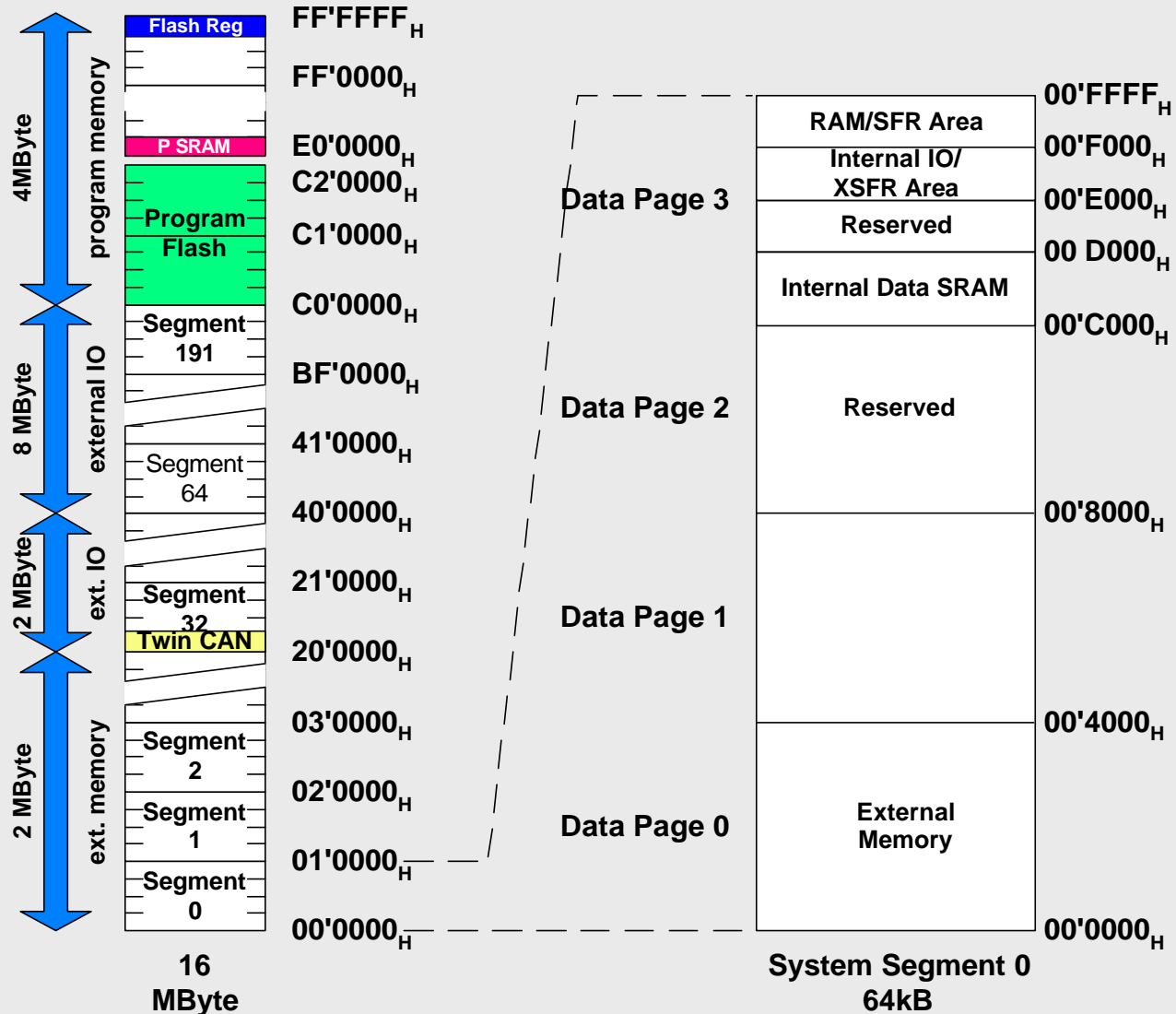


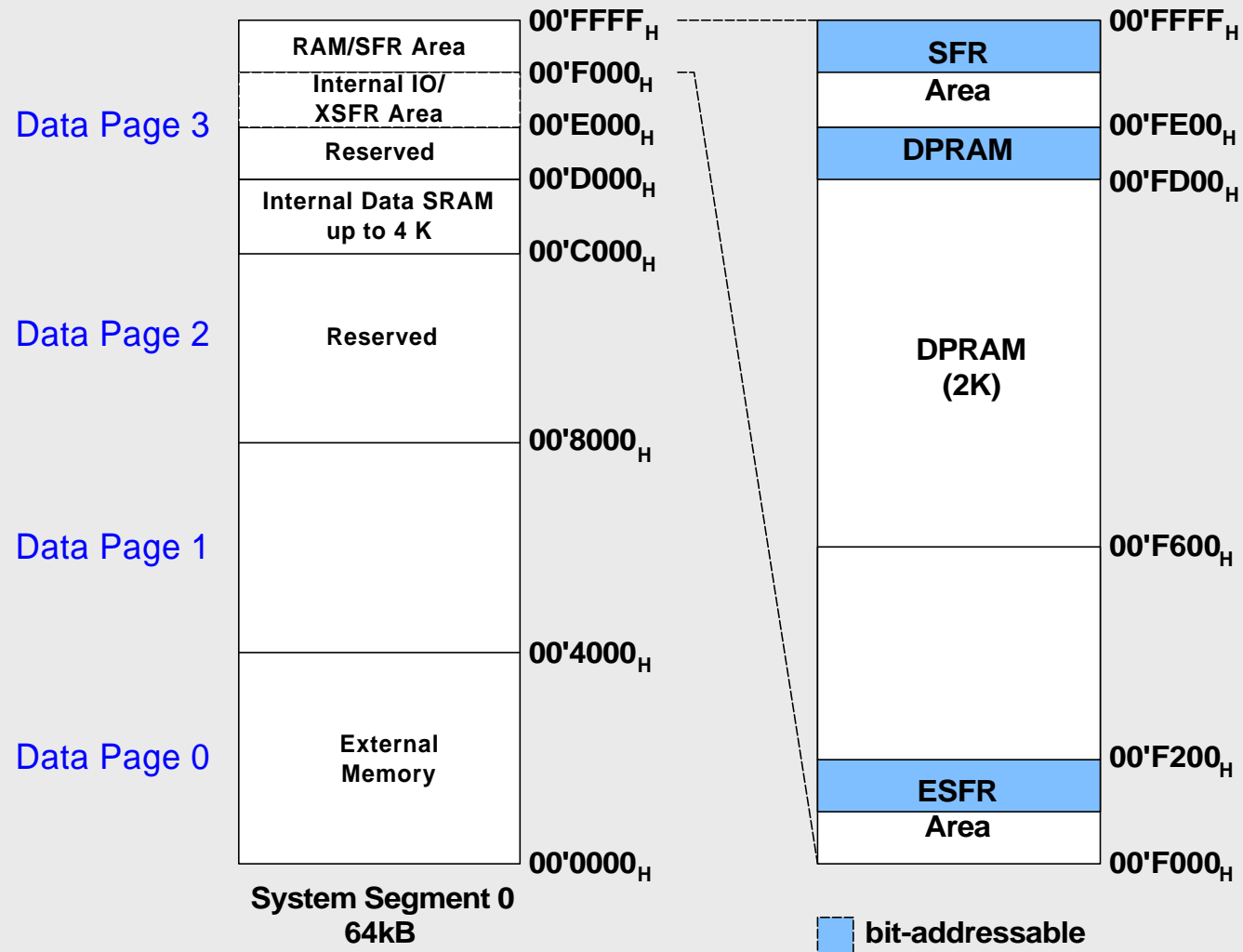
XC16x Memory Organisation

Memory Areas and Address Space



XC16x Memory Organisation

RAM, SFR/ESFR and XSFR Areas in Segment 0



XC166 architecture

XC16x Memory Organisation

DPRAM and DSRAM Areas

■ DPRAM (dual port RAM)

- optimized for **fast data access** (single cycle, no code execution)
- used for:
 - ◆ Data store (stack, variables etc.)
 - ◆ Bit addressable area
 - ◆ Register store
 - ◆ MAC parameter store

■ DSRAM (data SRAM, 16 bit wide):

- optimized for **fast data access** (single cycle)
- for data access only (**no code execution**)
- used for:
 - ◆ Data storage (stack, variables etc.)

XC16x Memory Organisation

PSRAM and Flash Areas

- PSRAM (program SRAM, 64 bit wide):
 - optimized for **fast code access** (single cycle)
 - used for:
 - ◆ Data storage - infrequently used data
 - ◆ Code storage - store e.g. bootstrap or Flash programming code here
- Flash memory (64 bit wide):
 - used for:
 - ◆ code storage
 - ◆ constants, lookup tables, etc.
 - with error correction
 - read protection available, improved password mechanism