Collective intelligence and "Cloud Computing"

Despite all the recent noise in the market about the benefits and advantages of protection from the cloud, only by developing a system that leverages the power of the user community (what we at Panda call Collective Intelligence) is it possible to take advantage of detection in the cloud. That's why only Panda Security **offers the first New Generation of Anti-malware Technology based on protection from the cloud:** our 2009 retail product line.

It is our Collective Intelligence system that allows us to fully exploit protection from the cloud. The process is, basically, as follows: the system centrally collects and stores behavioral patterns of programs, file traces, new malware samples, etc, collected from the community. This extensive capacity to collect information provides greater visibility of active Internet threats.

The system **automatically analyzes and classifies the thousands of new samples received every day**. To do this, an expert system correlates the data received from the user community with PandaLab's extensive malware knowledge base. It then automatically returns verdicts (malware or goodware) on the new files and generates a vaccine in the case of malware. The effect is to reduce the time that elapses between the detection of new malware and the generation of a vaccine.

With our new solutions, users will always have a signature file on their PC with vaccines for the most active strains of malware at any given moment. When a suspicious file enters the system, it is scanned using this signature file. If there is no result, it is scanned using a signature file stored in Panda's online data centers. In this way it is contrasted against the entire knowledge base of our laboratory. If there is still no result, the suspicious file is analyzed with TruPrevent technologies, which can detect unknown malware simply by its behavior. This process is automatic and transparent and does not interfere with users' activity. As the knowledge is stored online, there is no need to use the local computer's resources.

This offers users a triple security guarantee: online scanning with Collective Intelligence, signature files and TruPrevent technologies and heuristics.

The system has two clear advantages: greater protection against new malware and low resource consumption.

Greater protection against new malware

In 2008, PandaLabs has been receiving on average 22,000 new strains of malware every day. For traditional security laboratories (those that analyze malware and create new vaccines manually) it is impossible to keep up with this avalanche of malware.

The net result is that there is a longer period of time between the discovery of new malware, and the moment when the antivirus products of these traditional companies will be able to detect it. Thus leaving users unprotected for long periods of time. As there is now more malware than ever, the real danger lies with these thousands of new strains of malicious code that hackers are creating and distributing every day.

Thanks to Panda Security's system of cloud computing, this problem has been overcome, as detection and analysis of malware, as well as vaccine generation, are carried out automatically. This information is then channeled to Panda Security's servers which users are connected to at all times (provided they are connected to the Internet). This way, Panda Security ensures truly real-time protection against new malware for its users.

Low resource consumption

Again, the amount of malware in circulation represents a serious problem for those companies that have not adapted to a security model based on cloud computing. This is because it is difficult to store large amounts of information about malware on the computer without penalizing performance. The avalanche of malware in recent years has meant that signature files have to store an increasing amount of information and obviously this requires more space. This in turn leads to greater consumption of resources on users' computers, slowing them down as a

consequence. If to resolve the problem signature files are made smaller, information on malware is lost, and the computer will therefore be exposed to more threats. A difficult problem, but one we have resolved thanks to our Collective Intelligence and cloud computing.

As mentioned above, our new solutions ensure users always have a signature file on their computers with vaccines for the most active strains of malware. This is accompanied by our TruPrevent proactive protection module for detecting unknown malware. If a suspicious file is not located with one of these two systems, Panda's 2009 security products will automatically consult the cloud, which as we have said, includes all the information about malware that Panda currently has available. That is how we achieve greater protection with minimal use of the computer's resources.