Research and Application about Operation Integration Platform in the Processing Management of Bank

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Abstract: Currently, there are all kinds of problems in the operation management of some banks, such as decentralized management, independent process, missing trigger point between event and process, no interaction between systems and so on , if we need to solve these problems, the platform which will be used to manage these issues has to be built. Therefore, based on the way of PDCA, we consider the practical situation in our operation and maintenance work and adopt the standard of ITIL, the research of operation and maintenance integration platform in the application of process management of the bank will be developed. The research of this topic will be able to break the isolated island state between systems, implement the effective linkage of information and raise working efficiency. Finally, the processing and systematic management will be realized in the operation and maintenance management of bank.

1. Background and Significance

ITIL(Information Technology Infrastructure Library) is proposed by CCTA(Central Computing and Telecmmunicat-ions Agency), and mainly contains five life cycles which are service strategy, service design, service transition, service operation and service improvement, and five processes which is incident management, problem management, configuration management, change management and release management [10].

With the increasing of application system, server and network equipment in the computer room, there are more business systems and self-service equipment. So, more maintenance of equipment and business system needs to be done for all operations person at all levels. In order to ensure the continuity of business, the stable operation of device and systems needs to be guaranteed. However, the operation of this bank is in a state of decentralized management. The management of asset, devices monitoring, event processing are isolated each other and there are also some issues, for instance, imperfecting process management, static event management, lack of processing and systematic management.

In this respect, we explore how to construct the integration platform of operation and maintenance according to the main idea of overall planning, step-by-step implementation, effective integration and gradual comprehensiveness. And, by construction, the dynamic management of IT asset, the comprehensive monitor and the processing of event processing will be achieved. These three aspects included of IT asset, the monitor of device and event processing will be able to interact effectively. In finally, the operation and maintenance work can be extend to each business department in the horizontally and secondary branch in the vertically. For the horizontal and vertical dimensions, it has great significance to realize the management of operation and maintenance that is the processing.

This paper is organized as follows. Section 2 introduces the current problems and situation. The ideas and solutions are proposed in section 3. Section 4 is composed of the introduction of platform, deployment plan and architecture design. Section 5 mainly introduces the values of platform. Section 6 concludes the overall paper simply.

2. Introduction of Current Situation

Firstly, the situation of operation and maintenance personnel including of provincial and municipal branches is introduced. In the provincial branch, there are ten operation and maintenance people that the average age is 35 years old, graduate education accounted for 30%, undergraduate education accounted for 70%. They need to achieve all operation and maintenance work including of the maintenance of system, network and infrastructure, information security, technological risks, emergency support, equipment management and so on. In the 11 municipal branches, there are 15 operation and maintenance people in all that the average age is 33 years old, graduate education accounted for 10%, undergraduate education accounted for 90%. They main work contain the management of banking network, the maintenance of device and system, information security, technological risks and the management of teleconference System.

Through sorting out the problem of the information science and technology and choosing individual departments and municipal branches for investigation, the following problems are found in the operation and maintenance work.

A. Monitoring is not cover all and decentralized. The management and self-built systems lack automated monitoring and the show of existing monitoring system are decentralized.

B. Lack of the processing management in horizontally and vertically. There is lack of perfect processing management in network, municipal branches, the information science and technology of provincial branch, and business department such as event, change, task and so on.

C. The management for outsourcer does not have effective systematic support. The outsourcer can not be assessed and managed effectivly by system and there are some risks in management.

D. Data and archives management are simple. All kinds of data, for example project construction data, equipment data, media, operation and maintenance data, are not managed by uniformly. Electronic management is insufficient.

E. The system information is isolated and processing method is static. All kinds of systems are isolated from each other, and events can not automatically trigger processes. Between the systems and events can not achieve real-time and effective linkage.

F. Staffing and institutional setup are disunity. In each secondary branch, there are different standards for institutional setup and unbalances staffing. Each secondary branch manages all networks and departments, therefor, various management is imperfect and work inefficiently.

3. Ideas and Solutions

With the expansion of enterprise scale, the IT system becomes more and more complex and the difficulty of management increases gradually also. Because of the introduction of ITIL [7], the process is sorted out by the ITIL which improves the utilization rate of enterprise IT resources and the quality of services, and reduces the difficulty of enterprise management. Therefore, each bank builds the integrated operation and maintenance management system based of the ITIL. Regarding the ITIL as the standard and core processing, Huaxia Bank improves the ability of operation and maintenance management and constructs the grid platform which achieved the construction of integrated monitoring system, processing management system, job scheduling platform and operation auditing platform. The Guangzhou Branch of Industrial Bank is guided by the idea of ITIL and driven by the services that develops the management system of IT services in order to improving the satisfaction degree of service, providing supervision and enforcing quantitative evaluation[2]. Owing to recognizing the need of standardization, process, institutionalization and measurability in operation and maintenance management, the department of Information Science and Technology of Shanxi Construction Bank builds the system of ITSM[8] in order to reducing the negative impact of personnel loss on operation and maintenance work. Yujie Zhou applied the ITIL management methods into IT operation and maintenance service, which improved the customer satisfaction, enhanced support service efficiency and made the management level of service projects reached a new stage in the paper "ITIL Application in IT Service Management" [10]. In china, each big bank

improving the management ability of operation and maintenance by constructing operation and maintenance management system [3] [4], though, the construction of these systems has been based on their actual situation, which can play a certain reference role in the operation and maintenance management of our bank.

For this reason, the actual situation is considered into our work of operation and maintenance, the system of ITIL operation and maintenance is regarded as the standard and the goal which includes all aspects of management such as processing, dynamic, comprehensive monitoring. In the process of construction, the means of PDCA is adopted. According to overall planning, step-by-step implementation, inspection and optimization, gradually comprehensive, the unique platform for integration of operation and maintenance will be constructed for improving the ability of management and work efficiency. Finally, the management of processing, system and institutionalization would be achieved in the work of operation and maintenance.

4. Introduction of integration platform

The subject mainly makes use of the PDCA method to be researched. Simultaneously, the quality of project construction is managed and controlled. This platform will achieve five main functions, which are introduced as follows.

A. The management of processing. The management of event processing will be divided into three levels from inside, horizontal and vertical direction. By this setting, this processing management can be extend to each business departments in horizontal and each secondary branches and networks in vertical. In the end, the core process of operation and maintenance management, including events, changes, plans, announcements, applications, dispatches and outsource will be completed from three dimensons. At the same time, every process adopts the mode, of closed-loop management, so that the event process can be tracked and the results can be feedback.

B. The management of asset life cycle. In this function, three problems will be solved. Firstly, the process and reporting management will be applied into the information statistics, fault repai and equipment scrapping of computer room assets. Secondly, for the purpose of information sharing of the asset, the asset management database in the integration platform will be connected with the self-built equipment management system. Thirdly, the asset management database will be connected with the module of processing management in order to tracking and recording the process of fault repair.

C. Assessment management of outsourcing personnel. This function mainly appraises and manages outsourcing personnel by collecting some work information such as fault repair, fault handing process and results.

D. Comprehensive management of operation monitoring. The monitoring mainly includes three aspects related to the system, network and infrastructure. Each module of monitoring will be integrated effectively and unified for displaying.

E. Archival management of operation and maintenance data. This part of management will realize the electronic management of paper data, the regidtration and storage management of media data and the automatic filing management of event processing data.

Along with the five functions are put into operation, the integration platform will also be extend and classified in each aspect. In the future, we plan to divide the platform into five parts which are the analysis of operation, the support of service, the management of monitor, the public management and the data bus. Every part will realize different function, for example the integrated analysis platform, the integrated service platform and the integrated monitoring platform. The specific architecture is as follows Fig. 1.
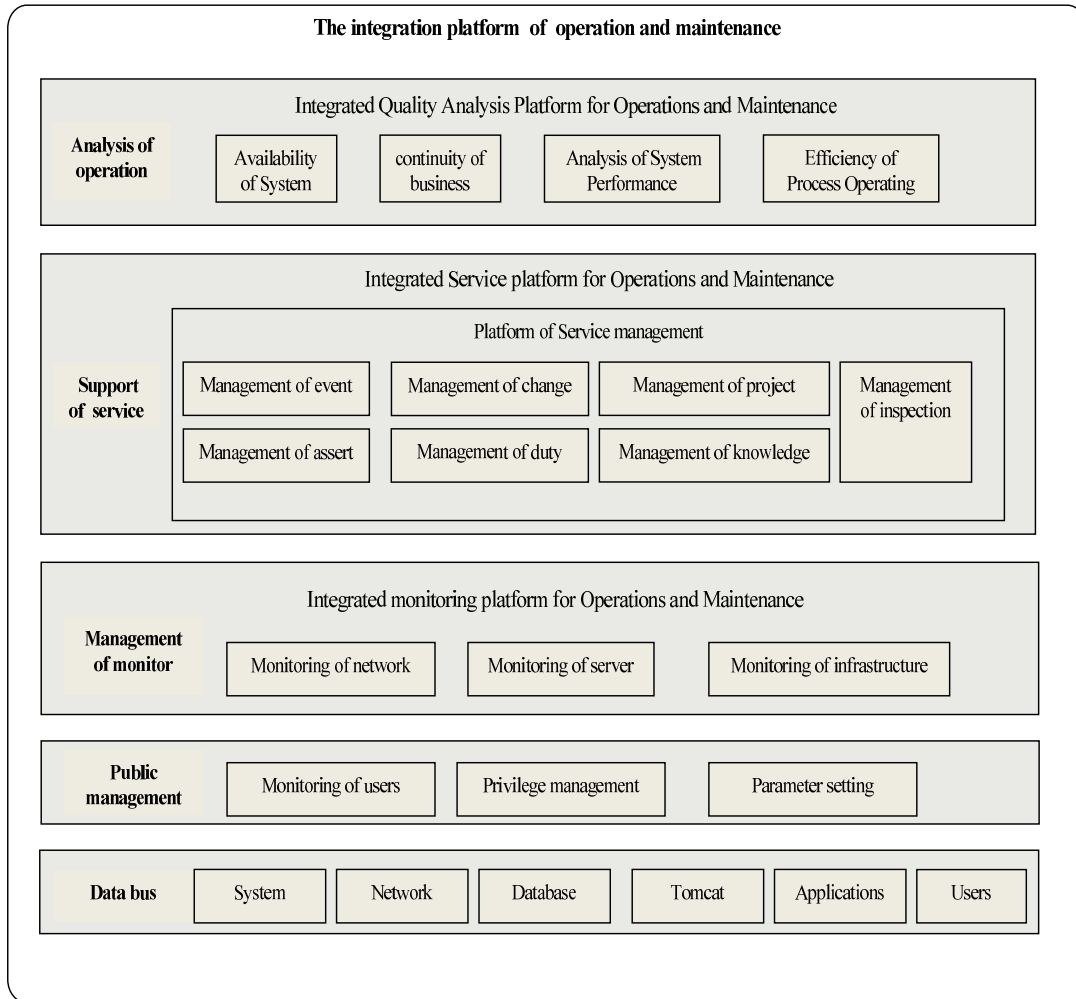
The integration platform of operation and maintenance

Integrated Quality Analysis Platform for Operations and Maintenance

Analysis of operation

| Availability of System | continuity of business | Analysis of System Performance | Efficiency of Process Operating |

Integrated Service platform for Operations and Maintenance

Support of service

Platform of Service management

| Management of event | Management of change | Management of project | Management of inspection |

| Management of assert | Management of duty | Management of knowledge |

Integrated monitoring platform for Operations and Maintenance

Management of monitor

| Monitoring of network | Monitoring of server | Monitoring of infrastructure |

Public management

| Monitoring of users | Privilege management | Parameter setting |

Data bus | System | Network | Database | Tomcat | Applications | Users

Figure 1. The integration platform of operaiton and maintenance

In the planning of deployment, the integration platform will be put into the intranet and internet in order to satisfy different needs. The processing of repairing management would be deployed on the internet, because there is not unified management of evaluation for outsourced personnel, by who ATM are mainly repaired. Others are mainly deployed on the intranet in the early stage. However, other functions will be migrated to the internet with the gradual maturity of construction.

5. Analysis of the application values

The scientific and reasonable standards of operation and maintenance service system are adopted in the research of construction of integration platform. The operation and maintenance work will be standarded by the use of processing management. The problem of information islands would be solved by interactive tracking for problem solving and fault handing and so on. Finally, the processing and systematic management wil be realized in the operation and maintenance work.

The application values of this research will be embodied in the management of bank operation and maintenance. It is mainly reflected in the following four aspects. Firstly, the dynamic management of IT assets is realized and the real-time monitoring of IT assets is displaied by unified. Simultaneously, the mechanism of repair and maintenance becomes more and more flexible. Secondly, the monitoring of infrastructure, information of system and network will be covered fully. Thirdly, the processing will be triggered be various events automatically. In the last, it will play an important role in the management for the secondary branch after the implementation of this subject, which can heighten the work efficiency greatly and relieve the shortage of personnel.

6. Conclusion

In this paper, we studied the application of integration platform in the bank, the method PDCA is applied into the construction of integration platform, in which we considered the actual situation and designed the function that accords with oneself in order to realize the processing management, standardized management, reducing the costs of personnel and improving work efficiency. Simultaneously, we extend the platform based on the current function in the future, and deploy this platform in the internet and intranet considering into the needs of management for different work.

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