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-- Begin Transmission --

Pump Up Your Passwords – Part 1

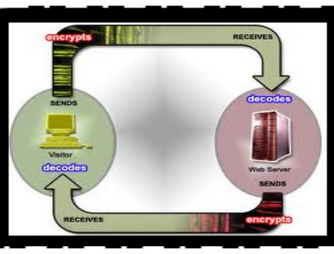
Pump Up Your Passwords

Many web services or computer systems today require strong passwords. So why are strong passwords so important? Is it really worth all the trouble?

You might also wonder what makes a password strong? Is it just the length of the password and why all the emphasis on mixed case and special characters. In this issue, we will discuss the why, what and how of strong passwords.

Cryptography is King

Cryptography is the hiding of information via encryption and decryption of data. To keep your data safe whether on a web site or on your device, it needs to be stored in an encrypted form with a strong algorithm. Encryption has become so strong that today's hackers must use computers to attack security systems.



In cryptography, **encryption** is the process of transforming information using an algorithm to make it unreadable to anyone except those possessing special knowledge, usually referred to as a key. The result of the process is encrypted information. The reverse process, to make the encrypted information readable again, is referred to as **decryption**.

Brute Force Attack

Even though your data is strongly encrypted, it may still be vulnerable to a brute force attack if the hacker has access to your database. A brute force attack is where a hacker uses software to try a series of common passwords or all possible passwords in an attempt to guess your password and gain access to your data.

The best protection against this type of attack is a strong password because, as you will see, it will take too long for the hacker to figure out your password. Using strong encryption and a strong password will provide a very high level of security for your data.

How Long is Strong?

A strong password is not just a long string, but is also determined by the number of different characters that are used in forming each character of the password. For example, it takes less than a second for a fast computer to run all the permutations of 4 digit PIN (i.e., 2578) containing only digits.

By simply making the 4-digit password out of any lowercase, uppercase letters, numbers and symbols (i.e., Bc1@), it now takes 25 seconds to generate all permutations -- a major improvement!

To be continued…

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REFERENCE(S): http://www.infosecisland.com/blogview/20890-Pump-Up-Your-Pw0rd.html

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