

# Real-Time Detection and Tracking of File Content

Governments, Public Security Agencies or any Organization that needs to control or ensure the transmission of files now has the opportunity to go beyond current limited real-time cyber-surveillance solutions technologies (sniffers).

## Solution:

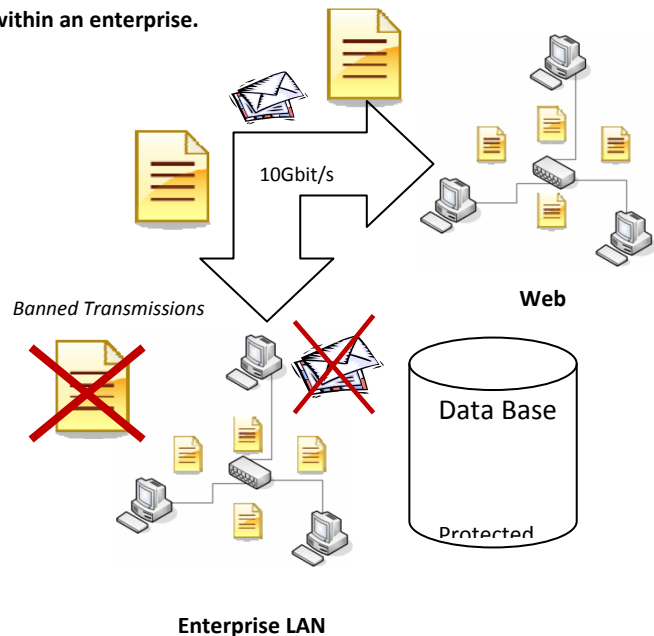
To remedy the problems of slow speeds and heavy computing resources of current sniffer technologies, Professor Jean-Pierre David, École Polytechnique de Montréal, has proposed a system that enables real-time file content detection and tracking over a network.

This system has three components: a database of indexed files to be monitored, an optimized algorithm, and hardware to implement the algorithm (an FPGA board or on chip depending on volume).

When one of the protected files passes into a network, it is automatically detected by the system, a report indicating the transmission is sent, and an alarm is set off. Depending on the application, its transmission can even be blocked before it arrives at its destination.

## Example :

**Protection of confidential files within an enterprise.**



## Advantages:

- Does not depend on data transmission protocols.
- Protected files are not tagged.
- Can be applied to all types of data files and formats, including compressed files.
- Detectable data transmissions include the downloading or uploading of webpages or the transmission of emails.
- Works at 10Gbit/s and more.
- May also serve as file tracking system (if several systems are installed at strategic places on the network)

## Current known limitations:

- Detection and tracking performance may be reduced with encrypted files. (nevertheless, pre-encrypted files can also be monitored if they are already encrypted in the file data-base);
- The system may also detect a file that is similar but not exactly the same as one protected file (this may be an advantage for some applications)

## Applications:

- Cyber Surveillance
- Child Pornography Detection
- Virus Prevention
- National Security
- Cyber Watching
- Confidentiality Protection

Further information is available upon request (under non-disclosure agreement).