Lead Inventor: Radu Sion, Ph.D., Assistant Professor, Department of Computer Science

Title: Database Outsourcing with Access Privacy

Background: In a distributed environment involving multiple networked computation and storage devices, this method ensures privacy and security guarantees for executed computations while running code in outsourced setting involving third party service providers. This allows, for example, a corporation to outsource their in-house data centers to third parties such as Google or Amazon, with full assurance of privacy.

Technology Description: The method developed by Dr. Sion of Stony Brook University’s Computer Science Department, provides a mechanism for clients to safely and confidentially run their programs inside third parties’ data centers (such as computation “cloud” environments), without allowing the parties to understand the software execution patterns nor see the processed data. With this method, outsourcing clients (such as financial corporations) are able to design and deploy their applications in the “secure” cloud and achieve significant cost savings without compromising confidentiality of their computations or their associated data sets.

Applications: Corporate Database and Software Outsourcing

Advantages: Allows for companies to cost effectively outsource confidential information and computations without sacrificing privacy or security.

Patent Number / Publications: Patent Pending

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