GLOBALFOUNDRIES Delivers Custom 14nm FinFET Technology for IBM Systems

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Jointly developed 14HP process is world's only technology that leverages both FinFET and SOI

Santa Clara, Calif., Sept. 20, 2017 – GLOBALFOUNDRIES is now delivering in volume its 14nm High Performance (HP) technology that will enable IBM's next-generation of processors for server systems. The jointly developed 14HP process is specifically designed to deliver the ultra-high performance and data-processing capacity IBM needs to support its cloud, commerce, and enterprise solutions in the era of big data and cognitive computing. IBM announced general availability of the IBM Z on September 13.

14HP is the industry's only technology to integrate a three-dimensional FinFET transistor architecture on a silicon-on-insulator (SOI) substrate. Featuring a 17-layer metal stack and more than eight billion transistors per chip, the technology leverages embedded DRAM and other innovative features to deliver higher performance, reduced energy, and better area scaling over previous generations to address a wide range of deep computing workloads.

The 14HP technology powers the processors that run IBM's latest z14 mainframes. The underlying semiconductor process allows IBM customers to enable massive transaction scale of high-volume workloads, apply machine learning to their most valuable data, and rapidly derive actionable insights to enable intelligent decisions—all while delivering pervasive encryption that provides the ultimate in data protection.

"GlobalFoundries has been a strategic partner in the development of a custom semiconductor technology to enable the aggressive requirements of the processors for our newest server systems," said Ross Mauri, general manager, IBM Z. "We are excited to bring this 14HP technology to our IBM Z product line."

"GF and IBM together have an unmatched heritage of developing and manufacturing ultra-high performance SOI chips," said Mike Cadigan, senior vice president of global sales and business development at GF. "This new generation of 14HP processors is another example of the close collaboration between our engineering teams to meet the demands of a new generation of server systems."

"The 14HP technology leverages the proven 14nm FinFET high-volume experience of our Fab 8 facility in Saratoga County, N.Y.," said Tom Caulfield, senior vice president and general manager of GF's Fab 8. "We are in high volume production with a broad set of customer designs across a range of applications. Our mature and diverse manufacturing capability will enable IBM to bring its latest processor designs to market to service their broad customer base."

About GF:

GLOBALFOUNDRIES is a leading full-service semiconductor foundry providing a unique combination of design, development, and fabrication services to some of the world's most inspired technology companies. With a global manufacturing footprint spanning three continents, GLOBALFOUNDRIES makes possible the technologies and systems that transform industries and give customers the power to shape their markets. GLOBALFOUNDRIES is owned by Mubadala Investment Company. For more information, visit http://www.globalfoundries.com.

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