Licensable Technologies

Improved Kerberos Security

Applications:

- Any Windows-based computer or computer network
- High security corporate networks
- High security e-commerce and data applications
- Enterprise-scale networks

Benefits:

- Reduced cryptocard deployment costs
- Reduced network administration costs
- Improved security

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Summary:

Kerberos, from Greek mythology, meaning the three-headed dog that guarded the entrance to Hades, is an authentication and encryption scheme that allows a user to become "known" by an authenticating server by using secret-key cryptography.

This authentication can then be used to access various connected systems and services from local area networks to Internet commerce. These services can then transpire in an encrypted fashion to further secure transactions.

Financial services companies are spending approximately 6% of their IT budgets on information security while the market for Web intrusion protection services and products is expected to increase to nearly $700 million by the year 2006. The computer systems at Los Alamos National Laboratory are protected by a Kerberos-based authentication combined with a one-time password protocol. The Laboratory's dual security system, the basis for its Smartcard interface which generates the one-time password, allows its Kerberos authentication system to integrate non-intrusively with the proprietary Microsoft Kerberos. Unlike other systems currently in use, the Laboratory's system does not require modification or replacement of the user authentication interface on each desktop or server, thus saving time and money in system modifications.

Intruders, both internal and external, can enter systems simply by guessing passwords and even the best passwords can eventually be defeated mathematically given sufficient time. With the Laboratory's Smartcard, passwords are never stored and are randomly generated when access is required. In addition to its current primary use, the Laboratory's Smartcard security could be adapted to other security required applications such as debit cards, voter registration, motor vehicle, hospital records, online gaming, etc.

Development Stage:

In large-scale use at LANL

Patent Status:

Patent pending

Licensing Status:

Available for exclusive or non-exclusive licensing.

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