

Truth, not Trust – Big Data Governance, Integrity and Security Solved

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Ground-breaking security technology (<http://guardtime.rainmaker.solutions>), developed in collaboration with the Estonian government to make big data governance practical, prevent data breaches and provide integrity and accountability, is being made available to the UK Government for the first time – by Guardtime (<http://www.guardtime.com>) and Rainmaker Solutions (<http://rainmaker.solutions/>).

Current security practices force organisations to trust an outsourced provider, a state-of-the-art cyber-security appliance, a firewall, security critical configurations, and/or the credentials and administrators (trusted insiders) and auditors used to manage them. Organisations have no practical way of continually verifying their trust is well founded and therefore their data is safe.

With cybercrime having been described as ‘the greatest transfer of wealth in history’ and the cost of ineffective cyber security estimated to be \$3trn (£1.75trn) by 2020*, this approach is clearly not working.

The cyber security industry’s best intentions are missing the point.

The vast majority of attacks to cloud service providers, governments, multinational enterprises, and connected devices are in fact integrity attacks.

Dr Ahto Buldas, chair of information security at Tallinn University and chief scientist at Guardtime, said:

"In Estonia, Edward Snowden could not have committed his unauthorised act. With real-time monitoring of the integrity of digital events, his attempt to cover his tracks would have raised an alert and he would have been held accountable for his actions."

Estonia became a world-leader in digital security after large swathes of the country’s infrastructure was shutdown during a three week wave of unprecedented cyber attacks in 2007. In response, Estonian scientists created a technology to ensure its national digital systems would not be compromised again, records lost, and/or modified.

Matt Johnson, distinguished veteran of the United States Air Force Office of Special Investigations and Guardtime CTO, said:

"What I discovered was that Estonian scientists have built a near perfect detection technology that allows every event on enterprise networks to be attributed and verified in such a way that the privacy of each event is maintained but the integrity of the events cannot be denied.

"Guardtime allows organisations to identify and visualise threats and changes to important intangible assets and data; such as copy and transfer, deletion, and manipulation – all in real-time. Our integrity instrumentation allows you the fundamental ability to tag, track, and locate your assets in

cyberspace. A GPS for data."

Guardtime's Keyless Signature Infrastructure (KSI)* and solutions like GuardView and GuardVision make it impossible for insiders or cyber attackers to cover their tracks, demonstrating the truth (not trust) behind any data object in real-time. Guardtime's solutions serve as fundamental integrity instrumentation providing independently verifiable proof of data creation time, authenticity, and identity without relying on cryptographic secrets or trust anchors like administrators. The solutions instantly alert organisations to any theft or manipulation of their data and provide a complete provenance picture, which can be resolved with forensic auditability that will hold up in a court of law. KSI solves the problem of big data governance, location, residency and sovereignty.

Disruptive technology consultancy Rainmaker Solutions has partnered with Guardtime to bring this technology to the UK Government. Rainmaker has a track record of driving technological innovation in both the public and private sectors. The UK G-Cloud is one example where it has helped the government use innovative technology services to break away from ineffective old models.

Mike Gault, CEO of Guardtime said:

"We are thrilled to be partnering with Rainmaker Solutions who have a proven track record in driving technology disruption along with deep experience in government technology innovation. Rainmaker will be a key partner for us as we continue to expand our base in Europe."

Jan Joubert, founder of Rainmaker Solutions, added:

"With GuardView, GuardVision and KSI, the first Guardtime products to be released in the UK, Rainmaker will lead the way to creating true big data governance for the UK Government.

"We will help the UK Government safeguard personal information and safely deliver digital innovation. This will support economic growth through confidence in our data services and enhance the UK's reputation for being a world leader."

For the first time UK organisations and citizens no longer have to trust that their data is protected, they can now verify the truth of its safety.

Learn more at <http://guardtime.rainmaker.solutions>

Notes to editors

*According to research from the World Economic Forum, companies could lose \$3trn due to inadequate cyber security processes by 2020

<http://www.weforum.org/news/increased-cyber-security-can-save-global-economy-trillions>

In 2012 the director of the National Security Agency (NSA) referred to cybercrime as "the greatest transfer of wealth in history".

** KSI uses an infrastructure to capture a fingerprint of a signer's data. The infrastructure then aggregates all the fingerprints it receives during a second and publishes the result to a wide audience. Without the need for keys or key management the complexity is removed and the reliability of the signature is based only on widely witnessed agreement. KSI technology allows the veracity of any type of electronic activity, data, software or infrastructure to be independently verified using only formal mathematical methods, without the need for trusted parties. The fingerprints (or signatures) can be easily implemented at Exabyte scale; they never expire and remain quantum-immune i.e. secure even after the realisation of quantum computation.

*** Security today is over reliant on encryption, searching for vulnerabilities or patterns and trying to control access, all of which are proving to be false safe harbours. Public Key Infrastructure (PKI) was invented before the Internet existed and was designed so that two parties can share a secret across an insecure channel – and for that purpose and that purpose alone it has been a massive success. For everything else, and especially for authentication of data at rest the complexities and cost of key management makes it impossible to scale. The introduction of KSI however brings the scientific method back to the integrity of digital systems. It is the difference between searching for needles in a haystack and having real-time situational awareness of every stalk of hay.

**** Rainmaker is a technology consultancy that recognises the world is moving at a rapid pace. Rainmaker knows how to embrace that to help our customers leap ahead of their competitors. Globally, the technology industry is worried about lack of trust - it's in the papers every day. Rainmaker recognised the overwhelming importance of information integrity so we searched out and found the world leaders - Estonia and Guardtime.

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