

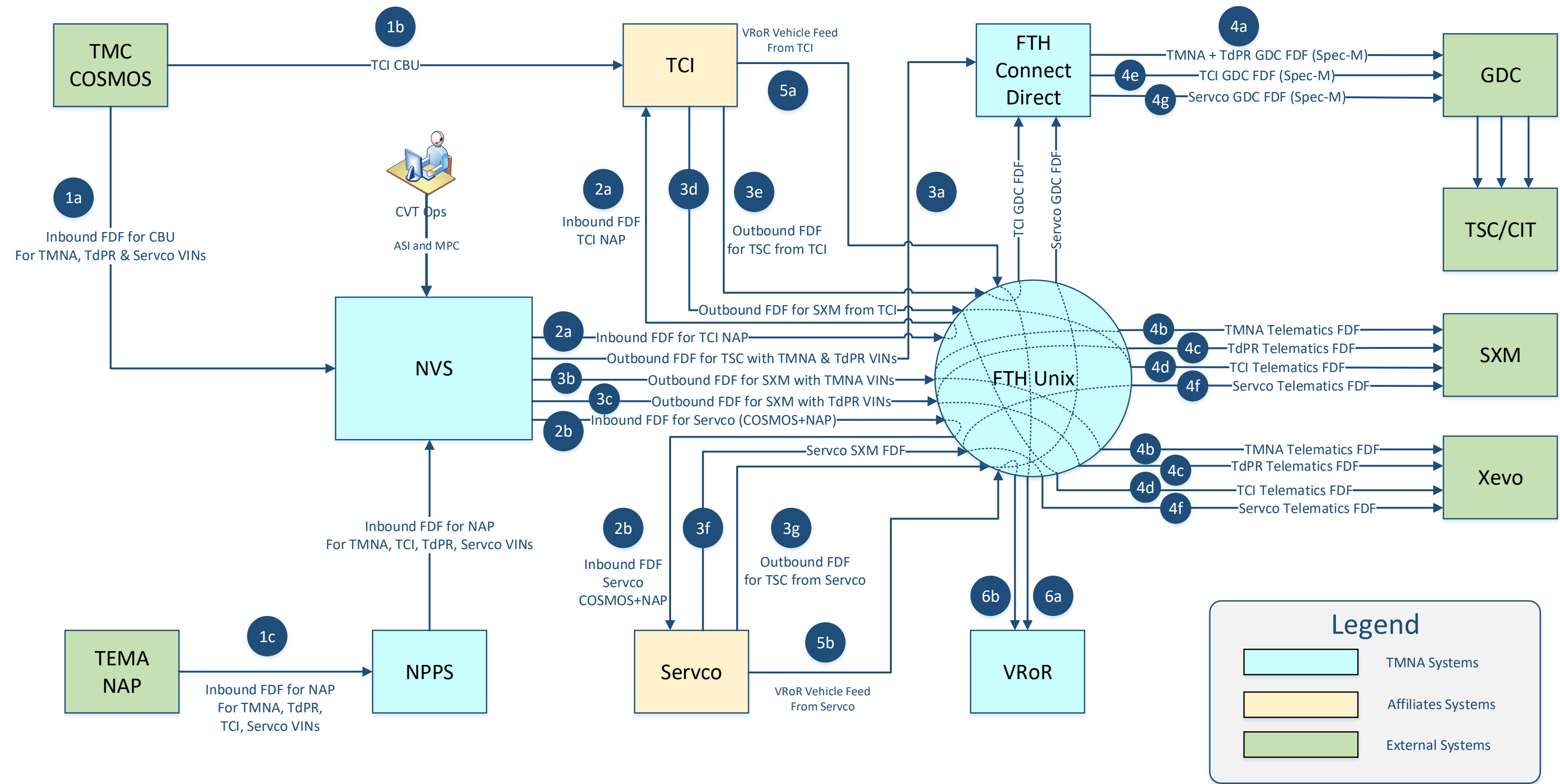
Document History

Version	Date	Author	Comment
V6	4/3/2018	R. Lu	<ul style="list-style-type: none">Baseline for this visio document and added Document History and Table of Content.
V7	4/5/2018	R. Lu	<ul style="list-style-type: none">Updated initial ADF processes for old elec. Platform diagrams to remove ingestion of inbound FDF by CVS, and replaced it with on-demand ADF query from NVS, TCI and Servco.Added a diagram to depict the process to query TSC to retrieve an ADF for a VIN if the ADF is missing.
v8	4/5/2018	R. Lu	<ul style="list-style-type: none">Added diagrams for desired end target state where vehicle data enrichment for ALL vehicles is handled by CTP/CSV.Re-ordered the pages by scenarios and then by TMNA/affiliate within each scenario. Updated table of content.
v9	4/6/2018	R. Lu	<ul style="list-style-type: none">Separated initial ADF FDF process and DCM replacement process diagrams into two different files.
v10	4/15/2018	R. Lu	<ul style="list-style-type: none">Added 'Steps' box for each diagram.
v11	4/16/2018	R. Lu	<ul style="list-style-type: none">Modified design on ADF communication between CTP and NVS, TCI and Servco.Replaced ConnectDirect and FTH batch jobs with web services.Consolidated 'New Electrical Platform' and 'Old Electrical Platform' diagrams into one diagram for each of of TMNA/TdPR, TCI and Servco.Consolidated Target State Design diagrams for TMNA/TdPR, TCI and Servco into one diagram.Added on demand ADF query to TSC to each diagram.Added priority in second diagram.Corrected errors in the last diagram (Query TSC for ADF).
v12	4/23/2018	R. Lu	<ul style="list-style-type: none">Added 'BI' box in 17CY+ diagrams.
v13	5/3/2018	R. Lu	<ul style="list-style-type: none">Added TCI/Servco to VRoR vehicle feed.Added new page 17CY FDF Process (Updated).Added Spec-M FDF batch process back to 17CY+.
v14	5/8/2018	R. Lu	<ul style="list-style-type: none">Added process for TSP sending DCM activation status to CVS in 17CY+ diagrams.
v15	5/18/2018	R. Lu	<ul style="list-style-type: none">Updated ADF flow between TSC and TSP from TSC→TSP to TSC→CTP→TSP.

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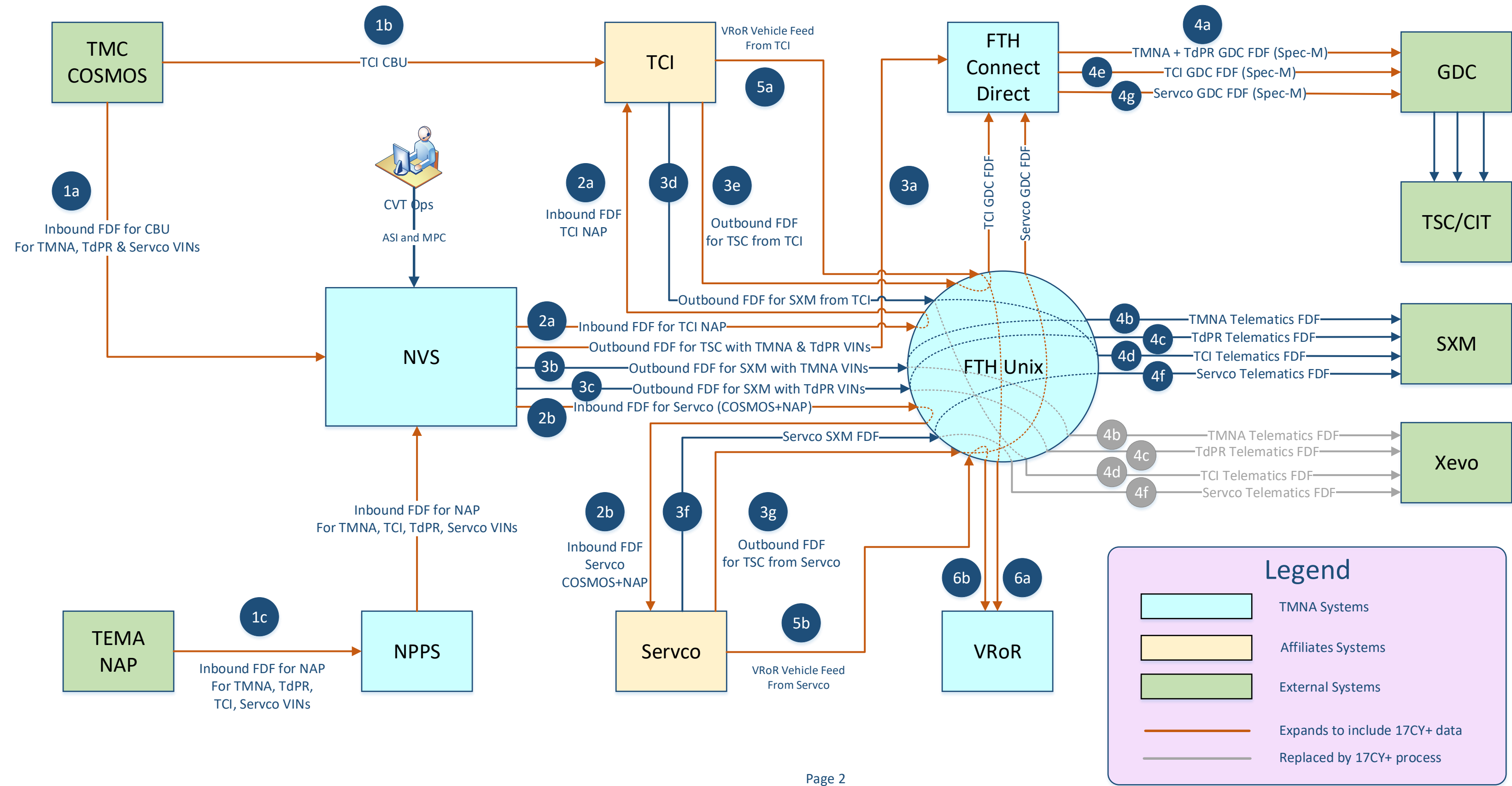
Existing 17CY FDF Process (TMNA & Affiliates)



Steps

- 1a. NVS receives inbound FDF from COSMOS for CBU for TMNA, TdPR and Servco vehicles.
- 1b. TCI receives inbound FDF from COSMOS for TCI's CBU vehicles.
- 1c. NVS receives inbound FDF from NPPS/NAP for all NAP made vehicles.
- 2a. NVS filters out TCI VINs from NAP FDF and send them to TCI via FTH.
- 2b. NVS filters out Servco VINs from COSMOS and NAP FDFs and send them to Servco via FTH.
- 3a. NVS generates enriched outbound Spec-M FDF for TMNA and TdPR VINs and sends it to ConnectDirect.
- 3b. NVS generates enriched outbound FDF for TMNA VINs and sends it to FTH to be sent to SXM.
- 3c. NVS generates enriched outbound FDF for TdPR VINs and sends it to FTH to be sent to SXM.
- 3d. TCI generates enriched outbound FDF for TCI VINs and sends it to FTH to be sent to SXM.
- 3e. TCI generates enriched outbound Spec-M FDF for TCI VINs and sends it to ConnectDirect.
- 3f. Servco generates enriched outbound FDF for Servco VINs and sends it to FTH to be sent to SXM.
- 3g. Servco generates enriched outbound Spec-M FDF for Servco VINs and sends it to ConnectDirect.
- 4a,e,g. ConnectDirect forwards Spec-M FDF files to GDC which in turn send the files to TSC.
- 4b,c,d,f. FTH forwards the enriched outbound FDF to SXM and Xevo.
- 5a. TCI sends VRoR vehicle feed to FTH.
- 5b. Servco sends VRoR vehicle feed to FTH.
- 6a,b. FTH forwards TCI and Servco's VRoR vehicle feeds to VRoR.

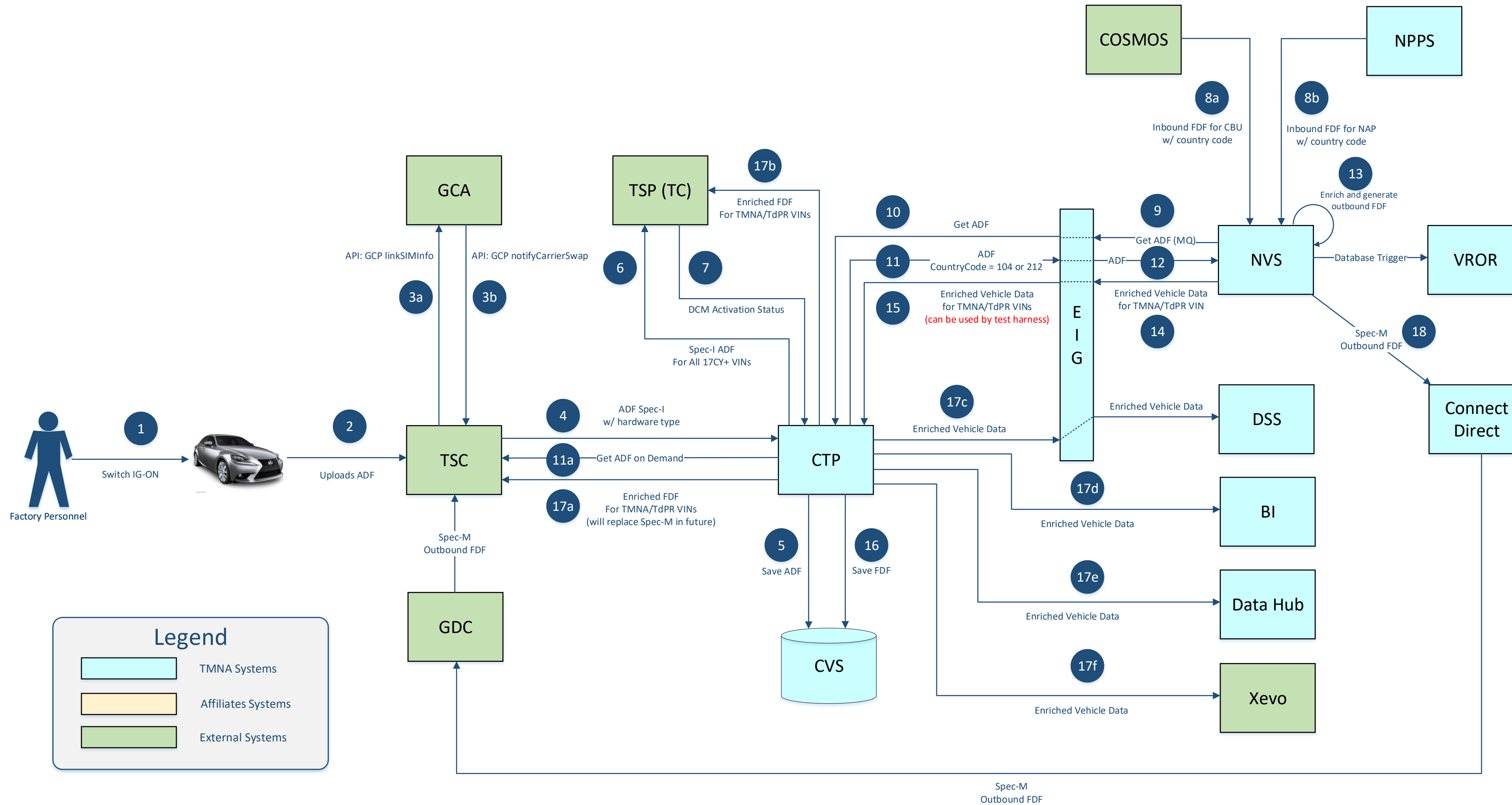
Existing 17CY FDF Process (TMNA & Affiliates) - Updated



Steps

- 1a. NVS receives inbound FDF from COSMOS for CBU for TMNA, TdPR and Servco vehicles.
- 1b. TCI receives inbound FDF from COSMOS for TCI's CBU vehicles.
- 1c. NVS receives inbound FDF from NPPS/NAP for all NAP made vehicles.
- 2a. NVS filters out TCI VINs from NAP FDF and send them to TCI via FTH.
- 2b. NVS filters out Servco VINs from COSMOS and NAP FDFs and send them to Servco via FTH.
- 3a. NVS generates enriched outbound Spec-M FDF for TMNA and TdPR VINs and sends it to ConnectDirect.
- 3b. NVS generates enriched outbound FDF for TMNA VINs and sends it to FTH to be sent to SXM.
- 3c. NVS generates enriched outbound FDF for TdPR VINs and sends it to FTH to be sent to SXM.
- 3d. TCI generates enriched outbound FDF for TCI VINs and sends it to FTH to be sent to SXM.
- 3e. TCI generates enriched outbound Spec-M FDF for TCI VINs and sends it to ConnectDirect.
- 3f. Servco generates enriched outbound FDF for Servco VINs and sends it to FTH to be sent to SXM.
- 3g. Servco generates enriched outbound Spec-M FDF for Servco VINs and sends it to ConnectDirect.
- 4a,e,g. ConnectDirect forwards Spec-M FDF files to GDC which in turn send the files to TSC.
- 4b,c,d,f. FTH forwards the enriched outbound FDF to SXM.
- 5a. TCI sends VRoR vehicle feed to FTH.
- 5b. Servco sends VRoR vehicle feed to FTH.
- 6a,b. FTH forwards TCI and Servco's VRoR vehicle feeds to VRoR.

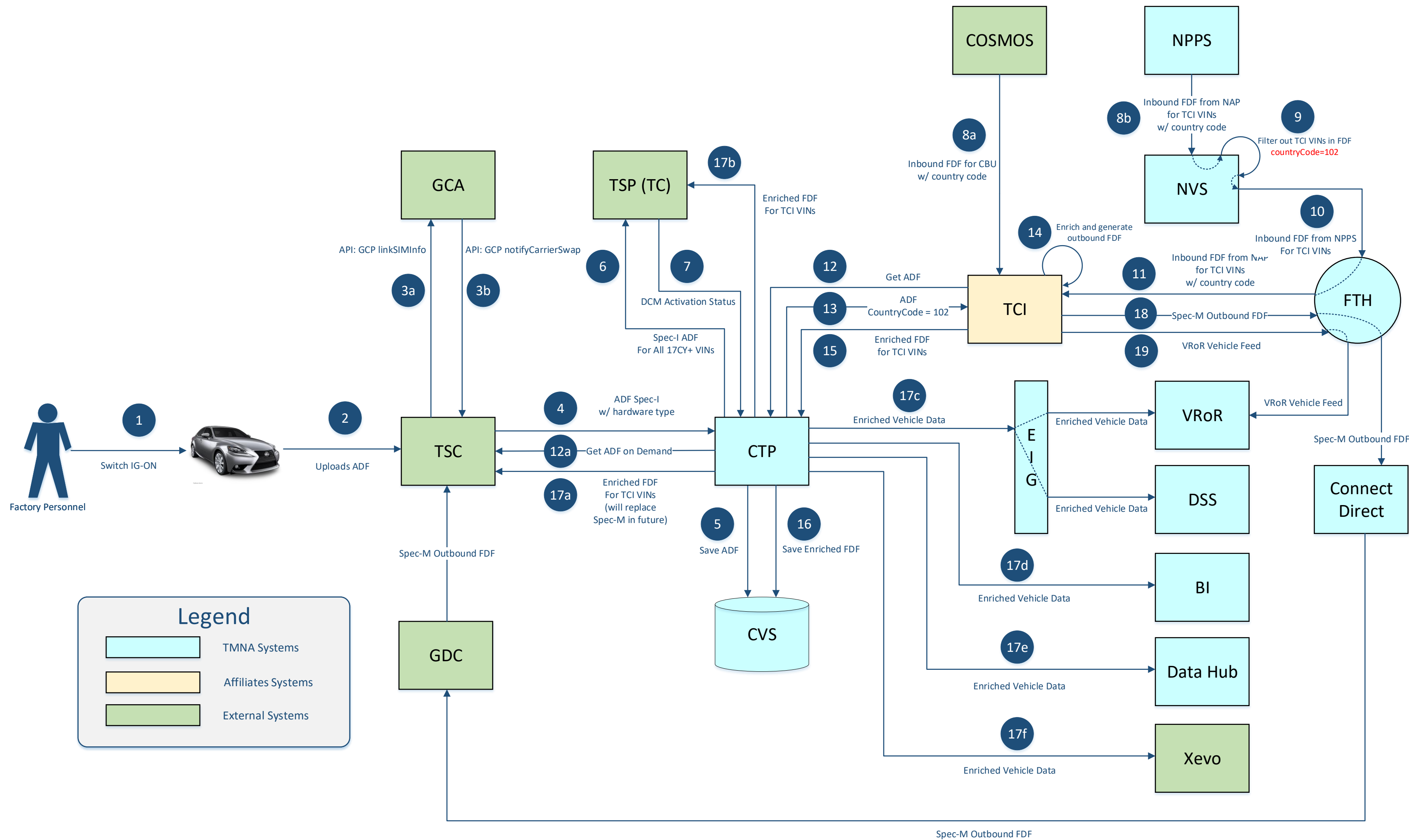
17CY+ ADF FDF Process (TMNA & TdPR)



Steps

1. At line off in factory, a factory personnel switches vehicle to IG-ON.
2. Vehicle's DCM uploads ADF to TSC.
3. TSC communicates with GCP(GCA) for the VIN and DCM information in preparation for carrier swap.
4. TSC sends the ADF to CTP.
5. CTP validates and stores the ADF in CVS.
6. CTP sends the ADF to TSP.
7. TSP sends DCM activation status to CVS at the end of CUST process.
- 8a. NVS receives inbound FDF from COSMOS for CBU for TMNA, TdPR and Servco vehicles.
- 8b. NVS receives inbound FDF from NPPS for all NAP made vehicles.
9. NVS sends an MQ message to EIG for a VIN (TMNA or TdPR) to be processed.
10. EIG invokes CTP service to get the ADF for VIN.
11. CTP finds the VIN in CVS and returns the ADF to EIG.
- 11a. If ADF is not found in CVS, CTP calls TSC to get the ADF for the VIN. Then TSC will respond with ADF as described in Step 5 and 6.
12. EIG forwards the ADF to NVS in an MQ message.
13. NVS enriches the vehicle data for TMNA and TdPR VINs (country code 104=TMNA, 212=TdPR).
14. NVS sends the enriched vehicle data for TMNA and TdPR VINs to EIG via MQ.
15. EIG invokes CTP service to send the enriched vehicle data to CTP.
16. CTP updates CVS store with the enriched vehicle data.
- 17a. CTP sends enriched vehicle data to TSC via web service (replaces Spec-M FDF).
- 17b. CTP sends enriched vehicle data to TSP via webhook.
- 17c. CTP sends enriched vehicle data to EIG via web service which forwards it to DSS.
- 17d. CTP sends enriched vehicle data to BI Platform via web service.
- 17e. CTP sends enriched vehicle data to Data Hub via web service.
- 17f. CTP sends enriched vehicle data to Xevo via web service.
18. NVS sends Spec-M outbound FDF to ConnectDirect which in turns sends it to GDC and reaches TSC in the end. (This will be retired by process 17a once 17a is mature)

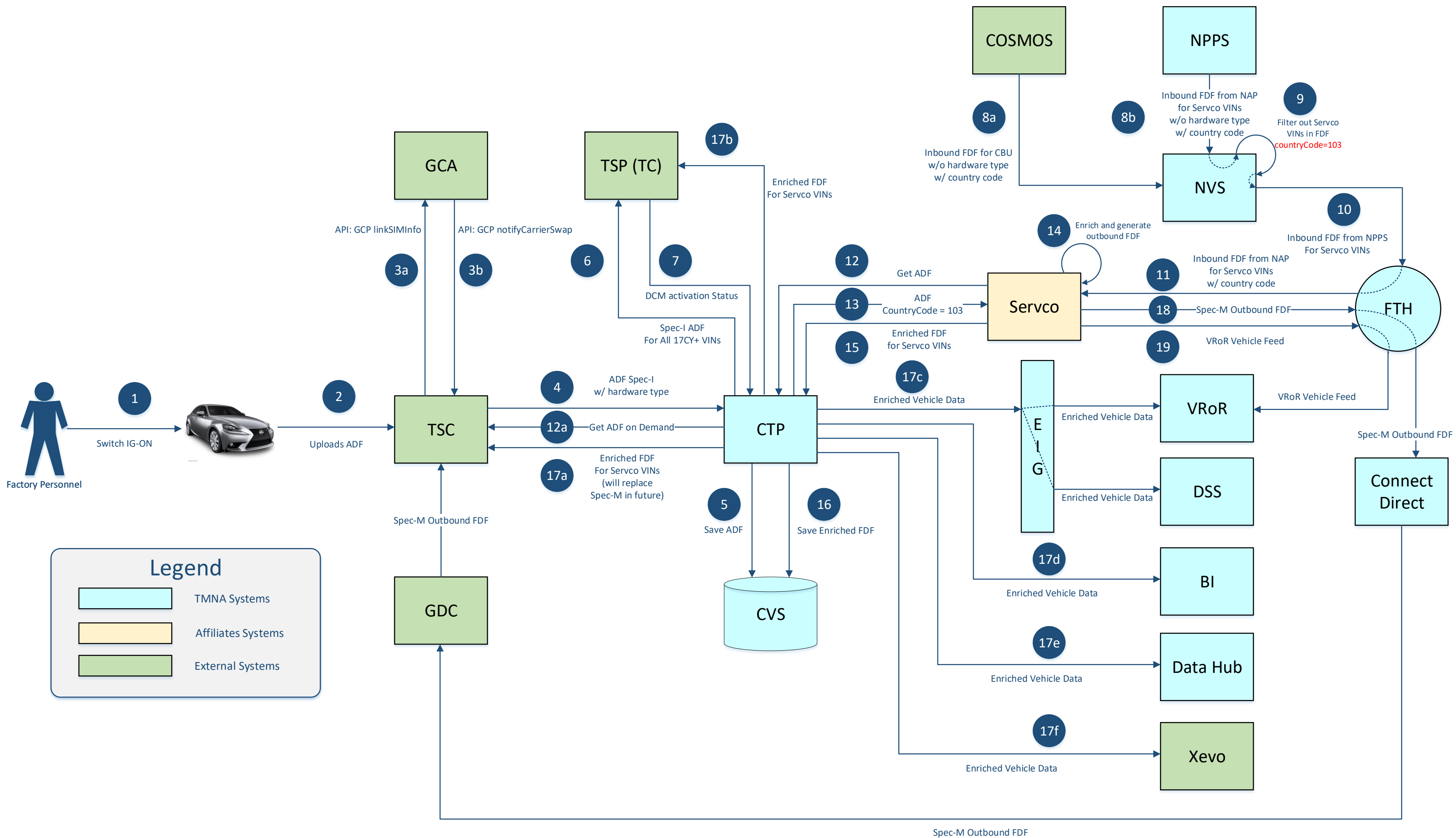
17CY+ ADF FDF Process (TCI)



Steps

1. At line off in factory, a factory personnel switches vehicle to IG-ON.
2. Vehicle's DCM uploads ADF to TSC.
3. TSC communicates with GCP(GCA) for the VIN and DCM information in preparation for carrier swap.
4. TSC sends the ADF to CTP.
5. CTP validates and stores the ADF in CVS.
6. CTP sends the ADF to TSP.
7. TSP sends DCM activation status to CVS at the end of CUST process.
- 8a. TCI receives inbound FDF from COSMOS for CBU for TCI vehicles.
- 8b. NVS receives inbound FDF from NPPS for all NAP made vehicles.
9. NVS filters out TCI VINs in NPPS inbound FDF based on country code (103=TCI).
10. NVS sends inbound FDF with TCI's NAP made VINs to FTH.
11. FTP forwards the TCI inbound FDF to TCI.
12. TCI invokes CTP service to get the ADF for a VIN to be processed.
- 12a. If ADF is not found in CVS, CTP calls TSC to get the ADF for the VIN. Then TSC will respond with ADF as described in Step 5 and 6.
13. CTP finds the VIN in CVS and returns the ADF to TCI.
14. TCI enriches the vehicle data for the TCI VIN.
15. TCI sends enriched outbound vehicle data for TCI VINs to CTP.
16. CTP updates CVS store with the enriched vehicle data.
- 17a. CTP sends enriched vehicle data to TSC via web service (replaces Spec-M FDF).
- 17b. CTP sends enriched vehicle data to TSP via webhook.
- 17c. CTP sends enriched vehicle data to EIG via web service which forwards it to VRoR and DSS.
- 17d. CTP sends enriched vehicle data to BI Platform via web service.
- 17e. CTP sends enriched vehicle data to Data Hub via web service.
- 17f. CTP sends enriched vehicle data to Xevo via web service.
18. TCI sends an Spec-M outbound FDF to ConnectDirect which in turns sends it to GDC and reaches TSC in the end. (This will be retired by process 17a once 17a is mature)
19. TCI sends a vehicle data feed to VRoR for vehicle data displayed in SLP.

17CY+ ADF FDF Process (Servco)



Steps

1. At line off in factory, a factory personnel switches vehicle to IG-ON.
2. Vehicle's DCM uploads ADF to TSC.
3. TSC communicates with GCP(GCA) for the VIN and DCM information in preparation for carrier swap.
4. TSC sends the ADF to CTP.
5. CTP validates and stores the ADF in CVS.
6. CTP sends the ADF to TSP.
7. TSP sends DCM activation status to CVS at the end of CUST process.
- 8a. NVS receives inbound FDF from COSMOS for CBU for TMNA, TdPR and Servco vehicles.
- 8b. NVS receives inbound FDF from NPPS for all NAP made vehicles.
9. NVS filters out Servco VINs in COSMOS and NPPS inbound FDF based on country code (103=Servco).
10. NVS sends inbound FDF with Servco VINs to FTH.
11. FTP forwards the Servco inbound FDF to Servco.
12. Servco invokes CTP service to get the ADF for a VIN to be processed.
- 12a. If ADF is not found in CVS, CTP calls TSC to get the ADF for the VIN. Then TSC will respond with ADF as described in Step 5 and 6.
13. CTP finds the VIN in CVS and returns the ADF to Servco.
14. Servco enriches the vehicle data for the Servco VIN.
15. Servco sends enriched outbound vehicle data for Servco VINs to CTP.
16. CTP updates CVS store with the enriched vehicle data.
- 17a. CTP sends enriched vehicle data to TSC via web service (replaces Spec-M FDF).
- 17b. CTP sends enriched vehicle data to TSP via webhook.
- 17c. CTP sends enriched vehicle data to EIG via web service which forwards it to VRoR and DSS.
- 17d. CTP sends enriched vehicle data to BI Platform via web service.
- 17e. CTP sends enriched vehicle data to Data Hub via web service.
- 17f. CTP sends enriched vehicle data to Xevo via web service.
18. Servco sends an Spec-M outbound FDF to ConnectDirect which in turns sends it to GDC and reaches TSC in the end. (This will be retired by process 16a once 16a is mature)
19. Servco sends a vehicle data feed to VRoR for vehicle data displayed in SLP.

17CY+ ADF FDF Process (Enrichment at CVS for All VINs)

