

ElcomSoft Files Patent for Revolutionary Technique to Recover Lost Passwords Quickly



Moscow, Russia - October 22, 2007 - ElcomSoft Co. Ltd. has discovered and filed for a US patent on a breakthrough technology that will decrease the time that it takes to perform password recovery by a factor of up to 25. ElcomSoft has harnessed the combined power of a PC's Central Processing Unit (CPU) and its video card's Graphics Processing Unit (GPU). The resulting hardware/software powerhouse will allow cryptology professionals to build affordable PCs that will work like supercomputers when recovering lost passwords.

ElcomSoft, a leader in software cryptology and forensics, offers a wide range of password recovery solutions. Used by businesses, law enforcement agencies, and intelligence organizations worldwide, ElcomSoft has pioneered many software innovations that have made it easier for officials to recover lost passwords from the operating system, Microsoft Office products, and dozens of other popular software applications. Their latest discovery will enable organizations to recover passwords much more quickly, without expensive hardware or software.

Using the "brute force" technique of recovering passwords, it was possible, though time-consuming, to recover passwords from popular applications. For example, the logon password for Windows Vista might be an eight-character string composed of uppercase and lowercase alphabetic characters. There would about 55 trillion (52 to the eighth power) possible passwords. Windows Vista uses NTLM hashing by default, so using a modern dual-core PC you could test up to 10,000,000 passwords per second, and perform a complete analysis in about two months. With ElcomSoft's new technology, the process would take only three to five days, depending upon the CPU and GPU.

Until recently, graphic cards' GPUs couldn't be used for applications such as password recovery. Older graphics chips could only perform floating-point calculations, and most cryptography algorithms require fixed-point mathematics. Today's chips can process fixed-point calculations. And with as much as 1.5 Gb of onboard video memory and up to 128 processing units, these powerful GPU chips are much more effective than CPUs in performing many of these calculations.

In February 2007, NVIDIA®, the worldwide leader in programmable graphics processor technologies, launched CUDA, a C-Compiler and developer's kit that gives software developers access to the parallel processing power of the GPU through the standard language of C. NVIDIA® GPUs (GeForce® 8 and above) act as multiprocessors, with multiple registers and shared memory and cache. ElcomSoft has harnessed their computing power, and will be incorporating this patent-pending technology into their entire family of enterprise password recovery applications. Since high-end PC mother boards can work with four separate video cards, the future is bright for even faster password recovery applications.



Preliminary tests using [Elcomsoft Distributed Password Recovery](#) product to recover Windows NTLM logon passwords show that the recovery speed has increased by a factor of twenty, simply by hooking up with a \$150 video card's onboard GPU. ElcomSoft expects to find similar results as this new technology is incorporated into their password recovery products for Microsoft Office, PGP, and dozens of other popular applications.

To learn more about ElcomSoft's new technology, please visit <http://gpu.elcomsoft.com>.

About ElcomSoft Co. Ltd.:

Established in 1990, ElcomSoft Co. Ltd. provides state-of-the-art computer forensics tool development, computer forensics training, and computer evidence consulting services. Since 1997, ElcomSoft has been providing support to businesses, law enforcement, military, and intelligence agencies. ElcomSoft tools are used by most of the Fortune 500 corporations, many branches of the military all over the world, many foreign governments, and all major accounting firms. ElcomSoft and its officers are members of the Russian Cryptology Association and the Microsoft Business Connection program. ElcomSoft is a Microsoft® Gold Certified Partner and member of the Intel® Software Partner Program.

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