가상 사설망의 도입 방법에 대한 연구

오상균

김희선

김귀남

Background

■ **Definition :**

■ VPN (Virtual Private Network)is;
"A paradigm which enables businesses to more effectively publish and share information by applying the linking and presentation paradigms, pioneered on the Internet, to their internal corporate information"
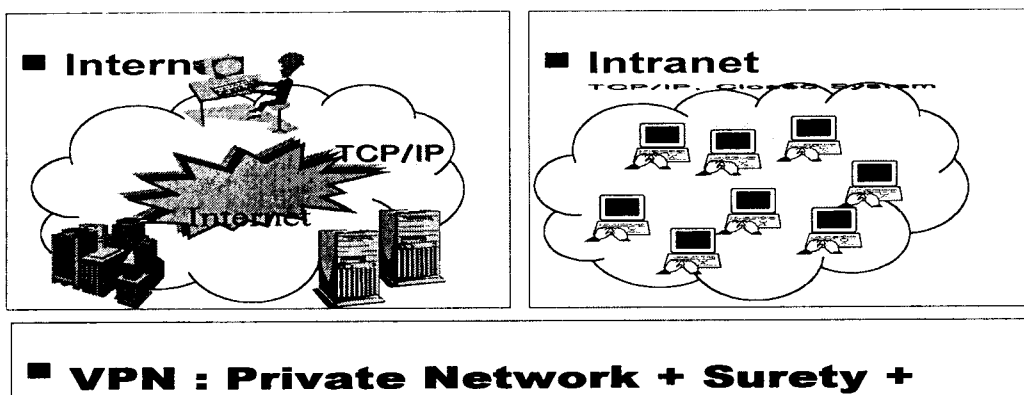
＊부르소 인터네셔날
＊＊경기대학교

Background

■ **Definition :**
  ■ Feature of VPN
    ■ Networking by Internet
    ■ Virtual Private Network base on the concept of Web
    ■ Close system supported by TCP/IP protocol
    ■ *exclusive* Information sharing in the company or organization

Background

■ **Intern**⬛ ■ **Intranet**

TCP/IP

■ **VPN : Private Network + Surety +**

Advantages of Intranet

- Independent platform
- Easy to use/ operate
- Interoperability
- Low cost
- Powerful data management
  - Object oriented
- Maximize the efficiency of Information sharing

Disadvantage of Intranet

- Security
  - Privacy
  - Message Integrity
  - Authentication

→ This disadvantage of intranet can be solved by VPN

What is difference?
(between Intranet and VPN)

- **VPN has solutions about SURETY**
  - Encryption
    - <u>Asymmetric Algorithm</u>
    - <u>Symmetric Algorithm</u>
  - Authentication
    - To Generate Digital Signature
    - Encrypt Sender's well know document (i.e; NID, Tel Number) by Sender's Private Key
    - Decrypted Sender's well know document by Sender's Public Key
    - To Verify
  - <u>It can use not only hardware for network security but also Digital Certification!!</u>

The Ideal Solution Building VPN

Tokens

Dsktop

Management Tool

VPN
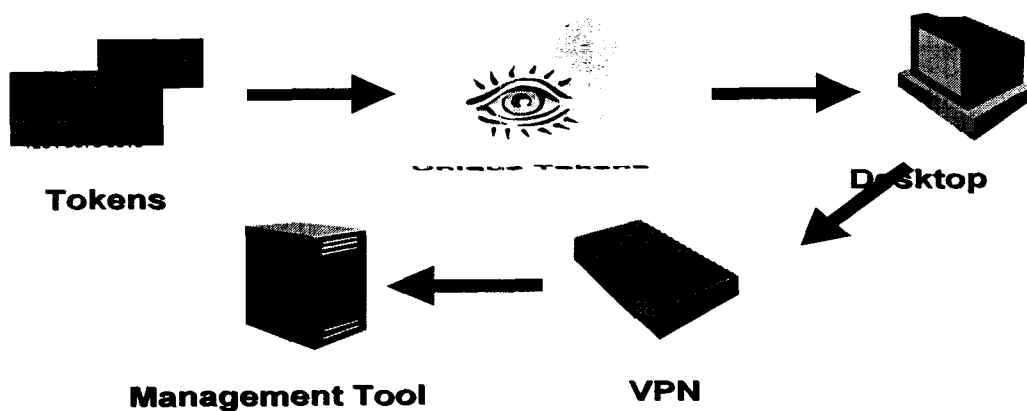
Remote Access Challenges

■ **Users must have access to information quickly, regardless of their physical loc ation**

■ **Unprecedented numbers of contract em ployees, as well as suppliers and busin ess partners need access**

■ **Enterprises are encouraging work -at-ho me and mobile environments to save fa cilities costs**

Remote Access Environment

■ **Vast majority of enterprises use dial net works to provide remote access, but gr owing interest in VPNs to**
  - ■ Reduce remote access costs
  - ■ Leverage ISP infrastructure
  - ■ Provide encrypted transmission
  - ■ Extranet deployment

■ **VPNs "as is" lack strong authentication**

■ **Security managers need tools to easily manage a mixed dial/VPN environment**

Remote Access
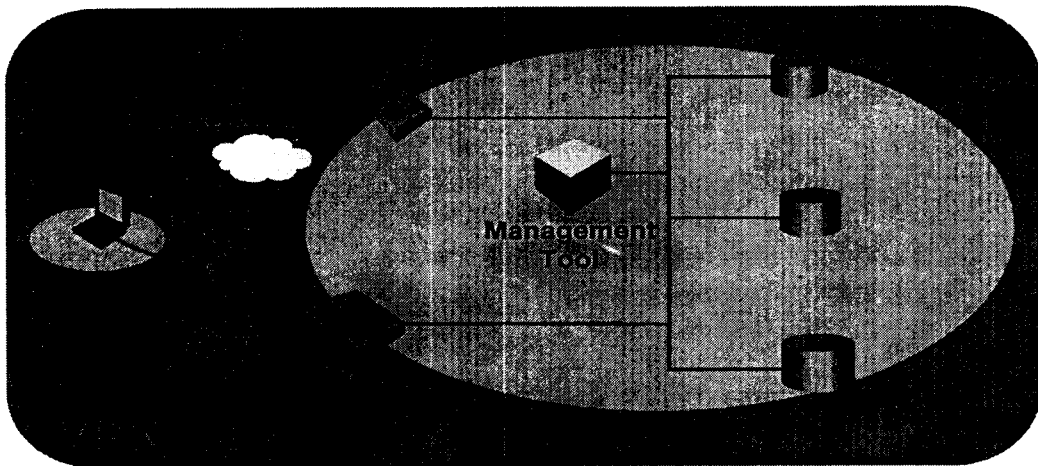
Remote Access Solution Benefits

- **Easy to deploy, administer and use in large enterprise environments**
- **Positive identification & controlled access for authorized users across multiple remote access platforms**
- **Integrates seamlessly with current network infrastructure across dial and VPN environments**

The Need for Secure Access

- Broader access to applications means more passwords, which means poor s ecurity
- Password administration across nume rous applications is time consuming a nd prone to error

Secure Access Solution

- Administration tools to centrally manage ac cess control and authentication
- Personal Security Device (PSD) - secure stor age for user certificates, RSA private key, et c. on disk or smartcard
- "On the fly" session encryption of all trans mission between client & application - set it and forget it
- Tokens or Unique Tokens authentication co ntrols access to PSD

Secure Access Solution Benefits

- No need to rewrite your applications
- User authenticates only once for auto matic sign-on to the applications
- A single solution works across multip le Intranet platforms
- Central audit and administration of all security policies: access control, aut hentication and authorization
- User credentials are protected with st rong authentication

Changing the Environment

- Internet + Intranet + SURETY
- Building the New sharing system without cost
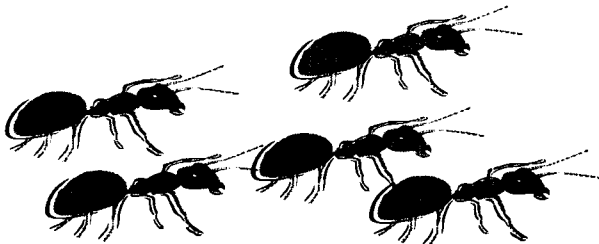
VPN Solution
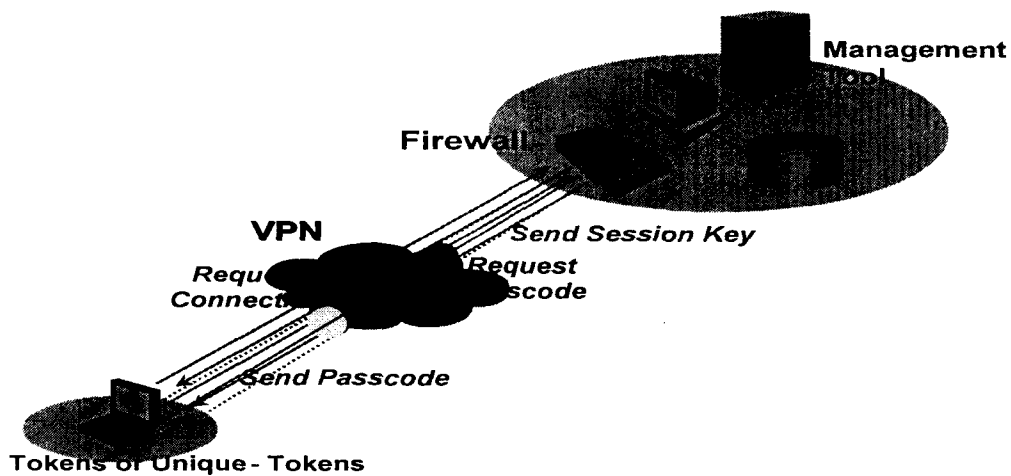
Implementation 1 for VPN

■ Step 1 - Communicating Stage

- ■ Action
  - ■ Establishing the communication channel effectively
  - ■ Sharing the data

- ■ System Support
  - ■ BBS on specific subject
  - ■ Data base access, and general notice
  - ■ Exchanging E-mail

Implementation 2 for VPN

■ Step 2 - Systematizing Stage Action

■ Action

- Establishing opinion gathering system including approval system by E-way
- Exchanging data with other MSO

■ System Support

- Implementing Hierarchy system for approval
- Protocol support (SMTP, MINE, POP3, ...)
- Protocol support X.400 (EDI)

Implementation 3 for VPN

■ Step 3 - Implementing Stage

■ Action

- Business analyses based on BPR
- Co-work , Co-decision making within Organization

■ System Support

- Operating Closed discussion group
- Connecting MIS with Internal Data base