

# Configurez l'auditeur et l'orateur ISE 2.0 TrustSec SXP

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## Introduction

Ce document décrit comment configurer et dépanner la caractéristique que la version 2.0 du Logiciel Cisco Identity Services Engine (ISE) prend en charge le protocole d'échange de TrustSec SGT (SXP) dans une listeuse et un mode haut-parleur.

## Conditions préalables

### Conditions requises

Cisco vous recommande de prendre connaissance des rubriques suivantes :

- Configuration de commutateur Cisco Catalyst
- Services du Cisco Identity Services Engine (ISE) et du TrustSec

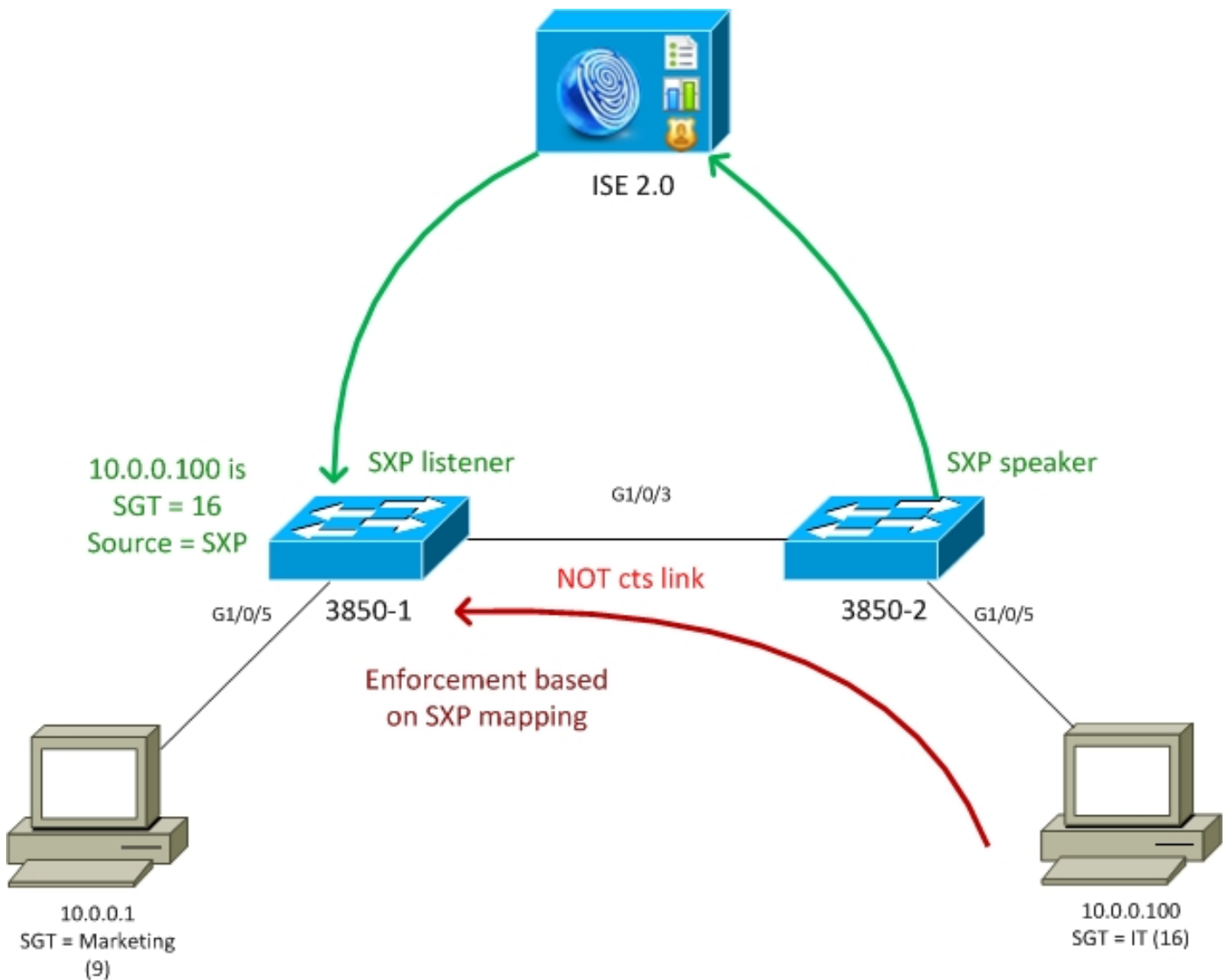
### [Composants utilisés](#)

Les informations contenues dans ce document sont basées sur les versions de logiciel suivantes :

- Commutateur de Cisco Catalyst 3850 avec le logiciel IOS-XE 3.7.2 et plus tard
- Cisco ISE, version 2.0 et ultérieures

## Configurez

## Diagramme du réseau



## La circulation

- 3850-2 est l'authentificateur de 802.1x pour 10.0.0.100 - Le groupe de sécurité de renvoi ISE étiquettent (SGT) 16 (service informatique) pour l'authentification réussie
- 3850-2 le commutateur apprend l'IP address de suppliant (périphérique d'IP dépistant) et envoie les informations de mappage (IP-SGT) à ISE utilisant le protocole SXP
- 3850-1 est l'authentificateur de 802.1x pour 10.0.0.1 - ISE renvoyant SGT étiquettent 9 (vente) pour l'authentification réussie
- 3850-1 reçoit les informations de mappage SXP d'ISE (10.0.0.100 est SGT 16), télécharge la stratégie d'ISE
- Le trafic envoyé de 10.0.0.100 à 10.0.0.1 est expédié par 3850-2 (aucune stratégies spécifiques téléchargées) à 3850-1 qui est autorisé frappant le service informatique de stratégie (16) - > la vente (9)

Veillez noter le lien entre les Commutateurs n'est pas des cts joignent - ainsi tous les mappages distants sur les Commutateurs sont installés par l'intermédiaire du protocole SXP.

Remarque: Non tous les Commutateurs ont le matériel laissant être programmé par l'intermédiaire de la stratégie reçue d'ISE basé sur les mappages reçus SXP. Pour la

vérification toujours référez-vous s'il vous plaît à la plus défunte matrice de compatibilité de TrustSec ou contactez Cisco Systems.

## Configurations

Pour des détails concernant la configuration de base de TrustSec, référez-vous aux articles dans la section de références.

### Commutez 3850-1

Le commutateur termine la session de 802.1x avec l'affectation SGT et également comme haut-parleur SXP vers ISE.

```
aaa authentication dot1x default group ISE_mgarcarz
aaa authorization network default group ISE_mgarcarz
aaa authorization network ISE_mgarcarz group ISE_mgarcarz
aaa accounting dot1x default start-stop group ISE_mgarcarz
aaa accounting update newinfo

radius server ISE_mgarcarz
 address ipv4 10.48.17.235 auth-port 1645 acct-port 1646
 pac key cisco

aaa group server radius ISE_mgarcarz
 server name ISE_mgarcarz

interface GigabitEthernet1/0/3
 switchport mode trunk

interface GigabitEthernet1/0/5
 description mgarcarz
 switchport access vlan 100
 switchport mode access
 ip flow monitor F_MON input
 ip flow monitor F_MON output
 authentication order dot1x mab
 authentication priority dot1x mab
 authentication port-control auto
 mab
 dot1x pae authenticator

cts authorization list ISE_mgarcarz
cts role-based enforcement
cts role-based enforcement vlan-list 1-4094
cts sxp enable
cts sxp default password cisco
cts sxp connection peer 10.48.17.235 password default mode local listener hold-time 0
```

### Commutez 3850-2

Le commutateur termine la session de 802.1x avec l'affectation SGT et également comme auditeur SXP obtenant le mappage d'ISE.

```
aaa authentication dot1x default group ISE_mgarcarz
aaa authorization network default group ISE_mgarcarz
aaa authorization network ISE_mgarcarz group ISE_mgarcarz
aaa accounting dot1x default start-stop group ISE_mgarcarz
aaa accounting update newinfo
```

```
radius server ISE_mgarcarz
  address ipv4 10.48.17.235 auth-port 1645 acct-port 1646
  pac key cisco

aaa group server radius ISE_mgarcarz
  server name ISE_mgarcarz

interface GigabitEthernet1/0/3
  switchport mode trunk

interface GigabitEthernet1/0/5
  description mgarcarz
  switchport access vlan 100
  switchport mode access
  authentication order dot1x mab
  authentication priority dot1x mab
  authentication port-control auto
  mab
  dot1x pae authenticator

cts authorization list ISE_mgarcarz
cts role-based enforcement
cts role-based enforcement vlan-list 1-4094
cts sxp enable
cts sxp default password cisco
cts sxp connection peer 10.48.17.235 password default mode local speaker hold-time 0
```

## ISE

### Étape 1. Périphériques d'accès au réseau

Naviguez vers les **centres de travail > la gestion > les ressources de réseau de périphérique**, ajoutez les Commutateurs avec le secret cisco et le mot de passe partagés Krakow123 de TrustSec.

Identity Services Engine Home Operations Policy Guest Access Administration Work Centers

TrustSec Device Administration

Overview Identities User Identity Groups Network Resources Network Device Groups Policy Conditions Policy Results

Network Devices

Default Devices  
TACACS External Servers  
TACACS Server Sequence

Network Devices List > KSEC-3850-1

### Network Devices

\* Name: KSEC-3850-1  
Description: [ ]

\* IP Address: 10.62.148.108 / 32

\* Device Profile: Cisco [ + ]  
Model Name: [ ]  
Software Version: [ ]

\* Network Device Group

Location: All Locations [ Set To Default ]  
Device Type: All Device Types [ Set To Default ]

- RADIUS Authentication Settings
- TACACS+ Authentication Settings
- SNMP Settings
- Advanced TrustSec Settings

## Étape 2. Groupes de sécurité

Afin d'ajouter SGT pour le service informatique et le marketing, naviguez vers des **centres de travail** > **TrustSec** > **des composants** > **des groupes de sécurité**.

The screenshot shows the Cisco Identity Services Engine (ISE) interface. The top navigation bar includes 'Home', 'Operations', 'Policy', and 'Guest Access'. The left sidebar shows a tree view with 'TrustSec' expanded to 'Device Administration', which includes 'Overview', 'Authentication Policy', 'Authorization Policy', 'Components', 'Policy', and 'SXP'. The main content area is titled 'Security Groups' and contains a table of existing groups. Above the table are buttons for 'Edit', 'Add', 'Import', 'Export', and 'Delete'. The table has columns for 'Name' and 'SGT (Dec / Hex)'. The rows are: SGT\_BYOD (15/000F), SGT\_Guest (6/0006), SGT\_IT (16/0010), SGT\_Marketing (9/0009), and Unknown (0/0000).

Name	SGT (Dec / Hex)
SGT_BYOD	15/000F
SGT_Guest	6/0006
SGT_IT	16/0010
SGT_Marketing	9/0009
Unknown	0/0000

### Étape 3. ACL de groupes de sécurité

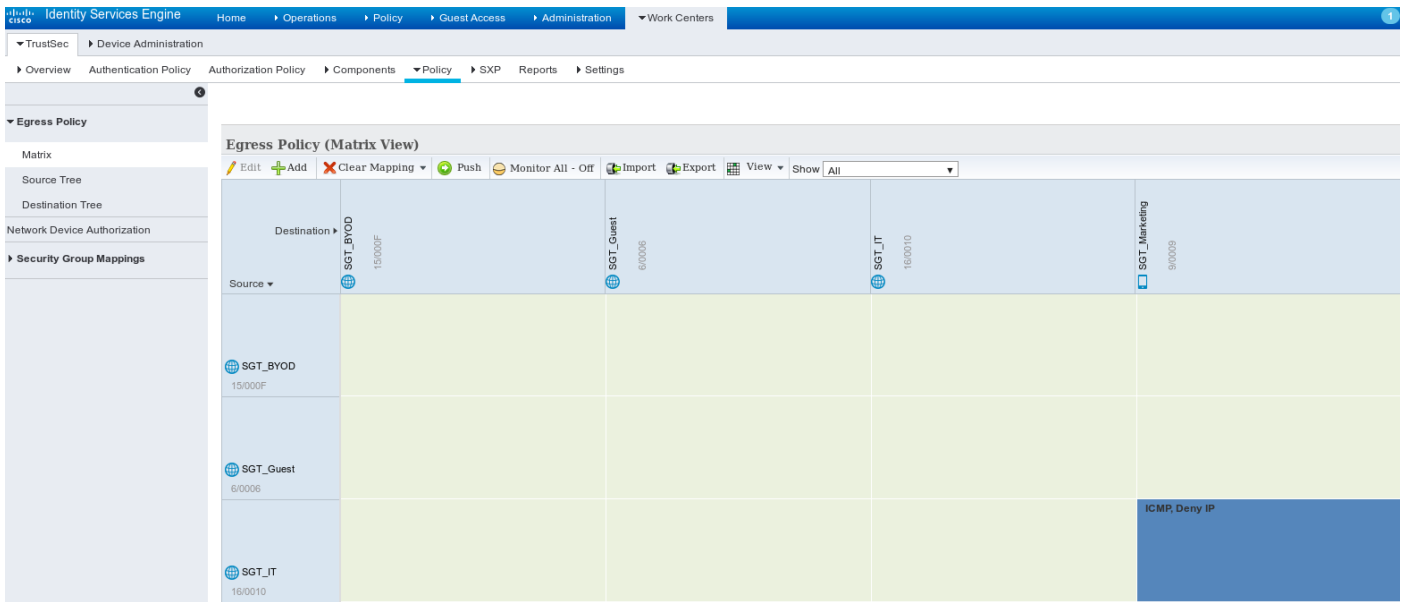
Afin d'ajouter l'ACL de groupe de sécurité, naviguez vers des **centres de travail > TrustSec > des composants > groupe de sécurité ACLs**.

The screenshot shows the Cisco Identity Services Engine (ISE) interface for configuring a Security Group ACL. The top navigation bar includes 'Home', 'Operations', 'Policy', 'Guest Access', and 'Admin'. The left sidebar shows a tree view with 'TrustSec' expanded to 'Device Administration', which includes 'Overview', 'Authentication Policy', 'Authorization Policy', 'Components', 'Policy', 'SXP', and 'Reports'. The main content area is titled 'Security Group ACLs List > ICMP' and 'Security Group ACLs'. It features a form with the following fields: 'Name' (set to 'ICMP'), 'Description' (empty), 'IP Version' (radio buttons for IPv4, IPv6, and Agnostic, with IPv4 selected), and 'Security Group ACL content' (set to 'permit icmp').

Permettez seulement le trafic d'ICMP.

### Étape 4. Stratégie de TrustSec

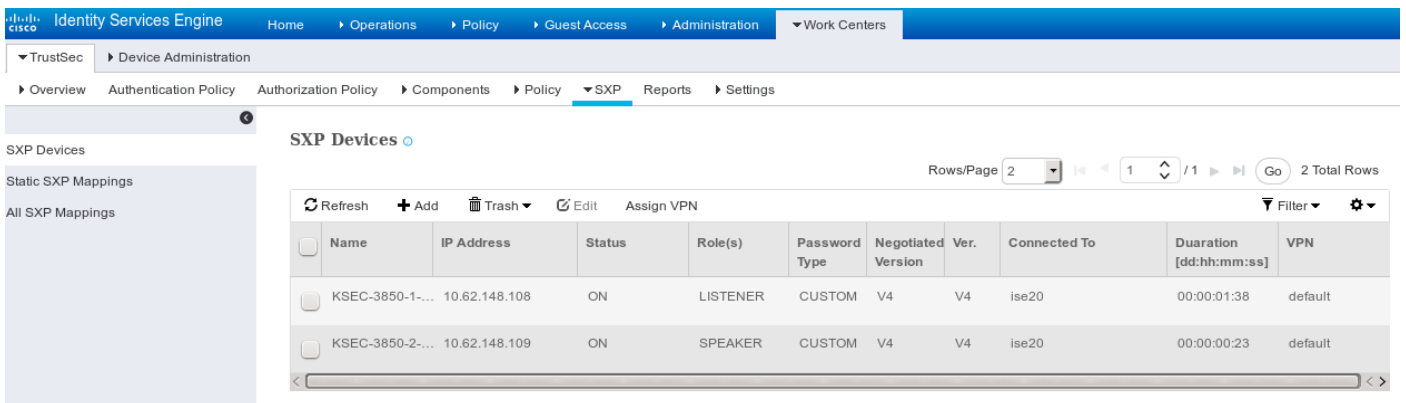
Afin d'ajouter la stratégie contrôlant le trafic du service informatique à la commercialisation, naviguez vers des **centres de travail > TrustSec > des composants > stratégie > matrice de sortie**.



Placez le crochet par défaut d'entrée toute la règle de refuser tout le trafic.

## Étape 5. Périphériques SXP

Afin de configurer l'auditeur et l'orateur SXP pour les Commutateurs correspondants, naviguez vers des **centres de travail > TrustSec > des périphériques SXP**.



Mot de passe cisco d'utilisation (ou tout autre configuré pour le sxp sur le commutateur).

## Étape 6. Stratégie d'autorisation

Assurez-vous que stratégie d'autorisation renvoie les balises correctes SGT pour chaque utilisateur, naviguez vers la **stratégie > l'autorisation**.

## Authorization Policy

Define the Authorization Policy by configuring rules based on identity groups and/or other conditions. Drag and drop rules to change the order. For Policy Export go to [Administration > System > Backup & Restore > Policy Export Page](#)

First Matched Rule Applies ▼

▶ Exceptions (0)

Standard

Status	Rule Name	Conditions (identity groups and other conditions)	Permissions
✓	IT	if example.com:ExternalGroups EQUALS example.com/Users/IT	then SGT_IT
✓	Marketing	if example.com:ExternalGroups EQUALS example.com/Users/Marketing	then SGT_Marketing

# Vérifiez

## Étape 1. Commutez joindre ISE pour des cts

De chaque commutateur fournissez les qualifications de TrustSec (configurées dans ISE/Step1) pour obtenir le PAC.

**KSEC-3850-2#cts credentials id KSEC-3850-2 password Krakow123**

CTS device ID and password have been inserted in the local keystore. Please make sure that the same ID and password are configured in the server database.

**Assurez-vous que le PAC est téléchargé.**

**KSEC-3850-2#show cts pacs**

```

AID: 65D55BAF222BBC73362A7810A04A005B
PAC-Info:
  PAC-type = Cisco Trustsec
  AID: 65D55BAF222BBC73362A7810A04A005B
  I-ID: KSEC-3850-2
  A-ID-Info: Identity Services Engine
  Credential Lifetime: 20:42:37 UTC Nov 13 2015
PAC-Opaque:
000200B8000300010004001065D55BAF222BBC73362A7810A04A005B0006009C00030100B26D8DDC125B6595067D64F9
17DA624C0000001355CB2E1C00093A800E567155E0DE76419D2F3B97D890F34F109C4C42F586B29050CEC7B441E0CA60
FC6684D4F6E8263FA2623A6E450927815A140CD3B9D68988E95D8C1E65544E222E187C647B9F7F3F230F6DB4F80F3C20
1ACD623B309077E27688EDF7704740A1CD3F18CE8485788054C19909083ED303BB49A6975AC0395D41E1227B
  Refresh timer is set for 12w4d
  
```

**Et la politique de l'environnement est régénérée.**

**KSEC-3850-2#show cts environment-data**

```

CTS Environment Data
=====
Current state = COMPLETE
Last status = Successful
Local Device SGT:
  SGT tag = 0-00:Unknown
Server List Info:
Installed list: CTSServerList1-0001, 1 server(s):
 *Server: 10.48.17.235, port 1812, A-ID 65D55BAF222BBC73362A7810A04A005B
   Status = ALIVE
   auto-test = FALSE, keywrap-enable = FALSE, idle-time = 60 mins, deadtime = 20 secs
Multicast Group SGT Table:
Security Group Name Table:
  
```



```
0-00:Unknown
6-00:SGT_Guest
9-00:SGT_Marketing
15-00:SGT_BYOD
16-00:SGT_IT
255-00:SGT_Quarantine
Environment Data Lifetime = 86400 secs
Last update time = 20:47:04 UTC Sat Aug 15 2015
Env-data expires in 0:08:09:13 (dd:hr:mm:sec)
Env-data refreshes in 0:08:09:13 (dd:hr:mm:sec)
Cache data applied = NONE
State Machine is running
```

Répétez le même processus pour 3850-1

## Sessions de 802.1x d'étape 2.

Après que l'utilisateur informatique soit authentifié, la balise correcte est assignée.

```
KSEC-3850-2#show authentication sessions interface g1/0/5 details
```

```
Interface: GigabitEthernet1/0/5
IIF-ID: 0x107E700000000C4
MAC Address: 0050.b611.ed31
IPv6 Address: Unknown
IPv4 Address: 10.0.0.100
User-Name: cisco
Status: Authorized
Domain: DATA
Oper host mode: single-host
Oper control dir: both
Session timeout: N/A
Common Session ID: 0A3E946D00000FF214D18E36
Acct Session ID: 0x00000FDC
Handle: 0xA4000020
Current Policy: POLICY_Gi1/0/5
```

Local Policies:

```
Service Template: DEFAULT_LINKSEC_POLICY_SHOULD_SECURE (priority 150)
Security Policy: Should Secure
Security Status: Link Unsecure
```

Server Policies:

```
SGT Value: 16
```

Method status list:

```
Method      State
dot1x      Authc Success
```

Le mappage est installé dans la table des gens du pays SGT-IP.

```
KSEC-3850-2#show cts role-based sgt-map all
```

Active IPv4-SGT Bindings Information

```
IP Address          SGT      Source
=====
10.0.0.100          16       LOCAL
```

## Étape 3. Haut-parleur SXP

3850-2 envoie le mappage à ISE, commutateur met au point pour le sxp de cts.

```
KSEC-3850-2(config)#do show debug
```

CTS:

```
CTS SXP message debugging is on
```

```

*Aug 16 12:48:30.173: CTS-SXP-MSG:trp_send_msg <1>, <10.48.17.235, 10.62.148.109>
*Aug 16 12:48:30.173: CTS-SXP-MSG:trp_socket_write fd<1>, cdbp->ph_sock_pending<1>,
<10.48.17.235, 10.62.148.109>
*Aug 16 12:48:30.226: CTS-SXP-MSG:trp_process_read_sock <1>, <10.48.17.235, 10.62.148.109>
*Aug 16 12:48:30.226: CTS-SXP-MSG:trp_process_read_sock socket_rcv result:-1 errno:11;
<10.48.17.235, 10.62.148.109>
*Aug 16 12:48:30.226: CTS-SXP-MSG:trp_process_read_sock socket_conn is accepted; <10.48.17.235,
10.62.148.109>
*Aug 16 12:48:30.226: CTS-SXP-MSG:trp_socket_write fd<1>, <10.48.17.235, 10.62.148.109>
*Aug 16 12:48:30.226: CTS-SXP-MSG:trp_socket_write freeing tx_msgq_entry, <10.48.17.235,
10.62.148.109>
*Aug 16 12:48:30.227: CTS-SXP-MSG:after socket_send, wlen=28, slen=0, tot_len=28, <10.48.17.235,
10.62.148.109>
*Aug 16 12:48:30.227: CTS-SXP-MSG:trp_socket_write freeing tx_buf, <10.48.17.235, 10.62.148.109>
*Aug 16 12:48:30.227: CTS-SXP-MSG:trp_socket_read <1>, <10.48.17.235, 10.62.148.109>
*Aug 16 12:48:30.227: CTS-SXP-MSG:trp_socket_read readlen = -1; errno = 11, <10.48.17.235,
10.62.148.109>
*Aug 16 12:48:30.278: CTS-SXP-MSG:trp_process_read_sock <1>, <10.48.17.235, 10.62.148.109>
*Aug 16 12:48:30.278: CTS-SXP-MSG:trp_socket_read <1>, <10.48.17.235, 10.62.148.109>
*Aug 16 12:48:30.278: CTS-SXP-MSG:RCVD peer 10.48.17.235 readlen:32, datalen:0 remain:4096 bufp
=
*Aug 16 12:48:30.278: CTS-SXP-MSG:sxp_handle_rx_msg_v2 <1>, <10.48.17.235, 10.62.148.109>
*Aug 16 12:48:30.279: CTS-SXP-MSG:imu_sxp_conn_cr <1>, <10.48.17.235, 10.62.148.109>
*Aug 16 12:48:30.279: CTS-SXP-MSG:wrt_sxp_opcode_info_v4 cdbp 0x3D541160
*Aug 16 12:48:30.279: CTS-SXP-MSG:trp_send_msg <1>, <10.48.17.235, 10.62.148.109>
*Aug 16 12:48:30.279: CTS-SXP-MSG:trp_socket_write fd<1>, <10.48.17.235, 10.62.148.109>
*Aug 16 12:48:30.279: CTS-SXP-MSG:trp_socket_write freeing tx_msgq_entry, <10.48.17.235,
10.62.148.109>
*Aug 16 12:48:30.279: CTS-SXP-MSG:after socket_send, wlen=28, slen=0, tot_len=28, <10.48.17.235,
10.62.148.109>
*Aug 16 12:48:30.279: CTS-SXP-MSG:trp_socket_write freeing tx_buf, <10.48.17.235, 10.62.148.109>
*Aug 16 12:48:30.280: CTS-SXP-MSG:trp_socket_read readlen = 32; errno = 11, <10.48.17.235,
10.62.148.109>

```

## ISE signale (sxp\_appserver/sxp.log)

```

2015-08-16 14:44:07,029 INFO [nioEventLoopGroup-2-3]
opendaylight.sxp.core.behavior.Strategy:473 -
[ISE:10.48.17.235][10.48.17.235:21121/10.62.148.109:64999][0|Lv4/Sv4 192.168.77.2] PURGEALL
processing
2015-08-16 14:44:07,029 WARN [nioEventLoopGroup-2-3]
opendaylight.sxp.core.handler.MessageDecoder:173 -
[ISE:10.48.17.235][10.48.17.235:21121/10.62.148.109:64999] Channel inactivation
2015-08-16 14:44:07,029 INFO [pool-3-thread-1] sxp.util.database.spi.MasterDatabaseProvider:721
- SXP_PERF:BINDINGS_PER_SXP_UPDATE_MESSAGE(CHUNK)=1, onlyChanged=true
2015-08-16 14:44:07,030 INFO [pool-3-thread-1] sxp.util.database.spi.MasterDatabaseProvider:725
- SXP_PERF:NUM_OF_CHUNKS=1, onlyChanged=true
2015-08-16 14:44:07,030 INFO [pool-3-thread-9]
opendaylight.sxp.core.service.UpdateExportTask:93 - SXP_PERF:SEND_UPDATE_BUFFER_SIZE=16
2015-08-16 14:44:07,030 INFO [pool-3-thread-9]
opendaylight.sxp.core.service.UpdateExportTask:119 - SENT_UPDATE to
[ISE:10.48.17.235][10.48.17.235:57719/10.62.148.108:64999][0|Sv4]
2015-08-16 14:44:07,030 INFO [pool-3-thread-9]
opendaylight.sxp.core.service.UpdateExportTask:140 - SENT_UPDATE SUCCESSFUL to
[ISE:10.48.17.235][10.48.17.235:57719/10.62.148.108:64999][0|Sv4]:false
2015-08-16 14:44:07,030 INFO [pool-3-thread-1]
opendaylight.sxp.core.service.BindingDispatcher:198 -
SXP_PERF:MDB_PARTITON_AND_SXP_DISPATCH:DURATION=1 milliseconds, NUM_CONNECTIONS=1
2015-08-16 14:44:07,031 INFO [pool-3-thread-1] sxp.util.database.spi.MasterDatabaseProvider:725
- SXP_PERF:NUM_OF_CHUNKS=0, onlyChanged=true
2015-08-16 14:44:12,534 INFO [nioEventLoopGroup-2-4]
opendaylight.sxp.core.behavior.Strategy:232 -
[ISE:10.48.17.235][10.48.17.235:64999/10.62.148.109:1035][X|Lv4/Sv4 192.168.77.2] received

```

Message Open

```
2015-08-16 14:44:12,535 INFO [nioEventLoopGroup-2-4]
opendaylight.sxp.core.behavior.Strategy:358 -
[ISE:10.48.17.235][10.48.17.235:64999/10.62.148.109:1035][O|Lv4/Sv4 192.168.77.2] Sent RESP 0 0
0 32 0 0 0 2 | 0 0 0 4 0 0 0 2 80 6 6 3 0 2 0 1 0 80 7 4 0 120 0 180
```

```
2015-08-16 14:44:12,585 INFO [nioEventLoopGroup-2-4]
```

```
opendaylight.sxp.core.behavior.Strategy:451 -
```

```
[ISE:10.48.17.235][10.48.17.235:64999/10.62.148.109:1035][O|Lv4/Sv4 192.168.77.2] received
```

Message Update

```
2015-08-16 14:44:12,586 INFO [pool-3-thread-2]
```

```
opendaylight.sxp.core.service.SimpleBindingHandler:663 - PERF_SXP_PROCESS_UPDATE from
[ISE:10.48.17.235][10.48.17.235:64999/10.62.148.109:1035][O|Lv4/Sv4 192.168.77.2]
```

```
2015-08-16 14:44:12,586 INFO [pool-3-thread-2]
```

```
opendaylight.sxp.core.service.SimpleBindingHandler:666 - PERF_SXP_PROCESS_UPDATE_DONE from
```

```
[ISE:10.48.17.235][10.48.17.235:64999/10.62.148.109:1035][O|Lv4/Sv4 192.168.77.2]
```

```
2015-08-16 14:44:12,586 INFO [pool-3-thread-1] sxp.util.database.spi.MasterDatabaseProvider:721
- SXP_PERF:BINDINGS_PER_SXP_UPDATE_MESSAGE(CHUNK)=1, onlyChanged=true
```

```
2015-08-16 14:44:12,587 INFO [pool-3-thread-1] sxp.util.database.spi.MasterDatabaseProvider:725
- SXP_PERF:NUM_OF_CHUNKS=1, onlyChanged=true
```

```
2015-08-16 14:44:12,587 INFO [pool-3-thread-11]
```

```
opendaylight.sxp.core.service.UpdateExportTask:93 - SXP_PERF:SEND_UPDATE_BUFFER_SIZE=32
```

```
2015-08-16 14:44:12,587 INFO [pool-3-thread-11]
```

```
opendaylight.sxp.core.service.UpdateExportTask:119 - SENT_UPDATE to
```

```
[ISE:10.48.17.235][10.48.17.235:57719/10.62.148.108:64999][O|Sv4]
```

```
2015-08-16 14:44:12,587 INFO [pool-3-thread-11]
```

```
opendaylight.sxp.core.service.UpdateExportTask:140 - SENT_UPDATE SUCCESSFUL to
```

```
[ISE:10.48.17.235][10.48.17.235:57719/10.62.148.108:64999][O|Sv4]:false
```

```
2015-08-16 14:44:12,587 INFO [pool-3-thread-1]
```

```
opendaylight.sxp.core.service.BindingDispatcher:198 -
```

```
SXP_PERF:MDB_PARTITON_AND_SXP_DISPATCH:DURATION=1 milliseconds, NUM_CONNECTIONS=1
```

Et présentez tous les mappages par l'intermédiaire du GUI (mappage y compris pour 10.0.0.100 a reçu de 3850-2), suivant les indications de cette image.

IP Address	SGT	Learned From	Learned By
10.0.0.100/32	SGT_IT(16/0010)	192.168.77.2	SXP
192.168.1.203/32	SGT_IT(16/0010)	10.48.17.235,10.48.67.250	Session

192.168.77.2 est l'identifiant de la connexion SXP sur 3850-2 (l'IP address le plus élevé défini).

```
KSEC-3850-2#show ip interface brief
```

Interface	IP-Address	OK?	Method	Status	Protocol
GigabitEthernet0/0	unassigned	YES	unset	down	down
Vlan1	unassigned	YES	NVRAM	administratively down	down
Vlan100	10.0.0.2	YES	manual	up	up
Vlan480	10.62.148.109	YES	NVRAM	up	up
Vlan613	unassigned	YES	NVRAM	administratively down	down
Vlan666	192.168.66.2	YES	NVRAM	down	down
<b>Vlan777</b>	<b>192.168.77.2</b>	<b>YES</b>	<b>NVRAM</b>	<b>down</b>	<b>down</b>

#### Étape 4. Auditeur SXP

Alors ISE renvoie ce mappage à 3850-1, commutateur met au point.

```

*Aug 16 05:42:54.199: CTS-SXP-MSG:trp_send_msg <1>, <10.48.17.235, 10.62.148.108>
*Aug 16 05:42:54.199: CTS-SXP-MSG:trp_socket_write fd<1>, cdbp->ph_sock_pending<1>,
<10.48.17.235, 10.62.148.108>
*Aug 16 05:42:54.248: CTS-SXP-MSG:trp_process_read_sock <1>, <10.48.17.235, 10.62.148.108>
*Aug 16 05:42:54.248: CTS-SXP-MSG:trp_process_read_sock socket_rcv result:-1 errno:11;
<10.48.17.235, 10.62.148.108>
*Aug 16 05:42:54.248: CTS-SXP-MSG:trp_process_read_sock socket_conn is accepted; <10.48.17.235,
10.62.148.108>
*Aug 16 05:42:54.248: CTS-SXP-MSG:trp_socket_write fd<1>, <10.48.17.235, 10.62.148.108>
*Aug 16 05:42:54.248: CTS-SXP-MSG:trp_socket_write freeing tx_msgq_entry, <10.48.17.235,
10.62.148.108>
*Aug 16 05:42:54.248: CTS-SXP-MSG:after socket_send, wlen=32, slen=0, tot_len=32, <10.48.17.235,
10.62.148.108>
*Aug 16 05:42:54.248: CTS-SXP-MSG:trp_socket_write freeing tx_buf, <10.48.17.235, 10.62.148.108>
*Aug 16 05:42:54.249: CTS-SXP-MSG:trp_socket_read <1>, <10.48.17.235, 10.62.148.108>
*Aug 16 05:42:54.249: CTS-SXP-MSG:trp_socket_read readlen = -1; errno = 11, <10.48.17.235,
10.62.148.108>
*Aug 16 05:42:54.300: CTS-SXP-MSG:trp_process_read_sock <1>, <10.48.17.235, 10.62.148.108>
*Aug 16 05:42:54.300: CTS-SXP-MSG:trp_socket_read <1>, <10.48.17.235, 10.62.148.108>
*Aug 16 05:42:54.300: CTS-SXP-MSG:RCVD peer 10.48.17.235 readlen:28, datalen:0 remain:4096 bufp
=
*Aug 16 05:42:54.301: CTS-SXP-MSG:sxp_handle_rx_msg_v2 <1>, <10.48.17.235, 10.62.148.108>
*Aug 16 05:42:54.301: CTS-SXP-MSG:imu_sxp_conn_cr ci<1> cdbp->ph_conn_state<2>, <10.48.17.235,
10.62.148.108>
*Aug 16 05:42:54.301: CTS-SXP-MSG:trp_socket_read readlen = 28; errno = 11, <10.48.17.235,
10.62.148.108>
*Aug 16 05:42:54.301: CTS-SXP-MSG:trp_process_read_sock <1>, <10.48.17.235, 10.62.148.108>
*Aug 16 05:42:54.302: CTS-SXP-MSG:trp_socket_read <1>, <10.48.17.235, 10.62.148.108>
*Aug 16 05:42:54.302: CTS-SXP-MSG:RCVD peer 10.48.17.235 readlen:52, datalen:0 remain:4096 bufp
=
*Aug 16 05:42:54.302: CTS-SXP-MSG:sxp_handle_rx_msg_v2 <1>, <10.48.17.235, 10.62.148.108>
*Aug 16 05:42:54.302: CTS-SXP-MSG:sxp_rcv_update_v4 <1> peer ip: 10.48.17.235
*Aug 16 05:42:54.302: CTS-SXP-MSG:1. msg type:3, total len:52, payl len:44, opc_ptr:0x3DFC7308,
<10.48.17.235, 10.62.148.108>
*Aug 16 05:42:54.302: CTS-SXP-MSG:1. msg type:3, total len:52, payl len:37, opc_ptr:0x3DFC730F,
<10.48.17.235, 10.62.148.108>
*Aug 16 05:42:54.302: CTS-SXP-MSG:1. msg type:3, total len:52, payl len:32, opc_ptr:0x3DFC7314,
<10.48.17.235, 10.62.148.108>
*Aug 16 05:42:54.302: CTS-SXP-MSG:1. msg type:3, total len:52, payl len:24, opc_ptr:0x3DFC731C,
<10.48.17.235, 10.62.148.108>
*Aug 16 05:42:54.302: CTS-SXP-MSG:1. msg type:3, total len:52, payl len:13, opc_ptr:0x3DFC7327,
<10.48.17.235, 10.62.148.108>
*Aug 16 05:42:54.302: CTS-SXP-MSG:1. msg type:3, total len:52, payl len:8, opc_ptr:0x3DFC732C,
<10.48.17.235, 10.62.148.108>
*Aug 16 05:42:54.303: CTS-SXP-MSG:1. msg type:3, total len:52, payl len:0, opc_ptr:0x3DFC7334,
<10.48.17.235, 10.62.148.108>

```

La capture de paquet prise d'ISE pour le trafic vers 3850-1 confirme des mappages SXP sont envoyées.

No.	Time	Source	Destination	Protocol	Length	Info
10	2015-08-16 21:57:50.286099	10.48.17.235	10.62.148.108	SMPP	102	SMPP Bind_transmi
11	2015-08-16 21:57:50.286821	10.48.17.235	10.62.148.108	SMPP	126	SMPP Query_sm

> Frame 11: 126 bytes on wire (1008 bits), 126 bytes captured (1008 bits)  
 > Ethernet II, Src: Vmware\_99:29:cc (00:50:56:99:29:cc), Dst: Cisco\_1c:e8:00 (00:07:4f:1c:e8:00)  
 > Internet Protocol Version 4, Src: 10.48.17.235 (10.48.17.235), Dst: 10.62.148.108 (10.62.148.108)  
 > Transmission Control Protocol, Src Port: 64999 (64999), Dst Port: activesync (1034), Seq: 29, Ack: 33, Len: 52  
 > Short Message Peer to Peer, Command: Query\_sm, Seq: 806480656, Len: 52

Length: 52  
 Operation: Query\_sm (0x00000003)  
 Sequence #: 806480656  
 Message id.: \021\002  
 Type of number (originator): Unknown (0x10)  
 Numbering plan indicator (originator): Unknown (0x10)  
 Originator address: \v\005 \300\250\001\313\020\020\b\n0\021\353\300\250M\002\020\021\002

```

0000 00 07 4f 1c e8 00 00 50 56 99 29 cc 08 00 45 00  ..0...P V.)...E.
0010 00 70 6a d8 40 00 40 06 14 eb 0a 30 11 eb 0a 3e  .pj.@.@. ...0...>
0020 94 6c fd e7 04 0a d8 2e 8f 8c 48 c5 e1 1b a0 18  .l..... ..H....
0030 39 08 bb 27 00 00 01 01 13 12 b6 72 86 e1 5a 6d  9..'.... ..r..Zm
0040 98 56 18 3c 5d 24 ba 00 98 85 00 00 00 34 00 00  .V.<]$. ..4..
0050 00 03 10 10 04 0a 30 11 eb 10 11 02 00 10 10 0b  .....0. ....
0060 05 20 c0 a8 01 cb 10 10 08 0a 30 11 eb c0 a8 4d  .....0...M
0070 02 10 11 02 00 10 10 0b 05 20 0a 00 00 64  .....d
  
```

Wireshark utilise le décodeur standard SMPP. Pour vérifier la charge utile :

10 (SGT = 16) pour des Cb "c0 a8 01 » (192.168.1.203)

10 (SGT = 16) pour "0a 00 00 64" (10.0.0.100)

3850-1 installe tous les mappages reçus d'ISE.

```

KSEC-3850-1# show cts sxp sgt-map
SXP Node ID(generated):0xC0A84D01(192.168.77.1)
IP-SGT Mappings as follows:
IPv4,SGT: <10.0.0.100 , 16:SGT_IT>
source : SXP;
Peer IP : 10.48.17.235;
Ins Num : 2;
Status : Active;
Seq Num : 439
Peer Seq: 0A3011EB,C0A84D02,
IPv4,SGT: <192.168.1.203 , 16:SGT_IT>
source : SXP;
Peer IP : 10.48.17.235;
Ins Num : 6;
Status : Active;
Seq Num : 21
Peer Seq: 0A3011EB,
Total number of IP-SGT Mappings: 2
  
```

```

KSEC-3850-1# show cts role-based sgt-map all
Active IPv4-SGT Bindings Information
  
```

IP Address	SGT	Source
<b>10.0.0.100</b>	<b>16</b>	<b>SXP</b>
192.168.1.203	16	SXP

## IP-SGT Active Bindings Summary

```
=====
Total number of CLI      bindings = 1
Total number of SXP      bindings = 2
Total number of active  bindings = 3
```

### Étape 5. Téléchargement et application de stratégie

Téléchargez la stratégie correcte d'ISE. (Ligne de matrice avec SGT 16)

```
KSEC-3850-1#show cts role-based permissions
IPv4 Role-based permissions default:
  Permit IP-00
IPv4 Role-based permissions from group 16:SGT_IT to group 9:SGT_Marketing:
  ICMP-10
  Deny IP-00
```

```
RBACL Monitor All for Dynamic Policies : FALSE
RBACL Monitor All for Configured Policies : FALSE
```

On permet le trafic d'ICMP de 10.0.0.100 (service informatique SGT) à 10.0.0.1 (vente SGT), augmentation de compteurs.

```
KSEC-3850-1#show cts role-based counters from 16
Role-based IPv4 counters
#Hardware counters are not available for specific SGT/DGT
#Use this command without arguments to see hardware counters
From   To     SW-Denied   SW-Permitted
16     9     0           0           11          0
```

En essayant d'utiliser la connexion de telnet échoue, des compteurs de baisse augmentent.

```
KSEC-3850-1#show cts role-based counters from 16
Role-based IPv4 counters
#Hardware counters are not available for specific SGT/DGT
#Use this command without arguments to see hardware counters
From   To     SW-Denied   SW-Permitted
16     9     3           0           11          0
```

Notez s'il vous plaît là n'est aucune stratégie spécifique sur 3850-2, tout le trafic est laissé.

```
KSEC-3850-2#show cts role-based permissions
IPv4 Role-based permissions default:
  Permit IP-00
```

```
RBACL Monitor All for Dynamic Policies : FALSE
RBACL Monitor All for Configured Policies : FALSE
```

Après avoir modifié l'ACL SG sur ISE, ajouter le TCP d'autorisation, et les cts régénèrent la stratégie sur 3850-1 - alors le trafic de telnet est reçu.

Soit possible aussi d'utiliser le cache local de Technologie Flexible NetFlow (à partir d'IOS-XE 3.7.2 c'est SGT averti) pour confirmer le comportement.

```
KSEC-3850-2#show cts role-based permissions
IPv4 Role-based permissions default:
  Permit IP-00
```

```
RBACL Monitor All for Dynamic Policies : FALSE
RBACL Monitor All for Configured Policies : FALSE
```

Le trafic d'expositions de résultats reçu de 3850-2. La source SGT est 0 parce que le trafic reçu n'a aucun SGT (aucun lien de cts), mais la balise de groupe de destination est automatiquement remplacée basée sur la table de mappage locale.

```
KSEC-3850-1#show flow monitor F_MON cache
Cache type:                Normal (Platform cache)
Cache size:                 Unknown
```

Current entries: 6

Flows added: 1978  
Flows aged: 1972  
- Active timeout ( 1800 secs) 30  
- Inactive timeout ( 15 secs) 1942

IPV4 SRC ADDR	IPV4 DST ADDR	TRNS SRC PORT	TRNS DST PORT	FLOW DIRN	FLOW CTS	SRC GROUP
TAG	FLOW CTS	DST GROUP	TAG	IP PROT	pkts long	
150.1.7.1	224.0.0.10			0	0	Output
0	0	88			57	
10.62.148.1	224.0.0.13			0	8192	Output
0	0	103			0	
7.7.4.1	224.0.0.10			0	0	Output
0	0	88			56	
10.0.0.1	10.0.0.100			0	0	Output
0	0	1			1388	
150.1.7.105	224.0.0.5			0	0	Output
0	0	89			24	
150.1.7.1	224.0.0.5			0	0	Output
0	0	89			24	
<b>10.0.0.100</b>	<b>10.0.0.1</b>			<b>0</b>	<b>2048</b>	<b>Input</b>
<b>0</b>	<b>9</b>	<b>1</b>			<b>1388</b>	

Le cache local de NetFlow peut être utilisé pour confirmer le trafic reçu. Si ce trafic est reçu ou abandonné, cela est confirmé par des compteurs de cts présentés avant.

ISE laisse également générer des états d'attache et de connexion SXP, suivant les indications de cette image.

The screenshot shows the Cisco Identity Services Engine (ISE) interface. The top navigation bar includes 'Home', 'Operations', 'Policy', 'Guest Access', 'Administration', and 'Work Centers'. Below this, there are sub-menus for 'RADIUS Livelog', 'TACACS Livelog', 'Reports', 'Troubleshoot', and 'Adaptive Network Control'. The main content area is titled 'SXP Connection' and displays a table of reports for the time range 'From 08/15/2015 12:00:00 AM to 08/15/2015 11:59:59 PM'. The table has columns for 'Generated Time', 'Peer IP', 'Port', 'SXP Node Ip', 'VPN', 'SXP Mode', 'SXP Version', 'Password Type', 'Status', and 'Reason'. All entries show a status of 'PendingOn'. On the left side, there is a 'Report Selector' panel with a tree view of reports, including 'SXP' and 'SXP Connection'. A 'Time Range' dropdown is set to 'Yesterday'.

## Références

- [Posture de la version 9.2.1 VPN ASA avec l'exemple de configuration ISE](#)
- [L'ASA et les séries du Catalyst 3750X commutent l'exemple de configuration de TrustSec et dépassent le guide](#)
- [Guide de configuration de commutateur de Cisco TrustSec : Compréhension du Cisco TrustSec](#)
- [Déploiement et feuille de route de Cisco TrustSec](#)
- [Guide de configuration de Cisco Catalyst 3850 TrustSec](#)

- [Matrice de compatibilité de Cisco TrustSec](#)
- [Support et documentation techniques - Cisco Systems](#)