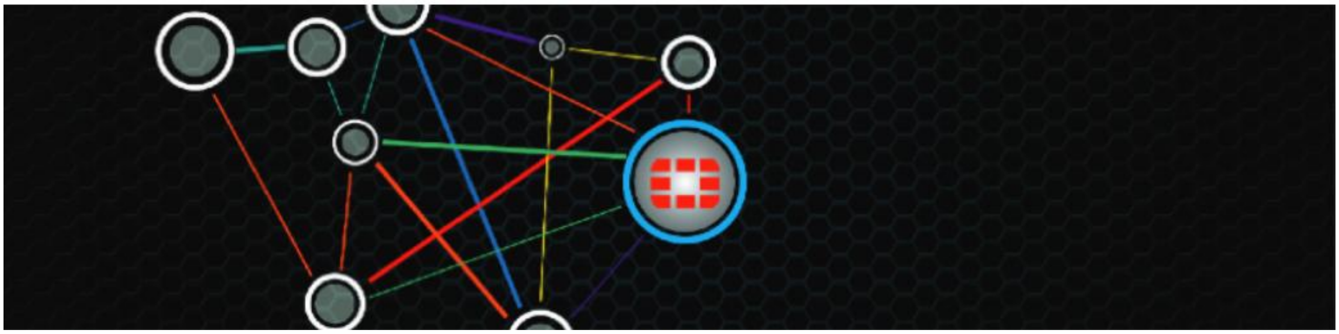
FORTINET

Solution Guide



Fortinet Solutions RSSO (RADIUS Single Sign On)

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Contents

Change Log

Revision	Date	Change Description	Owner
1	2014-07-21	Initial Release	David Oliver

Introduction

FortiGate and FortiAuthenticator support the use of RADIUS Start, Stop, and Interim Update messages to authenticate and manage active users transparently. Carriers often use RADIUS servers tied into backend billing systems to record usage information. Enterprises often use RADIUS servers to authenticate VPN connections.

In both cases, the entities in question may want to provide UTM functions or other traffic restrictions to this traffic without having the user re-enter their credentials. Fortinet RSSO solutions can assist in deploying these solutions.

Deployment Considerations

The following are important aspects that need to be considered prior to using RSSO:

- RADIUS environment needs to be configured to send accounting records. How to configure every possible RADIUS server is beyond the scope of this document.
- For direct to Fortigate RSSO, RADIUS server needs to be configured with appropriate group names and users added to them.
- For RADIUS to FAC to FSSO, Your LDAP Directory needs to be configured with appropriate group names and users added to them.
- It is no longer necessary to import or utilize the Fortinet VSA dictionary

  We use the following default RADIUS attributes in Fortigate
  User-Name (the username that logged in)
  Class (use this for the group name)
  Framed-IP-Address (the ip the user logged in from)

  We use the following default RADIUS attributes in FortiAuthenticator
  User-Name (the username that logged in)
  Framed-IP-Address (the ip the user logged in from)
  Fortinet-Group-Name (use this for the group name.)
  {Group attribute is not entirely necessary as FAC will figure it out by querying the LDAP directory}

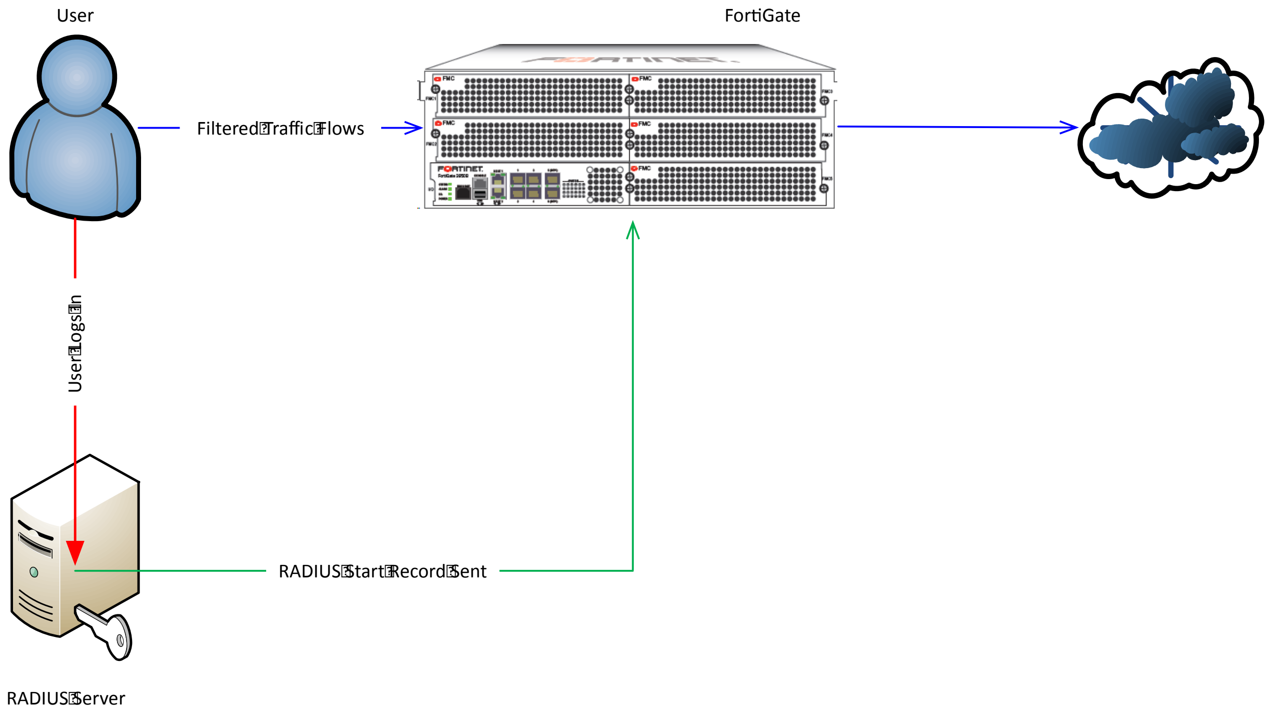
Requirements

FortiOS 5.0.6.This configuration example uses FortiOS 5.0.6 and FortiAuthenticator 3.0.1.
Creation of RADIUS Accounting Records was performed using NTRADping.

RADIUS Accounting Direct to Fortigate (Fortigate RSSO)

FortiOS supports the use of RADIUS Start, Stop, and Interim Update messages to authenticate and manage active users transparently. Configuration of the Fortigate to receive and utilize these records is quite straight forward.

Diagram



Steps and related CLI / Configuration Example

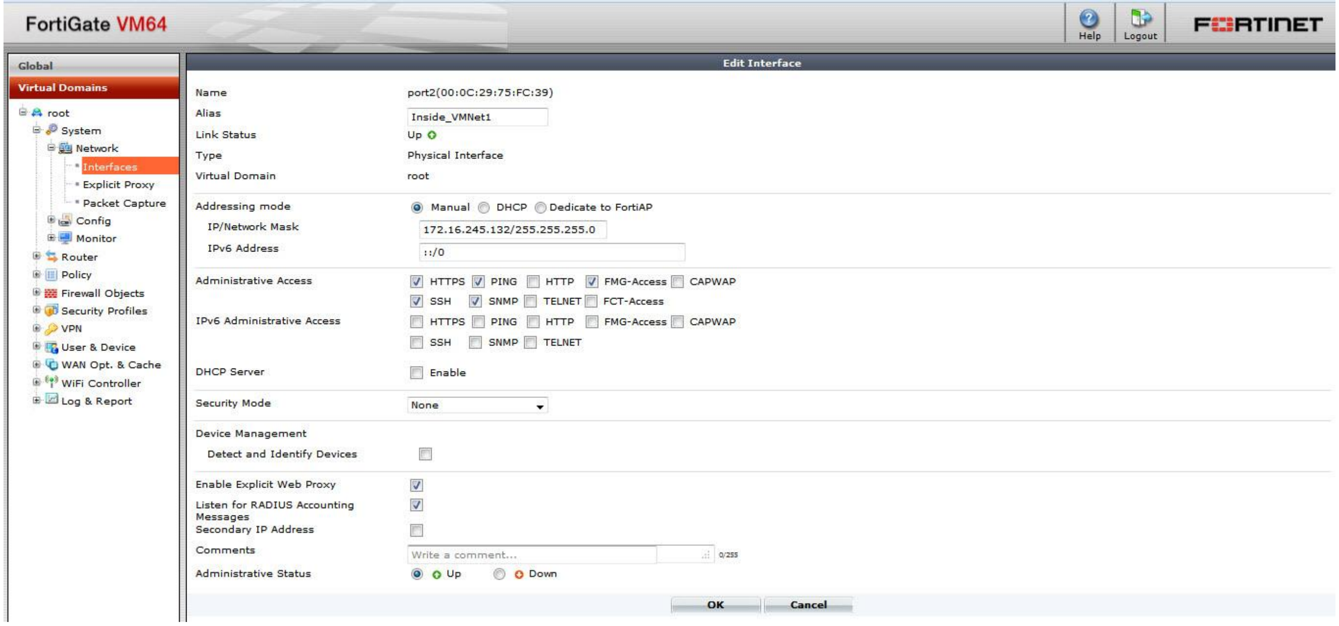
Step 1 – Configure Interface to receive RADIUS Accounting Records

It is required that at least one interface that can be reached by the RADIUS Server is configured to listen for RADIUS Accounting messages.

Figure 1 – Configure interface CLI.

```
edit "port4"
    set vdom "root"
    set ip 10.2.2.254 255.255.255.0
    set allowaccess ping radius-acct
    set type physical
    set explicit-web-proxy enable
    set alias "VMNet4"
    set snmp-index 4
next
```

Figure 2 – Configure interface GUI.



Name	port2(00:0C:29:75:FC:39)
Alias	Inside_VMNet1
Link Status	Up
Type	Physical Interface
Virtual Domain	root
Addressing mode	● Manual ○ DHCP ○ Dedicate to FortiAP
IP/Network Mask	172.16.245.132/255.255.255.0
IPv6 Address	::/0
Administrative Access	☑ HTTPS ☑ PING □ HTTP ☑ FMG-Access □ CAPWAP ☑ SSH ☑ SNMP □ TELNET □ FCT-Access
IPv6 Administrative Access	□ HTTPS □ PING □ HTTP □ FMG-Access □ CAPWAP □ SSH □ SNMP □ TELNET
DHCP Server	□ Enable
Security Mode	None
Device Management	
Detect and Identify Devices	□
Enable Explicit Web Proxy	☑
Listen for RADIUS Accounting Messages	☑
Secondary IP Address	□
Comments	Write a comment... 0/255
Administrative Status	● Up ○ Down

Step 2 – Configure RSSO Agent

Only one RSSO agent is configurable per VDOM. Since the RSSO agent can receive records from any RADIUS server configured to send records to it, more than one is not required to receive from multiple RADIUS servers.

The RADIUS server must be configured to send the following Attributes in the Accounting Start, Accounting Stop and Interim Update messages

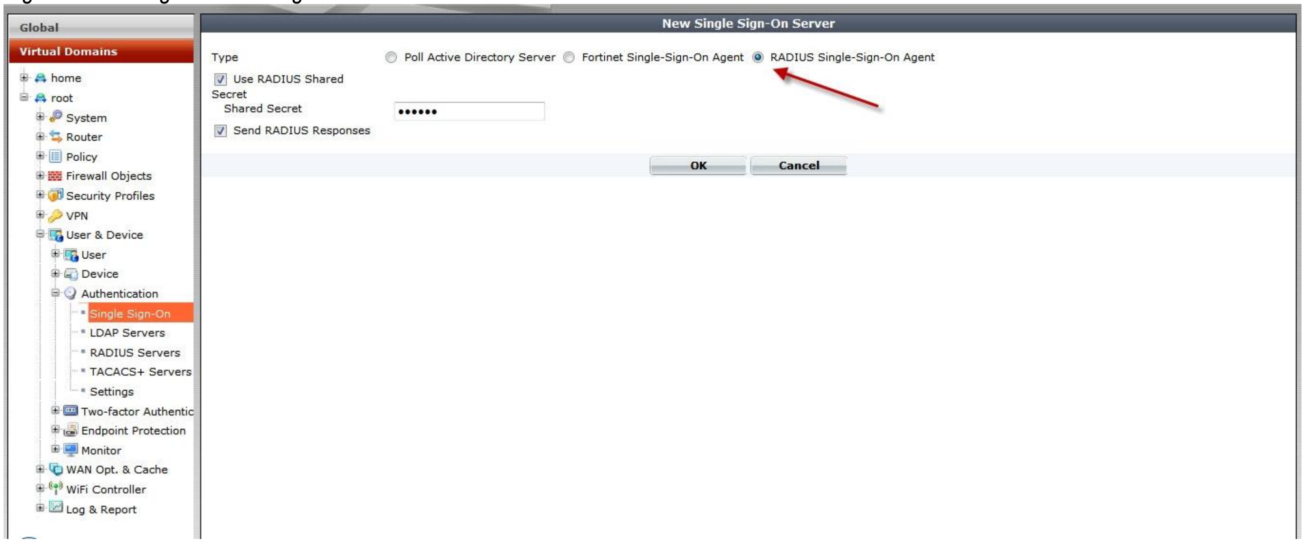
User-Name (the username that logged in)
Class (The Fortigate uses this to determine the User Group name, Can be any attribute of type octetstring but "sso-attribute" must be set to whatever value you choose.)
Framed-IP-Address (the ip the user logged in from)

These are standard RADIUS Attributes so the use of the Fortinet VSA Dictionary is not necessary

Figure 3 – Configure RSSO Agent CLI.

```
config user radius
    edit "RSSO_Agent"
        set rsso enable
        set rsso-radius-response enable
        set rsso-endpoint-attribute User-Name
    next
end
```

Figure 4 – Configure RSSO Agent GUI.



New Single Sign-On Server

Type ○ Poll Active Directory Server ○ Fortinet Single-Sign-On Agent ● RADIUS Single-Sign-On Agent

☑ Use RADIUS Shared Secret

Shared Secret ••••••

☑ Send RADIUS Responses

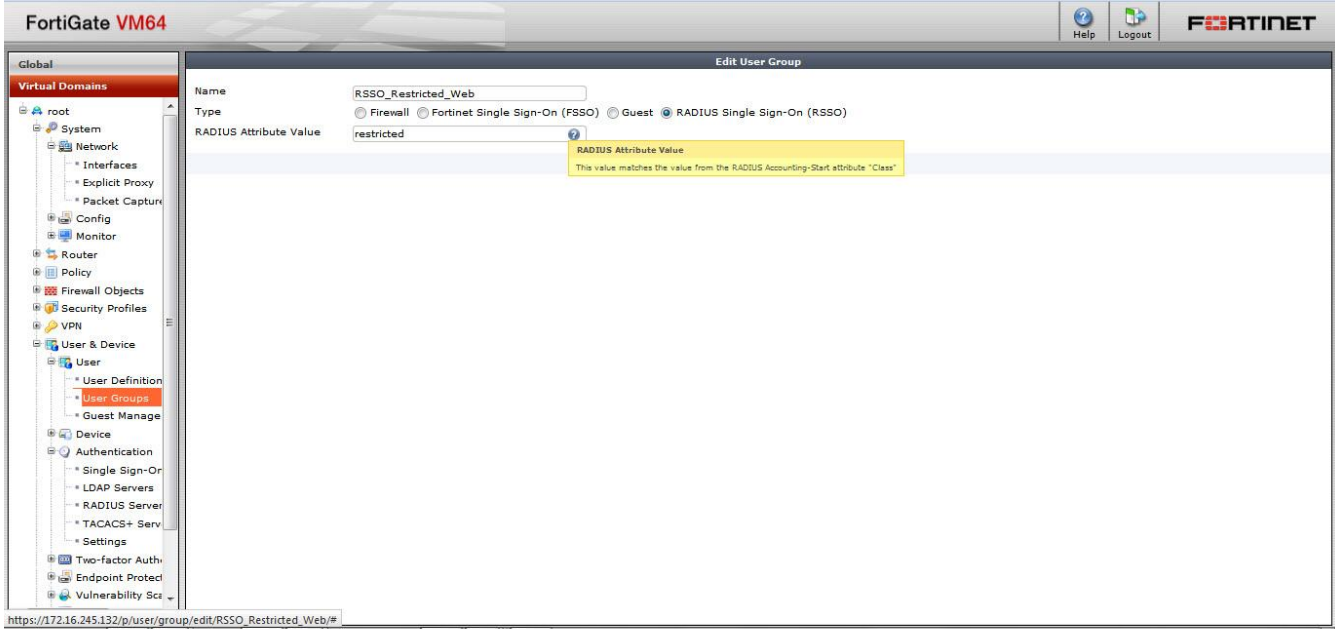
Step 3 – Create User Groups

You will need to create User Groups for each class of user you want to authenticate. The RADIUS Attribute value is configured to match the Accounting Record value in the Attribute [Class].

Figure 5 – Create User Groups CLI

```
config user group
    edit "RSSO_Restricted_Web"
        set group-type rsso
        set sso-attribute-value "restricted"
    next
    edit "RSSO_Unrestricted_Web"
        set group-type rsso
        set sso-attribute-value "unrestricted"
    next
end
```

Figure 6 – Create User Groups GUI



Edit User Group

Name: RSSO_Restricted_Web

Type: ○ Firewall ○ Fortinet Single Sign-On (FSSO) ○ Guest ● RADIUS Single Sign-On (RSSO)

RADIUS Attribute Value: restricted

RADIUS Attribute Value

This value matches the value from the RADIUS Accounting-Start attribute "Class"

Step 4 – Configure Content Filter (if needed)

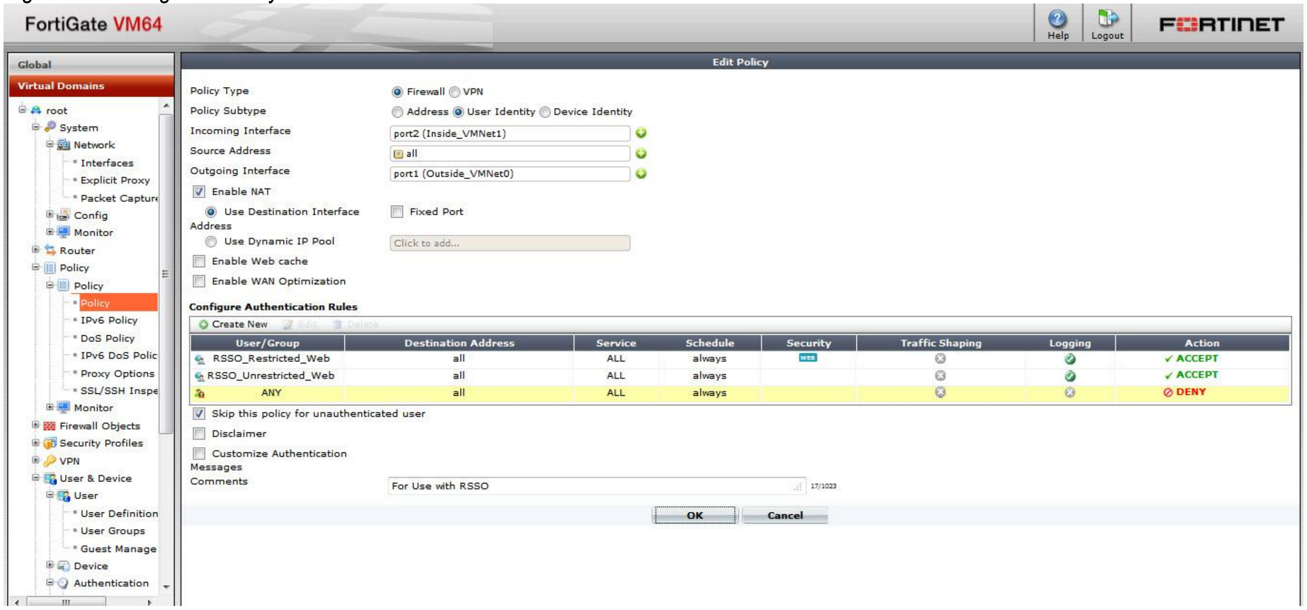
Refer to http://docs.fortinet.com for information on how to configure a content filter profile.

Step 5 – Configure Identity Based Firewall Policies

Figure 7 – Configure Identity Based Firewall Policies CLI

```
config firewall policy
    edit 1
        set srcintf "port2"
        set dstintf "port1"
        set srcaddr "all"
        set action accept
        set rsso enable
        set fall-through-unauthenticated enable
        set comments "For Use with RSSO"
        set identity-based enable
        set nat enable
            config identity-based-policy
                edit 1
                    set schedule "always"
                    set logtraffic all
                    set utm-status enable
                    set groups "RSSO_Restricted_Web"
                    set dstaddr "all"
                    set service "ALL"
                    set webfilter-profile "restricted"
                    set profile-protocol-options "default"
                next
                edit 2
                    set schedule "always"
                    set logtraffic all
                    set groups "RSSO_Unrestricted_Web"
                    set dstaddr "all"
                    set service "ALL"
                next
            end
    next
```

Figure 8 – Configure Identity Based Firewall Policies GUI



Policy Type ● Firewall ○ VPN

Policy Subtype ○ Address ● User Identity ○ Device Identity

Incoming Interface port2 (Inside_VMNet1)

Source Address all

Outgoing Interface port1 (Outside_VMNet0)

☑ Enable NAT

● Use Destination Interface Address □ Fixed Port

○ Use Dynamic IP Pool Click to add...

□ Enable Web cache

□ Enable WAN Optimization

Configure Authentication Rules

Create New Edit Delete

User/Group	Destination Address	Service	Schedule	Security	Traffic Shaping	Logging	Action
RSSO_Restricted_Web	all	ALL	always	WEB	⊗	✓	✓ ACCEPT
RSSO_Unrestricted_Web	all	ALL	always		⊗	✓	✓ ACCEPT
ANY	all	ALL	always		⊗	⊗	⊘ DENY

☑ Skip this policy for unauthenticated user

□ Disclaimer

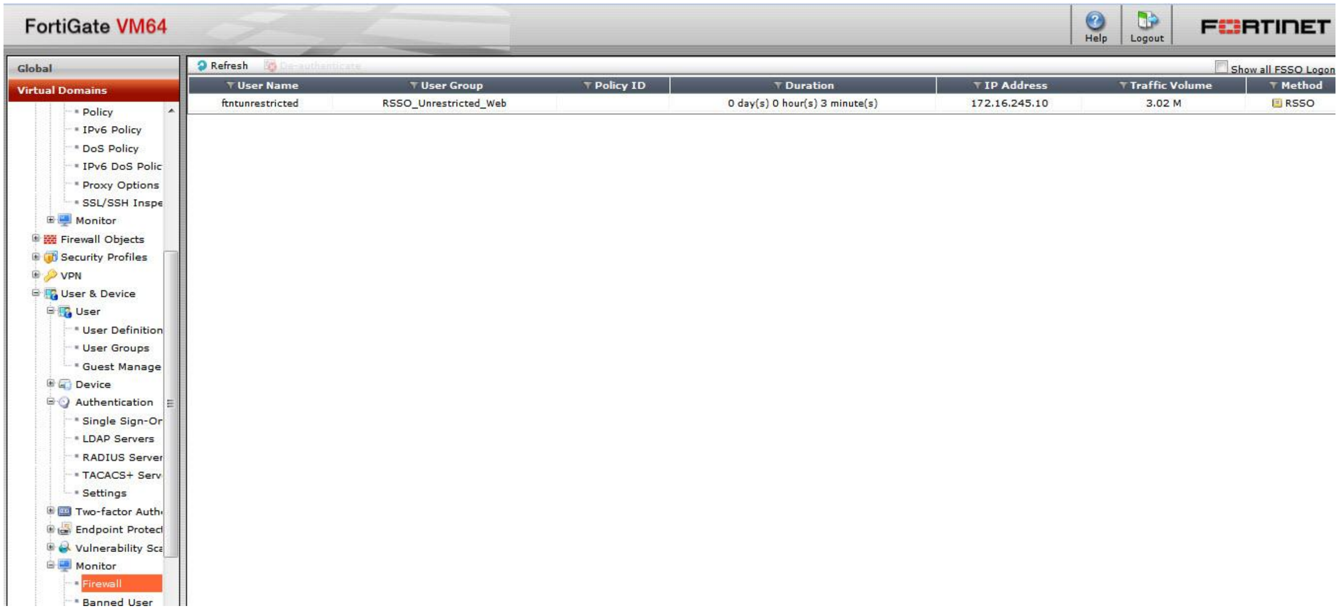
□ Customize Authentication Messages

Comments For Use with RSSO 17/1023

OK Cancel

Monitoring and Troubleshooting Examples

Figure 9 – Monitor Logged in Users GUI



□ Show all FSSO Logon

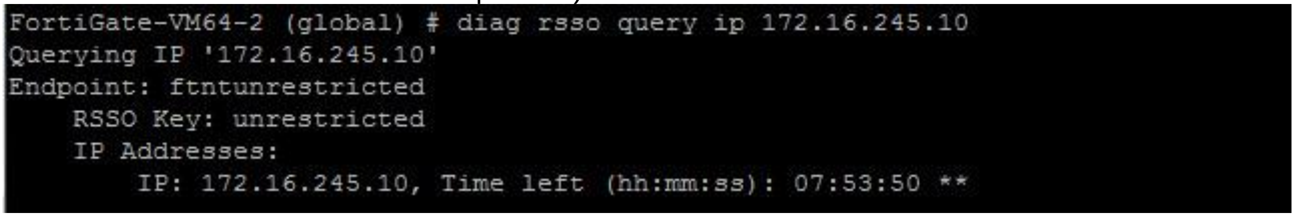
User Name	User Group	Policy ID	Duration	IP Address	Traffic Volume	Method
ftntunrestricted	RSSO_Unrestricted_Web		0 day(s) 0 hour(s) 3 minute(s)	172.16.245.10	3.02 M	RSSO

You CANNOT deauthenticate a user via the GUI. It can only be done via CLI via the command “diag radiusd test 2”. This however will clear the RADIUSD database of all RSSO users. To clear an individual user requires sending an Accounting Stop record for that user.

There are several commands in the CLI to monitor and query logged on users.

Figure 9 – Query Logged in Users CLI

```
diag rsso query
      allows you to query the rsso database by
            carrier-endpoint    Query by End Point. (this is the equivalent of the User-name)
            ip                  Query by IP address.(this is the Framed-IP address(es). This should be the
                                host ip address
            rsso-key            Query by RSSO key. (this is the Class Attribute and relates to the Fortigate
                                User Group name).
```

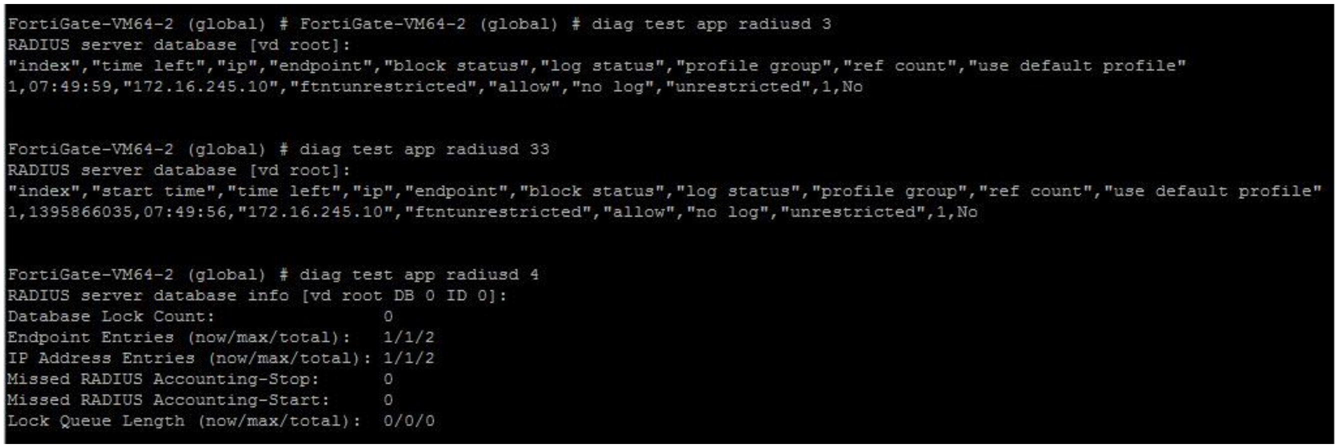


```
FortiGate-VM64-2 (global) # diag rsso query ip 172.16.245.10
Querying IP '172.16.245.10'
Endpoint: ftntunrestricted
    RSSO Key: unrestricted
    IP Addresses:
        IP: 172.16.245.10, Time left (hh:mm:ss): 07:53:50 **
```

It is useful when you want to quickly look up who is at an IP, or list all the users in a specific Class (User Group) that are logged on.

Figure 10 – Query Logged in Users CLI and clear database

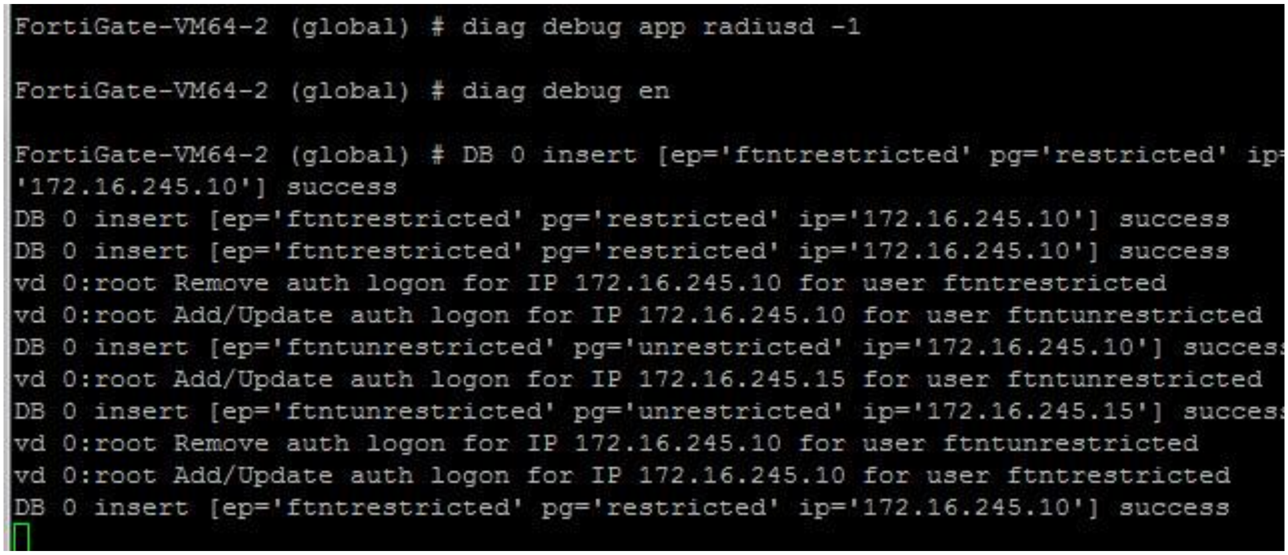
```
diag test app radiusd
     allows you to query or clear the entire RADIUSD database
            Radius Daemon Test Usage:
            -=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-
              2 : Clear RADIUS server database
              3 : Show RADIUS server database
             33 : Show RADIUS server database (with start time)
              4 : Show RADIUS server database info
              9 : Check HA context table checksums
             11 : Show HA sync connection status
             20 : Show RADIUS server configuration cache
             21 : Show RADIUS server interface configuration cache
             99 : Restart
```



```
FortiGate-VM64-2 (global) # FortiGate-VM64-2 (global) # diag test app radiusd 3
RADIUS server database [vd root]:
"index","time left","ip","endpoint","block status","log status","profile group","ref count","use default profile"
1,07:49:59,"172.16.245.10","ftntunrestricted","allow","no log","unrestricted",1,No


FortiGate-VM64-2 (global) # diag test app radiusd 33
RADIUS server database [vd root]:
"index","start time","time left","ip","endpoint","block status","log status","profile group","ref count","use default profile"
1,1395866035,07:49:56,"172.16.245.10","ftntunrestricted","allow","no log","unrestricted",1,No


FortiGate-VM64-2 (global) # diag test app radiusd 4
RADIUS server database info [vd root DB 0 ID 0]:
Database Lock Count:              0
Endpoint Entries (now/max/total):   1/1/2
IP Address Entries (now/max/total): 1/1/2
Missed RADIUS Accounting-Stop:      0
Missed RADIUS Accounting-Start:     0
Lock Queue Length (now/max/total):  0/0/0
```

Figure 11 – debug RADIUSD events as the occur

diag debug enable
diag debug app radiusd -1
    allows you to debug RADIUSD events as they occur



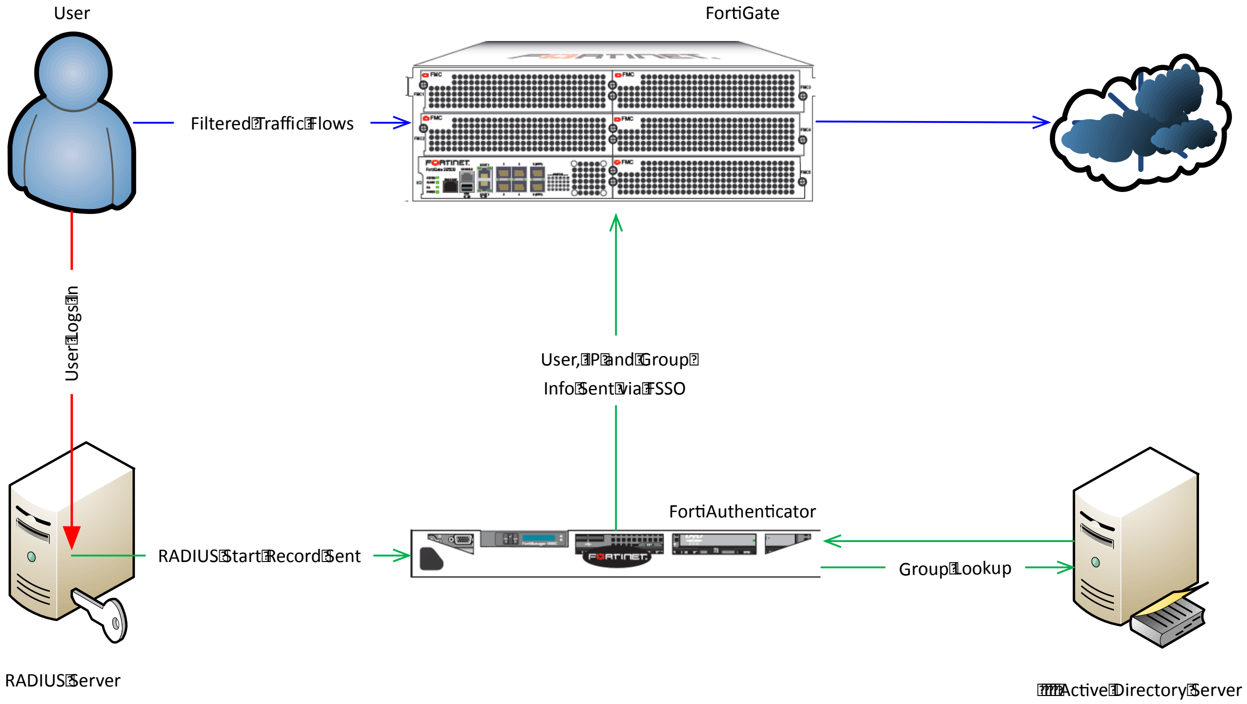
```
FortiGate-VM64-2 (global) # diag debug app radiusd -1

FortiGate-VM64-2 (global) # diag debug en

FortiGate-VM64-2 (global) # DB 0 insert [ep='ftntrestricted' pg='restricted' ip=
'172.16.245.10'] success
DB 0 insert [ep='ftntrestricted' pg='restricted' ip='172.16.245.10'] success
DB 0 insert [ep='ftntrestricted' pg='restricted' ip='172.16.245.10'] success
vd 0:root Remove auth logon for IP 172.16.245.10 for user ftntrestricted
vd 0:root Add/Update auth logon for IP 172.16.245.10 for user ftntunrestricted
DB 0 insert [ep='ftntunrestricted' pg='unrestricted' ip='172.16.245.10'] succes
vd 0:root Add/Update auth logon for IP 172.16.245.15 for user ftntunrestricted
DB 0 insert [ep='ftntunrestricted' pg='unrestricted' ip='172.16.245.15'] succes
vd 0:root Remove auth logon for IP 172.16.245.10 for user ftntunrestricted
vd 0:root Add/Update auth logon for IP 172.16.245.10 for user ftntrestricted
DB 0 insert [ep='ftntrestricted' pg='restricted' ip='172.16.245.10'] success
```

RADIUS Accounting via FortiAuthenticator to Fortigate (FortiAuthenticator RSSO to FSSO)

FortiAuthenticator supports the use of RADIUS Start, Stop, and Interim Update messages to authenticate and manage active users transparently. It receives RADIUS accounting messages, Performs lookups against the LDAP server for Group Membership and then populates its FSSO cache with the correct information. This is then sent to the Fortigate as an FSSO login.

This is useful when Group membership information is handled by Active Directory or the RADIUS server is business-critical IT infrastructure, limiting the changes that can be made to the server configuration.

Diagram



FortiAuthenticator Steps and related CLI / Configuration Example

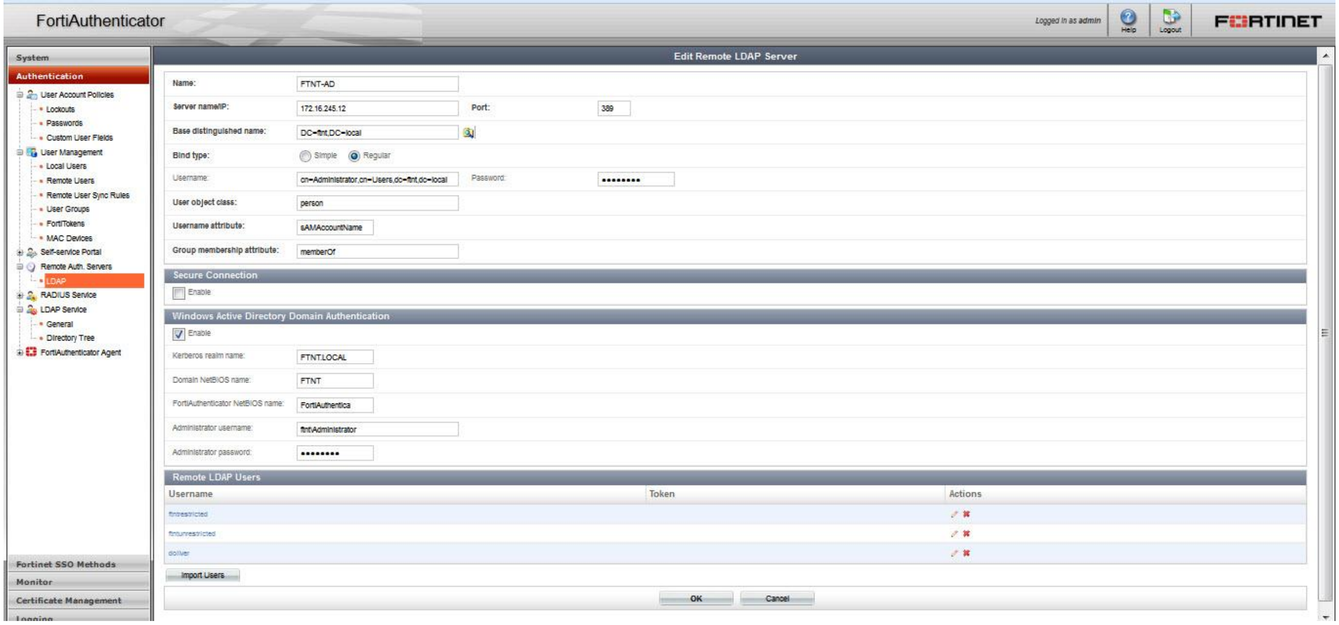
Step 1 – Configure FortiAuthenticator as an FSSO Collector Agent

FSSO must already be configured between the FortiAuthenticator and the Fortigate(s)

For information on how to configure FortiAuthenticator for FSSO see
http://docs-legacy.fortinet.com/auth/3-0-0/FAC-3.0-Admin-Guide.pdf

Step 2 – Configure remote LDAP server

Figure 11 – Configure Remote Auth Server



Edit Remote LDAP Server

Name: FTNT-AD

Server name/IP: 172.16.245.12 Port: 389

Base distinguished name: DC=ftnt,DC=local

Bind type: ○ Simple ● Regular

Username: cn=Administrator,cn=Users,dc=ftnt,dc=local Password: ••••••••

User object class: person

Username attribute: sAMAccountName

Group membership attribute: memberOf

Secure Connection

□ Enable

Windows Active Directory Domain Authentication

☑ Enable

Kerberos realm name: FTNT.LOCAL

Domain NetBIOS name: FTNT

FortiAuthenticator NetBIOS name: FortiAuthentica

Administrator username: ftnt\Administrator

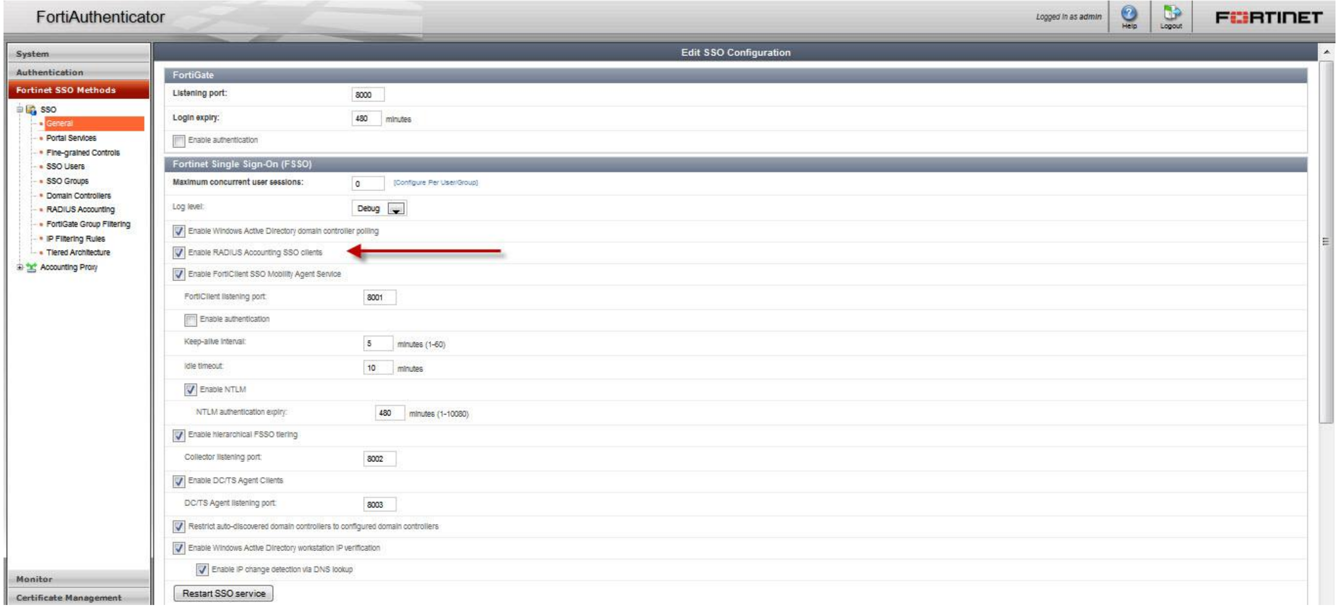
Administrator password: ••••••••

Remote LDAP Users

Username	Token	Actions
ftntrestricted		✎ ✖
ftntunrestricted		✎ ✖
doliver		✎ ✖

Step 3 – Enable FSSO and RADIUS accounting SSO Clients

Figure 12 – Enable RADIUS accounting SSO Clients



Edit SSO Configuration

FortiGate

Listening port: 8000

Login expiry: 480 minutes

□ Enable authentication

Fortinet Single Sign-On (FSSO)

Maximum concurrent user sessions: 0 [Configure Per User/Group]

Log level: Debug

☑ Enable Windows Active Directory domain controller polling

☑ Enable RADIUS Accounting SSO clients

☑ Enable FortiClient SSO Mobility Agent Service

FortiClient listening port: 8001

□ Enable authentication

Keep-alive interval: 5 minutes (1-60)

Idle timeout: 10 minutes

☑ Enable NTLM

NTLM authentication expiry: 480 minutes (1-10080)

☑ Enable hierarchical FSSO tiering

Collector listening port: 8002

☑ Enable DC/TS Agent Clients

DC/TS Agent listening port: 8003

☑ Restrict auto-discovered domain controllers to configured domain controllers

☑ Enable Windows Active Directory workstation IP verification

☑ Enable IP change detection via DNS lookup

Restart SSO service

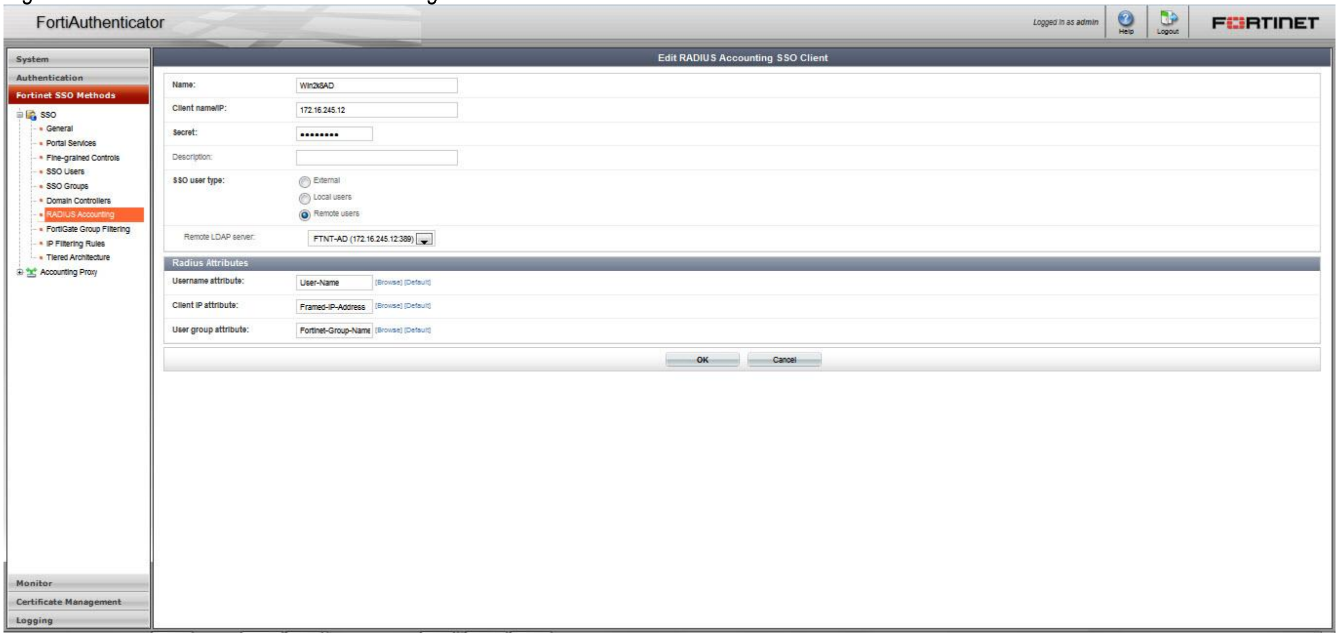
Step 4 – Configure RADIUS Accounting SSO Client

LDAP server must be selected from the drop-down list.
RADIUS Attributes
Username Attribute (default User-Name)
Client IP attribute   (default Framed-IP-Address)
are required. I recommend leaving at the defaults.

User group attribute is not required.

The LDAP server created earlier must be selected from the drop-down list as this is how the FortiAuthenticator establishes group membership.

Figure 13 – Create New RADIUS Accounting SSO Client



Edit RADIUS Accounting SSO Client

Name: Win2k8AD

Client name/IP: 172.16.245.12

Secret: ••••••••

Description:

SSO user type: ○ External ○ Local users ● Remote users

Remote LDAP server: FTNT-AD (172.16.245.12:389)

Radius Attributes

Username attribute: User-Name

Client IP attribute: Framed-IP-Address

User group attribute: Fortinet-Group-Name

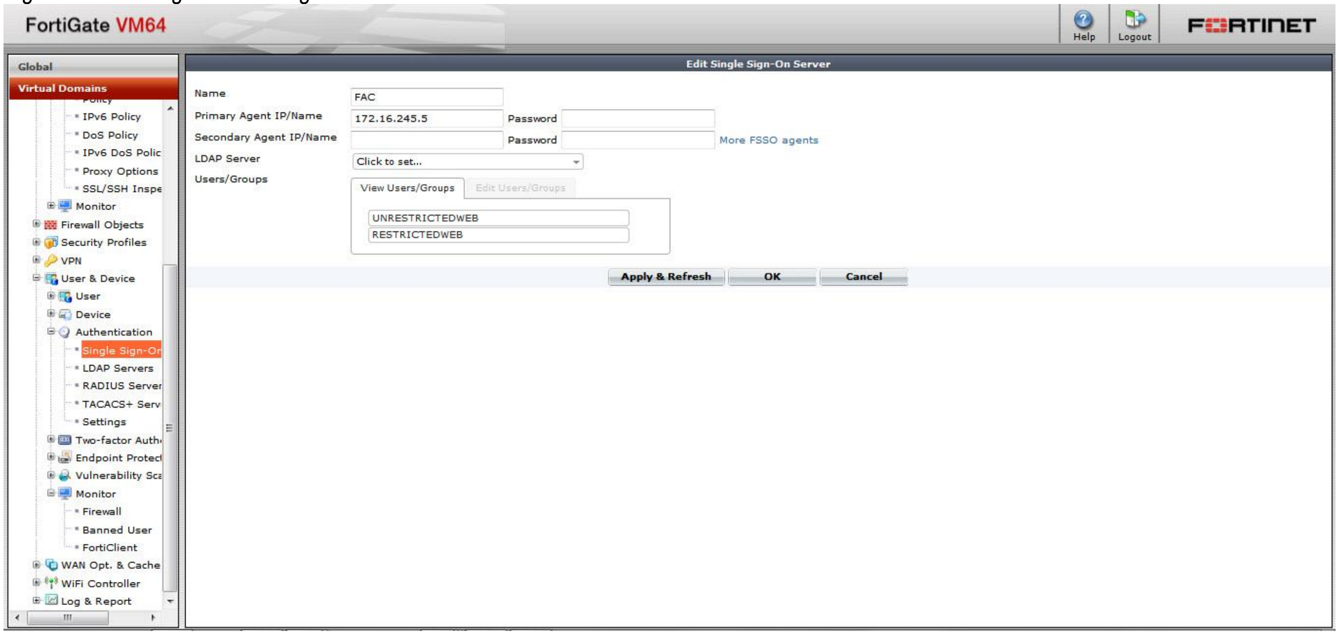
FortiGate Steps and related CLI / Configuration Example

Step 1 – Configure FortiAuthenticator as an FSSO collector agent

Figure 14 – Configure FSSO agent CLI

```
config user fsso
    edit "FAC"
        set server "172.16.245.5"
    next
end
```

Figure 15 – Configure FSSO agent GUI



Edit Single Sign-On Server

Name: FAC

Primary Agent IP/Name: 172.16.245.5 Password:

Secondary Agent IP/Name: Password: More FSSO agents

LDAP Server: Click to set...

Users/Groups: View Users/Groups | Edit Users/Groups

UNRESTRICTEDWEB
RESTRICTEDWEB

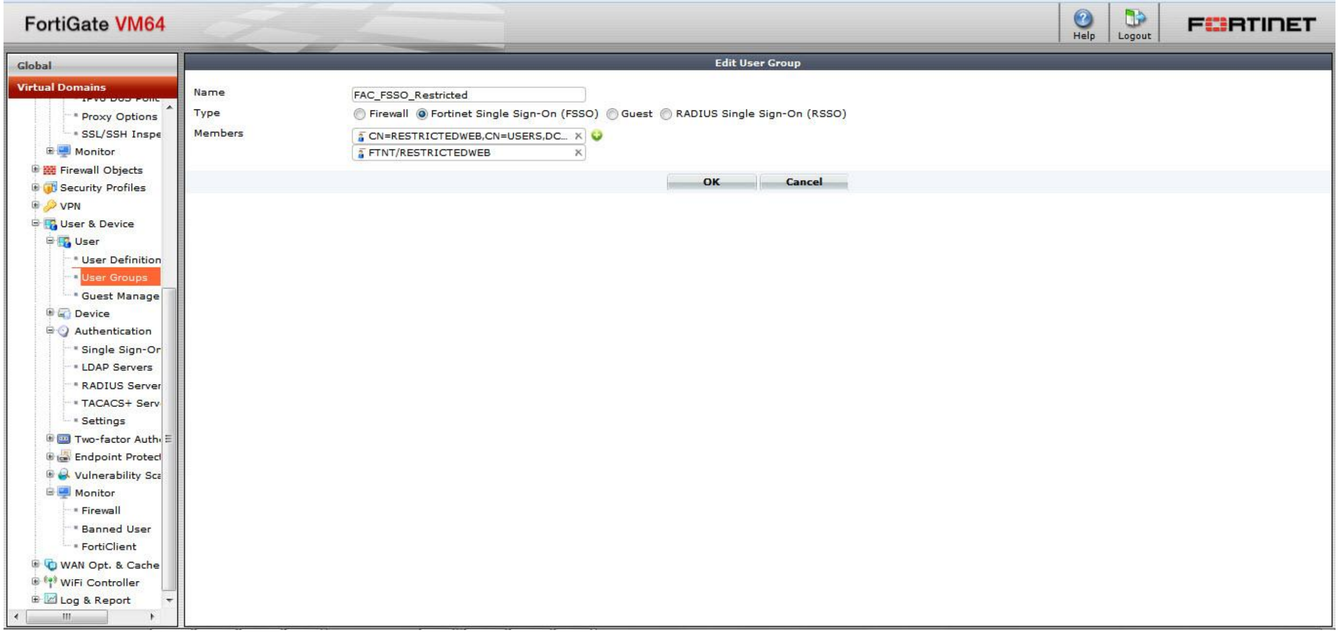
Make certain to select groups.

Step 2 – Configure FSSO User Groups

Figure 16 – Configure FSSO user groups CLI

```
config user group
    edit "FTNT_FSSO_RestrictedUsers"
        set group-type fsso-service
        set member "FTNT/RESTRICTEDWEB"
    next
    edit "FTNT_FSSO_UnRestrictedUsers"
        set group-type fsso-service
        set member "FTNT/UNRESTRICTEDWEB"
    next
end
```

Figure 17 – Configure FSSO user groups GUI



Name: FAC_FSSO_Restricted

Type: ○ Firewall ● Fortinet Single Sign-On (FSSO) ○ Guest ○ RADIUS Single Sign-On (RSSO)

Members: CN=RESTRICTEDWEB,CN=USERS,DC...
FTNT/RESTRICTEDWEB

Step 3 –Configure Content Filter (if needed)

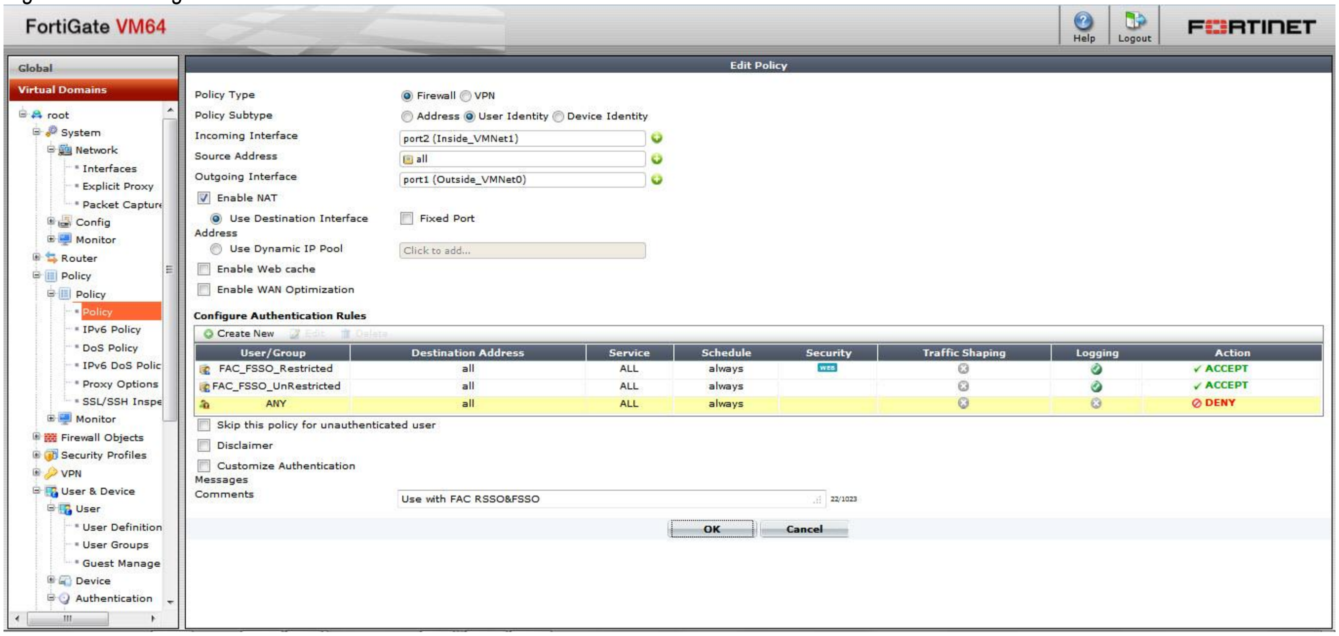
Refer to http://docs.fortinet.com for information on how to configure a content filter profile.

Step 4 – Configure Identity Based Firewall Policies

Figure 17 – Configure Firewall Policies CLI

```
config firewall policy
    edit 2
        set srcintf "port2"
        set dstintf "port1"
        set srcaddr "all"
        set action accept
        set status disable
        set fsso enable
        set comments "Use with FAC RSSO&FSSO"
        set identity-based enable
        set nat enable
            config identity-based-policy
                edit 1
                    set schedule "always"
                    set logtraffic all
                    set utm-status enable
                    set groups "FAC_FSSO_Restricted"
                    set dstaddr "all"
                    set service "ALL"
                    set webfilter-profile "restricted"
                    set profile-protocol-options "default"
                next
                edit 2
                    set schedule "always"
                    set logtraffic all
                    set groups "FAC_FSSO_UnRestricted"
                    set dstaddr "all"
                    set service "ALL"
                next
            end
    next
end
```

Figure 18 – Configure Firewall Policies GUI



Policy Type ● Firewall ○ VPN

Policy Subtype ○ Address ● User Identity ○ Device Identity

Incoming Interface: port2 (Inside_VMNet1)

Source Address: all

Outgoing Interface: port1 (Outside_VMNet0)

☑ Enable NAT

● Use Destination Interface Address ☐ Fixed Port

○ Use Dynamic IP Pool: Click to add...

☐ Enable Web cache

☐ Enable WAN Optimization

Configure Authentication Rules

Create New | Edit | Delete

User/Group	Destination Address	Service	Schedule	Security	Traffic Shaping	Logging	Action
FAC_FSSO_Restricted	all	ALL	always	WEB	⊗	✓	✓ ACCEPT
FAC_FSSO_UnRestricted	all	ALL	always		⊗	✓	✓ ACCEPT
ANY	all	ALL	always		⊗	⊗	⊘ DENY

☐ Skip this policy for unauthenticated user

☐ Disclaimer

☐ Customize Authentication Messages

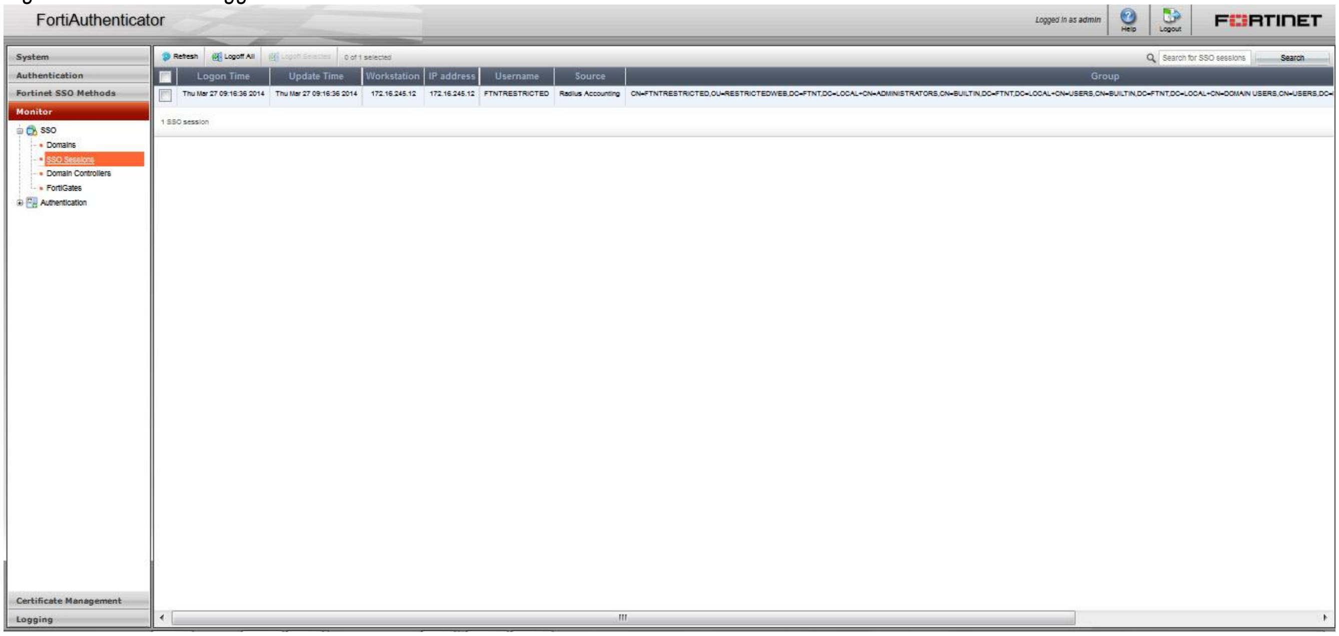
Comments: Use with FAC RSSO&FSSO 22/1023

OK Cancel

Monitoring and Troubleshooting Examples

There is little in the way of troubleshooting on the FortiAuthenticator. The Monitor/SSO Sessions is the only way to determine who is logged on from where.

Figure 19 – Monitor Logged on Users FortiAuthenticator



0 of 1 selected

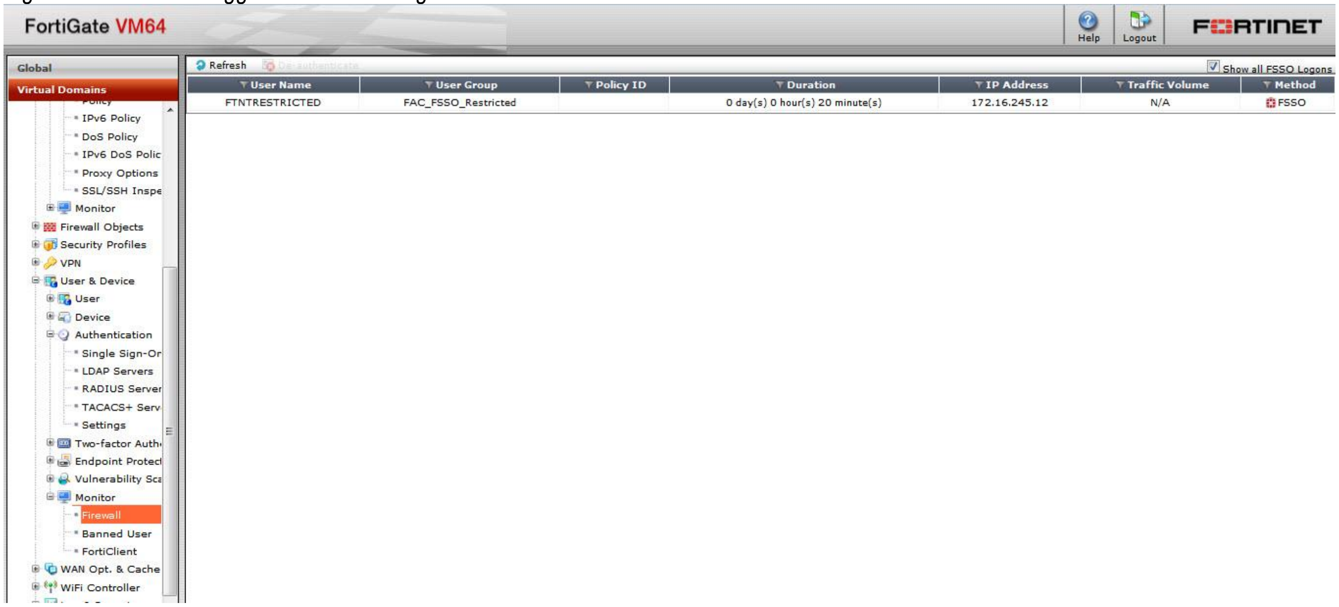
☐	Logon Time	Update Time	Workstation	IP address	Username	Source	Group
☐	Thu Mar 27 09:16:36 2014	Thu Mar 27 09:16:36 2014	172.16.245.12	172.16.245.12	FTNTRESTRICTED	Radius Accounting	CN=FTNTRESTRICTED,OU=RESTRICTEDWEB,DC=FTNT,DC=LOCAL+CN=ADMINISTRATORS,CN=BUILTIN,DC=FTNT,DC=LOCAL+CN=USERS,CN=BUILTIN,DC=FTNT,DC=LOCAL+CN=DOMAIN USERS,CN=USERS,DC=

1 SSO session

A single user can be deauthenticated on the FortiAuthenticator.

The Fortigate provides more troubleshooting tools for comprehensive debugging

Figure 20 – Monitor Logged on Users Fortigate GUI



User Name	User Group	Policy ID	Duration	IP Address	Traffic Volume	Method
FTNTRESTRICTED	FAC_FSSO_Restricted		0 day(s) 0 hour(s) 20 minute(s)	172.16.245.12	N/A	FSSO

You cannot deauthenticate an FSSO user from the Fortigate GUI.

Figure 21 – Monitor Logged on Users Fortigate CLI

diag debug authd fsso

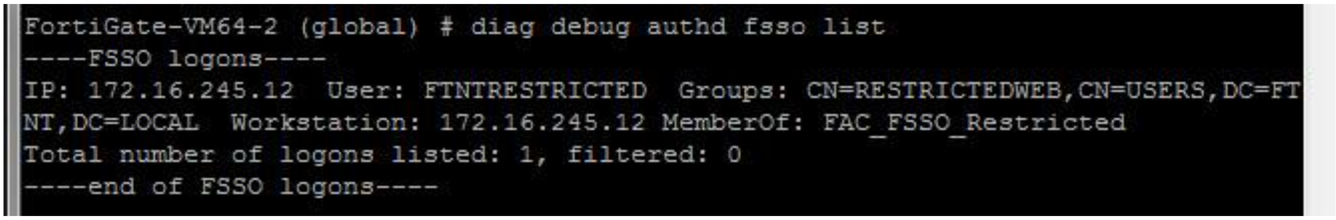
allows you to query, clear, list and provide comprehensive information about the status of FSSO sessions. It supports filtering which makes searching through thousands of potential logins quite simple.

```
FortiGate-VM64-2 (global) # diag debug authd fsso
clear-logons      Clear logon information.
filter            Filters used for list or clear logons.
list              List current logons.
refresh-groups    Refresh group mappings.
refresh-logons    Resync logon database.
server-status     Show FSSO agent connection status.
summary           Summary of current logons.
```

```
FortiGate-VM64-2 (global) # diag debug authd fsso filter
clear     Clear all filters.
group     Group name.
server    FSSO agent name.
source    Source IP address.
user      User name.
```

diag debug authd fsso list

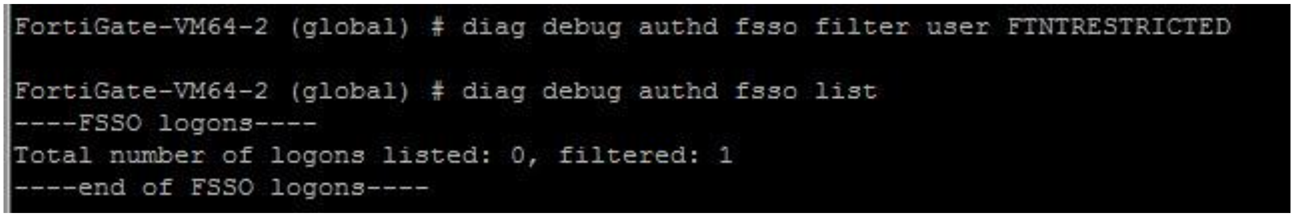
Unfiltered



```
FortiGate-VM64-2 (global) # diag debug authd fsso list
----FSSO logons----
IP: 172.16.245.12  User: FTNTRESTRICTED  Groups: CN=RESTRICTEDWEB,CN=USERS,DC=FT
NT,DC=LOCAL  Workstation: 172.16.245.12 MemberOf: FAC_FSSO_Restricted
Total number of logons listed: 1, filtered: 0
----end of FSSO logons----
```

diag debug authd fsso filter user FTNTUNRESTRICTED
diag debug authd fsso list

Filtered

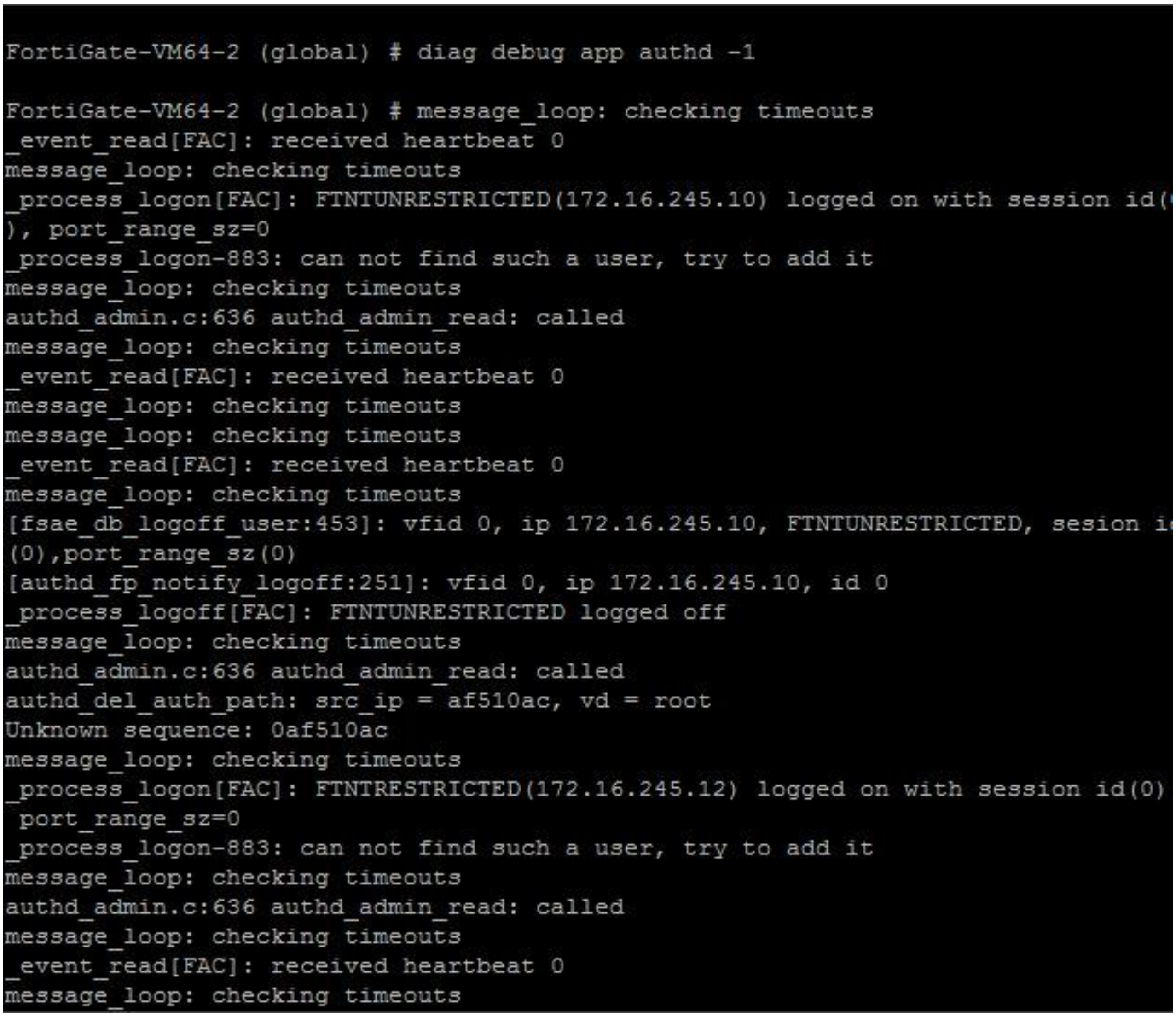


```
FortiGate-VM64-2 (global) # diag debug authd fsso filter user FTNTRESTRICTED

FortiGate-VM64-2 (global) # diag debug authd fsso list
----FSSO logons----
Total number of logons listed: 0, filtered: 1
----end of FSSO logons----
```

You can deauthenticate a single FSSO user from the CLI using
diag debug authd fsso filter user <username>
diag debug authd fsso clear

Figure 22 – debug AUTHD events as the occur

diag debug enable
diag debug app authd -1
    allows you to debug FSSO events as the occur



```
FortiGate-VM64-2 (global) # diag debug app authd -1

FortiGate-VM64-2 (global) # message_loop: checking timeouts
_event_read[FAC]: received heartbeat 0
message_loop: checking timeouts
_process_logon[FAC]: FTNTUNRESTRICTED(172.16.245.10) logged on with session id(
), port_range_sz=0
_process_logon-883: can not find such a user, try to add it
message_loop: checking timeouts
authd_admin.c:636 authd_admin_read: called
message_loop: checking timeouts
_event_read[FAC]: received heartbeat 0
message_loop: checking timeouts
message_loop: checking timeouts
_event_read[FAC]: received heartbeat 0
message_loop: checking timeouts
[fsae_db_logoff_user:453]: vfid 0, ip 172.16.245.10, FTNTUNRESTRICTED, sesion i
(0),port_range_sz(0)
[authd_fp_notify_logoff:251]: vfid 0, ip 172.16.245.10, id 0
_process_logoff[FAC]: FTNTUNRESTRICTED logged off
message_loop: checking timeouts
authd_admin.c:636 authd_admin_read: called
authd_del_auth_path: src_ip = af510ac, vd = root
Unknown sequence: 0af510ac
message_loop: checking timeouts
_process_logon[FAC]: FTNTRESTRICTED(172.16.245.12) logged on with session id(0)
 port_range_sz=0
_process_logon-883: can not find such a user, try to add it
message_loop: checking timeouts
authd_admin.c:636 authd_admin_read: called
message_loop: checking timeouts
_event_read[FAC]: received heartbeat 0
message_loop: checking timeouts
```

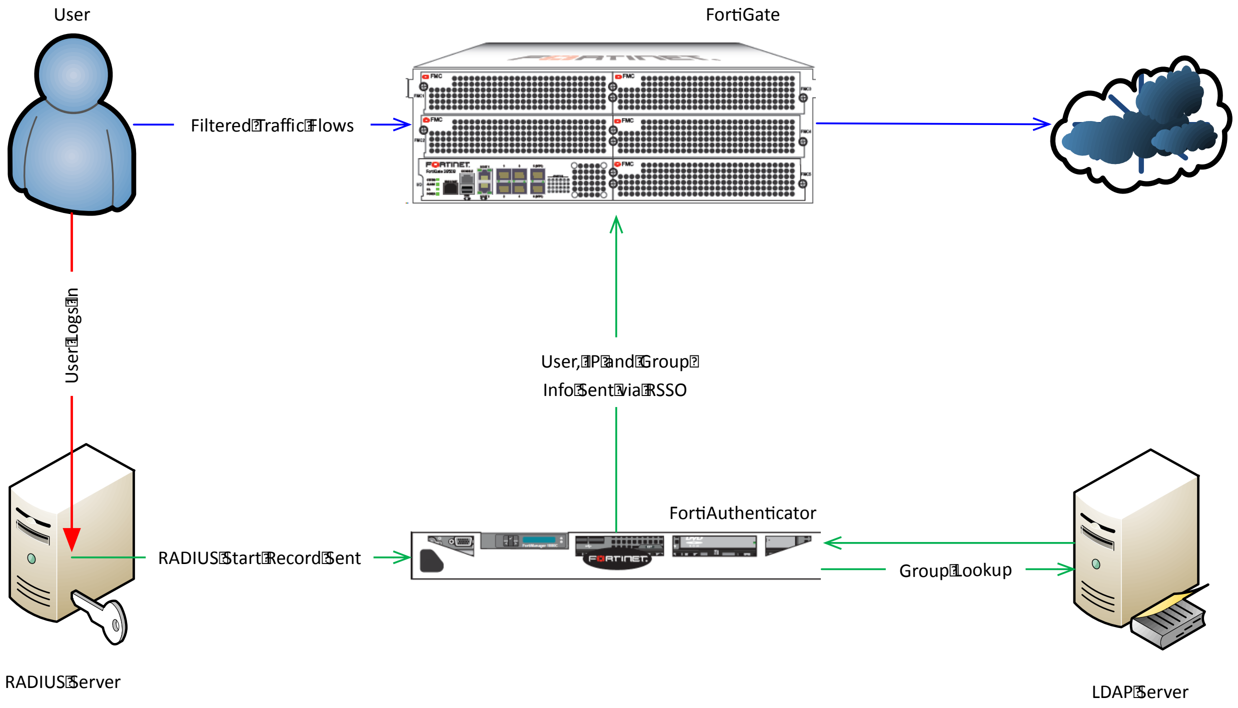
RADIUS Accounting via FortiAuthenticator RADIUS Accounting Proxy to Fortigate

(FortiAuthenticator RSSO to RSSO)

FortiAuthenticator supports the use of RADIUS Start, Stop, and Interim Update messages to authenticate and manage active users transparently. It receives RADIUS accounting messages, Performs lookups against the LDAP server for Group Membership and then forwards the RADIUS message to the Fortigate RSSO agent.

This is useful when Group membership information is handled by Active Directory or the RADIUS server is business-critical IT infrastructure, limiting the changes that can be made to the server configuration.

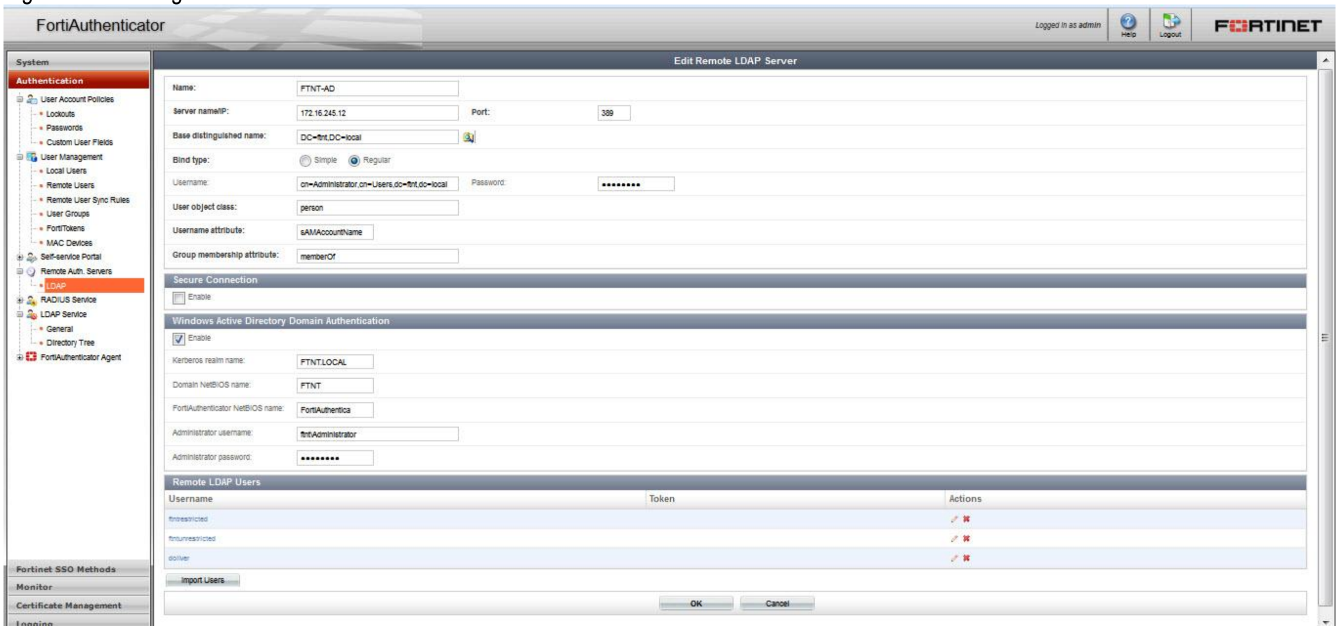
Diagram



FortiAuthenticator Steps and related CLI / Configuration Example

Step 1 – Configure FortiAuthenticator as a RADIUS Accounting Proxy

Figure 23 – Configure Remote Auth Server



Edit Remote LDAP Server

Name: FTNT-AD

Server name/IP: 172.16.245.12 Port: 389

Base distinguished name: DC=ftnt,DC=local

Bind type: ○ Simple ● Regular

Username: cn=Administrator,cn=Users,dc=ftnt,dc=local Password: ••••••••

User object class: person

Username attribute: sAMAccountName

Group membership attribute: memberOf

Secure Connection

□ Enable

Windows Active Directory Domain Authentication

☑ Enable

Kerberos realm name: FTNT.LOCAL

Domain NetBIOS name: FTNT

FortiAuthenticator NetBIOS name: FortiAuthentica

Administrator username: ftnt\Administrator

Administrator password: ••••••••

Remote LDAP Users

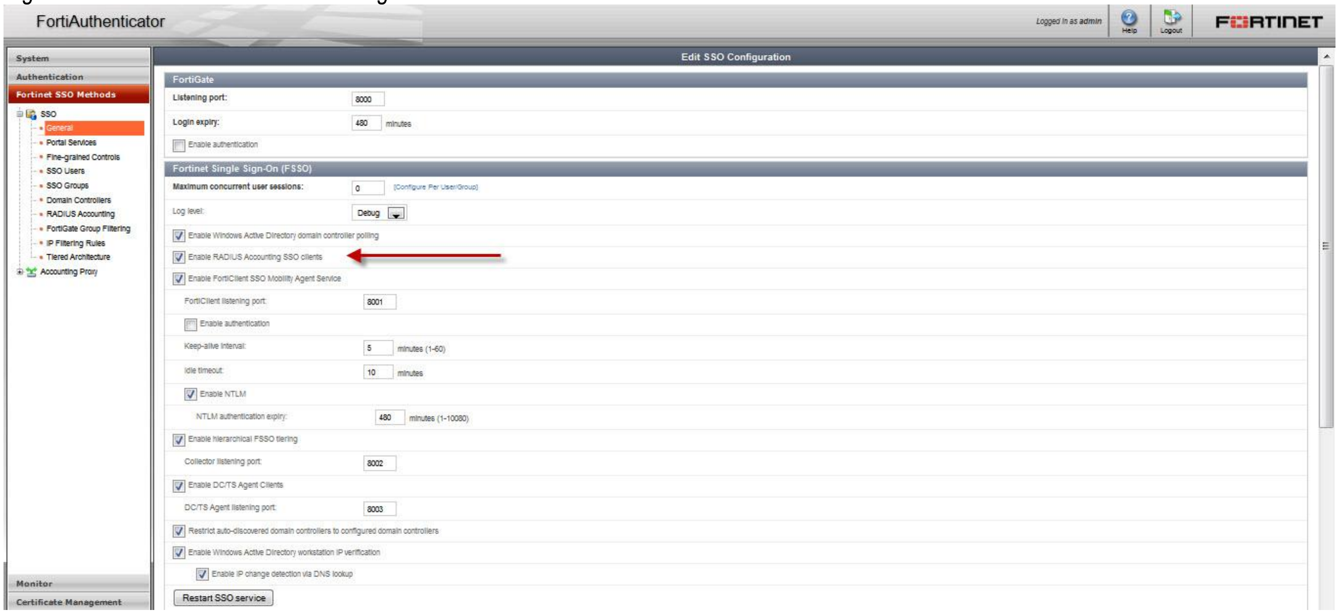
Username	Token	Actions
ftntrestricted		
ftntunrestricted		
doliver		

Import Users

OK Cancel

Step 2 – Enable RADIUS Accounting SSO Clients

Figure 24 – Enable RADIUS accounting SSO Clients



Edit SSO Configuration

FortiGate

Listening port: 8000

Login expiry: 480 minutes

□ Enable authentication

Fortinet Single Sign-On (FSSO)

Maximum concurrent user sessions: 0 [Configure Per User/Group]

Log level: Debug

☑ Enable Windows Active Directory domain controller polling

☑ Enable RADIUS Accounting SSO clients

☑ Enable FortiClient SSO Mobility Agent Service

FortiClient listening port: 8001

□ Enable authentication

Keep-alive interval: 5 minutes (1-60)

Idle timeout: 10 minutes

☑ Enable NTLM

NTLM authentication expiry: 480 minutes (1-10080)

☑ Enable hierarchical FSSO tiering

Collector listening port: 8002

☑ Enable DC/TS Agent Clients

DC/TS Agent listening port: 8003

☑ Restrict auto-discovered domain controllers to configured domain controllers

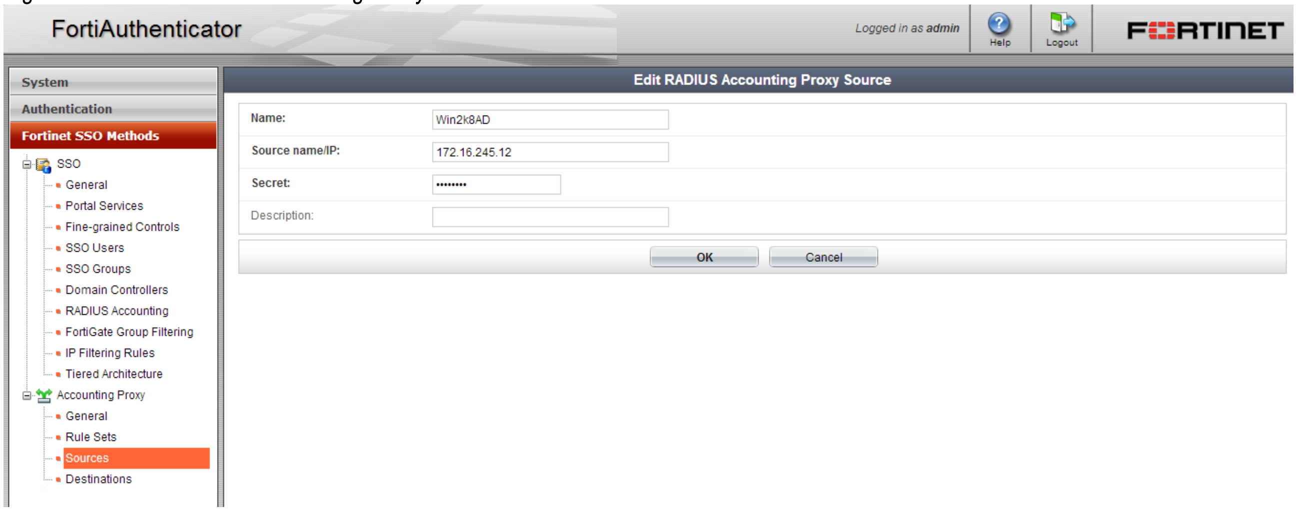
☑ Enable Windows Active Directory workstation IP verification

☑ Enable IP change detection via DNS lookup

Restart SSO service

Step 3 – Create a new Accounting Proxy source

Figure 25 – Create a new Accounting Proxy Source



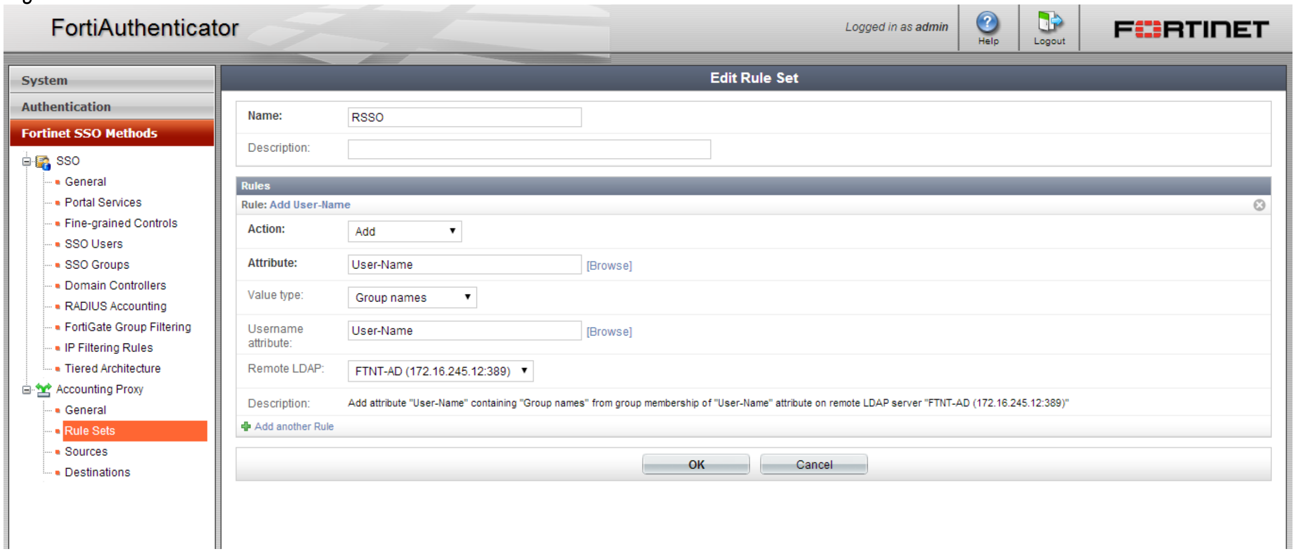
Edit RADIUS Accounting Proxy Source

Name:	Win2k8AD
Source name/IP:	172.16.245.12
Secret:	••••••••
Description:	

This information would be the RADIUS server.

Step 4 – Create a new Accounting Proxy Create a new Rule Set

Figure 26 – Create a new Rule Set



Edit Rule Set

Name:	RSSO
Description:	

Rules

Rule: Add User-Name

Action:	Add
Attribute:	User-Name
Value type:	Group names
Username attribute:	User-Name
Remote LDAP:	FTNT-AD (172.16.245.12:389)
Description:	Add attribute "User-Name" containing "Group names" from group membership of "User-Name" attribute on remote LDAP server "FTNT-AD (172.16.245.12:389)"

Select Action “Add” for a new attribute

Select Action “Modify” to translate an existent attribute

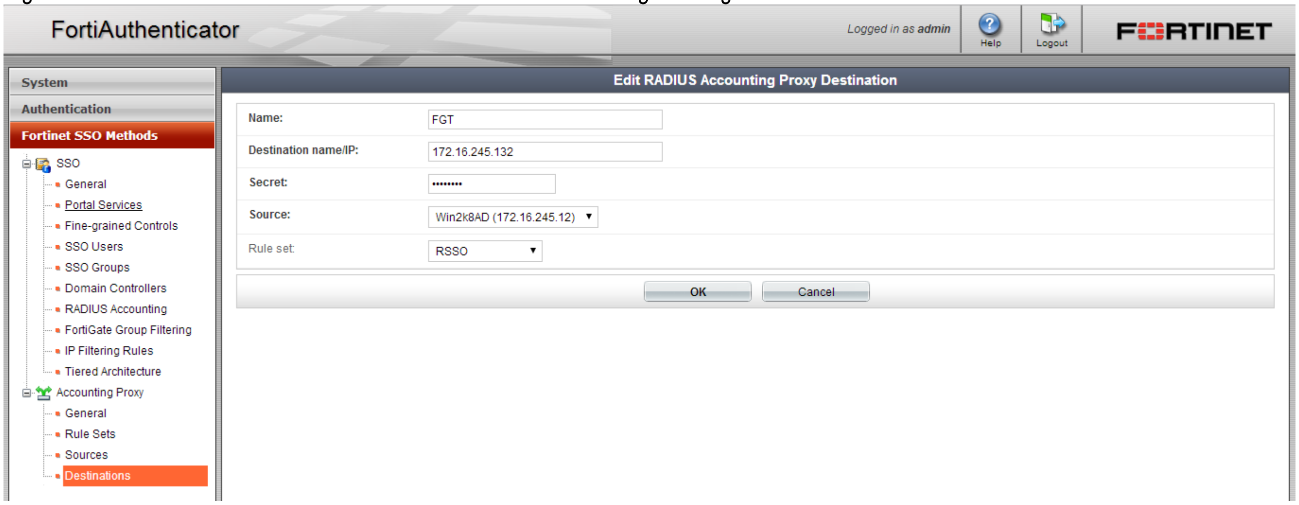
The attribute User-name is what the FortiAutheticator uses to parse group membership info from the LDAP Server.

The Value type is what we want FortiAuthenticator to add to the Accounting messages it forwards to the Fortigate. To add the user’s group membership info select Group names.

Select the LDAP server that the FortiAuthenticator will run the group membership query on.

Step 5 – Create a New Destination

Figure 26 – Create a new Destination for the translated Accounting messages



Edit RADIUS Accounting Proxy Destination

Name:	FGT
Destination name/IP:	172.16.245.132
Secret:	••••••••
Source:	Win2k8AD (172.16.245.12) ▼
Rule set	RSSO ▼

This is the target for the translated Accounting message. Usually this is the Fortigate you wish to send the accounting message to but it can be any RADIUS Server configure to listen for Accounting messages.

Make certain you assign the rule set and source correctly.

FortiGate Steps and related CLI / Configuration Example

Configuration and debugging on the Fortigate is the same as what is describe at the beginning of this document under RADIUS Accounting Direct to Fortigate (Fortigate RSSO).

Related Information

FortiOS and FortiGate Technical Documentation
http://docs.fortinet.com/fgt.html

Fortinet Knowledge Base
http://kb.fortinet.com/

FortiGate appliances
http://www.fortinet.com/products/fortigate/

FortiAuthenticator Technical Documentation
http://docs-legacy.fortinet.com/fauth.html