Tema 1

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I. Scopul lucrarii

Sa se realizeze o comparare intre 2 sisteme cu microprocesoare CISC actuale diferite.

II. Configuratiile analizate

1. Microprocesor: AMD Athlon 64 3200+
   Chipset: NVIDIA nForce3 Ultra
2. Microprocesor: Intel Pentium Gold G-4560
   Chipset: Intel H110

III. Comparatia microprocesoarelor

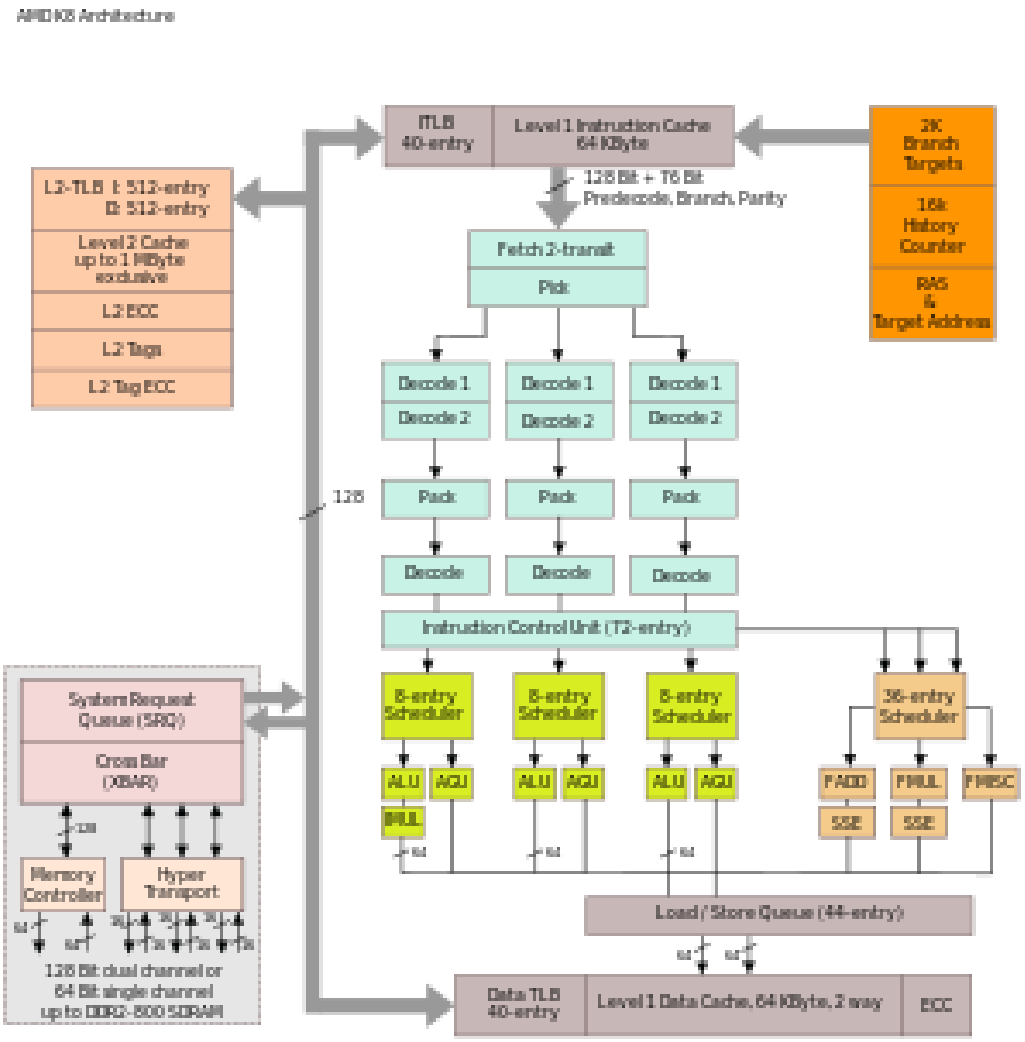
	AMD Athlon	Intel Pentium Gold
Microprocesor	CISC	CISC
Tehnologie de fabricare	90nm	14 nm
Frecventa	2 GHz	3.5 GHz
Numar Nuclee	1	2
Socket	Socket 939	LGA 1151
Arhitectura	64 bit	64 bit
Microarhitectura	K8	Kaby Lake
L1 Cache	64 Kb data 64 Kb instruction	2 x 32 Kb data 2 x 38 Kb instruction
L2 Cache	512 Kb	2 x 256 Kb
L3 Cache	Nu	2 x 1.5 Mb
SIMD instruction set	MMX, SEE, AVX, BMI	MMX, EMMX, SEE1 ..3, ABM, BMI1 ..2
Hyper Threading	Da	Da
FSB	800 MHz	800MHz

IV. Comparatia chipseturilor

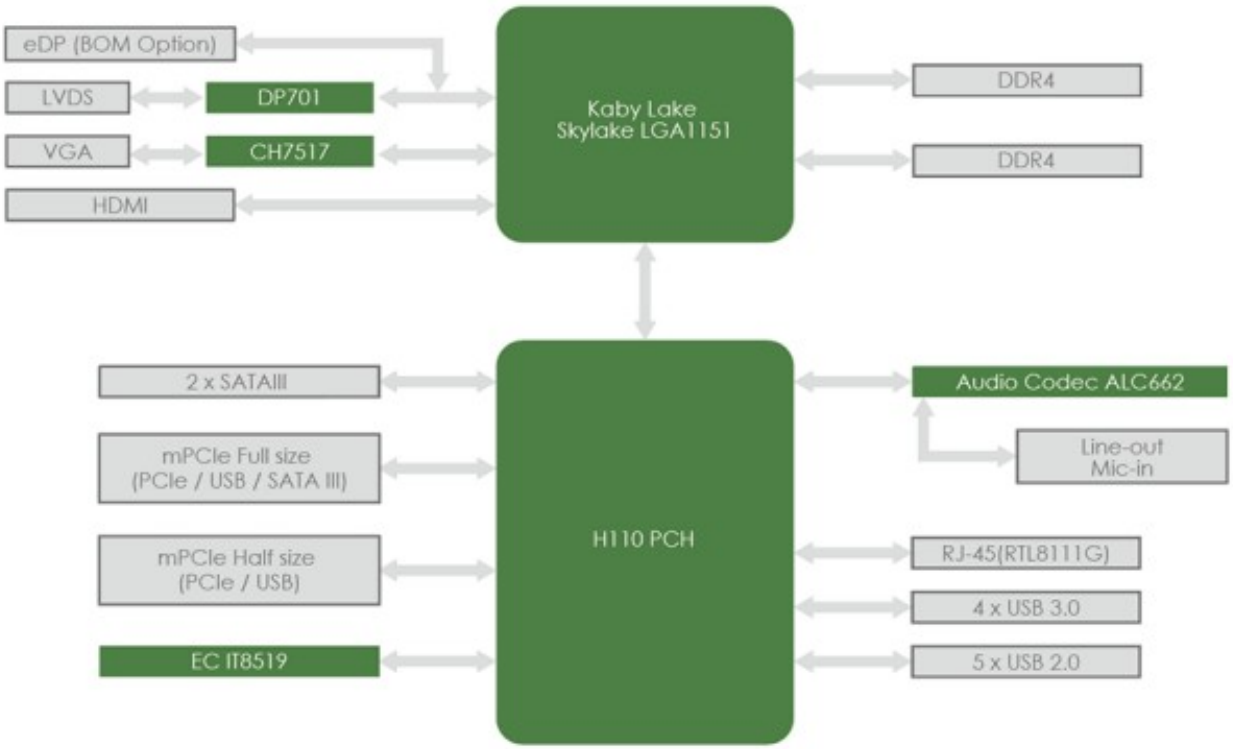
	NVIDIA nForce3 Ultra	Intel H110
CrossFire Support	Nu	Nu
RAM Controller	Integrat	DDR4
SATA	Da	Da
RAID	Da	Nu
Capacitate maxima memorie	-	32 Gb
LAN	Ethernet	Ethernet
USB	2.0	2.0
Grafica Integrata	Nu	Da

V. Comparatia arhitecturilor

AMD Athlon 64 3200+



Intel Pentium Gold G-4560



VI. Caracteristici

AMD Athlon 64 3200

Principalele caracteristici ale acestui microprocesor sunt:
- poate rula aplicatii pe 32 biti si pe 64 biti
- 16 registri pe 64 biti
- 16 registri floating point pe 128 biti
- set extins de instructiuni SIMD, MMX, SSE, etc.)
- controller de memorie integrat, dual channel, pentru memoria DDR4
- magistrala Hyper Transport de 800 MHz, bidimensionala
- cache integrat in microprocesor, stratificat in 3 layere

Intel Pentium Gold

Principalele caracteristici ale acestui microprocesor sunt:
- poate rula aplicatii pe 32 biti si pe 64 biti
- registri pe 64 biti
- registri floating point pe 128 biti
- controller de memorie integrat
- magistrala Hyper Thread
- suport directX
- cache integrat in microprocesor, stratificat in 3 layere

VII. Concluzii

Arhitectura AMD Athlon 64 3200+ cu chipset-ul NVIDIA nForce3 Ultra este inferioara arhitecturii Intel Pentium Gold G-4560 cu chipset-ul Intel H110, cea din urma avand:

- mai multe nuclee
- viteze de clock mai mari
- un layer in plus de memorie cache
- avansat suport pentru grafica
- dimensiune de 14 nm, vs 90

VIII. Bibliografie

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4. https://en.wikichip.org/wiki/intel/pentium_gold/g4560