Password Construction Guidelines

Overview

Passwords are a critical component of information security. Passwords serve to protect user accounts; however, a poorly constructed password may result in the compromise of individual systems, data, or the network. This guideline provides best practices for creating secure passwords.

Purpose

The purpose of this guidelines is to provide best practices for the created of strong passwords.

Scope

This guideline applies to employees, contractors, consultants, temporary and other workers at Cisco, including all personnel affiliated with third parties. This guideline applies to all passwords including but not limited to user-level accounts, system-level accounts, web accounts, e-mail accounts, screen saver protection, voicemail, and local router logins.

Statement of Guidelines

All passwords should meet or exceed the following guidelines

Strong passwords have the following characteristics: Contain at * least 12 alphanumeric characters.

- Contain both upper and lower case letters.
- Contain at least one number (for example, 0123456789).
- Contain at least one special character (for example, !$%^&*()_+|~-=\`{}[]:";'<>?,/).

Poor, or weak, passwords have the following characteristics: Conta * in less than eight characters.

- Can be found in a dictionary, including foreign language, or exist in a language slang, dialect, or jargon.
- Contain personal information such as birthdates, addresses, phone numbers, or names of family members, pets, friends, and fantasy characters.
- Contain work-related information such as building names, system commands, sites, companies, hardware, or software.
- Contain number patterns such as aaabbb, qwerty, zyxwvuts, or 123321.
- Contain common words spelled backward, or preceded or followed by a number (for example, terces, secret1 or 1secret).
- Are some version of "Welcome123" "Password123" "Changeme123"

You should never write down a password. Instead, try to create passwords that you can remember

easily. One way to do this is create a password based on a song title, affirmation, or other phrase. For example, the phrase, "This May Be One Way To Remember" could become the password TmB1w2R! or another variation. (NOTE: Do not use either of these examples as passwords!)

Passphrases

Passphrases generally are used for public/private key authentication. A public/private key system defines a mathematical relationship between the public key that is known by all, and the private key, that is known only to the user. Without the passphrase to unlock the private key, the user cannot gain access. A passphrase is similar to a password in use; however, it is relatively long and constructed of multiple words, which provides greater security against dictionary attacks. Strong passphrases should follow the general password construction guidelines to include upper and lowercase letters, numbers, and special characters (for example, TheTrafficOnThe101Was*&!$ThisMorning!).

Policy Compliance

Compliance Measurement

The Infosec team will verify compliance to this policy through various methods, including but not limited to, periodic walk-thrus, video monitoring, business tool reports, internal and external audits, and feedback to the policy owner.

Exceptions

Any exception to the policy must be approved by the Infosec team in advance.

Non-Compliance

An employee found to have violated this policy may be subject to disciplinary action, up to and including termination of employment.

Revision History

Date of Change	Responsible	Summary of Change
June 2015	Andrew Smith	Initial document
03/11/2016	Andrew Smith	Transferred to Wiki