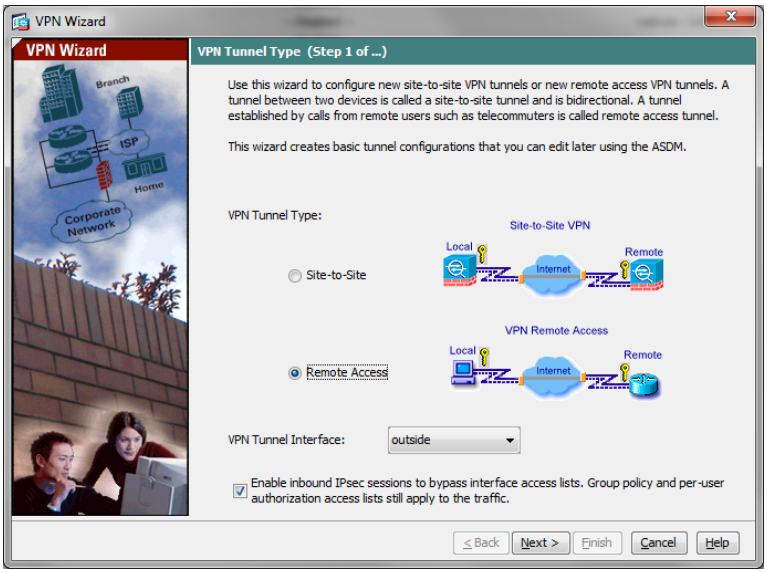
Cisco ASA configuration for SMS PASSCODE

Introduction

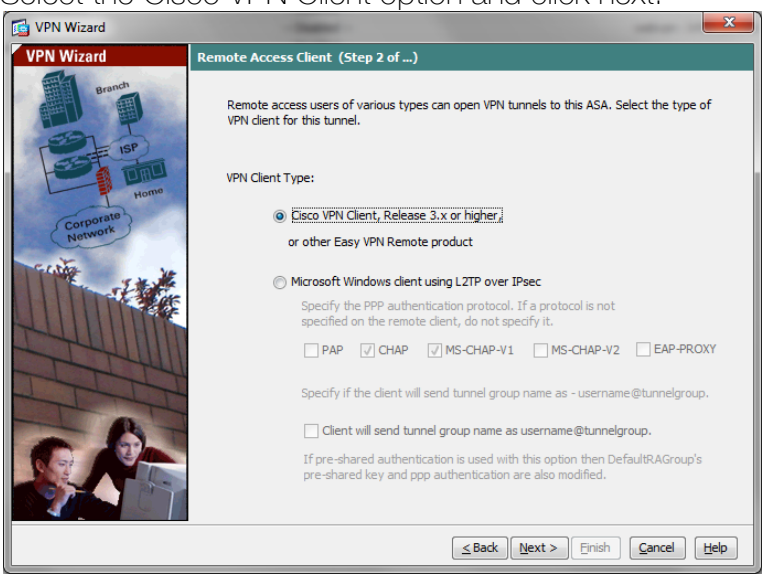
SMS PASSCODE® is widely used by Cisco customers extending the Cisco ASA VPN concentrators with both IPsec and SSL VPN extensions. This document provides a visual step-by-step guide for configuring the system to support SMS PASSCODE®.

Cisco Setup VPN group and radius client

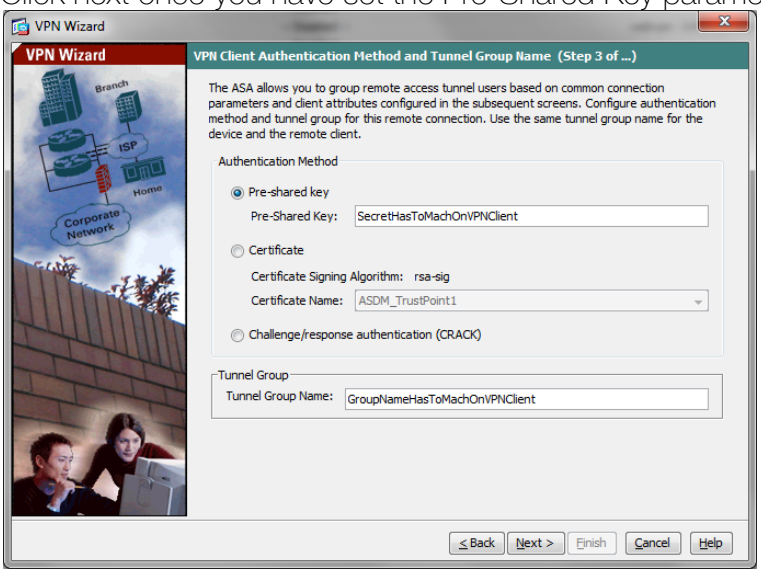
1. Start ASDM and login to the Web interface.
2. Go to the wizards menu and select IPsec VPN Wizard or SSL VPN Wizard (the following is from IPsec wizard, but configuration is quite similar)
3. Select Remote Access and click next:



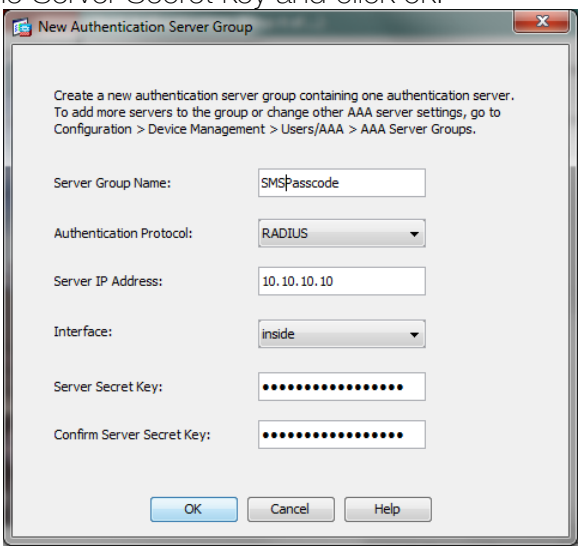
4. Select the Cisco VPN Client option and click next:



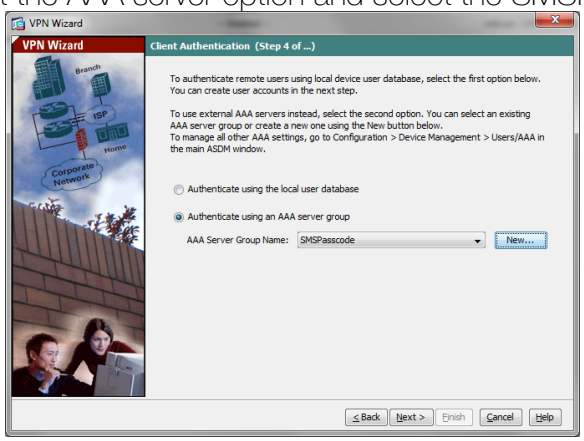
5. Click next once you have set the Pre-Shared Key parameter:



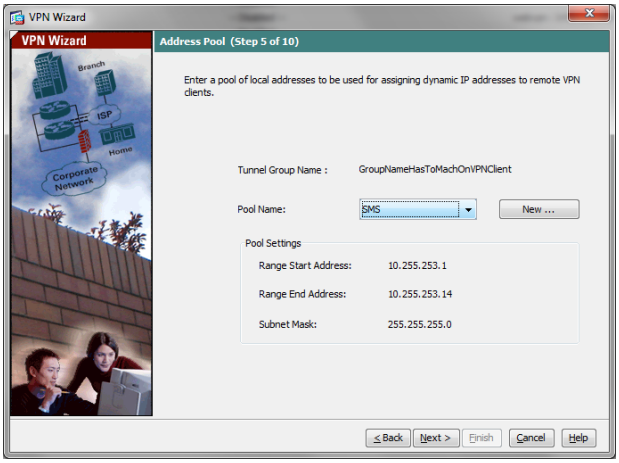
6. Name the Server Group Name: SMS PASSCODE® and set the IP address and the Server Secret key and click ok:



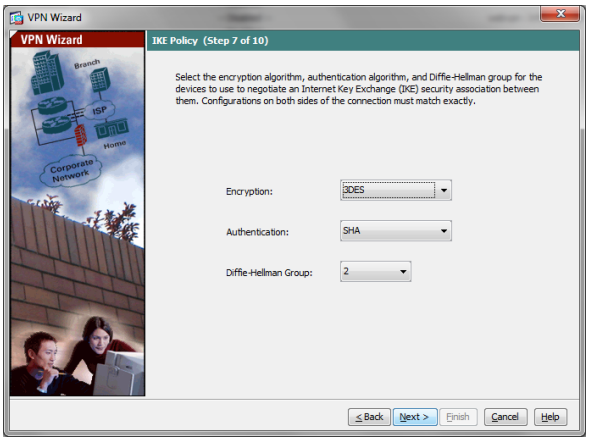
7. Select the AAA server option and select the SMSPasscode Group



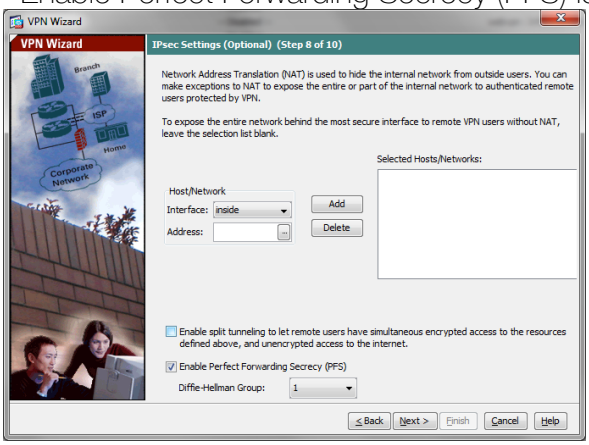
8. Select the SMS Pool Name from the pull-down menu and click next. If you do not have a pool defined, click New… and create the IP pool, select it and click next :



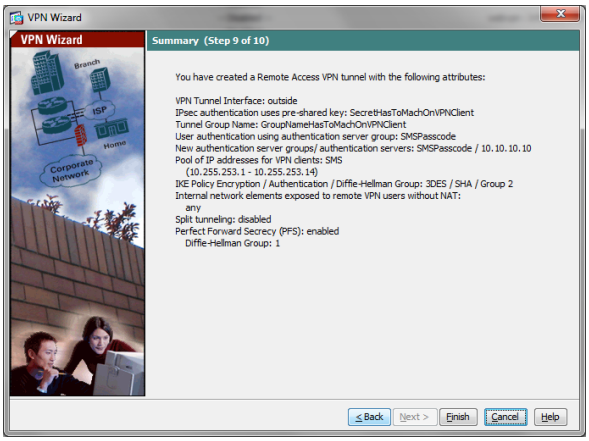
9. Set encryption to 3DES, Authentication to SHA and Diffie-Hellman Group to 2 and click next:



10. Verify “Enable Perfect Forwarding Secrecy (PFS) is checked and click next:



11. You have now set up the Cisco ASA for SMS PASSCODE® two-factor authentication.



Optional setup of the VPN concentrator using command line interface (CLI)

To use the command line interface, access the Cisco ASA VPN concentrator through the command line window and configure it as follows:

access-list inside_nat0_outbound line 4 extended permit ip any 10.255.253.0 255.255.255.240

aaa-server SMSPasscode protocol radius

aaa-server SMSPasscode (inside) host 10.10.10.10

timeout 5

key **********

tunnel-group GroupNameHasToMachOnVPNClient type remote-access

tunnel-group GroupNameHasToMachOnVPNClient general-attributes

authentication-server-group SMSPasscode

address-pool SMS

tunnel-group GroupNameHasToMachOnVPNClient ipsec-attributes

pre-shared-key **********

crypto ipsec transform-set ESP-3DES-SHA esp-3des esp-sha-hmac

crypto dynamic-map SYSTEM_DEFAULT_CRYPTO_MAP 65535 set pfs group1

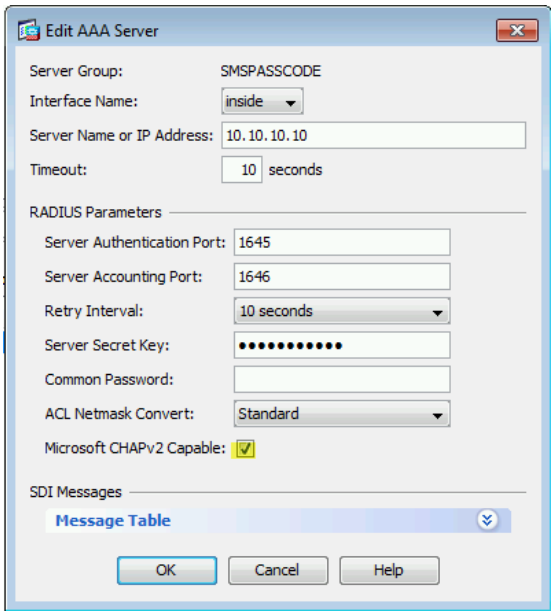
Configuring SMS PASSCODE® authentication for radius

To set-up SMS PASSCODE® for RADIUS, please consult the SMS PASSCODE® Administrators Guide under the section "Configuring RADIUS Protection.

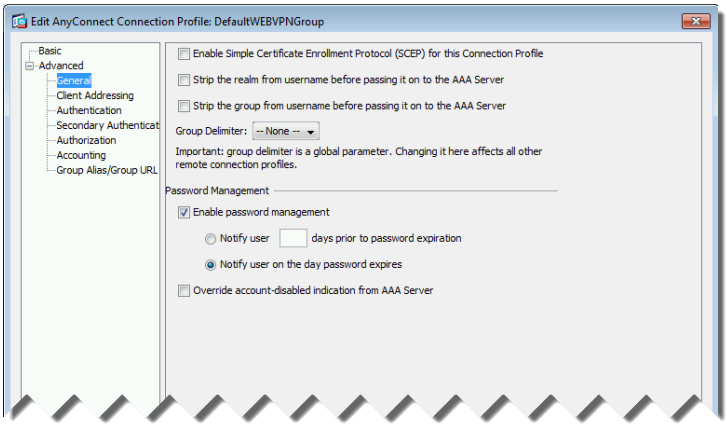
Using MSCHAPv2 protocol

To use MSCHAPv2 protocol instead of PAP the ASA must have a bugfix for CSCtr85499 which should have been fixed in the following releases (please check cisco.com for CSCtr85499 for updated information):
8.4(4.2)
8.4(5)
8.6(1.4)
9.0(1)
9.1(1)
9.0(0.99)
100.8(0.133)M
100.8(33.4)M
100.7(13.75)M
100.8(11.21)M
100.7(6.79)M
100.9(2.1)M
100.8(27.7)M
100.9(0.1)M
8.4(4.99)
100.8(34.1)M

When creating the AAA radius server make sure to enable Microsoft CHAPv2 capable



And in the Connection Profile “Enable password management”

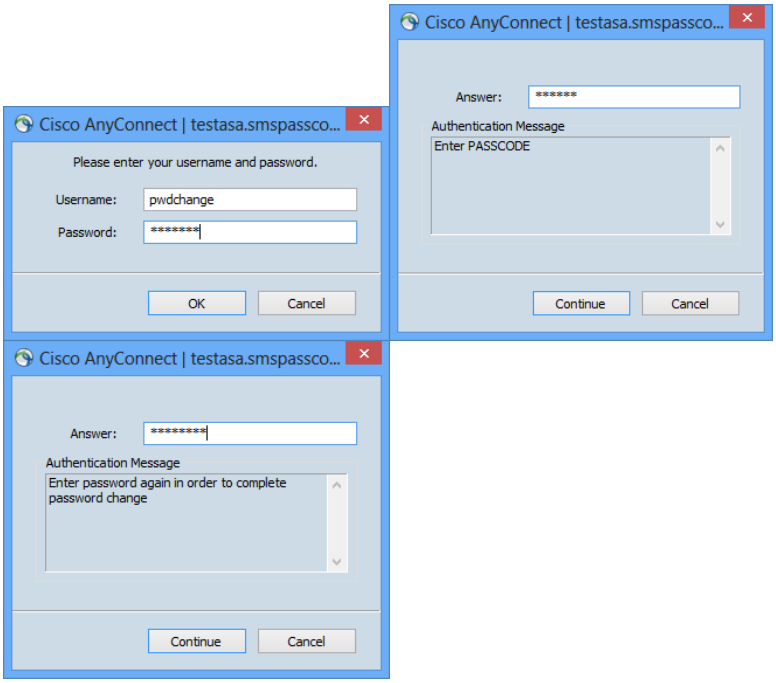


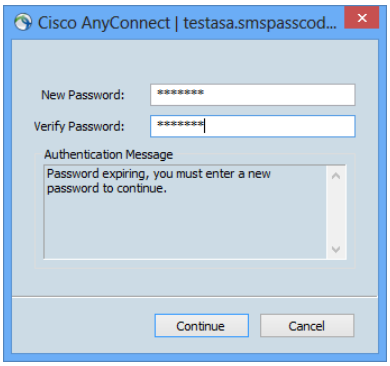
In SMS PASSCODE configuration tool you must make sure that Side-by-side to always

And that there is a Network Policy allowing the user to log in and change password via the MSCHAPv2 protocol.

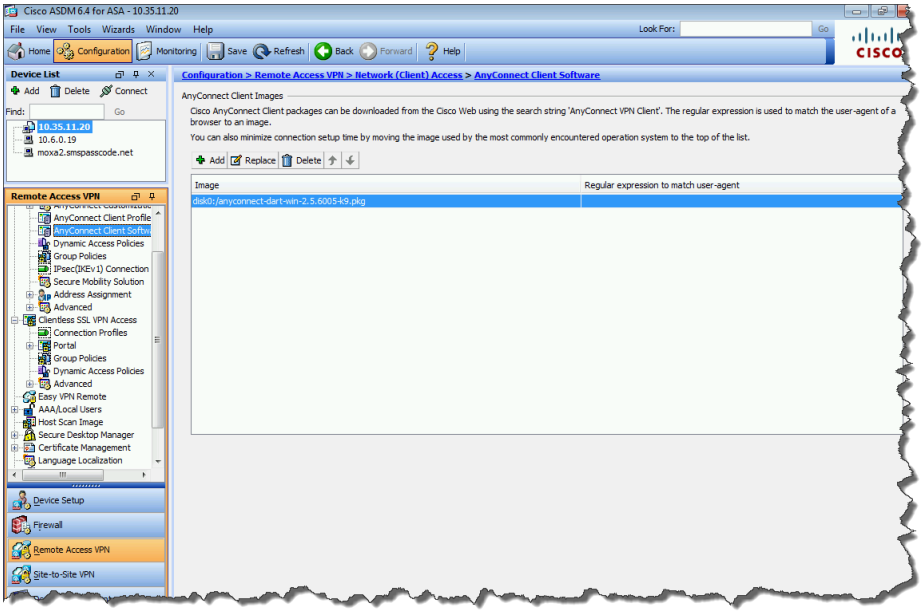
Password change

A normal logon flow with password change through AnyConnect or Clientless SSLVPN would look like this



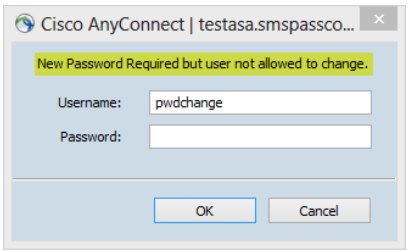


Due to a bug in Cisco ASA password change is not possible via AnyConnect if the Anyconnect Client Software package is 3.0.x or 3.1.x but working with 2.5.x and below.



So if password change is needed please make sure that the image is not on 3.x

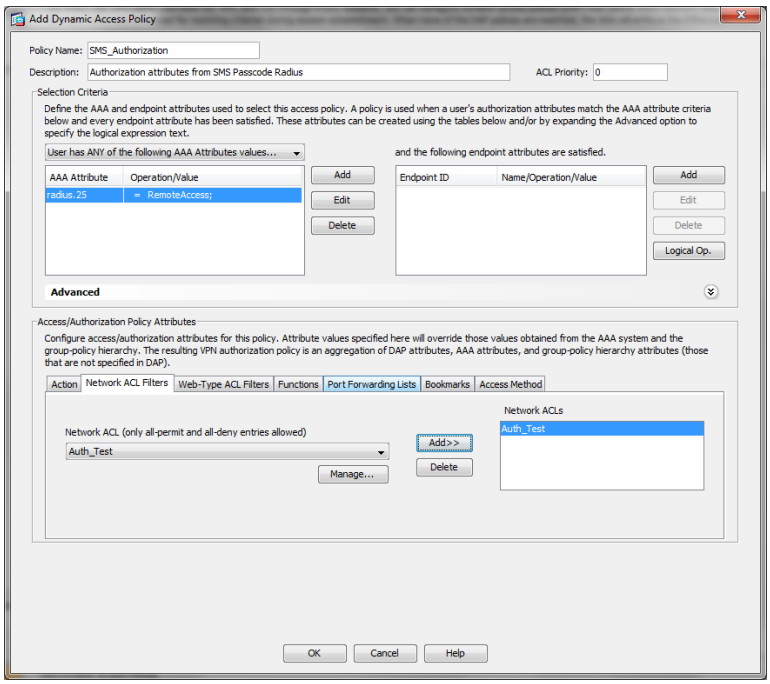
Logon and password change will work fine with 3.x AnyConnect, but if password change will fail with this error after reentering current password.



Authorization

SMS PASSCODE® support extension of a VPN connection with authorization detail. E.g. SMS PASSCODE® can read the individual users group memberships in Active Directory and if there are Dynamic Access Policies defined, SMS PASSCODE® can parse relevant membership attributes to the ASA Radius Client.

This can be defined in below window or via CLI:



Command line interface commands

access-list Auth_Test line 1 extended permit ip any any (change ip any any to the appropriate)

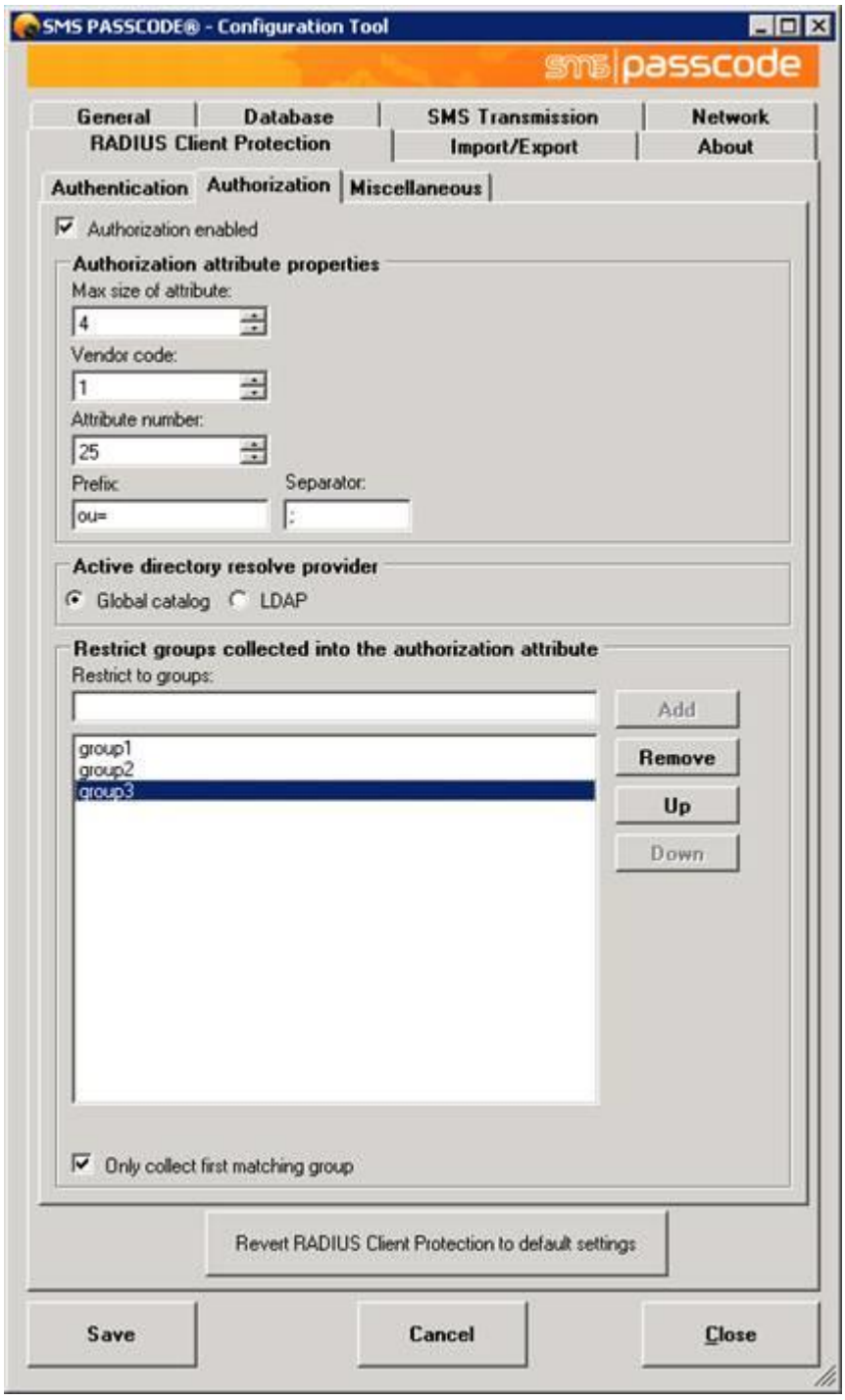
dynamic-access-policy-record SMS_Authorization

description "Authorization attributes from SMS Passcode Radius"

network-acl Auth_Test

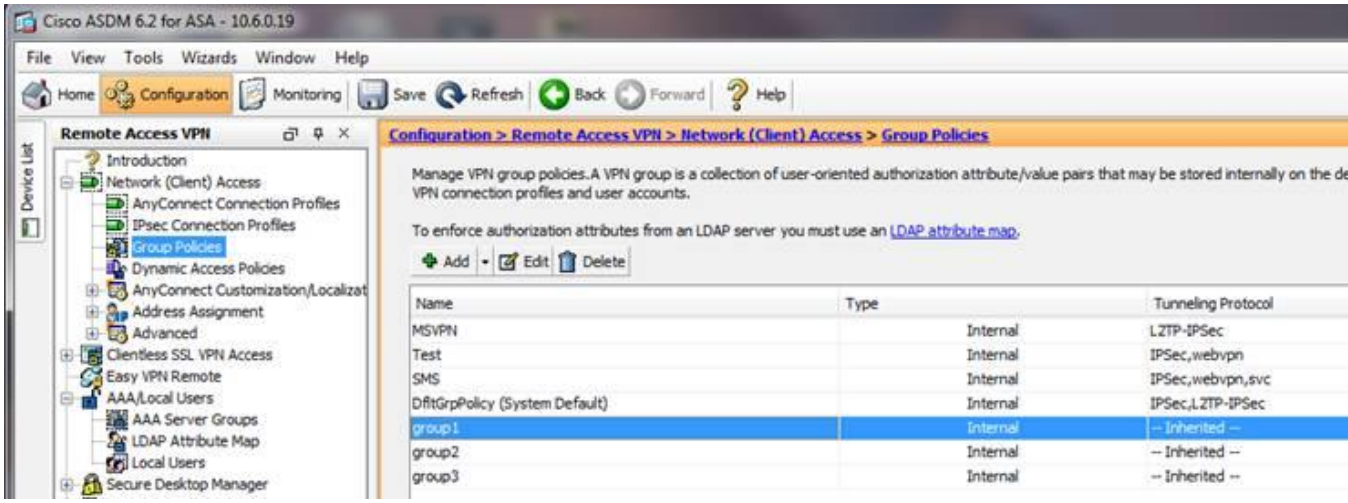
How to configure SMS PASSCODE® Authorization

Set up SMS PASSCODE® to use authorization with attribute number 25:

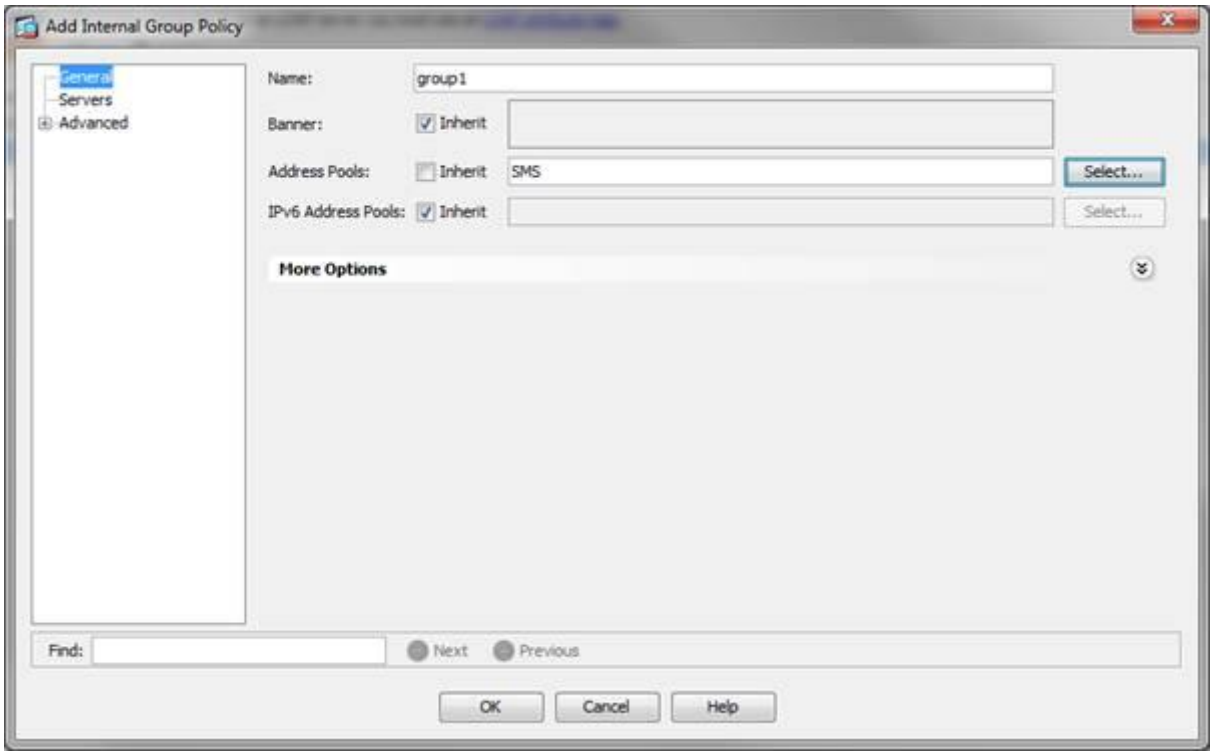


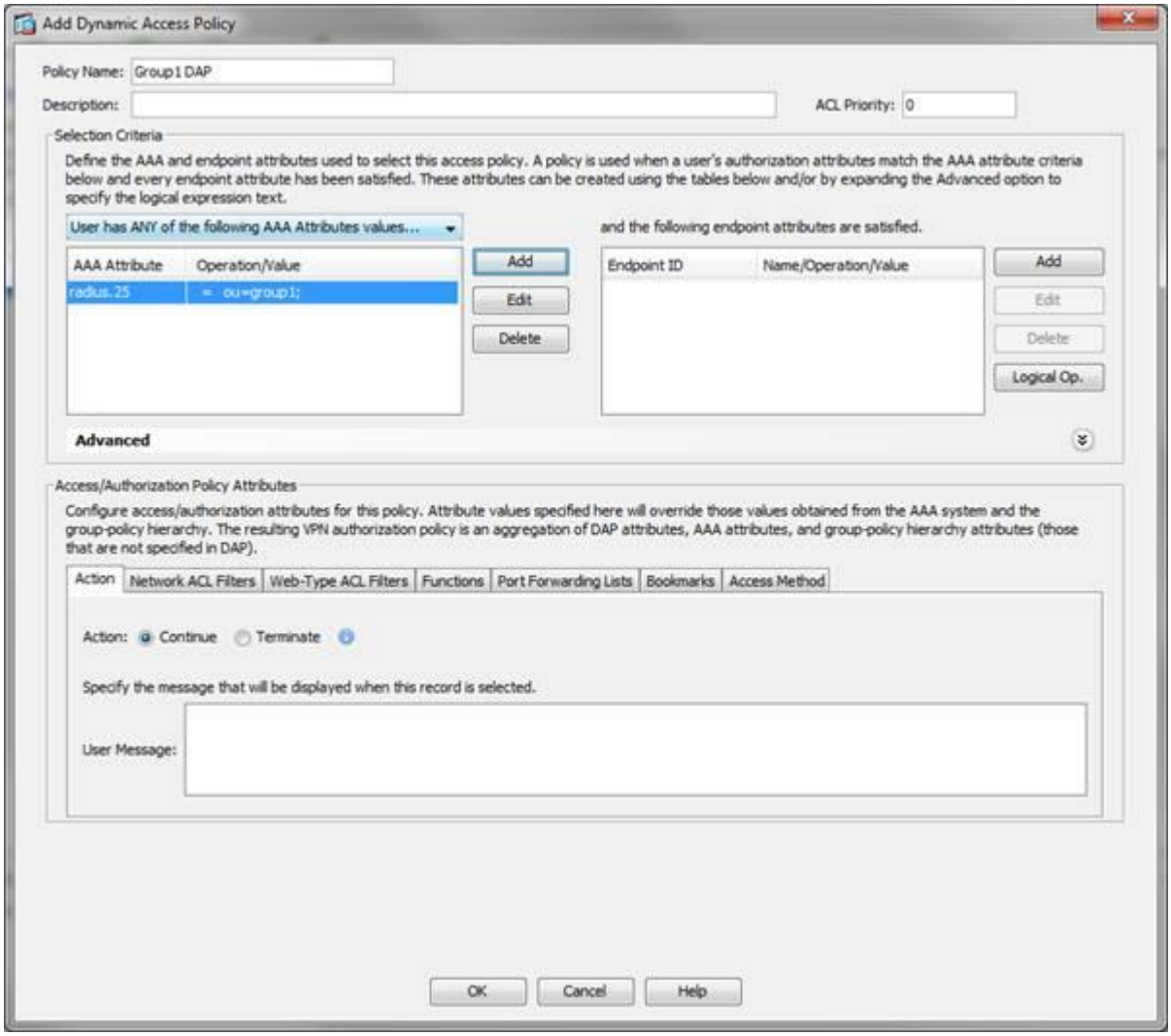
Please note that the separator is a semikolon

Setup Group policies in ASA to match the groups



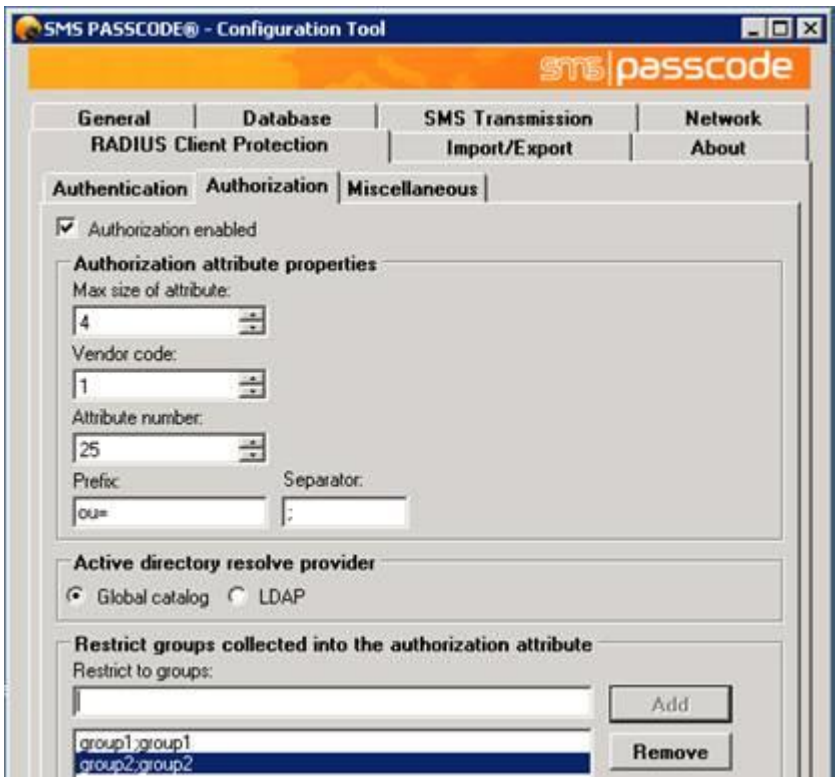
And set up the pool to use the wanted address pools:




Add Dynamic Access Policy
Policy Name: Group1 DAP
Description:
ACL Priority: 0
Selection Criteria
Define the AAA and endpoint attributes used to select this access policy. A policy is used when a user's authorization attributes match the AAA attribute criteria below and every endpoint attribute has been satisfied. These attributes can be created using the tables below and/or by expanding the Advanced option to specify the logical expression text.
User has ANY of the following AAA Attributes values...
and the following endpoint attributes are satisfied.
AAA Attribute
Operation/Value
radius.25
= ou=group1;
Add
Edit
Delete
Endpoint ID
Name/Operation/Value
Add
Edit
Delete
Logical Op.
Advanced
Access/Authorization Policy Attributes
Configure access/authorization attributes for this policy. Attribute values specified here will override those values obtained from the AAA system and the group-policy hierarchy. The resulting VPN authorization policy is an aggregation of DAP attributes, AAA attributes, and group-policy hierarchy attributes (those that are not specified in DAP).
Action
Network ACL Filters
Web-Type ACL Filters
Functions
Port Forwarding Lists
Bookmarks
Access Method
Action: Continue Terminate
Specify the message that will be displayed when this record is selected.
User Message:
OK
Cancel
Help

(Radius.25 must have a value matching the attribute value from the radius server to be aware that the value is case sensitive also for group name)

To avoid problems with upper/lower case groups – it is possible to specify ADGroupname;ASAgroupname



Note; Group name in attribute is always lower case.

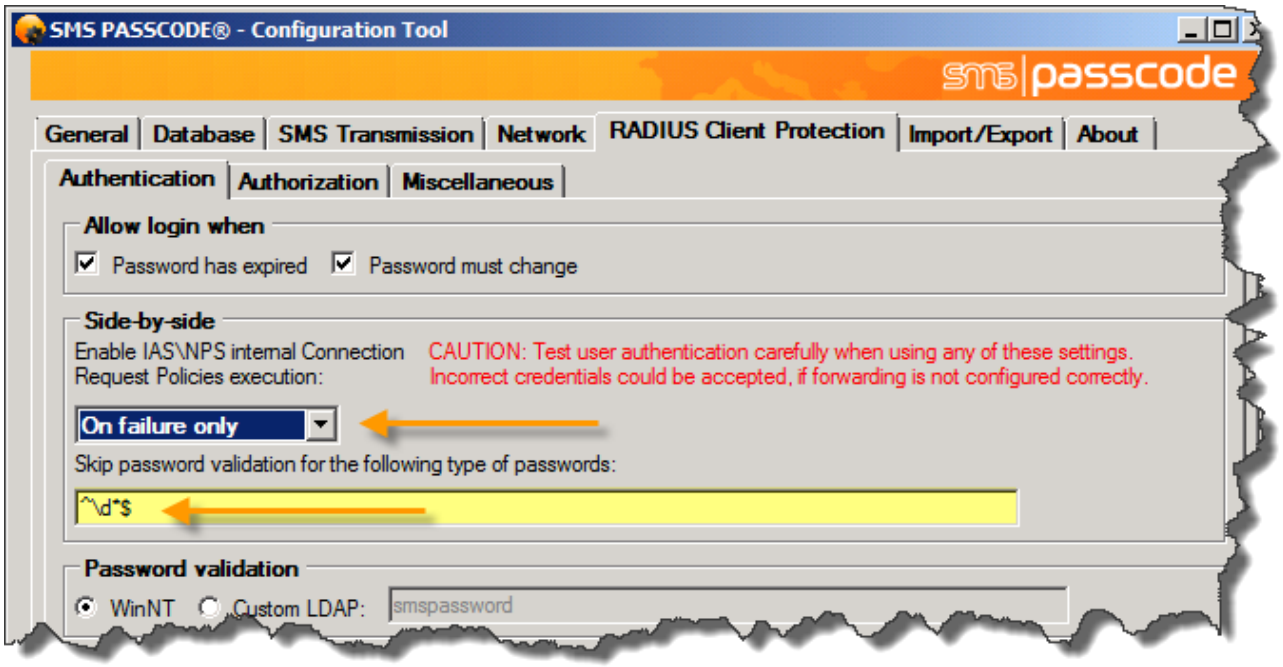
Configure SMS PASSCODE® for co-existence with a token solution like RSA®

You can make SMS PASSCODE® to co-exist with radius based token solutions. It is a pre-requisite that the SMS PASSCODCE radius server is configured with radius forwarding to the token solution's radius server.

The Cisco concentrator sends the requests for both SMS PASSCODE® and the Token solution to the SMS PASSCODE® radius server. The SMS PASSCODE® radius server will then forward the Token solution's request to the token solutions radius server.

In the SMS PASSCODE® configuration tool you specify the side-by-side as “On failure only”. Optional you can in the SMS PASSCODE® configuration tool set a regular expression that denies the token code. This will save you from a request to the AD. In example this expression for numbers: ^\d*$

See screenshot for example.



To read more about the advanced Radius configurations in SMS PASSCODE please refer to SMS PASSCODE administrators guide.

About SMS PASSCODE®

SMS PASSCODE is the leading technology in two- and multi-factor authentication using your mobile phone. To protect against the rise in internet based identity theft hitting both consumers and corporate employees, SMS PASSCODE offers a stronger authentication via the mobile phone SMS service compared to traditional alternatives. SMS PASSCODE installs in minutes and is much easier to implement and administer with the added benefit that users find it an intuitively smart way to gain better protection. The solution offers out-of-the-box protection of standard login systems such as Citrix, Cisco, Microsoft, VMware View, Juniper and other IPsec and SSL VPN systems as well as web sites. Installed at thousands of sites, this is a proven patent pending technology. In the last years, SMS PASSCODE has been named to the Gartner Group Magic Quadrant on User Authentication, awarded twice to the prestigious Red Herring 100 most interesting tech companies list, a Secure Computing Magazine Top 5 Security Innovator, InfoSecurity Guide Best two-factor authentication, a Citrix Solution of the Year Finalist, White Bull top 30 EMEA companies, a Gazelle 2010, 2011, 2012 and 2013 Fast Growth firm and a ComOn most promising IT company Award. For more information visit: www.smspasscode.com or our blog at blog.smspasscode.com.