FPGA stands for Field Programmable Gate Array, which isn’t helpful in understanding what they are or do but we had to get that out of the way. FPGAs are a class of devices known as programmable logic (sometimes called programmable hardware). A field-programmable gate array (FPGA) is an integrated circuit designed to be configured by a customer or a designer after manufacturing – hence the term field-programmable. The FPGA configuration is generally specified using a hardware description language (HDL), similar to that used for an application-specific integrated circuit (ASIC).

Field-programmable gate arrays: FPGAs: FPGAs, such as those available on Azure, provide performance close to ASICs. They are also flexible and reconfigurable over time, to implement new logic. Graphics processing units: GPUs: A popular choice for AI computations. GPUs offer parallel processing capabilities, making it faster at image rendering. A high-performance array data structure, an arrangement of data in computer memory; A synchronous array of simple processors; Disk arrays, such as the RAID; Gate array, including a field-programmable gate array (FPGA) ICL Distributed Array Processor, an array processor for the ICL; Integrated circuit packages: Ball grid array; pin grid array; land grid array 20-01-2020 · FPGA. A Field Programmable Gate Array has an entire logic system integrated on a single chip. It offers excellent flexibility for reprogramming to the system designers. Logic circuitry
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Involving more than a thousand gates use FPGAs. Compared to a normal custom system chip, the FPGA has ten times better integration density. Een field-programmable gate array (FPGA) is een geïntegreerde schakeling bestaande uit programmerbare logische componenten. Deze logische componenten kunnen geprogrammeerd worden als logische functies zoals AND, XOR enzovoorts. Deze functies kunnen bijvoorbeeld decoders of eenvoudige wiskundige functies zijn. In het merendeel van de FPGA’s kan men ... Field Programmable Gate Array

Field Programmable Gate Array architectures into a single device. Integrating the high-level management functionality of processors and the stringent, real-time operations, extreme data processing, or interface functions of an FPGA (Field Programmable Gate Array) into a single device forms an even more powerful embedded computing platform. FPGAs (Field Programmable Gate Array) Where PLDs have programmable array logic as logic cells FPGA has gate array-like arrangement. PLDs are smaller and less complex than FPGAs. Due to its flexibility and characteristics, FPGA is replacing TTL in microelectronic systems. Design turnaround is only a few hours. Field Programmable Gate Array is een geïntegreerde schakeling bestaande uit programerbare logische componenten. Deze logische componenten kunnen geprogrammeerd worden als logische functies zoals AND, XOR enzovoorts. Deze functies kunnen bijvoorbeeld decoders of eenvoudige wiskundige functies zijn. In het merendeel van de FPGA’s kan men...
Since the inception of FPGA technology there were actually only two FPGA companies in the market: Xilinx and Altera. Along the years, both companies did a terrific job growing the market and protecting their market share. When Intel acquired Altera, Xilinx was left as the only major FPGA company in the market. Xilinx had ~50% FPGA (field programmable gate array, FPGA) market share.

Field-programmable gate arrays (FPGAs) overcome power, system size, cost and security challenges across all kinds of applications by selecting from our families of FPGAs. You'll find pre-built solutions for Digital Signal Processing (DSP), Serializer/Deserializer (SerDes), networking, microcontrollers (MCUs) and microprocessors (MPUs), and even analog blocks to speed your design.

FPGA has a complexity between PALs and field-programmable gate arrays (FPGAs). It also has the architectural features of both PALs and FPGAs. The main architectural difference between a CPLD and FPGA is that FPGAs are based on lookup tables, whereas CPLDs are based on sea-of-gates.

Ein System-on-Chip (SoC, dt. Ein-Chip-System), auch System-on-Chip, versteht man die Integration aller oder eines großen Teils der Funktionen eines programmierbaren elektronischen Systems auf einem Chip (IC), also einem integrierten Schaltkreis (IC) auf einem Halbleiter-Substrat, auch monolithische Integration genannt. Unter System-on-Chip wird eine Art von Hardware-Entwicklung verstanden, bei der die Schaltkreise in einem Chip integriert sind.