

# **Multi-Core Processors: Market Research Report**

https://marketpublishers.com/r/M1B39BAF15EEN.html Date: January 2015 Pages: 218 Price: US\$ 4,500.00 (Single User License) ID: M1B39BAF15EEN

## **Abstracts**

This report analyzes the worldwide markets for Multi-Core Processors in US\$ Million. The report provides separate comprehensive analytics for the US, Canada, Japan, Europe, Asia-Pacific, and Rest of World. Annual estimates and forecasts are provided for the period 2014 through 2020. Also, a seven-year historic analysis is provided for these markets. Market data and analytics are derived from primary and secondary research. Company profiles are primarily based on public domain information including company URLs. The report profiles 34 companies including many key and niche players such as -

Advanced Micro Devices, Inc.

Applied Micro Circuits Corporation

ARM Limited

**Broadcom Corporation** 

Cavium, Inc.



## Contents

#### I. INTRODUCTION, METHODOLOGY & PRODUCT DEFINITIONS

Study Reliability and Reporting Limitations Disclaimers Data Interpretation & Reporting Level Quantitative Techniques & Analytics Product Definitions and Scope of Study Multi-Core Processor

#### **II. EXECUTIVE SUMMARY**

#### **1. INDUSTRY OVERVIEW**

Multi-core Processing – A Prelude Moore's Law on CPU Architectures Influences Shift towards Multiple Cores Transistor Counts (1971-2015) & Moore's law Developing Countries Excel in Growth Prospects

**Table 1.** Global Multi-core Processors Market by Geographic Region/Country (2014-2020): Ranked by CAGR for Asia-Pacific, Rest of World, US, Europe, Japan, and Canada (includes corresponding Graph/Chart)

Increasing Performance Needs of Mobile Devices Shift Focus onto Multi-Core Processors

Impact of Volatile Economic Environment on Multi-Core Processors Market: A Review

**Table 2.** World Real GDP Growth by Region/ Country (2013-2016P) (includescorresponding Graph/Chart)

## 2. COMPETITIVE LANDSCAPE

Intense Competition Typifies Microprocessors Market

Table 3. Leading Vendors in the Global Microprocessors Market (2014E): Percentage



Share Breakdown of Value Sales for AMD, Freescale, Intel, MediaTek, Nvidia, Qualcomm, Samsung (including Apple), Texas Instruments, and Others (includes corresponding Graph/Chart)

AMD Loses Share to Qualcomm and Samsung/Apple Intel Yet to Make a Dent in ARM-Dominated Mobile Processors Market Qualcomm & Apple Lead Mobile Processors Market

**Table 4.** Leading Players in the Smartphone Application Processors Market (As of Q1 2014): Percentage Share Breakdown of Revenues for Apple, MediaTek, Qualcomm, and Others (includes corresponding Graph/Chart)

**Table 5.** Leading Players in the Global Tablet Application Processors Market (2014):Percentage Share Breakdown of Revenues for Apple, Intel, Qualcomm, and Others(includes corresponding Graph/Chart)

Processor Manufacturers Vie to Design Processors for Latest Smartphones MediaTek's Helio X20 Deca-core Mobile Processor: The More, the Better! Price Wars Rife in Low-to-Mid Tier Mobile Multi- core Processors Market Embedded Multi-Core Processors Market: Intel at the Helm Intel Far Ahead in R&D Spending Intel Focuses on Developing 10nm Transistors

## 3. GROWTH DRIVERS, MARKET TRENDS & ISSUES

Focus on Multithreaded Applications to Drive Demand for Multi-Core Processors Increasing Sales of Consumer Electronics Augur Well for Market Growth

**Table 6.** Global Consumer Electronics Market by Geographic Region/Country (2012 &2015): Annual Revenue (in US\$ Billion) for US, Canada, Europe, Asia-Pacific (including<br/>Japan), Middle East, and Latin America (includes corresponding Graph/Chart)

**Table 7.** Global Home Audio Equipment Market by Geographic Region (2012 & 2015): Annual Sales (in Thousand Units) for North America, Europe, Asia-Pacific (including Japan), and Rest of World (includes corresponding Graph/Chart)

Booming Smartphone Sales Transforms Mobile Multi-Core Processors Market



**Table 8.** Smartphone Penetration Worldwide (as a Percentage of Total Population) forMajor Countries (2014) (includes corresponding Graph/Chart)

**Table 9.** Smartphone Penetration Rate (%) for Select Countries Worldwide as aPercentage of Mobile Phone Users (2014) (includes corresponding Graph/Chart)

Media Tablets: An Opportunity for Multi-core Processors Market

**Table 10.** Worldwide Shipments of Desktop PCs, Tablets and Mobile Phones (2014 &2015) (In Million Units) (includes corresponding Graph/Chart)

SMP Technology Aids Performance Improvement in Mobile Devices Growing Prominence of Multi-Core Processor Architectures in Embedded Systems Asymmetrical Multi-core Processing for Complex Embedded Systems Integrated Multi-Core Processors Market: Set for Substantial Growth Shift towards SDN and NFV-based Solutions to Foster Demand for Multi-Core Processors Need for Better Packet Processing Propels Demand for Multi-core Processors in Telecom Equipment Market Smart Grids Drive Multi-core Processor Demand in Energy Sector Increasing Electronic Content Drives Adoption of Multi-Core Technology in Automobiles

**Table 11.** Cost of Automotive Electronics as % of Total Vehicle Cost (1990-2030)(includes corresponding Graph/Chart)

**Table 12.** World Passenger Car Production by Geographic Region/Country (2010-2018) (In '000 Units) (includes corresponding Graph/Chart)

**Table 13.** World Commercial Vehicles Production by Geographic Region/Country(2010-2018) (In '000 units) (includes corresponding Graph/Chart)

Avionics Systems Benefit from Flexibility of Multi-core Architectures Multi-core Processors Find Use in Safety-Critical Airborne Systems Cloud Computing: Impact on Multi-core Processors Market Servers with Multi-Core Processors: Gain Prominence



**Table 14.** Global Server Market (2014): Percentage Share Breakdown of Unit Sales by

 Architecture (includes corresponding Graph/Chart)

**Table 15.** Global Server Market (2014): Percentage Share Breakdown of Revenues byArchitecture (includes corresponding Graph/Chart)

Why are Multi-Core Processors Important for Servers? System-on-Chip for Micro Servers Rising Adoption of Cloud Computing: Opportunities for Multi-core Servers

**Table 16.** Global Enterprise Cloud Services Market (2014): Percentage ShareBreakdown of Revenues by Segment (includes corresponding Graph/Chart)

Rising Prominence of Automation in Processing & Manufacturing Bodes Well for Multicore Processors

**Table 17.** World Market for Industrial Automation by End-use Sector (2014): Percentage Share Breakdown of Investments for Automotive, Chemical, Food Processing, Oil & Gas, Packaging, Pharmaceuticals, Plastic Manufacturing, Power, Textile, and Others (includes corresponding Graph/Chart)

**Table 18.** Global Industrial Robotics Market by Geographic Region (2014 & 2020):Annual Robot Sales in Units for the US, Canada, Japan, Europe, Asia-Pacific, LatinAmerica, and Rest of World (includes corresponding Graph/Chart)

Advancing Medical Device Market: Potential for Multi-core Processors Market "Internet of Things" to Open New Growth Avenues Emergence of Quadcore and Octacore SoC Processors Multi-core Processors to Help Expand Applications of Embedded Systems Network-On-Chip Technology Critical to the Efficiency of SoC Software Developers Face Challenges in Transition to Multi-Core CPUs Multi-Core Processing & Issues with Parallel Computing What Could be the Possible Solutions for Parallel Computing Problems? A Peek at Recent Innovations/Developments in Multi-core Processor Space Researchers Develop Integrated Tool Chain to Improve Efficiency of Multi-core



Processors

MIT Researchers Unveil 36-Core Chip

Researchers Develop Wireless Multi-core Chip Design for Data Centers MIT's New Algorithm Aims to Increase Multi-core Processor Speeds

## 4. PRODUCT OVERVIEW

An Introduction to Multi-Core Processing

Evolution of Multi-core Processor Technology: A Glance at the Timeline

Transistors: The Computing Power of CPUs

Multi-Core Processor: A Conceptual Definition

- Multithreading
- **Clock Speeds**

Basic Design of a Multi-core Processor

Basic Architecture of a Simple Multi-Core System

Types of Multi-Core Processors

Dual-Core Processors

Basic Framework of a Dual-Core CPU Chip

Quad-core Processors

Basic Framework of a Quad-Core CPU Chip with Four Cores on Single Chip

Hexa-core Processors

Octa-core Processors

- A Glance at Select Tablet Models with Octa-core Processors
- A Glance at Select Smartphone Models with Octa-core Processors
- Many-Core Processors
- Classification of Multi-core Processors

Homogeneous Vs Heterogeneous Multi-core Processors

Types of Multi-Core Processor Software Configurations

Multi-Core Programming

Parallel Programming Models for Multi-core Systems

Advantages of Multi-Core Processors

Drawbacks of Multi-Core Processors

Standards for Multi-core Processors

## 5. END-USE MARKETS: AN OVERVIEW

Computers Telecommunications Equipment Consumer Electronics



Automotive Energy Medical Devices Industrial Automation

## 6. PRODUCT INNOVATIONS/INTRODUCTIONS

MediaTek Unveils Quad-core MT8173 Processor for Tablets EZchip Launches TILE-Mx Range of Multicore Processors InvenSense Unveils Motion Sensor with Multi-Core Processor EZchip to Develop Multicore Network Processors for NFV eSOL Develops Software-Hardware Interface Multi-Many-Core Processors MediaTek Releases MT675364-bit Octa-core Smartphone SoC Cavium Introduces 802. 11AC MU-MIMO WLAN Access Point Reference Design Cavium Offers Support for NVIDIA Tesla GPU Accelerators in ThunderX ARM Processors Qualcomm Introduces New Snapdragon Processors for High-Performance Mobile Devices Cavium Demonstrates 100Gbps Throughput OCTEON III Processor XMOS Launches xCORE-200TM Multicore Microcontroller Family Intel Launches Intel Xeon Processor Range for Businesses MediaTek Unveils Helio X20 Deca-Core Mobile Processor EnSilica Introduces eSi-32X0MP Multicore Processor Cavium Launches Fifth-Generation of ThunderX Multi-Core Processors Broadcom Launches XLP II Multi-Core Communications Processors Range Radisys Rolls Out Multicore DSP Card for MPX-12000 Broadband MRF Siemens Develops Open-Source Code for Multicore Acceleration Kontron Launches Mini Server with Multicore Processor Performance Broadcom Launches XLP500 Series Multi-core Communications Processor ARM and Taiwan Semiconductor Unveil 16nm FinFET Heterogeneous Multi-core CPU Freescale Introduces New Portfolio of QorlQ Multicore Processors Broadcom Unveils New Generation of Multicore Processors with 64-bit ARM core Intel Introduces Multicore SoCs for Mobile Devices Cavium's OCTEON III Multicore MIPS64 Processors by Wind River Operating Systems Broadcom Launches XLP900 Series of Multi-Core Communications Processor Advantech Unveils Advanced Video Solutions with Multicore DSP Technology Ceragon Powers Next-Gen Multi-Core Packet Radio with MIPS Processor

## 7. RECENT INDUSTRY ACTIVITY



Kalray Collaborates with eSOL Applied Micro Circuits and Theobroma AnnounceCOMExpress Module with Multicore CPU Karbonn Enters into Strategic Partnership with MediaTek EZchip Semiconductor Acquires Tilera Avago Technologies Acquires LSI Corporation Mindspeed Technologies Sells Communication Processor Division to Freescale Recore Licenses Many-Core Processor Subsystem for Space Missions Cavium Collaborates with Oracle for ThunderX Processor Family

## 8. FOCUS ON SELECT PLAYERS

Advanced Micro Devices, Inc. (USA) Applied Micro Circuits Corporation (USA) ARM Limited (UK) Broadcom Corporation (USA) Cavium, Inc. (USA) EZchip Semiconductor Ltd. (Israel) Freescale Semiconductor, Inc. (USA) Intel Corporation (USA) Marvell Technology Group Ltd. (Bermuda) MediaTek, Inc. (Taiwan) Qualcomm Incorporated (USA) Samsung Electronics Co., Ltd. (South Korea) Texas Instruments, Inc. (USA)

## 9. GLOBAL MARKET PERSPECTIVE

**Table 19.** World Recent Past, Current and Future Analysis for Multi-core Processors byGeographic Region - US, Canada, Japan, Europe, Asia-Pacific, and Rest of WorldMarkets Independently Analyzed with Annual Revenue Figures in US\$ Million for Years2014 through 2020 (includes corresponding Graph/Chart)

**Table 20.** World Historic Review for Multi-core Processors by Geographic Region - US, Canada, Japan, Europe, Asia-Pacific, and Rest of World Markets Independently Analyzed with Annual Revenue Figures in US\$ Million for Years 2007 through 2013 (includes corresponding Graph/Chart)



**Table 21.** World 14-Year Perspective for Multi-core Processors by Geographic Region -Percentage Breakdown of Revenues for US, Canada, Japan, Europe, Asia-Pacific, andRest of World Markets for Years 2007, 2015 & 2020 (includes correspondingGraph/Chart)

## III. MARKET

## **1. THE UNITED STATES**

A. Market Analysis
Outlook
Significant Opportunities for Embedded Multi-core Processors Market
Growing Consumer Electronics Sales Augur Well for Market Growth
Automation in Processing & Manufacturing Automation Fuels Demand for Embedded
Multi-core Processors
Product Innovations/Introductions
Strategic Corporate Developments
Key Players
B. Market Analytics

**Table 22.** US Recent Past, Current and Future Analysis for Multi-core ProcessorsAnalyzed with Annual Revenue Figures in US\$ Million for Years 2014 through 2020(includes corresponding Graph/Chart)

**Table 23.** US Historic Review for Multi-core Processors Analyzed with Annual RevenueFigures in US\$ Million for Years 2007 through 2013 (includes correspondingGraph/Chart)

## 2. CANADA

Market Analysis

**Table 24.** Canadian Recent Past, Current and Future Analysis for Multi-core ProcessorsAnalyzed with Annual Revenue Figures in US\$ Million for Years 2014 through 2020(includes corresponding Graph/Chart)

Table 25. Canadian Historic Review for Multi-core Processors Analyzed with Annual



Revenue Figures in US\$ Million for Years 2007 through 2013 (includes corresponding Graph/Chart)

## 3. JAPAN

A. Market Analysis

Outlook

Established Electronics Manufacturing Sector Helps Market Maintain Momentum Robotics Sector Generates High Demand for Embedded Multi-core Processors Product Innovation/Introduction

**B. Market Analytics** 

**Table 26.** Japanese Recent Past, Current and Future Analysis for Multi-coreProcessors Analyzed with Annual Revenue Figures in US\$ Million for Years 2014through 2020 (includes corresponding Graph/Chart)

**Table 27.** Japanese Historic Review for Multi-core Processors Analyzed with AnnualRevenue Figures in US\$ Million for Years 2007 through 2013 (includes correspondingGraph/Chart)

## 4. EUROPE

A. Market Analysis Market Overview Review of Growth Potential in Major End-Use Markets of Multi-Core Processors Consumer Electronics Communication and Wireless Infrastructure Automotive Industry Industrial Automation Energy Sector Healthcare Aerospace Industry Russia Unveils Indigenously Developed Quad-Core CPU Product Innovations/Introductions Strategic Corporate Developments ARM Limited (UK) – A Key Player B. Market Analytics



**Table 28.** European Recent Past, Current and Future Analysis for Multi-coreProcessors by Geographic Region - France, Germany, Italy, UK, Spain, Russia, andRest of Europe Markets Independently Analyzed with Annual Revenue Figures in US\$Million for Years 2014 through 2020 (includes corresponding Graph/Chart)

**Table 29.** European Historic Review for Multi-core Processors by Geographic Region -France, Germany, Italy, UK, Spain, Russia, and Rest of Europe Markets Independently Analyzed with Annual Revenue Figures in US\$ Million for Years 2007 through 2013 (includes corresponding Graph/Chart)

**Table 30.** European 14-Year Perspective for Multi-core Processors by GeographicRegion - Percentage Breakdown of Revenues for France, Germany, Italy, UK, Spain,Russia, and Rest of Europe Markets for Years 2007, 2015 & 2020 (includescorresponding Graph/Chart)

## **5. ASIA-PACIFIC**

A. Market Analysis Outlook China Expanding Consumer Electronics Market: Growth for Embedded Multi-core Processors Growing Focus on Industrial Automation Bodes Well for Market Growth Chinese SoC Manufacturers Target Low Cost Tablet Market Price-based Competition Intensifies in Low-to-Mid Tier Mobile Processors India Rising Demand for Embedded Systems Bodes Well for Market Growth Booming Sales of Smart Mobile Devices: Opportunity for Multi-core Processing Market Strategic Corporate Developments MediaTek, Inc. (Taiwan) – A Key Player B. Market Analytics

**Table 31.** Asia-Pacific Recent Past, Current and Future Analysis for Multi-coreProcessors by Geographic Region - China, South Korea, Taiwan, and Rest of Asia-Pacific Markets Independently Analyzed with Annual Revenue Figures in US\$ Million forYears 2014 through 2020 (includes corresponding Graph/Chart)

Table 32. Asia-Pacific Historic Review for Multi-core Processors by Geographic Region



- China, South Korea, Taiwan, and Rest of Asia-Pacific Markets Independently Analyzed with Annual Revenue Figures in US\$ Million for Years 2007 through 2013 (includes corresponding Graph/Chart)

**Table 33.** Asia-Pacific 14-Year Perspective for Multi-core Processors by GeographicRegion - Percentage Breakdown of Revenues for China, South Korea, Taiwan, andRest of Asia-Pacific Markets for Years 2007, 2015 & 2020 (includes correspondingGraph/Chart)

## 6. REST OF WORLD

A. Market Analysis
Outlook
Strategic Corporate Developments
Key Players
B. Market Analytics

**Table 34.** Rest of World Recent Past, Current and Future Analysis for Multi-coreProcessors Analyzed with Annual Revenue Figures in US\$ Million for Years 2014through 2020 (includes corresponding Graph/Chart)

**Table 35.** Rest of World Historic Review for Multi-core Processors Analyzed withAnnual Revenue Figures in US\$ Million for Years 2007 through 2013 (includescorresponding Graph/Chart)

## **IV. COMPETITIVE LANDSCAPE**

Total Companies Profiled: The United States (17) Japan (2) Europe (10) France (1) Germany (1) The United Kingdom (5) Rest of Europe (3) Asia-Pacific (Excluding Japan) (2) Latin America (1) Middle East (2)



## I would like to order

Product name: Multi-Core Processors: Market Research Report Product link: <u>https://marketpublishers.com/r/M1B39BAF15EEN.html</u> Price: US\$ 4,500.00 (Single User License / Electronic Delivery)

> If you want to order Corporate License or Hard Copy, please, contact our Customer Service: info@marketpublishers.com

## Payment

To pay by Credit Card (Visa, MasterCard, American Express, PayPal), please, click button on product page <u>https://marketpublishers.com/r/M1B39BAF15EEN.html</u>

To pay by Wire Transfer, please, fill in your contact details in the form below:

First name: Last name: Email: Company: Address: City: Zip code: Country: Tel: Fax: Your message:

\*\*All fields are required

Custumer signature \_\_\_\_\_

Please, note that by ordering from marketpublishers.com you are agreeing to our Terms & Conditions at <u>https://marketpublishers.com/docs/terms.html</u>

To place an order via fax simply print this form, fill in the information below and fax the completed form to +44 20 7900 3970