.  PPPServer executes the remove operation and alerts the PPPOffBoardClient.  OffBoard Profile disassociates from the specified vehicle. |
| **Post-conditions** | OffBoard Profile is disassociated from specified vehicle.  Associated Personal Profile is removed from specified vehicle. |
| **List of Exception Use Cases** |  |
| **Interfaces** | HMI, CAN, SoA, FTCP |

### Requirements

#### PPP-REQ-406706/A-OffBoard Delete Command

When the PPPServer receives a RemoveVINCommand from the PPPOffBoardClient, the PPPServer shall perform a profile delete for the profile linked to the FordPass Account (GUID or whatever ID) indicated in the command. Delete per current EnMem or pushing defaults (depends on Privacy discussion)

#### PPP-REQ-406707/A-OffBoard Delete Command Response - Success

When the PPPServer receives a RemoveVINCommandfrom the PPPOffBoardClient, the PPPServer shall send a RemoveRemoveProfileCommandResponse indicating successful reception of the command, if successful.

#### PPP-REQ-406708/A-OffBoard Delete Command Response - Failure

When the PPPServer receives a RemoveVINCommandfrom the PPPOffBoardClient, the PPPServer shall send a RemoveRemoveProfileCommandResponse indicating the below failure, for the below reasons:

* “Command Not Permitted” – When …
* “Request Out of Range” – When …
* “Command Already in Progress” – When…
* Etc.

#### PPP-REQ-406709/A-OffBoard Delete Alert

The PPPServer shall send RemoveVinAlert to the PPPOffBoardClient after successfully deleting profile. The alert shall include the FordPass Account ID and the VIN.

#### PPP-REQ-406710/A-In-vehicle Master Reset

When a Master Reset is requested/performed, the PPPServer shall delete all Central Portable Profiles, personal data, FordPass Associations, etc. and send the default Central Portable Profile to all PPPSettingServers for all PersIndex values, including Guest. This shall ensure that all personalized settings for all profiles in every PPPSettingServer has been cleared from their internal memory.

#### PPP-REQ-406711/A-Remote Master Reset

When a Remote Master Reset is requested/performed, the PPPServer shall perform the same actions as an in-vehicle Master Reset, per REQ-406170.

#### PPP-REQ-406712/A-OffBoard VIN Removal

What to do for a VIN Removal > If this clears personalized data, how is that synchronized with the cloud?

#### PPP-REQ-406714/A-Delete/Disassociate Alert

The PPPServer shall send an UnlinkProfileAlert to the PPPOffBoardClient when a Personal Profile that is associated with a FordPass Account is deleted or disassociated.

#### Delete/Disassociate AlertResponse

Receive an UnlinkProfileAlertResponse from cloud telling us of successful/failed unlinking.

#### Delete/Disassociate AlertResponse – No Response

What to do if we don’t get a response?

#### Delete/Disassociate AlertResponse – Failed Response

What to do if we get a ‘Failure’ Response?

#### PPP-REQ-406715/A-Collect Settings for Central Portable Profile

The PPPServer shall use \_\_\_\_\_ interface(s) to collect all settings personalized by the PPP feature to build and save a Central Portable Profile.

*Need to build this out to include all relevant interfaces and the sequencing to collect all settings.*

#### PPP-REQ-406716/A-Central Portable Profile Creation

The PPPServer shall create a Central Portable Profile upon creation of an Enhanced Memory Profile.

#### PPP-REQ-406717/A-Central Portable Profile Limit

The PPPServer shall allow a maximum of 10 Central Portable Profiles.

#### PPP-REQ-406718/A-Default Central Portable Profile

The PPPServer shall store a default Central Portable Profile including default values for each of the available personalized settings. *Configured at EOL? What are the defaults for all settings, how are these controlled?*

#### PPP-REQ-406719/A-Central Portable Profile Version Number

The PPPServer shall maintain a Profile Version Number for each Central Portable Profile. Each time a profile is updated/modified by the user, the version number shall increment by 1. Is this done for every change? For a collection of changes? At the end of each key cycle/trip? What’s the number look like, whats the range, how does it reset?

#### PPP-REQ-406720/A-Central Portable Profile Version Number Check

When a Personal Profile is associated to a FordPass Account, the PPPServer shall perform a check/compare of a Central Portable Profile’s Profile Version Number to that of its matching Profile Version Number in the PPPOffBoardClient. The PPPServer shall perform this check when Positive ID is established (when enabled) for the active Personal Profile (assuming connectivity is established). We can include this in the payload/FeatureID and received in PPPCommand/sent in PPPAlert (new timestamp/version, not what’s currently in the Payload from RVS).

Note: Positive ID shall not be attempted for non-active Personal Profiles.

#### PPP-REQ-406721/A-Central Portable Profile Version Number Check Error – No Connectivity

If there is no connectivity with the PPPOffBoardClient when a Profile Version Check is to be performed, the PPPServer shall wait for connectivity to be re-established before performing the check. What happens if changes are made during this time?

#### PPP-REQ-406722/A-Higher Content Vehicle

When an OffBoard Profile is imported into a vehicle that supports more personalized settings than what is included in the imported OffBoard Profile (i.e. a higher content vehicle), the PPPServer shall add the additional personalized settings to the Central Portable Profile. The addition of these settings shall result in a Central Portable Profile version number change, and an export at the next event trigger.

#### PPP-REQ-406723/A-Higher Content OffBoard Profile

The PPPOffBoardClient filters the content of the OffBoard Profile to be imported to remove settings that are not applicable/supported by the target VIN. In the event of a failure, where the PPPServer receives an OffBoard Profile with settings that the vehicle does not support, the PPPServer shall ignore those settings

#### PPP-REQ-406724/A-Saving Updated Settings – Positive ID

The PPPServer shall only save changed/updated profile settings and personalized settings to the Central Portable Profile when Positive ID has been enabled and established for the active Personal Profile. If Positive ID is disabled for the active Personal Profile, this check shall not be required.

#### PPP-REQ-406726/A-Central Portable Profile Change Flag

The PPPServer shall maintain a Change Flag for each Central Portable Profile to indicate when a profile setting change was made without Positive ID. The PPPServer shall set the Change Flag = True when a profile setting change is attempted while Positive ID has not been established. The flag shall remain true until a Personal Profile restoration has taken place, where it shall then revert to False.

#### PPP-REQ-406727/A-Saving Updated Settings - Timing

When permitted per Positive ID (see FUN-REQ-406665), the PPPServer shall save all setting changes to the Central Portable Profile upon change (immediately). The PPPServer shall not buffer or queue changes for saving at a later time (i.e. at the next recall or ignition cycle).

#### PPP-REQ-406728/A-Restoring a Personal Profile from Central Portable Profile

When Positive ID has been established (when enabled) and the relative Personal Profile is recalled, the PPPServer shall push all settings from the Central Portable Profile to the PPPSettingsServers if the Change Flag = True for the Personal Profile being recalled.

#### ~~PPP-REQ-406729/A-Translating Profile Settings~~

~~The PPPServer shall translate all settings that require translation (see Profile Attribute Spec) upon import. How is this being done? Need to include the settings and method of translation here.~~

#### ~~PPP-REQ-406730/A-Seat Import/Export – Normalize Seat Position~~

~~When profile seat settings are exported to the PPPOffBoardClient, the seat positions shall be normalized by the PPPServer via the export calculation. (See definition for normalized seat position)~~

#### ~~PPP-REQ-406731/A-Seat Import/Export – X Seat Position Delta Calculation~~

~~The PPPServer shall use the visor point, hood top point, front hinge pillar point and steering wheel point to calculate the X seat position delta from hood top point.~~

#### ~~PPP-REQ-406732/A-Seat Import/Export – Anthropometric Translation Data Points~~

~~The PPPServer shall require the following data elements in order to perform an Anthropometric Translation import or export calculation:~~

* ~~Host vehicle SgRP (seating reference point)~~
* ~~Host vehicle Absolute Positioning points~~
* ~~Seat motor conversion factor for each seat axis~~
* ~~Host vehicle visor point~~
* ~~Host vehicle hood top point~~
* ~~Host vehicle front hinge pillar point~~
* ~~Host vehicle steering wheel point~~

#### ~~PPP-REQ-406733/A-Seat Import/Export – Absolute Positioning~~

~~The PPPServer shall provide/include Absolute Positioning for all vehicles that require Anthropometric Translation.~~

#### ~~PPP-REQ-406734/A-Seat Import/Export – Secondary Calculation~~

~~The PPPServer shall provide a secondary calculation to relate the new vehicle seat position delta from SgRP to the vehicle absolute position.~~

#### ~~PPP-REQ-406735/A-Seat Import/Export – Anthropometric Translation Import Calculation Usage~~

~~The PPPServer shall use the Anthropometric Translation import calculation on initial import to a new vehicle. Subsequent profile updates shall not incur the import calculation.~~

### White Box View

#### Activity Diagrams

#### Sequence Diagrams

## PPP-FUN-REQ-406665/A-Positive ID

### Use Cases

#### PPP-UC-REQ-406787/A-User enables Positive ID

|  |  |
| --- | --- |
| **Actors** | Portable Profile User(s) |
| **Pre-conditions** | Positive ID is not enabled for the active profile  User is not positively identified |
| **Scenario Description** | User navigates to the Personal Profile Edit Menu and enables Positive ID  User is presented with and enters Primary Authentication credentials  User is presented with and enters Secondary Authentication credentials |
| **Post-conditions** | Positive ID is enabled and Central Portable Profile is protected |
| **List of Exception Use Cases** |  |
| **Interfaces** | HMI, CAN, SoA, FTCP |

#### PPP-UC-REQ-406788/A-User disables Positive ID

|  |  |
| --- | --- |
| **Actors** | Portable Profile User(s) |
| **Pre-conditions** | Positive ID is enabled for the active profile |
| **Scenario Description** | User navigates to the Personal Profile Edit Menu and disables Positive ID  Whether user is positively identified or not, user is presented with and enters Secondary Authentication credentials |
| **Post-conditions** | Positive ID is disabled and Central Portable Profile is not protected  Both Authentication methods are deleted |
| **List of Exception Use Cases** |  |
| **Interfaces** | HMI, CAN, SoA, FTCP |

#### PPP-UC-REQ-406747/A-Settings Changed without Positive ID

|  |  |
| --- | --- |
| **Actors** | Portable Profile User(s) |
| **Pre-conditions** | Positive ID is enabled for the active profile  User is not positively identified |
| **Scenario Description** | A change is made to the active Profile.  The change is active in the vehicle, but is not saved to the Central Portable Profile or exported to the PPPOffBoardClient |
| **Post-conditions** | Changed settings are not saved or synchronized with the PPPOffBoardClient |
| **List of Exception Use Cases** |  |
| **Interfaces** | HMI, CAN, SoA, FTCP |

### Requirements

#### PPP-REQ-406672/A-Positive ID

The PPPServer shall provide Profile Protection (editing rights to a profile) by means of Positive ID. Positive ID shall be established by either Primary or Secondary Authentication methods. If Positive ID cannot be established via Primary Authentication, the Secondary Authentication shall be requested per the defined intervals/events.

#### PPP-REQ-406811/A-Enter Profile Protection

The PPPServer shall enter Profile Protection Mode when a Personal Profile with Positive ID enabled is recalled while Positive ID has not been established.

#### PPP-REQ-406673/A-Profile Protection Mode

The PPPServer shall provide a Profile Protection Mode for all Personal Profiles that have requested to enable Positive ID. Profile Protection Mode shall include the following functions:

* Inhibit saving of profile settings to the central profile storage
* Inhibit the Auto Save feature
* Prohibit access to PII data

#### PPP-REQ-406674/A-Positive ID Enable/Disable Setting

The PPPInterfaceClient shall allow the customer to enable or disable Positive ID.

#### PPP-REQ-406675/A-Positive ID Setting Availability

The PPPInterfaceClient shall make the Positive ID button available/unavailable based on the conditions below:

* Positive ID has been established
* etc

#### PPP-REQ-406676/A-Primary Authentication Setup

Upon creating a Personal Profile and enabling Positive ID, the PPPInterfaceClient shall prompt the user to initiate their Primary Authentication Setup. The user shall have the option to skip this setup.

#### PPP-REQ-406677/A-Establishing Positive ID – Primary Authentication

The PPPServer shall attempt to authenticate an active Personal Profile when first starting the vehicle, or upon recall of the Personal Profile using the methods defined in (reference specification)

#### PPP-REQ-406678/A-Primary Authentication Retry Strategy

The PPPServer shall attempt to establish Positive ID via Primary Authentication for a maximum of X seconds. If Positive ID cannot be established, the Secondary Authentication method shall be used.

#### PPP-REQ-406679/A-Establishing Positive ID – Secondary Authentication

The PPPServer shall require a secondary authentication method for Positive ID. The PPPServer shall require a passcode be created for each Personal Profile for which a Primary Authentication has been established.

The passcode shall be between XX - XX characters in length, and shall be encoded per security req. XYZ (put spec reference)

#### PPP-REQ-406680/A-Secondary Authentication Setup

Upon creating a Personal Profile, enabling Positive ID and setting up a Primary Authentication Method, the PPPInterfaceClient shall prompt the user to initiate the Secondary Authentication Setup.

#### PPP-REQ-406681/A-Secondary Authentication Retry Strategy

The PPPInterfaceClient shall allow 5 attempts to authenticate an active Personal Profile via Secondary Authentication. If Positive ID cannot be established, then all Positive ID impacted functions remain disabled.

#### PPP-REQ-406682/A-Requiring Secondary Authentication

The PPPServer shall request Secondary Authentication from the user when Primary Authentication fails to authenticate the user

### White Box View

#### Activity Diagrams

#### Sequence Diagrams

## PPP-FUN-REQ-406666/A-Setting Synchronization

### Use Cases

#### PPP-UC-REQ-406746/A-Profile Synchronization

|  |  |
| --- | --- |
| **Actors** | Portable Profile User(s) |
| **Pre-conditions** | Change was made to at least one vehicle Personal Profile settings  User is positively identified, or Positive ID is disabled  Vehicle has cloud connectivity  Personal Profile is associated to a FordPass Account |
| **Scenario Description** | Changes made to Central Portable Profile are collected and ready to be sent to the PPPOffBoardClient.  Upon the export trigger, only the changed settings are exported to the associated PPPOffBoardClient. |
| **Post-conditions** | All changed Central Portable Profile settings are sent to the PPPOffBoardClient and updated in the associated OffBoard Profile. |
| **List of Exception Use Cases** |  |
| **Interfaces** | HMI, CAN, SoA, FTCP |

#### PPP-UC-REQ-406748/A-Profile Version Check

|  |  |
| --- | --- |
| **Actors** | Portable Profile User(s)  Preferred vehicle User Identification Device |
| **Pre-conditions** | Central Portable Profile saved to host vehicle |
| **Scenario Description** | User recalls their Personal Profile in-vehicle.  Upon recall, the PPPServer attempts to positively identify the user using their primary authentication method (if enabled).  Upon profile authentication, the PPPServer checks the Central Portable Profile version and imports a newer profile version from the PPPOffBoardClient if it’s OffBoard Profile is newer. |
| **Post-conditions** | Updated OffBoard Profile (if available) is imported and applied to the Personal Profile |
| **List of Exception Use Cases** |  |
| **Interfaces** | HMI, CAN, SoA, FTCP |

#### PPP-UC-REQ-406754/A-Restore Changed Profile

|  |  |
| --- | --- |
| **Actors** | Portable Profile User(s) |
| **Pre-conditions** | Changes previously made to Personal Profile when user was not positively identified  User is now positively identified |
| **Scenario Description** | Authorized user recalls Personal Profile.  PPPServer recognizes that unauthorized changes were made to some profile settings.  PPPServer applies/restores saved profile settings to the user's active Personal Profile. |
| **Post-conditions** | Correct profile settings are applied to the user's active Personal Profile |
| **List of Exception Use Cases** |  |
| **Interfaces** | HMI, CAN, SoA, FTCP |

### Requirements

#### PPP-REQ-406683/A-Synchronization – with Account Association

When a Profile is associated to a FordPass Account, the PPPServer shall save locally and send any profile changes to the PPPOffBoardClient when export conditions are met (see REQ-406685).

#### PPP-REQ-406684/A-Synchronization – without Account Association

When a Profile is not associated to a FordPass Account, the PPPServer shall save locally but not send any profile changes to the PPPOffBoardClient.

#### PPP-REQ-406685/A-Export Conditions

The PPPServer shall export all modified profile settings (only those that have changed, not the entire profile) to the associated FordPass Account upon a recall or key-off event, when the below conditions are met:

* Positive ID is established, if enabled
* Vehicle Connectivity is available and ON per CCS
* Central Portable Profile’s Profile Version Number is higher/newer than the OffBoard Profile’s Profile Version Number (do we request this from cloud? How do we know latest offboard version?) ExportProfileAlert for asking for Version Check. ExportProfileAlertResponse contains

#### PPP-REQ-406686/A-Export Settings

When required to perform an Export (per REQ-406685), the PPPServer shall send the updated profile settings to the PPPOffBoardClient via PortableProfileUpdateStatusR2Alert. The PPPServer shall only send the settings that have been modified since the last Synchronization, not the entire profile.CloudProfileDataStatusAlertResponse will be used to tell ECG that it saved the settings successfully (what if alertresponse is not received) (what if ‘failed’ response is received)

#### PPP-REQ-406687/A-Export Time on Shutdown

Upon vehicle shutdown, the PPPServer shall export profile settings to the PPPOffBoardClient within XXXX seconds after receiving the shutdown trigger.

#### PPP-REQ-406688/A-Import Conditions

The PPPServer shall import all modified profile settings (only those that have changed, not the entire profile) from the associated FordPass Account upon a recall or key-off event, when the below conditions are met:

* Positive ID is established, if enabled
* Vehicle Connectivity is available and ON per CCS
* OffBoard Profile’s Profile Version Number is higher/newer than the Central Portable Profile’s Profile Version Number

#### PPP-REQ-406689/A-Import Settings

When required to perform an Import (per REQ-406688), the PPPServer shall request the profile data from the PPPOffBoardClient via FTCP. Are we requesting import or is cloud sending it without needing a request?

DownloadProfileAlert and DownloadProfileAlertResponse (optional), followed by the PPPCommand

#### PPP-REQ-406690/A-Import Complete Success Notification

When an Import is performed, the PPPServer shall request to display a notification to the user indicating successful import.

#### PPP-REQ-406691/A-Import Complete Failure Notification

If an Import fails, the PPPServer shall request to display a notification to the user indicating failure, with the option to retry.

#### PPP-REQ-406692/A-Import In Process Notification

Do we show a spinning wheel? – Yes, unless we’re able to do everything in the background without issue.

#### PPP-REQ-406693/A-No Offboard Profile

When a FordPass Account with no Offboard Profile is associated to a Personal Profile in-vehicle, the PPPServer shall export the entire Central Portable Profile to the PPPOffBoardClient.

#### PPP-REQ-406694/A-Offboard Profile Present During Profile Creation

When a FordPass Account with an Offboard Profile is associated to a Personal Profile in-vehicle during Profile creation, the PPPServer shall import the Offboard Profile to the Central Portable Profile for the respective Personal Profile.

#### PPP-REQ-406695/A-Profile Version Number - Import

When an Import is performed, the Central Portable Profile Version Number shall be set to that of the Offboard Profile Version Number.

#### PPP-REQ-406696/A-Profile Version Number - Export

When an Export is performed, the Offboard Profile Version Number shall be set to that of the Central Portable Profile Version Number. (cloud req., may not be needed)

#### PPP-REQ-406697/A-Synchronization Error - Export

When the PPPServer fails to synchronize the Central Portable Profile with the Offboard Profile Version, the PPPServer shall store the updated settings locally and retry the synchronize attempt at the next synchronization trigger.

#### PPP-REQ-406698/A-Synchronization Error – No Connectivity

When the PPPServer fails to synchronize the Central Portable Profile with the Offboard Profile Version due to no connectivity with the PPPOffBoardClient, the PPPServer shall store the updated settings locally and retry the synchronize attempt when connectivity is re-established.

### White Box View

#### Activity Diagrams

#### Sequence Diagrams

## PPP-FUN-REQ-406667/A-FordPass Association/Disassociation

### Use Cases

#### PPP-UC-REQ-406740/A-Associate Profile with FordPass Account During Creation

|  |  |
| --- | --- |
| **Actors** | Portable Profile User(s) |
| **Pre-conditions** | OffBoard Profile exists for FordPass Account  User has a valid FordPass account  Vehicle has cloud connectivity |
| **Scenario Description** | User navigates to vehicle Personal Profile menu on PPPInterfaceClient and creates a Personal Profile.  User enters FordPass Account credentials when prompted, credentials are authenticated.  PPPServer imports OffBoard Profile from PPPOffBoardClient and creates Central Portable Profile while user finishes profile creation.  Preferences are applied to the newly created Personal Profile. |
| **Post-conditions** | OffBoard Profile is applied to Central Portable Profile and in-vehicle Personal Profile.  FordPass account associated to vehicle VIN and vehicle Personal Profile.  Optionally, Positive ID methods configured for Personal Profile. |
| **List of Exception Use Cases** |  |
| **Interfaces** | HMI, CAN, SoA, FTCP |

#### PPP-UC-REQ-406741/A-Associate Profile with FordPass Account After Creation

|  |  |
| --- | --- |
| **Actors** | Portable Profile User(s) |
| **Pre-conditions** | Personal Profile created  User has valid FordPass account  OffBoard Profile exists for FordPass Account  Vehicle has cloud connectivity |
| **Scenario Description** | User enters vehicle profile menu on PPPInterfaceClient and selects target profile.  User selects to associate Personal Profile to FordPass Account.  User enters credentials and associates their Personal Profile to their FordPass Account.  The OffBoard Profile is imported to the PPPServer and applied to the Central Portable Profile and the in-vehicle Personal Profile |
| **Post-conditions** | OffBoard Profile is imported and applied to the in-vehicle Personal Profile.  In-vehicle Personal Profile is associated to the users FordPass account. |
| **List of Exception Use Cases** |  |
| **Interfaces** | HMI, CAN, SoA, FTCP |
| **Note** | When associating FordPass Account to in-vehicle profile, any Cloud created profile will always take priority and overwrite in-vehicle profile |

#### PPP-UC-REQ-406742/A-Associate Profile with FordPass Account – No OffBoard Profile

|  |  |
| --- | --- |
| **Actors** | Portable Profile User(s) |
| **Pre-conditions** | OffBoard Profile does not exist for FordPass Account  User has a valid FordPass Account  Vehicle has cloud connectivity |
| **Scenario Description** | User navigates to vehicle Personal Profile menu on PPPInterfaceClient and creates a Personal Profile (or edits existing profile).  User enters FordPass Account credentials when prompted, credentials are authenticated.  Vehicle profile settings are collected in PPPServer and exported to PPPOffBoardClient  The exported profile settings create an OffBoard Profile associated to the FordPass Account. |
| **Post-conditions** | OffBoard Profile is created and contains settings exported from the Central Portable Profile. |
| **List of Exception Use Cases** |  |
| **Interfaces** | HMI, CAN, SoA, FTCP |

#### PPP-UC-REQ-406743/A-Associate Profile with FordPass Account – Already Associated

|  |  |
| --- | --- |
| **Actors** | Portable Profile User(s) |
| **Pre-conditions** | User has a valid FordPass account  User's FordPass Account is already associated to another in-vehicle Personal Profile.  Vehicle has cloud connectivity. |
| **Scenario Description** | User attempts to associate a FordPass Account to a different Personal Profile.  PPPInterfaceClient displays notification that the account is already associated to another Personal Profile.  PPPInterfaceClient provides option for user to recall the associated Personal Profile or to cancel the operation. |
| **Post-conditions** | User notified that account is already associated  PPPInterfaceClient displays option to recall associated account or cancel operation. |
| **List of Exception Use Cases** |  |
| **Interfaces** | HMI, CAN, SoA, FTCP |

#### PPP-UC-REQ-406744/A-Associate Profile with FordPass Account – Invalid Credentials

|  |  |
| --- | --- |
| **Actors** | Portable Profile User(s) |
| **Pre-conditions** | User has attempted to enter credentials less than 5 times.  Vehicle has cloud connectivity |
| **Scenario Description** | User enters invalid FordPass Account credentials when attempting to associate account with Personal Profile.  FordPass Account credentials are found to be invalid and the PPPInterfaceClient allows the user to re-submit their account credentials. |
| **Post-conditions** | PPPInterfaceClient prompts user to re-submit account credentials |
| **List of Exception Use Cases** |  |
| **Interfaces** | HMI, CAN, SoA, FTCP |

#### PPP-UC-REQ-406745/A-Disassociate Profile with FordPass Account

|  |  |
| --- | --- |
| **Actors** | Portable Profile User(s) |
| **Pre-conditions** | User is positively identified, or Positive ID is disabled.  Personal Profile is associated to a FordPass account |
| **Scenario Description** | User navigates to their associated Personal Profile in PPPInterfaceClient and selects to disassociate their FordPass Account |
| **Post-conditions** | Personal Profile is Disassociated  Personal Profile is no longer associated to their FordPass Account. |
| **List of Exception Use Cases** |  |
| **Interfaces** | HMI, CAN, SoA, FTCP |

### Requirements

#### PPP-REQ-406699/A-FordPass Association

The PPPInterfaceClient shall prompt the user to associate a FordPass Account during Enhanced Memory Profile Creation. This shall be an optional step, that can be skipped/dismissed. The PPPInterfaceClient shall also allow a user to associate a FordPass Account after profile creation, via the Edit Menu.

#### PPP-REQ-406700/A-FordPass Disassociation

The PPPInterfaceClient shall allow a user to disassociate a FordPass Account from an in-vehicle Profile via the Edit Menu.

#### PPP-REQ-406701/A-Maximum FordPass Associations per Profile

The PPPServer shall only allow one FordPass Account to be associated to one Personal Profile at any given time.

#### PPP-REQ-406702/A-FordPass Association Retry Attempts

The PPPServer shall allow 5 attempts per key cycle to associate a FordPass Account to a Personal Profile. (what happens after, do we all more later, require some password verification?)

#### PPP-REQ-406703/A-FordPass Association – Stored Credentials/GUID

The PPPServer shall store a user’s FordPass Account information (GUID or whatever ID) when provided and successfully authenticated. The FordPass Account information shall be saved with/associated to the Central Portable Profile that is either active while or created when the FordPass Account information is provided. Need interface for this.

#### PPP-REQ-406704/A-FordPass Account Already Associated

The PPPServer shall request a notification when a user attempts to associate a FordPass Account to a Central Portable Profile that is already associated to another Central Portable Profile. The notification shall provide an option to either recall the associated Personal Profile or to cancel the association process.

#### PPP-REQ-406705/A-FordPass Association – Credential Authentication

The PPPServer shall authenticate the FordPass Account information provided. If the information cannot be authenticated, the FordPass Account information shall not be saved/associated to the Central Portable Profile. How to authenticate, talk to Cameron. /Francis Luk/ODS team/etc.

QR CODE

What is the interface for this?

* Similar to RocketSetup? Using FTCP?
* This should show another screen if successful
* Or show a failure popup if failed

FordPassAssociation from modem authorization

* use the username/email to bring up setup wizard for the applicable program

### White Box View

#### Activity Diagrams

#### Sequence Diagrams

## PPP-FUN-REQ-420485/A-Auto Save - Smart

### Use Cases

#### PPP-UC-REQ-420579/A-Minor change made to positional settings (Smart)

|  |  |
| --- | --- |
| **Actors** | PPPServer, PPPInterfaceClient |
| **Pre-conditions** | Auto Save Feature is configured for Smart  Auto Save Feature is Enabled  No active Inhibit Requests |
| **Scenario Description** | User adjusts one of the auto save applicable settings  PPPServer determines that the change was a Minor one |
| **Post-conditions** | PPPServer sends save request to the AutoSavePositionClient  AutoSavePositionClient saves vehicle positional settings.  PPPServer receives notification from AutoSavePositionClient, indicating that positional settings have been retained.  PPPServer clears previous adjustment information |
| **List of Exception Use Cases** | Manual Save while Auto Save enabled  Recall while Auto Save enabled |
| **Interfaces** | CAN, SoA |

#### PPP-UC-REQ-420580/A-Major change made to positional settings – Save (Smart)

|  |  |
| --- | --- |
| **Actors** | PPPServer, PPPInterfaceClient |
| **Pre-conditions** | Auto Save Feature is configured for Smart  Auto Save Feature is Enabled  No active Inhibit Requests |
| **Scenario Description** | User adjusts one of the auto save applicable settings  PPPServer determines that the change was a Major one |
| **Post-conditions** | PPPServer requests PPPInterfaceClient display a notification asking for user feedback  User selects ‘Save’  PPPServer sends save request to the AutoSavePositionClient  AutoSavePositionClient saves vehicle positional settings.  PPPServer receives notification from AutoSavePositionClient, indicating that positional settings have been retained.  PPPServer clears previous adjustment information |
| **List of Exception Use Cases** | Manual Save while Auto Save enabled  Recall while Auto Save enabled  Auto Save Prompt times out or blocked |
| **Interfaces** | CAN, SoA |

#### PPP-UC-REQ-420581/A-Major change made to positional settings – No Save (Smart)

|  |  |
| --- | --- |
| **Actors** | PPPServer, PPPInterfaceClient |
| **Pre-conditions** | Auto Save Feature is configured for Smart  Auto Save Feature is Enabled  No active Inhibit Requests |
| **Scenario Description** | User adjusts one of the auto save applicable settings  PPPServer determines that the change was a Major one |
| **Post-conditions** | PPPServer requests PPPInterfaceClient display a notification asking for user feedback  User selects ‘No Save  PPPServer does not request a save  PPPServer clears previous adjustment information  PPPServer enters Trap state |
| **List of Exception Use Cases** | Manual Save while Auto Save enabled  Recall while Auto Save enabled  Auto Save Prompt times out or blocked |
| **Interfaces** | CAN, SoA |

#### PPP-UC-REQ-420582/A-Major change made to positional settings – Change Profile (Smart)

|  |  |
| --- | --- |
| **Actors** | PPPServer, PPPInterfaceClient |
| **Pre-conditions** | Auto Save Feature is configured for Smart  Auto Save Feature is Enabled  No active Inhibit Requests |
| **Scenario Description** | User adjusts one of the auto save applicable settings  PPPServer determines that the change was a Major one |
| **Post-conditions** | PPPServer requests PPPInterfaceClient display a notification asking for user feedback  User selects ‘Change Profile’  PPPServer does not request a save  PPPInterfaceClient transitions to a profile selection screen  PPPServer does not clear previous adjustment information (in the event user does not perform a profile recall, these could still be acted upon) |
| **List of Exception Use Cases** | Manual Save while Auto Save enabled  Recall while Auto Save enabled  Auto Save Prompt times out or blocked |
| **Interfaces** | CAN, SoA |

#### PPP-UC-REQ-420583/A-Manual Save while Auto Save enabled

|  |  |
| --- | --- |
| **Actors** | PPPServer, PPPInterfaceClient |
| **Pre-conditions** | Auto Save Feature is Enabled  No active Inhibit Requests |
| **Scenario Description** | User adjusts one of the auto save applicable settings  User performs Manual Save |
| **Post-conditions** | PPPServer aborts Auto Save actions  PPPServer clears previous adjustment information |
| **List of Exception Use Cases** |  |
| **Interfaces** | CAN, SoA |

#### PPP-UC-REQ-420584/A-Recall while Auto Save enabled

|  |  |
| --- | --- |
| **Actors** | PPPServer, PPPInterfaceClient |
| **Pre-conditions** | Auto Save Feature is Enabled  No active Inhibit Requests |
| **Scenario Description** | User adjusts one of the auto save applicable settings  User performs Recall |
| **Post-conditions** | PPPServer aborts Auto Save actions  PPPServer clears previous adjustment information |
| **List of Exception Use Cases** |  |
| **Interfaces** | CAN, SoA |

#### PPP-UC-REQ-420585/A-Auto Save Prompt times out or blocked (Smart)

|  |  |
| --- | --- |
| **Actors** | PPPServer, PPPInterfaceClient |
| **Pre-conditions** | Auto Save Feature is configured for Smart  Auto Save Feature is Enabled  No active Inhibit Requests |
| **Scenario Description** | User adjusts one of the auto save applicable settings  PPPServer determines that the change was a Major one  PPPServer requests PPPInterfaceClient display a notification asking for user feedback  User does not make a selection or prompt is blocked |
| **Post-conditions** | PPPInterfaceClient sends timeout/block response to PPPServer  PPPServer aborts Auto Save actions but retains adjustments |
| **List of Exception Use Cases** |  |
| **Interfaces** | CAN, SoA |

#### PPP-UC-REQ-420586/A-Auto Save inhibited

|  |  |
| --- | --- |
| **Actors** | PPPServer, PPPInterfaceClient |
| **Pre-conditions** | Auto Save Feature is Enabled  No active Inhibit Requests |
| **Scenario Description** | Auto save becomes inhibited (PPPServer receives at least one inhibit request). |
| **Post-conditions** | PPPServer sets Auto Save to “Inactive”  PPPServer clears previous adjustment information and stops evaluating changes |
| **List of Exception Use Cases** |  |
| **Interfaces** | CAN, SoA |

### Requirements

#### PPP-REQ-420377/A-Classified Adjustments Repository when Feature Disabled/Inactive

When AutoSave\_St = “(0x1) Disable” OR “(0x0) Inactive” the PPPServer shall not evaluate the Classified Adjustments Repository or update the Classified Adjustments Repository with changes to the following signals (ignore updates):

* MirrorAutoSaveLeft\_St
* MirrorAutoSaveRight\_St
* DriverSeatAutoSave\_St
* DriverMcsAutoSaveDriver\_St
* PedalAutoSave\_St
* SteeringAutoSave\_St

#### PPP-REQ-420378/A-Classified Adjustments Repository

The PPPServer shall maintain a Classified Adjustments Repository consisting of data values from the following signals:

* MirrorAutoSaveLeft\_St
* MirrorAutoSaveRight\_St
* DriverSeatAutoSave\_St
* DriverMcsAutoSaveDriver\_St
* PedalAutoSave\_St
* SteeringAutoSave\_St

#### PPP-REQ-420379/A-Update Classified Adjustments Repository Upon Change

Once the data in the Classified Adjustments Repository is updated, the PPPServer shall resume/restart evaluating the adjustments.

#### PPP-REQ-420380/A-Update Classified Adjustments Repository After Clear Event

When all the data in the Classified Adjustments Repository is set to 'None' after a Clear event, the PPPServer shall resume/restart evaluating the adjustments.

#### PPP-REQ-420381/A-Update Classified Adjustments Repository when Feature Enabled

When the value of AutoSave\_St = “(0x2) Enable” and upon change, the PPPServer shall replace the old data values in the Classified Adjustments Repository with the data values from the following signals:

* MirrorAutoSaveLeft\_St
* MirrorAutoSaveRight\_St
* DriverSeatAutoSave\_St
* DriverMcsAutoSaveDriver\_St
* PedalAutoSave\_St
* SteeringAutoSave\_St

#### PPP-REQ-420382/A-Update Classified Adjustments Repository: Missing Message

If the message carrying one of the below signals is missing for more than 5 seconds, the PPPServer shall ignore changes to the following signals:

* MirrorAutoSaveLeft\_St
* MirrorAutoSaveRight\_St
* DriverSeatAutoSave\_St
* DriverMcsAutoSaveDriver\_St
* PedalAutoSave\_St
* SteeringAutoSave\_St

#### PPP-REQ-420383/A-Evaluate Classified Adjustments: No Adjustment

When the PPPServer evaluates the Classified Adjustments Repository, and all values are set to 'None', (none are 'In Progress', 'Major', or 'Minor'), the PPPServer shall consider the overall adjustment classification as a 'None’ adjustment.

#### PPP-REQ-420384/A-Evaluate Classified Adjustments: Minor Adjustment

When the PPPServer evaluates the Classified Adjustments Repository, at least one value in the repository is set to 'Minor', and no others are set to 'In Progress' or 'Major', the PPPServer shall consider the overall adjustment classification as a 'Minor' adjustment.

#### PPP-REQ-420385/A-Evaluate Classified Adjustments: In Progress Adjustment

When the PPPServer evaluates the Classified Adjustments Repository and at least one value in the repository is set to 'In Progress', the PPPServer shall consider the overall adjustment classification as 'In Progress.'

#### PPP-REQ-420386/A-Evaluate Classified Adjustments: Major Adjustment

When the PPPServer evaluates the Classified Adjustments Repository, at least one value in the repository is set to 'Major' and no other values are set to 'In Progress', the PPPServer shall consider the overall adjustment classification as a 'Major' adjustment.

#### PPP-REQ-420387/A-Adjustment Timer

The PPPServer shall have a timer, T\_Adjust, which shall be the maximum time the PPPServer shall wait for additional adjustments before classifying an overall adjustment.

#### PPP-TMR-REQ-420635/A-T\_Adjust

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Name** | **Description** | **Units** | **Range** | **Resolution** | **Default** |
| T\_Adjust | Maximum time the PPPServer shall wait before classifying a given adjustment.  Note: Use the default value | sec | 1-10 | 1 | 5 |

#### PPP-REQ-420388/A-Start T\_Adjust

When AutoSave\_St = “(0x2) Enable” and the overall adjustment classification is 'Major' or 'Minor', the PPPServer shall start T\_Adjust and continue monitoring the classified adjustments repository for any changes.

#### PPP-REQ-420389/A-Pause T\_Adjust while changes are ‘In Progress’

If the overall adjustment classification changes to 'In Progress' during T\_Adjust, the PPPServer shall pause T\_Adjust and wait until the adjustment classification changes to 'Major' or 'Minor' again before resuming.

#### PPP-REQ-420390/A-Restart T\_Adjust while updates being made

If the PPPServer updates its overall adjustment classification to 'Major' or 'Minor' but not 'In Progress' during T\_Adjust, the PPPServer shall restart T\_Adjust.

#### PPP-REQ-420391/A-Requesting an Auto Save

When AutoSave\_St = “(0x2) Enable”, the PPPServer shall request a Save via AutoSaveSet\_Rq = “(0x1) Yes” when:

* T\_Adjust expires, AND
* the overall adjustment classification was 'Minor'

#### PPP-REQ-420392/A-Request Feedback

When AutoSave\_St = “(0x2) Enable”, the PPPServer shall request feedback from the user via setAutoSavePrompt when:

* ClassicMemory\_Rq = 'Null’, AND
* T\_Adjust expires, AND
* the overall adjustment classification is 'Major'

#### PPP-REQ-420393/A-Resume evaluating repository after requesting auto save or feedback

The PPPServer shall resume evaluating the Classified Adjustments Repository after either requesting a save via AutoSaveSet\_Rq or requesting for feedback via setAutoSavePrompt.

#### PPP-REQ-420394/A-Manual Save suspends evaluation of repository

The PPPServer shall stop evaluating the Classified Adjustments Repository when ClassicMemory\_Rq transitions from 'Null' to 'Store\_1', 'Store\_2', 'Store\_3', or 'Store\_4'.

#### PPP-REQ-420395/A-Discard overall adjustment classification after a manual save

The PPPServer shall stop acting the last classification evaluated from the Classified Adjustments Repository when ClassicMemory\_Rq transitions from 'Store\_1', 'Store\_2', 'Store\_3', or 'Store\_4' to 'Null'.

#### PPP-REQ-420396/A-Resume evaluating repository after a manual save

The PPPServer shall resume evaluating the Classified Adjustments Repository when ClassicMemory\_Rq transitions from 'Store\_1', 'Store\_2', 'Store\_3', or 'Store\_4' to 'Null'.

#### PPP-REQ-420397/A-Abort auto save event upon a manual save

The PPPServer shall abort a save event and send AutoSaveExit\_Rq = “(0x1) Yes” when ClassicMemory\_Rq transitions from 'Null' to 'Store\_1', 'Store\_2', 'Store\_3', or 'Store\_4'.

#### PPP-REQ-420398/A-Recall suspends evaluation of repository

The PPPServer shall stop evaluating the Classified Adjustments Repository when ClassicMemory\_Rq transitions from 'Null' to 'Recall\_1', 'Recall\_2', 'Recall\_3', or 'Recall\_4'.

#### PPP-REQ-420399/A-Discard overall adjustment classification after a recall

The PPPServer shall stop acting on the last overall adjustment classification evaluated from the Classified Adjustments Repository when ClassicMemory\_Rq transitions from 'Recall\_1', 'Recall\_2', 'Recall\_3', or 'Recall\_4' to 'Null'.

#### PPP-REQ-420400/A-Resume evaluating repository after a recall

The PPPServer shall resume/restart evaluating the Classified Adjustments Repository when ClassicMemory\_Rq transitions from 'Recall\_1', 'Recall\_2', 'Recall\_3', or 'Recall\_4' to 'Null'.

#### PPP-REQ-420401/A-Abort auto save event upon a recall

The PPPServer shall abort a save event and send AutoSaveExit\_Rq = “(0x1) Yes” when ClassicMemory\_Rq transitions from 'Null' to 'Recall\_1', 'Recall\_2', 'Recall\_3', or 'Recall\_4'.

#### PPP-REQ-420402/A-Discard overall adjustment classification upon an abort

When an abort occurs, the PPPServer shall stop acting on the last overall adjustment classification evaluated from the Classified Adjustments Repository.

#### PPP-REQ-420403/A-Additional Adjustments made while waiting for Feedback

When the PPPServer is waiting for setAutoSavePrompt(PromptResponse) from PPPInterfaceClient and the overall adjustment classification changes to 'Major' or 'Minor', the PPPServer shall restart T\_Prompt.

#### PPP-REQ-420404/A-T\_Prompt Expires and additional adjustments made

After T\_Prompt expires and the overall adjustment classification changes to 'Major' or 'Minor', the PPPServer shall again request feedback from the user via setAutoSavePrompt. See REQ-420432-437 for determining the PromptType to be requested.

#### PPP-REQ-420405/A-Clearing Classified Adjustments Repository

When the PPPServer clears the Classified Adjustments Repository (per REQ-420419), it shall update the following values in the Classified Adjustments Repository to 'None':

* MirrorAutoSaveLeft\_St
* MirrorAutoSaveRight\_St
* DriverSeatAutoSave\_St
* DriverMcsAutoSaveDriver\_St
* PedalAutoSave\_St
* SteeringAutoSave\_St

#### PPP-REQ-420406/A-Clearing Classified Adjustments Repository – Performance

The PPPServer shall clear the Classified Adjustments Repository within 1s.

#### PPP-REQ-420407/A-Request Save - User selects Save

When the PPPServer is waiting for a change in setAutoSavePrompt(PromptResponse) and the PromptResponse changes to “Save”, the PPPServer shall request a save via AutoSaveSet\_Rq = “(0x1) Yes” and stop requesting for feedback by sending setAutoSavePrompt(PromptControl = “Close”, PromptType = [the previously requested PromptType]).

#### PPP-REQ-420408/A-Cancel Save - User selects Change Profile

When the PPPServer is waiting for a change in setAutoSavePrompt(PromptResponse) and the PromptResponse changes to “Change Profile”, the PPPServer shall stop requesting for feedback by sending setAutoSavePrompt(PromptControl = “Close”, PromptType = [the previously requested PromptType])

#### PPP-REQ-420409/A-Cancel Save - User requests No Save

When the PPPServer is waiting for a change in setAutoSavePrompt(PromptResponse) and the PromptResponse changes to “No Save”, the PPPServer shall suspend retention activities and stop requesting for feedback by sending setAutoSavePrompt(PromptControl = “Close”, PromptType = [the previously requested PromptType]).

#### PPP-REQ-420410/A-Cancel Save – Feature becomes Disabled/Inactive

When the value of AutoSave\_St transitions to “(0x1) Disable” or “(0x0) Inactive”, the PPPServer shall suspend all retention operations.

#### PPP-REQ-420411/A-Cancel Feedback Request - Timeout / Block

When the PPPServer is waiting for a change in setAutoSavePrompt(PromptResponse) and the PromptResponse changes to “Timeout” or “Blocked”, the PPPServer shall stop requesting for feedback by sending setAutoSavePrompt(PromptControl = “Close”, PromptType = [the previously requested PromptType]).

#### PPP-REQ-420412/A-Cancel Feedback Request – Feature becomes Disabled/Inactive

When the PPPServer is waiting for a change in setAutoSavePrompt(PromptResponse) and AutoSave\_St transitions to “(0x1) Disable” or “(0x0) Inactive”, the PPPServer shall stop requesting for feedback by sending setAutoSavePrompt(PromptControl = “Close”, PromptType = *[the previously requested PromptType]*).

#### PPP-REQ-420413/A-Cancel Feedback Request – Abort

When an abort event occurs, the PPPServer shall stop requesting for feedback by sending setAutoSavePrompt(PromptControl = “Close”, PromptType = [the previously requested PromptType]).

#### PPP-REQ-420414/A-Cancel Feedback Request – T\_Prompt expires

When T\_Prompt expires and setAutoSavePrompt(PromptResponse = “None”) or the response is missing, the PPPServer shall stop requesting for feedback by sending setAutoSavePrompt(PromptControl = “Close”, PromptType = [the previously requested PromptType]).

#### PPP-REQ-420415/A-Prompt Timer

The PPPServer shall have a configurable timer, T\_Prompt, which shall be the maximum time the PPPServer shall wait for an Auto Save response from the PPPInterfaceClient. This timer shall be configurable via DID.

#### PPP-TMR-REQ-420636/A-T\_Prompt

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Name** | **Description** | **Units** | **Range** | **Resolution** | **Default** |
| T\_Prompt | Maximum time the PPPServer shall wait for a response from the PPPInterfaceClient  Note: Use the default value | sec | 0-60 | 1 | 30 |

#### PPP-REQ-420416/A-Start T\_Prompt

When the PPPServer requests feedback from the user (per REQ-420392), the PPPServer shall begin start T\_Prompt as it waits for a response from the PPPInterfaceClient via setAutoSavePrompt(PromptResponse).

#### PPP-REQ-420417/A-Stop T\_Prompt

When the PPPServer receives feedback from the user (per setAutoSavePrompt(PromptResponse)), the PPPServer shall stop T\_Prompt.

#### PPP-REQ-420418/A-Revert Exit request after abort event

After an abort event occurs and ClassicMemory\_Rq returns to ‘Null’, the PPPServer shall set AutoSaveExit\_Rq = “(0x0) No”.

#### PPP-REQ-420419/A-Clear Event - Preconditions

The PPPServer shall perform a clear event when any of the below conditions are met:

1. AutoSave\_St transitions from “(0x2) Enable” to “(0x0) Inactive” or “(0x1) Disable”
2. ClassicMemory\_Rq transitions to 'Store\_1', 'Store\_2', 'Store\_3', or 'Store\_4'
3. ClassicMemory\_Rq transitions to 'Recall\_1', 'Recall\_2', 'Recall\_3', or 'Recall\_4'
4. AutoSaveExit\_Rq = “(0x1) Yes”

#### PPP-REQ-420420/A-Clear Event - Revert Save Request

After a Clear event occurs, the PPPServer shall set the value of AutoSaveSet\_Rq = “(0x0) No”.

#### PPP-REQ-420421/A-Clear Event - Revert Exit Request

After a Clear event occurs, the PPPServer shall set AutoSaveExit\_Rq = “(0x0) No”.

#### PPP-REQ-420422/A-Save Wait Timer

The PPPServer shall have a configurable timer, T\_SaveWait, which shall be the maximum time the PPPServer shall wait for confirmation of a successful save (per REQ-420429). This timer shall be configurable via DID.

#### PPP-TMR-REQ-420637/A-T\_SaveWait

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Name** | **Description** | **Units** | **Range** | **Resolution** | **Default** |
| T\_SaveWait | Maximum time the PPPServer shall wait for a save confirmation.  Note: Use the default value | sec | 0-60 | 1 | 5 |

#### PPP-REQ-420423/A-Start T\_SaveWait

The PPPServer shall start T\_SaveWait when it sends AutoSaveSet\_Rq = “(0x1) Yes”.

#### ~~PPP-REQ-420424/A-Save Timer~~

~~The PPPServer shall have a configurable timer, T\_Save, which shall be the maximum time the PPPServer shall show/request a Successful Save notification on the PPPInterfaceClient. This timer shall be configurable via DID.~~

#### ~~PPP-TMR-REQ-420638/A-T\_Save~~

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **~~Name~~** | **~~Description~~** | **~~Units~~** | **~~Range~~** | **~~Resolution~~** | **~~Default~~** |
| ~~T\_Save~~ | ~~Maximum time the PPPServer shall show/request a Successful Save notification on the PPPInterfaceClient~~  ~~Note: Use the default value~~ | ~~sec~~ | ~~0-60~~ | ~~1~~ | ~~5~~ |

#### ~~PPP-REQ-420425/A-Start T\_Save~~

~~The PPPServer shall start T\_Save when it sends setAutoSavePrompt(PromptControl = “Display”, PromptType = “Save Confirm”)~~

#### ~~PPP-REQ-420426/A-Ignore Timer~~

~~The PPPServer shall have a configurable timer, T\_Ignore, which shall be the maximum time the PPPServer shall show/request an Ignore notification on the PPPInterfaceClient. This timer shall be configurable via DID.~~

#### ~~PPP-TMR-REQ-420639/A-T\_Ignore~~

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **~~Name~~** | **~~Description~~** | **~~Units~~** | **~~Range~~** | **~~Resolution~~** | **~~Default~~** |
| ~~T\_Ignore~~ | ~~Maximum time the PPPServer shall show/request an Ignore notification on the PPPInterfaceClient~~  ~~Note: Use the default value~~ | ~~sec~~ | ~~0-60~~ | ~~1~~ | ~~5~~ |

#### ~~PPP-REQ-420427/A-Start T\_Ignore~~

~~The PPPServer shall start T\_Ignore when it sets setAutoSavePrompt(PromptControl = “Display”, PromptType = “Ignore Confirm”)~~

#### PPP-REQ-420428/A-Save Confirmation

When the PPPServer is waiting for user feedback and setAutoSavePrompt(PromptResponse = “Save”) is received from the PPPInterfaceClient, the PPPServer shall wait for confirmation of the save by monitoring ClassicMemory\_Rq.

#### ~~PPP-REQ-420429/A-Confirm Save Successful to user~~

~~When the PPPServer is waiting for confirmation of the save, and ClassicMemory\_Rq changes to 'Store\_1', 'Store\_2', 'Store\_3', or 'Store\_4', the PPPServer shall stop T\_SaveWait and confirm the successful save by sending setAutoSavePrompt(PromptControl = “Display”, PromptType = “Save Confirm”).~~

#### ~~PPP-REQ-420430/A-Confirm user selection of No Save~~

~~The PPPServer shall send setAutoSavePrompt(PromptControl = “Display”, PromptType = “Ignore Confirm”) to inform the user that their adjustments will no longer be saved when setAutoSavePrompt(PromptResponse = “No Save”) is received from the PPPInterfaceClient.~~

#### ~~PPP-REQ-420431/A-Close Prompt when T\_Save expires~~

~~When T\_Save expires, the PPPServer shall send setAutoSavePrompt(PromptControl = “Close”, PromptType = “Save Confirm”).~~

#### PPP-REQ-420432/A-Request User Feedback for Multiple Adjustments

When the PPPServer needs to request a popup and there are many values in the Classified Adjustments Repository that have a value other than 'None', the PPPServer shall send setAutoSavePrompt(PromptControl = “Display”, PromptType = “Multiple”).

#### PPP-REQ-420433/A-Request User Feedback for Seat

When the PPPServer needs to request a popup and the only value in the Classified Adjustments Repository to have a value other than 'None' is 'Seat Adjustment Classification' or 'Multicontour Adjustment Classification', the PPPServer shall send setAutoSavePrompt(PromptControl = “Display”, PromptType = “Seat”).

#### PPP-REQ-420434/A-Request User Feedback for Pedal

When the PPPServer needs to request a popup and the only value in the Classified Adjustments Repository to have a value other than 'None' is 'Pedal Adjustment Classification', the PPPServer shall send setAutoSavePrompt(PromptControl = “Display”, PromptType = “Pedal”).

#### PPP-REQ-420435/A-Request User Feedback for Mirror

When the PPPServer needs to request a popup and the only value in the Classified Adjustments Repository to have a value other than 'None' is 'Left Mirror Adjustment Classification' or 'Right Mirror Adjustment Classification', the PPPServer shall send setAutoSavePrompt(PromptControl = “Display”, PromptType = “Mirror”).

#### PPP-REQ-420436/A-Request User Feedback for Steering Wheel

When the PPPServer needs to request a popup and the only value in the Classified Adjustments Repository to have a value other than 'None' is 'Steering Wheel Adjustment Classification', the PPPServer shall send setAutoSavePrompt(PromptControl = “Display”, PromptType = “Steering Wheel”).

#### PPP-REQ-420437/A-Request User Feedback for HUD

When the PPPServer needs to request a popup and the only value in the Classified Adjustments Repository to have a value other than 'None' is 'Infotainment Adjustment Classification', the PPPServer shall send setAutoSavePrompt(PromptControl = “Display”, PromptType = “HUD”).

#### ~~PPP-REQ-420438/A-Close Prompt when T\_Ignore expires~~

~~When T\_Ignore expires, the PPPServer shall set sending setAutoSavePrompt(PromptControl = “Close”, PromptType = “Ignore Confirm”).~~

#### PPP-REQ-420439/A-Close Prompt when T\_SaveWait expires

When T\_SaveWait expires, the PPPServer shall set 'AutoSaveHMIPromp\_B\_Rq' to 'No'.

#### PPP-REQ-420440/A-Prompt2 Timer

The PPPInterfaceClient shall have a configurable timer, T\_Prompt2, which shall be the maximum time the PPPInterfaceClient shall display a requested prompt. This timer shall be configurable via DID.

#### PPP-TMR-REQ-420640/A-T\_Prompt2

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Name** | **Description** | **Units** | **Range** | **Resolution** | **Default** |
| T\_Prompt2 | Maximum time the PPPInterfaceClient shall display a requested prompt.  Note: Use the default value | sec | 0-70 | 1 | 35 |

#### PPP-REQ-420441/A-Start T\_Prompt2

The PPPInterfaceClient shall start T\_Prompt2 when it displays a requested prompt per setAutoSavePrompt(PromptControl = “Display”).

#### PPP-REQ-420442/A-Prompt Options

The PPPInterfaceClient shall provide a prompt with the below options when setAutoSavePrompt is sent for PromptType’s 0x0 - 0x5:

* Save the adjustments
* No Save the adjustments
* Change profile

#### PPP-REQ-420443/A-Prompt Persistence

The PPPInterfaceClient shall display a requested prompt until setAutoSavePrompt(PromptControl = “Close”) is received for the respective PromptType, or unit T\_Prompt2 expires.

#### PPP-REQ-420444/A-Prompt Variations

The PPPInterfaceClient shall have variations for the prompt, including HUD, Seat, Steering Wheel, Mirror, Pedal, and Multiple.

#### PPP-REQ-420445/A-Prompt Response - Change Profile

The PPPInterfaceClient shall send setAutoSavePrompt(PromptResponse = “Change Profile”) when the user requests to change profile via the prompt, and display the profile selection screen to the user.

#### PPP-REQ-420446/A-Prompt Response – No Save

The PPPInterfaceClient shall send setAutoSavePrompt(PromptResponse = “No Save”) when the user requests to ignore the adjustment via the prompt.

#### PPP-REQ-420447/A-Prompt Response - Save

The PPPInterfaceClient shall send setAutoSavePrompt(PromptResponse = “Save”) when the user requests to save the adjustment via the prompt.

#### PPP-REQ-420448/A-Prompt Response - Blocked

If a prompt cannot be displayed, the PPPInterfaceClient shall send setAutoSavePrompt(PromptResponse = “Blocked”) and not display any prompt.

#### PPP-REQ-420449/A-Prompt Response - Timeout

If T\_Prompt2 expires, the PPPInterfaceClient shall send setAutoSavePrompt(PromptResponse = “Timeout”).

#### PPP-REQ-420450/A-Prompt Close Upon User Response

The PPPInterfaceClient shall close a requested prompt upon user response.

#### ~~PPP-REQ-420451/A-Save Confirm Prompt~~

~~When setAutoSavePrompt(PromptControl = “Display”, PromptType = “Save Confirm”), the PPPInterfaceClient shall display a prompt indicating that adjustments have been saved.~~

#### ~~PPP-REQ-420452/A-Ignore Confirm Prompt~~

~~When setAutoSavePrompt(PromptControl = “Display”, PromptType = “Ignore Confirm”), the PPPInterfaceClient shall display a prompt indicating that adjustments will no longer be saved.~~

#### PPP-REQ-420453/A-Update Inhibit Table – Auto Save User Setting

The PPPServer shall set Entry 1 in the Inhibit Table to 'TRUE' when the Auto Save user setting is set to Off in the profile on the vehicle.

The PPPServer shall set Entry 1 in the Inhibit Table to 'FALSE' when the Auto Save user setting is set to On in the profile on the vehicle.

#### PPP-REQ-420454/A-Update Inhibit Table - Easy Entry Easy Exit

The PPPServer shall set Entry 2 in the Inhibit Table to 'TRUE' when an Easy Entry Easy Exit event is active on the vehicle, as indicated by DriverSeatPosition\_St = “(0x1) Easy Entry”.

The PPPServer shall set Entry 2 in the Inhibit Table to 'FALSE' when an Easy Entry Easy Exit event is not active on the vehicle, as indicated by DriverSeatPosition\_St = “(0x4) Drive”.

#### PPP-REQ-420455/A-Update Inhibit Table - PPP Authentication

The PPPServer shall set Entry 3 in the Inhibit Table to 'FALSE' when the profile on the vehicle is authenticated (see authentication methods), as indicated by 'Profile Authentication' = 'Authenticated'.

The PPPServer function shall set Entry 3 in the Inhibit Table to 'TRUE' when the profile on the vehicle is not authenticated (see authentication methods), as indicated by 'Profile Authentication' = 'Not Authenticated'.

#### PPP-REQ-420456/A-Update Inhibit Table - Rejuvenate

The PPPServer shall set Entry 4 in the Inhibit Table to 'FALSE' when Rejuvenate is no longer active on the vehicle, as indicated by 'RejuvActive\_Stat' = 'Inactive'.

The PPPServer shall set Entry 4 in the Inhibit Table to 'TRUE' when Rejuvenate is active on the vehicle, as indicated by the 'RejuvActive\_Stat' = 'Active'.

#### PPP-REQ-420457/A-Update Inhibit Table - Stowable Steering Column

The PPPServer shall set Entry 5 in the Inhibit Table to 'FALSE' when Stowable Steering Column is no longer active on the vehicle, as indicated by 'Ssw/DttStateStat' = 'Inactive'.

The PPPServer shall set Entry 5 in the Inhibit Table to 'TRUE' when Stowable Steering Column is active on the vehicle, as indicated by 'Ssw/DttStateStat' = 'Active'.

#### PPP-REQ-420458/A-Update Inhibit Table - Complete Profile Recall

The PPPServer shall set Entry 6 in the Inhibit Table to 'FALSE' when a profile recall including positional settings is completed, as indicated by 'PersNo\_D\_Actl' and 'PersNoPos\_D\_Actl' being equal.

The PPPServer shall set Entry 6 in the Inhibit Table to 'TRUE' when a profile recall including positional settings is unable to complete, as indicated by 'PersNo\_D\_Actl' and 'PersNoPos\_D\_Actl' being inequal.

#### PPP-REQ-420459/A-Inhibit Table Allocation

The PPPServer shall maintain an Inhibit Table to store the status of the following Inhibit Requests:

|  |  |  |
| --- | --- | --- |
| Request ID | Request Type | Value (True /False) |
| 1 | Auto Save user setting is set to Off in the profile on the vehicle | T/F |
| 2 | An Easy Entry Easy Exit event is active on the vehicle | T/F |
| 3 | The profile is not authenticated | T/F |
| 4 | Rejuvenate Mode is active on the vehicle | T/F |
| 5 | A Stowable Steering Column event is active on the vehicle | T/F |
| 6 | An incomplete profile recall event has occurred on the vehicle | T/F |

#### PPP-REQ-420460/A-Auto Save Feature Status - Disabled

If any of the following Activation Preconditions are false, the PPPServer shall set AutoSave\_St = “(0x1) Disable” and autoSaveFeatureStatusBroadcast(AutoSaveFeatureStatus = “Disable”):

1. Auto Save feature is configured ON (Simple or Smart)
2. CarMode\_St = Normal
3. IgnitionStatus\_St = Run, Start, or Accessory OR the HMI status is Extended Play (CAN)
4. A software update is not occurring on the vehicle (how to determine)
5. A technician has not placed the vehicle in diagnostics mode (how to determine)

#### PPP-REQ-420461/A-Auto Save Feature Status - Enabled

When the PPPServer evaluates the Inhibit Table and no value is 'TRUE', the PPPServer shall set AutoSave\_St = “(0x2) Enable” and autoSaveFeatureStatusBroadcast(AutoSaveFeatureStatus = “Enable”).

#### PPP-REQ-420462/A-Auto Save Feature Status - Inactive

When the PPPServer evaluates the Inhibit Table and at least one value is 'TRUE', the PPPServer shall set AutoSave\_St = “(0x0) Inactive” autoSaveFeatureStatusBroadcast(AutoSaveFeatureStatus = “Inactive”).

#### PPP-REQ-420463/A-Evaluate Inhibit Table on Change

If all Activation Preconditions (per REQ-420460) are true, the PPPServer shall evaluate the Inhibit Table upon change.

#### PPP-REQ-420464/A-User Auto Save Setting Status - Turn Off

When autoSaveFeatureStatusBroadcast(AutoSaveFeatureStatus = “Enable”) and the user turns off Auto Save, then the PPPInterfaceClient shall send setAutoSaveSetting(AutoSaveSettingRequest = “Off”).

#### PPP-REQ-420470/A-User Auto Save Setting Status - Turn On

When autoSaveFeatureStatusBroadcast(AutoSaveFeatureStatus = Inactive) and the user turns on Auto Save, the PPPInterfaceClient shall send setAutoSaveSetting(AutoSaveSettingRequest = “On”).

#### PPP-REQ-420466/A-User Auto Save Setting Status - Auto Save Off Message

When the autoSaveFeatureStatusBroadcast(AutoSaveFeatureStatus) changes from “(0x2) Enable” to “(0x0) Inactive”, the PPPInterfaceClient shall display a notification to the user indicating that Auto Save is no longer assisting with retaining settings (settings are now being protected).

#### PPP-REQ-420467/A-User Auto Save Setting Status - Auto Save On Message

When the autoSaveFeatureStatusBroadcast(AutoSaveFeatureStatus) changes from “(0x0) Inactive” to “(0x2) Enable”, the PPPInterfaceClient shall display a notification to the user indicating that Auto Save is now assisting the user with retaining settings.

#### PPP-REQ-420465/A-User Auto Save Setting Status - Display when Feature Enabled

While autoSaveFeatureStatusBroadcast(AutoSaveFeatureStatus = “Enable”), the PPPInterfaceClient shall make the Auto Save user settings visible and accessible by the user.

#### PPP-REQ-420468/A-User Auto Save Setting Status - Display when Feature Inactive

While autoSaveFeatureStatusBroadcast(AutoSaveFeatureStatus = Inactive), the PPPInterfaceClient shall make the Auto Save user setting visible and accessible by the user.

#### PPP-REQ-420469/A-User Auto Save Setting Status - Display when Feature Disabled

While autoSaveFeatureStatusBroadcast(AutoSaveFeatureStatus = Disabled), the PPPInterfaceClient shall hide the Auto Save user setting for the active profile on the vehicle.

#### PPP-REQ-420628/A-Auto Save User Setting

The PPPServer shall maintain an Auto Save user setting for each profile offered by Enhanced Memory.

#### PPP-REQ-420629/A-Retrieve Auto Save User Setting

When any of the below conditions are met, the PPPInterfaceClient shall send getAutoSaveSetting to the PPPServer in order to request the current Auto Save user setting:

* After display reset OR
* After display recovers from error state during Ignition\_Status = “Run” OR
* After ECU Wakeup OR
* If Auto Save user setting cache is lost or corrupted
* Upon entering the Enhanced Memory menu when PPPInterfaceClient does not have any data cached
  + In this case getAutoSaveSetting shall be called every 5s for 30s max, or until autoSaveSettingBroadcast is received

#### PPP-REQ-420630/A-Cache Auto Save User Setting

The PPPInterfaceClient shall cache the latest value of the Auto Save user setting received via autoSaveSettingBroadcast. This cache shall be cleared upon shutdown.

#### PPP-REQ-420631/A-Auto Save User Setting Broadcast

When getAutoSaveSetting is received, the PPPServer shall send the Auto Save user setting to the PPPInterfaceClient via autoSaveSettingBroadcast.

#### PPP-REQ-420632/A-Retrieve Auto Save Feature Status

When any of the below conditions are met, the PPPInterfaceClient shall send getAutoSaveFeatureStatus to the PPPServer in order to request the current Auto Save feature status:

* After display reset OR
* After display recovers from error state during Ignition\_Status = “Run” OR
* After ECU Wakeup OR
* If Auto Save feature status cache is lost or corrupted
* Upon entering the Enhanced Memory menu when PPPInterfaceClient does not have any data cached
  + In this case getAutoSaveFeatureStatus shall be called every 5s for 30s max, or until autoSaveFeatureStatusBroadcast is received

#### PPP-REQ-420633/A-Cache Auto Save Feature Status

The PPPInterfaceClient shall cache the latest value of the Auto Save feature status received via autoSaveFeatureStatusBroadcast. This cache shall be cleared upon shutdown.

#### PPP-REQ-420634/A-Auto Save Feature Status Broadcast

When getAutoSaveFeatureStatus is received, the PPPServer shall send the Auto Save feature status to the PPPInterfaceClient via autoSaveFeatureStatusBroadcast.

### White Box View

#### Activity Diagrams

#### Sequence Diagrams

## PPP-FUN-REQ-420485/A-Auto Save - Simple

### Use Cases

#### PPP-UC-REQ-XXXXXX-Minor or Minor change made to positional settings (Simple)

|  |  |
| --- | --- |
| **Actors** | PPPServer, PPPInterfaceClient |
| **Pre-conditions** | Auto Save Feature is configured for Simple  Auto Save Feature is Enabled  No active Inhibit Requests |
| **Scenario Description** | User adjusts one of the auto save applicable settings  PPPServer determines that the change was a Major or Minor one |
| **Post-conditions** | PPPServer requests PPPInterfaceClient display a notification asking for user feedback  User selects ‘Save’  PPPServer sends save request to the AutoSavePositionClient  AutoSavePositionClient saves vehicle positional settings.  PPPServer receives notification from AutoSavePositionClient, indicating that positional settings have been retained.  PPPServer clears previous adjustment information |
| **List of Exception Use Cases** | Manual Save while Auto Save enabled  Recall while Auto Save enabled |
| **Interfaces** | CAN, SoA |

#### PPP-UC-REQ-XXXXXX-Major or Monir change made to positional settings – Ignore (Simple)

|  |  |
| --- | --- |
| **Actors** | PPPServer, PPPInterfaceClient |
| **Pre-conditions** | Auto Save Feature is configured for Simple  Auto Save Feature is Enabled  No active Inhibit Requests |
| **Scenario Description** | User adjusts one of the auto save applicable settings  PPPServer determines that the change was a Major or Minor one |
| **Post-conditions** | PPPServer requests PPPInterfaceClient display a notification asking for user feedback  User selects ‘Ignore’  PPPServer does not request a save |
| **List of Exception Use Cases** | Manual Save while Auto Save enabled  Recall while Auto Save enabled  Auto Save Prompt times out or blocked |
| **Interfaces** | CAN, SoA |

#### PPP-UC-REQ-420582/A-Major or Minor change made to positional settings – Change Profile (Simple)

|  |  |
| --- | --- |
| **Actors** | PPPServer, PPPInterfaceClient |
| **Pre-conditions** | Auto Save Feature is configured for Simple  Auto Save Feature is Enabled  No active Inhibit Requests |
| **Scenario Description** | User adjusts one of the auto save applicable settings  PPPServer determines that the change was a Major or Minor one |
| **Post-conditions** | PPPServer requests PPPInterfaceClient display a notification asking for user feedback  User selects ‘Change Profile’  PPPServer does not request a save  PPPInterfaceClient transitions to a profile selection screen  PPPServer does not clear previous adjustment information (in the event user does not perform a profile recall, these could still be acted upon) |
| **List of Exception Use Cases** | Manual Save while Auto Save enabled  Recall while Auto Save enabled  Auto Save Prompt times out or blocked |
| **Interfaces** | CAN, SoA |

#### PPP-UC-REQ-420583/A-Manual Save while Auto Save enabled

|  |  |
| --- | --- |
| **Actors** | PPPServer, PPPInterfaceClient |
| **Pre-conditions** | Auto Save Feature is Enabled  No active Inhibit Requests |
| **Scenario Description** | User adjusts one of the auto save applicable settings  User performs Manual Save |
| **Post-conditions** | PPPServer aborts Auto Save actions  PPPServer clears previous adjustment information |
| **List of Exception Use Cases** |  |
| **Interfaces** | CAN, SoA |

#### PPP-UC-REQ-420584/A-Recall while Auto Save enabled

|  |  |
| --- | --- |
| **Actors** | PPPServer, PPPInterfaceClient |
| **Pre-conditions** | Auto Save Feature is Enabled  No active Inhibit Requests |
| **Scenario Description** | User adjusts one of the auto save applicable settings  User performs Recall |
| **Post-conditions** | PPPServer aborts Auto Save actions  PPPServer clears previous adjustment information |
| **List of Exception Use Cases** |  |
| **Interfaces** | CAN, SoA |

#### PPP-UC-REQ-XXXXXX-Auto Save Prompt times out or blocked (Simple)

|  |  |
| --- | --- |
| **Actors** | PPPServer, PPPInterfaceClient |
| **Pre-conditions** | Auto Save Feature is configured for Simple  Auto Save Feature is Enabled  No active Inhibit Requests |
| **Scenario Description** | User adjusts one of the auto save applicable settings  PPPServer determines that the change was a Major or Minor one  PPPServer requests PPPInterfaceClient display a notification asking for user feedback  User does not make a selection or prompt is blocked |
| **Post-conditions** | PPPInterfaceClient sends timeout/block response to PPPServer  PPPServer aborts Auto Save actions but retains adjustments |
| **List of Exception Use Cases** |  |
| **Interfaces** | CAN, SoA |

#### PPP-UC-REQ-420586/A-Auto Save inhibited

|  |  |
| --- | --- |
| **Actors** | PPPServer, PPPInterfaceClient |
| **Pre-conditions** | Auto Save Feature is Enabled  No active Inhibit Requests |
| **Scenario Description** | Auto save becomes inhibited (PPPServer receives at least one inhibit request). |
| **Post-conditions** | PPPServer sets Auto Save to “Inactive”  PPPServer clears previous adjustment information and stops evaluating changes |
| **List of Exception Use Cases** |  |
| **Interfaces** | CAN, SoA |

### Requirements

#### PPP-REQ-420377/A-Classified Adjustments Repository when Feature Disabled/Inactive

When AutoSave\_St = “(0x1) Disable” OR “(0x0) Inactive” the PPPServer shall not evaluate the Classified Adjustments Repository or update the Classified Adjustments Repository with changes to the following signals (ignore updates):

* MirrorAutoSaveLeft\_St
* MirrorAutoSaveRight\_St
* DriverSeatAutoSave\_St
* DriverMcsAutoSaveDriver\_St
* PedalAutoSave\_St
* SteeringAutoSave\_St

#### PPP-REQ-420378/A-Classified Adjustments Repository

The PPPServer shall maintain a Classified Adjustments Repository consisting of data values from the following signals:

* MirrorAutoSaveLeft\_St
* MirrorAutoSaveRight\_St
* DriverSeatAutoSave\_St
* DriverMcsAutoSaveDriver\_St
* PedalAutoSave\_St
* SteeringAutoSave\_St

#### PPP-REQ-420379/A-Update Classified Adjustments Repository Upon Change

Once the data in the Classified Adjustments Repository is updated, the PPPServer shall resume/restart evaluating the adjustments.

#### PPP-REQ-420380/A-Update Classified Adjustments Repository After Clear Event

When all the data in the Classified Adjustments Repository is set to 'None' after a Clear event, the PPPServer shall resume/restart evaluating the adjustments.

#### PPP-REQ-420381/A-Update Classified Adjustments Repository when Feature Enabled

When the value of AutoSave\_St = “(0x2) Enable” and upon change, the PPPServer shall replace the old data values in the Classified Adjustments Repository with the data values from the following signals:

* MirrorAutoSaveLeft\_St
* MirrorAutoSaveRight\_St
* DriverSeatAutoSave\_St
* DriverMcsAutoSaveDriver\_St
* PedalAutoSave\_St
* SteeringAutoSave\_St

#### PPP-REQ-420382/A-Update Classified Adjustments Repository: Missing Message

If the message carrying one of the below signals is missing for more than 5 seconds, the PPPServer shall ignore changes to the following signals:

* MirrorAutoSaveLeft\_St
* MirrorAutoSaveRight\_St
* DriverSeatAutoSave\_St
* DriverMcsAutoSaveDriver\_St
* PedalAutoSave\_St
* SteeringAutoSave\_St

#### PPP-REQ-420383/A-Evaluate Classified Adjustments: No Adjustment

When the PPPServer evaluates the Classified Adjustments Repository, and all values are set to 'None', (none are 'In Progress', 'Major', or 'Minor'), the PPPServer shall consider the overall adjustment classification as a 'None’ adjustment.

#### ~~PPP-REQ-420384/A-Evaluate Classified Adjustments: Minor Adjustment~~

~~When the PPPServer evaluates the Classified Adjustments Repository, at least one value in the repository is set to 'Minor', and no others are set to 'In Progress' or 'Major', the PPPServer shall consider the overall adjustment classification as a 'Minor' adjustment.~~

#### PPP-REQ-420385/A-Evaluate Classified Adjustments: In Progress Adjustment

When the PPPServer evaluates the Classified Adjustments Repository and at least one value in the repository is set to 'In Progress', the PPPServer shall consider the overall adjustment classification as 'In Progress.'

#### PPP-REQ-XXXXXX-Evaluate Classified Adjustments: Major Adjustment (Simple)

When the PPPServer evaluates the Classified Adjustments Repository, at least one value in the repository is set to 'Major' or ‘Minor’ and no other values are set to 'In Progress', the PPPServer shall consider the overall adjustment classification as a 'Major' adjustment.

**Note**: For this Simple implementation, all changes are considered Major Changes.

#### PPP-REQ-420387/A-Adjustment Timer

The PPPServer shall have a timer, T\_Adjust, which shall be the maximum time the PPPServer shall wait for additional adjustments before classifying an overall adjustment.

#### PPP-TMR-REQ-420635/A-T\_Adjust

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Name** | **Description** | **Units** | **Range** | **Resolution** | **Default** |
| T\_Adjust | Maximum time the PPPServer shall wait before classifying a given adjustment.  Note: Use the default value | sec | 1-10 | 1 | 5 |

#### PPP-REQ-XXXXX-Start T\_Adjust (Simple)

When AutoSave\_St = “(0x2) Enable” and the overall adjustment classification is 'Major', the PPPServer shall start T\_Adjust and continue monitoring the classified adjustments repository for any changes.

#### PPP-REQ-XXXXXX-Pause T\_Adjust while changes are ‘In Progress’ (Simple)

If the overall adjustment classification changes to 'In Progress' during T\_Adjust, the PPPServer shall pause T\_Adjust and wait until the adjustment classification changes to 'Major' again before resuming.

#### PPP-REQ-XXXXXX-Restart T\_Adjust while updates being made (Simple)

If the PPPServer updates its overall adjustment classification to 'Major' but not 'In Progress' during T\_Adjust, the PPPServer shall restart T\_Adjust.

#### ~~PPP-REQ-420391/A-Requesting an Auto Save~~

~~When AutoSave\_St = “(0x2) Enable”, the PPPServer shall request a Save via AutoSaveSet\_Rq = “(0x1) Yes” when:~~

* ~~T\_Adjust expires, AND~~
* ~~the overall adjustment classification was 'Minor'~~

#### PPP-REQ-420392/A-Request Feedback

When AutoSave\_St = “(0x2) Enable”, the PPPServer shall request feedback from the user via setAutoSavePrompt when:

* ClassicMemory\_Rq = 'Null’, AND
* T\_Adjust expires, AND
* the overall adjustment classification is 'Major'

#### PPP-REQ-420393/A-Resume evaluating repository after requesting auto save or feedback

The PPPServer shall resume evaluating the Classified Adjustments Repository after either requesting a save via AutoSaveSet\_Rq or requesting for feedback via setAutoSavePrompt.

#### PPP-REQ-420394/A-Manual Save suspends evaluation of repository

The PPPServer shall stop evaluating the Classified Adjustments Repository when ClassicMemory\_Rq transitions from 'Null' to 'Store\_1', 'Store\_2', 'Store\_3', or 'Store\_4'.

#### PPP-REQ-420395/A-Discard overall adjustment classification after a manual save

The PPPServer shall stop acting the last classification evaluated from the Classified Adjustments Repository when ClassicMemory\_Rq transitions from 'Store\_1', 'Store\_2', 'Store\_3', or 'Store\_4' to 'Null'.

#### PPP-REQ-420396/A-Resume evaluating repository after a manual save

The PPPServer shall resume evaluating the Classified Adjustments Repository when ClassicMemory\_Rq transitions from 'Store\_1', 'Store\_2', 'Store\_3', or 'Store\_4' to 'Null'.

#### PPP-REQ-420397/A-Abort auto save event upon a manual save

The PPPServer shall abort a save event and send AutoSaveExit\_Rq = “(0x1) Yes” when ClassicMemory\_Rq transitions from 'Null' to 'Store\_1', 'Store\_2', 'Store\_3', or 'Store\_4'.

#### PPP-REQ-420398/A-Recall suspends evaluation of repository

The PPPServer shall stop evaluating the Classified Adjustments Repository when ClassicMemory\_Rq transitions from 'Null' to 'Recall\_1', 'Recall\_2', 'Recall\_3', or 'Recall\_4'.

#### PPP-REQ-420399/A-Discard overall adjustment classification after a recall

The PPPServer shall stop acting on the last overall adjustment classification evaluated from the Classified Adjustments Repository when ClassicMemory\_Rq transitions from 'Recall\_1', 'Recall\_2', 'Recall\_3', or 'Recall\_4' to 'Null'.

#### PPP-REQ-420400/A-Resume evaluating repository after a recall

The PPPServer shall resume/restart evaluating the Classified Adjustments Repository when ClassicMemory\_Rq transitions from 'Recall\_1', 'Recall\_2', 'Recall\_3', or 'Recall\_4' to 'Null'.

#### PPP-REQ-420401/A-Abort auto save event upon a recall

The PPPServer shall abort a save event and send AutoSaveExit\_Rq = “(0x1) Yes” when ClassicMemory\_Rq transitions from 'Null' to 'Recall\_1', 'Recall\_2', 'Recall\_3', or 'Recall\_4'.

#### PPP-REQ-420402/A-Discard overall adjustment classification upon an abort

When an abort occurs, the PPPServer shall stop acting on the last overall adjustment classification evaluated from the Classified Adjustments Repository.

#### PPP-REQ-XXXXXX-Additional Adjustments made while waiting for Feedback (Simple)

When the PPPServer is waiting for setAutoSavePrompt(PromptResponse) from PPPInterfaceClient and the overall adjustment classification changes to 'Major', the PPPServer shall restart T\_Prompt.

#### PPP-REQ-XXXXXX-T\_Prompt Expires and additional adjustments made (Simple)

After T\_Prompt expires and the overall adjustment classification changes to 'Major', the PPPServer shall again request feedback from the user via setAutoSavePrompt(PromptType = Simple)

#### PPP-REQ-420405/A-Clearing Classified Adjustments Repository

When the PPPServer clears the Classified Adjustments Repository (per REQ-420419), it shall update the following values in the Classified Adjustments Repository to 'None':

* MirrorAutoSaveLeft\_St
* MirrorAutoSaveRight\_St
* DriverSeatAutoSave\_St
* DriverMcsAutoSaveDriver\_St
* PedalAutoSave\_St
* SteeringAutoSave\_St

#### PPP-REQ-420406/A-Clearing Classified Adjustments Repository – Performance

The PPPServer shall clear the Classified Adjustments Repository within 1s.

#### PPP-REQ-420407/A-Request Save - User selects Save

When the PPPServer is waiting for a change in setAutoSavePrompt(PromptResponse) and the PromptResponse changes to “Save”, the PPPServer shall request a save via AutoSaveSet\_Rq = “(0x1) Yes” and stop requesting for feedback by sending setAutoSavePrompt(PromptControl = “Close”, PromptType = [the previously requested PromptType]).

#### PPP-REQ-420408/A-Cancel Save - User selects Change Profile

When the PPPServer is waiting for a change in setAutoSavePrompt(PromptResponse) and the PromptResponse changes to “Change Profile”, the PPPServer shall stop requesting for feedback by sending setAutoSavePrompt(PromptControl = “Close”, PromptType = [the previously requested PromptType])

#### ~~PPP-REQ-420409/A-Cancel Save - User requests No Save~~

~~When the PPPServer is waiting for a change in setAutoSavePrompt(PromptResponse) and the PromptResponse changes to “No Save”, the PPPServer shall suspend retention activities and stop requesting for feedback by sending setAutoSavePrompt(PromptControl = “Close”, PromptType = [the previously requested PromptType]).~~

#### PPP-REQ-XXXXXX-Cancel Save - User requests Ignore

When the PPPServer is waiting for a change in setAutoSavePrompt(PromptResponse) and the PromptResponse changes to “Ignore”, the PPPServer shall suspend retention activities and stop requesting for feedback by sending setAutoSavePrompt(PromptControl = “Close”, PromptType = [the previously requested PromptType]).

#### PPP-REQ-420410/A-Cancel Save – Feature becomes Disabled/Inactive

When the value of AutoSave\_St transitions to “(0x1) Disable” or “(0x0) Inactive”, the PPPServer shall suspend all retention operations.

#### PPP-REQ-420411/A-Cancel Feedback Request - Timeout / Block

When the PPPServer is waiting for a change in setAutoSavePrompt(PromptResponse) and the PromptResponse changes to “Timeout” or “Blocked”, the PPPServer shall stop requesting for feedback by sending setAutoSavePrompt(PromptControl = “Close”, PromptType = [the previously requested PromptType]).

#### PPP-REQ-420412/A-Cancel Feedback Request – Feature becomes Disabled/Inactive

When the PPPServer is waiting for a change in setAutoSavePrompt(PromptResponse) and AutoSave\_St transitions to “(0x1) Disable” or “(0x0) Inactive”, the PPPServer shall stop requesting for feedback by sending setAutoSavePrompt(PromptControl = “Close”, PromptType = *[the previously requested PromptType]*).

#### PPP-REQ-420413/A-Cancel Feedback Request – Abort

When an abort event occurs, the PPPServer shall stop requesting for feedback by sending setAutoSavePrompt(PromptControl = “Close”, PromptType = [the previously requested PromptType]).

#### PPP-REQ-420414/A-Cancel Feedback Request – T\_Prompt expires

When T\_Prompt expires and setAutoSavePrompt(PromptResponse = “None”) or the response is missing, the PPPServer shall stop requesting for feedback by sending setAutoSavePrompt(PromptControl = “Close”, PromptType = [the previously requested PromptType]).

#### PPP-REQ-420415/A-Prompt Timer

The PPPServer shall have a configurable timer, T\_Prompt, which shall be the maximum time the PPPServer shall wait for an Auto Save response from the PPPInterfaceClient. This timer shall be configurable via DID.

#### PPP-TMR-REQ-420636/A-T\_Prompt

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Name** | **Description** | **Units** | **Range** | **Resolution** | **Default** |
| T\_Prompt | Maximum time the PPPServer shall wait for a response from the PPPInterfaceClient  Note: Use the default value | sec | 0-60 | 1 | 30 |

#### PPP-REQ-420416/A-Start T\_Prompt

When the PPPServer requests feedback from the user (per REQ-420392), the PPPServer shall begin start T\_Prompt as it waits for a response from the PPPInterfaceClient via setAutoSavePrompt(PromptResponse).

#### PPP-REQ-420417/A-Stop T\_Prompt

When the PPPServer receives feedback from the user (per setAutoSavePrompt(PromptResponse)), the PPPServer shall stop T\_Prompt.

#### PPP-REQ-420418/A-Revert Exit request after abort event

After an abort event occurs and ClassicMemory\_Rq returns to ‘Null’, the PPPServer shall set AutoSaveExit\_Rq = “(0x0) No”.

#### PPP-REQ-420419/A-Clear Event - Preconditions

The PPPServer shall perform a clear event when any of the below conditions are met:

1. AutoSave\_St transitions from “(0x2) Enable” to “(0x0) Inactive” or “(0x1) Disable”
2. ClassicMemory\_Rq transitions to 'Store\_1', 'Store\_2', 'Store\_3', or 'Store\_4'
3. ClassicMemory\_Rq transitions to 'Recall\_1', 'Recall\_2', 'Recall\_3', or 'Recall\_4'
4. AutoSaveExit\_Rq = “(0x1) Yes”

#### PPP-REQ-420420/A-Clear Event - Revert Save Request

After a Clear event occurs, the PPPServer shall set the value of AutoSaveSet\_Rq = “(0x0) No”.

#### PPP-REQ-420421/A-Clear Event - Revert Exit Request

After a Clear event occurs, the PPPServer shall set AutoSaveExit\_Rq = “(0x0) No”.

#### PPP-REQ-420422/A-Save Wait Timer

The PPPServer shall have a configurable timer, T\_SaveWait, which shall be the maximum time the PPPServer shall wait for confirmation of a successful save (per REQ-420429). This timer shall be configurable via DID.

#### PPP-TMR-REQ-420637/A-T\_SaveWait

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Name** | **Description** | **Units** | **Range** | **Resolution** | **Default** |
| T\_SaveWait | Maximum time the PPPServer shall wait for a save confirmation.  Note: Use the default value | sec | 0-60 | 1 | 5 |

#### PPP-REQ-420423/A-Start T\_SaveWait

The PPPServer shall start T\_SaveWait when it sends AutoSaveSet\_Rq = “(0x1) Yes”.

#### PPP-REQ-420428/A-Save Confirmation

When the PPPServer is waiting for user feedback and setAutoSavePrompt(PromptResponse = “Save”) is received from the PPPInterfaceClient, the PPPServer shall wait for confirmation of the save by monitoring ClassicMemory\_Rq.

#### PPP-REQ-XXXXXX-Request User Feedback for Simple Adjustments

When the PPPServer needs to request a popup for user feedback, the PPPServer shall send setAutoSavePrompt(PromptControl = “Display”, PromptType = “Simple”).

#### ~~PPP-REQ-420432/A-Request User Feedback for Multiple Adjustments~~

~~When the PPPServer needs to request a popup and there are many values in the Classified Adjustments Repository that have a value other than 'None', the PPPServer shall send setAutoSavePrompt(PromptControl = “Display”, PromptType = “Multiple”).~~

#### ~~PPP-REQ-420433/A-Request User Feedback for Seat~~

~~When the PPPServer needs to request a popup and the only value in the Classified Adjustments Repository to have a value other than 'None' is 'Seat Adjustment Classification' or 'Multicontour Adjustment Classification', the PPPServer shall send setAutoSavePrompt(PromptControl = “Display”, PromptType = “Seat”).~~

#### ~~PPP-REQ-420434/A-Request User Feedback for Pedal~~

~~When the PPPServer needs to request a popup and the only value in the Classified Adjustments Repository to have a value other than 'None' is 'Pedal Adjustment Classification', the PPPServer shall send setAutoSavePrompt(PromptControl = “Display”, PromptType = “Pedal”).~~

#### ~~PPP-REQ-420435/A-Request User Feedback for Mirror~~

~~When the PPPServer needs to request a popup and the only value in the Classified Adjustments Repository to have a value other than 'None' is 'Left Mirror Adjustment Classification' or 'Right Mirror Adjustment Classification', the PPPServer shall send setAutoSavePrompt(PromptControl = “Display”, PromptType = “Mirror”).~~

#### ~~PPP-REQ-420436/A-Request User Feedback for Steering Wheel~~

~~When the PPPServer needs to request a popup and the only value in the Classified Adjustments Repository to have a value other than 'None' is 'Steering Wheel Adjustment Classification', the PPPServer shall send setAutoSavePrompt(PromptControl = “Display”, PromptType = “Steering Wheel”).~~

#### ~~PPP-REQ-420437/A-Request User Feedback for HUD~~

~~When the PPPServer needs to request a popup and the only value in the Classified Adjustments Repository to have a value other than 'None' is 'Infotainment Adjustment Classification', the PPPServer shall send setAutoSavePrompt(PromptControl = “Display”, PromptType = “HUD”).~~

#### PPP-REQ-420439/A-Close Prompt when T\_SaveWait expires

When T\_SaveWait expires, the PPPServer shall set 'AutoSaveHMIPromp\_B\_Rq' to 'No'.

#### PPP-REQ-420440/A-Prompt2 Timer

The PPPInterfaceClient shall have a configurable timer, T\_Prompt2, which shall be the maximum time the PPPInterfaceClient shall display a requested prompt. This timer shall be configurable via DID.

#### PPP-TMR-REQ-420640/A-T\_Prompt2

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Name** | **Description** | **Units** | **Range** | **Resolution** | **Default** |
| T\_Prompt2 | Maximum time the PPPInterfaceClient shall display a requested prompt.  Note: Use the default value | sec | 0-70 | 1 | 35 |

#### PPP-REQ-420441/A-Start T\_Prompt2

The PPPInterfaceClient shall start T\_Prompt2 when it displays a requested prompt per setAutoSavePrompt(PromptControl = “Display”).

#### PPP-REQ-XXXXXX-Prompt Options (Simple)

The PPPInterfaceClient shall provide a prompt with the below options when setAutoSavePrompt is sent for PromptType’s 0x0 - 0x5:

* Save the adjustments
* Ignore the adjustments
* Change profile

#### PPP-REQ-420443/A-Prompt Persistence

The PPPInterfaceClient shall display a requested prompt until setAutoSavePrompt(PromptControl = “Close”) is received for the respective PromptType, or unit T\_Prompt2 expires.

#### ~~PPP-REQ-420444/A-Prompt Variations~~

~~The PPPInterfaceClient shall have variations for the prompt, including HUD, Seat, Steering Wheel, Mirror, Pedal, and Multiple.~~

#### PPP-REQ-420445/A-Prompt Response - Change Profile

The PPPInterfaceClient shall send setAutoSavePrompt(PromptResponse = “Change Profile”) when the user requests to change profile via the prompt, and display the profile selection screen to the user.

#### ~~PPP-REQ-420446/A-Prompt Response – No Save~~

~~The PPPInterfaceClient shall send setAutoSavePrompt(PromptResponse = “No Save”) when the user requests to ignore the adjustment via the prompt.~~

#### PPP-REQ-XXXXXX-Prompt Response – Ignore

The PPPInterfaceClient shall send setAutoSavePrompt(PromptResponse = “Ignore”) when the user requests to ignore the adjustment via the prompt.

#### PPP-REQ-420447/A-Prompt Response - Save

The PPPInterfaceClient shall send setAutoSavePrompt(PromptResponse = “Save”) when the user requests to save the adjustment via the prompt.

#### PPP-REQ-420448/A-Prompt Response - Blocked

If a prompt cannot be displayed, the PPPInterfaceClient shall send setAutoSavePrompt(PromptResponse = “Blocked”) and not display any prompt.

#### PPP-REQ-420449/A-Prompt Response - Timeout

If T\_Prompt2 expires, the PPPInterfaceClient shall send setAutoSavePrompt(PromptResponse = “Timeout”).

#### PPP-REQ-420450/A-Prompt Close Upon User Response

The PPPInterfaceClient shall close a requested prompt upon user response.

#### PPP-REQ-420453/A-Update Inhibit Table – Auto Save User Setting

The PPPServer shall set Entry 1 in the Inhibit Table to 'TRUE' when the Auto Save user setting is set to Off in the profile on the vehicle.

The PPPServer shall set Entry 1 in the Inhibit Table to 'FALSE' when the Auto Save user setting is set to On in the profile on the vehicle.

#### PPP-REQ-420454/A-Update Inhibit Table - Easy Entry Easy Exit

The PPPServer shall set Entry 2 in the Inhibit Table to 'TRUE' when an Easy Entry Easy Exit event is active on the vehicle, as indicated by DriverSeatPosition\_St = “(0x1) Easy Entry”.

The PPPServer shall set Entry 2 in the Inhibit Table to 'FALSE' when an Easy Entry Easy Exit event is not active on the vehicle, as indicated by DriverSeatPosition\_St = “(0x4) Drive”.

#### PPP-REQ-420455/A-Update Inhibit Table - PPP Authentication

The PPPServer shall set Entry 3 in the Inhibit Table to 'FALSE' when the profile on the vehicle is authenticated (see authentication methods), as indicated by 'Profile Authentication' = 'Authenticated'.

The PPPServer function shall set Entry 3 in the Inhibit Table to 'TRUE' when the profile on the vehicle is not authenticated (see authentication methods), as indicated by 'Profile Authentication' = 'Not Authenticated'.

#### PPP-REQ-420456/A-Update Inhibit Table - Rejuvenate

The PPPServer shall set Entry 4 in the Inhibit Table to 'FALSE' when Rejuvenate is no longer active on the vehicle, as indicated by 'RejuvActive\_Stat' = 'Inactive'.

The PPPServer shall set Entry 4 in the Inhibit Table to 'TRUE' when Rejuvenate is active on the vehicle, as indicated by the 'RejuvActive\_Stat' = 'Active'.

#### PPP-REQ-420457/A-Update Inhibit Table - Stowable Steering Column

The PPPServer shall set Entry 5 in the Inhibit Table to 'FALSE' when Stowable Steering Column is no longer active on the vehicle, as indicated by 'Ssw/DttStateStat' = 'Inactive'.

The PPPServer shall set Entry 5 in the Inhibit Table to 'TRUE' when Stowable Steering Column is active on the vehicle, as indicated by 'Ssw/DttStateStat' = 'Active'.

#### PPP-REQ-420458/A-Update Inhibit Table - Complete Profile Recall

The PPPServer shall set Entry 6 in the Inhibit Table to 'FALSE' when a profile recall including positional settings is completed, as indicated by 'PersNo\_D\_Actl' and 'PersNoPos\_D\_Actl' being equal.

The PPPServer shall set Entry 6 in the Inhibit Table to 'TRUE' when a profile recall including positional settings is unable to complete, as indicated by 'PersNo\_D\_Actl' and 'PersNoPos\_D\_Actl' being inequal.

#### PPP-REQ-420459/A-Inhibit Table Allocation

The PPPServer shall maintain an Inhibit Table to store the status of the following Inhibit Requests:

|  |  |  |
| --- | --- | --- |
| Request ID | Request Type | Value (True /False) |
| 1 | Auto Save user setting is set to Off in the profile on the vehicle | T/F |
| 2 | An Easy Entry Easy Exit event is active on the vehicle | T/F |
| 3 | The profile is not authenticated | T/F |
| 4 | Rejuvenate Mode is active on the vehicle | T/F |
| 5 | A Stowable Steering Column event is active on the vehicle | T/F |
| 6 | An incomplete profile recall event has occurred on the vehicle | T/F |

#### PPP-REQ-420460/A-Auto Save Feature Status - Disabled

If any of the following Activation Preconditions are false, the PPPServer shall set AutoSave\_St = “(0x1) Disable” and autoSaveFeatureStatusBroadcast(AutoSaveFeatureStatus = “Disable”):

1. Auto Save feature is configured ON (Simple or Smart)
2. CarMode\_St = Normal
3. IgnitionStatus\_St = Run, Start, or Accessory OR the HMI status is Extended Play (CAN)
4. A software update is not occurring on the vehicle (how to determine)
5. A technician has not placed the vehicle in diagnostics mode (how to determine)

#### PPP-REQ-420461/A-Auto Save Feature Status - Enabled

When the PPPServer evaluates the Inhibit Table and no value is 'TRUE', the PPPServer shall set AutoSave\_St = “(0x2) Enable” and autoSaveFeatureStatusBroadcast(AutoSaveFeatureStatus = “Enable”).

#### PPP-REQ-420462/A-Auto Save Feature Status - Inactive

When the PPPServer evaluates the Inhibit Table and at least one value is 'TRUE', the PPPServer shall set AutoSave\_St = “(0x0) Inactive” autoSaveFeatureStatusBroadcast(AutoSaveFeatureStatus = “Inactive”).

#### PPP-REQ-420463/A-Evaluate Inhibit Table on Change

If all Activation Preconditions (per REQ-420460) are true, the PPPServer shall evaluate the Inhibit Table upon change.

#### PPP-REQ-420464/A-User Auto Save Setting Status - Turn Off

When autoSaveFeatureStatusBroadcast(AutoSaveFeatureStatus = “Enable”) and the user turns off Auto Save, then the PPPInterfaceClient shall send setAutoSaveSetting(AutoSaveSettingRequest = “Off”).

#### PPP-REQ-420470/A-User Auto Save Setting Status - Turn On

When autoSaveFeatureStatusBroadcast(AutoSaveFeatureStatus = Inactive) and the user turns on Auto Save, the PPPInterfaceClient shall send setAutoSaveSetting(AutoSaveSettingRequest = “On”).

#### PPP-REQ-420466/A-User Auto Save Setting Status - Auto Save Off Message

When the autoSaveFeatureStatusBroadcast(AutoSaveFeatureStatus) changes from “(0x2) Enable” to “(0x0) Inactive”, the PPPInterfaceClient shall display a notification to the user indicating that Auto Save is no longer assisting with retaining settings (settings are now being protected).

#### PPP-REQ-420467/A-User Auto Save Setting Status - Auto Save On Message

When the autoSaveFeatureStatusBroadcast(AutoSaveFeatureStatus) changes from “(0x0) Inactive” to “(0x2) Enable”, the PPPInterfaceClient shall display a notification to the user indicating that Auto Save is now assisting the user with retaining settings.

#### PPP-REQ-420465/A-User Auto Save Setting Status - Display when Feature Enabled

While autoSaveFeatureStatusBroadcast(AutoSaveFeatureStatus = “Enable”), the PPPInterfaceClient shall make the Auto Save user settings visible and accessible by the user.

#### PPP-REQ-420468/A-User Auto Save Setting Status - Display when Feature Inactive

While autoSaveFeatureStatusBroadcast(AutoSaveFeatureStatus = Inactive), the PPPInterfaceClient shall make the Auto Save user setting visible and accessible by the user.

#### PPP-REQ-420469/A-User Auto Save Setting Status - Display when Feature Disabled

While autoSaveFeatureStatusBroadcast(AutoSaveFeatureStatus = Disabled), the PPPInterfaceClient shall hide the Auto Save user setting for the active profile on the vehicle.

#### PPP-REQ-420628/A-Auto Save User Setting

The PPPServer shall maintain an Auto Save user setting for each profile offered by Enhanced Memory.

#### PPP-REQ-420629/A-Retrieve Auto Save User Setting

When any of the below conditions are met, the PPPInterfaceClient shall send getAutoSaveSetting to the PPPServer in order to request the current Auto Save user setting:

* After display reset OR
* After display recovers from error state during Ignition\_Status = “Run” OR
* After ECU Wakeup OR
* If Auto Save user setting cache is lost or corrupted
* Upon entering the Enhanced Memory menu when PPPInterfaceClient does not have any data cached
  + In this case getAutoSaveSetting shall be called every 5s for 30s max, or until autoSaveSettingBroadcast is received

#### PPP-REQ-420630/A-Cache Auto Save User Setting

The PPPInterfaceClient shall cache the latest value of the Auto Save user setting received via autoSaveSettingBroadcast. This cache shall be cleared upon shutdown.

#### PPP-REQ-420631/A-Auto Save User Setting Broadcast

When getAutoSaveSetting is received, the PPPServer shall send the Auto Save user setting to the PPPInterfaceClient via autoSaveSettingBroadcast.

#### PPP-REQ-420632/A-Retrieve Auto Save Feature Status

When any of the below conditions are met, the PPPInterfaceClient shall send getAutoSaveFeatureStatus to the PPPServer in order to request the current Auto Save feature status:

* After display reset OR
* After display recovers from error state during Ignition\_Status = “Run” OR
* After ECU Wakeup OR
* If Auto Save feature status cache is lost or corrupted
* Upon entering the Enhanced Memory menu when PPPInterfaceClient does not have any data cached
  + In this case getAutoSaveFeatureStatus shall be called every 5s for 30s max, or until autoSaveFeatureStatusBroadcast is received

#### PPP-REQ-420633/A-Cache Auto Save Feature Status

The PPPInterfaceClient shall cache the latest value of the Auto Save feature status received via autoSaveFeatureStatusBroadcast. This cache shall be cleared upon shutdown.

#### PPP-REQ-420634/A-Auto Save Feature Status Broadcast

When getAutoSaveFeatureStatus is received, the PPPServer shall send the Auto Save feature status to the PPPInterfaceClient via autoSaveFeatureStatusBroadcast.

### White Box View

#### Activity Diagrams

#### Sequence Diagrams

# Appendix: Reference Documents

|  |  |
| --- | --- |
| Reference # | Document Title |
| 1 |  |
| 2 |  |
| 3 |  |
| 4 |  |
| 5 |  |
| 6 |  |
| 7 |  |
| 8 |  |
| 9 |  |
| 10 |  |
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