

# Benefits of PassFree

Improved Electronic Access Control

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## Reduces risk of electronic identity theft

No device can completely eliminate the risk of electronic identity theft, but this device greatly reduces the risk to an individual of identity thefts of the individual's commerce tools – credit card and address information.

The specific application for which the device is used will dictate the level of risk associated with using the device. For example, if an organization decides to associate many personal details with an identity, then theft of that organization's data will pose a greater risk to individuals. Therefore, the most appropriate analogy for this device may be a lock and key. The best lock will not prevent an intruder from breaking down a poorly constructed door. But for those organizations that build carefully, the private thumbprint authenticator is an excellent solution for automatically and reliably verifying individual identities.

## One (physical) key fits all

The same personal key can be used to open all locks that the individual is authorized to open, whether personal (automatic authority) or business (granted authority). The individual's key only has to be registered with the lock for approval, and locks can be sophisticated about allowing access only during certain times or in coincidence with other conditions.

## Ad-hoc locks

An electronic lock can be made which allows its user to add and remove keys ad-hoc. A quick set mode would allow the user to clear the lock of all keys, and then let each authorized person authenticate themselves with their personal devices, and the lock would subsequently only open for these persons (keys). In this

situation, a person's real identity doesn't matter, only that they can be authenticated automatically and reliably for the purpose of opening the lock.

## **Electronic locks cannot be picked**

The only way to defeat an electronic lock (without mechanically removing it or breaking the door of course, because this aspect is the same for any lock) is to duplicate the key. Electronic keys have an advantage of being able to transmit different information each time, making a replay very difficult.

The only way to overcome the key would be to intercept a transmission and break the key. Current standard key sizes (in bits) make the computing effort extremely time consuming. Key size can be increased for better security.

Electronic keys can be rotated so that no one key is in use for longer than a certain period of time. This will impose a time limit on someone trying to break a key rather than allowing them eternity to do it. While they keys are rotated, the user's personal authentication remains the same. This provides a seamless experience to the user as the key can be automatically updated during routine use.

## **Electronic locks do not have to be replaced when a key is lost**

If transferable keys are being used, the lost key can be removed from the lock's registry of authorized keys. If a private key employing independent personal identification such as thumbprint, PIN entry, voiceprint, or retinal scan is lost, it can also be removed from the registry but in addition there is a high barrier against it being used successfully against the lock without the authorized user.

For more information about improved electronic access control using PassFree, contact:

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