

Konfiguration von TrustSec NDAC-Seed- und Nicht-Seed-Geräten

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Einführung

In diesem Dokument wird beschrieben, wie Seed- und Nicht-Seed-Geräte bei der Verwendung von TrustSec mit der ISE (Identity Services Engine) konfiguriert werden.

TrustSec verwendet NDAC (Network Device Admission Control), um ein neues Gerät zu authentifizieren, bevor es der TrustSec-Domäne beitreten kann. Dies verhindert, dass nicht autorisierte Geräte am Austausch von TrustSec-Informationen teilnehmen können. Seed-Geräte/Authentifizierer, in diesem Fall der Switch der Serie 6500, müssen manuell konfiguriert werden und für die Verbindung zur ISE RADIUS over IP verwenden. Geräte/Supplicants ohne Seed, in diesem Fall der 3560X, haben keine direkte IP-Verbindung zur ISE und erfordern die Anmeldung und Authentifizierung der Seed-Geräte im Netzwerk über 802.1X. Nach der Authentifizierung des Supplicant-Geräts (kein Seed-Gerät) wird eine PAC (Protected Access Credential) von der ISE bereitgestellt, und die Serverinformationen werden heruntergeladen. Die PAC enthält einen gemeinsam genutzten Schlüssel und ein verschlüsseltes Token, um in Zukunft

einen sicheren Kontakt zur ISE bereitzustellen.

Voraussetzungen

ISE-Authentifizierungsserver

TrustSec-fähiges Seed-Gerät/Authentifizierer

TrustSec-fähiges Gerät/Supplicant ohne Seed

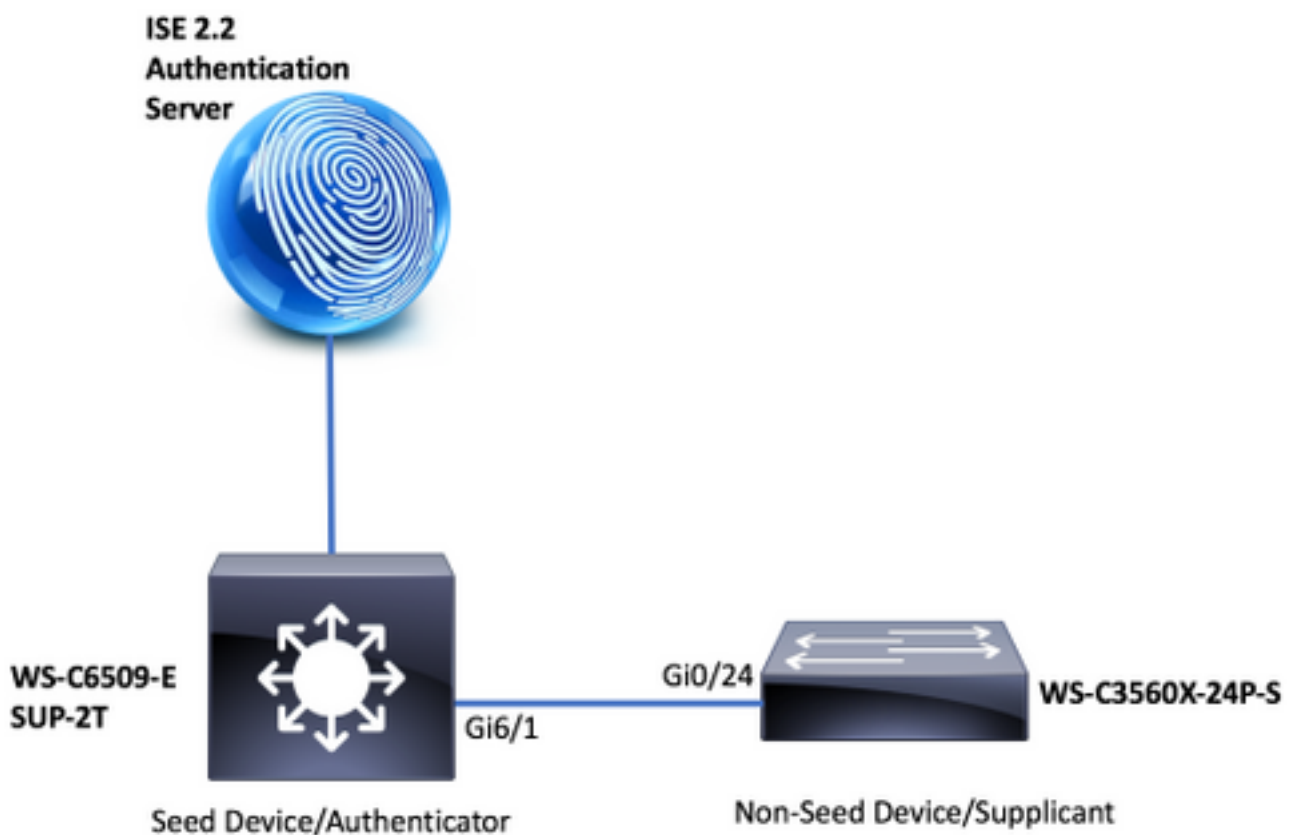
In der aktuellen TrustSec-Kompatibilitätsmatrix finden Sie weitere Informationen:

<http://www.cisco.com/c/en/us/solutions/enterprise-networks/trustsec/solution-overview-listing.html>

Verwendete Komponenten

- ISE 2.2 Patch 2
- WS-C6509-E [VS-SUP2T-10G] s2t54-ipservicesk9-mz.SPA.152-1.SY3.bin
- WS-C3560X-24P-S c3560e-universalk9-mz.152-4.E4.bin

Netzwerkdiagramm



DAC-Topologie

IP-Adressen

ISE: 14.36.143.18

6509: 10.122.165.35

3560X: 10.122.160.118

ISE-Konfiguration

Hinzufügen von Netzwerkgeräten

6500 (Saatgut)

WorkCenter > TrustSec > Components > Network Devices > Add

Gerätename und IP-Adresse

[Network Devices List](#) > [New Network Device](#)

Network Devices

* Name

Description

* IP Address: /

Gemeinsamer Radius-geheimer Schlüssel

RADIUS Authentication Settings

RADIUS UDP Settings

Protocol **RADIUS**

* Shared Secret

CoA Port

TrustSec-Anmeldeinformationen



Advanced TrustSec Settings

Device Authentication Settings

Use Device ID for TrustSec

Identification

Device Id

* Password

TrustSec Notifications and Updates

* Download environment data every

* Download peer authorization policy every

* Reauthentication every

* Download SGACL lists every

Other TrustSec devices to trust this device

Send configuration changes to device Using CoA CLI (SSH)

Ssh Key

Device Configuration Deployment

Include this device when deploying Security Group Tag Mapping Updates

Device Interface Credentials

* EXEC Mode Username

* EXEC Mode Password

Enable Mode Password

3560X (kein Saatgut)

WorkCenter > TrustSec > Components > Network Devices > Add

Gerätename und IP-Adresse

Network Devices

* Name

Description

* IP Address: /

Gemeinsamer Radius-geheimer Schlüssel

RADIUS Authentication Settings

RADIUS UDP Settings

Protocol **RADIUS**

* Shared Secret

CoA Port

TrustSec-Anmeldeinformationen



Advanced TrustSec Settings

Device Authentication Settings

Use Device ID for TrustSec

Identification

Device Id

* Password

TrustSec Notifications and Updates

* Download environment data every

* Download peer authorization policy every

* Reauthentication every ⓘ

* Download SGACL lists every

Other TrustSec devices to trust this device

Send configuration changes to device Using CoA CLI (SSH)

Ssh Key

Device Configuration Deployment

Include this device when deploying Security Group Tag Mapping Updates

Device Interface Credentials

* EXEC Mode Username

* EXEC Mode Password

Enable Mode Password

TrustSec-Sicherheitsgruppen

WorkCenter > TrustSec > Komponenten > Sicherheitsgruppen

Security Groups

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

Icon	Name	SGT (Dec / Hex)	Description
<input type="checkbox"/>	Auditors	9/0009	Auditor Security Group
<input type="checkbox"/>	BYOD	15/000F	BYOD Security Group
<input type="checkbox"/>	Contractors	5/0005	Contractor Security Group
<input type="checkbox"/>	Developers	8/0008	Developer Security Group
<input type="checkbox"/>	Development_Servers	12/000C	Development Servers Security Group
<input type="checkbox"/>	Employees	4/0004	Employee Security Group
<input type="checkbox"/>	Guests	6/0006	Guest Security Group
<input type="checkbox"/>	Network_Services	3/0003	Network Services Security Group
<input type="checkbox"/>	PCI_Servers	14/000E	PCI Servers Security Group
<input type="checkbox"/>	Point_of_Sale_Systems	10/000A	Point of Sale Security Group
<input type="checkbox"/>	Production_Servers	11/000B	Production Servers Security Group
<input type="checkbox"/>	Production_Users	7/0007	Production User Security Group
<input type="checkbox"/>	Quarantined_Systems	255/00FF	Quarantine Security Group
<input type="checkbox"/>	Test_Servers	13/000D	Test Servers Security Group
<input type="checkbox"/>	TrustSec_Devices	2/0002	TrustSec Devices Security Group
<input type="checkbox"/>	Unknown	0/0000	Unknown Security Group

Richtlinien zur Autorisierung von Netzwerkgeräten

WorkCenter > TrustSec > TrustSec-Richtlinie > Autorisierung von Netzwerkgeräten

Network Device Authorization

Define the Network Device Authorization Policy by assigning SGTs to network devices. Drag and drop rules to change the order.

Rule Name	Conditions	Security Group
<input checked="" type="checkbox"/> NDAC	If DEVICE:Device Type equals to Device Type#All Device Types then	TrustSec_Devices
<input checked="" type="checkbox"/> Default Rule	If no rules defined or no match then	Unknown

Konfiguration des Seed-Geräts (6500)

TrustSec Credentials

```
6500#cts credentials id 6500 password Cisc0123
```

AAA configuration

```
6500 (config)#aaa new-model
6500 (config)#aaa authentication dot1x default group radius
6500 (config)#aaa accounting identity default start-stop group radius
6500 (config)#aaa authorization network CTSlist group radius
6500 (config)#cts authorization list CTSlist
```

Radius Server Configuration

```
6500(config)#radius server ISE
6500(config-radius-server)#address ipv4 14.36.143.18 auth-port 1812 acct-port 1813
6500(config-radius-server)#pac key Cisc0123
```

Recognize and use vendor-specific attributes

```
6500(config)#radius-server vsa send authentication
```

Enable Change of Authorization

```
6500(config)#aaa server radius dynamic-author
6500(config-locsvr-da-radius)#client 14.36.143.18 server-key Cisc0123
```

Enable 802.1X

```
6500(config)#dot1x system-auth-control
```

Switchport TrustSec Configuration

```
6500(config)#int gi6/1
6500(config-if)#switchport mode trunk
6500(config-if)#cts dot1x
6500(config-if-cts-dot1x)#sap mode-list null
6500(config-if-cts-dot1x)#propagate sgt
```

Überprüfung

PAC Download

```
6500#show cts pac
AID: 6F5719523570B8D229F23073404E2D37
PAC-Info:
  PAC-type = Cisco Trustsec
  AID: 6F5719523570B8D229F23073404E2D37
  I-ID: 6500
  A-ID-Info: ISE 2.2p1
  Credential Lifetime: 04:27:29 UTC Oct 26 2017
PAC-Opaque:
000200B000030001000400106F5719523570B8D229F23073404E2D370006009400030100801062F6BE70E2CCB6B0D25B
FC81CB5D00000013597A55C100093A8059F0E1A3FAF83A2B7C8332479B7324C0FDC4CBAE9AE4AFD19C614A7DB13C9DBD
06798A344423897745F0F91F19489772E543ED205A9CD0F276A96C4505BF34CB75F132377FE770B77A3D822842DFE3A0
A858130612D08DD58965B09C352E33E74DB3F6B5C7E1F6EC8C30FF215A6FEB3EA7BBC95E
Refresh timer is set for 12w5d
```

Environment Data

```
6500#show cts environment-data
CTS Environment Data
=====
Current state = COMPLETE
Last status = Successful
Local Device SGT:
  SGT tag = 2-02:TrustSec_Devices
Server List Info:
Installed list: CTSServerList1-0001, 1 server(s):
  *Server: 14.36.143.18, port 1812, A-ID 6F5719523570B8D229F23073404E2D37
    Status = ALIVE
    auto-test = TRUE, keywrap-enable = FALSE, idle-time = 60 mins, deadtime = 20 secs
Multicast Group SGT Table:
Security Group Name Table:
  0-fb:Unknown
  2-fb:TrustSec_Devices
  3-fb:Network_Services
  4-fb:Employees
  5-fb:Contractors
  6-fb:Guests
  7-fb:Production_Users
```


8-fb:Developers
9-fb:Auditors
10-fb:Point_of_Sale_Systems
11-fb:Production_Servers
12-fb:Development_Servers
13-fb:Test_Servers
14-fb:PCI_Servers
15-fb:BYOD
255-fb:Quarantined_Systems

Environment Data Lifetime = 86400 secs
Last update time = 20:28:36 UTC Thu Jul 27 2017
Env-data expires in 0:23:47:05 (dd:hr:mm:sec)
Env-data refreshes in 0:23:47:05 (dd:hr:mm:sec)
Cache data applied = NONE
State Machine is running

ISE Live-Protokolle

Operations > RADIUS > Live Logs

PAC-Bereitstellung

		6500	6500	00:26:CA:1E:74:40
---	---	------	------	-------------------

Authentication Details

Source Timestamp	2017-07-28 00:27:29.948
Received Timestamp	2017-07-28 00:27:29.949
Policy Server	ISE22new
Event	5206 PAC provisioned
Username	6500
Endpoint Id	00:26:CA:1E:74:40
Calling Station Id	0026ca1e7440
Authentication Identity Store	Internal CTS Devices
Authentication Method	dot1x
Authentication Protocol	EAP-FAST (EAP-MSCHAPv2)
Service Type	Framed
Network Device	6500

TrustSec-Datendownload

			6500	#CTSREQUEST#	
			6500	#CTSREQUEST#	
			6500	#CTSREQUEST#	NetworkDeviceAuthorization >> NDAC

Authentication Details

Source Timestamp	2017-07-28 00:28:00.73
Received Timestamp	2017-07-28 00:28:00.731
Policy Server	ISE22new
Event	5233 TrustSec Data Download Succeeded
Username	#CTSREQUEST#
Service Type	Outbound
Network Device	6500
Device Type	All Device Types
Location	All Locations
NAS IPv4 Address	10.122.165.35
Security Group	TrustSec_Devices
Response Time	26 milliseconds

Other Attributes

ConfigVersionId	81
DestinationPort	1812
Protocol	Radius
NetworkDeviceProfileName	Cisco
NetworkDeviceProfileId	b0699505-3150-4215-a80e-6753d45bf56c
IsThirdPartyDeviceFlow	false
AcsSessionId	ISE22new/290042933/391
AuthorizationPolicyMatchedRule	NDAC
CPMSessionID	0e248f12uRp7OyJg47Xw5P1a3ocsnKLGOWxUEIAEeOP9HaC6aEs
ISEPolicySetName	NetworkDeviceAuthorization
DTLSSupport	Unknown
Network Device Profile	Cisco
Location	Location#All Locations
Device Type	Device Type#All Device Types
IPSEC	IPSEC#Is IPSEC Device#No
RADIUS Username	#CTSREQUEST#
Device IP Address	10.122.165.35
CiscoAVPair	cts-pac-opaque=****, cts-environment-data=6500, cts-device-capability=env-data-fragment

Result

State	ReauthSession:0e248f12uRp7OyJg47Xw5P1a3ocsnKLGOWxUEIAEeOP9HaC6aEs
Class	CACS:0e248f12uRp7OyJg47Xw5P1a3ocsnKLGOWxUEIAEeOP9HaC6aEs:ISE22new/290042933/391
cisco-av-pair	cts:server-list=CTSServerList1-0001
cisco-av-pair	cts:security-group-tag=0002-02
cisco-av-pair	cts:environment-data-expiry=86400
cisco-av-pair	cts:security-group-table=0001-17

Result

Class	CACS:0e248f12uRp7Oyjg47Xw5P1a3ocsnKLGOWxUEIAEeOP9HaC6aEs:ISE22new/290042933/392
cisco-av-pair	cts:server-list=CTSServerList1-0001
cisco-av-pair	cts:server=6f5719523570b8d229f23073404e2d37:14.36.143.18:1812

Result

Class	CACS:0e248f12uRp7Oyjg47Xw5P1a3ocsnKLGOWxUEIAEeOP9HaC6aEs:ISE22new/290042933/393
cisco-av-pair	cts:security-group-table=0001-17
cisco-av-pair	cts:security-group-info=0-0-00-Unknown
cisco-av-pair	cts:security-group-info=ffff-1-00-ANY
cisco-av-pair	cts:security-group-info=9-0-00-Auditors
cisco-av-pair	cts:security-group-info=f-0-00-BYOD
cisco-av-pair	cts:security-group-info=5-0-00-Contractors
cisco-av-pair	cts:security-group-info=8-0-00-Developers
cisco-av-pair	cts:security-group-info=c-0-00-Development_Servers
cisco-av-pair	cts:security-group-info=4-0-00-Employees
cisco-av-pair	cts:security-group-info=6-2-00-Guests
cisco-av-pair	cts:security-group-info=3-0-00-Network_Services
cisco-av-pair	cts:security-group-info=e-0-00-PCI_Servers
cisco-av-pair	cts:security-group-info=a-0-00-Point_of_Sale_Systems
cisco-av-pair	cts:security-group-info=b-0-00-Production_Servers
cisco-av-pair	cts:security-group-info=7-0-00-Production_Users
cisco-av-pair	cts:security-group-info=ff-0-00-Quarantined_Systems
cisco-av-pair	cts:security-group-info=d-0-00-Test_Servers
cisco-av-pair	cts:security-group-info=2-2-00-TrustSec_Devices

Konfiguration nicht-Seed-Geräte (3560X)

TrustSec Credentials

```
3560X#cts credentials id 3560X password Cisc0123
```

AAA configuration

```
3560X(config)#aaa new-model
3560X(config)#aaa authentication dot1x default group radius
3560X(config)#aaa authorization network default group radius
3560X(config)#aaa accounting identity default start-stop group radius
```

Recognize and use vendor-specific attributes

```
3560X(config)#radius-server vsa send authentication
```

Enable Change of Authorization

```
3560X(config)#aaa server radius dynamic-author
3560X(config-locsvr-da-radius)#client 14.36.143.18 server-key Cisc0123
```

Enable 802.1X

```
3560X(config)#dot1x system-auth-control
```

Switchport TrustSec Configuration

```
3560X(config)#int gi0/24
3560X(config-if)#switchport trunk encapsulation dot1q
3560X(config-if)#switchport mode trunk
3560X(config-if)#cts dot1x
3560X(config-if-cts-dot1x)#sap mode-list null
3560X(config-if-cts-dot1x)#propagate sgt
```

Überprüfung

Pac Download

```
3560X#show cts pac
```

```
AID: 6F5719523570B8D229F23073404E2D37
PAC-Info:
  PAC-type = Cisco Trustsec
  AID: 6F5719523570B8D229F23073404E2D37
  I-ID: 3560X
  A-ID-Info: ISE 2.2p1
  Credential Lifetime: 05:32:57 UTC Oct 26 2017
PAC-Opaque:
000200B000030001000400106F5719523570B8D229F23073404E2D3700060094000301009F9B0624C0A0C5D2AFDAAE89
C173D34300000013597A55C100093A8059F0E1A3FAF83A2B7C8332479B7324C0B224F18D8654C2DB14544B58296A0A97
C7B52EB1B7C0725776FE16F715094AC8A766E1F6D16A2A151B70632D6EAB34C5E1874409779FADA53F5892AD4ACC3533
B5A61F89D028C076D94B52744A328C23437306AF428162AC680742003C6BDDDB207A08F57
  Refresh timer is set for 11y42w
```

Environment Data

```
3560X#show cts environment-data
```

```
CTS Environment Data
=====
Current state = COMPLETE
Last status = Successful
Local Device SGT:
  SGT tag = 2-02:TrustSec_Devices
Server List Info:
Installed list: CTSServerList1-0001, 1 server(s):
  *Server: 14.36.143.18, port 1812, A-ID 6F5719523570B8D229F23073404E2D37
    Status = ALIVE
    auto-test = TRUE, keywrap-enable = FALSE, idle-time = 60 mins, deadtime = 20 secs
Multicast Group SGT Table:
Security Group Name Table:
  0-d1:Unknown
  2-d1:TrustSec_Devices
```

3-d1:Network_Services
4-d1:Employees
5-d1:Contractors
6-d1:Guests
7-d1:Production_Users
8-d1:Developers
9-d1:Auditors
10-d1:Point_of_Sale_Systems
11-d1:Production_Servers
12-d1:Development_Servers
13-d1:Test_Servers
14-d1:PCI_Servers
15-d1:BYOD
255-d1:Quarantined_Systems

Environment Data Lifetime = 86400 secs

Last update time = 02:41:21 UTC Mon Jan 2 2006

Env-data expires in 0:23:56:36 (dd:hr:mm:sec)

Env-data refreshes in 0:23:56:36 (dd:hr:mm:sec)

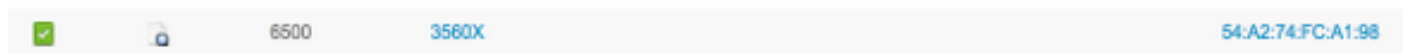
Cache data applied = NONE

State Machine is running

ISE Live-Protokolle

Operations > RADIUS > Live Logs

PAC-Bereitstellung



Authentication Details


Source Timestamp	2017-07-28 01:32:57.707
Received Timestamp	2017-07-28 01:32:57.708
Policy Server	ISE22new
Event	5206 PAC provisioned
Username	3560X
Endpoint Id	54:A2:74:FC:A1:98
Calling Station Id	54-A2-74-FC-A1-98
Authentication Identity Store	Internal CTS Devices
Audit Session Id	0A7AA523000000100094C0F0
Authentication Method	dot1x
Authentication Protocol	EAP-FAST (EAP-MSCHAPv2)
Service Type	Framed
Network Device	6500

CiscoAVPair

```
cts-pac-opaque=****,  
service-type=Framed,  
cts-capabilities=sap,  
audit-session-id=0A7AA523000000100094C0F0,  
method=dot1x
```

Nicht-Seed-Authentifizierung

Overview

Event	5200 Authentication succeeded
Username	3560X
Endpoint Id	54:A2:74:FC:A1:98 
Endpoint Profile	
Authorization Policy	NetworkDeviceAuthorization >> NDAC
Authorization Result	Permit Access

Result

User-Name	3560X
State	ReauthSession:0A7AA523000000110094D88C
Class	CACS:0A7AA523000000110094D88C:ISE22new/290042933/396
Session-Timeout	86400 milliseconds
EAP-Key-Name	2b:90:51:10:6d:f0:fd:04:12:07:b1:ea:37:dd:a8:e7:f1:d3:9f:59:49:eb:3b:6d:fe:f4:bb:7c:f9:f5:2c:df:b6:e8:55:7b:cc:84:7c:fa:3a:86:be:a6:c7:93:63:96:03:57:c5:a4:46:bb:e0:19:e9:be:95:b4:37:12:f2:db:ae
cisco-av-pair	cts:security-group-tag=0002-02
cisco-av-pair	cts:supplicant-cts-capabilities=sap
MS-MPPE-Send-Key	****
MS-MPPE-Recv-Key	****

Gegenseitiges Herunterladen von Peer-Richtlinien

		3560X	#CTSDEVICE#-6500	NetworkDeviceAuthorization >> NDAC
		6500	#CTSDEVICE#-3560X	NetworkDeviceAuthorization >> NDAC

Overview

Event	5234 TrustSec Peer Policy Download Succeeded
Username	#CTSDEVICE#-3560X
Endpoint Id	
Endpoint Profile	
Authorization Policy	NetworkDeviceAuthorization >> NDAC
Authorization Result	

Result

State	ReauthSession:0e248f12oMzxY0d6I0OEZ/u3aFQs2AoZYPCddb7dJCSi7yoNlwg
Class	CACS:0e248f12oMzxY0d6I0OEZ/u3aFQs2AoZYPCddb7dJCSi7yoNlwg:ISE22new/290042933/397
cisco-av-pair	cts:trusted-device=true
cisco-av-pair	cts:security-group-tag=0002-02
cisco-av-pair	cts:authorization-expiry=86400

Overview

Event	5234 TrustSec Peer Policy Download Succeeded
Username	#CTSDEVICE#-6500
Endpoint Id	
Endpoint Profile	
Authorization Policy	NetworkDeviceAuthorization >> NDAC
Authorization Result	

Result

State	ReauthSession:0e248f122xsxXRQJut5/BzqahPizdpEcb22WZ6zPRPmu0Ms03Bo
Class	CACS:0e248f122xsxXRQJut5/BzqahPizdpEcb22WZ6zPRPmu0Ms03Bo:ISE22new/290042933/399
cisco-av-pair	cts:trusted-device=true
cisco-av-pair	cts:security-group-tag=0002-02
cisco-av-pair	cts:authorization-expiry=86400

TrustSec-Datendownload

		3560X	#CTSREQUEST#	
		3560X	#CTSREQUEST#	
		3560X	#CTSREQUEST#	NetworkDeviceAuthorization >> NDAC

Overview

Event	5233 TrustSec Data Download Succeeded
Username	#CTSREQUEST#
Endpoint Id	
Endpoint Profile	
Authorization Policy	NetworkDeviceAuthorization >> NDAC
Authorization Result	

Result

State	ReauthSession:0e248f12IVQjPrZ3n038zkt2xhOYWXRJhCAjw_hXw5UAJbMvsLY
Class	CACS:0e248f12IVQjPrZ3n038zkt2xhOYWXRJhCAjw_hXw5UAJbMvsLY:ISE22new/290042933/398
cisco-av-pair	cts:server-list=CTSServerList1-0001
cisco-av-pair	cts:security-group-tag=0002-02
cisco-av-pair	cts:environment-data-expiry=86400
cisco-av-pair	cts:security-group-table=0001-17

Result

Class	CACS:0e248f12IVQjPrZ3n038zkt2xhOYWXRJhCAjw_hXw5UAJbMvsLY:ISE22new/290042933/400
cisco-av-pair	cts:server-list=CTSServerList1-0001
cisco-av-pair	cts:server=6f5719523570b8d229f23073404e2d37:14.36.143.18:1812

Result

Class	CACS:0e248f12IVQjPrZ3n038zkt2xhOYWXRJhCAjw_hXw5UAJbMvsLY:ISE22new/290042933/401
cisco-av-pair	cts:security-group-table=0001-17
cisco-av-pair	cts:security-group-info=0-0-00-Unknown
cisco-av-pair	cts:security-group-info=ffff-1-00-ANY
cisco-av-pair	cts:security-group-info=9-0-00-Auditors
cisco-av-pair	cts:security-group-info=f-0-00-BYOD
cisco-av-pair	cts:security-group-info=5-0-00-Contractors
cisco-av-pair	cts:security-group-info=8-0-00-Developers
cisco-av-pair	cts:security-group-info=c-0-00-Development_Servers
cisco-av-pair	cts:security-group-info=4-0-00-Employees
cisco-av-pair	cts:security-group-info=6-2-00-Guests
cisco-av-pair	cts:security-group-info=3-0-00-Network_Services
cisco-av-pair	cts:security-group-info=e-0-00-PCI_Servers
cisco-av-pair	cts:security-group-info=a-0-00-Point_of_Sale_Systems
cisco-av-pair	cts:security-group-info=b-0-00-Production_Servers
cisco-av-pair	cts:security-group-info=7-0-00-Production_Users
cisco-av-pair	cts:security-group-info=ff-0-00-Quarantined_Systems
cisco-av-pair	cts:security-group-info=d-0-00-Test_Servers
cisco-av-pair	cts:security-group-info=2-2-00-TrustSec_Devices

Schnittstellenüberprüfung

Seed (6500)

```
6500#show cts interface gi6/1
Global Dot1x feature is Enabled
Interface GigabitEthernet6/1:
  CTS is enabled, mode:      DOT1X
  IFC state:                 OPEN
  Interface Active for 00:38:50.744
  Authentication Status:    SUCCEEDED
    Peer identity:          "3560X"
    Peer's advertised capabilities: "sap"
    802.1X role:           Authenticator
  Authorization Status:    SUCCEEDED
```

```
Peer SGT:                2:TrustSec_Devices
Peer SGT assignment: Trusted
SAP Status:              SUCCEEDED
Dot1x Info for GigabitEthernet6/1
-----
PAE                        = AUTHENTICATOR
```

Non-Seed (3560X)

```
3560X#show cts interface gi0/24
```

```
Global Dot1x feature is Enabled
```

```
Interface GigabitEthernet0/24:
```

```
CTS is enabled, mode:    DOT1X
```

```
IFC state:              OPEN
```

```
Interface Active for 00:08:51.317
```

```
Authentication Status:  SUCCEEDED
```

```
Peer identity:         "6500"
```

```
Peer's advertised capabilities: "sap"
```

```
802.1X role:          Supplicant
```

```
Reauth period applied to link: Not applicable to Supplicant role
```

```
Authorization Status:  SUCCEEDED
```

```
Peer SGT:              2:TrustSec_Devices
```

```
Peer SGT assignment: Trusted
```

```
SAP Status:            SUCCEEDED
```

```
Version:               2
```

```
Dot1x Info for GigabitEthernet0/24
```

```
-----
PAE                        = SUPPLICANT
```