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Optimization design of automatic filing system of financial management information under the background of information technology development

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Abstract. The collection stability of traditional systems is low, it is not easy to delete interference data, the access speed is slow, and the error cannot be effectively detected. For this reason, this paper designs a new automatic filing optimization system of financial management information under the background of information technology development. From four aspects of data dynamic collection, data de-duplication, data access control and RAID error detection scheme improvement, the traditional system is optimized. The financial management information is collected through a data collection method that ensures high efficiency and high stability. In the process of accessing, the semantic ontology is formed, and the access group in the time domain is classified by the support vector machine method to improve the access speed. The repetitive data model is established, and the deduplication processing is realized by the fractional Fourier transform technique combined with the post-processing result of fourth-order cumulant. The limited set of HDD error detection is reset to help with long-term filing of RAID system data. The result is high filing speed and good filing effect, and the conclusion that the design system is highly practical is obtained.

Keywords: Information technology, financial management information, automatic, filing system, optimization

1. Introduction

After China's entry into WTO, the physical reform of banks opening to the outside world has gradually deepened, and the competition among banks has become increasingly fierce. In order to adapt to the market competition, China's banks are improving the speed of financial innovation, so as to cope with the snatching of financial resources by new competitors at home and abroad, and the degree of dependence on informatization is gradually improved [1]. Under the background of the development of information technology, banks need to deal with large-scale reports, bills, documents and so on, so the informatization of financial management becomes the key link. he centralized management of financial management information and the provision of unified query and editing services for different business will provide effective technical support for the banking business [2].

The automatic filing of financial management information is mainly to centralize the management of data generated by different business systems, and to provide query, editing and other services for different business systems [3]. With the centralization of banking business, the demand for file manage-

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ment in different business systems is increasing. The construction of automatic filing system, which centralates the relevant archives together, has changed the disadvantages of the current banking business processing, and improves the core competitiveness of the bank [4]. Therefore, it is of great significance to its research.

In order to solve the problem of data service efficiency in TIGGE massive data filing and long-term sequence historical filing, the literature [5] developed TIGGE data organization structure and historical data service requirements through design data automation filing model, and established TIGGE batch automation filing function, which improves the organization mode and organizational structure of historical data filing.¡£This method improves the service efficiency of archival data in long time series, but the process is too complex to be widely applied. The purpose of literature [6] is to identify the challenges and risks faced by South Africa in implementing IFMIS. After identifying the challenges and risks, a more successful solution or guide was developed. The method used was literature research, in which theory was explored and used to solve research problems. Developing solutions and guidelines was to address risks. The study developed a set of best practice guidelines to make the implementation more successful. However, the drawbacks of the study are lack of theoretical support and can not be applied in all aspects. Literature [7] designed a data filing system for the strong fluid sub linac in accelerator driven sub critical system (ADS), namely ADS injector II. The system can collect real-time state information of each device during the operation of the accelerator and the remote command information transmitted through the central control room. Keepalived and MySQL were used to implement high availability database services, and ArchiveEngine was used as data acquisition tool. The filing data were optimized, and the monitoring program of the database server and the filing engine were developed by ourselves, so as to ensure the stable operation of the whole data filing system. The operation of the system has the characteristics of high stability, but the accuracy of data filing is low. Literature [8] mainly solved the filing speed of different types of data information and used the event related brain potential (ERP) to measure the real-time brain activity in the GO/NOGO task by combining the neural and computational theory of the notification and word memory. The subset could be set up by the mastery of information, and sensitive information was estimated by combining latent information with high contrast. The process is relatively simple, but the information processing effect is not ideal.

Under the background of information technology development, this paper optimizes the automatic filing system of financial management information. In view of the disadvantages of the traditional system, it is optimized from four aspects: data dynamic acquisition, repeated data deletion, data access control and improvement of RAID error detection scheme. By combining the four aspects, the detailed optimized analysis is carried out in order to improve the efficiency of financial management information processing and the service quality of the user, reduce the difficulty of the electronic documents in the preservation, management and inquiry and the input of human and physics, so as to improve the distribution of business processing at the present stage, the efficiency of financial management information processing, and the core competitiveness of business.

2. Optimization design of automatic filing system for financial management information under the background of information technology development

2.1. The overall framework of the design system

This section optimizes the automatic filing system of traditional financial management information from 4 aspects, which are the data dynamic acquisition, repeated data deletion, data access control and improvement of RAID error detection scheme. In the aspect of data dynamic collection, a data acquisition method with high efficiency and high stability is given. In the aspect of access grouping, the semantic ontology is formed first, the classification of access groups in the time domain is completed by the support vector machine method. The access speed is improved, and the duplicated data model is built on the basis of repeating data deletion. In order to optimize the RAID module, the finite group of HDD error detection is reset to help the long-term filing of RAID system data.

Figure 1 describes the schematic diagram of the newly designed 4 modules added to the system on the basis of the traditional filing system.

2.2. Data acquisition module

The collection of financial management information can be achieved through three platforms, the

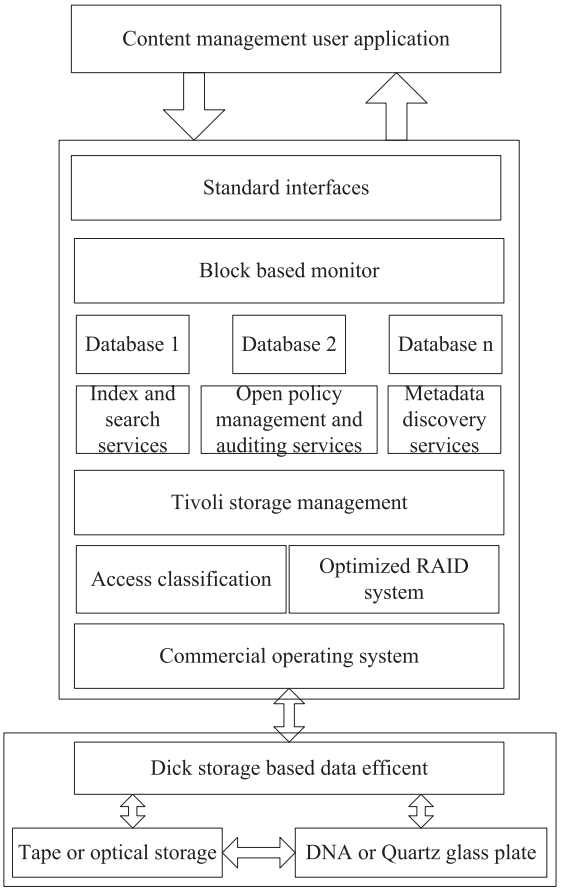


Fig. 1. Scheme based on the original filing system.

detailed analysis is in following: Through the supervision of the current business application system and the existing business system of the supervisory entity, the design interface program is used to mine the financial management information; Through the establishment management, business management, comprehensive inspection and other platforms, the business of the supervision object is collected, and the financial management business information is generated; the information is obtained through the social questionnaire.

For the above three platforms, a high-stability data acquisition method is proposed under the condition of ensuring the collection efficiency.

$t_{\min}$ is the shortest time required for collecting financial management information, t_{ave} is the average time required, t_{mo} is the port's acquisition time distribution density for the first time more than 90%, and $t_{\max}$ is the longest acquisition time for the port. The above four kinds of time can be sorted into t_1, t_2, t_3, t_4 according to the order from small to large.

The process of collecting financial management information is as follows:

(1) calculate the different statistical values [18];
(2) the process selects $Sleep\,(t_1)$, takes back the information of financial management, determines whether the length of information is taken back, if it is complete, takes the step (6) directly; otherwise, continues to carry on the next step;
(3) the process selects $Sleep\,(t_2 - t_1)$, takes back the information of financial management, determines whether the length of information is taken back, if it is complete, takes the step (6) directly; otherwise, continues to carry on the next step;
(4) the process uses $Sleep\,(t_3 - t_2)$, retrieves the information of financial management, determines whether the length of the information is taken back, and if it is complete, takes the steps directly (6); otherwise, continues to carry on the next step;
(5) whether the length of the information is taken back, and if it is complete, takes the steps directly (6); otherwise, the current data exchange fails and the iteration is stopped.
(6) takes back the information of the financial management, records the time required for the collection of information and recalculates the statistical values of different items. If the stop command is not received at the moment, the step is reexecuted (1); conversely, the collection is finished.

2.3. Repeated data deletion

2.3.1. Data block preprocessing

In the context of the development of information technology, the scale of information is becoming more and more large. In order to facilitate the operation, the LMCA method is first used to block the information data of the financial management. The LMCA method is an effective block method, which can divide the data blocks with different growth and size, that is, $H_{cn} = LMCA\,(F_C)$.

The detailed blocking process of LMCA is:

(1) set the discrete window size k and the sliding window size w, w of which is responsible for determining the file segmentation point.

(2) for each position i of file F_C, the hash value $r(i,k)$ of a continuous k bytes is obtained, and the discrete numerical sequence is obtained. $r(i,k)$, also known as rolling check sum, can be obtained through the following formula:

$$r_1(i,k) = \left(\sum_{j=0}^{k-1} f_{j+i}\right) \bmod M \tag{1}$$

$$r_2(i,k) = \left(\sum_{j=0}^{k-1} (k-j)\, f_{j+i}\right) \bmod M \tag{2}$$

$$r(i,k) = r_1(i,k) + Mr_2(i,k) \tag{3}$$

Where f is used to describe the contents of the financial management information; and $r(i,k)$ is used to describe the checksum of the data block of the financial management system at the offset i, with the length of k. In order to facilitate analysis, M usually is taken as 2 (Kim, 2015), so the checksum mainly includes two parts of low 16 bits and high 16 bits, of which 16 bits are the cumulative results of the different byte of data block, and the high 16 bits are the weighted accumulation result of the digital different bytes.

(3) scan the numerical sequence of the financial management information through sliding window, select the hash value with the smallest window range, and take its corresponding offset as a file segmentation point. The specific selection process is as follows:

(1) if the sliding window has only one minimum value, the hash value is selected to directly execute the step (4).
(2) if there are several minimum values in the sliding window at the same time, and the minimum value in the last window is in the current window, the same minimum value in the last sliding window is selected, and the step (4) is carried out directly.
(3) if there are many same minimum values in the sliding window at the same time and there is no previous step, the hash value on the right side is chosen for the step (4).
(4) all the smallest hash values and the corresponding file offset are listed, that is, the segmentation points of the file.

2.3.2. *Financial management information model and deletion processing of repeated data flow*

A lot of research shows that, when the client sends out the request of the financial management information file, the file server checks the task execution of the data block, that is, the requirement of the file reading, and completes the partition operation of the financial management information. In order to enhance the utilization of computing resources in cluster storage system, it needs to delete duplicate data to enhance storage and filing performance (Xiao Huadong et al., 2017). The foundation and key of repeated data deleting is to set up the information model of the duplication data of the financial management information, and it is assumed that the target information component of the repeated data flow can be described as:

$$s_1 = x(t) - c_1 \tag{4}$$

The frequency resolution is corrected by the variable width of the window function. The repeated data is usually backed up to the remote storage node. The phase information can be evaluated by repeating the financial management information flow in the system, and the probability weight of the occurrence of repeated data can be obtained.

$$\omega_{ij} = \alpha \times \omega\left(e_p h_q\right) \tag{5}$$

The repeated data information flow of the financial management information is sent to the remote storage node by the network. The output vector model can be described by the following formula:

$$x'(k) = \frac{1}{1 + e^{-u_j'(k)}} \tag{6}$$

Equation (6) is the task execution model. The financial management information data block is divided into the subset storage system, and the collected data set can be described as follows:

$$P = \{p_1, p_2, \cdots, p_m\} \tag{7}$$

It completes the coding scheduling of repeated data in the task flow, and starts the next storage subset. The client sends the source data requests to the file server and gets the checkout bits generated by the storage module.

$$flow_k = \left(n_1, n_2, \cdots, n_q\right) \tag{8}$$

Where q is used to describe the characteristic coding positions of some collection nodes' finan-

cial management information flow set. n_q is the data sequence for describing financial management information flow. Through the above analysis, it can get the repeated data flow model of financial management information. This section completes the detection and deletion of repeated data through information flow detection and filtering, and introduces fractional Fourier transform signal detection technology [11]. Assuming that the repeated data flow of financial management information is described by $x(t)$, and the formula of the fractional Fourier transform is described as follows:

$$X_p(u) = F^a[x(t)] = \int_{-\infty}^{+\infty} K_p(t,u)\, x(t)\, dt \quad (9)$$

Where p is used to describe the order of the fractional Fourier domain, belonging to the real number, the rotation angle $\alpha = p\pi/2$; $F^a[\cdot]$ is used to describe the formal identification of the conversion operator; $K_p(t,u)$ is used to describe the conversion kernel of FRET [12]. Then, using the information of the IMF component amplitude adjustment of the repeated financial management information flow, the nth IMF component of the signal $x(t)$ is obtained, and the formula can be described as follows:

$$r_1 - c_2 = r_2, \cdots, r_{n-1} - c_n = r_n \quad (10)$$

The residual signal filtering process of the amplitude adjustment component is completed by the fractional Fourier transform. After the first screening, the residual signal is deleted to obtain the IMF component that conforms to the intrinsic mode function.

$$x(t) = \sum_{i=1}^{n} c_i + r_n \quad (11)$$

Where c_i is used to describe different IMF components, and r_n is used to describe the estimated value of the participation mean square error, thereby completing the processing of repeated data.

On the basis of the above analysis, the processing performance is improved by the slice post-processing of 4-order cumulant, and the repeated information flow of the financial management information after the filtering process is regarded as an input vector. Assuming that the repeated data training sample set of financial management is described by $X = [X_1, X_2, \cdots, X_k, \cdots, X_N]^T$, where a training sample is described by $X_k = [x_{k1}, x_{k2}, \cdots, x_{km}, \cdots, \cdots, x_{kM}]$. In order to ensure the availability and reliability of the financial management information, the data is usually backed up to the remote storage node, and through the above filtering process, the discrete fractional Fourier inverse transform of the repeated data flow of financial management information is obtained, namely:

$$x = F_{-\beta} \cdot X \quad (12)$$

Where, $F_{-\beta} = F_{\beta}^{H}$. If the noise level in Beijing is not high enough, the 4-order mixed cumulative results can be described as:

$$c_{4w}(\tau) = \kappa \sum_{j=0}^{\infty} g(j) g^3(j+\tau) \quad (13)$$

Where, κ is used to describe the data bandwidth of the client node; $g(j)$ is used to describe the filtering function; and τ is used to describe the reconstruction time delay of the financial management information duplicated data. Through fractional Fourier transformation technology, combined with the post processing results of 4-order cumulant, it can get the repeated data flow output of the financial management information after the deletion.

$$Y_k = \left[y_{k1}, y_{k2}, \cdots, y_{km}, \cdots, \cdots, y_{kM}\right] \quad (14)$$

2.4. Access grouping method based on semantic ontology

Semantic ontology is usually used to complete database modeling, and financial management information becomes an instance of ontology that is adsorbed to the corresponding question bank. Through the semantic ontology, combined with various components, the classification and load balancing of access IO operations can be completed [13], In the context of information technology development, the amount of financial management information has increased rapidly. The filing system needs to ensure the rapid response of access while managing huge data. Therefore, it is necessary to improve the storage method of data on the disk, so that the disk is processed [14].

Only a small part of the financial management information being archived is active, which is equivalent to MAID technology, to make the hard disk rest. According to the above analysis, in the context of information technology development, the designed automatic filing system of financial management information needs to have access prediction capabilities. According to the semantic mapping of historical

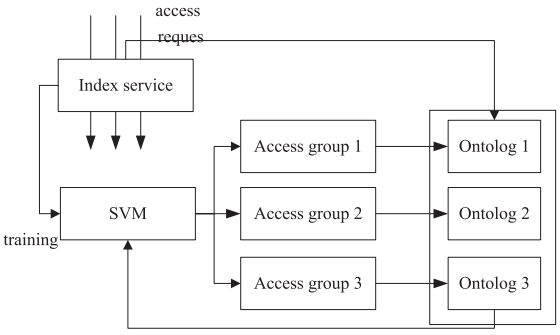


Fig. 2. Semantic ontology-based access classification.

financial management information to relevant data, the existing data of the disk and the newly arrived data are optimally distributed. The traditional method directly completes the access grouping by indexing and SVM method [15], and the classification result of classifier is not reliable. This section uses the SVM method to classify accesses within a given time frame. The process can be implemented in three stages: the indexer catalog generates a semantic ontology library [16], and the completed SVM classifier implements the classification processing of the access IO operation according to the question bank. With the increase of the number of visits and the increase of semantic complexity, the ontology library locates the disk pointed to by the target ontology, thereby enhancing the processing speed. The semantic ontology based access classification process is described in Fig. 2.

The implementation of the ontology can be constructed through the shared tools of HP Labs. The ontology model library formed by the indexer can improve the classification result of SVM, and Jena's own reasoning system also helps the accurate classification of SVM.

2.5. *Optimizing the RAID module*

Disk is the first storage medium for the designed automatic filing system. At the first level of media grading, it can be regarded as the Cache of the automatic filing system [17]. To improve disk storage performance, detect disk errors in real time and repair them, can prevent erroneous financial management information from being transmitted to other storage media with poor storage performance, thus reducing system load.

The improved RIAD module can reduce the disk error rate well, monitor the entire RAID module through a layered monitoring model, locate faults, and avoid financial management information loss [18]. The main function of the layered model is to start from the top of the RAID controller. The layers represent true financial management information that is not a different medium, so RAID technology has no effect on tape media. The data layer starts from the largest data portion that is segmented, and gradually radiates to the smaller RAID block in the data area. The error information needs to be saved separately. The performance of the error correction is mainly related to the redundant information of each code. The error is corrected by changing the RAID layout and doubling the stripe length.

In the process of checking the error, each disk is divided into a certain length by the HDD error check, and then the smaller unit is continued to be divided in the area, the area size is 128MB [19], and the unit size is 1MB. In the detection, it is first necessary to detect the fixed units of each area. In the improved RAID module, the continuous scrubbing of the disk that has reached the life cycle can be completed. For the disk that has not reached the life cycle, in each loop detection, the unit with the largest separation of the area in the previous round of detection is regarded as the unit with priority detection right. Therefore, the probability of error detected around a unit with high detection accuracy is lower than that of a unit that is farther apart. Figure 3 is a schematic diagram of stripe area exchange based on the magnitude of access data.

By comparing the health detection methods, the strips with more errors are adjusted to prevent unknown cross errors. The wrong part to the strip with the least amount of traffic is migrated to reduce the probability of an unknown error. The specific implementation process is to manage the disk through high-level SCSI RAID in the case of arranging the disk array [20]. In the case of speed and security, the above strip improvement technology is added to the RAID controller to achieve the purpose of financial management information protection.

3. Analysis of experimental results

3.1. *Theoretical analysis of financial management information collection performance*

The communication overhead required in the collection process of the financial management information adopted by the article can be obtained by the following formula:

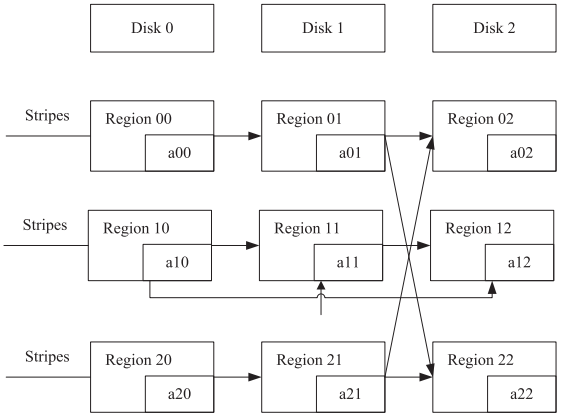


Fig. 3. Stripe area exchange based on the magnitude of access data.

$$OH_{hier-d} = \sum_{i=1}^{N_{dom}} \left(OH^i_{intra} + OH^i_{inter} \right) \qquad (15)$$

$$OH_{\text{int}ra} = \sum_{i=1}^{N_{dom}} \left(OH_m + OH_{fback} \right) \qquad (16)$$

Where OH_{hier-d} is the communication overhead for financial management information collection; $OH_{\text{int}ra}$ is the port cost; N_{dom} is the number of ports; $OH^i_{\text{int}ra}$ and $OH^i_{\text{int}er}$ are the computational overhead and communication overhead of the ith port; OH_m is the movement overhead of financial management information; OH_{fback} is the feedback overhead. The time overhead of the two-way interactive autonomous collection of information communication operation data can be described as:

$$time_{hier-d} = \sum_{i=1}^{N_{dom}} \left(\sum_{j=1}^{N^i_n} t_{ij} + t_{\text{int}er-d} \right) \qquad (17)$$

Where $time_{hier-d}$ is the time overhead for financial management information collection; N^i_n is the number of nodes for the ith port; i is the time required for each port to collect financial management information; and $t_{\text{int}er-d}$ is the time required for the port to interact with the processor.

Analysis of Equation (15∼17) show that the data collection method used in this paper can complete the collection of financial management information according to the dynamic delay data when the network data is congested. It is not affected by the congestion data, and the acquisition overhead is small. The collection efficiency is high.

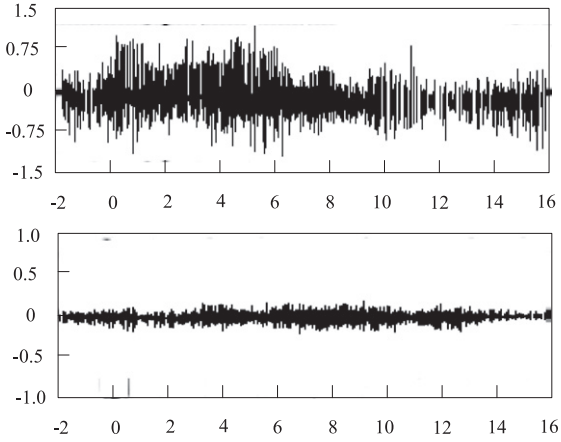


Fig. 4. Signal model of financial management information flow.

The signal model of financial management information flow obtained by the data acquisition method of this paper is described with reference to Fig. 4, and the sampling frequency of the information flow in Fig. 4 is 500 kHz.

3.2. *Test of repeated information deletion performance*

The collected signal model of financial management information flow shown in Fig. 4 is regarded as a research object, and the repeated information deletion experiment is completed. The information flow is filtered by the fractional Fourier transform method, and the normalized projection value in the fractional Fourier transform domain is taken as the evaluation index, and the repeated information deletion result obtained by the conventional method is obtained, which is described with Fig. 5. Analysis of Fig. 5 shows that when the traditional method is used to delete the repeated data, because of the influence of the interference information, the signal-to-noise ratio is extremely low, and the color noise and reverberation will have pseudo-peaks in the fractional Fourier domain, so it is not well realized the repeated data deletion.

The following uses the 4-order cumulant slice of this paper to complete the deletion of repeated data, and establish the information flow feature coding of several threads. On the basis of the above method, the output result is completed in the fractional Fourier domain, the deletion processing of the repeated data is completed, and the deletion result by the data deduplication method of this paper is obtained, which is described with Fig. 6.

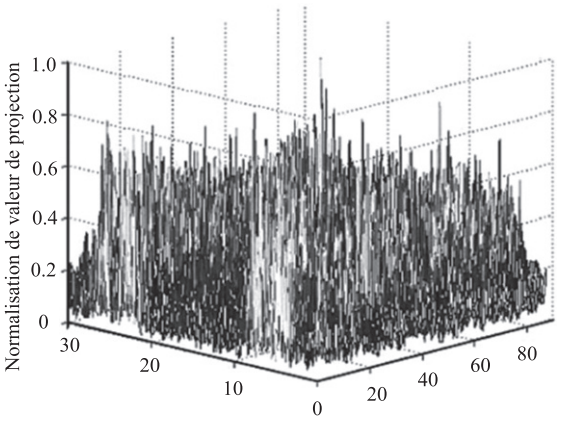


Fig. 5. Results of repeated data deletion by using the fractional Fourier method.

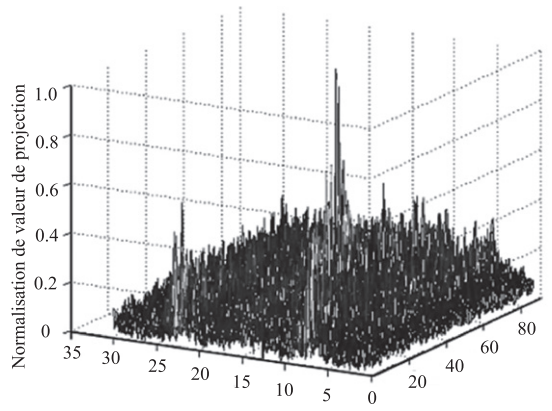


Fig. 6. Results of repeated data deletion after post-processing of fractional Fourier cumulant.

Analysis of Fig. 6 shows that the collected data signal of financial management information can obtain the impact function generated by energy aggregation in the fractional Fourier domain, and then perform cumulative post-processing to make the pseudo-peaks accumulate in the fractional Fourier domain. The signal amplitude exceeding the interference data noise amplitude enhances the performance of deduplication.

3.3. Automatic archive system testing

Limited by the experimental conditions, this experiment uses ESX Server as a verification platform and stores it as EMC. The basic configuration of all used virtual machines is 4GB of memory and 500GB of hard disk. The experimental cluster consists of a Web APP, 4 web services, and 1 postgreSQL. The HDFS required to store the archived financial management information shares an HDFS cluster with the database. The cluster consists of a namenode and three DataNodes. In order to test the automatic filing effect of different data sources to form financial management information, the shared folder and the exchange server are usually regarded as the data source. This section selects the shared folder. Figure 7 shows the basic component of the test environment in which the sharing folder is as the data source.

In order to simulate the concurrent forms under multiple users, five sharing servers of financial management information file are deployed in the experiment. All shared servers contained 18,000 financial management information files, and the file size is 1KB∼1MB, totaling 100 G. The five virtual machines are configured to install the proxy level, and the proxy program is responsible for transferring the files in the file sharing server to the automatic filing system. Taking the web server as the research object, starting from the financial management information receiving the proxy transmission, until all the required financial management information is transferred, the time is 8 h, and the average file processed per server is 0.95 per second, about with 4.6MB traffic flow. It should be noted that because the automatic filing system designed in this paper is not a completely real-time system, it is not possible to directly obtain the time required for automatic filing in the experiment. However, for financial companies, the realization of interaction with the web service indicates that the financial management information has been transmitted to the filing system, that is, the financial management information has been archived for the financial company.

Figure 8 depicts the filing speed recorded in the four web service servers in the experiment after using the automated filing system designed in this paper. In most test times, the archive speed is stable at 50 to 60 financial management information files per minute. After 4 hours of testing, the system archive speed is reduced and the duration is around 20 minutes, mainly because the system is merging small files.

The system in literature [5] and the literature [6] are tested as comparisons. The three algorithms are used to complete the automatic filing of financial management information. The obtained results are described in Fig. 9.

Analysis of Fig. 9 shows that the automatic filing of financial management information by this system can successfully save the data and the filing function is effectively realized. However, the system in literature

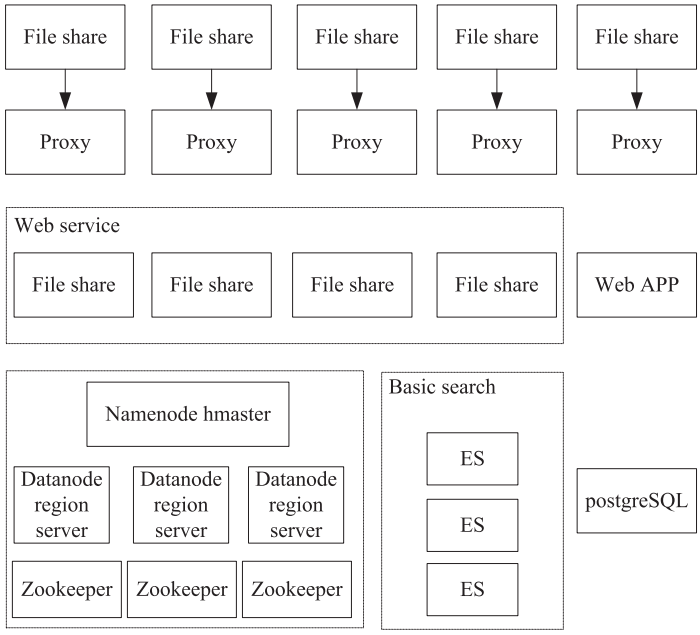


Fig. 7. Schematic diagram of the experimental environment deployment of the archive system.

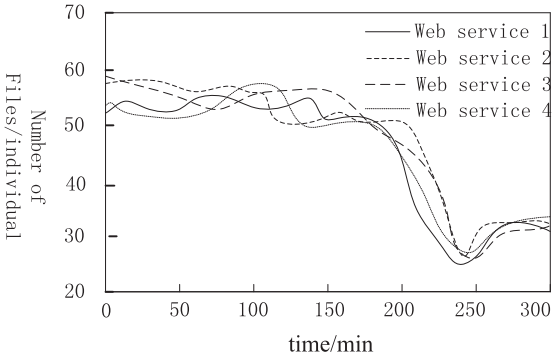


Fig. 8. Results of document filing experiment.

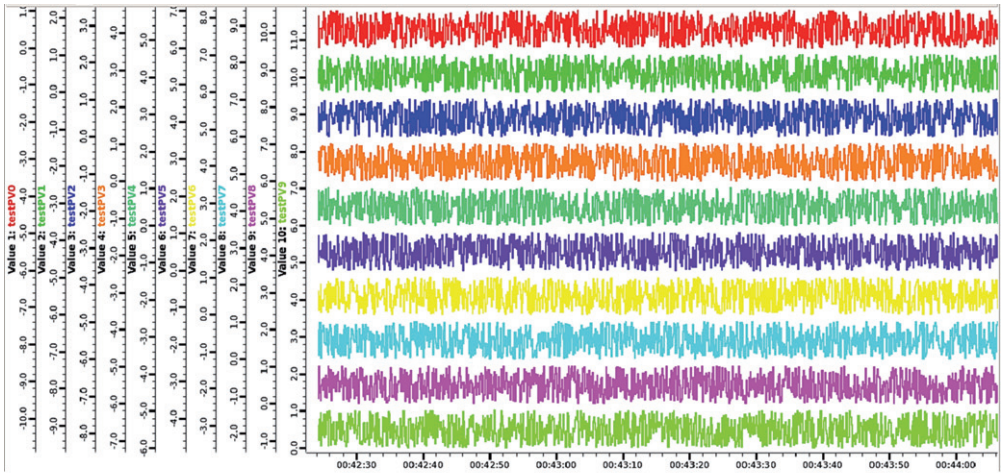
[5] and the literature [6] have the phenomenon of filing errors, which is inferior to the system proposed in this article.

4. Discussion

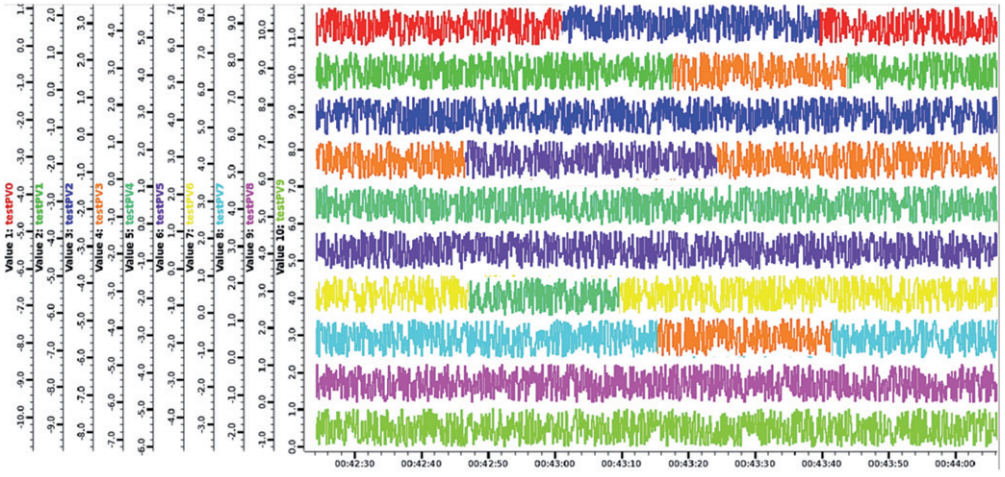
In the background of information technology development, a new automatic filing system for financial management information is designed from the aspects of data dynamic collection, data deduplication, data access control and the improvement of RAID error detection scheme.

According to the theoretical analysis of the performance of financial management information collection, it is found that the data acquisition method used in the article is not affected by the congestion data, and the acquisition cost is small and the collection efficiency is high. It shows that the financial management information collection method used in this article has high adaptability and stability. In the case of interference, it can still guarantee high efficiency and low cost.

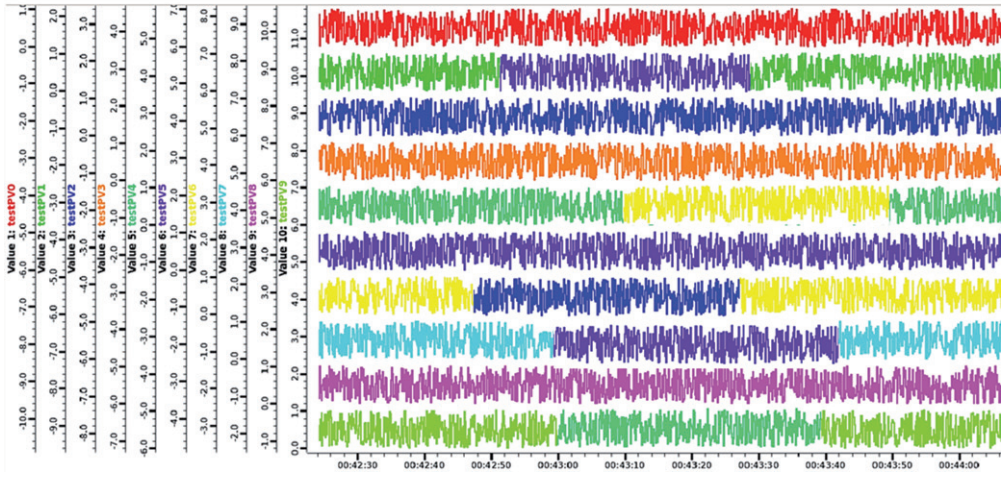
Aiming at the signal model of the collected financial management information flow, the data deduplication experiment is completed. The information flow is filtered by fractional Fourier transform. The normalized projection value in the fractional Fourier transform domain is taken as the evaluation index to get the deletion result of the duplication data obtained by the traditional method. It is found that the method is affected by the interference information, the signal-to-noise ratio is extremely low, and the color noise and reverberation will have pseudo-peaks in the fractional Fourier domain, which is not good for the deletion of duplicate data. The 4-order cumulant slice of this paper is used to complete the deletion of the repeated data, and the amplitude of the signal exceeds the amplitude of the interference data noise, which enhances the performance of deleting the duplicate data. It explains that the deduplication method adopted in the arti-



(a) System in this paper



(b) System in literature [5]



(c) System in literature [6]

Fig. 9. Data query results.

cle can avoid noise interference and accurately and effectively delete duplicate financial management information.

During the filing experiment of the automatic filing system, it is found that the designed system is issued in most of the test time to ensure high filing speed. The systems in literature [5] and the literature [6] are tested as comparisons. It is found that the designed system is used to automatically archive financial management information, and the filing function is effectively implemented, which verified the practicability of the designed system.

5. Conclusions

An automatic filing optimization system for financial management information under the background of information technology development is designed. The result of the system is stable, and it is not easy to delete interference data during the process of deduplication. Using this system, visitors will not face great challenges in repeated visits and differences in semantic logic. In addition, the system has a good theoretical basis for error detection, and has a fast filing speed. The filing function can be effectively realized.

In order to ensure the collection efficiency, a data collection method with high stability is proposed for the three source platforms of financial management information collection.

In the context of the development of information technology, the scale of information is becoming more and larger. In order to facilitate the operation, the LMCA method is used to block the information data of the financial management, to divide the files into the data blocks with different growth and size, and to establish the financial management information model of the repeated data flow. Through the 4-order cumulant slice, the processing performance is improved, and the repeated information flow of the financial management information after filtering is taken as the input vector. Through the fractional Fourier conversion technology, combined with the post processing results of 4-order cumulant, the output results obtained after the deleting of the data information flow of the financial management information are obtained.

Through the semantic ontology, combined with various components, the classification and load balancing of access IO operations are completed. Under the background of the development of information technology, the storage mode of data in disk is improved, so that the disk has more access in the processing process.

The error rate of the disk can be reduced through the improved RIAD module. The whole RAID module is monitored through a layered monitoring model, to locate the fault and avoid the loss of the financial management information.

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