Development of SFR R&D Management System Based on the EPM Solution

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1. Introduction

As the research and development environment has been changed recently, the necessity of the systematic R&D management has been raised. Up to present, R&D management has been performed on individual projects. However, the development of an integrated and systematic R&D management system has been requested for project with a "The Long-term Gen IV SFR Draft Action Plan", which was established in December 2007.

From these aspects, we developed the SFR R&D management system based on the enterprise project management (EPM) solution. The functional goal of the integrated R&D management system was set to check on the progress periodically, and modify a project, if necessary, through an effective management of activities, resources and schedule, etc. In addition, the production of reliable information of progress, performance and utilization of resources using this R&D management system could assist researchers in successfully accomplishing the R&D project.

2. Architecture Overview of System

An EPM solution that is based on Microsoft Office Project Server 2007 is deployed across multiple tiers: a client tier, a Web tier, an application tier, and a database tier. Application and services in each tier provide for an availability and scalability, enabling organizations of any size to manage projects in a range of sizes and levels of complexity. Figure 1 shows the architecture of the EPM solution.
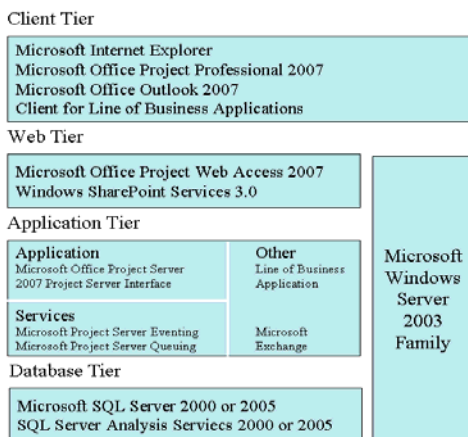

Figure 1 Architecture of the EPM solution

3. Main Applications of System

The system to be developed has various functions, which compose of process management, document management, outputs database, schedule sharing system etc. The figure 2 shows the schematic diagram of system.
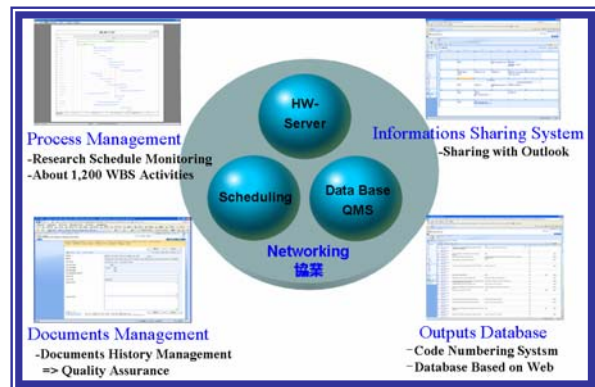

Figure 2 The schematic diagram of the system

3.1 Process Management

The process management system is based on the Microsoft Project Professional 2007 software. The system has about 1,200 work breakdown structure activities and is in control of an overall project schedule. In addition, the system enables us to manage a process management with Outlook friendly.
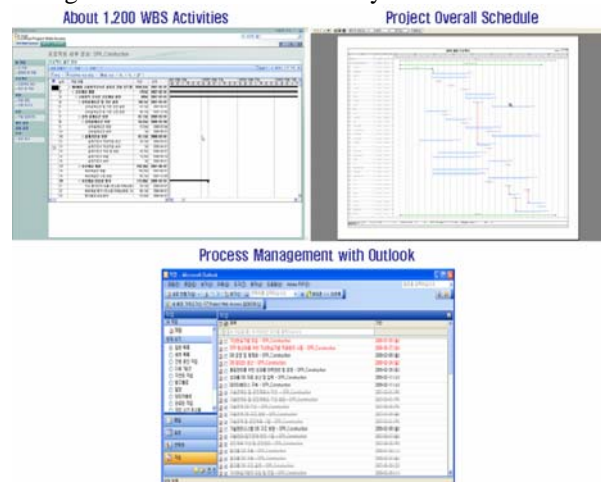

Figure 3 Process management for the system

3.2 Documents Management

Since the main part of the project management effort is expended within organizations which deal entirely with software, the control of documents is very important. The project managers of all partners must

exercise a review and approval rights on documents and maintain a list of valid project documents.

The documents to be produced must be identified at the outset, with the identification including the type of document to be produced, the document title, the document identification number taken from the overall project identification system (WBS and task orders), and the organizational unit and person responsible for its production. Figure 4 shows a document control example for the system.
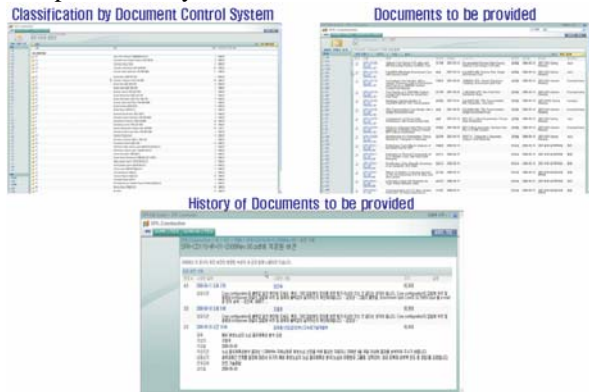

Figure 4 Document control example at system

3.3 Outputs Database System

The system services the database function based on SQL server. The data access layer is internal to Office Project Server 2007 and is not exposed to external applications. The data access layer translates between the logical business entity representation of the data and the physical database tables. At present, about 300 outputs produced since 2007 are stored within the system.
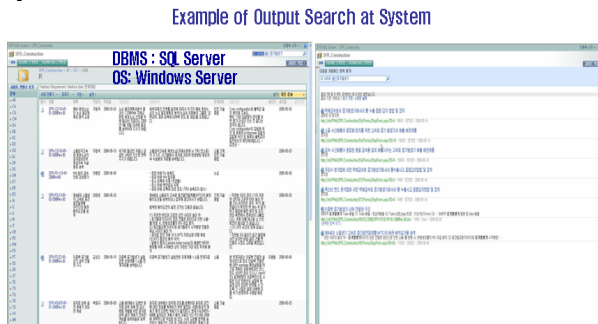

Figure 5 Example of an output search for the system

3.4 Schedule Share

In addition, the system provides the project schedule share function. If the system is synchronized with Outlook, researchers can take project schedules from project server, and this work is processed with a real time. Also if any change at server occurs, the system notifies researchers of any change automatically. Figure 6 shows an example of a project schedule sharing with Outlook.
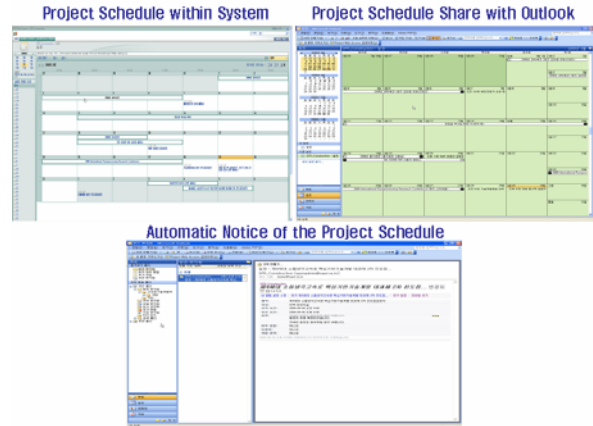

Figure 6 Project schedule sharing for the system

4. Conclusions

In this study, a work breakdown structure (WBS), related to schedule and expected outputs was established to derive the interfaces between project and the parameters were loaded into personal computers. The SFR R&D management system is composed of about 1,200 R&D activities. The Microsoft Office Project Professional 2007 software was used to monitor the progress, evaluate the results and analyze the resource distribution to activities. The hierarchy of the detailed R&D activities, technical relationships and the expected outputs were derived to develop the relevant WBS.

The SFR R&D management system was developed to continuously monitor a whole process, and a continuous maintenance of the developed system with changing R&D environment would be essential. For a successful application of this system, subdivision of R&D resources related to the R&D activities in WBS is required, and one of the most critical matters in this aspect would be researcher's reliability on this system. If this system would be used as a simple and reliable R&D management tool, the system would be developed into a system which can solicit a researcher to exchange information and maximize their capability of doing creative R&D works.

Acknowledgement

REFERENCES

[1] D. U. Lee et al., *KAERI/TR-3570/2008,* 2008.
[2] D. U. Lee et al., *KAERI/TR-3582/2008,* 2008.