Enable High-Performance Computing (HPC) in the Manufacturing Supply Chain

To broaden the use of HPC-enabled applications, this SBIR topic addressed development of commercially-viable services that reduce barriers to entry for novice and periodic HPC-users.

Nimbis’s Technical Computing Marketplace provides software components and toolsets to deploy domain-specific applications on cloud platforms, enabling a variety of software-as-a-service, on-demand, and pay-as-you-go business models. This toolset was developed with the ability to handle data and processing subject to the International Traffic in Arms Regulations (ITAR) by providing ITAR compliant access, storage, and computing capacity.

IMPACT TO MISSION

In the defense manufacturing sector, many suppliers of subsystems and components — often small-to-medium-sized businesses — rely on “desktop-only” programs that cannot solve complex problems as HPC is too costly for consideration. This technology and Nimbis’ domain expertise, infrastructure, consulting, and support strengthens the supply chain through on-demand access to compute intensive services allowing businesses to overcome the cost and resource hurdles to cloud and HPC-enabled applications.

BEYOND PHASE II

The Technical Computing Marketplace was initially deployed in February 2013. Nimbis then received an Air Force Rapid Innovation Fund (RIF) award that implemented a secure cloud-hosted collaborative microelectronics ecosystem entitled Trusted Silicon Stratus (TSS). Nimbis continued to deploy and enhance the cloud platform for the DoD through contracts with the Air Force, and as a result received an Authority To Operate (ATO), September 11, 2017. Most recent awards include multiple five-year, Phase III IDIQ’s with a contract value of over $100 million to fully deploy the TSS as part the DoD’s Distributed Transition Environment (DTE) with Trusted Data Repository accessibility. Nimbis’ TSS DTE secure environment is also currently supporting DARPA’s IDEA & POSH initiatives.

Solicitation:

Digital Analysis Computing Software Solutions for the Supply Chain

DARPA SBIR Sponsor

SB092-006 Topic Number

New Capability Primary Innovation

Affordability; Improved Performance Secondary Innovation

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