

# Smart LAP

Hadoop-based solution for real-time massive data log collection and analysis

## HIGHLIGHTS

- An integrated solution that supports massive log collection, storage, analysis, report generation, notification and dashboard for Machine-to-Machine (M2M) and Internet of Things (IoT) technologies.
- GUI-based easy data structuring of all types of log data
- Real-time stream analysis and quick data search
- Hadoop based solution with low cost, high performance and high scalability

## Product Overview

Companies can discover new business values by accurately understanding the problems and needs that arise out of production, sales and management processes through the analysis of system, security issues, online transactions and product usage logs.

However, the complex procedures for effective massive data storage and data processing pose problems to log analysis.

- In general, logs generated per year range from terabytes to petabytes. Also, it is necessary to store years of logs to draw accurate business insights. In the existing architecture, long-term data is kept in the backup environment, not in the system for economical reasons. But the problem is that users cannot analyze data the way users want at the right time.
- Log data processing requires several phases, including data collection, database design, ETL, and report development. For each phase, an individual hardware or a separate, independent system needs to be configured, which undermines the productivity of development and management.

Smart LAP enables data analysts to focus on data analysis by simplifying the procedure for log analysis and improving user convenience. This solution handles the entire processes related to log data, including collection, storage, search, monitoring, and creation of statistical information and reports.

## Key Features

### Easy Data Structuring of All Types of Log Data

Log data that occurs in various machines and devices has different formats in most of the cases. To extract meaningful information and obtain valuable result from the log data, it is imperative to process and structuralize the data properly.

Smart LAP provides the user experience that allows users to easily structuralize various types of structured and unstructured data. Thus, it is possible to process and structuralize data without a separate development phase for data pre-processing.

## Easy Drag-and-Drop Data Analysis

Complicated script writing and limited data access within a fixed analysis structure pose problems in the processing of various log data.

Smart LAP provides a drag-and-drop reporting function which allows non-professionals as well as data analysts to analyze data without learning complicated scripts.

Users can access the same data from various angles and create a view easily and quickly.

## Real-Time Data Search

Smart LAP provides the real-time full text search function for log data, even allowing users to search for the data just collected. The search function is useful when users analyze the details and causes of certain symptoms, search events related to a particular keyword and perform real-time search for statistical data of a particular field.

The search function of Smart LAP runs based on the high-performance, real-time indexing technology of Elastic search and can perform parallel, distributed processing for more than 150,000 events per second.

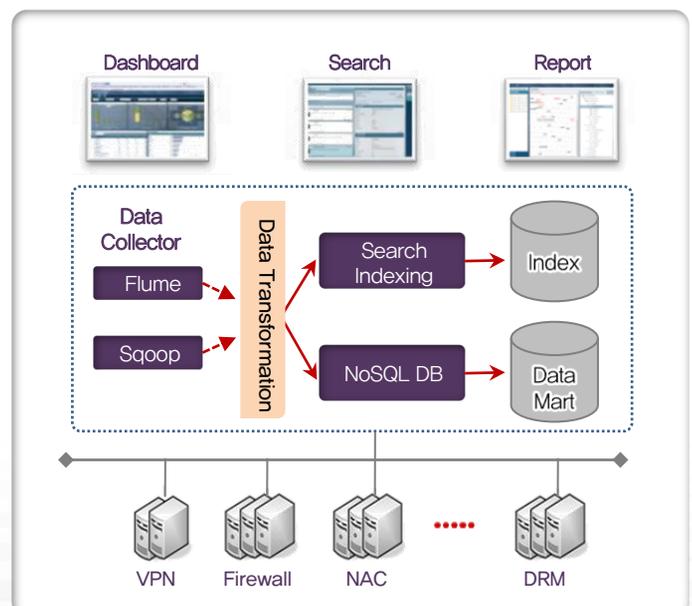


Figure 1. Smart LAP supports the whole processes of data collection, storage and analysis.

## ■ Key Features

### Low-Cost, High-Performance and High-Scalability Platform Based on Hadoop

Log data analysis is the most appropriate analysis area for Hadoop-based big data processing. Consistent data accumulation and increase make it difficult to introduce and operate the relevant systems due to the problems including deterioration of search/analysis performance, storage shortage, hardware expansion costs and additional licensing fees.

With Smart LAP, users can start from small Hadoop clusters and conveniently expand the system at low costs when higher performance and more data storage are required.

This can significantly reduce initial investment costs and excessive licensing fees, which are the problems of traditional log analysis solutions based on massive storage.

Smart LAP makes the most of Hadoop technology in the big data field by utilizing a Hadoop-based log analyzer.

### Custom Dashboard

users can view various analysis results at the same time by configuring the stored reports and search results on the dashboard. users can place all types of views on the dashboard, including diverse charts, data spreadsheets, search results, data trends and search result statistics.

Also, an editing function is provided for easy arrangement of the dashboard. users can rapidly compare and analyze data through quick shifting of chart types and interactive display options, such as zoom-in and out. With the fast sharing of data among multiple users, the dashboard can serve as an effective communication tool for business decision-making.

### Real-Time Notification

Constant monitoring and prompt notification through log analysis are required for the events that pose threats to corporate environment, such as the risk of data leakage, signs of system failure, deterioration of production quality and other unusual signs. Smart LAP can detect threats to the system by monitoring abnormal events continuously. Also, for any threats detected, users can display them on the management screen, send emails to relevant people, inform the person in charge of the details and execute scripts as an immediate countermeasure.

### Expansion of Various Business Scenarios

Smart LAP supports the implementation of a customized analysis environment by utilizing its own business scenarios. users can load various analysis scenarios to Smart LAP, such as detection of information leakage or potential infrastructure defects, energy usage analysis, and mobile and appliance scenarios.

## ■ Technical Specification

### Supporting Hadoop Ecosystems

- Hadoop
- HBase
- Hive
- Flume
- Elasticsearch

### Supporting Operating Systems

- CentOS
- Redhat Linux
- Suse Linux

### Supporting Web Browsers

- Internet Explorer 9, 10, 11
- Google Chrome
- Firefox

### Applicable Areas

- Information leakage monitoring
- Detection of infrastructure defects through system log monitoring
- Detection of illegal transactions through transaction log analysis (in connection with a statistical analysis tool)
- Analysis of the cause of product defects through production quality log analysis
- Analysis of customer behavior through the analysis of mobile app usage logs

### About LG CNS

LG CNS provides top-class integrated solutions to customers from consulting and system implementation to system operation through smart convergence with all business areas based on IT services.

LG CNS runs the Big Data Business Unit a specialized organization in charge of big data business and technical support. At the Big Data Business Unit, specialized big data consultants, analysts and platform engineers work together. The LG CNS Big Data Business Unit offers big data services optimized for customers via its technical capabilities and solutions based on the company's traditional proven technical support system.

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