



## **Cloud Computing Application :**

# Internet User Behavior Management Service by Cloud Computing Technology Offered Jointly by eDataNet and Decision Group

#### Introduction:

For most of enterprise accounts in the market, the issue for internal Internet access by employees usually brings benefits as well as damages. Accessing Internet conveniently will increase productivity of employee in terms of fast information collection and better communication with both customers and suppliers. On the other hand, Internet is also the major reason of data leakage and employee distraction from job. How to prevent the disadvantage and increase productivity is the prime expectation of senior management in most enterprises.

Internet user behavior management is not a brand new idea. Senior management already uses log files from network management system or active directory for that purpose in lots of enterprises. Unfortunately, reports from these systems, which are not designed for such purpose, usually reveal not so many clues about employee behavior in the working hours nor specify which event is abnormal. So, years after years, situation is still the same there since the internal network infrastructure grows more complicated with business development.

The digital forensic technology, recently, is a new way for Internet user behavior management. It collects all data packets, inbound or outbound, at the router side from network, and parses and classifies these packets, reconstructs those packets back to original contents, and stores in database and into file system. The basic theory is just like the below figure:







## **Enterprise Market:**

In some large enterprises, they adopt digital forensic system to control network user behavior and prevent confidential information leakage. With the implementation like below ways, those enterprises can easily deploy such system inside network infrastructure flexibly:





E-Detective - Bridge Mode Implementation



After implementation, they also get pretty good results by such purposes, and also reach the expectation and performance. In small and medium enterprises, senior management faces the same issue with those in large enterprises, but they may not be able to afford such equipment with 2 to 3 IT and network expert operation team.





## **Offer for SMB:**

For such demand in the market, both eDatanet, as Content Service Provider, and Decision Group, renowned digital forensic solution provider, work together to provide a could computing service with network user behavior management and data leakage prevention.

The service will be implemented as the following figure: all the network connection between subscriber and ISP is under the private VPN. The network digital forensic system is deployed in IDC of ISP and performs the task there.



Small and medium enterprises can subscribe such service directly from ISP or CSP by monthly subscription fee with 3 year contract. They don't need to have a team with high caliber professionals. By the well planed security mechanism in access, data transmission and storage, enterprise subscribers may feel comfortable to have this service in place.

The major functions provided for enterprises are:

- 1. Prevention of internal data leakage
- 2. Deployment without change of the internal network infrastructure
- 3. Low total IT cost of ownership through services offered by ISP
- 4. Remote disaster recovery mechanism with email transaction data
- 5. Audit mechanism compliant with ISO 27001
- 6. Transaction and forensic auditing on email, instant message and VoIP systems
- 7. User network usage and daily behavior report for performance review
- 8. Confidential files and key words transmission tracking

#### Home and School:

There are another 2 market segments – home and school. The demand of both segment is almost the same. Our service will provide the below functions for those subscribers from home and school:

- 1. monitor student behavior at school from the viewpoint of Internet transactions, such as email, instant message, and set up sensitive words/jargons related to bully, pornography, drug deal, violent fight...etc.
- 2. Monitor children behavior at home from the viewpoint of Internet transactions, such as email, instant message, online game, web link...etc





By good understanding on students and children, teacher and parent can help and conduct children proper behavior and prevent juvenile delinquent acts.

## Function:

- 1. Instant Message Record:
  - 1.1 Present date, time, account ID, IP(MAC) address, object and content of conversation and attachment
  - 1.2 Work on MSN, Web MSN, ICQ, Yahoo Message, Google Talk, QQ, IRC and UT
  - 1.3 Output conversation content of Instant Message by the condition of date into the format of Excel spreadsheet
  - 1.4 Reconstruct video, audio, origin and destination from Yahoo Messenger
  - 1.5 Provide log file of Skype with date, time, account ID, IP of sender and receiver
  - 1.6 Provide friend list of MSN 

    Yahoo messenger
- 2. Provide decryption function of Gmail
- 3. Network integration with Microsoft AD or Novell Netware server
- 4. Provide analysis information of data packet with unknown protocol with date, time, origin and destination IP, port number, MAC, packet size, packet number in the sequence by filter request
- 5. Archive system:
  - 5.1 The system is equipped with 2.5GHz above CPU,2GB memory and external disk array for archive image file
  - 5.2 Provide searching function with specified keyword and file on the archive image files by at least 100

## Sales and Market:

This service has been introduced in Pilipino market through ISP – Prodata Net. There are several SMB customers using this service for internal user Internet behavior management and data leakage prevention, and so far we also got positive response and high customer satisfaction from subscribers. We expect there will be 500 subscribers by the end of this year.

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