W4 A Cloud Descends on the Courtroom: The Impact of Cloud Computing on Evidence in the Courtroom

Mark Pollitt, PhD, Digital Evidence Professional Services, Inc, 8509 Nicole Court, Ellicott City, MD 21043; Christopher J. Plourd, JD*, Superior Court, 939 Main Street, El Centro, CA 92243; Mary F. Horvath, MFS*, 6786 N Stuart Road, King George, VA 22485; Josiah Dykstra, PhD*, 1739 Carriage Lamp Court, Severn, MD 21144; Henry R. Reeve, JD*, Denver District Attorney's Office, 201 W Colfax Avenue, Ste 801, Denver, CO 80202; Abagail Abraham, JD*, AOL, 22000 AOL Way, Dulles, VA 20166; and Andrew Neal, MS*, TransPerfect Legal Solutions, 1717 Main Street, Ste 4450, Dallas, TX 75201*

After attending this presentation, attendees will better understand how the rapidly expanding technologies surrounding the storage and distribution of information and applications using what is commonly called "cloud computing" are impacting investigators, forensic examiners, and lawyers from the crime scene to the courtroom.

This presentation will impact the forensic science community by providing a brief tutorial on these technologies, giving attendees an appreciation of the difficulties in acquiring, analyzing, introducing, authenticating, and evaluating information stored "in the cloud." After attending this presentation, participants will be able to evaluate how these technologies are changing the practice of both law and forensic science.

The National Institute of Standards and Technology defines cloud computing as: "…a model for enabling ubiquitous, convenient, on-demand network access to a shared pool of configurable computing resources…"[1] Government and industry have rapidly adopted the use of massive computer resources to provide information storage and applications online for both internal and external use. While some of the uses of cloud computing are fairly obvious, such as web-based email, social media, and electronic commerce, the cloud technologies are increasingly being used for third-party applications and even in-house computing systems for handling evidence. One source suggests that by next year, more than one-third of all personal data in the world will be stored in the cloud.[2] This massive amount of data, coupled with the location of the computing resources distributed across the globe, presents a rapidly evolving set of problems for investigators, information security professionals, forensic scientists, and the legal community. Investigators and digital forensic examiners are already facing difficulties in locating, collecting, and utilizing cloud-based storage and applications. The courts are beginning to face challenges to admissibility and determining the reliability of proffered evidence.[3] For the entire forensic community, there are concerns regarding the privacy, confidentiality, and integrity of cloud-based data and applications.[4] Clearly, the impact of the movement of data and applications is beginning to have a major impact on the practice of forensic science.

This presentation will bring together computer scientists, forensic practitioners, information security practitioners, lawyers, and judges to discuss many of the emerging issues in this rapidly evolving field. Topics include: What is the Cloud, Legal and Practical Issues in Evidence Collection, Foundation and Admissibility of Cloud-Based Evidence, and Security and Privacy in the Cloud.

Reference(s):

1. National Institute of Standards and Technology. *The NIST Definition of Cloud Computing*. Special Publication 800-145. 2011.
2. Butler B. Gartner: 1/3 of consumer data will be stored in the cloud by '16. *Network World*. 2012.
3. Wilson D. Legal Issues with Cloud Forensics. *Digital Forensic Investigator News*. 2015.
4. National Institute of Standards and Technology. *Guidelines on Security and Privacy in Public Cloud Computing*. 2011.

Cloud Forensics, Digital Evidence, Computer Evidence