BC Consulting Services and Related Solutions Patterns in the Japanese Market

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Abstract

NEC offers a consistent result-oriented services menu for the development of business continuity plans (BCPs). It covers all of the requisite elements, from business impact analysis (BIA) to a review of facilities, business continuity management (BCM), BCP development and walk-through/exercise plans. NEC has achieved significant results in the development of BCP since 2004 and has acquired valuable experience in establishing the PDCA (Plan-Do-Check-Act) cycle. As a result, the company is now capable of promptly providing domestic customers with efficient BCP development solutions. This paper introduces the pattern of these solutions, which are now being applied by Japanese enterprises and proposes specific promotion systems for customers as well as outlining their order of deployment at the corporate level.

Keywords

Business Continuity Plan (BCP), Business Impact Analysis (BIA), facility review,
Business Continuity Management (BCM), Recovery Time Objective (RTO), walk-through, exercise

1. Introduction

The possibility of earthquakes and the frequency of accidents are factors that are influencing the need for BCP development. The recent publication by the Central Disaster Prevention Conference and the Ministry of Economy, Trade and Industry of BC related standards and guidelines and requests for BCP from customers engaged in inter-business transactions are also tending to increase this need. Under these circumstances, more key personnel in general affairs departments, management planning departments and information systems departments are concerned about how to advance BCP development effectively.

At NEC, we concluded a business collaboration contract in 2004 with SunGard, an American provider specializing in BC, and have since been leading the development of BCP in Japan and accumulating important results in this field. As is shown in **Fig. 1** we are currently offering a BC consulting service that is designed to assist the development of BCP of Japanese enterprises. Based on our expertise acquired in various types of businesses, we have prepared business consultation solutions aimed at supporting our customers according to their individual needs.

This consultancy service is positioned prominently in NEC's integrated risk management framework as an upstream solution aimed at providing effective disaster risk countermeasures. It features general planning, BCP development and practical establishment methodology. The following sections describe individual elements in the process of BCP development.
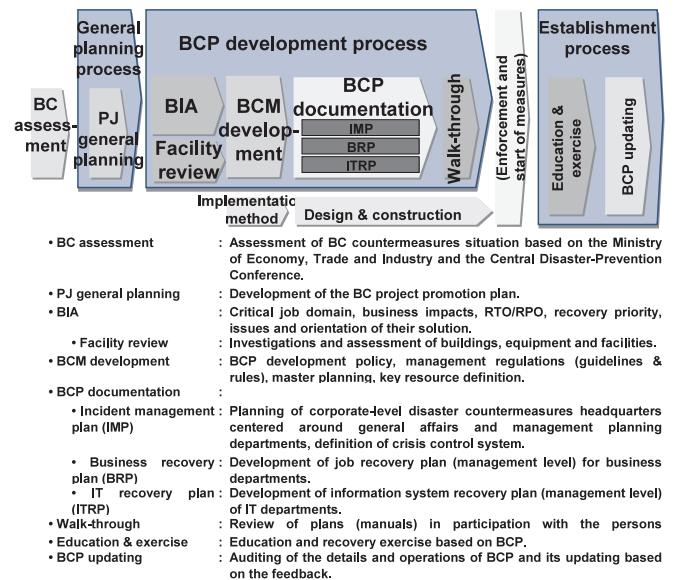

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• BC assessment	:	Assessment of BC countermeasures situation based on the Ministry of Economy, Trade and Industry and the Central Disaster-Prevention Conference.
• PJ general planning	:	Development of the BC project promotion plan.
• BIA	:	Critical job domain, business impacts, RTO/RPO, recovery priority, issues and orientation of their solution.
• Facility review	:	Investigations and assessment of buildings, equipment and facilities.
• BCM development	:	BCP development policy, management regulations (guidelines & rules), master planning, key resource definition.
• BCP documentation	:	
• Incident management plan (IMP)	:	Planning of corporate-level disaster countermeasures headquarters centered around general affairs and management planning departments, definition of crisis control system.
• Business recovery plan (BRP)	:	Development of job recovery plan (management level) for business departments.
• IT recovery plan (ITRP)	:	Development of information system recovery plan (management level) of IT departments.
• Walk-through	:	Review of plans (manuals) in participation with the persons
• Education & exercise	:	Education and recovery exercise based on BCP.
• BCP updating	:	Auditing of the details and operations of BCP and its updating based on the feedback.

Fig. 1 BC consulting service.

2. Business Impact Analysis (BIA)

This section describes the business impact analysis (BIA).
(1) Details of the Service
The target of the BIA service is to analyze the impact that any

suspension of job/IT systems will have on the business. It selects the critical jobs and defines the recovery time objective (RTO) in order to clarify the functions and resources that have to be treated as a priority.

We arrange the cross-point diagram of loss impact and the approximate recovery cost as shown in **Fig. 2** in order to allow the top customer management to approve the RTO of their critical jobs and to determine the RTO by identifying the tolerable business suspension period and its implications.

This service is basically advanced by means of three work sessions on "assessment of business impacts, setting of recovery priority and determination of the issues and orientation of recovery." It sets the RTO value according to the order of recovery priority. For the standard schedule, a total of five meetings, including the three work sessions referred to above, plus project preparation and reporting, are held over a period of about 4 weeks.

(2) Features of the Service

This service forecasts the job bottlenecks of each business model in order to identify the critical jobs and sets the job RTOs accordingly. The system RTO/RPO (Recovery Time Objective and Recovery Point Objective determining the final backup point) are set by conducting hearings and interviews on the RTO and IT dependency of each job in discussions with specific job departments.

(3) Advantages for the Service Users

The service can identify the critical jobs and systems of each customer enterprise, clarifying the points that need special care, which used to be understood rather vaguely in the past, both qualitatively and quantitatively. This makes it possible to define job priority at the corporate level.
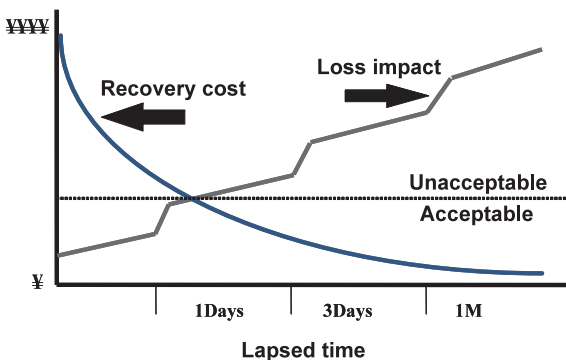
3. Facility Review

This section describes the facility review.

(1) Details of Service

The facility review service consists of an overall assessment of the key business facilities and infrastructures from the viewpoint of "strength against disasters."

Specifically, it assesses the vulnerability of facilities to disasters (including the buildings, electrical facilities, air conditioning & water supply/drain facilities, disaster-prevention facilities). This is achieved by considering risk factors including natural disasters such as "earthquakes," "wind and flood damage" and "lightning storm damage," suspension of social infrastructures such as "power failure," "water supply cutoff" and "communication line disconnection," "fire" and "man-made damage." Based on the results of such assessments, improvements to the isolated weak points are proposed (**Fig. 3**).

The process of facility review consists of surveys based on drawings, walk-through of facilities, hearings and reports and the standard review period is about 4 to 5 weeks.

(2) Features of the Service

The facility review clarifies the inherent risk potentials of the facilities (presence of active faults, estimated seismic intensity, possibility of flood or tsunami, liquefaction of the site, environment surrounding the facilities, etc.) and predicts and assesses damage and disruption to facilities based on the potential risks. In addition, it also includes detailed individual assessments of man-made disasters such as security and human errors, equipment failure risks and administration situa-

Fig. 2 Basic image of BIA.

Service Menu	Survey/Diagnosis Items	Countermeasure Examples
Earthquake measures	Earthquake risk diagnosis of buildings	Structural reinforcement measures
	Quake resistance diagnosis of facilities, interior, furniture and equipment	Reinforcement & anti-quake measures
	Floor response of each floor	Quake resistance and quake-absorption measures
Natural disaster measures	Wind and flood damage diagnosis	Windstorm and flood countermeasures
	Lightning storm damage diagnosis	Lightning strike countermeasures
Social infrastructure measures	Life line diagnosis	Power and water failure countermeasures
	Communication risk diagnosis	Shutdown countermeasures
Fire measures	Building fireproof performance and fire spread risk diagnosis	Fire resistance and spread prevention measures
	Fire resistance diagnosis	Fire countermeasures
Information infrastructure measures	Power supply, air conditioning and disaster prevention facility diagnosis	Recovery measures
	Computer quake resistance diagnosis	Quake resistance and absorption measures
	Crime prevention diagnosis	Security measures

Fig. 3 Service menu for facility reviews.

tions using standards developed based on our practical experience. It also conducts an overall assessment of each facility category and defines the disaster grade.

With regard to the vulnerabilities discovered as a result of the review, the service proposes recovery measures according to the function of the facility, presents the order of priority and orientation of the recommended improvement items, and provides a consistent service including explanations of the actual modification proposals, their enforcement, post-assessment and budget planning.

(3) Advantages for the Service Users

Clarification of facility vulnerabilities helps identify relationships between those facilities accommodating the key jobs that must not be suspended (functions of the head office as the basis of disaster prevention, production facilities affected critically by business suspension, etc.) and disaster risks. This makes it possible to create a roadmap of measures for minimizing disaster impact as well as improving the efficiency of investment targets. Identification of the grade of disaster prevention of each site will also facilitate studies for the remote distribution of key facilities and coordination between the facility recovery time and the inventory periods.

4. Business Continuity Management (BCM)

This section describes the business continuity management (BCM).

(1) Details of the Service

The BCM service creates the guidelines for recovery from accidents and defines/builds a recovery system in order to help achieve the recovery objectives set out in the BIA. It also studies activities for ensuring BC in the non-disaster mode as well as the policies and system for maintaining and managing the documents and builds the BC management cycle (**Fig. 4**).

(2) Features of the Service

The BCM service defines all of the details of BCP regarding the specific customer enterprise while taking the BC market trends and the viewpoint of management into consideration. Regarding the IT system, it also studies recovery implementation methods. Setting the application standards for use in the determination of the level of recovery implementation makes it possible to apply consistent recovery implementation methods for systems to be developed in the future as well as for the existing systems.

(3) Advantages for Service Users

The service contributes to the creation of the foundations for

◆ Creation of BCP does not mean an end in itself. BCP should also be reviewed according to environmental changes and handled in the PDCA cycle.
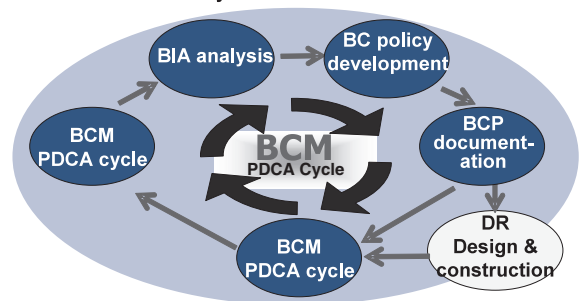

Fig. 4 Management cycle implementing BC.

the BC promotion/maintenance system and its management cycle, which are usually difficult to unify at the corporate level. In addition, it also clarifies all of the details of BCP and its command system as well as the issues to be dealt with by specific enterprises and their solutions schedules.

5. Business Continuity Plan (BCP) Documentation

The BCP is composed of three documents shown in **Fig. 5**. The contents of BCP have the following features.

1) Checklists Providing an Overall View for Facilitating Actions

To avoid omission of the actions required for BC, they are listed in an action checklist at the beginning of each document.

2) Visualization Using Workflows

To enable quick actions, the procedures are visualized in workflow charts.

3) Active Utilization of Documents According to Damage Situations

The documents are organized so that they can be used according to damage situations.

4) Manual Configuration Considering Emergencies

All of information required is compiled into a single manual so that, in case of a disaster, the single manual is enough for ensuring the BC.

5) Collection of Forms for Use in Case of Disasters

The forms and communication sheets that can be handwritten in case of a disaster are compiled. The actual scenes for using them are described in the BCP documents.

The customers using this service can draw up BCP proposals with the above features and utilize it as practical documentation in cases of emergencies as well as in normal disaster free times.

BCP is composed of three documents according to the BC policy. These include the Incident Management Plan (IMP), the IT Recovery Plan (ITRP) and the Business Recovery Plan (BRP).
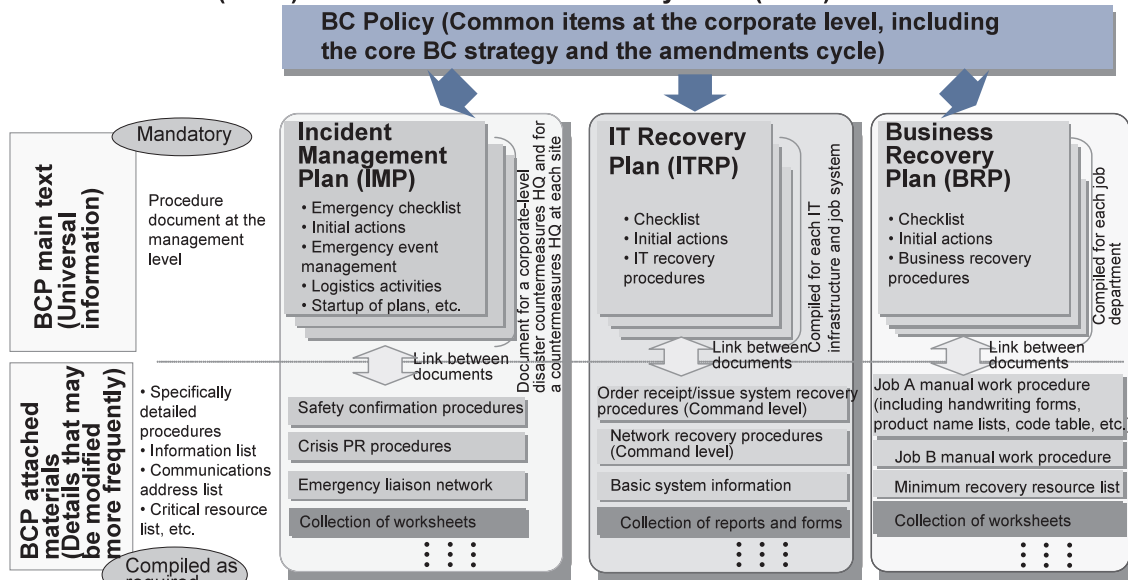
BC Policy (Common items at the corporate level, including the core BC strategy and the amendments cycle)

BCP main text (Universal information)

Mandatory

Procedure document at the management level

Incident Management Plan (IMP)
• Emergency checklist
• Initial actions
• Emergency event management
• Logistics activities
• Startup of plans, etc.

Document for a corporate-level disaster countermeasures HQ and for a countermeasures HQ at each site

IT Recovery Plan (ITRP)
• Checklist
• Initial actions
• IT recovery procedures

Compiled for each IT infrastructure and job system

Business Recovery Plan (BRP)
• Checklist
• Initial actions
• Business recovery procedures

Compiled for each job department

BCP attached materials (Details that may be modified more frequently)

• Specifically detailed procedures
• Information list
• Communications address list
• Critical resource list, etc.

Compiled as required

Link between documents

Safety confirmation procedures

Crisis PR procedures

Emergency liaison network

Collection of worksheets

Link between documents

Order receipt/issue system recovery procedures (Command level)

Network recovery procedures (Command level)

Basic system information

Collection of reports and forms

Link between documents

Job A manual work procedure (including handwriting forms, product name lists, code table, etc.)

Job B manual work procedure

Minimum recovery resource list

Collection of worksheets

Fig. 5 BCP document system.

5.1 Incident Management Plan (IMP)

This section describes the incident management plan (IMP).
(1) Details of the Service
The IMP supports the development of the corporate-level disaster prevention action plan (safety confirmation, PR, financial measures, etc.) for the Head Office, which is compiled mainly by the management planning and general affairs departments (and also recently by the risk management department). It also defines the flow of post-disaster actions, from the emergency phase including evacuation, safety confirmation and initial notification to the impact assessment phase and the staff recovery phase.
According to the standard schedule, this service takes a period of 4 to 5 weeks.
(2) Features of the Service
This service ensures consistency with existing systems and methodologies by superimposing the viewpoints of BC on existing disaster-prevention measures. It incorporates templates (for the study items and formats of measures) that have been designed to reduce the plan development period. The effectiveness of these measures has already been proven as part of our experience in Japan.

(3) Advantages for the Service Users
This service defines what is to be done in the case of a disaster as well as assigning the relevant staff to deal with the various tasks. Thus it helps hasten initial actions and avoids the risks that may be run due to delays in applying countermeasures.

5.2 IT Recovery Plan (ITRP)

This section describes the IT recovery plan (ITRP).
(1) Details of the Service
The ITRP service develops a plan for the recovery of IT systems (network, E-mail and application systems) after a disaster. Today, IT is at the core of any business, making it almost impossible for an enterprise to function satisfactorily without it. The ITRP compiles an action plan from the occurrence of a disaster until the recovery of the IT system. This is done within the context of the RTO based on the results of the BIA (priority of IT system recovery and RTO) and of the BCM (system, policies and definitions to be applied in case of a disaster). The ITRP is developed in discussions with the enterprise information systems department and the standard development period is about 6 weeks.
(2) Features of the Service

The ITRP can be set according to the actual status of the disaster recovery (DR) implementation of each customer. When the DR implementation of the customer is a long-term project, the ITRP is set for the existing resources. When the DR implementation is a short-term project, the ITRP is set by assuming the completion of DR installation.

(3) Advantages for the Service Users

Further development of the ITRP makes it possible to recover the information system within the RTO according to the implementation, thereby meeting the requirements for BC. The ITRP will also make it possible to reinforce the systems vulnerability and enhance its capability for dealing with faults.

5.3 Business Recovery Plan (BRP)

This section describes the business recovery plan (BRP).

(1) Details of Service

The BRP supports waste-free, quick resumption of the customer enterprise jobs after a disaster by defining the recovery flow and action plan list of the recovery actions to be taken by the job personnel including alternative actions.

Using the standard schedule, the BRP service takes a period of about 4 to 6 weeks.

(2) Features of the Service

Since further development of the BRP involves the arrangement of the target jobs and their throughput, the recovery flow for the BRP is compiled by job consultants who specialize in BC job allocations.

The job processes are often handled in the context of multiple departments, coordination is thus necessary BRP and recovery process appraisals. Reaching a consensus can be facilitated by viewing the recovery flow chart in a single sheet of paper.

(3) Advantages for the Service Users

The issues and complexity of current jobs can be identified by a study of alternate measures in cases of emergencies. In addition, by expanding the recovery flow, it is also possible to redesign new job throughputs and construct simpler job processes.

6. Walk-through and Exercise

This section describes the walk-through and exercise.

(1) Details of Service

To allow the created BCP to function effectively in the case of an actual disaster it is necessary to run the PDCA cycle in normal times order to maintain and improve the BCP continually. Particularly, considering that the BCP is intended to deal with events that do not usually occur, it is important to
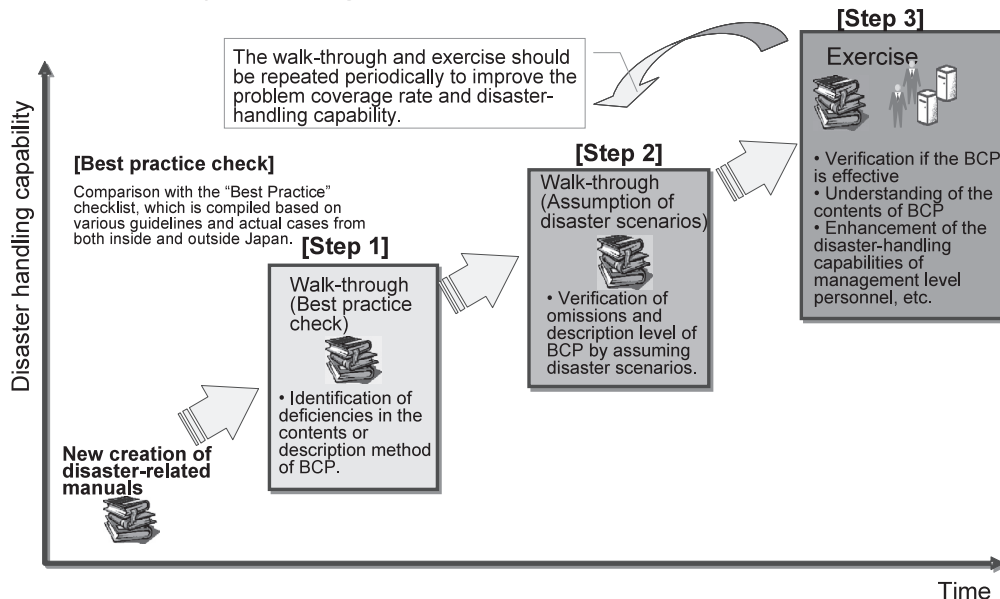
Fig. 6 Positioning of walk-through and exercise.

periodically conduct testing under various conditions.

As shown in **Fig. 6**, the "walk-through" compares the existing BCP with the best practice prepared by NEC and extracts any deficiencies or items to be improved from the existing document so that it becomes effective in the BCP development step. On the other hand, the "exercise" is an effective step for utilizing and establishing the BCP because it verifies the effectiveness of the existing BCP by conducting disaster simulation exercises and improves the decision making ability of the management to deal with a disaster occurrence.

The "walk-through" is applied mainly to the customers who have already created the BCP and takes about 4 weeks to complete. The "exercise" consists of a period of about 4 weeks of preparation and a simulation exercise of about half a day.

(2) Features of the Service

The selection of the best practice and the selection and application of disaster scenarios based on experiences in Japan makes the BCP applicable to a variety of cases.

(3) Advantages for the Service Users

The "walk-through" can verify the omission of countermeasures against unexpected matters as well as any deficiency in the document formats. Customers who experienced "walk-throughs" were actually able to recognize deficiencies in countermeasures against suspension of the means of communication (telephone) and impossibility of any means of transport to the alternative site in case the Head Office was

struck by a disaster.

The "exercise" not only verifies deficiencies in documents but also enhances the capability of dealing with disasters affecting persons participating in the exercise who are mainly drawn from the management level.

With both the "walk-through" and "exercise," periodical repetitions by varying the scenario will improve the problem coverage rate as well as the capability of dealing with disasters.

7. Patterns of Related Solutions Applied in the Japanese Market

BCP solutions in the Japanese market are still at an immature level except among the foreign-affiliated and social infrastructure enterprises. Although BCP development has just begun, the possibility of solutions patterns as shown in **Fig. 7** is already recognized thanks to our achievements and experiences in BCP development over the past two and half years. With enterprises that do not have their own BCP and want to start up the project from the beginning, either Pattern 1, which enforces the full set of BCP development actions at once, or Pattern 2, which enforces the BCP development by dividing it into phases such as BIA and BCM, is possible. For enterprises that have already started a BCP development project but have suspended it because of not for various reasons being able to promote it further,
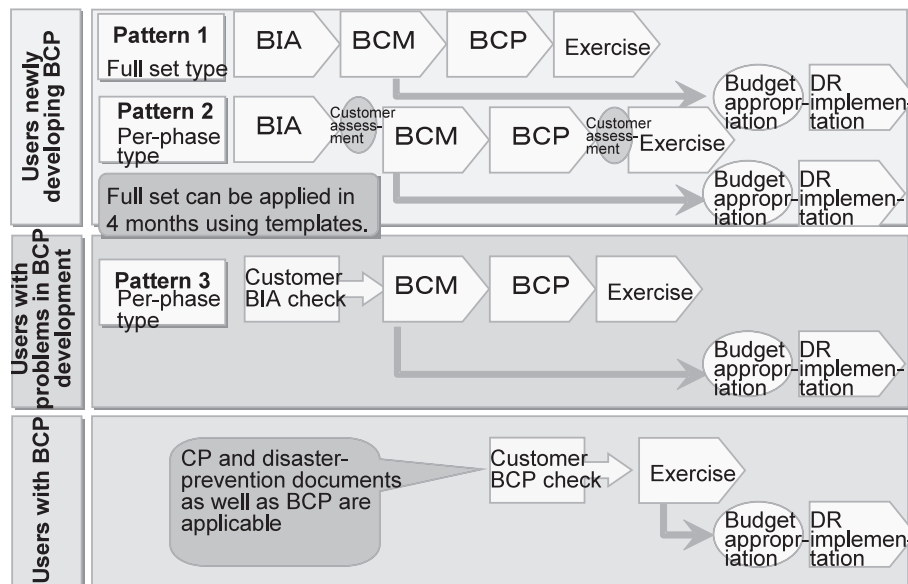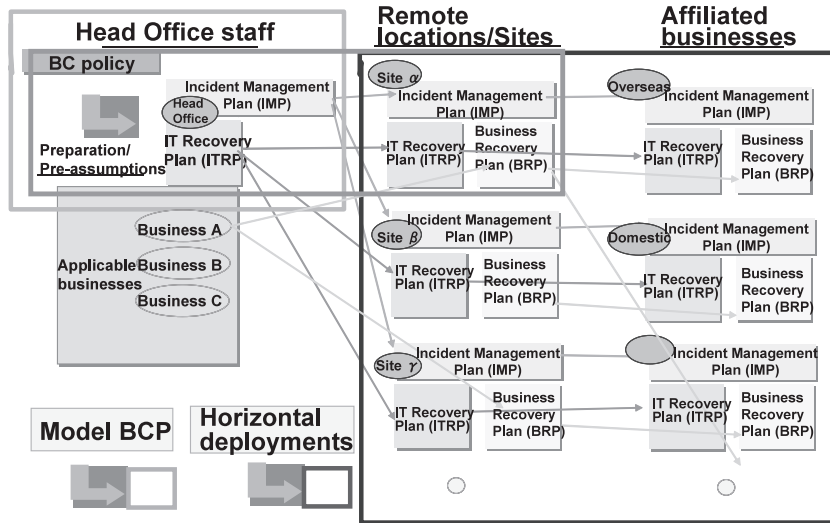

Fig. 7 Patterns of consulting.

Fig. 8 Horizontal deployments from BCP model to the corporate level.

Pattern 3 is applicable. In addition, there is also an advanced pattern for assisting enterprises with their own BCP in the activities required for performing walk-throughs and exercises.

Although the understanding of top management is indispensable for the development of BCP, the actual activities are usually promoted by departments with a sense of crisis related to BCP, such as the management planning and general affairs departments. Most cases are handled either by the risk management department or the information systems department, and the statistics show that the ratio between these is almost half and half.

Therefore, the key point is to select an optimum consultancy pattern according to the BCP specifically prepared for each customer by installing a project consultation department to work on a detailed study that effectively matches the environment of each customer.

8. Efficient BCP Development over a Short Period

The development of BCP requires the participation of many persons from the top management and the enterprise staff from the information systems and other departments. Since it is accompanied with certain investments, a long time is required to prepare the system and obtain consensus among the enterprises. As the target range is sometimes expanded considerably depending on the factors composing the businesses (including the participation of business partners and outsourcing, etc.) and the number of businesses, much time and labor may be

required to complete the project.

According to our past experience in BC consulting, the shortest period spent for BIA, BCP development and verification with walk-through was about 4 months.

This was made possible because we prepared templates for every phase such as BIA, BCM and BCP development. We then used the templates to reduce the period for studies and document compilation. Our experience with several tens of enterprises also helped us to reduce the study period by utilizing reference examples on the most familiar points (indices of business impact, command center installation standard, etc.).

When the enterprises comprise a large number of sites and affiliated businesses, we can improve the efficiency of corporate-level deployment by developing the BCP for a model business as shown in **Fig. 8**, and preparing standard guidelines and planning support for the horizontal deployments.

9. Conclusion

When we look back over our experiences in supporting the development of BCP for our customers, what we find most important is how to obtain consensus or approval quickly from those departments that usually have little involvement in or experience in BCP. It is our intention to continue our efforts to make full use of the consultancy and management technologies that have been refined at NEC to effectively serve the development of BCP solutions. In this way we will correct

misconceptions about BCP procedures and eliminate wasteful errors in BCP project management.

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