

Business operation support system Based on big data

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Abstract: The integration and research of various data can play an extremely important role in people's work and study, which also makes China enter the era of big data. In the era of big data, the analysis of data is to ensure the enthusiasm and correctness of the development of various industries, and has a very significant impact on people's work and study. The Business operation support system Based on big data (hereinafter referred to as the Data BOSS System) is a communication network based on the coverage of the country and the world, and the huge amount of users and data. It combines the B/S (Browser/Server Browser/Server) architecture of the Traditional Business Support System (BSS) and Operational Support System (OSS). The design principle is to meet the actual business needs of the bureau, to achieve high sharing of effective business opportunities, and to achieve the goal of flexible, real-time, efficient and complete processing of business opportunities. The data BOSS system is dedicated to collating and analyzing the data that has not yet been exploited, and extracting meaningful information from it. It explores the business opportunities and realizes the opportunity business opportunities, which effectively supports the development of the bureau's business and creates relatively good economic returns.

Keywords: BOSS system, target drone, Business, relational database.

1. INTRODUCTION

In accordance with the work goal of “one group, one face” of informationization, the company launched the centralized construction of the data service support platform in 2010.[4] In order to highlight the important position of data as the core assets of the enterprise, the company headquarters set up data in 2012. As the only data provider of the enterprise, the data center should provide multi-level, multi-dimensional and all-round data services for the group, realize centralized, professional and standard management of the group data and quality control of the whole process.[6]

In 2019, adhering to the unified operation strategy of enterprise big data, taking data products as the core, taking product operation as the main body, based on the product development and operation process of big data platform, building integrated operation support capability of big data products/services, providing cross-data Achieve access and control of platform business capabilities, realize unified management of data products, unified release, unified operation, build an integrated

operation mode of data products, realize monitoring support of its entire life cycle state. [5]And product form in the process of business management Key monitoring of operations such as trajectory and revenue, assisting product optimization and improvement, and providing decision-making basis for all levels, promoting product operation efficiency and achieving refined operations.

Therefore, it is necessary to start the construction of this project and design, upgrade and transform the original business operation support system.

2. SYSTEM ARCHITRCTURE DESIGN

2.1 Test of grinding fineness

The system needs to support flexible data product access and tariff management. At the same time, it needs to support product lifecycle management, control requirements of the order process and energy sharing requirements.[10] It is necessary to adopt a technical framework for the organization. The technical framework of the system construction is as follows:

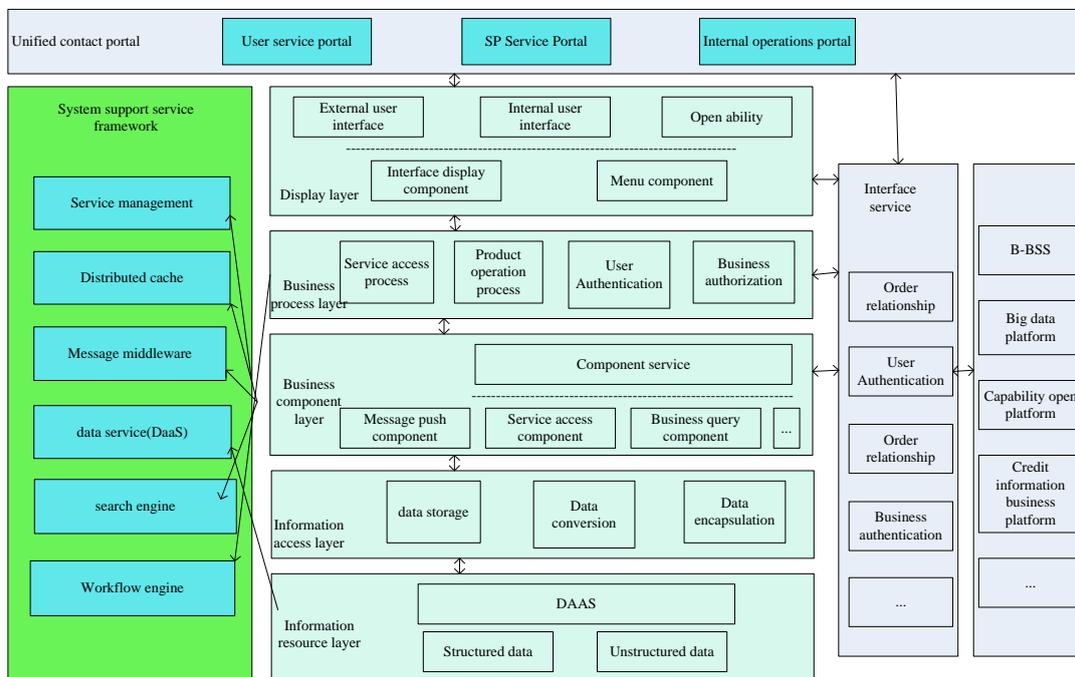


Fig. 1 Technology Architecture

2.2 Functional architecture

The overall functional architecture is divided into two levels, including the front-end business function and the back-end support function. The front-end business function is the function item used by the front-end customer. It has the Internet-styled style, beautiful interface, convenient operation and comprehensive functions.[14] It supports Internet Explorer, FireFox and other browsers. The background support function is to display the front-end page and support the business process management.

2.3 Coding architecture

This system is a BOSS system based on DWR and ZTEsoft Frame Work (CRM) framework. Based on the idea of reducing code coupling and system modularity, a separation design pattern is adopted. The AJAX asynchronous access method encapsulated in the DWR framework is used to realize the interaction between the presentation layer page and the application layer code. This system is a BOSS

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The presentation layer page relies on jQuery+JavaScript+JSP+easyUI for page and logic processing. The application layer code implements database access and data interaction through the secondary encapsulated JDBC interface in the ZTEsoft Frame Work framework.

3. INTRODUCTION TO THE BOSS SYSTEM

The BOSS system is the Business & Operation Support System. It is a comprehensive business operation and management support platform that integrates the business support system (BSS) and the operation support system (OSS), and realizes a truly integrated management platform for the business.[13]

The system was first evolved from the development of the billing system of the telecommunications department. The basic functions include customer data management, product management, user order management, billing, settlement, etc., responsible for registering customer data, managing the provision of user subscription services, Calculate the consumption amount of the business (mobile phone, fixed-line user call, on-demand viewing, broadband traffic and time, etc.) according to the tariff standards of different products and packages in real time, calculate user bills in real time and periodically, and settle users in real time or periodically. Consumption costs. Later, the user credit control function was added, which was responsible for calculating the cash balance of prepaid users in real time and implementing immediate shutdown for arrears users. The time interval of hidden target can not be set quickly, and the time interval is solidified in the program and can only be fine-tuned. The next boot-up should be reset, and the target can not be randomly set.

With the continuous development of telecom companies, BOSS is gradually improving and enhancing its functions, gradually including resource management systems, customer service systems, and external interfaces with banks to continuously improve the service quality of enterprises.[11]

4. SYSTEM TECHNICAL INDICATORS

4.1 General technical requirements

- (1)Advancement: The use of reliable, mature, reasonable and applicable system business requirements to ensure system applicability, scalability and advancement.
- (2)Stability: The system should be reliable and stable.
- (3)Openness: The system should adopt multiple layers of open and clear architecture.
- (4)Distribution: The system should adopt distributed computing technology as much as possible, and it needs to be able to deploy distributedly. It should not cause marketing of system functions when individual servers fail.
- (5)Scalability: The system should have good scalability and can scale smoothly with the growth of the network scale.
- (6) Distributed architecture requirements: The system should conform to Ucloud cloud technology, based on PAAS platform and distributed deployment architecture. The same service should be deployed on multiple hosts to achieve transparent operation across computer boundaries. After the distributed implementation, the system will not be shut down when a single host is down.

4.2 4.2 Technical requirements

Application software must be based on open technical standards and architectures and must conform to industry-standard technical specifications for future expansion and integration requirements.

It should support common hardware architecture (X86, Power, SPARC); It should support common operating systems (Unix, Linux, Windows); It should support commonly used middleware (Websphere, Weblogic, Jboss, tomcat); It should support commonly used databases (Oracle, DB2, PostgreSQL, MySql); It supports common LDAP servers (Microsoft Active Directory, Novell, Domino, OpenLdap).

It should provide more comprehensive standard portal service support, such as RIA, portlet, Widget, content management, personalization, statistical analysis, single sign-on, integrated interface, integration services, etc.; each service component in the portal should be able to seamlessly integrate work And can be managed in a unified manner.

It should support for a variety of different user data sources, such as LDAP, user databases, customized other applications, and more, should be available.

It should have good scalability, and it will not damage the user's interests during the system upgrade iteration. The version should be upgraded according to the function module and user requirements, and the system function needs to be smoothly transitioned.

It should be highly integrated. Software systems must meet seamless integration requirements to accommodate complex architectures.

1. Front-end performance indicators:

- (1) The average time for a single full page request response is no more than 1.5 seconds.
- (2) The concurrent page response time for a single page cannot be greater than 3 seconds, except for the effects of network latency.

2. Background system performance indicators:

Table 1 System performance indicator

Indicator category	Indicator item	Detailed Description	Standard of compliance
Stability index	Interface call success rate	Use the test client to call any interface, there is a response to return (the response content can be unsuccessful), even if the interface is called successfully.	Each interface is called in turn, repeated 100 times, and the success rate is not less than 99%.
Operational responsiveness index	Interface response time	Use the test client to call any interface to record the request sending time and response receiving time respectively. The	Each interface is called in turn, repeated 100 times, and the average response time does not exceed 1 second.

		<p>difference between the two times is the interface response time.</p>	
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5. BUSINESS FUNCTION DESIGN

5.1 System Requirements Analysis

According to the user's demand and traditional boss system business analysis, the system has the following functions.

(1) Business Opportunity Management: To draft business opportunities, each business opportunity can contain up to six incompatible products. You can make changes or re-add products to saved but submitted opportunities. The submitted opportunity can be withdrawn, and the retracted opportunity can be re-initiated. The goods that have already been submitted can be examined and approved according to the personnel, and the business opportunities that have passed the approval can be signed. Sponsors can view the different stages of opportunity information and approvals submitted by themselves.

(2) Order management: The contract can be initiated for the contract that has already been signed, and the number of products in the contracted business opportunity can be added. Orders that have been added but submitted for can be modified and deleted. The sponsor can query the order initiated by himself and view the details. After the order is distributed, the approval process will be carried out in units of individual orders for a single product.

(3) Contract management: Contracts can be signed for the business opportunities that have completed the approval process. The signed contracts can initiate order operations and conditional query display contract operations.

5.2 System structure diagram

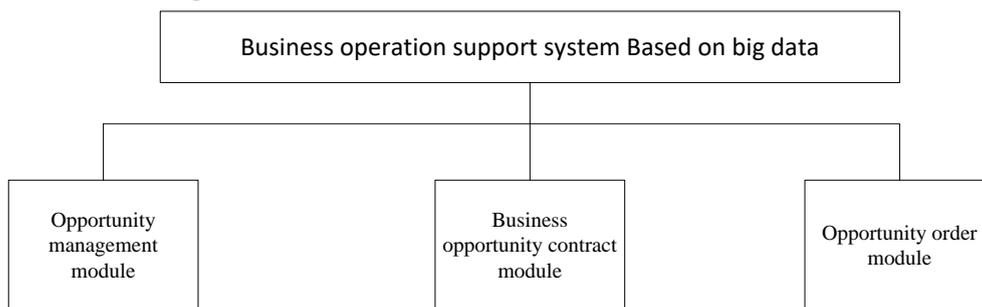


Fig. 1 Technology Architecture

5.3 System function flow chart

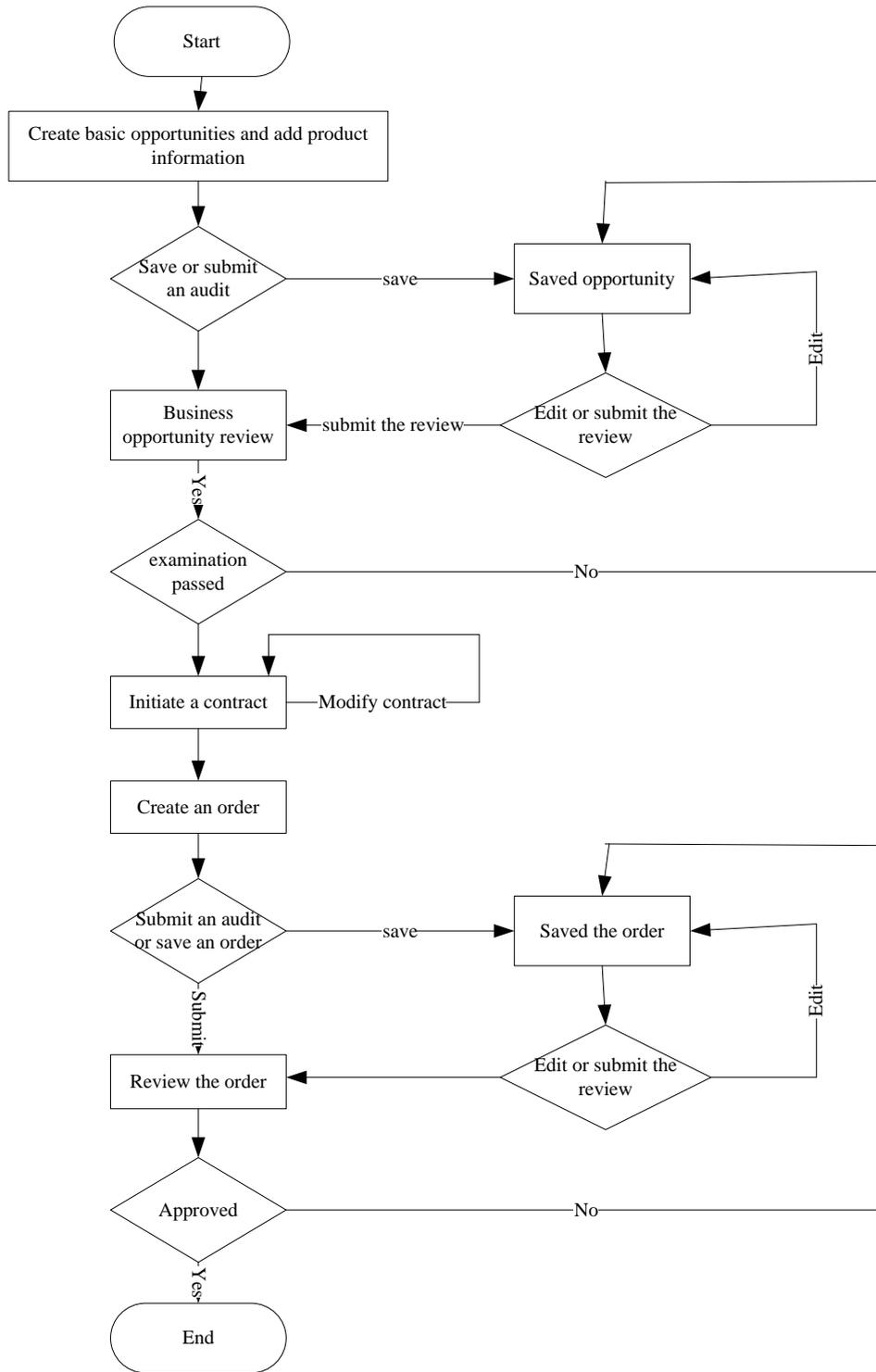


Fig. 3 System function flow chart

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