GREEN
ELECTRONICS
COUNCIL

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GEC Sustainability Through Cloud Computing Initiative

The Green Electronics Council (GEC) has launched the Sustainability Through Cloud Computing Initiative. A mission driven organization known for our management of EPEAT, the leading global sustainability ecolabel for IT products, GEC recognizes the environmental benefits associated with cloud computing and seeks to expand purchaser adoption. The goals of this initiative include:

- Identify the sustainability performance characteristics of cloud computing services and develop a benefits calculation, based on existing metrics, to enable Purchasers to quantify those benefits
- Accelerate the transition to cloud services by developing a cloud computing Purchaser's Guide to assist large-scale purchasers in asking for relevant data from their cloud providers to be able to complete the benefits calculation

As an independent, mission-driven, not-for-profit, GEC is uniquely positioned to launch and manage this initiative. GEC has extensive contacts with large-scale IT purchasers and they have requested GEC's assistance to better understand the sustainability benefits of their cloud computing purchasing decisions.   GEC strives for a world filled with only sustainable electronics and by stimulating market demand for sustainable cloud computing services, we are fulfilling our mission.

Why Cloud Computing

There are several publicly available forecasts on the significant growth of cloud computing. A March 2016 aggregation of these forecasts by Forbes magazine[1] highlighted:

- The worldwide cloud computing market grew 28% to $110B in revenues in 2015. Of that growth, public IaaS/PaaS services attained the highest growth rate of 51%, followed by private & hybrid cloud infrastructure services at 45%. [Synergy Research]
- Worldwide public cloud revenue will increase to $167B in 2020. 49% of the market believes public cloud is just as or more secure than private cloud. [TRB]

This impressive growth in cloud computing is expected to have positive environmental benefits. Several industry sponsored studies have found that cloud computing can be as much as 87% more energy efficient than traditional owned data centers. [2013 Google-funded study conducted by Northwestern University and Lawrence Berkeley Labs]

Additionally, in August 2016, the US Federal Office of Management and Budget (OMB) released a memo launching the Federal Data Center Optimization Initiative (DCOI) which "requires agencies to develop and report on data center strategies to consolidate inefficient infrastructure, optimize existing facilities, improve security posture, achieve cost savings, and transition to more efficient infrastructure, such as cloud services and inter-agency shared services." By shutting down and consolidating under-performing data centers,

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[1] Forbes magazine article, http://www.forbes.com/sites/louiscolumbus/2016/03/13/roundup-of-cloud-computing-forecasts-and-market-estimates-2016/#210c291574b0

optimizing the data centers in the Federal inventory, and increasingly outsourcing federal computing needs to the cloud, the Federal government can save taxpayer dollars and curb spending on underutilized infrastructure.

GEC recognizes the environmental benefits associated with cloud computing and therefore aims to assist large scale purchasers to make the transition to cloud services. Large scale purchasers seek a credible and easily understandable way to identify and calculate the sustainability gains of their shift to cloud computing. The GEC Sustainability Through Cloud Computing Initiative will focus on aggregating existing metrics to develop a purchaser focused cloud computing guide and benefits calculation. By increasing the transparency of cloud computing environmental benefits, GEC's Sustainability Through Cloud Computing Initiative will assist large scale purchasers in credibly meeting their organizational sustainability goals.

Collaborative and Transparent Approach

Many organizations have an interest in supporting large scale purchaser adoption of cloud services. GEC has a history of working collaboratively and transparently to help define what constitutes sustainable iterations of electronics. Along with large scale purchasers, GEC has engaged with relevant organizations to establish an outline of the structure and timeline for this initiative.

GEC is proud to be working with the Arizona State University Masters in Business Analytics program to address two specific topics:

1. Identification of Cloud Computing Core Sustainability Characteristics: This activity focuses on identifying a core set of sustainability characteristics of cloud computing. The emphasis is on reusing sustainability related criteria already relied upon by large scale purchasers when considering cloud services.

2. Cloud Computing Benefits Quantification: This activity focuses on developing a benefits calculation that quantifies the environmental gains associated with the transition from in-house data centers to cloud services.

In launching this initiative, GEC will provide the necessary support for any partnerships, including project management and logistical support. GEC welcomes offers of financial support from any potential partners.

Initiative Timeline

In responding to large scale purchaser interest, GEC seeks to have the the benefits calculation and purchaser guidance completed by mid-2018. Parties are welcome to contact the Green Electronics Council to learn more about GEC's Sustainability Through Cloud Computing Initiative and how you can participate.

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