Dual eSIM and Admin Interface

Configurations supported by Zebra:

- **MEP Variant:** MEP-B
- **Operating System:** Android 15
- **Supported Products:** All WWAN variants of HC201, TC201, TC501, TC701

Introduction to Dual eSIM Technology

What is Dual eSIM?

Dual eSIM (multiple enabled profiles) enables a single embedded SIM (eSIM) chip to support multiple active subscriber profiles simultaneously. This technology enhances flexibility and connectivity options for device users.

Default Configuration:

- Out of the box, Zebra devices support **Dual SIM Dual Standby (DSDS)** with:
    - One physical SIM (pSIM)
    - One eSIM

Device-Level Configuration:

- **Hardware:**
    - Two SIM slots:
        - Slot 1: Physical SIM (removeable)
        - Slot 2: Embedded eSIM (non-removeable)
    - eSIM profiles can be downloaded only to the eSIM slot.
- **Software:**
    - Logical slot indexes manage SIM subscription mapping:
        - Index 1: pSIM or eSIM
        - Index 2: eSIM only

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Possible Device Configurations

1. **pSIM + eSIM:**
    a. pSIM mapped to logical slot index 1.
    b. eSIM profile mapped to logical slot index 2.
    c. **Note:** MEP must be disabled to enable pSIM.
2. **eSIM + eSIM:**
    a. One eSIM profile mapped to logical slot index 1.
    b. Another eSIM profile mapped to logical slot index 2.
    c. **Note:** MEP must be enabled for dual eSIM profiles.

Enterprise reset behavior

- By default, an Enterprise Reset restores the device slot mapping to its out-of-the-box state. This automatically activates the Physical SIM and the first enabled eSIM profile (Profile A), while deactivating any subsequently installed and enabled eSIM profiles (Profile B).
- Known Issue: Second eSIM Profile Stuck on "Inactive"
  If an Enterprise Reset is performed while the first enabled eSIM (Profile A) is disabled and the second enabled eSIM (Profile B) is active, Profile B may become stuck in a disabled state post-reset and cannot be toggled on.
- Workaround: To restore service to the stuck profile, simply turn ON Profile A first, and then turn ON Profile B. This forces the device to refresh its logical slots mapping and resolve the issue.
- Prevention: To avoid this issue, always ensure the first enabled eSIM (Profile A) should be in enabled state or both the profiles need to be in enabled state prior to performing an Enterprise Reset.

Operational Assumptions:

1. Administrator is expected to remember the prior slot selection. For future profile activations, the administrator can select either the previously used slot or a new one.
2. If a profile is chosen to be enabled for the given slot, device software enables the profile at that slot only, replacing the existing slot even if the other slot is available.

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3. When MEP is enabled with single active profile and user inserts a pSIM card, the physical SIM card remains in disabled state. It can only be enabled via the settings menu or a configuration deployed via DNA Cloud or StageNow barcode or an EMM system.

Operations for MEP Configuration

Available Options:

1. Enable MEP
2. Disable MEP

These operations can be performed independently OR in combination with existing enable/disable eSIM profile settings.

1. Enabling MEP:

- Allows eSIM profiles in slot 2 to be mapped to valid logical slots.
- **Impact:** Disables the pSIM in slot 1.
- Slot selection for profile download is removed to avoid confusion (slot 2 default).
- Post-configuration: Slot selection for enabling/disabling profiles maps directly to logical slots.
- Only enabling MEP results in disabling pSIM in slot 1 and makes logical slots available for mapping.

2. Disabling MEP:

- Prevents eSIM profiles in slot 2 from being mapped to logical slots.
- **Impact:** Re-enables the pSIM in slot 1 and disables any available profile mapped at slot 1.
- Slot selection affects the physical enablement/disablement of profiles.
- Only disabling MEP results in the enablement of pSIM in slot1 and removal of profile-slot mappings.

Notes

- Logical slot index mapping ensures one-to-one subscription management.

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- Use the admin interface for seamless management of dual eSIM configurations.
- **pSIM Disabled with MEP:** If a user inserts a physical SIM while MEP is enabled, the card does not function. It can be activated only by disabling MEP.
- Once MEP is enabled, all previously applied configurations for the impacted slot must be reapplied.
    - **Reapply Settings:** After enabling MEP, any custom network settings (such as APNs) applied to the previously active pSIM must be re-configured to the new eSIM profile.

Common Scenarios and How to Handle Them

Here are step-by-step guides for the most common configuration changes.

Scenario 1: Switching from a physical SIM and an eSIM to two eSIMs.

- **Device Status:** MEP is OFF. You have a pSIM active and eSIM Profile 1 active.
- **Goal:** Use eSIM Profile 2 and eSIM Profile 1 together.

Configuration Steps:

1. Enable MEP. This disables the pSIM.
2. Enable eSIM Profile 2. Your device is now active with eSIM Profile 2 and eSIM Profile

Scenario 2: Switching from two eSIMs back to using a pSIM.

- **Device Status:** MEP is ON. You have eSIM Profile 2 and eSIM Profile 1 active.
- **Goal:** Use a pSIM and eSIM Profile 1.

Configuration Steps:

1. Disable MEP. This automatically disables eSIM Profile 2 and reenables the physical SIM slot.
2. Insert your pSIM. Your device is now active with the pSIM and eSIM Profile 1.

Scenario 3: While using two eSIMs, changing one to a new profile.

- **Device Status:** MEP is ON. You have eSIM Profile 2 and eSIM Profile 1 active.
- **Goal:** Replace eSIM Profile 2 with a new eSIM Profile 3.

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Configuration Steps:

1. Download eSIM Profile 3 to the device.
2. Enable eSIM Profile 3. This automatically replaces eSIM Profile 2. Your device is now active with eSIM Profile 3 and eSIM Profile 1.