Worldwide High Performance Computing Vertical Market 2015–2020 Forecast

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EXECUTIVE SUMMARY

This Intersect360 Research report presents the 2015 total market model and five-year forecast for the overall High Performance Computing (HPC) market, by vertical markets. Intersect360 Research defines HPC as the use of servers, clusters, and supercomputers—plus associated software, tools, components, storage, and services—for scientific, engineering, or analytical tasks that are particularly intensive in computation, memory usage, or data management. HPC is used by scientists and engineers both in research and in production across industry, government, and academia.

The vertical market forecast is based on our overall HPC market forecast by economic sectors and conforms to government, academia, and industry values developed for that forecast. We forecast 19 vertical segments divided between our High Performance Technical Computing and High Performance Business Computing super-segments, as follows:

- High Performance Technical Computing (HPTC): Biosciences; large product manufacturing; consumer product manufacturing; electronics; chemical engineering; energy; national research labs; national security; national agency; state or local government; academic/not-for-profit; other HPTC.
- High Performance Business Computing (HPBC): Financial services; media and entertainment; retail; transportation; government HPBC; academic HPBC; other HPBC.

All vertical markets are tracking the overall growth in the market. However, the verticals are growing at different rates, which leads to minor changes in share over the forecast period. Noteworthy trends include:

- Government and academic segments are losing share due to restrictions on spending and general austerity programs worldwide.
- Consumer manufacturing will have the highest overall growth as computation design methodologies expand into small- and medium-sized organizations.
- The energy segment will also show some strength relative to the market as it recovers from a down year. We expect some increase in reservoir modeling applications as oil companies work to optimize well output.
- Financial services will lead HPBC in growth, based on what can be described as a computational arms race in the segment.
- Retail will lag the market as big data appears to be more of a budget maintenance strategy in the face of virtualization-driven downsizing than an opportunity to aggressively gain share/increase profitablity through database searches.

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TECHNOLOGIES COVERED IN THIS REPORT

- HPC system elements
  - Systems, clusters
  - Server technologies
- Storage elements
  - Storage systems
- Interconnect elements
  - System interconnects
- Software elements
  - Operating systems
- Services
- Cloud computing, grid computing, utility computing
- Other technology trends
  - Big Data trends
  - Government programs or investment in HPC

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COMPANIES MENTIONED IN THIS REPORT

- Amazon
- AMD
- Baidu
- Dell
- Google
- HP
- IBM
- Intel
- Lenovo
- SGI

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