MultiClet is a technical term used to define processor core, processor with multicellular architecture, and multicellular processor based device. For this reason the term was chosen to be the company's name. **Main advantages of multicellular architecture**

- **It enhances performance and at the same time reduces energy consumption**
- **There is no need for compliated controlling units such as brunch prediction, out-of-sequence command execution etc., therefore it reduces considerably the size of the chip.**

Liveness

-

Fault Tolerance (continuous program running in case of hardware environment break-down - cells failure)

- **Dynamic reconfiguration (in the process of task performance 1,2,3 or 4 cells can be involved, while uninvolved cells can perform other tasks)**

Super security of information

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Natural virus immunity

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**Cryptographic capabilities**

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Anti-hacking features

Multicellular architecture features

-   **"Natural" implementation of parallelism (without solving the problem of parallelizing)**
-   **Program execution without recompilation for any quantity of cells**
-   **Effective settlement of any class of problems (commutation environment doesn't limit intercellular data exchange)**
-   **Significant reduction of memory accesses during execution of task**

The multicellular architecture differs from the von Neumann model by the direct indication of informational connections between operations and consequently any requirement for the ordered arrangement of the operation description in the program is annulled.

It is different from the well known non-von Neumann architectures by means of sequential fetching which realizes imperative programming languages as well as by dynamically generated tags, but not instruction addresses of indicating informational connections. Any instruction is executed at the "data readiness" and "its output users' readiness".

- command operating,
- rank-order operations,
- information exchange between operations via memory.
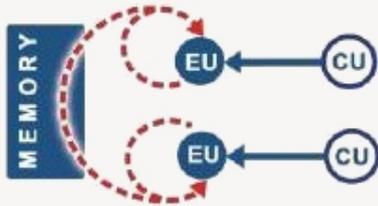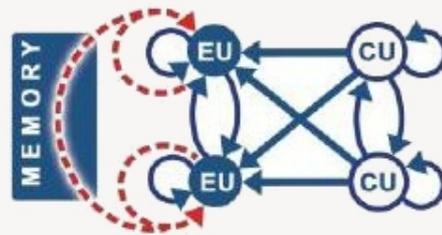
Multi-core Von Neumann architecture

- statement operating,
- random operations,
- direct information exchange between operations without memory involvement.

Multicellular architecture