



arm

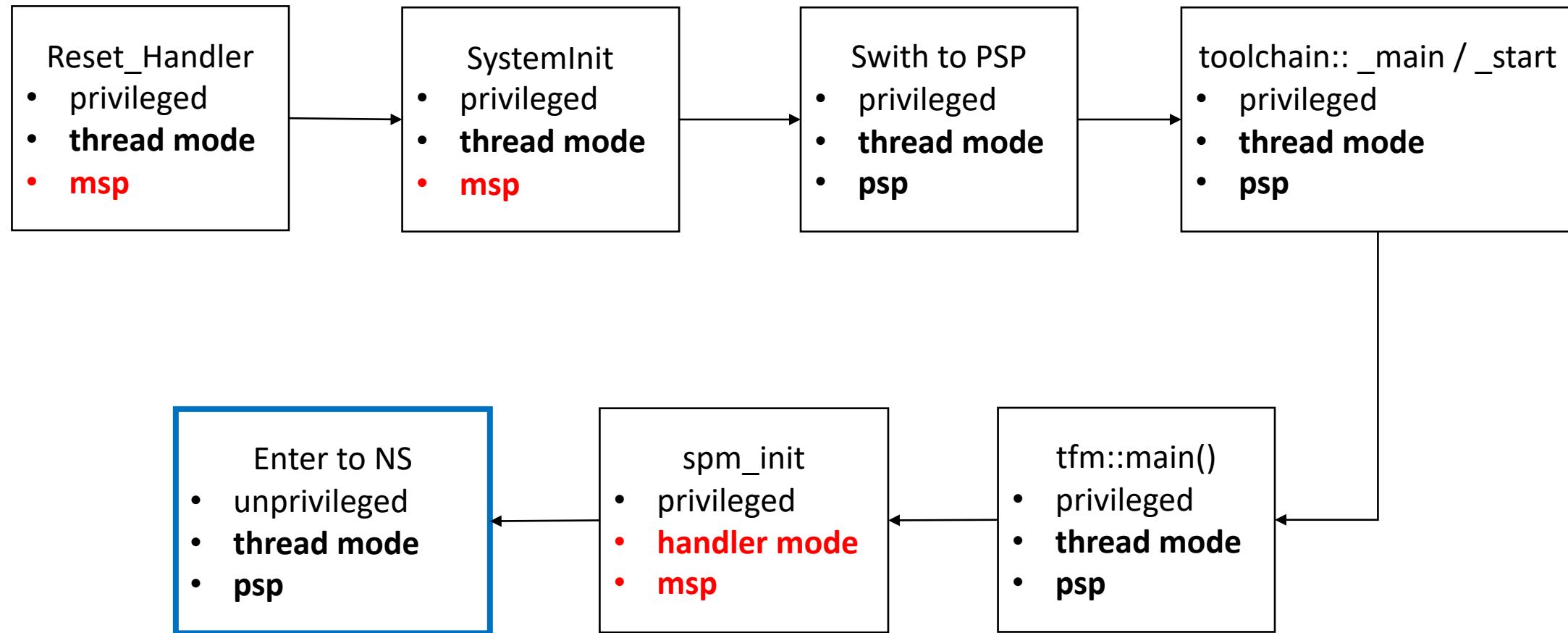
Trusted Firmware - M Initialization Entry Enhancement

Summer Qin
2020.9.17

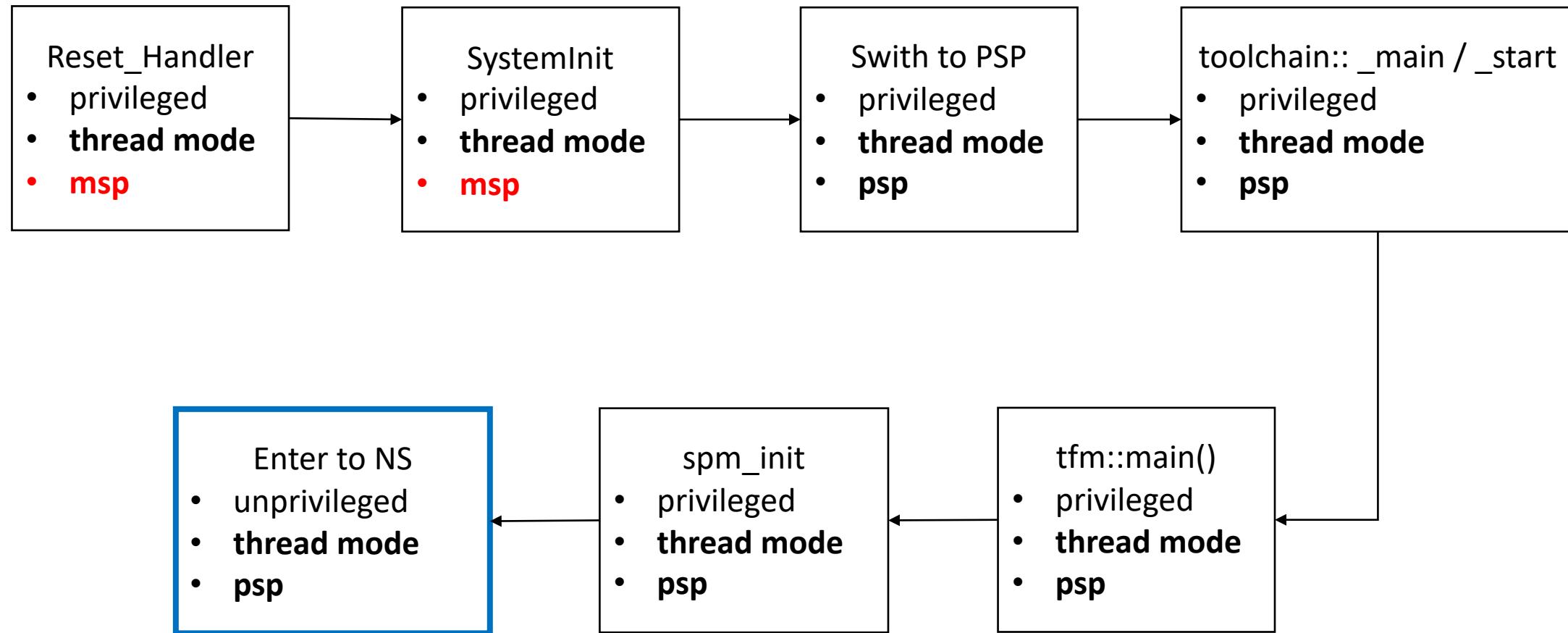
Contents

- The existing initialization flow
- The enhancement

Existing initialization entry flow - IPC



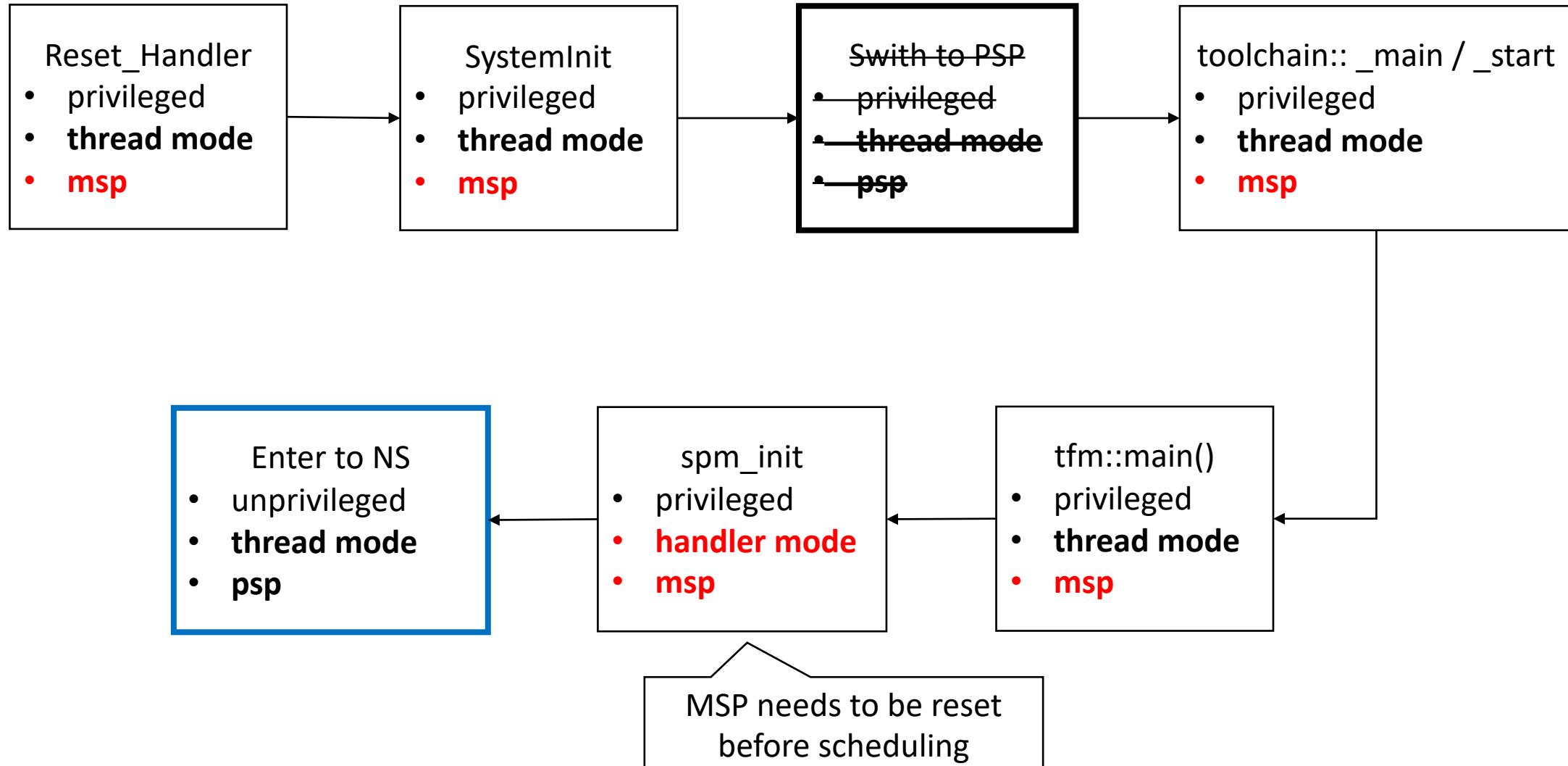
Existing initialization entry flow - library



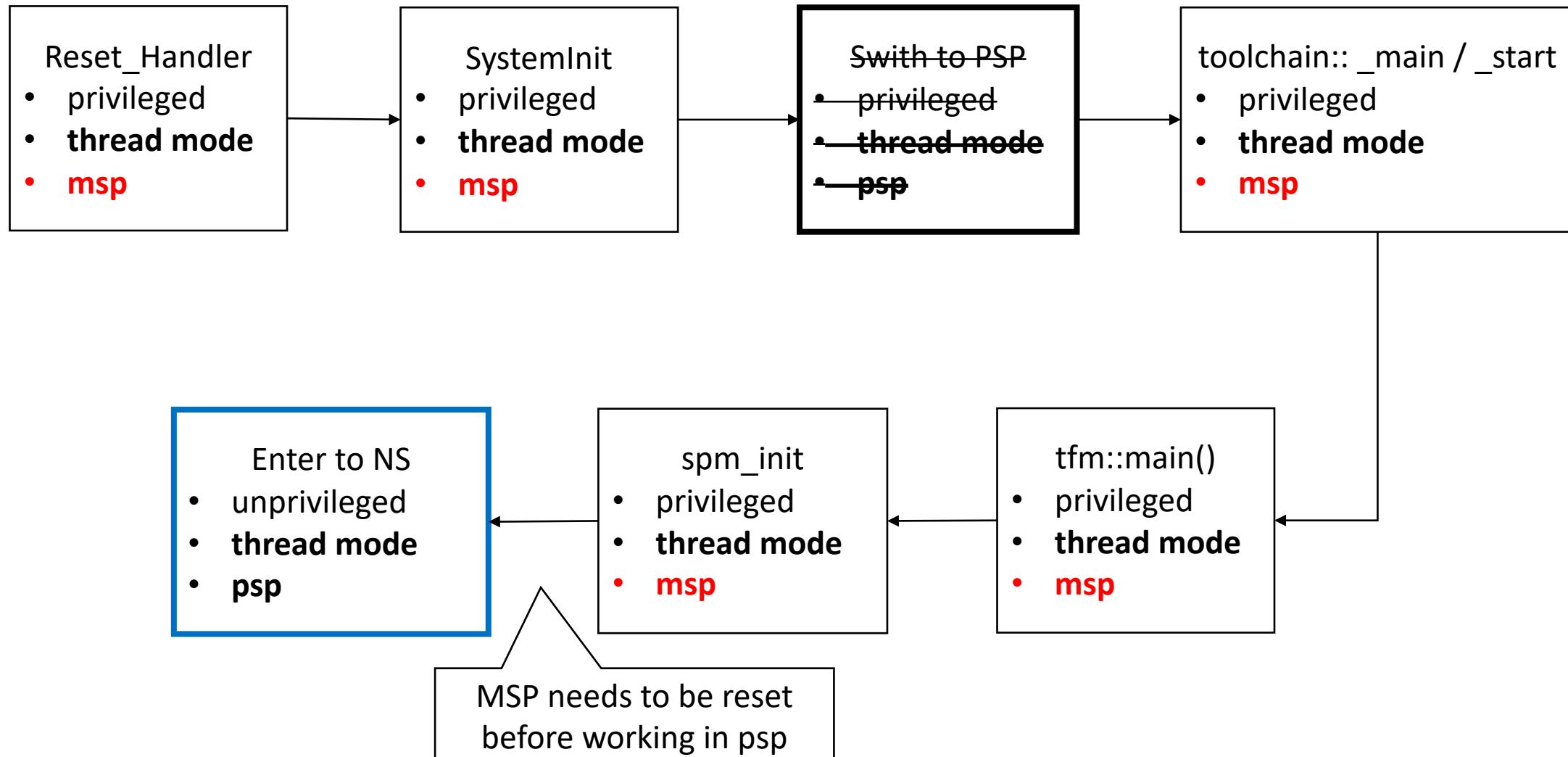
Existing initialization analysis

- Booting belong to scope of SPM, while SPM should work inside a dedicated stack which should never be shared with others.
 - ARM_LIB_STACK being reused by booting code and non-secure partition
- Toolchain would set ARM_LIB_STACK into SP before launching C code
 - Toolchain regard the SPM as the ‘program’ and SPM is using MSP while booting, so ARM_LIB_STACK should represent the MSP value.
- The customized modification for switching to PSP adds un-natural modification on default platform sources for M-profile platform.
 - This switch is unnecessary during booting.

Enhanced initialization entry flow - IPC



Enhanced initialization entry flow - library



arm

Thank You

Danke

Merci

謝謝

ありがとう

Gracias

Kiitos

감사합니다

ধন্যবাদ

شکرًا

ଧନ୍ୟବାଦ

הודות