

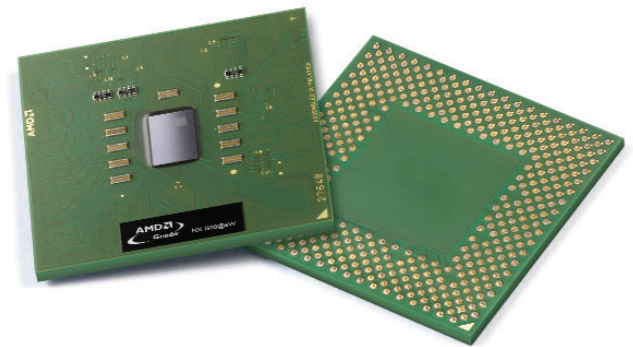
Versatile, Low-Power
x86 Applications



Overview

The AMD Geode™ NX processor family gives product designers a wide range of options in low-power, high-performance processors. Based on Mobile AMD Athlon™ processor technology, AMD NX processors deliver superior computing performance for applications including thin-client, point-of-sale terminals, kiosks, high-end printers, and home media systems.

AMD Geode Solutions have received new model numbers to better reflect total performance beyond just megahertz. This presentation of attributes gives designers greater understanding of the capabilities of AMD Geode Solutions.



Product Description

The AMD Geode NX processor family consists of three versatile and powerful products – each with advanced architecture, proven performance and excellent power management characteristics. Each is designed to be compatible with Mobile AMD Athlon processor infrastructure components including chipsets, BIOS, drivers, and more.

The AMD Geode NX processor family is ideally suited for applications that require an optimum combination of high-performance and low-power consumption. The NX processors are supported by extensive production infrastructure – built around a proven 7th-generation architecture – and a long-term supply commitment.

Product Comparison

CPU	Frequency	Vcc	Average Power	Fanless
NX I250@6W*	667MHz	1.1V	6W	Y
NX I500@6W**	1.0GHz	1.0V	6W	Y
NX I750@14W***	1.4GHz	1.25V	14W	N

Common Features

- 128Kbyte L1 cache
- 256Kbyte L2 cache with hardware data prefetch
- 266MHz AMD processor system bus with 133MHz Front Side Bus (FSB)
- Integrated support for 3DNow!™ technology, MMX® and SSE instruction sets
- Advanced 0.13µm fabrication process for higher frequency scaling and lower power consumption
- Support for AMD PowerNow!™ technology
- Supports ACPI 1.0b and ACPI 2.0 power management
- Compatible with a variety of motherboard Northbridge and Southbridge chipsets
- Pin compatibility between all NX family processors
- OS support
 - Microsoft® Windows® XP, XPe, WinCE
 - Linux

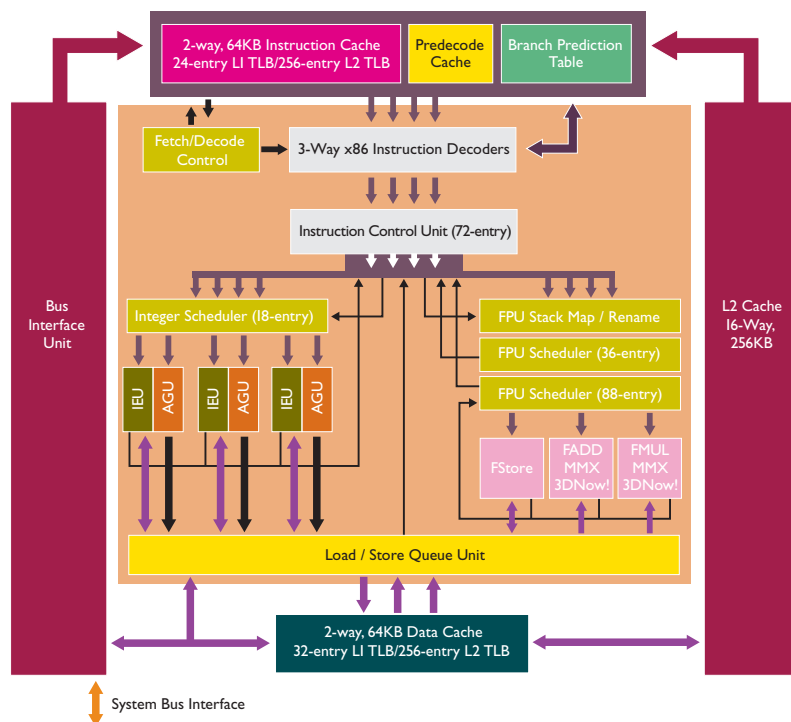
*This processor operates at 667MHz and has a TDP of 9W. Model numbers reflect performance as described here: <http://www.amd.com/connectivitysolutions/geodenxbenchmark>.
 **This processor operates at 1.0GHz and has a TDP of 9W. Model numbers reflect performance as described here: <http://www.amd.com/connectivitysolutions/geodenxbenchmark>.
 ***This processor operates at 1.4GHz and has a TDP of 25W. Model numbers reflect performance as described here: <http://www.amd.com/connectivitysolutions/geodenxbenchmark>.

AMD Geode™ NX Processor Family

Designers now have the flexibility to create a broad range of x86-based applications using the AMD Geode™ NX processor best suited to each task. The complete family of NX processors provides an optimum blend of performance and low-power usage to drive a variety of x86 applications with greater efficiency and versatility.

Processor Core Architecture

- 9-issue, superscalar, 32-bit micro architecture optimized for high-frequency operation
- 3 parallel x86 Instruction Decoders
- Dynamic scheduling with speculative out-of-order execution
- 2048-entry Branch Prediction Table and 12-entry Return Stack
- 3 superscalar, out-of-order integer pipelines, each containing
 - Integer execution unit
 - Address generation unit
- 3 superscalar, out-of-order multimedia pipelines
- FADD, MMX® ALU, 3DNow!™ technology
 - FMUL, MMX ALU (includes Mul and MAC), 3DNow! technology
 - FSTORE
- Level 1 64K-bit System Interface
- Multilevel TLB (24/256-entry I, 40/256-Entry D)
- 2 general purpose 64-bit load/store ports into D-cache
- High-speed 64-bit System Interface



- Deep internal buffering to support pipelines and external interfaces
 - Up to 72 x86 instructions in-flight
 - 32 outstanding load misses
 - 18-entry integer scheduler
 - 36-entry floating point scheduler
- 22 million transistors
- 85mm² die

Cache Architecture

- Level 1
 - 128k
 - 64k instruction, 64k data
 - Each 2-way associative
- Level 2
 - 256k
 - 16-way set associative
 - 64-bit L2 bus width

About AMD

AMD (NYSE:AMD) designs and produces innovative microprocessors, Flash memory devices and low-power processor solutions for the computer, communications and

consumer electronics industries. AMD is dedicated to delivering standards-based, customer-focused solutions for technology users, ranging from enterprises and governments to individual consumers.

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For more information, please visit: www.amd.com/connectivitysolutions/geodex

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