

Configurar o ouvinte e o orador ISE 2.0 TrustSec SXP

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Introdução

Este documento descreve como configurar e pesquisar defeitos a característica que a versão 2.0 do Cisco Identity Services Engine (ISE) apoia o protocolo de intercâmbio de TrustSec SGT (SXP) em um modo do Lister e do orador.

Pré-requisitos

Requisitos

A Cisco recomenda que você tenha conhecimento destes tópicos:

- Configuração de switch do Cisco catalyst
- Serviços do Identity Services Engine (ISE) e do TrustSec

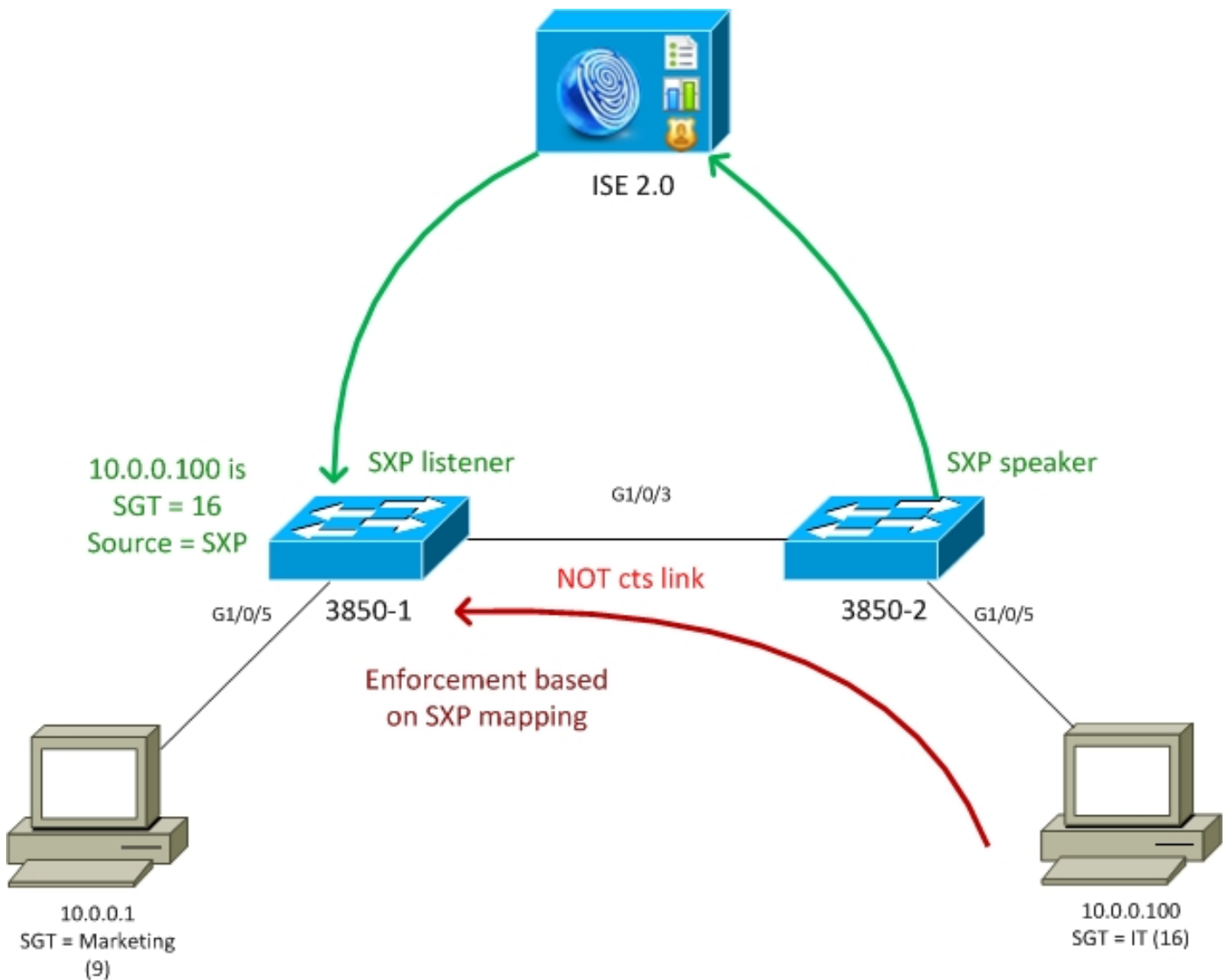
[Componentes Utilizados](#)

As informações neste documento são baseadas nestas versões de software:

- Cisco Catalyst 3850 Switch com software IOS-XE 3.7.2 e mais atrasado
- Cisco ISE, libera 2.0 e mais atrasado

Configurar

Diagrama de Rede



Fluxo de tráfego

- 3850-2 é o autenticador do 802.1x para 10.0.0.100 - Etiqueta de retorno do grupo de segurança ISE (SGT) 16 (a TI) para a autenticação bem sucedida
- O 3850-2 Switch aprende o endereço IP de Um ou Mais Servidores Cisco ICM NT do suplicante (dispositivo IP que segue) e envia a informação de mapeamento (IP-SGT) ao ISE usando o protocolo SXP
- 3850-1 é o autenticador do 802.1x para 10.0.0.1 - ISE que retorna a etiqueta 9 SGT (mercado) para a autenticação bem sucedida
- 3850-1 recebe a informação de mapeamento SXP do ISE (10.0.0.100 é SGT 16), transfere a política do ISE
- O tráfego enviado de 10.0.0.100 a 10.0.0.1 é enviado por 3850-2 (nenhuma política específica transferida) a 3850-1 que é impulsor que bate a política a TI (16) - > o mercado (9)

Note por favor o link entre os Switches não é cts link - assim que todos os mapeamentos remotos nos Switches são instalados através do protocolo SXP.

Note: Não todos os Switches tem o hardware reservando ser programado através da política

recebida do ISE baseado em mapeamentos recebidos SXP. Para a verificação por favor sempre refira a matriz de compatibilidade a mais atrasada de TrustSec ou contacte o Cisco Systems.

Configurações

Para detalhes em relação à configuração básica de TrustSec, refira os artigos na seção de referências.

Comute 3850-1

O interruptor termina a sessão do 802.1x com atribuição SGT e igualmente como o orador SXP para o 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
```

Comute 3850-2

O interruptor termina a sessão do 802.1x com atribuição SGT e igualmente como o ouvinte SXP que obtém o mapeamento do 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

Etapa 1. Dispositivos do acesso de rede

Navegue aos **centros de trabalho** > à **administração** > aos **recursos de rede do dispositivo**, adicionar o Switches com o Cisco secreto compartilhado e a senha 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

Etapa 2. Grupos de segurança

A fim adicionar SGT para o TI e o mercado, navegue **grupos ao > segurança dos centros de trabalho > do TrustSec > dos componentes.**

Identity Services Engine Home Operations Policy Guest Access

TrustSec Device Administration

Overview Authentication Policy Authorization Policy Components Policy SXP

Security Groups

Security Group ACLs

Network Devices

Trustsec AAA Servers

Security Groups

For Policy Export go to [Administration > System > Backup &](#)

Edit Add Import Export Delete

	Name	SGT (Dec / Hex)
<input type="checkbox"/>	SGT_BYOD	15/000F
<input type="checkbox"/>	SGT_Guest	6/0006
<input type="checkbox"/>	SGT_IT	16/0010
<input type="checkbox"/>	SGT_Marketing	9/0009
<input type="checkbox"/>	Unknown	0/0000

Etapa 3. Grupos de segurança ACL

A fim adicionar o grupo de segurança ACL, navegue o **grupo ACL** ao **> segurança dos centros de trabalho > do TrustSec > dos componentes**.

Identity Services Engine Home Operations Policy Guest Access Admin

TrustSec Device Administration

Overview Authentication Policy Authorization Policy Components Policy SXP Reports

Security Groups

Security Group ACLs

Network Devices

Trustsec AAA Servers

Security Groups ACLs List > ICMP

Security Group ACLs

* Name

Description

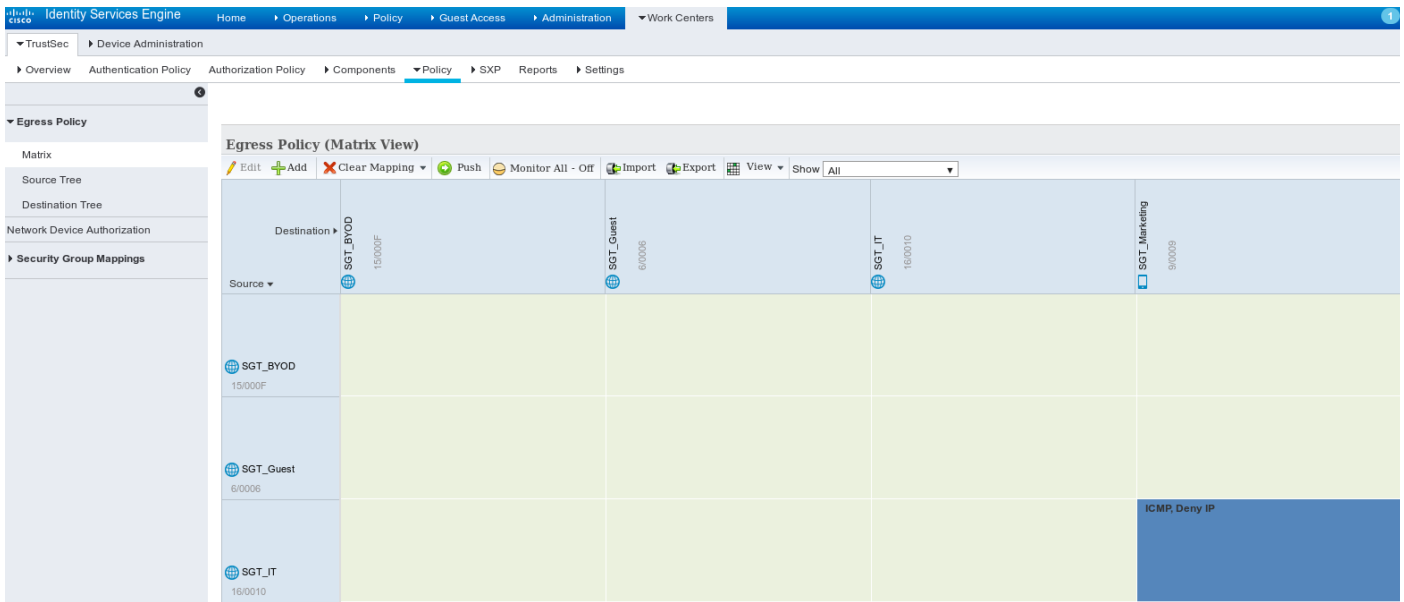
IP Version IPv4 IPv6 Agnostic

* Security Group ACL content

Permita somente o tráfego ICMP.

Etapa 4. Política de TrustSec

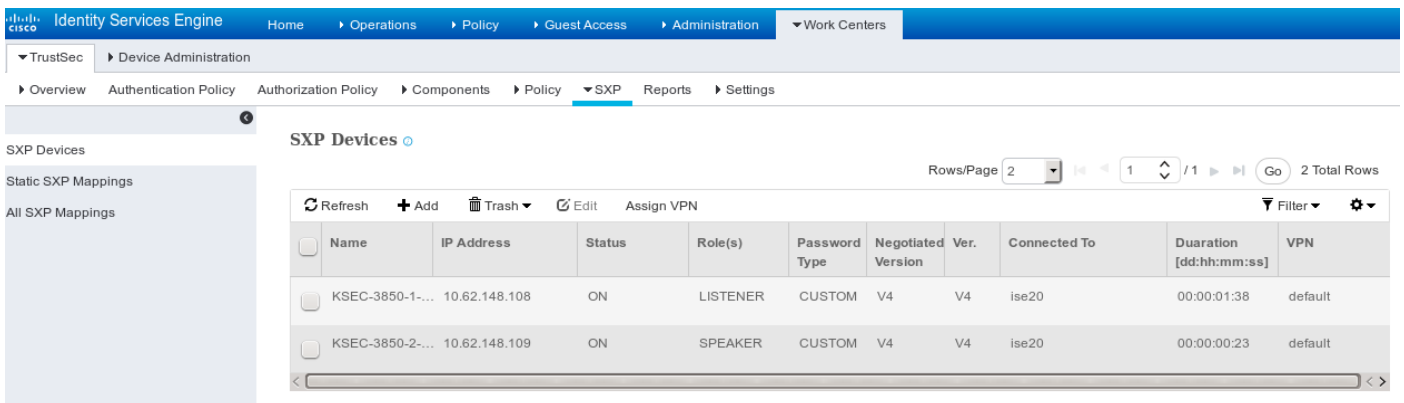
A fim adicionar a política que controla o tráfego do TI ao mercado, navegue aos **centros de trabalho > ao TrustSec > aos componentes > à política de saída > à matriz**.



Ajuste a captura da entrada padrão toda a regra para negar todo o tráfego.

Etapa 5. Dispositivos SXP

A fim configurar o ouvinte e o orador SXP para o Switches correspondente, navegue aos **centros de trabalho > ao TrustSec > aos dispositivos SXP**.



Use a senha Cisco (ou qualquer outro configurado para o sxp no interruptor).

Etapa 6. Política da autorização

Assegure-se de que política da autorização retorne etiquetas corretas SGT para cada usuário, navegue à **política > à autorização**.

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

Verificar

Etapa 1. Comute o ISE de junta para cts

De cada interruptor forneça as credenciais de TrustSec (configuradas em ISE/Step1) para obter o 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.

Assegure-se de que o PAC esteja transferido.

```
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
```

E a política de ambiente é refrescada.

```
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
Repita o mesmo processo para 3850-1

```

Sessões do 802.1x de etapa 2.

Depois que o usuário de TI é autenticado, a etiqueta correta está atribuída.

```

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

```

O mapeamento é instalado na tabela local 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

```

Etapa 3. Orador SXP

3850-2 envia o mapeamento ao ISE, interruptor debuga para o sxp dos 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>
```

O ISE relata (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][O|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][O|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][O|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

```

E apresente todos os mapeamentos através do GUI (incluir o mapeamento para 10.0.0.100 recebeu de 3850-2), segundo as indicações desta imagem.

The screenshot shows the Cisco Identity Services Engine (ISE) GUI. The navigation menu includes 'TrustSec' and 'Device Administration'. The main content area is titled 'All SXP Mappings' and contains a table with the following data:

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 é o identificador da conexão SXP em 3850-2 (o endereço IP de Um ou Mais Servidores Cisco ICM NT o mais alto definido).

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
Vlan100	10.0.0.2	YES	manual	up	up
Vlan480	10.62.148.109	YES	NVRAM	up	up
Vlan613	unassigned	YES	NVRAM	administratively	down
Vlan666	192.168.66.2	YES	NVRAM	down	down
Vlan777	192.168.77.2	YES	NVRAM	down	down

Etapa 4. Ouvinte SXP

Então o ISE envia novamente esse mapeamento a 3850-1, interruptor debuga.

```
*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_recv 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>
```

A captura de pacote de informação tomada do ISE para o tráfego para 3850-1 confirma mapeamentos SXP está sendo enviada.

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 0b0.
0060	05 20 c0 a8 01 cb 10 10	08 0a 30 11 eb c0 a8 4d0...M
0070	02 10 11 02 00 10 10 0b	05 20 0a 00 00 64d

Wireshark usa o decodificador padrão SMPP. Para verificar o payload:

10 (SGT = 16) para Cb "c0 a8 01" (192.168.1.203)

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

3850-1 instala todos os mapeamentos recebidos do 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
10.0.0.100	16	SXP
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
```

Etapa 5. Transferência e aplicação da política

Transfira a política correta do ISE. (Fileira da matriz com 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
```

O tráfego ICMP de 10.0.0.100 (SGT A TI) a 10.0.0.1 (mercado SGT) é permitido, aumento dos contadores.

```
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

Quando tentar usar a conexão Telnet falhar, contadores de queda aumenta.

```
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

Não note por favor lá é nenhuma política específica em 3850-2, todo o tráfego é reservado.

```
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
```

Após ter alterado SG ACL no ISE, adicionar a licença tcp, e cts refresca a política em 3850-1 - o tráfego do telnet é aceitado então.

Seu possível também usar o cache local do Flexible NetFlow (que parte de IOS-XE 3.7.2 é SGT ciente) para confirmar o comportamento.

```
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
```

O tráfego das mostras dos resultados recebido de 3850-2. A fonte SGT é 0 porque o tráfego recebido não tem nenhum SGT (nenhum link dos cts), mas a etiqueta do grupo de destino é substituída automaticamente baseada na tabela de mapeamento local.

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
150.1.1.7.1	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			
150.1.1.7.105	224.0.0.5	0	0	Output		
0	0	89	24			
150.1.1.7.1	224.0.0.5	0	0	Output		
0	0	89	24			
10.0.0.100	10.0.0.1	0	2048	Input		
0	9	1	1388			

O cache local do Netflow pode ser usado para confirmar o tráfego recebido. Se esse tráfego é aceitado ou deixado cair, aquele está confirmado pelos contadores dos cts apresentados antes.

O ISE igualmente reserva gerar relatórios do emperramento e da conexão SXP, segundo as indicações desta imagem.

The screenshot shows the Cisco Identity Services Engine (ISE) interface. The top navigation bar includes 'Home', 'Operations', 'Policy', 'Guest Access', 'Administration', and 'Work Centers'. Under 'Operations', there are sub-menus for 'RADIUS Livelog', 'TACACS Livelog', 'Reports', 'Troubleshoot', and 'Adaptive Network Control'. The 'Reports' section is active, and the 'Report Selector' on the left shows 'SXP' expanded to 'SXP Connection'. The main content area displays a table of SXP Connection reports for the time range 'Yesterday'.

Generated Time	Peer IP	Port	SXP Node Ip	VPN	SXP Mode	SXP Version	Password Type	Status	Reason
2015-08-15 07:13:41.1	10.48.67.250	64999	10.48.17.235	default	BOTH	VERSION_4	CUSTOM	PendingOn	
2015-08-15 07:11:41.1	10.48.67.250	64999	10.48.17.235	default	BOTH	VERSION_4	CUSTOM	PendingOn	
2015-08-15 07:09:41.0	10.48.67.250	64999	10.48.17.235	default	BOTH	VERSION_4	CUSTOM	PendingOn	
2015-08-15 07:07:40.7	10.48.67.250	64999	10.48.17.235	default	BOTH	VERSION_4	CUSTOM	PendingOn	
2015-08-15 07:05:40.4	10.48.67.250	64999	10.48.17.235	default	BOTH	VERSION_4	CUSTOM	PendingOn	
2015-08-15 07:03:40.4	10.48.67.250	64999	10.48.17.235	default	BOTH	VERSION_4	CUSTOM	PendingOn	
2015-08-15 07:01:40.2	10.48.67.250	64999	10.48.17.235	default	BOTH	VERSION_4	CUSTOM	PendingOn	
2015-08-15 06:59:39.9	10.48.67.250	64999	10.48.17.235	default	BOTH	VERSION_4	CUSTOM	PendingOn	
2015-08-15 06:57:39.5	10.48.67.250	64999	10.48.17.235	default	BOTH	VERSION_4	CUSTOM	PendingOn	
2015-08-15 06:55:39.3	10.48.67.250	64999	10.48.17.235	default	BOTH	VERSION_4	CUSTOM	PendingOn	
2015-08-15 06:53:38.9	10.48.67.250	64999	10.48.17.235	default	BOTH	VERSION_4	CUSTOM	PendingOn	

Referências

- [Postura da versão ASA 9.2.1 VPN com exemplo de configuração ISE](#)
- [O ASA e o exemplo de configuração de TrustSec do Catalyst 3750X Series Switch e pesquisam defeitos o guia](#)
- [Guia de configuração de switch de Cisco TrustSec: Compreendendo Cisco TrustSec](#)
- [Desenvolvimento e mapa rodoviário de Cisco TrustSec](#)
- [Manual de configuração de TrustSec do Cisco catalyst 3850](#)
- [Matriz de compatibilidade de Cisco TrustSec](#)
- [Suporte Técnico e Documentação - Cisco Systems](#)