

nuvoTon

NuMicro Family UID/UCID



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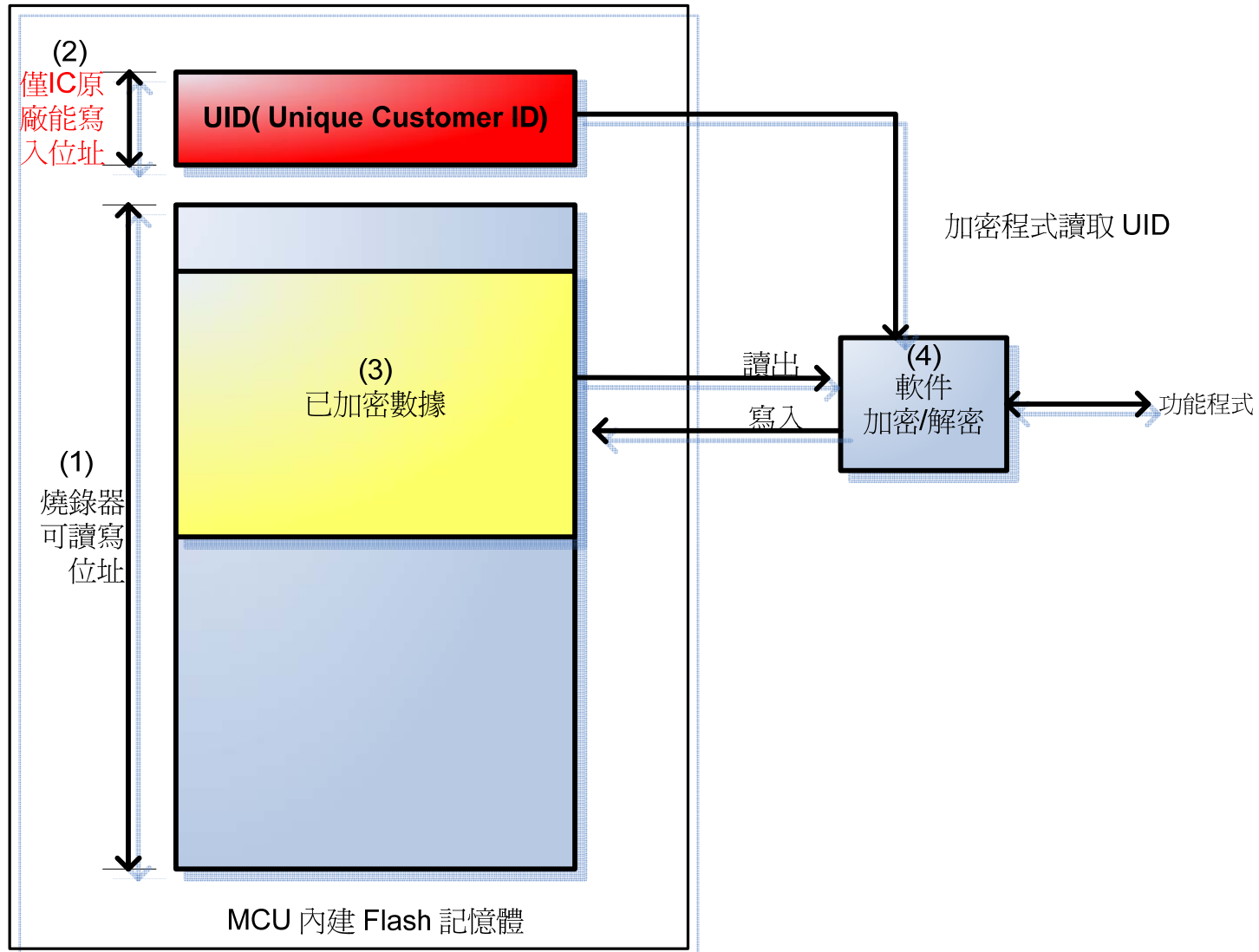
What is UID and UCID

- ▶ UID(Unique Customer ID)晶片唯一碼
 - 每一個 新唐IC有它自己的唯一編號，不會有重複的編號
 - UID length →96 bits(3 words)
 - 可利用這當做serial number
 - 可利用這當做security key
- ▶ UCID (Unique Customer ID)客戶唯一碼
 - 新唐的客戶如果有提正印的需求，新唐原廠配合客戶在特定位址燒入一組該客戶專屬Unique customer ID code
 - UCID length →128 bits(3 words)

UID/UCID Read Method

	讀取方式	位址	數據長度
UID	ICP firmware library function call Read by specified ISP command	不佔用AHB 4GB 記憶體位址.	3 words (96 bits)
UCID	Read by specified ISP command	不佔用AHB 4GB 記憶體位址.	4 words (128 bits)

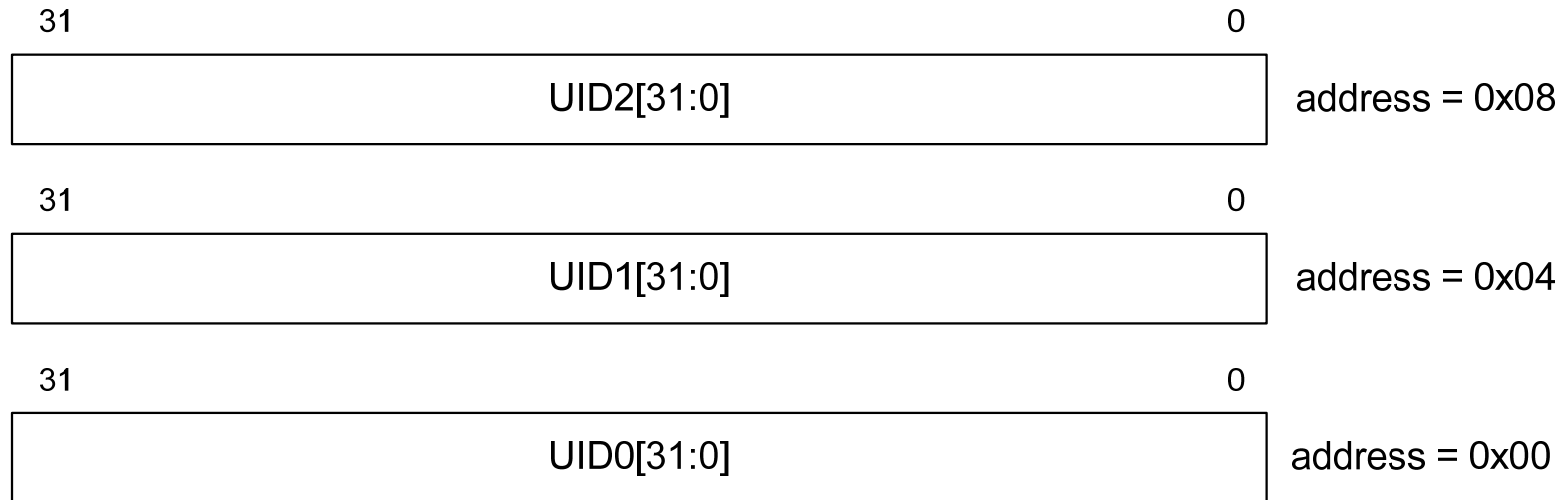
客戶可以用UID自我保護的方式



UCID Advantage and Protection

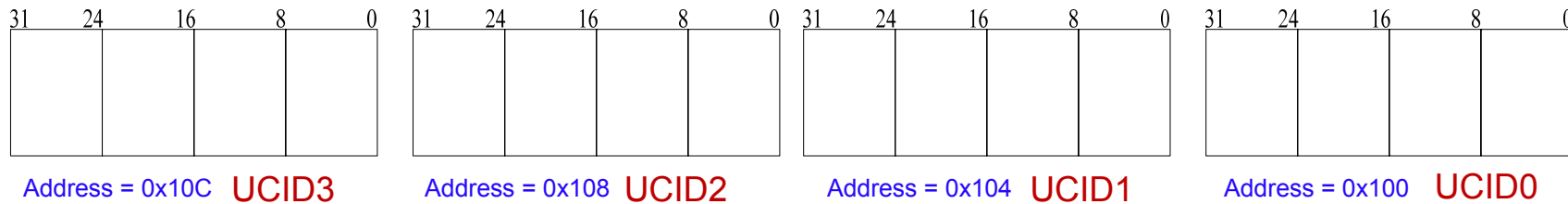
- ▶ 同樣型號的IC，每一家公司有自己的UCID
- ▶ 內建 UCID Code 別人無法更改,
- ▶ 客戶可以在自己程式碼中，加入檢查機制, 如果不是自己的UCID, 程式就不會動作
- ▶ 在這樣的機制下，客戶可以擁有自己公司專用的IC, Program Code 就算被盜，也無法使用, 因為客戶買不到有那個UCID 的IC
- ▶ 業界第一個有這樣的service

S/W read Unique ID (UID)



ISP Command (ISPCMD)	ISP Address (ISPADR)	ISP Data (ISPDAT)
0x04	0x0000_0008	UID2
0x04	0x0000_0004	UID1
0x04	0x0000_0000	UID0

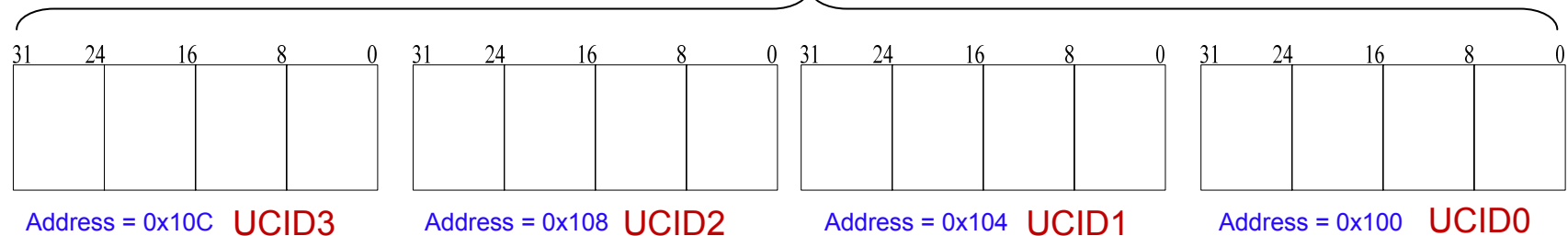
S/W read UCID (logical address)



ISP Command (ISPCMD)	ISP Address (ISPADR)	ISP Data (ISPDAT)
0x04	0x0000_010C	UCID3
0x04	0x0000_0108	UCID2
0x04	0x0000_0104	UCID1
0x04	0x0000_0100	UCID0

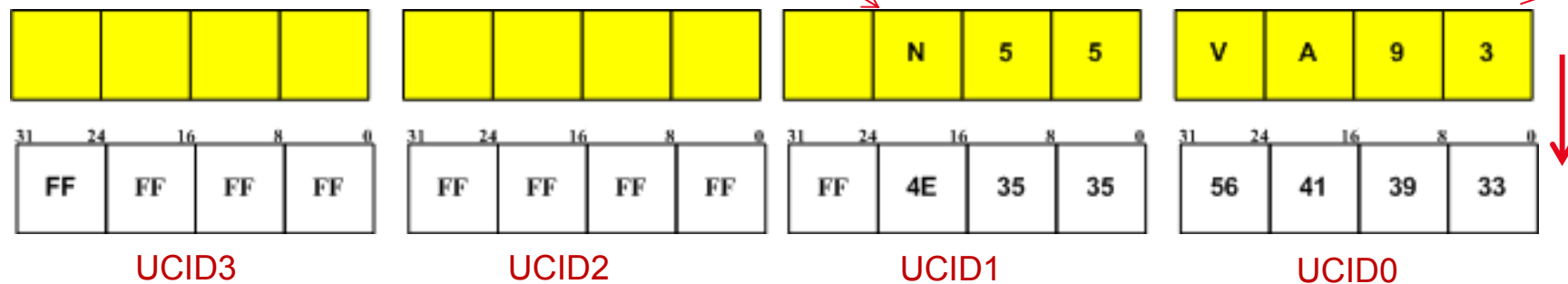
What will be put in UCID? (UCID 編碼原則)

晶片上面 Part No 相對應的 Ascii Code



Example: Customer Chip Part No is N55VA93

LSB Alignment





What NuMicro Chips has this function

- ▶ Mini51 series
- ▶ M051 BN series
- ▶ NUC130xxCN & NUC140xxCN series