Android 16 NFC API and static config Changes

Feb, 2024

NXP Proprietary API Changes in A16 – Card Emulation Feature

SNO	Exiting NxpNfcExtension API in A15	Proposed New AOSP API in A16	Remarks
1	void DefaultRouteSet(int routeLoc, boolean fullPower, boolean lowPower, boolean noPower);	public void overwriteRoutingTable(int protocol,int technology, int **emptyAid**,int systemCode)	1. New AOSP API does not support power state input as argument rather application shall rely on "Secure NFC" feature as alternative. CardEmulationManager.java - Android Code Search
2	void MifareDesfireRouteSet(int routeLoc, boolean fullPower, boolean lowPower, boolean noPower)	public void overwriteRoutingTable(int **protocol**,int technology, int emptyAid,int systemCode)	Same as SNO#1
3	void MifareCLTRouteSet(int routeLoc, boolean fullPower, boolean lowPower, boolean noPower);	public void overwriteRoutingTable(int protocol,int **technology**, int emptyAid,int systemCode)	Same as SNO#1
4	void NfcFRouteSet(int routeLoc, boolean fullPower, boolean lowPower, boolean noPower);	public void overwriteRoutingTable(int protocol,int **technology**, int emptyAid,int systemCode)	Same as SNO#1

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NXP Proprietary API Changes in A16 – T4T and eSE Feature

SNO	Exiting NxpNfcExtension API in A15	Proposed New AOSP API in A16	Remarks
1	int doWriteT4tData(in byte[] fileId, in byte[] data, int length);	public @WriteDataStatus int writeData(@IntRange(from = 0, to = 65535) int fileId, @NonNull byte[] data)	T4tNdefNfcee.java
2	byte[] doReadT4tData(in byte[] fileId);	public byte[] readData(@IntRange(from = 0, to = 65535) int fileId) {	
3	NA	public NdefCcFileInfo readCcfile()	This API newly added in A16
4	NA	int clearNdefData();	This API newly added in A16
5	NA	boolean isNdefOperationOngoing();	This API newly added in A16
6	NA	boolean isNdefNfceeEmulationSupported();	This API newly added in A16
7	int[] getActiveSecureElementList(String pkg);	List<String> getActiveNfceeList();	
8	void changeDiscoveryTech(IBinder binder, int pollTech, int listenTech);	setDiscoveryTechnology	Deprecated as similar API is present in AOSP

Un-Supported NXP Proprietary API's in A16

SNO	Exiting NxpNfcExtension API in A15	Proposed New AOSP API in A16	Remarks
1	int getMaxAidRoutingTableSize();	NA	Deprecated. Not used.
2	int getCommittedAidRoutingTableSize();	NA	These API are used because now Listen Mode Routing table is defined in number of bytes and not in number of AID routes. Refer:artf1140770
3	int selectUicc(int uiccSlot);	NA	Deprecated.This API used for static UICC switching.
4	int getSelectedUicc();	NA	Now, we support dual UICC and both UICC's can be active at same time. Based on the payment application, data can be routed to UICC1 or UICC2.
5	int configureSecureReader(boolean on, String readerType);	NA	TeamForge : artf953211: [SN220V3][System I&V][Mifare_Digitization_Type1]Observed STATUS_REJECTED for RF_Discover_MAP_CMD while starting Mifare reader mode.
6	void enableWlc(INxpWlcCallBack callback);	NA	Deprecated and AOSP WLC recommended
7	void disableWlc(INxpWlcCallBack callback);	NA	Deprecated and AOSP WLC recommended
8	boolean isWlcEnabled();	NA	Deprecated and AOSP WLC recommended
9	void updateStatus(int status)	NA	Deprecated and AOSP WLC recommended

Un-Supported NXP Proprietary Static Configurations in A16

SNO	Static Configuration	Alternative Proposal	Remarks
1	NXP_CE_ROUTE_STRICT_DISABLE	Not used.	NA
2	DEFAULT_AID_PWR_STATE	Not Supported	Static power state configuration does not supported in Android-16
3	DEFAULT_DESFIRE_PWR_STATE	Not Supported	Same as SNO#2
4	DEFAULT_MIFARE_CLT_PWR_STATE	Not Supported	Same as SNO#2
5	DEFAULT_FELICA_CLT_PWR_STATE	Not Supported	Same as SNO#2
6	DEFAULT_T4TNFCEE_AID_POWER_STATE	Not Supported	Same as SNO#2
7	NXP_CHECK_DEFAULT_PROTO_SE_ID	Not Supported	Confirmed in below artifact https://www.collabnet.nxp.com/sf/go/artf1137700
8	AID_MATCHING_PLATFORM	Not Used	NA
9	FORWARD_FUNCTIONALITY_ENABLE	Not Supported	Check and update the reference
10	DEFAULT_SYS_CODE_PWR_STATE	Not Supported	Same as SNO#2
11	NXP_CE_PRIORITY_ENABLED	not supported	It is added for BMW project. we need to discuss with ROW CAS https://www.collabnet.nxp.com/sf/tracker/do/viewArtifact/projects.pn547sw/tracker.venus_row_mw/artf1063518 Check and update the reference
12	SCREEN_OFF_POWER_STATE	Not Used	

New NFC API from AOSP in Android-16

SNO	Feature	New API added in Android-16	Remarks
1	Vendor Extension Support – NfcOemExtension.java	1. RF Discovery management API and overwriteRoutingTable APIs 2. OEMExtensionCallbacks covers Tag dispatch status, Routing and CE events, RF state updates	NfcOemExtension.java - Android Code Search