第29讲 伙伴系统



Buddy System (伙伴系统)

- ► Entire space available is treated as a single block of 2^U.
- ► If a request of size s such that $2^{U-1} < s <= 2^{U}$, entire block is allocated.
 - Otherwise block is split into two equal buddies.
 - Process continues until smallest block greater than or equal to s is generated.



| 1 Mbyte block | 1 M | | | | | |
|---------------|-----------|---------------|-----------|-----------|-------|--|
| Request 100 K | A = 128 K | 128 K | 256 K | 512 K | | |
| Request 240 K | A = 128 K | 128 K | B = 256 K | 512 K | | |
| Request 64 K | A = 128 K | C = 64 K 64 K | B = 256 K | 512 K | | |
| Request 256 K | A = 128 K | C = 64 K 64 K | B = 256 K | D = 256 K | 256 K | |
| Release B | A = 128 K | C = 64 K 64 K | 256 K | D = 256 K | 256 K | |
| Release A | 128 K | C = 64 K 64 K | 256 K | D = 256 K | 256 K | |
| Request 75 K | E = 128 K | C = 64 K 64 K | 256 K | D = 256 K | 256 K | |
| Release C | E = 128 K | 128 K | 256 K | D = 256 K | 256 K | |
| Release E | 512 K | | | D = 256 K | 256 K | |
| Release D | 8 | 1 M | | | | |

Figure 7.6 Example of Buddy System



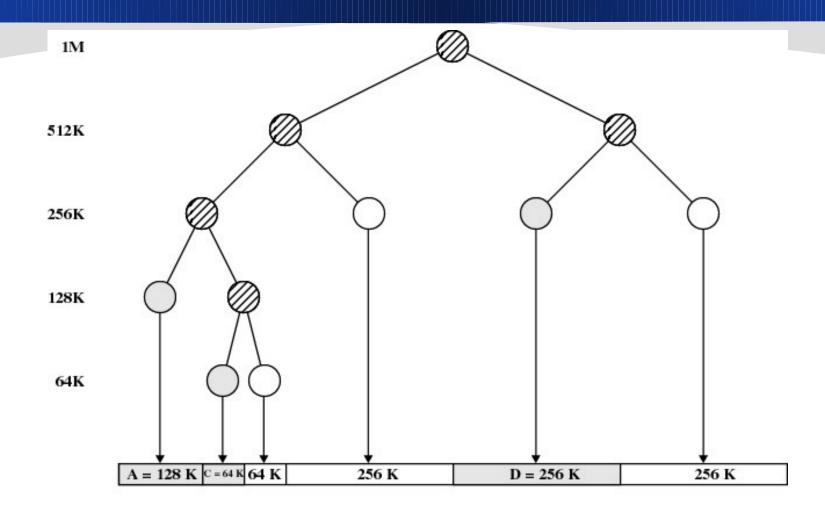


Figure 7.7 Tree Representation of Buddy System

