

MADE IN IBM LABS: Des chercheurs IBM créent un système de prévention pour l'analyse précise, l'estimation et la prévision des catastrophes naturelles

Armonk - 22 oct. 2010: IBM (NYSE: IBM) inventors have developed a [patented](#) natural disaster warning system, which uses [analytics](#) to improve the effectiveness and timeliness of post-event rescue efforts in [cities](#) and other locations where efficient emergency response is essential following a natural disaster. It also offers a means to accurately predict the location and timing of subsequent catastrophic events, which will further aid evacuation efforts.

IBM's patented technique can enable a system that accurately and precisely conducts post-event analysis of seismic events, such as earthquakes, as well as provide early warnings for tsunamis, which can follow earthquakes. The invention also provides the ability to rapidly measure and analyze the damage zone of an earthquake to help prioritize emergency response needed following an earthquake.

The invention uses data generated by vibration sensors (known as MEMS accelerometers) within computer hard disk drives to quickly analyze and assess information generated by seismic events. This technique is enabled by collecting hard drive sensor data and transmitting it via high speed networking to a data processing center, which can analyze the data, classify the events, and enrich the data -- in real time.

Following rapid analysis of the hard drive data, it can be determined exactly when a seismic event started, how long a seismic event lasted, the intensity of a seismic event, the frequency of motion of a seismic event, direction of motion of a seismic event, etc. The information is then delivered to decision makers for action, including the emergency response representatives, such as police, firefighters, the Federal Emergency Management Agency or other service providers.

While the physics of earthquakes and earthquake detection is a well understood science, the seismograph technology used in this process is thinly distributed over a broad area around the world. Consequently, earthquake data is limited to a few geographical locations and little post-event analysis is available to aid emergency response. In addition, the seismographs do not provide fine-grained data about where emergency response is needed and cannot predict impending events, such as tsunamis.

IBM inventors Robert Friedlander and James Kraemer were issued U.S. Patent #7,693,663 "System and method for detection of earthquakes and tsunamis, and hierarchical analysis, threat classification, and interface to warning systems" for their invention.

Additional information about IBM's natural disaster warning system invention, and other interesting IBM patents, is available on the [IBM Inventors' Corner](#).
