

Disaster (Crisis) Recovery System

KINOSHITA Yukihiro, HIRAI Kiyomune

Abstract

The environment surrounding organizations has been changing rapidly with numerous occurrences of natural disaster, terrorist attacks and scandalous affairs. Against such a backdrop, since the Great Hanshin and Awaji Earthquakes, NEC has been building disaster recovery systems for prefectural governments that utilize IT networks. This paper introduces the disaster recovery system, which has been prepared as a package and took more than ten years to build.

Keywords

Disaster Recovery (DR), IT and Network, building system

1. Introduction

This paper introduces a disaster recovery system that can be used for disaster (crisis) recovery in natural disaster events, such as earthquakes or due to abnormal climactic conditions, which are becoming a permanent, as well as terrorist attacks, accidents and scandalous affairs. This paper introduces our current activities relating to disaster recovery strategies for prefectural governments and business corporations, as well as our disaster recovery system package that was created from the accumulation of our know-how, which was used to build numerous disaster recovery systems.

2. Disaster Recovery Strategies of Prefectural Governments and Their Current Status

The main activities relating to disaster recovery implemented by prefectural governments involve maintaining a civil defensive communication infrastructure that utilizes satellites and microwave communications, installed prior to the Great Hanshin and Awaji Earthquakes, as well as the maintenance and operation of disaster recovery systems, proactive implementation of which have started since the earthquake disasters. Disaster recovery systems that are currently maintained by numerous prefectural governments are equipped with functions to support disaster related operations, such as distributing weather information during normal times and collecting damage information from municipalities when a disaster occurs, tabulating such information to summarize the overall prefectural damage status and rapidly reporting such information to

the national government, as well as the prefectural disaster recovery task force, municipalities, disaster related organizations, media and residents through various networks.

3. Disaster Recovery Strategies of Business Corporations and Their Current Status

Continuing with disaster recovery systems of business corporations, the status of systems in the past used to merely be for the maintenance of manuals for the emergency evacuation of employees and collection of information. In the past few years, however, consideration for BCP and disaster recovery systems, primarily with safety confirmation systems, have started, which were in part triggered by proactive undertakings by the national government. Against such a backdrop, NEC developed a package that can be used by both prefectural governments and business corporations alike, based on the know-how used in the building of prefectural disaster recovery systems over many years. The delivery of this disaster recovery system for business corporations started ahead of everything else.

4. Disaster Recovery System Package Available from NEC

4.1 Summary of Disaster Recovery System

The disaster recovery system from NEC covers natural disasters, as well as man-made disasters. The base module of the system is optimally customized before being provided to the

customer, based on the analysis of the customer’s organization and business operations. It is possible to implement this package as a combination of basic functions with various optional functions. Since each functional unit is prepared as a module base, it is also possible to accommodate the phased implementation of the system in functional sub-systems.

4.2 Benefits of Implementing Disaster Recovery Systems

Four aspects are introduced below as the benefits of implementing the disaster recovery system.

(1) Early Collection, Analysis and Transmission of Necessary Information

It becomes possible to engage in the real-time collection and maintenance of weather information and other observation information, making it possible to trigger initial action early. Furthermore, it is possible to rapidly collect the necessary information (damage information, evacuation information, image information, etc.) from employees, relevant organizations and residents. The collected information can be rapidly and accurately transmitted over the Internet and by utilizing various other media.

(2) Support for Decision Making

The system makes it possible to easily comprehend the damage status, making it easier to consider strategies that should be implemented next. By linking up the system with preparation, maintenance, as well as the utilization of disaster strategy manuals and simulation systems, it is possible to implement rapid and accurate responses based on the collected information. Feedback can be used for disaster strategy manuals, by analyzing and evaluating the response status from training and actual disasters.

(3) Establishment of Early Initial Action System

Information collected from employees and relevant organizations can be sorted and displayed in a table format. This makes it possible to comprehend the overall status from preliminary reports in a few minutes. By displaying the damage status from preliminary reports on electronic maps, it is possible to visually comprehend the damage trends. Furthermore, by linking up with disaster strategy manuals, it is also possible to establish an early initial action system that can implement action in accordance with the current status.

(4) Efficiency Improvements for Disaster and Recovery Strategies

It is possible to display the damage status and requested

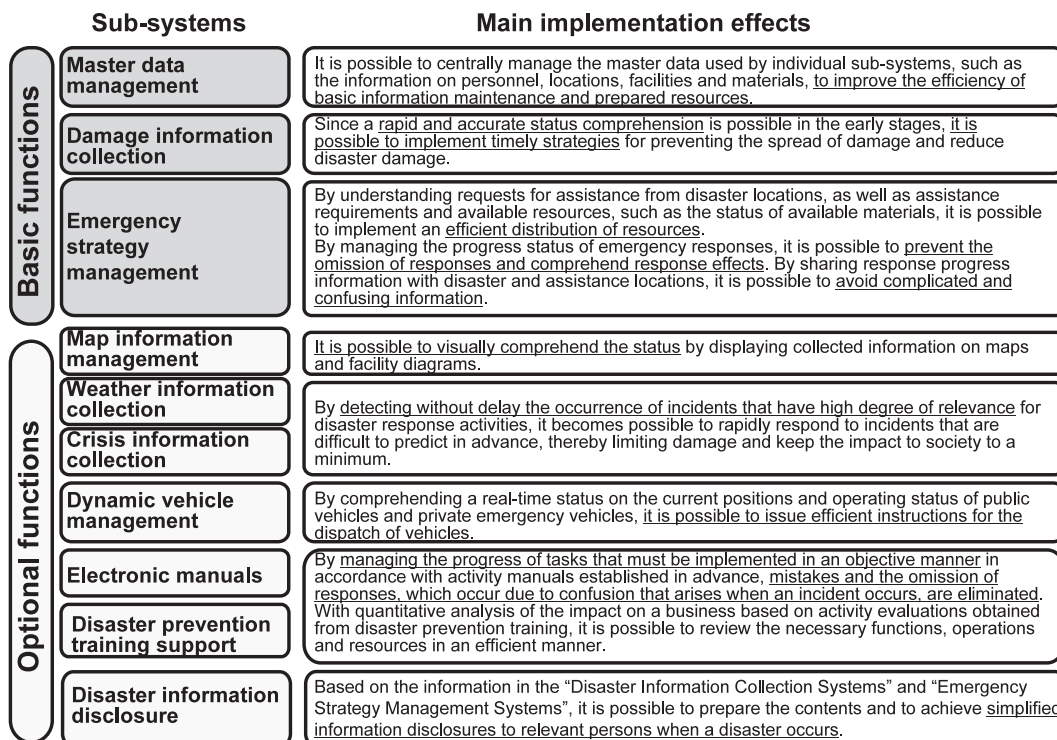


Fig. Individual systems and implementation effects of disaster recovery system.

Disaster (Crisis) Recovery System

items from individual locations in a table format, which makes it possible to prioritize responses that result in efficient personnel and material implementation and prevents the omission of responses. Instructions to individual locations can also be issued in a batch operation, while verification of transmitted messages and progress management are also possible.

4.3 Package Functions of NEC Disaster Recovery System

Individual systems and the effects of implementation for the package functions of the NEC disaster recovery system are shown in **Fig.**

4.4 Future Developments

We will enhance and develop the system in the future for disaster information disclosure functions by utilizing our capabilities in delivering IT and network solutions and enhancing information exchange functions to make self-help and mutual assisting tasks much smoother.

5. Conclusion

This paper described the disaster recovery strategies of prefectural governments and business corporations and introduced our system that has been created as a package by utilizing our know-how on the building of relevant systems. At NEC we will continue to make a contribution for the realization of a society, wherein smooth self-help, mutual assisting as well as public assistance are available and disasters are reduced, through the provision of our know-how relating to disaster recovery systems.

Authors' Profiles

KINOSHITA Yukihiro
Assistant Manager,
Disaster Prevention & Transportation Network Solutions Division,
Aerospace and Defense Operations Unit,
NEC Corporation

HIRAI Kiyomune
SI Manager,
Disaster Prevention & Transportation Network Solutions Division,
Aerospace and Defense Operations Unit,
NEC Corporation