

Authentication on Internet

eSentry

Introduction of eSentry :-

As a result of ongoing product improvement and new product development, WYSE Systems has built innovative security technologies consistently. The latest in the series is eSentry- a security device built for failsafe two factor authentication over the Internet for effective access control. eSentry is very easy to integrate with your application. You simply have to implement the API calls provided with eSentry into your web applications. And build your unique mechanism in order to determine the degree of control allowed to your end-user..

eSentry, is an extension of our present product, Sentry- a standalone Hardware lock for software products- and provides all available features over the internet. It fits on the parallel or USB port and requires no special equipment other than the PC itself to function.

eSentry will change the way businesses are carried over the internet. Whenever you wish to provide a Web service to a client, send him an sentry hardware lock, along with username/password. With advanced features of eSentry, apart from authentication, you can track your end users' identity, usage time, or any other information you decide. You can also remotely update parameters of your clients' usage such as renewals etc. eSentry has non-volatile memory for storing / retrieving information which is relevant to your application. You can use this memory in a flexible manner and program security parameters as per your requirement.

This is a unique paradigm of making the security mechanism dependent on the external device memory rather than internal security. This enhances the security of your Web application. At the same time it gives you tremendous control on operations performed by your client.

The concept behind introducing eSentry :-

As the Internet has grown exponentially in the last decade, so did the users became more diverse, so did the hardware, software, and services provided by ISPs.

The combination of users, services, and high expectations poses serious security threats .

What is e-security?

The authentication is best, if all three levels of authentication challenges are posed:

What you know: like your user name and password

What you have : like you have an ATM card, smart card or a hardware key..

What you are : is the ultimate, and is based upon human identification by means of thumb impression, retina scan etc..

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The best practical authentication challenge: at least 'two level' challenge

Security Levels which is used today.

Users exchange name and password between computer systems securely to Authenticate privileges and identity.

This is highly vulnerable security as has been amply proved

Drawback of old Security Levels:-

Password cracking

Network monitoring

Keystroke monitoring

Social engineering

Abuse of trust

Human memory limitations etc..

Study reveals that most attacks generated by an insider, thus techniques of firewall defeated

Solution for all the above problem :-

Only external method of authentication can be regarded as secure.

eSentry

A unique paradigm: security mechanism is external device memory rather than internal security.

Non-volatile memory for storing / retrieving information relevant to your application.

Use this memory in a flexible manner and program security parameters as per your requirement.

Authentication is primarily controlled by a component by WYSE

It is signed and certified to be safe over the Internet.

This gets installed on the clients' machine for the first time access.

The Web application subsequently starts interacting with this component, and in turn interacts with eSentry installed on the client machine.

eSentry Benefits

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eSentry fits on the parallel port or USB port and requires no special equipment to function

With eSentry, one can track clients' identity, the usage time, or any other information.

eSentry can be used to remotely update parameters such as renewals etc

Hardware Features:-

Specification for Sentry USB port Lock:-

- ✓ USB connectivity for true plug & play.
- ✓ Complaint with USB specification version 1.1
- ✓ Data transferring rate upto 1.5Mbit per Second.
- ✓ USB bus powered. No external power required.
- ✓ Powered by a8-bit micro-controller Engine.
- ✓ Stand by current consumption =25 microA approx.
- ✓ Real time clock (implemented without battery)
- ✓ User Non-volatile memory of 30 words (60 bytes) to store sensitive information. Expandable upto 4054 words (8108 bytes)
- ✓ Unique inscribed 32 bit ID in the lock for different Developers.
- ✓ Every lock uniquely inscribed in the lock for production serial number.
- ✓ 10 Million Write operations permitted on each non-volatile memory cell with 10 years of Data Retention.
- ✓ Write cycle to any of the location = 10 ms max
- ✓ Estimated MTBF(Mean Time Between Failure) 15000 hours.
- ✓ Zero level of EMI/RFI
- ✓ Operating Systems support Win 98(SE) / ME / 2000 / XP.

Specification for Sentry Parallel port Lock:-

- ✓ Powered by a 16 bit RISC micro-controller Engine.
- ✓ Ultra Low Power consumption (400 micro ampere in active mode)
- ✓ Conforms to standards IEEE-1284 Level I and IEEE-1284 Level II for PC Printer port.
- ✓ Real Time Clock in every product (implemented without battery) for Time based Software Renting.
- ✓ Control on Number of Execution for Count based Software Renting.
- ✓ Cascading of Sentry on Sentry(different Batch), and with lock of another vendor.
- ✓ User Non-volatile memory of 42 words (84 bytes) to store sensitive information.
- ✓ Uniquely inscribed 32 bit ID in the lock for different Developers.
- ✓ Every lock uniquely inscribed in the lock for production serial number.
- ✓ 10 Million Write operations permitted on each non-volatile memory cell with 10 years of Data Retention.
- ✓ Improved handling of the peripheral devices like scanner, ZIP, JAZZ, CDROM drives.
- ✓ Encryption algorithms in Hardware design.

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- ✓ Write cycle to any of the location = 10 ms max
- ✓ Estimated MTBF(Mean Time Between Failure) 15000 hours.
- ✓ Zero level of EMI/RFI

Software Features:-

- ✓ Supports Win 95/98/ME/NT/2000/XP protocols.
- ✓ Programming support available to JAVA, JAVA Script, JAVA Servlet, JSP, VB Script, ASP etc.
- ✓ Two levels of authentication.
- ✓ Browser based access through ActiveX/Java components 64 bit unique identification number.
- ✓ Remote update through internet Supports Win 95/98/NT/2000/ME/XP.
- ✓ API based device driver installer.
- ✓ Device Driver installer utility.
- ✓ Memory editing utility.
- ✓ Utility for .EXE file protection feature available.