

## OPENING STATEMENT

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Committee on Science, Space, and Technology

*“Supercomputing and American Technology Leadership”*  
Subcommittee on Energy

January 28, 2015

Thank you Chairman Weber for holding this hearing, and I also want to thank this excellent panel of witnesses for their testimony and for being here today.

America has historically been a leader in advancing new energy technologies, as well as the foundational sciences of physics, chemistry, engineering, mathematics, and computational science that support energy innovation. But our leadership in technology is challenged by the growing investments of other countries in education and research; investments that are now projected to quickly outpace our own investments here at home.

High performance computing, or supercomputing, is one area we have led in for decades, and the U.S. currently hosts more than 45% of the 500 fastest supercomputers in the world. These computers are capable of processing vast amounts of data and mathematical equations at amazing speeds. In the past, high performance computers were needed primarily for specialized scientific and engineering applications. Now, as we enter the world of ‘big data’, where thousands of devices all around us are generating millions of bytes of data to be analyzed, high performance computing is needed not just by scientists and government researchers, but by many civic and commercial enterprises as well.

Public policies play a critical role in supporting the advancement of high performance computing, and in enabling our society and economy to directly benefit from this capability. Our policies allow researchers and private industry to access the Department of Energy’s computing systems, which are some of the most powerful in the world. We set policies that support the development of the software necessary to operate and optimize the use of high performance systems - software that is unlikely to be developed by private industry because the potential sales market is too small to support the initial research and development costs. And our policies ensure that our investments in new computer architectures are diverse and flexible enough to meet our national security needs, in addition to our research and private industry needs. Federal investments in high performance computing open this technology up for future development of proprietary products, they grow our technology economy, and they advance our technological leadership internationally.

Now, while every witness on this panel is extremely distinguished and I am grateful that each of you could be here today, I hope you won’t mind if I thank Dr. Augustine in particular for taking time to speak with us this morning, as he has been a great friend to the Committee for well over a decade. As the former Chairman of Lockheed Martin and the Chair of the National Academy of Sciences Committee that produced the seminal *Rising Above the Gathering Storm* report in 2005, he has a broad and deep perspective on the challenges facing our nation in research and technological innovation. That report laid the foundation for one of our Committee’s landmark bipartisan achievements, the America COMPETES Act of 2007, which we reauthorized in 2010, and I hope the next reauthorization is a top priority for the Committee in this new Congress.

I look forward to hearing Mr. Augustine’s thoughts – and indeed those of all of our witnesses – on where we need to go in scientific research and innovation to grow our economy and to improve the quality of

life of all Americans. Working together, our Committee has the opportunity to renew our commitment to scientific and technological leadership by our actions, and I look forward to any input our panelists have towards that goal.

With that, I thank you all for coming, and I yield back the balance of my time.