HPC User Site Census: Processors

Description: The Processors Report provides an examination of the processor use in systems found at a sample of HPC user sites. We surveyed a broad range of users about their current computer system installations, storage systems, networks, middleware, and applications software supporting these computer installations. Our goal in this analysis is to examine the processor suppliers, products, and configurations used in high performance computing systems.

Key findings of this report include the following:

- The x86 processor continues to be the predominant architecture for HPC servers, with more than 90% of systems in our total site survey reported to be based on these processors from AMD or Intel. The data reflects this same x86 dominance when examining processors by node count and by core count.

- Intel remains the market share leader and has widened its margin over its smaller x86 competitor, AMD. More than 90% of new systems (installed in 2014 or later) are built with Intel processors, with AMD’s share falling to single digits for the first time in our surveys.

- The number of cores per processor continues to rise. When studied by year of acquisition, the average number of cores per processor has nearly doubled since 2010. Most (90%) processors have more than two cores, with the greatest concentrations at 7-8 cores (22%) and 13-16 cores (25%).

- Memory capacities are increasing at all levels - per core, per processor and per node. Average memory per core is 4.6 GB, more than double that of pre-2010 levels. This will have significant implications on system architectures, application design, and spending habits as core counts continue to rise.

- The share of accelerators in recently deployed systems dropped in our latest survey after four consecutive years of growth. Nvidia continues to be the dominant accelerator supplier, although Intel has made inroads into this market over the last two years.

- Two-socket compute nodes remain the most common configuration in distributed memory systems. The cluster continues to be the most prevalent architecture, with smaller contributions from blade, MPP, and SMP systems.

Contents:

1. Executive Summary
2. Companies Mentioned in this Report
3. Technologies Covered in this Report
4. Results and Analysis
   - System, Node, Processor, and Core Distributions by Supplier
   - Supplier Share by System Size
   - AMD and Intel System Share by Acquisition Year
   - System and Processor Distributions by Processor Architecture
   - Processors per Node within Distributed Memory Systems
   - Cores per Processor
   - Systems, Processors, and Cores by System Architecture
   - Memory Requirements per Node, Processor, and Core
   - Accelerators
5. Conclusions
   - Ongoing Strategies
   - Changes Ahead
   - Overall Perspective
Appendix A: Methodology and Demographics
- Survey Methodology
- Methodology Notes
- Demographics

Ordering:

Order Online - http://www.researchandmarkets.com/reports/3460900/

Order by Fax - using the form below

Order by Post - print the order form below and send to

Research and Markets,
Guinness Centre,
Taylors Lane,
Dublin 8,
Ireland.
**Fax Order Form**

To place an order via fax simply print this form, fill in the information below and fax the completed form to 646-607-1907 (from USA) or +353-1-481-1716 (from Rest of World). If you have any questions please visit [http://www.researchandmarkets.com/contact/](http://www.researchandmarkets.com/contact/)

**Order Information**

Please verify that the product information is correct.

<table>
<thead>
<tr>
<th>Product Name</th>
<th>HPC User Site Census: Processors</th>
</tr>
</thead>
<tbody>
<tr>
<td>Office Code</td>
<td>SCDKRUPW</td>
</tr>
</tbody>
</table>

**Product Format**

Please select the product format and quantity you require:

| Quantity          | Electronic (PDF) - Single User: USD 500 |

**Contact Information**

Please enter all the information below in **BLOCK CAPITALS**

<table>
<thead>
<tr>
<th>Title</th>
<th>Mr ☐ Mrs ☐ Dr ☐ Miss ☐ Ms ☐ Prof ☐</th>
</tr>
</thead>
<tbody>
<tr>
<td>First Name:</td>
<td></td>
</tr>
<tr>
<td>Email Address: *</td>
<td></td>
</tr>
<tr>
<td>Job Title:</td>
<td></td>
</tr>
<tr>
<td>Organisation:</td>
<td></td>
</tr>
<tr>
<td>Address:</td>
<td></td>
</tr>
<tr>
<td>City:</td>
<td></td>
</tr>
<tr>
<td>Postal / Zip Code:</td>
<td></td>
</tr>
<tr>
<td>Country:</td>
<td></td>
</tr>
<tr>
<td>Phone Number:</td>
<td></td>
</tr>
<tr>
<td>Fax Number:</td>
<td></td>
</tr>
</tbody>
</table>

* Please refrain from using free email accounts when ordering (e.g. Yahoo, Hotmail, AOL)
Payment Information

Please indicate the payment method you would like to use by selecting the appropriate box.

☐ Pay by credit card: You will receive an email with a link to a secure webpage to enter your credit card details.

☐ Pay by check: Please post the check, accompanied by this form, to:
Research and Markets,
Guinness Center,
Taylors Lane,
Dublin 8,
Ireland.

☐ Pay by wire transfer: Please transfer funds to:
Account number 833 130 83
Sort code 98-53-30
Swift code ULSBIE2D
IBAN number IE78ULSB985330833103083
Bank Address Ulster Bank,
27-35 Main Street,
Blackrock,
Co. Dublin,
Ireland.

If you have a Marketing Code please enter it below:

Marketing Code: ______________________

Please note that by ordering from Research and Markets you are agreeing to our Terms and Conditions at http://www.researchandmarkets.com/info/terms.asp

Please fax this form to:
(646) 607-1907 or (646) 964-6609 - From USA
+353-1-481-1716 or +353-1-653-1571 - From Rest of World