B4.7.5 Sections and supersections

If Bits[1:0] equal 0b10, the first-level descriptor is a 1MB section or a 16MB supersection descriptor.

Supersections are optional. If used, they translate 32-bit modified virtual addresses to a larger physical address space (up to eight additional address bits), and are defined as follows:

- The bit fields are described in the VMSAv6 revised format. See *First-level descriptor format (VMSAv6, subpages disabled)* on page B4-27.

Bits[1:0]	= 0b10
Bit[18]	= 0 defines a 1MB section = 1 defines a 16MB supersection
Bits[8:5]	optional extended physical address bits; PA[39:36]
Bits[23:20]	optional extended physical address bits; PA[35:32].

- It is IMPLEMENTATION DEFINED how many additional address bits are supported.
- Supersections default to domain 0.
- It is IMPLEMENTATION DEFINED whether supersections are offered in section descriptor formats prior to ARMv6.

Figure B4-4 on page B4-29 shows how virtual to physical addresses are generated for sections. The shaded area of the descriptor represents the access control data fields.

Note

The access permissions in the first-level descriptor must be checked before the physical address is generated. The sequence for checking access permissions is given in *Access permissions* on page B4-8.

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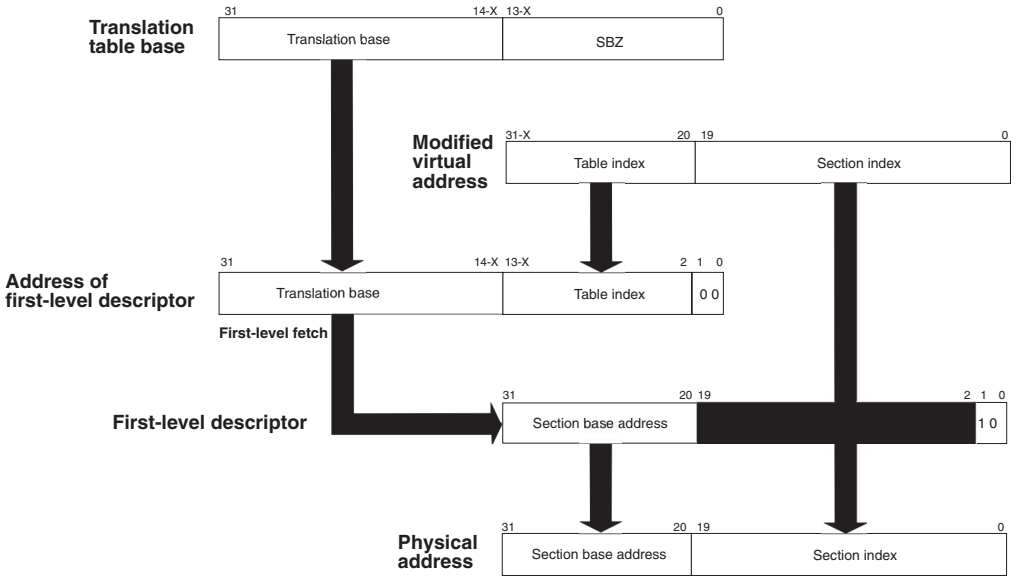

Figure B4-4 Section translation

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