

Architettura degli elaboratori

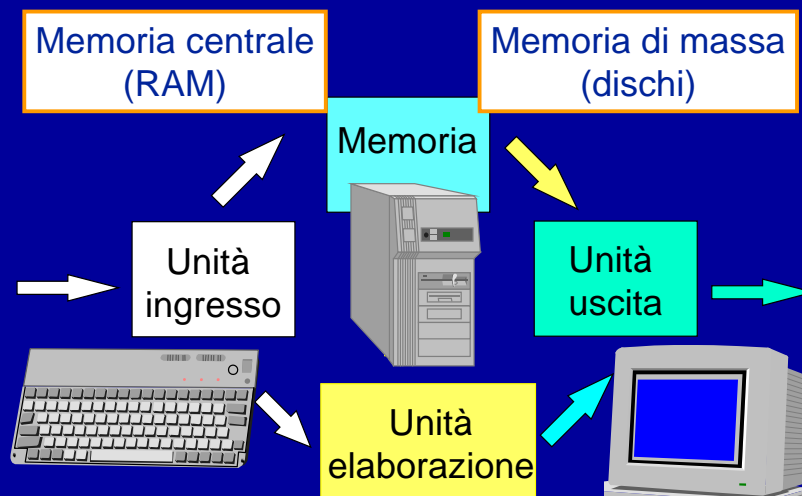
Prof. Marco Mezzalama

I blocchi fondamentali dell'elaboratore



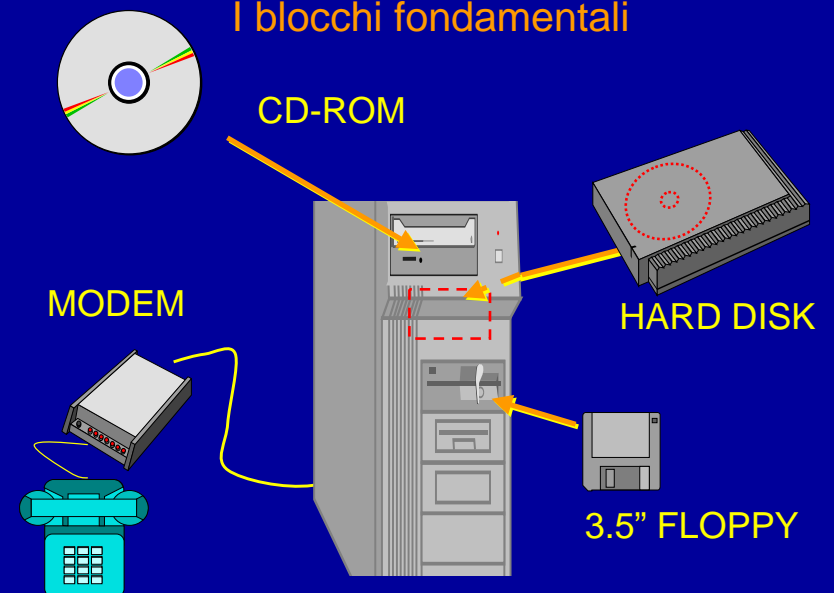
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I blocchi fondamentali dell'elaboratore

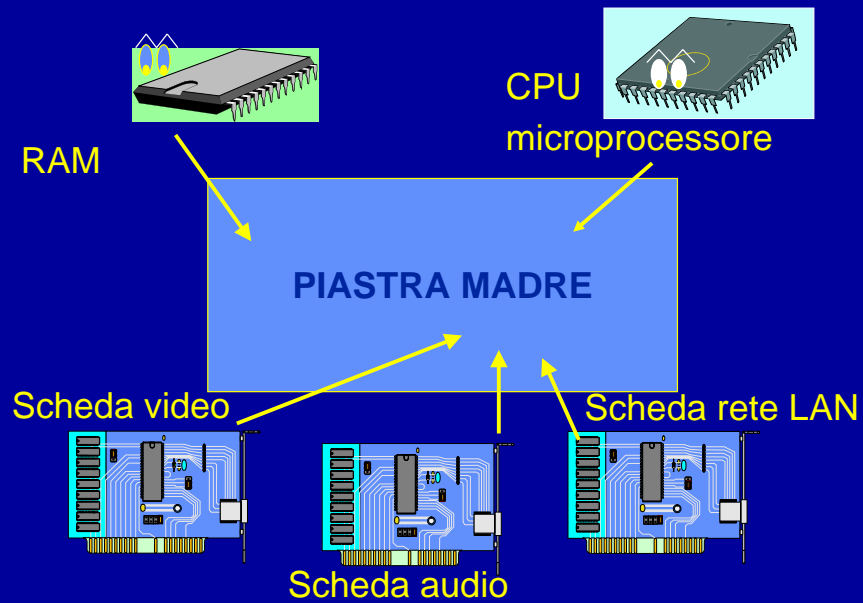


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I blocchi fondamentali

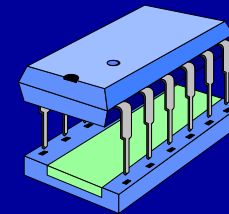


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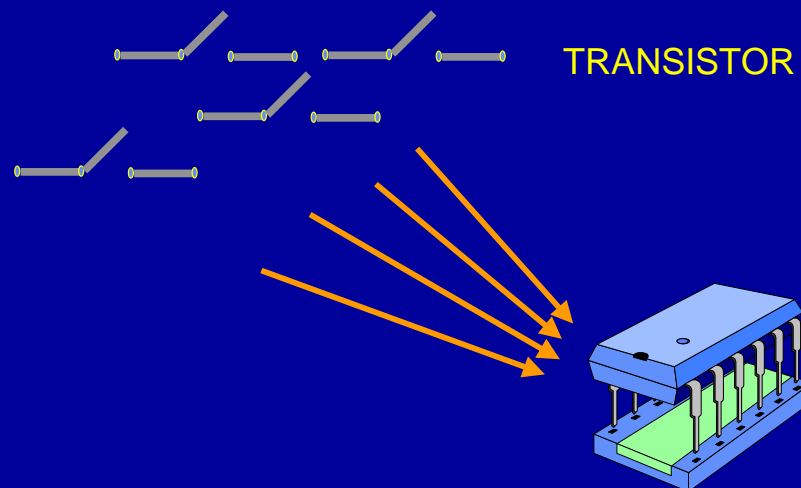
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Chip

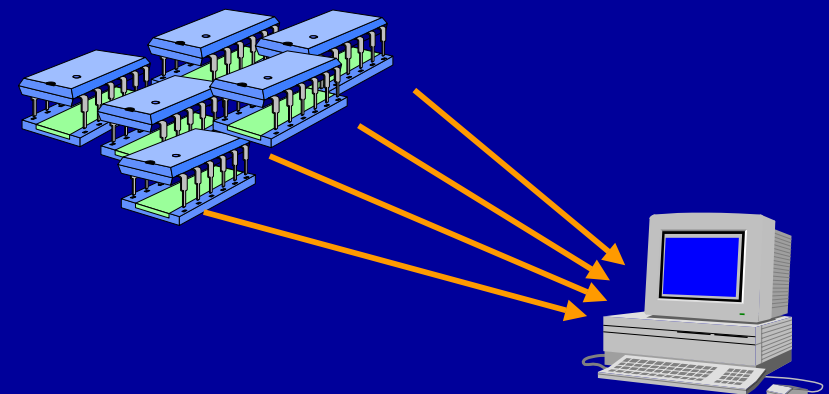


Chip:
circuitto integrato, microcircuito,
componente elettronico contenente
al suo interno moltissimi transistor

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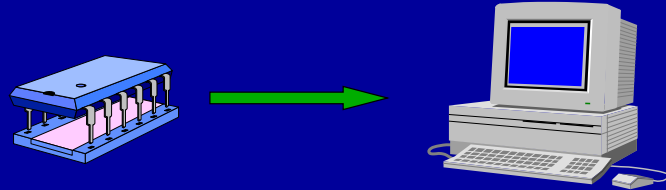


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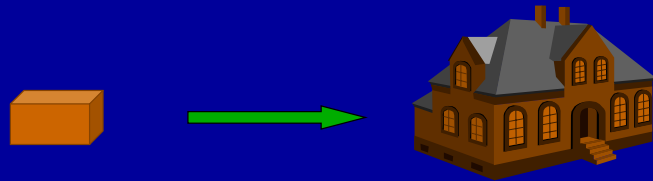


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Chip

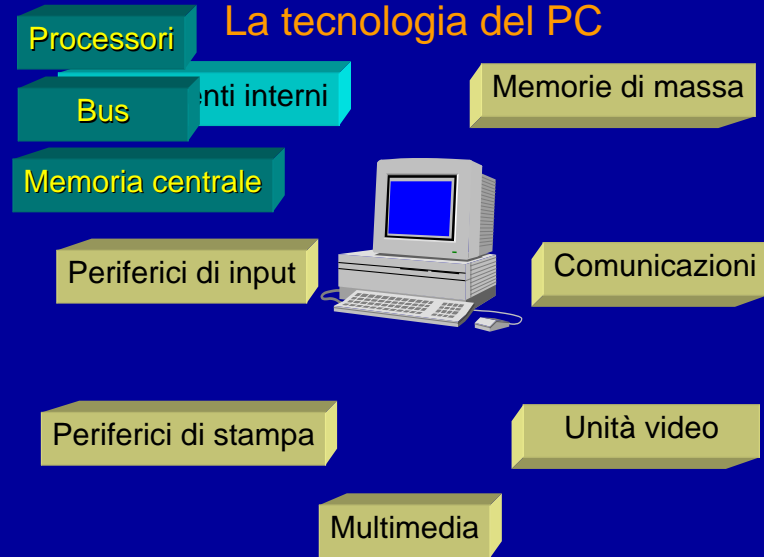


Il chip sta al calcolatore
come il mattone sta alla casa

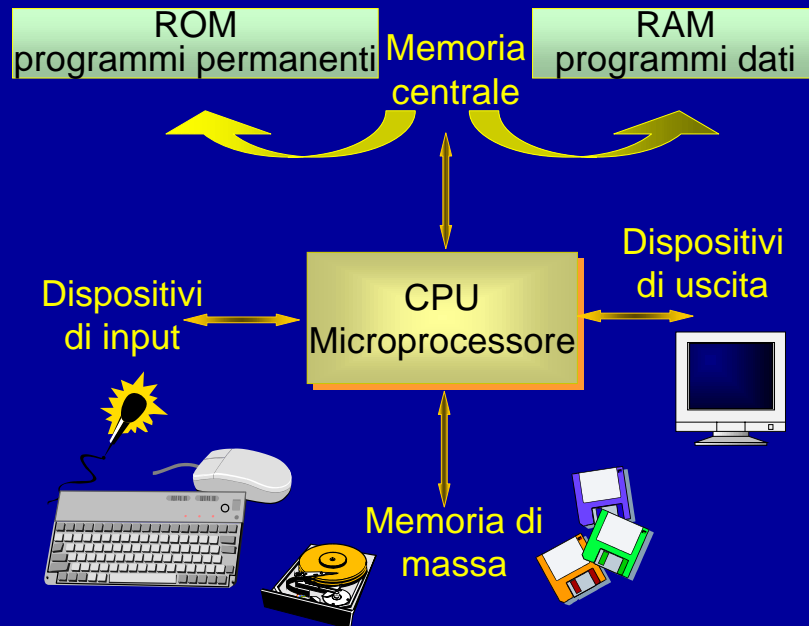


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La tecnologia del PC



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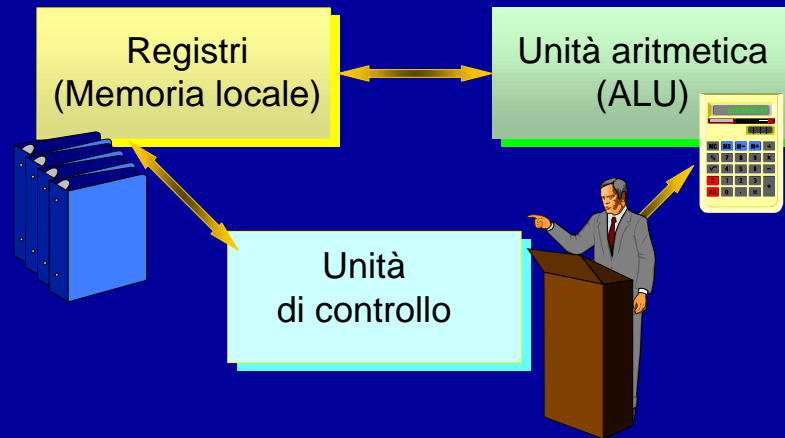
Architettura di un elaboratore



- La CPU controlla tutte le operazioni di un elaboratore
- Le operazioni possono essere:
 - interne alla CPU (somma)
 - esterne: trasferimenti da/per memoria/IO

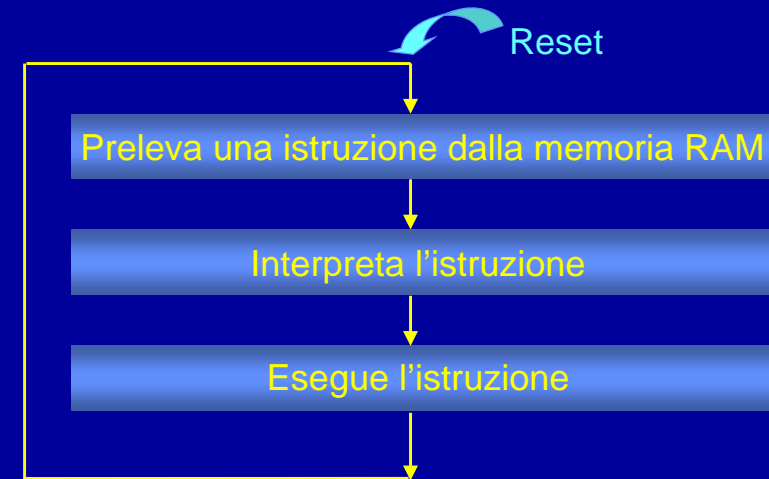
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La CPU (Central Processing Unit)

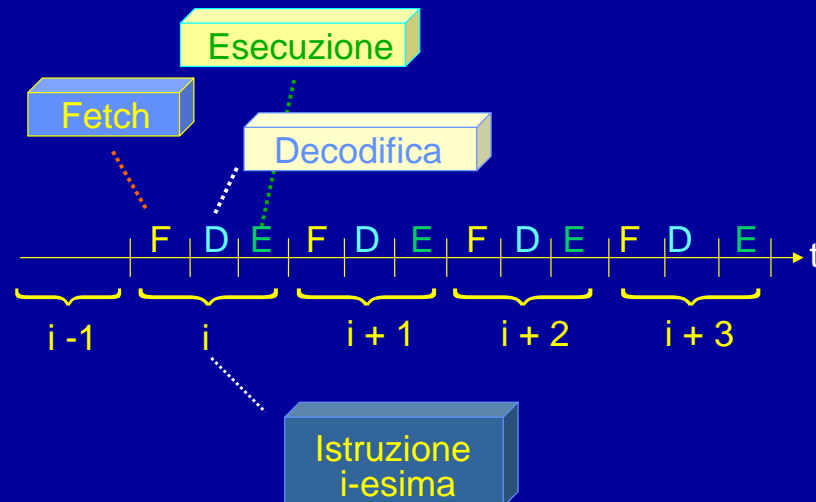


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Il ciclo base di un elaboratore

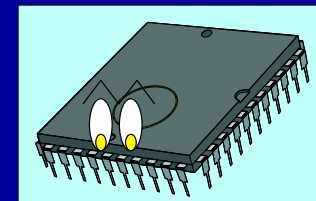


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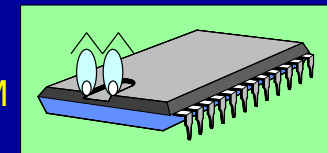
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I chip fondamentali



microprocessore

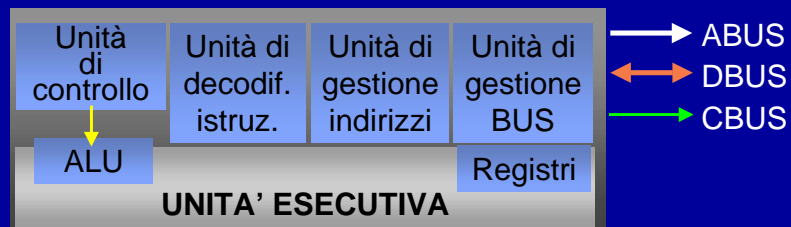
Memoria centrale - RAM



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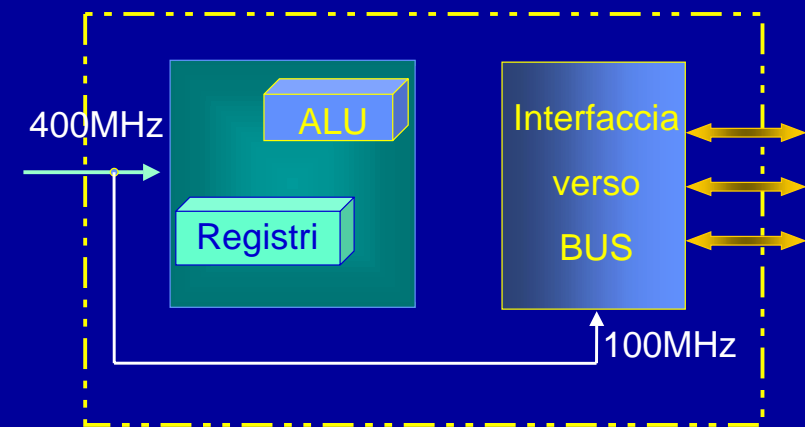
Microprocessore

Un microprocessore è un circuito (chip) ad altissimo grado di integrazione in cui risiedono tutte le funzioni tipiche di una CPU



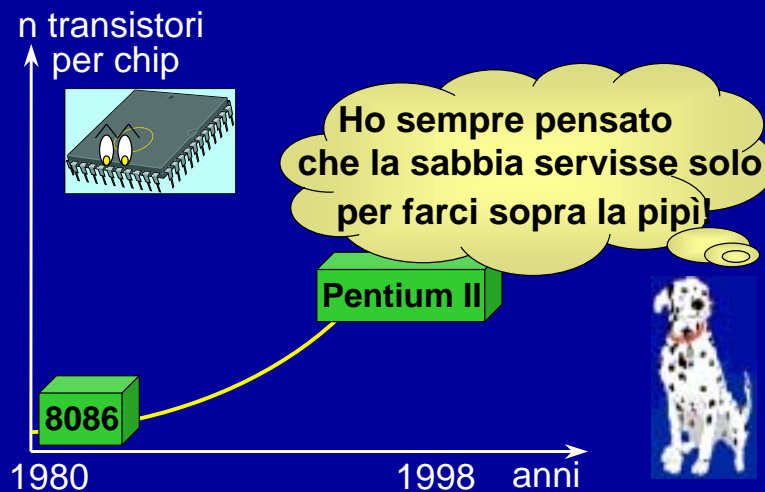
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Clock



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La potenza della sabbia(silicio) ...ovvero: l'evoluzione dei microprocessori



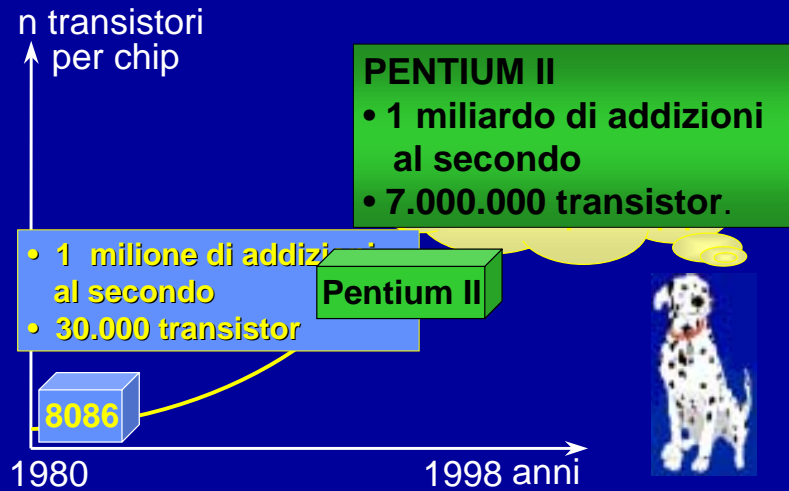
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La potenza della sabbia ...ovvero: l'evoluzione dei microprocessori



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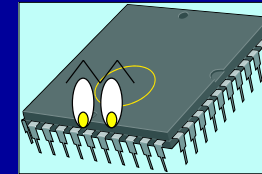
La potenza della sabbia ...ovvero: l'evoluzione dei microprocessori



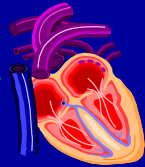
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Clock

(ovvero la frequenza di lavoro della cpu)



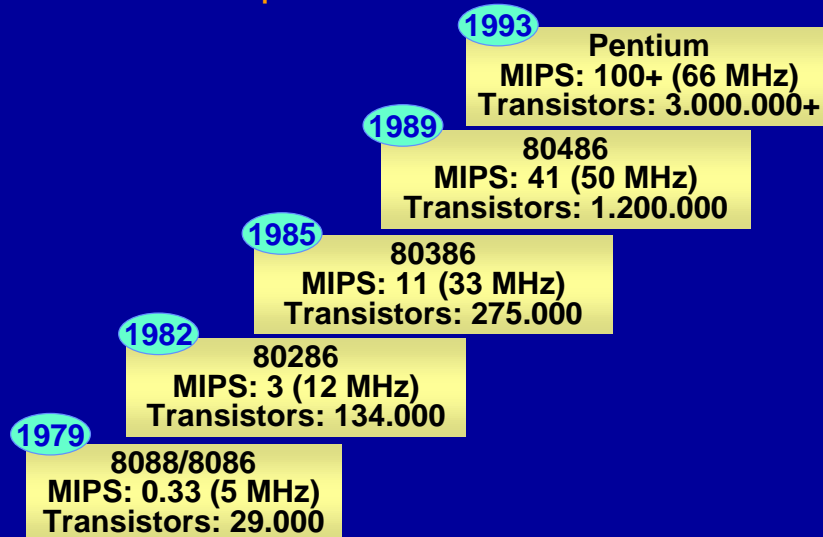
PentiumII 400 MHz



Le pulsazioni del cuore del
ragnetto sono misurate
in MHz (mega Hertz)

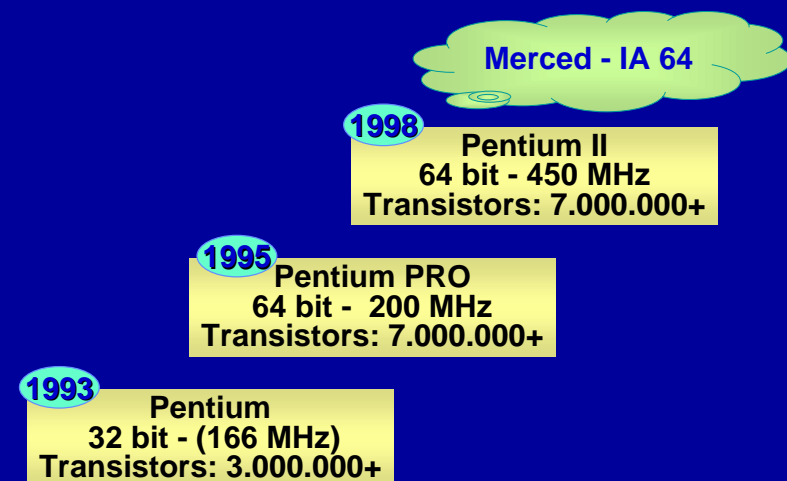
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Microprocessori INTEL 80x86



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Microprocessori INTEL 80x86

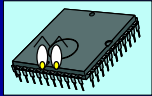


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Specialisti o generalisti

Sono un
generalista
come un Pentium!

Gli specialisti:



Pentium

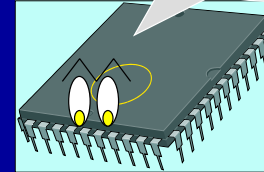
DSP
(Digital Signal Processing)

Microprocessore
grafico

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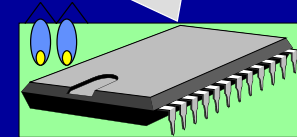
La memoria RAM

I bit li voglio
nella RAM !



CPU

Contengo i dati ed
i programmi
in esecuzione



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