Claims

1. An asset management method for managing assets, said method being implemented on an integrated circuit, said integrated circuit ~~wherein it uses~~comprising a keys memory (102) for storing keys, each key being associated with a respective asset identifier, and a data memory (103) for storing asset information, said method comprising:

-rReceiving an input command related to an asset comprising an asset identifier and a set of asset information associated with said asset,

-cComputing a set of addresses to said Keys memory (102) from said asset identifier, said step of computing a set of addresses comprising calculating hashes from said asset identifier,

- fFinding or allocating an entry in said keys memory (102) for said asset, based on said set of addresses, depending on the input command,

- computing a data address to said data memory (103) for said asset from the address and position in the keys memory (102) at which an entry has been found or allocated for said asset,

- reading data in the data memory (103) at said computed data address, ~~and~~

- executing the input command based on the data word read in the data memory at said data address, ~~;~~ and

- writing back the result to the keys (102) and data (103) memories.

2. The method of claim 1, wherein it uses a plurality of memory chips used in parallel, and said step of computing an address comprises calculating a different hash for each memory.

3. The method of any preceding claim, wherein each key in said keys memory (102) is associated with a presence bit, the method further comprising, in response to the allocation of an entry, setting the presence bit associated with the entry key to an active state.

4. The method of claim 3, wherein the couples formed by each key and the associated presence bit are arranged in the key memory (102), so that as many couples as possible are packed in each memory data word.

5. The method of any of the preceding claims, wherein it further comprises storing said asset information in association with said asset identifier in said data memory (103), in response to the allocation of said entry.

6. The method of any preceding claim, wherein said hashes are obtained by using the integrated circuit hardware multiplier to multiply the asset identifier by a given coefficient, which provides a data word, and selecting some of the bits of said data word.

7. The method of any preceding claim, wherein the integrated circuit further comprises at least one cache (105) for keeping track of the last processed asset identifiers, as well as the addresses and positions at which the corresponding asset identifiers have been placed.

8. An asset management device (10) implemented on an integrated circuit for managing assets, wherein said device comprises a keys memory (102) for storing keys in association with respective asset identifiers and a data memory (103) for storing asset information, the device further comprising:

- an address generation core (101) configured to, in response to the reception of an input command comprising an asset identifier and a set of asset information, compute a set of addresses to said keys memory (102) from said asset identifier, said step of computing a set of addresses comprising calculating hashes from said asset identifier,

- an entry allocation core (104) for finding or allocating an entry in said keys memory for said asset, based on said set of addresses, depending on the input command,

- a second address generation core (106) configured to compute a data address to said data memory (103) for said asset from the address and position at which an entry has been found or allocated in said keys memory (102), the data being read in the data memory (103) at said data address,

- an execution core (107) for executing the input command based on the data read in the data memory at said data address and writing back the result.

9. The asset management device of claim 8, wherein said entry allocation core (104) is configured to forward an auxiliary command to said second address generation core (106), said auxiliary command comprising the address and position at which an entry has been found or allocated for said asset, said second address generation core (106) being configured to retrieve said address and position from said auxiliary command.

10. The asset management device of any preceding claim 8 and 9, wherein the first and second address generation cores (101, 106), the entry allocation core (104), and the execution core (107) are pipelined.

11. The asset management device of any preceding claim 8 to 10, wherein said keys memory (102) is configured to store each key in association with a presence bit, the presence bit being set to an active state, in response to the allocation of the entry corresponding to the entry key associated with the presence bit.

12. The asset management device of claim 11, wherein the couples formed by each key memory and the associated presence bit are arranged in the key memory, so that as many couples as possible are packed in each memory data word.

13. The asset management device of any preceding claim 8 to 12, wherein the key memory (102) and the data memory (103) are provided on the same physical memory, said asset management device further comprising an arbiter entity so as to provide access to the physical memory from a first part responsible for keys management, including the first Address Generation Core (101) and the entry allocation core (104), and a second part responsible for asset value management, including the second address generation core (106) and the execution core (107), the arbiter entity being further configured to prevent both the key memory (102) and the data memory (103) from overlapping.

14. The asset management device of any preceding claim 8 to 13, wherein the hashes are obtained by using the integrated circuit hardware multiplier to multiply the asset identifier by a given coefficient, which provides a data word, and selecting some of the bits of said data word.