

December 13, 2011

Ms. Dawn Leaf  
Executive Program Manager, Cloud Computing  
National Institute of Standards and Technology  
U.S. Department of Commerce  
100 Bureau Drive Stop 1000  
Gaithersburg, MD 20899-1000

**RE: SIIA Comments to the DRAFT SP 500-293, US Government Cloud  
Computing Technology Roadmap**

Dear Ms. Leaf,

On behalf of the Software & Information Industry Association (SIIA), thank you for your leadership and expertise to help guide the U.S. Government (USG) to successfully implement the Federal Cloud Computing Strategy. Additionally, as the Draft *US Government Cloud Computing Technology Roadmap* (Roadmap) is a critical component of that process, thank you for the opportunity to submit comments on this important document.

As you know, SIIA is the principal trade association of the software and digital information content industries, with more than 500 member companies that provide software and electronic content products and services. SIIA has played a pivotal role in the development and legitimization of the Software as a Service and Cloud Computing Industries, and many of our member companies, both large and small, are key enablers of this approach.

SIIA and many of our member companies have participated extensively in the various cloud initiatives of the National Institute of Standards and Technology (NIST) cloud computing program, including the four Workshops and the technical working groups that have contributed greatly to the development of the Roadmap. SIIA supports the central role of NIST as outlined in the Federal Cloud Computing Strategy, to define and advance standards, and to collaborate with USG agency CIOs, private sector experts, and international bodies to identify and reach consensus on cloud computing technology and standardization priorities.

As SIIA has stated in the past, without the leadership by NIST to identify a set of key guidelines and recommendations for federal departments and agencies, efficient implementation of the Federal Cloud Computing Strategy would not be possible. SIIA greatly appreciates the broad participatory nature in which NIST has led this program, and we are proud to be an active contributor and partner in this process.

Please find below a series of high-level comments in response to the draft Roadmap. I hope that you will consider these comments in accordance with NIST's stated goals to refine the requirements and continue fostering a substantive discussion among cloud computing stakeholders in government and the private sector.

## **2. USG Cloud Computing Technology Roadmap Requirements**

SIIA is very supportive of the Roadmap's identification of a set of high-level priorities, or objectives, to advance the USG adoption of cloud computing. Indeed, we agree that the Roadmap is on target with respect to identifying key priorities that are most important to help carry out the efficient and effective implementation of the Cloud First Policy.

However, as currently worded, the draft Roadmap's establishment of a set of "requirements" could ultimately serve to cause confusion and create an impediment to rapid adoption of cloud computing in the near-term. That is, as currently drafted the list of requirements in the Roadmap could have the undesirable outcome of giving pause to USG agency information technology and procurement officers seeking to fulfill the Cloud First mandate to move multiple applications to the cloud in the coming months. Even with the aggressive timelines established in the Roadmap for achievement of this set of requirements, agencies will be operationally moving many applications to the cloud years ahead of fulfillment of the requirements.

Again, we strongly support this effort to identify and establish a framework to accomplish—in partnership with the private sector and stakeholders around the world—a general set of high priority objectives, but we also recognize the considerable work that still remains to meet some of these objectives. In the words of NIST Director Dr. Patrick Gallagher, the U.S. Government's task of implementing cloud computing while it is still a very young and emerging technology is akin to "building the plane while we're flying it, dealing with solutions on multiple time scales and stretching existing policy approaches into new areas."<sup>1</sup> SIIA concurs with this analogy, as well as the need to continue moving forward in this manner. Indeed, waiting for the development of many key objectives would be inefficient and counterproductive.

Further, we caution NIST to consider how the requirements will be viewed beyond the U.S. Government. As we continue to laud this initiative and encourage other governments around the world to engage in this open process and emulate to the work of NIST, it would be unfortunate if this high-profile set of guidance and recommendations created a perception that cloud computing should not be utilized *until* this set of "requirements" has been met.

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<sup>1</sup> Dr. Patrick Gallagher, Director, National Institute for Standards and Technology (NIST), remarks at the NIST Cloud Workshop III, April 7, 2011.

Therefore, consistent with the Roadmap's goal to lay the groundwork to more directly tackle a subset of cloud computing technology issues and *accelerate* USG cloud adoption, SIIA strongly encourages that these high priority objectives NOT be characterized as a set of "requirements," but rather as "objectives" to which the USG and industry will continue working aggressively to accomplish as soon as practically possible.

In addition to this general recommendation regarding the framing of these "requirements," we also offer the follow specific comments and recommendations.

- **2.1 Requirement 1: International Voluntary Consensus-Based Interoperability, Portability & Security Standards**

SIIA remains strongly supportive of efforts to accelerate the development of voluntary, international consensus-based standards for software and data interoperability and security. Despite the significant progress that has been made in this area over the last couple years, and the help provided by NIST to that end, this is an area where much work still needs to be done.

This is particularly true with respect to data portability. The concept that users should be able to move their data and be free from vendor lock-in in the cloud is a broadly-shared objective that is met with little objection. However, the definition of portability is less clear, as well as the details of how this can be achieved while providing for maximum innovation and customization of solutions. That is, while maximizing the utility of transferred data in new and different environments is a shared goal that can be aided by industry-led, market-driven consensus-based open standards, it will likely take considerably more time to achieve consensus and for providers to begin implementing the results.

As this challenge continues to be discussed not only within the NIST working groups and in internationally recognized standards fora, it should not be underestimated. Common frameworks and open standards that could ultimately lead to fluidity and interoperability across environments should still be sought, but this must be balanced with the objective of not creating undue constraints on innovation or market dynamics.

An important way that companies differentiate both products and services is through developing and implementing new features and functions. If requirements of portability are too broadly interpreted, there might be pressure to assure that there is a unitary and global feature set and functionality. This would result in an undue constraint on innovation and would limit the entrance of new and niche players looking to serve specific market sectors or subsets of needs.

In accordance with the aforementioned recommendation to re-categorize the set of requirements as "objectives," this is probably the greatest example of where it would be

imprudent to let longer-term goals be a detriment to the desired short-term adoption of cloud computing.

### **2.3 Requirement 3: Technical Specifications for High-Quality Service-Level Agreements**

Service-Level Agreements are nascent for cloud computing, and engagement with industry in this area is critical. While we understand and support the objective to achieve consistency in terminology, it is critical that this objective, not seek for uniformity in the contract terms and SLAs. That is, this approach would presuppose that one unitary contract model and SLA would make sense across myriad offerings, or that such a system of uniformity would provide greater benefit than terms and requirements more tailored to the nature of the information, requested services and players involved.

SIIA does not believe that this is accurate, and we recommend that this objective be clarified to further articulate how technical specifications could be developed without threatening diversity in cloud offerings. Additionally, we recommend that it be articulated clearly how the NIST and the USG will engage industry in this effort.

- **2.7 Requirement 7: Define Unique Government Requirements and Solutions**

The government should be able to benefit from the best and most innovative cloud solutions and meet its regulatory obligations. At the same time, the U.S. cloud computing industry needs to remain competitive by creating products and services with that meet the needs of customers around the world. While we recognize that the USG, and other governments for that matter, sometimes maintain a set of unique requirements and solutions, it should not be pre-supposed that this is always the case. An overemphasis on unique requirements and solutions could result in a considerable impediment to government adoption of cloud computing, and it could ultimately impede innovation among cloud computing providers.

We therefore recommend not pre-supposing the need for “unique government requirements” and evaluating the implications of mandating any such requirements on industry.

- **2.9 Requirement 9: Defined & Implemented Reliability Design Goals**

As you know, different technologies offer different levels of reliability to meet the needs of its users, and cloud computing solutions vary greatly in model, platform and type of service. Further, cloud solutions are not designed to replace all exiting technologies and serve all needs. Taking this into consideration, we are concerned that establishing criteria and accurately predicting reliability across cloud products and services not very practical, at least not in the foreseeable future.

Therefore, SIIA supports the Roadmap's call for further efforts and research, as well as the informatory nature of setting expectations among users, but we recommend eliminating the goal of reporting "industry-wide cloud reliability," at least at this juncture.

## **Conclusion**

Again, thank you for your leadership in promoting efficient implementation of the Federal Cloud Computing Strategy, and for the opportunity to comment on the draft Framework. We look forward to continuing to work with you in helping federal agencies and organizations effectively assess cloud offerings and effectively implement cloud products and services. If you have questions about these comments or would like to discuss further, please contact David LeDuc, SIIA Senior Director for Public Policy, at [dleduc@siia.net](mailto:dleduc@siia.net) or (202) 789-4443.

Sincerely yours,

A handwritten signature in black ink that reads "Ken Wasch". The signature is written in a cursive, flowing style.

Ken Wasch  
President