Open. Together.
High Performance 64-bit eMAG Arm Server Processor For Cloud and Edge Computing

Surya Hotha
Vice President, Product Management & Marketing
Ampere Computing
Who is Ampere?

We design and deliver leadership performance microprocessors for efficient computing in the cloud and edge.
Ampere™ Timeline

- **Launch**: October 2017
- **Developer Program**: October 2018
- **Shipping**: November 2018
- **Shipping**: December 2018
- **Platforms**: February 2019
- **Platforms**: Now

Deployments with Multiple Cloud Customers

Performance Leading Product Roadmap of Multiple Generations
Former Intel president launches new chip company with backing from Carlyle Group

Ampere launches its first ARM-based server processors in challenge to Intel

Ampere launches Arm-based CPU for hyperscale workloads

Renee James' startup reveals its first product

A new ARM-based server processor challenges for the data center

A former Intel executive has launched a broadside attack against her former employer and created Ampere Computing, which develops ARM-based chips for the data center.

Ampere, led by band of former Intel execs, aims to push ARM into data center

Startup Ampere Releases First Arm-Based Server Chips

The company, led by ex-chip executive Renee James, is aiming to to new ARM chips at hyperscale and edge computing environments.

Ampere, a developer of ARM-based server platforms led by former Intel President Renee James, is rolling out this week the company's first product called e64.

With this newest, the company hopes to gain a midrange market this year.

Ampere's first-generation Arm v8-A 64-bit processors for data centers "passed validation, testing, and performance requirements just last week," Matthew Taylor, senior vice president of worldwide sales and business development at Ampere, told EE Times in a phone interview.

Startup Ampere Releases First Arm-Based Server Chips

The company, led by ex-chip executive Renee James, is aiming to to new ARM chips at hyperscale and edge computing environments.

Ampere, which officially launched in February with ex-Intel executive Renee James as its CEO and chairman, on Sept. 16 unveiled the first of its ARM-based processors leveraging Aztec, an Aztec 64-bit architecture and focusing on both performance and power efficiency.
Significant Growth of Global Server CPU Market

Server market is expected to grow at a 4% CAGR through 2021

Server microprocessors will grow from $18B to $21B

Worldwide server spend, $B

Source: IDC; expert interviews

% of server spend

Forecast
Technology Trends
Fueling Demand for High Performance Processors

AI-powered apps, services and automation
Expanding need for cloud-hosted apps
Increasing demand for edge compute
Ampere Server Benefits

- **Greater Efficiency**
  - Higher performance/W/$

- **Security**
  - End-to-end security

- **Lower Cost**
  - Enabling workload TCO advantage

- **Mature Software Ecosystem**
  - Software no longer a bottleneck

- **Rapid Innovation**
  - Open standards
  - Differentiated Features
eMAG Powers the Cloud
Meeting Cloud and Edge Computing Needs with Lower Total Cost of Ownership (TCO)

Delivering Significant TCO Benefits to Customers
## Ampere eMAG Expanding Ecosystem

<table>
<thead>
<tr>
<th>OEM/ODM</th>
<th>IHV</th>
<th>OS, Firmware, Tools</th>
<th>Middleware and Applications</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lenovo</td>
<td>Mellanox</td>
<td>BROADCOM</td>
<td>docker</td>
</tr>
<tr>
<td></td>
<td>Intel</td>
<td>Micron</td>
<td>HHVM</td>
</tr>
<tr>
<td></td>
<td>Samsung</td>
<td>SK hynix</td>
<td>Apache</td>
</tr>
<tr>
<td></td>
<td>Mitac</td>
<td>WD</td>
<td>NGINX</td>
</tr>
<tr>
<td></td>
<td>Microsemi</td>
<td>AMD</td>
<td>NGINX</td>
</tr>
<tr>
<td></td>
<td>Xilinx</td>
<td>American Megatrends</td>
<td>Apache</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>HAPROXY</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>PostgresSQL</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>MySQL</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>OpenDK</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Java</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>OpenJDK</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>KVM</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Luna</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>MongoDB</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Couchbase</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Oracle</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Redis</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Spark</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Apache</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>NGINX</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Apache</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>HAPROXY</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>PostgresSQL</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>MySQL</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>OpenDK</td>
</tr>
</tbody>
</table>
Ampere Android in the Cloud Solution
Arm native Android Device and App Virtualization and Streaming

- High-performance game streaming
- Android device in the cloud
- Scalable android app development
- Security validation
Packet Datacenters Powered by Ampere eMAG

*Benefits of Packet and Ampere Together:*
- Higher Performance
- Higher Efficiency
- Better overall TCO

Packet and Ampere’s partnership is bringing highly efficient and performance based servers at a low affordable cost to the market.

Be the first to secure these next generation servers at: [www.packet.com/ampere](http://www.packet.com/ampere)
Thank You
Come see us at booth #B12