

NTT Press Releases

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NTT Software Corporation
Preferred Infrastructure, Inc.
Nippon Telegraph and Telephone Corporation

Establishment of Commercial Support System for Big Data Realtime Analysis and Processing Platform "Jubatus"

-- NTT Software Corporation Launches Support Service in January 2014 --

NTT Software Corporation (Minato-ku, Tokyo, President and CEO: Shin'ichi Yamada, hereafter: NTT Software), Preferred Infrastructure, Inc. (Bunkyo-ku, Tokyo, President and CEO: Toru Nishikawa, hereafter: PFI), and Nippon Telegraph and Telephone Corporation (Chiyoda-ku, Tokyo, President and CEO: Hiroo Unoura, hereafter: NTT) joined forces to actively promote use of Jubatus¹, a realtime analysis processing platform for big data analysis-based business solutions, by launching the first fee-based support system for dealing with technical inquiries relating to Jubatus.

Jubatus is a processing platform for realtime deep-analysis of flow-type big data² jointly developed by NTT and PFI, and offered as open-source software in October 2011. The analytical capabilities of Jubatus, which could be used for customer clustering, fraud detection, social network communities analysis, and stock price prediction on web sites; product recommendations on EC sites; targeted and linked advertising on search sites, and a host of other applications are publicly available by its open-sourcing. In light of the many inquiries from businesses interested in this technology and requests for consultation regarding commercial deployment, it was time that we launched a support system to address these demands.

NTT Software is proud to announce the rollout of an official support site on January 15, 2014 enabling businesses to fully exploit the power of Jubatus. The site explains Jubatus applications for using and analyzing big data, provides useful information regarding the deployment and system operation of Jubatus, addresses technical inquiries, analyzes problems and faults, and more. NTT Software, PFI, and NTT are committed to support rapid growth of businesses by leveraging big data through the use of Jubatus.

1. Jubatus Features and Performance to Date

Background

Analysis of big data is now being widely adopted to support business operations and activities. Deep analysis of big data is becoming a significant factor for conceiving profitable new businesses and applying effective new ways for generating profits.

Jubatus Features

Among the many tools and schemes now being developed and offered for analyzing big data, NTT and PFI jointly developed Jubatus as an open-source platform in October 2011 for realtime analysis of flow-type big data. This is the world's first implementation of distributed scaling of online machine learning (see [Figs. 1](#) and [2](#)).

Deep realtime analysis of big data is capable of creating new value that is quite different from the results of conventional large-scale batch processing (see [Fig. 3](#)).

It enhances the machine learning-based analysis logic, and enables the 24H * 365Day continuous processing. Even as the amount or scale of data increases dramatically, load balancing and availability are simultaneously satisfied by simply adding more servers while online machine learning continues to generate classifications, recommendations, fault detection, clustering, and other processing tasks. By achieving distributed scaling of online machine learning, we have come up with a unique product that is unavailable anywhere else. [Figure 4](#) is a summary overview of the functions that will be offered on our public site.

Performance

Jubatus has drawn considerable interest for its performance supporting NTT Data's new Twitter data delivery service that was rolled out in December 2012, and its performance in supporting a number of other commercial services and national projects that are already up and running. PFI is also incorporating Jubatus in some of its own products, and rolled out *Sedue for Big Data* (SFBD³) in June 2013 as an initial offering.

2. Setting up a Support System: Challenges and Goals

In the process of adding functions and upgrading the quality of the open-source platform, we received many inquiries about the commercial deployment and availability of Jubatus. In deploying open-source software to a commercial system, some clients are prepared to do their own operations and maintenance, while others prefer to outsource the maintenance support. But since there was no service available for businesses that wanted to outsource the maintenance work, some companies simply decided not to adopt Jubatus for the time being, so developing and deploying a support service system became a pressing issue.

In order to meet the expectations of continuous support for smooth commercial operation of Jubatus, NTT Software, PFI, and NTT collaborated in setting up a support system for consultation during the initial deployment of Jubatus and to address technical inquiries regarding the open-source software.

NTT Software will provide the new support service. Since becoming involved in Jubatus community affairs in August 2012, NTT Software has disseminated a lot of information about Jubatus, markedly improved the quality of the open-source software, periodically added and updated various machine learning procedures and algorithms, and has ample experience in handling SFBD.

3. Examples of Support Service Menu Options

The new Jubatus support services system is divided into three basic service options.

- (1) Knowledge services (basic plan)
- (2) Maintenance services
- (3) Individual support services (optional plans) These three service options are tailored to the needs of most companies (see [Table 1](#)). For detailed instructions on how to sign up for these support services, please visit our site at: <http://www.ntts.co.jp/products/jubatus/> (Available from January 15, 2014.)

4. Strengths and Roles of Participating Companies

The strengths and roles of the three companies involved in the support service rollout are briefly summarized as follows (see [Fig. 5](#)):

- (1) NTT Software proposes optimum software solutions for business clients which enables them to fully exploit the advantages of big data and achieve commercial success. The company offers a wide range of services from analysis and systematic scrutiny of the client's data to operations and management support for newly implemented systems, as well as big data support capabilities.
- (2) PFI continues to develop diverse cutting-edge analytical tools, upgrade the functional capabilities and performance of Jubatus, while incorporating Jubatus in SFBD and other PFI products.
- (3) Through collaboration with these support services, NTT is committed to the development of more practical technologies and applications. NTT's R&D lays the ground work for building and upgrading high-performance robust infrastructures.

All three companies collaborated in building up a set of user scenarios detailing how business clients should deal with rapid decision-making, crisis management, optimum initial actions, and so on. Compiling this kind of knowledge in advance enables business clients to get up and running with Jubatus realtime big data analysis for practical usage in the least amount of time.

5. Revenue Target


The goal is to achieve ¥300 million in sales within the first three years.

6. Future Development

Establishing this support system will help demonstrate the advantages of Jubatus for businesses, and bring Jubatus into more widespread use at companies and throughout society. Some of the beneficial effects of using Jubatus are illustrated in [Table 2](#). The combination of three companies -NTT Software, PFI, and NTT- have the expertise to apply realtime deep analysis to businesses, as well as the knowhow for leveraging Jubatus to achieve value-added results that are unavailable to other companies. This can give businesses a definite edge leading to success. Moreover, by actively promoting the use of big data, this should expand the market for realtime big data analysis.

Terminology

*1 Jubatus

Jubatus is a scalable distributed processing framework for realtime analysis of big data that was developed as a collaborative project by the NTT Software Innovation Center and Preferred Infrastructure Inc. What distinguishes Jubatus from Hadoop and other batch type big data processing schemes is that Jubatus reconciles realtime processing and machine learning analysis. By combining online machine learning with analysis logic that was already available -classification, recommendation, statistics, anomaly detection, clustering, etc.- we implemented a scalable distributed processing framework that can accommodate very large data sets by simply increasing the number of servers from 1 to 2 to 10 to 100, and so on. Jubatus can now be downloaded as open-source software here: <http://jubat.us/> .

The name Jubatus is derived from the scientific name for the cheetah in the cat family, *Acinonyx Jubatus*.

*2 Flow-Type Big Data

This refers to the constantly flowing vast data streams such as represented by Twitter or GPS location data traffic. Jubatus is capable of deep analysis of this type of data in real time.

*3 Sedue for Big Data (SFBD)

SFBD is a product developed by PFI that vastly improves the performance of the full-text search engine Sedue for processing unstructured big data in real time. Additional information about Sedue for Big Data can be found here: <http://preferred.jp/product/sedue-for-bigdata/abstract/>

Table 1: Overview of Support Service Options

	Knowledge services	Maintenance services	Individual support services
● Provides update information, FAQs, and other basic information	○	○	○
● Responses to basic technical inquires (basic)	○	○	○
● Responses to technical inquires (advanced)		○	○
● Analyze failures and propose workarounds		○	○
● Provide provisional source code for dealing with failure			○
● 9-5 on weekdays	○	○	○
● 24 hours a day, 365 days a year			○(*)
● Troubleshooting) Emergency technician response, onsite response			○(*)
● Troubleshooting) Normal technician response, onsite response			○(*)
● Initial deployment consulting			○(*)
● Building support			○(*)
● Verification agency			○(*)
● Restoration after failure			○(*)

(*) Action based on customer requirements

Table 2: Anticipated Benefits of Using Jubatus

1	Differentiation through big data analysis	By providing correct data combined with machine learning, hypothetical models can be built with very short lead times that permit interaction.
2	Reduced costs	If analysis proves too complex for a single server, the system can be scaled up by simply adding additional low-cost commodity servers.
3	Appropriate risk management	By analyzing anomalies and concept drift in real time, one can detect risk and determine appropriate initial action.

Attachment Reference

- ▶ [Fig. 1 What is Jubatus?](#)
- ▶ [Fig. 2 Flow-type big data × machine learning model](#)
- ▶ [Fig. 3 Why Deep realtime analysis?](#)
- ▶ [Fig. 4 Functions and Public Sites](#)
- ▶ [Fig. 5 Strengths and roles of three companies](#)

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