Full disk encryption with Sophos Safeguard ® Enterprise With Two-Factor authentication of Users Using SecurAccess by SecurEnvoy

Contact information		
SecurEnvoy	www.securenvoy.com	0845 2600010
	1210 Parkview Arlington Business Park Theale Reading RG7 4TY	
Phil Underwood	Punderwood@securenvoy.com	

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Sophos SafeGuard ® Enterprise Integration Guide

This document describes how to provide additional security to Full disk encryption by Sophos SafeGuard ® Enterprise by fully integrating SecurEnvoy two-factor Authentication solution called 'SecurAccess'.

Sophos SafeGuard ® Enterprise provides protection to corporate data by enabling Full disk encryption and pre boot authentication of P.C.'s and laptops.

SecurAccess provides two-factor, strong authentication for Sophos SafeGuard ® Enterprise, without the complication of deploying hardware tokens or smartcards. Two-Factor authentication is provided by the use of your PIN and your Phone to receive the one time passcode.

SecurEnvoy Security Server is configured to use "Direct Password Control" such that it can take control of both the Microsoft password and Safeguard password. By applying an alphanumeric User PIN of between 4 to 8 characters and a 6-digit (or character) passcode together, this is then saved as the new Microsoft and Safeguard password. The passcode is then updated on a per day or multiple days frequency, each time this is added to the existing user Pin and then written as the Microsoft and Safeguard password. Therefore the Safeguard POI password is now using Two-Factors and is changing on a daily or multiple day basis.

"Direct Password Control" will change and send out the new Domain password via SMS or email to all enabled users. This is the dynamic component of the Domain login; a separate static Pin is required to make up and complete the Domain authentication, which is managed by SecurEnvoy. Setting the correct level of upper and lower case characters as well as numeric allows the passcode to meet Domain Security policy requirements.

The security strength of the password controlled by SecurEnvoy can be configured to be as low as 10 characters, the first 4 being an alphanumeric pin followed by a 6 digits code or as high as 14 characters, 8 being the pin followed by an alphanumeric passcode. These passwords are significantly stronger that a standard user created password as they are based on two factor authentication with no single part being stored or written down in any one place and the passcode part does not use easy to crack dictionary words.

Offline laptops that are out of contact with Safeguard are managed by SecurEnvoy by tracking and displaying both the laptops off-line passcode and the current online passcode. Note that only one laptop per userid is supported.

The equipment used for the integration process is listed below:

Microsoft (for installation of SecurEnvoy Security Server and Sophos SafeGuard)
Windows 2008 server
IIS installed with SSL certificate (required for management and remote administration)
Access to Active Directory with an Administrator Account
Windows 7 Enterprise 64 bit (Installation of Sophos client)

Sophos SafeGuard ® Enterprise
Sophos SafeGuard Enterprise Server v6.0
Sophos SafeGuard Client v6.0

SecurEnvoy
SecurAccess software release v6.2.502

Pre Requisites

It is assumed that the Sophos SafeGuard ® Enterprise v6.0 is setup and operational. It is also assumed that SecurEnvoy server version 6.2.502 or higher has been installed on the same server with a suitable account created that has read and write privileges to Active Directory.

NOTE: SecurEnvoy only supports Two-Factor authentication with Sophos SafeGuard Enterprise using DAYCODE passcodes sent via SMS or eMail. Daycodes are the only supported method; one time codes (OTP) and soft tokens are not supported.

NOTE: Only One SafeGuard Encrypted Device is supported per UserID.

Sophos SafeGuard Enterprise

1.1 Installation of Sophos SafeGuard Enterprise v6.0

Launch the Sophos SGNInstallAdvisor, this will show the following screen.



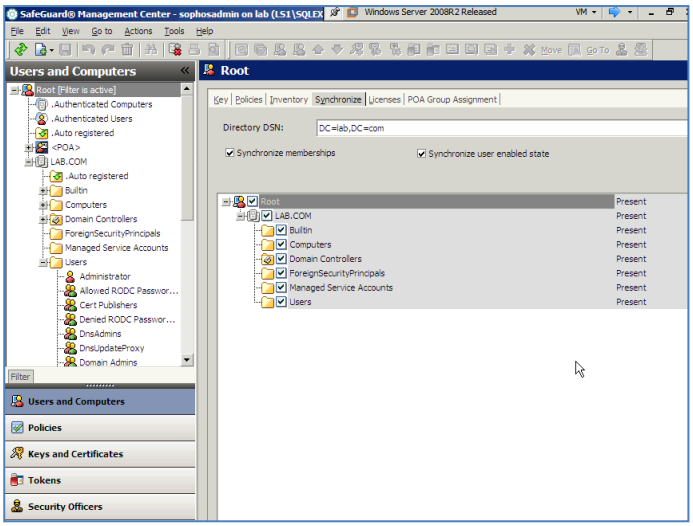
Follow the on screen instructions to prepare and install the Sophos software.

For further advice and configuration please use documentation provided by Sophos.

1.2 Sophos SafeGuard Management Centre

Launch the Sophos SafeGuard Management Centre, on first run will prompt for a Security Officer account to be configured and Certificates to be generated.

NOTE: The current Windows logged in account that was used to create the Sophos Security officer is used by later in the guide. It is critical that the correct Windows account is configured for SecurEnvoy services.



Once the Management Centre is operational, this example shows LDAP domain information synchronised to provide a seamless management of Active Directory users and computers.

1.3 Create A Sophos Client Package

Create a Client configuration package.

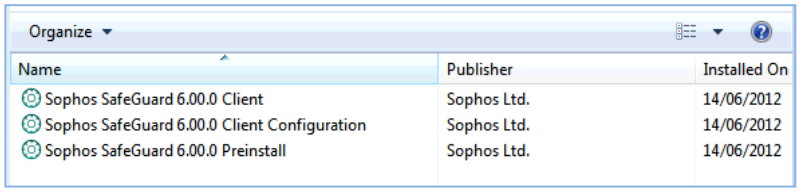
1. Open the Management Centre browse to Tools
2. Choose Configuration Package Tool
3. Choose create Enterprise Client Package
4. Click Add Client Package
5. Enter a name for the package
6. Select a primary server
7. Define the MSI output path
8. Click Create Client MSI

For further advice and configuration please use documentation provided by Sophos.

1.4 Installation of Sophos SafeGuard client software

The client installation requires the following:

Sophos SafeGuard Preinstall package
Sophos SafeGuard Client package
Sophos SafeGuard Client Configuration package
(Generated by primary Sophos SafeGuard server)



1.5 Sophos SafeGuard User Interface and client operation

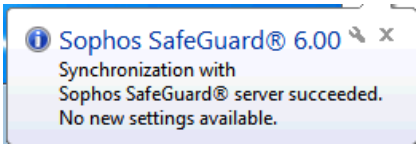
After a reboot, the user will see the following screen:



After the first reboot post Sophos client installation, the user will log in directly to Windows.



Once the Sophos client has synched to the Sophos SafeGuard server a pre boot screen will then be displayed after each subsequent reboot.



1.5.1 User logon with Sophos Pre Boot Authentication

After each subsequent reboot the user will be prompted to enter their respective Windows UserID and password into the Sophos logon window.

Once authenticated the user is signed through to Windows once the CTRL-ALT-Del sequence is invoked.



SecurEnvoy Security Server

2.0 Configuration of SecurEnvoy

2.1 Pre requisites for SecurEnvoy Server

SecurEnvoy Server version 6.2.502 or higher MUST be installed on the same host as Sophos SafeGuard Management Centre as SecurEnvoy integrate via Sophos SafeGuard scripting API.

Microsoft requires that connections to Active Directory via LDAP use SSL (SDLAP 636) to meet password security restrictions. Make sure that "Use SSL" is selected in the LDAP settings "Directory Server Details" in SecurEnvoy Advanced Config

2.2 SecurEnvoy Server Configuration

SecurEnvoy require the following to be set up prior to being operational:

1. Launch the SecurEnvoy Local Admin GUI, navigate to the Config tab
2. Navigate to Soft Token, then deselect "enable soft tokens"
3. Navigate to GUI settings, then select "Display Offline laptop"
4. Navigate to PIN management, then select SecurEnvoy as the PIN, finally set the PIN length to at least 4 digits and set these to be at least 1 upper and 1 lowercase.
5. Navigate to Daycode, un-tick "Only send a new code if last used" set the default user days, validity of Daycode (1-99 days)
6. Navigate to Tmp Static Code and select "Return To Day Code"
7. Navigate to Direct Password Control, enable PIN and Passcode synched to user password, enable sync to Sophos. Set Sophos Security Officer details, as tested in 1.2
8. The Windows account (Logged on user) that was used when the Sophos Security Officer was generated is required as the "Log on" account for the following Window services:
    a. SecurEnvoy Batch server service
    b. SecurEnvoy Web SMS and or Phonegateway service

Start - Administration Tools - Services, select each service shown above and right mouse click, go to properties, select log on and enter details of the Windows account.

9. The file permissions of SecurEnvoy/Security Server and all sub directors must have full r/w access for the windows account set in step 8
10. If you require alphanumeric passcodes then edit server.ini and set UseAlphanumericPasscodes=True

NOTE: These services will have to be restarted to use the new "log on" settings

NOTE: The windows account used for these services must not change its password or these services will fail. Make sure this windows account has "Password never expires" selected in Active Directory Users and Computers

2.3 Test SecurEnvoy Can Logon To Sophos Safeguard

Check the Sophos Security officer account created in step 6 can be authenticated via the SecurEnvoy test tool. Navigate to the SecurEnvoy\Security Server\Sophos directory and run the testlogin.exe program.

If operation is correct an "OK" will be displayed.

2.3 SecurEnvoy User configuration

Launch SecurEnvoy local admin GUI, search for desired user that requires Two-Factor authentication with Sophos SafeGuard. The following screen will be displayed.
Enable the user, enable Off-line Laptop check box. Create a PIN

NOTE: To meet a domain password policy, it is recommended that the PIN is a combination of both upper and lower case.
Example PIN = Se12, Passcode =234765, Domain password = Se12234765

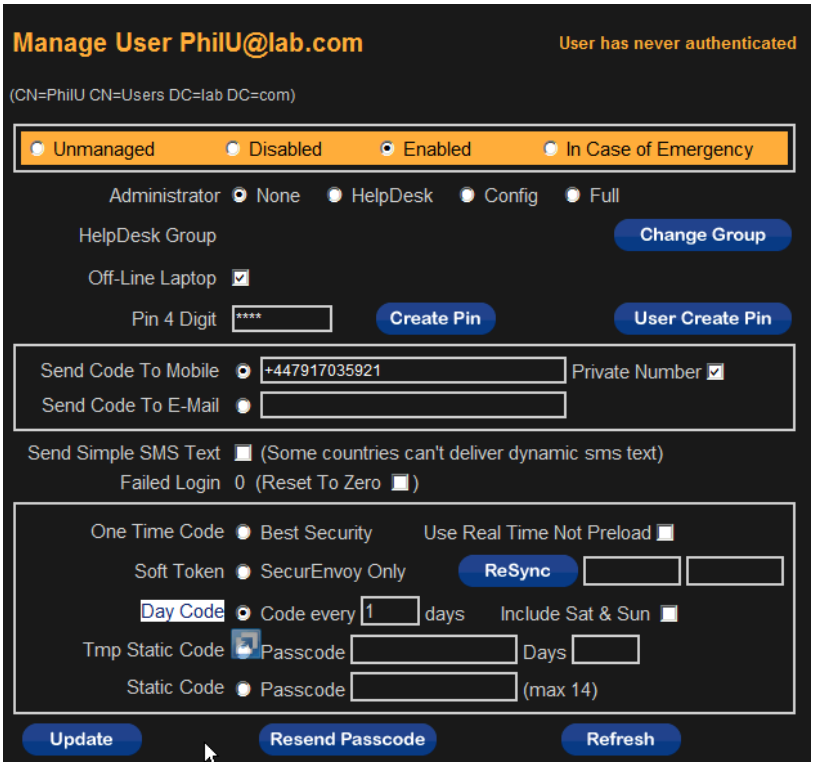
Set the user's mobile number if not already populated in Active Directory.

Set the user to use a Daycode and set time period (1-99 days)

Click update when complete

The following message will be displayed:

"Passcode sent to Gateway, Windows password updated"



3.0 End User experience

Once the user has been set up and deployed upon the SecurEnvoy server, they will receive a SMS message as shown below:



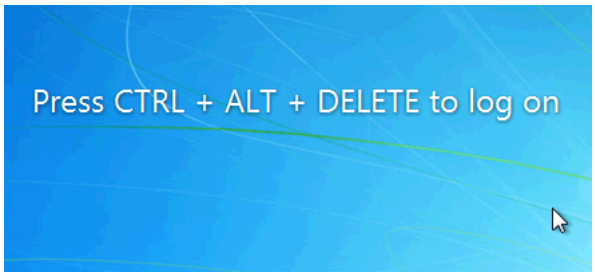
The SMS will display the Active passcode and a Backup passcode.

NOTE: The Backup passcode will be blank until the SecurEnvoy Batch server has run and trapped the previous Daycode, this is required for accessing a laptop when the Windows Password (SecurEnvoy) has been updated but the laptop was offline.

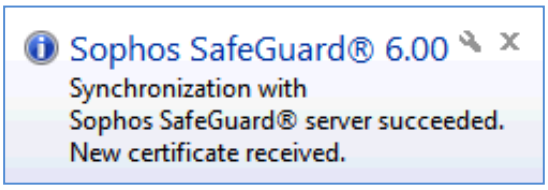
After a reboot the user will be prompted for a Windows user logon

User enters their UserID into the UserID field and PIN followed by the passcode into the password field, the passcode is displayed in the SMS message.

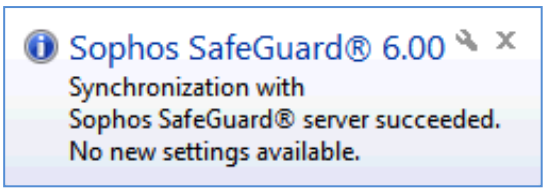
Example Se12075964
Where Se12 is the PIN
and 075964 is the passcode



The Sophos SafeGuard client runs in the Windows "Systray" after a reboot it will show the following message.
This shows that the client has now synched to the Sophos SafeGuard server.



Throughout the day the user may see the following message.
This shows that s synchronisation has been successful, but no new settings were obtained.



After a reboot, the user will be prompted for Pre Boot Authentication.



User enters their UserID and PIN followed by the Active passcode displayed in the SMS message.

Example Se12075964
Where Se12 is the PIN
and 075964 is the passcode

Once authenticated the user is signed through to Windows once the CTRL-ALT-Del sequence is invoked.

3.1 User experience - Daycode updated

When the SecurEnvoy server updates the Daycode (default 16:00 local time) the configured user(s) will receive a new SMS message as shown below:



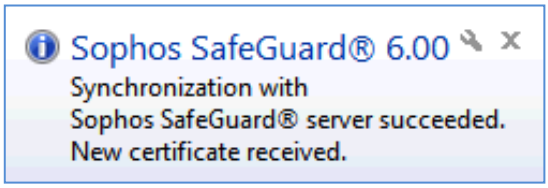
The SMS will display the Active passcode and a Backup passcode.

The user should always try and use the new passcode unless they receive a logon error, at which point they should then use the Backup passcode.

3.2 User Logon scenarios

Listed below are some of the scenarios a user may see during the operation of the SecurEnvoy server and the Sophos SafeGuard Server. All logons require PIN + PASSCODE

a) User is logged on when Daycode is updated. They will see the following message.
When the log's off and log on again they will then use the new Active Passcode



b) User had machine 'Locked' when Daycode was updated, user logs in with new Active Daycode is SMS message.
Sophos will then prompt the user to enter the Backup Daycode to ensure synchronisation and correct operation.



c) User has their machine switched off when the Daycode is updated, user logs in with new Active Daycode is SMS message.

User then receives an "Authentication error" user then logs in with the Backup Daycode.



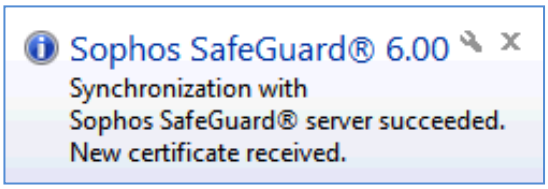
Once authenticated the user is signed through to Windows once the CTRL-ALT-Del sequence is invoked.

If the machine is online and able to contact a Windows Domain controller the user will get a Windows logon error as the password (Daycode) is now out of sync.

The user now logs in with the Active Daycode.



Once authenticated the user will see the following message from the Sophos SafeGuard client in the "Systray". Synchronisation is complete and the Daycodes (passwords) are now in step with each other.



4.0 Disable Windows Change Password

It is recommended that end users do not try and change their Windows password as this process is managed for them. To disable windows change password in the group policy see http://support.microsoft.com/kb/324744