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Submitted Electronically via Email at:
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Mr. Travis Hall
The Office of the Assistant Secretary for Communications and Information
National Telecommunications and Information Administration
1401 Constitution Avenue, NW
Room 4725
ATTN: IoT RFC 2016,
Washington, DC 20230

RE: Fostering the Advancement of the Internet of Things (IoT), Docket No. 170105023-7023-01

Dear Mr. Hall:

SAP appreciates the National Telecommunications and Information Administration's (NTIA) continued efforts to prioritize the Internet of Things (IoT) through ongoing requests for comments, industry engagement and policy proposals.

The Internet of Things (IoT) is transforming the way we live. IoT has the potential to spur exponential innovation, from smart cities to improved health care services to the way we manage our homes and our lives. At the same time, it is critical that government believes industry, the driver of this innovation, is a partner in the process of shaping technology policy.

As a strong proponent of the potential of IoT across a number of different industries, markets and uses, SAP feels that measured and well-thought out government policy can make sure industry can continue to harness private sector innovation and guide the discussion on best practices. To that end, the January 2017 request for comment released by the Department of Commerce's Internet Policy Task Force and Digital Economy Leadership Team is a positive step towards incorporating important stakeholder input into the Department's policies.

SAP believes that as NTIA moves forward, particular attention needs to be focused on supporting global interoperability, spurring the adoption of IoT, encouraging security by design, ensuring a technology-neutral approach and enabling communities to become smart cities. The recent document mentions many of these issues, but as a global leader in software solutions as well as IoT innovation, SAP would like to highlight and emphasize these key areas.

Global Interoperability

As the United States continues to be a thought leader in the IoT space, it is critical the Department of Commerce and its officials stress global interoperability and an IoT ecosystem that is built on consensus-based standards that are flexible and adaptable, established in concert with industry players worldwide. If managed properly, global interoperability can be an amazing opportunity to increase international commerce, expand access to all sorts of goods and services, including banking, healthcare and public

safety, and reduce the costs of these services. It can create connections across borders, both physical and technological, that currently do not exist. Global interoperability will allow for the expansion of the use of IoT and unlock greater economic benefit for both companies and consumers, at home as well as abroad.

Spurring IoT Adoption

In addition to the Department of Commerce's commitment to coordinate and ensure that infrastructure expansion includes consideration of IoT, including consistent standards, interoperability and stability across federal, state and local jurisdictions¹, Commerce Department leaders need to ensure policies enable IoT to get to the next level of adoption. The promotion of IoT as a tool to help drive innovation and creatively provide services, both in the private and public sectors, is critical in the near future as these technologies and platforms rapidly expand in capability and use.

Partnering with industry and academia will be an effective outlet for NTIA to encourage and drive these opportunities. Not only will proactive engagement between government, universities and private sector companies help promote the development and use of IoT applications, it will help educate students, workers and government employees on how to best use these technologies and connect them to critical resources. Moving forward, the Department of Commerce can look to do more as an enabler of such initiatives.

Additionally, the government, outside of writing policy, should drive the further use of IoT across multiple sectors by adopting these technologies. As NTIA acknowledges, by leading by example, the public sector can generate conversation about the relevant policy issues and regulatory framework for a number of industries. In this sense the government should seek to act as its own incubator and promoter of practical and applicable government policy.

Security by Design

For many, cybersecurity is a relatively new concept that is not fully understood or thought about when designing and implementing products and services. Without a holistic approach to security, emphasizing "security by design," stakeholders in industry and the public sector run the risk of undermining true and effective means of protecting IoT devices, and thus the networks they are linked to. SAP strongly believes that more needs to be done to promote security by design. Educating the general public of the intrinsic value of starting with security as an initial priority and not something to be added on as an afterthought is paramount. In essence, a "baked in security, rather than bolted on" approach.

The NTIA should continue its efforts in its multi-stakeholder process to encourage all parties involved to embrace security by design, starting with risk assessments in the design process, testing security procedures prior to product launch and the importance of data encryption. Private sector engagement is crucial here as SAP, along with other market participants, has expertise and a wealth of experience on how to implement these processes and designs in a beneficial manner. The Department of Commerce promoting innovation with security as a priority will continue the necessary holistic approach ensuring the safety of IoT devices.

Technology Neutrality

It is important for NTIA, the Department of Commerce, and the government writ large to recognize the large number of stakeholders involved in IoT. As the proliferation of these technologies and applications increases exponentially, it is imperative that innovation is not stifled by regulation or unintended consequences of hastily formed government policy. Connected devices from various companies, serving a myriad of functions, will likely be long-lasting, which will require updates and potential interfacing with a number of different devices from various sources. Government policy should attempt to be technology neutral, to the best extent that it can. This neutrality should apply to all policies.

Communities as Smart Cities

Effectively integrating and utilizing large amounts of data from IoT devices across a city or locality has proven to be an effective way to help gather critical data for the provision of goods and services across the

¹ See page 23 of *Fostering the Advancement of the Internet of Things*; January 2017, NTIA: https://www.ntia.doc.gov/files/ntia/publications/iot_green_paper_01122017.pdf

country and inform policymakers in a more in-depth manner. As the Department of Commerce collaborates with other federal departments, as well as state and local officials, there is real opportunity to harness the capabilities and thought leadership from private sector companies, given the benefit of outside perspectives.

The Department of Transportation's Smart City Challenge last year exemplified the way in which local governments can partner with the private sector to ensure the provision of services. Encouraging further industry engagement to help provide the expertise and innovation for unique problems is paramount to helping integrate IoT capabilities into urban environments. Private sector companies can help identify technological gaps and potential solutions in a way that may not be as intuitive to public sector officials. This engagement can give city officials a comprehensive understanding of what exists in the world of IoT and the ability of private sector companies to engage in a useful manner.

Conclusion

SAP appreciates the efforts taken by the Department of Commerce to engage industry in this important discussion about the future of IoT. The correct approach to policy can help integrate IoT devices and functions into existing systems, increases growth potential exponentially. "Next generation" IoT applications must be able to capture, collect, interpret, and act on vast amounts of information, detecting connectivity gaps, handling interruptions, and meeting specific business and industry requirements. Adapting to this process and crafting policy to allow for innovation is paramount. The complexity of this challenge is huge and SAP encourages policymakers to continue to engage the private sector to ensure that this collaboration continues in a creative manner.

SAP appreciates the opportunity to provide comments on "Fostering the Advancement of the Internet of Things (IoT)" and we hope that the above comments will be taken into account. Please contact me if you have any questions or would like to discuss our comments and suggestions in greater depth.

Sincerely,



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Vice President and Head of US Government Relations

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