

# NEC's Security Solution and Trend of Security Consulting Business

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**ABSTRACT** This paper is intended to summarize the security solutions of NEC together with the present trends of its recently enhanced security consulting business. The paper also provides simple explanations on various kinds of consulting business and introduces the security consulting menus offered by NEC.

**KEYWORDS** Security consulting, Security measure, Methodology consulting, Solution consulting, Application consulting, PDCA cycle

## 1. INTRODUCTION

The security solution framework “iBestSolutions/Security” of NEC currently offers four major solutions. These include the Information Leakage Countermeasure, Cyber Attack Countermeasure, General Identity Management and Security Management. Each of these solutions is implemented via specific operations including education, outsourcing, operations support, design/construction and consulting (**Fig. 1**).

This is the positioning that takes the construction of a typical security situation as a model. For actual security measures, security consulting may be required at various stages.

The security-related technology and products of NEC have already been introduced in many other reports and via our websites. This paper focuses on the security consulting business that is currently being enhanced. It begins with an introductory summary and then proceeds to a description of the actual consulting menus offered by NEC.

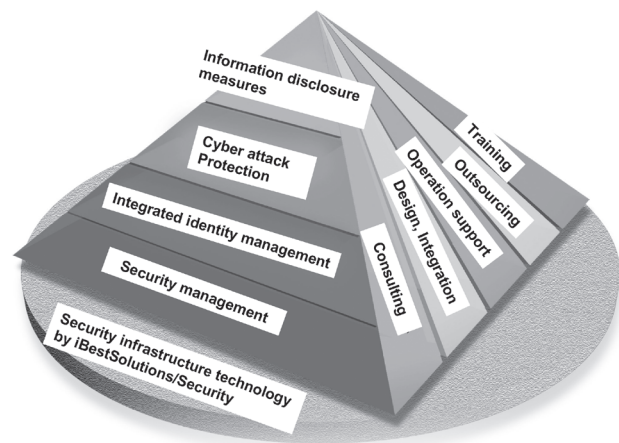
## 2. SECURITY CONSULTING

Consulting is the process of indicating and/or solving customer problems based on advanced expert knowledge or experience. It has previously been practiced in the fields of business management, financing

and accounting but it has gained a very important position in business management as the IT (Information Technology) advances and becomes more complicated. This trend has led to the birth of consulting that specializes in IT, which is called IT consulting or systems consulting.

More recently, as serious incidents and accidents that could sometimes undermine the foundations of business management have occurred frequently, the importance of advanced expert knowledge and experience has increased more than ever as a suitable means of treatment. Thus, security consulting has come to be practiced increasingly in order to diagnose and solve customer problems in the field of security.

However, the coverage of security consulting has tended to be extended too widely and an accurate



**Fig. 1** iBestSolutions/Security.

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definition of the term is not yet determined. Therefore, NEC has proposed a consideration of security consulting by classifying it according to three methods of approach. These are methodology consulting, solution consulting and application consulting.

The characteristics of these three types of consulting are described in the following sections.

### 2.1 Methodology Consulting

This consulting method does not solve individual security problems by applying specific technologies or products, but solves them by applying a certain methodology to each target organization or system.

This approach deals with a security issue by taking into consideration how the security measures should be conceived, the actual security policy, how each organization should be, how it should be managed, how the authorities and responsibilities in it should be and other management factors including in-house education. In addition, it also features long-term or mid-term perspectives on the security as well as the solution of impending problems.

As this consulting often leads to the reform of the process each customer takes to solve problems, it often adopts a process type of approach.

Although the methodology applied by this form of consulting is universal, the specific security technology or product used when its conclusion is applied to an organization is an optimum one that is selected according to the situation and timing. This consulting is executed with complete freedom from restrictions related to specific technology or product, its conclusion often results in the recommendation of a technology and products that are available from manufacturers other than NEC.

The engineer executing the methodology consulting is not only required to be well acquainted with the network and computer security technology, but is also required to have practical experience and knowledge on the organizational security measures and to adopt the viewpoint of a manager or leader of the organization. In addition, the consultant should also identify trends in the social conception of security, including those of technology, legal systems, standards and actions taken by administrative authorities.

**Figure 2** shows the characteristics of the methodology of security consulting.

### 2.2 Solution Consulting

This consulting approaches and solves security problems for customers by applying individual technologies and products that are known to be effective for security issues.

Many of the security technologies are developed from countermeasures taken to deal with actual problems and issues. On the contrary, a security technology that has not actually been used in the field is always evaluated as being experimental or imperfect however attractive it appears to be theoretically. Adequate advance evaluation and a long trial period are indispensable before actually applying such a technology in the field.

Therefore, it is usually the “standard” measures with established evaluations that are used as actual security measures. Security solutions are a compilation in an easy-to-use form of standard security measures and solution consulting is consulting for solving customer problems by applying such solutions.

Solution consulting involves a large variety of operations, but specific security measures technologies and practical knowledge are always required to perform any of them. What are required are not only products, technologies and expertise, but also an ability to build up the whole, from the design and construction of a system that incorporates these elements in its routine administration.

As solution consulting is often carried out concurrently with or as a part of a customer’s security project, the solution advisor is frequently required to

- Considering solutions at the strategic level.
- Consulting in accordance with the methodology of security countermeasures.
- Solving problems from the view point of security management.
- In some cases, exposing and solving essential problems that have been hidden.
- Usually performed independently from specific security products or SI.
- The consultant is required to have advanced, extensive skill and experience in the following fields:
  - Organizational security management.
  - Risk assessment and risk management.
  - IT security technology.
  - International standards related to security.
  - Legal systems and approval systems.
  - Objectiveness without inclination to specific products or Sier.
- Often performed by an independent consulting department in an IT vendor company or a consulting company that specializes in security.
- The price tends to be high due to a large number of factors that necessitate individual measures.

**Fig. 2 Characteristics of methodology consulting.**

have the capability of project management.

As a result, IT vendors who have technical ability and experience in the construction and operation of large-scale and/or mission-critical systems are usually the ones that carry out the solution consulting.

Security consulting by IT vendors is usually performed by security specialists, who belong to a different department to the customer relations department, which is normally in charge of the construction of job handling systems and customer applications. They exchange opinions with the SE department in charge of customer and customer systems. The reason why a department other than the SE department performs security consulting is that this makes it possible to maintain fairness and neutrality in consultations when offering a consulting service matching the needs and systems of individual customers.

**Figure 3** shows the characteristics of security solution consulting.

### 2.3 Application Consulting

As a result of advancements and the increase in the scale of recent IT systems, the use of security products and systems now necessitates advanced technology and setups that match the mode of their usage. Application consulting is consulting that targets the setting up these products and systems according to the circumstances of each customer.

Application consulting is carried out mainly when the products and systems to be applied necessitate sophisticated setups, for example with regard to the PKI (Public Key Infrastructure) system, a system for the version management of the OS and application software running on PCs, patch management system, detailed access management system and document system.

Application is sometimes necessary with a general-

- Considering solutions at the tactical level.
- Solving problems from the viewpoint of IT security technology.
- Consulting based on the technology, system or technique that is proven to be effective for security measures.
- The consultant is required to have advanced, extensive skill and practical experience in IT security technology.
- Often performed by a department with knowledge of security measures in an IT vendor or security-specialized SI or construction company.

**Fig. 3 Characteristics of solution consulting.**

ized product such as a firewall. It is effective for example when the mode of use of a network or computer system is uncharacteristic, the network configuration is very complicated or a particularly high performance or reliability is required.

Application consulting is also frequently carried out by IT vendors. Particularly, most of the consulting provided with relating to products belongs to this type.

**Figure 4** shows the characteristics of security application consulting.

The term “consulting” is also used by some firms selling security products to refer to the system design work for applying the products to each customer. There are also cases in which the sales promotion activities of a specific product are also called “consulting.” These are different from the original meaning of the term, but they are still very important for actual security measures.

### 3. SECURITY CONSULTING OF NEC

Security consulting contains various types of operations as described above, and NEC executes the consulting activities based on the notion of the PDCA cycle, which is important for the security management of organizations. The following sections describe the security consulting offered by NEC.

- Solving problems at the security measure execution level.
- Application of a product or system to each customer.
- Performed by an engineer who has detailed knowledge on each product or system.
- The work is often composed of the following operations:
  - Design of a system incorporating a specific product.
  - Configuration of a specific product or system.
  - Establishment of the operation standards of the system incorporating the specific product.
  - Technical consultation on a specific product.
- Most often performed by the department of the vendor that handles the specific security product.
- Short period and low price thanks to the consultation by personnel who have a deep knowledge of the specific product.
- Risk that the solution is not always the most optimum one, because the consulting is performed assuming the use of a specific product or system.

**Fig. 4 Characteristics of application consulting.**

### 3.1 PDCA Management Cycle and Management

The importance of the PDCA management cycle is enhanced more than ever in many fields, and it is already known that security management is more effective when it is carried out in accordance with the PDCA management cycle. The PDCA management cycle is the idea of running an organization by dividing operations into the four processes of Plan, Do, Check and Act. This notion was originally applied to the field of quality control but its universal characteristics have expanded its application to a wider range of fields, including that of job improvement (Fig. 5).

### 3.2 PDCA Cycle and NEC's Consulting Menus

NEC prepares a consulting menu for each process in the PDCA cycle of security measures.

Moreover, NEC also provides consulting services that cover the establishment of security strategies for managing the management cycle of the organization itself. This is done by constructing and administering the PDCA of the organization that is positioned at a level above the PDCA cycle of security. The following

consulting services are also provided for the establishment of the security policy; support for conformance of products and systems to the ISO/IEC15408 security evaluation standards, support for acquisition of certification by the ISMS conformance evaluation

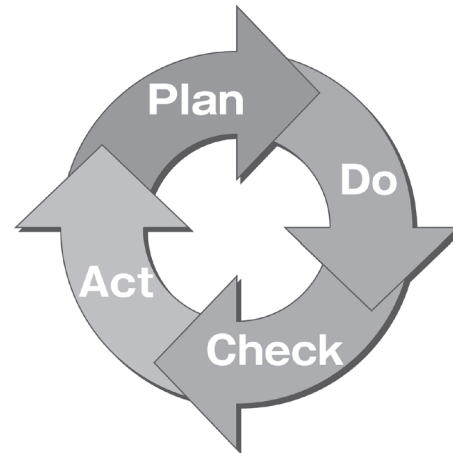


Fig. 5 PDCA management cycle.

Table I NEC's security consulting menus.

Consulting Name	Details	Related Major PDCA cycle
Information Security Policy Support Service	Establishment of an information security policy.	Act, Plan
ISMS Certification Acquisition Support Service	Support for acquisition of the certification by the ISMS compatibility assessment system, which is an examination system based on JIS X5080 (ISO17799).	Plan, Do
Information Security Audit Service	Audit of the security situation of a customer by security audit specialists.	Check
ISO15408 Certification Acquisition Support Service	Consultation for supporting the acquisition of the certification by ISO15408 (Security assessment standard).	Plan, Do
Information Leakage Countermeasure Service	Consultation on the measures that match the current status of each customer by introducing tools and controls.	Plan, Do
Security Incident Information Service	Provision of the latest information on security incidents.	Do
Security Diagnostic Service	Efficient finding of security holes by means of simulated attacks.	Check
Security Management Audit Service	Audit of the security management situation of a customer by security audit specialists.	Check, Act
Server Fortification Service	Consultation for setting changes, etc., aiming at improvement of the security of a server.	Do
Security Emergency Measure Service	Application of emergency measures related to security.	Do
Personal Information Protection Consulting Service	General consulting to prepare for the enforcement of the Japanese Personal Information Protection Law.	Plan, Do, Check, Act

system that is the official certification system of security management, support for acquisition of the privacy marking, support for construction of education and promotion systems within the organization, security audit for auditing the security measurement and operation management within the organization, emergency countermeasures to deal with the security infringements and information leakage incidents and accidents that are becoming much more frequent than formerly, and security education activities.

**Table I** shows the security consulting menus of NEC in the framework of the PDCA cycle.

### 3.3 Characteristics of NEC Security Consulting

NEC is developing extensive activities in the field of IT, from research into and standardization of communication formats to participation in committees of governmental and industrial organizations including related organizations. These include design, construction, administration and maintenance of advanced large scale network systems, development of systems and applications matching for customer requests, design and production of various IT products, and training of customers after the introduction of systems.

NEC itself is also using a state of the art, large-scale network, in which 160,000 computers are con-

nected to 4,000 LANs, for its routine work. As NEC employs the best and latest security measures to protect the security of its own networks, it has gained abundant experience in the utilization of IT technology and the maintenance of associated security.

These are the foundations that make NEC capable of offering a large variety of consulting menus to the users.

## 4. CONCLUSION

In the above, the author has described the concepts and efforts made by NEC with regard to security consulting among the general security solution framework of NEC. Also introduced are the consulting menus of the related activities offered by NEC.

In the future, too, NEC intends to offer optimum security solutions and consulting services in order to match customer needs. These solutions are based on the secure backing of the most advanced technical expertise and proven experience of the NEC.

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