

HITACHI
S O F T W A R E

Securing the Distributed Enterprise

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Why is Security a “Big Deal”?

- “The corporation and the Internet are merging.”
 - Steve Hunt, GIGA Information Group
- “Information is a company’s most valuable asset”
 - IDC
- Security breaches can result in:
 - Theft and monetary loss
 - Vandalism and business disruption
 - Loss of trust (customers, suppliers, employees)
 - Violation of laws and statutes

The eBusiness Security Challenge

- I need to give my customers and suppliers direct access to their accounts, and my employees access to resources...

BUT

- I don't want to give the "wrong people" access to anything!

As if that wasn't hard enough...

- Mergers and acquisitions
- Customer self-service
- Mobile devices = “portable workforce”
- Distributed computing in heterogeneous environments
- Big storage and small, removable media
- Customers demand privacy

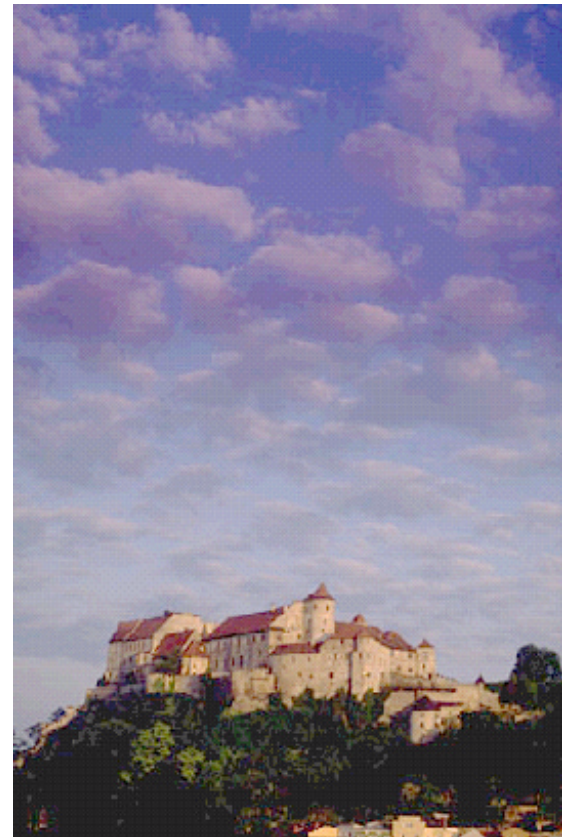
Examples of Security Threats

- Unauthorized access
- Impersonation
- Eavesdropping
- Tampering with messages
- Repudiation
- Denial of Service
- Insiders stealing or destroying information

You think...	But consider...
I already have firewalls and SSL, so what more do I need?	Attacks come from inside as well as outside. Plus, you have to let outsiders through my firewall in order to compete.
My application has an access control mechanism to ensure unauthorized access.	But do you have a way of discovering if someone is repeatedly making unauthorized access attempts and failing?
Yes, I have both access control and audit trail in place now.	How easy is it to change privileges and audit policies? Do you have to modify your application?

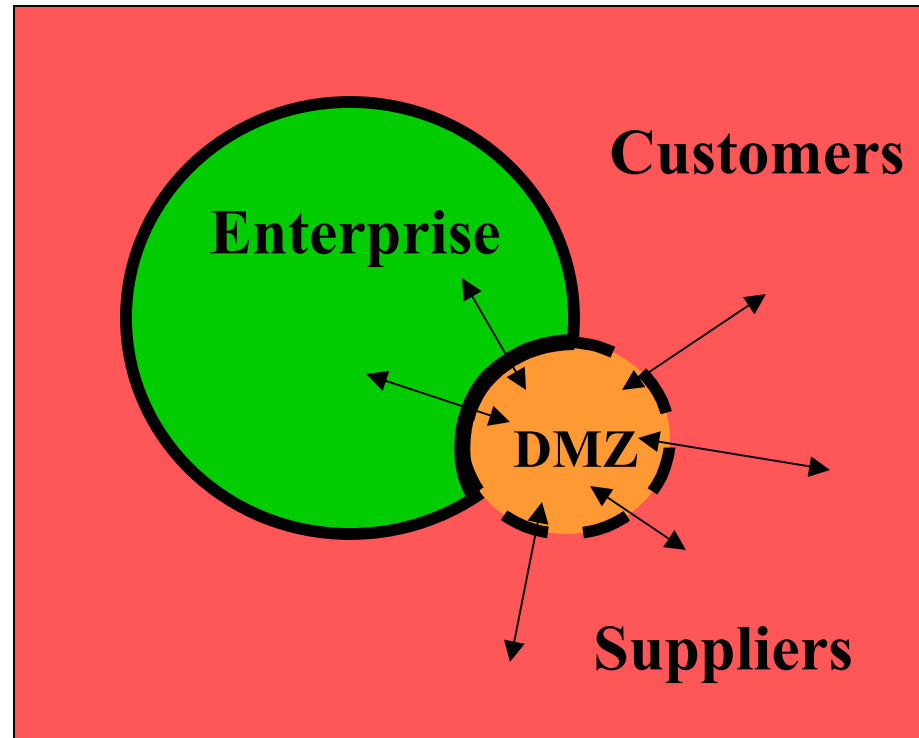
Security Through the Ages

- Before 1990
 - Perimeter Security



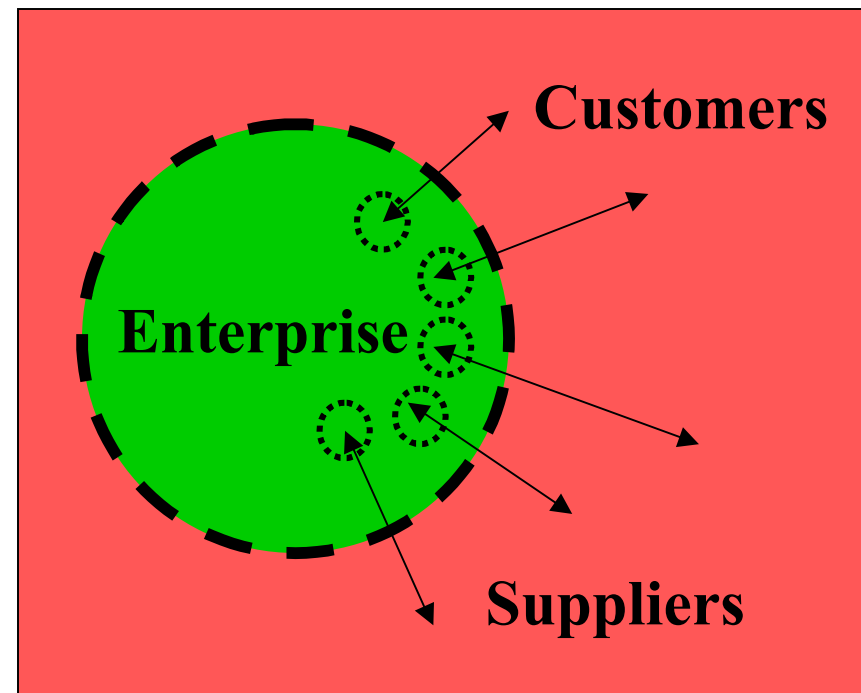
Security Through the Ages

- 1990+



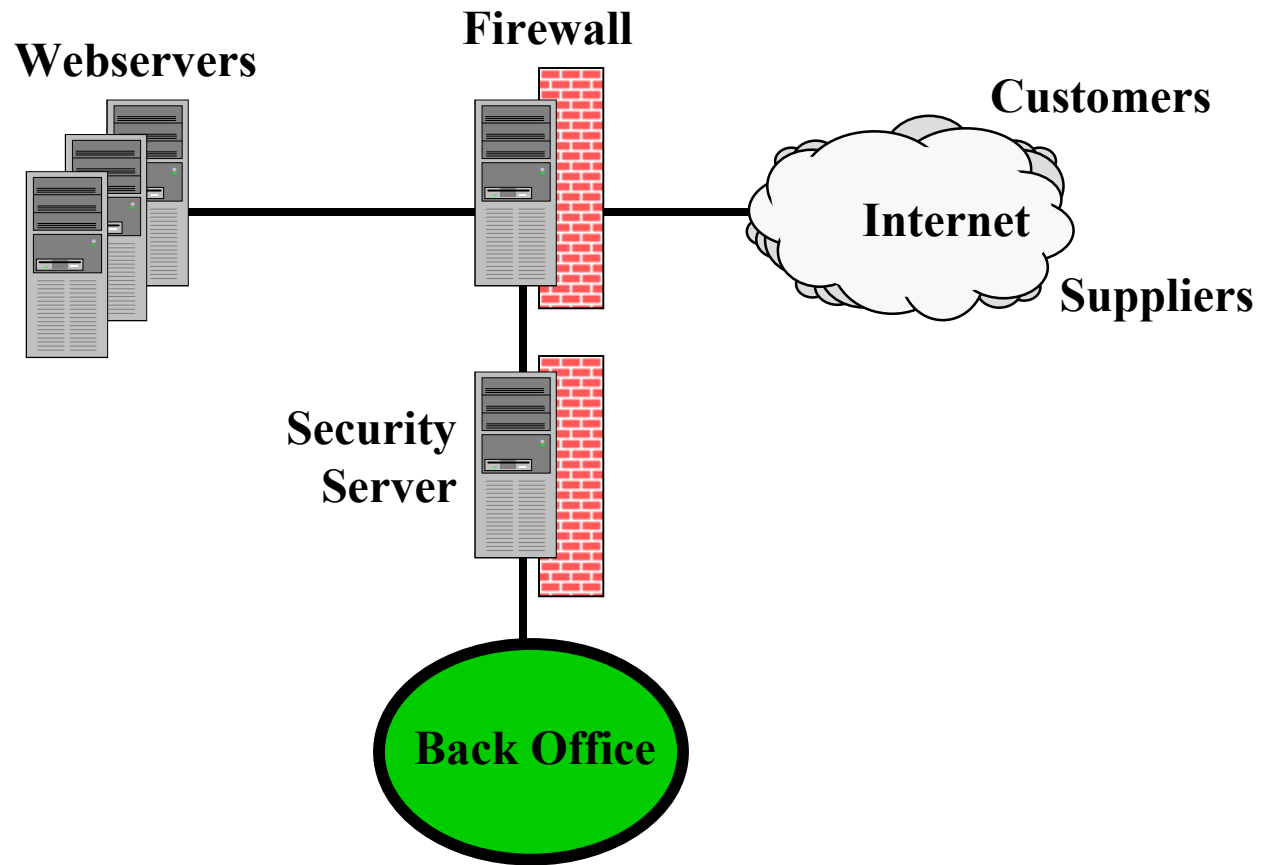
Security Through the Ages

- 1996 and Beyond: Controlled Access



Security Through the Ages

- Controlled Access - Physical Layout



Facts & Stats

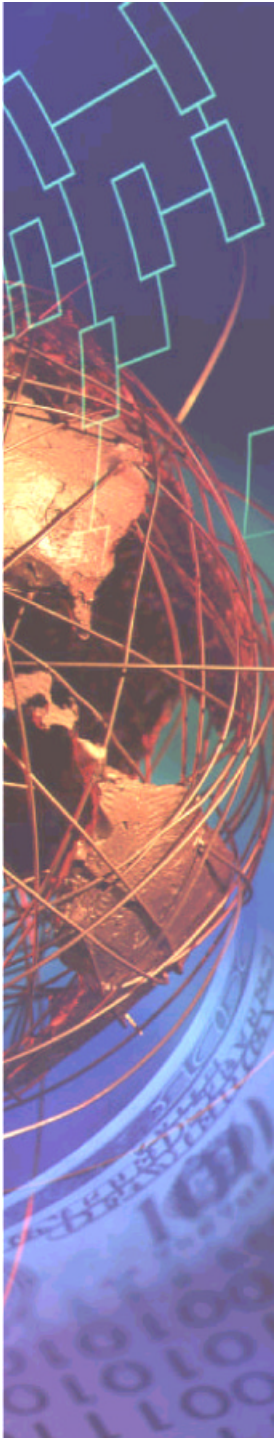
- The worldwide market for Internet Security Software increased 32% in 1999, from \$3.0 billion to \$3.98 billion

*IDC Internet Security Software Market
Forecast and Analysis, 2000 – 2004*

Facts & Stats

- More than half of all security breaches reported by companies are classified as “Insider Breaches”

Information Security magazine, September 2000

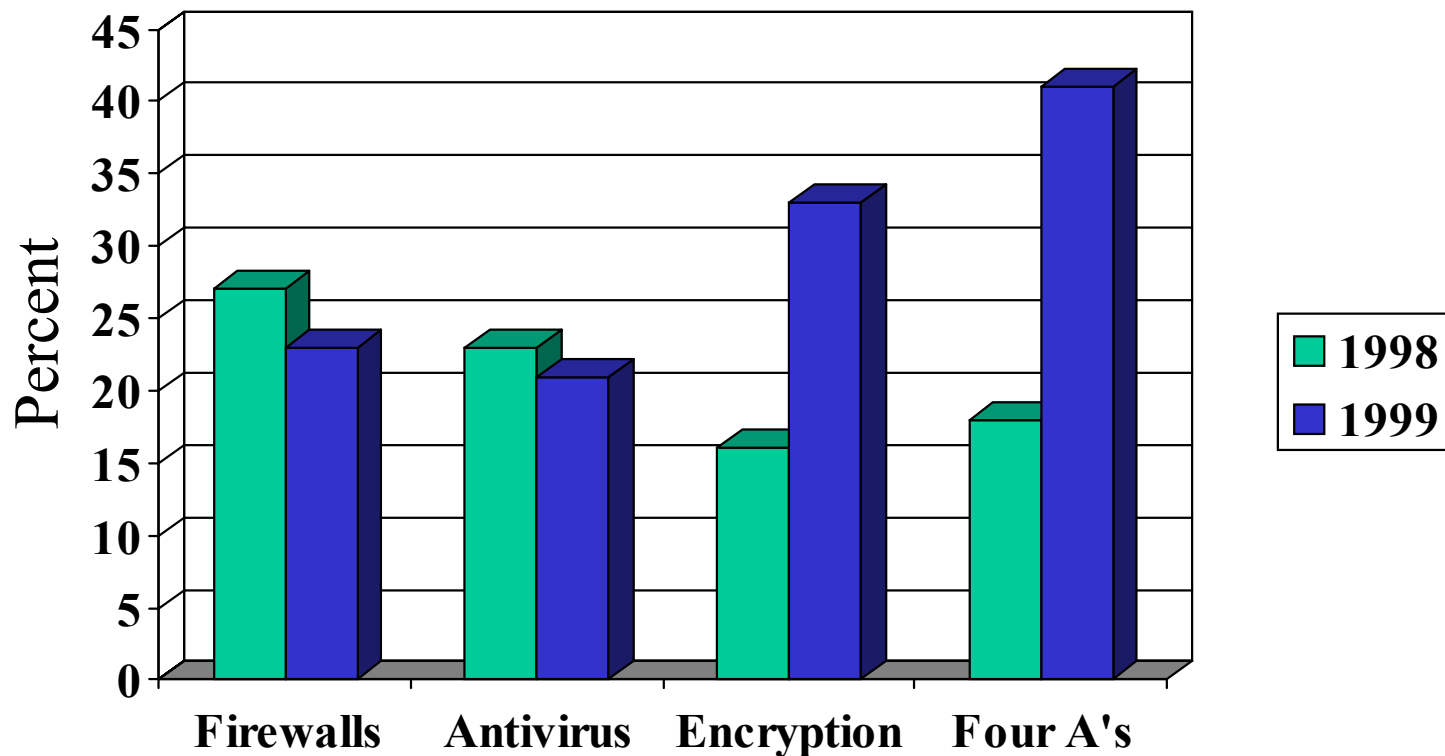


Facts & Stats

- Four main segments within the Internet security software market:
 - Firewalls
 - Anti-Virus
 - Encryption / PKI
 - Four A's

Facts & Stats

- CAGRs of 4 Main Segments



Source: IDC

The Four A's

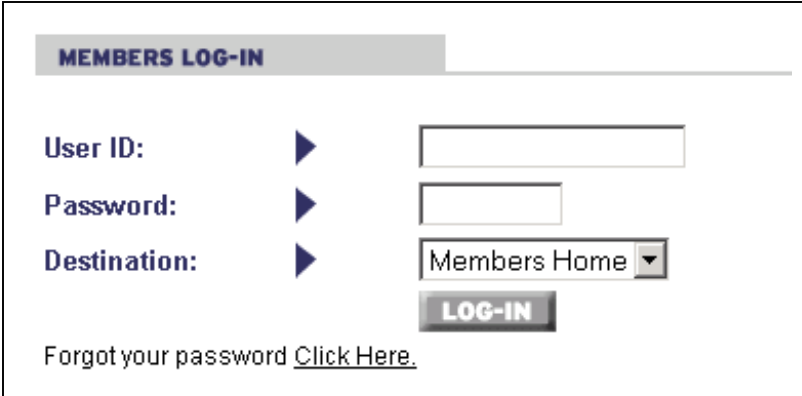
- Authentication
- Authorization
- Administration
- Audit

“Without the Four A's there is no security.”

Steve Hunt, VP, GIGA Information Group

The Four A's

- Authentication
 - Do you know who I am?
 - Are you sure?
 - How can you be sure? (Non-repudiation)



MEMBERS LOG-IN

User ID:

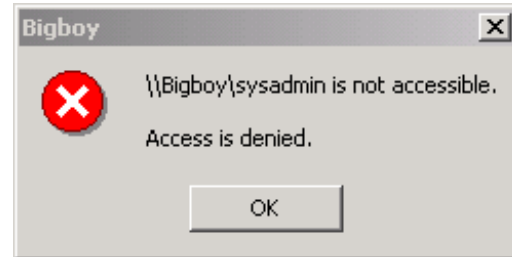
Password:

Destination:

Forgot your password [Click Here.](#)

The Four A's

- Authorization
 - What am I allowed to do?
 - Under what circumstances am I allowed to do it?
 - Can I do all those things without having to log-in multiple times?



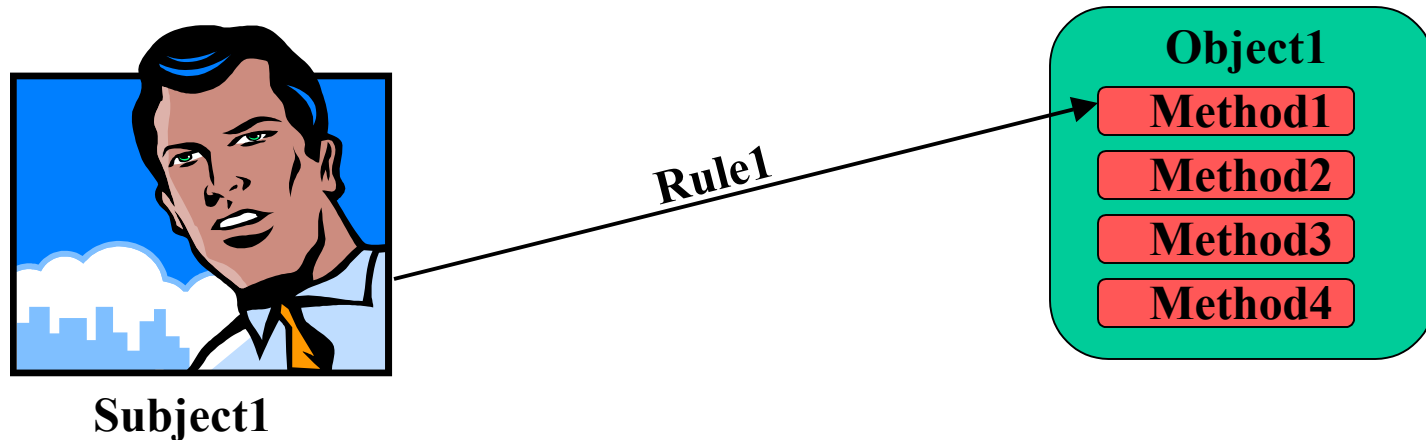
The Four A's

- Administration
 - Can you set up these 76 new users today?
They need controlled access (in different ways) to these 17 resources.
 - By the way, we just fired Joe so cancel his:
 - Security access card
 - Email, including all aliases
 - Telephone extension, calling card and Voice mail
 - Intranet account and VPN access
 - System accounts and privileges, including remote access privileges

The Four A's

- Audit
 - What just happened?
 - Who's been trying to break in? How are they attempting to break in? Did they get anything? What did they get?
 - What did you order? When did you order it? What credentials did you present?

The Security Administration Challenge



Subject1 wants to invoke a procedure called Method1 belonging to Object1. He invokes Rule1 to do this. Rule1 must test the privileges of Subject1 to decide whether to allow the invocation to occur.

The Security Administration Challenge

- Math test:
 - 100 Users
 - 500 Objects with 20 Methods Each
 - How many Rules must I administer?

Security Software Requirements

- Privilege Attributes create groups of Users with identical privileges
- Required Rights group methods by sensitivity
- Centralized administrative control
- Combining Policies and Delegation
- Configurable Audit with Non-Repudiation

Hitachi TPBroker Security Service

- Enterprise-Wide Security Management – Key Features
 - Separates security policy from the application logic
 - Unitary Login
 - Configurable Access Levels by groups
 - Delegation models
 - Single-point Administration
 - Includes support for Encryption and Auditing
 - Language & Platform independent

Implementing Security

Where do you begin?

- Implementing security across the distributed enterprise is a process, not an event
- The “Three-Legged Stool”
 - Security Policy
 - Security Software
 - Security Expertise



Implementing Security

Simplified View



Where Can I Learn More?

- **OMG**
 - www.omg.org
- **CSI**
 - Computer Security Institute
 - www.gocsi.com
- **ISSA**
 - Information Systems Security Association
 - www.issa.org
- **Hitachi**
 - www.hitachisoftware.com