CLAIMS

1. An electronic device (12), such as a train device, comprising:

- a processor (22),
- an allocation module (70),
- a memory unit (24), associated with the processor (22) and including:
    + a boot program (25),
    + at least one boot partition (26),
    + a non-volatile memory (34), and
    + a volatile memory (36),

characterized in that each boot partition (26) includes a kernel (40), a network configuration manager (42) and a query manager (44), the query manager (44) being configured to manage at least one query received from an electronic apparatus (16) outside the electronic device (12),

the boot program (25) being configured to command, for the or one of the boot partitions (26), the activation of the kernel (40), the network configuration manager (42) and the query manager (44),

the query manager (44) being configured so as to be able, after it is activated, to continuously receive at least one query from the outside apparatus (16),

the non-volatile memory (34) being able to store the boot program (25) and the boot partition(s) (26), and

the volatile memory (36) including an execution memory zone (60) configured to execute the boot program (25), the kernel (40), the network configuration manager (42) and the query manager (44) of the corresponding boot partition,

wherein the allocation module (70) is configured to allocate part (72) of the execution memory zone (60) to the query manager (44), then to reserve said part (72) allocated to execution of the query manager (44) and keep the query manager (74) resident in said allocated part (72).

2. The device (12) according to claim 1, wherein the query manager (44) is a computer process configured to be run in the background.

3. The device (12) according to any one of the preceding claims, wherein the device (12) further comprises a primary activation module (46) configured to create, in a volatile memory (36), a memory storage zone (62) allocated to the corresponding boot partition (26), then to load, in the memory storage zone (62), the kernel (40), the network configuration manager (42) and the query manager (44) of said boot partition (26).

4. The device (12) according to claim 3, wherein the primary activation module (46) is further configured to command the execution of the kernel (40), the network configuration manager (42) and the query manager (44) of said boot partition (26).

5. The device (12) according to claim 3 or 4, wherein the primary activation module (46) is further configured to keep the allocation of said memory storage zone (62) in the volatile memory (36) throughout all of the operation of the device.

6. The device (12) according to any one of claims 3 to 5, wherein each boot partition (26) is made up of the primary activation module (46), the kernel (40), the network configuration manager (42) and the query manager (44).

7. The device (12) according to any one of the preceding claims, wherein, when the query manager (44) depends on at least one function library (74), the query manager (44) is statically linked to each library (74) on which it depends.

8. The device (12) according to any one of the preceding claims, wherein the query manager (44) further includes a web server.

9. The device (12) according to any one of the preceding claims, wherein the boot program (25) is further configured to verify the integrity of the or at least one of the boot partitions (26).

10. The device (12) according to any one of the preceding claims, wherein the boot program (25) is configured to select the or one of the boot partitions (26), and to command, for the selected boot partition (26), the activation of the kernel (40), the network configuration manager (42) and the query manager (44),

in particular via the execution of a primary activation module (46), the device (12) comprising said primary activation module (46).

11. The device (12) according to any one of the preceding claims, wherein the memory unit (24) further includes an application partition (28), the application partition (28) including at least one software application (50) and one secondary activation module (52) that is configured to run at least one corresponding software application (50).

12. The device (12) according to any one of the preceding claims, wherein the memory unit (24) includes at least two redundant boot partitions (26), each boot partition (26) including the kernel (40), the network configuration manager (42) and the query manager (44).

13. A rail vehicle comprising an electronic train device (12), characterized in that the electronic device (12) is according to any one of the preceding claims.

14. A rail system (10), comprising:

- at least one element from among a maintenance server (14) and an electronic maintenance apparatus (16), and
- at least one rail vehicle including an electronic train device (12),

each element from among the maintenance server (16) and the maintenance apparatus (14) being connected to the electronic device (12) and being configured to send one or several queries to the electronic device (12),

characterized in that the electronic device (12) is according to any one of the preceding claims.