

ISE 2.4 pxGrid IND 1.6.1-integratie configureren

Inhoud

[Inleiding](#)

[Voorwaarden](#)

[Vereisten](#)

[Gebruikte componenten](#)

[Configureren](#)

[Snel stroomschema op hoog niveau](#)

[Configuraties](#)

[Stap 1. Configureer endpointkenmerken op ISE](#)

[Stap 2. Het beleid van het filter configureren met behulp van aangepaste kenmerken](#)

[Stap 3. Aangepaste kenmerken inschakelen voor handhaving van profielen](#)

[Stap 4: Indeling van het type "export"](#)

[Stap 5. identiteitsbewijs uploaden naar ISE Trusted Store](#)

[Stap 6: genereert certificaat voor IND](#)

[Stap 7. Schatkist downloaden van certificaten in PKCS12-indeling](#)

[Stap 8. Uploadcertificaat keten van IND](#)

[Stap 9. Policy Server op IND configureren](#)

[Stap 10. Configureer de PxGrid-integratie met de IND](#)

[Stap 11. Goedkeuring van IND op ISE](#)

[Stap 12. Activeer PxGrid-service bij het IND](#)

[Verifiëren](#)

[ISE-verificatie](#)

[IND Verificatie](#)

[Problemen oplossen](#)

[Sync status bijgehouden in Out Sync op IND](#)

[Niet alle endpoints worden gedeeld met ISE](#)

[assetTag en AssetGroup zijn niet beschikbaar op ISE](#)

Inleiding

Dit document beschrijft hoe u Identity Services Engine (ISE) 2.4 en Industrial Network Director 1.6.1-4 integratie via pxGrid (Platform Exchange Grid) kunt configureren en oplossen. Cisco IND wordt geregistreerd met pxGrid als een uitgever en publiceert informatie over eindpunten eigenschappen aan ISE voor IOTAET Dictionary.

Voorwaarden

Vereisten

Cisco raadt u aan basiskennis van deze onderwerpen te hebben:

- Cisco Identity Services Engine
- Cisco industrieel netwerkdirecteur

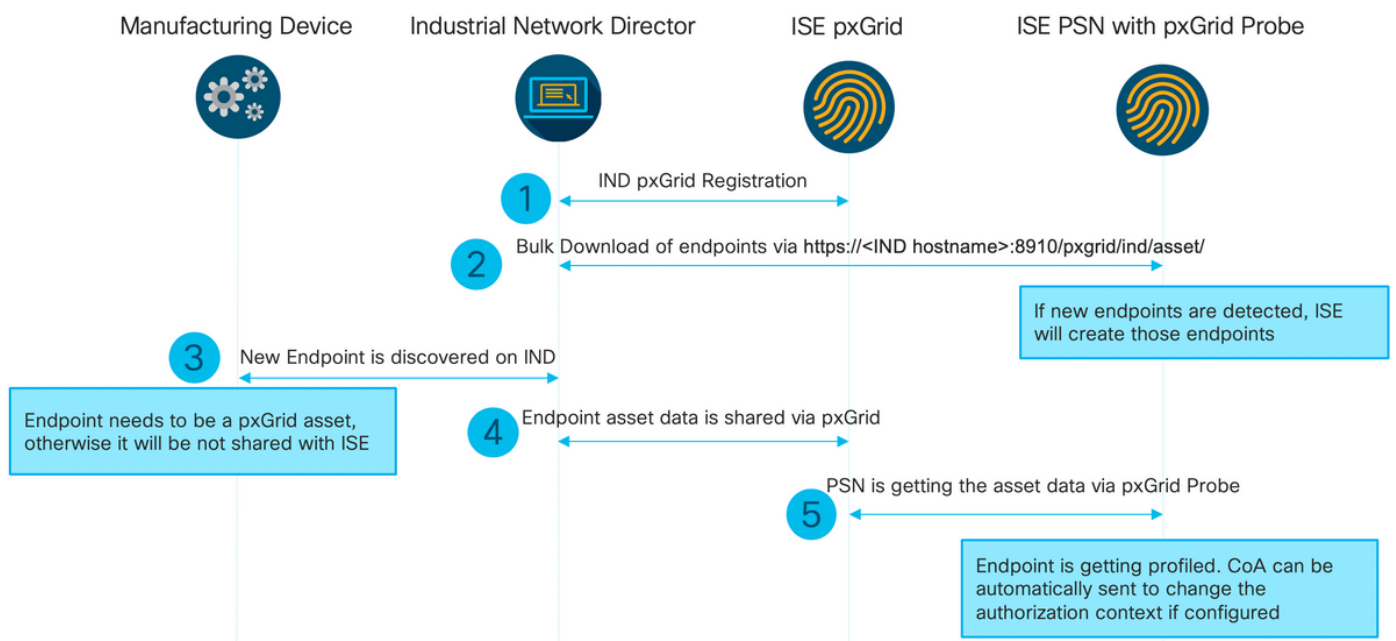
Gebruikte componenten

De informatie in dit document is gebaseerd op de volgende software- en hardware-versies:

- Cisco Identity Services Engine versie 2.4 p6
- Industriële netwerkdirecteur 1.6.1-4

Configureren

Snel stroomschema op hoog niveau



1. IND registreert bij ISE via pxGrid versie 2 op ISE pxGrid-knooppunt. Overeenkomende stammen van IND (application.log):

```

2019-05-22 14:31:17,770:INFO:qtp281049997-52711:PxgridPublisher:: Connect start
2019-05-22 14:31:17,770:INFO:qtp281049997-52711:PxgridPublisher:: Hostname:WIN2012-AAA
IpAddress:10.62.145.130
2019-05-22 14:31:17,770:INFO:qtp281049997-52711:PxgridPublisher:: pxGrid
RestBaseUrl:https://WIN2012-AAA:8910/pxgrid/ind/asset/
2019-05-22 14:31:17,770:INFO:qtp281049997-52711:PxgridController:: Send Request ServiceRegister
invoked with pxGridServer(s) [ISE24-1ek.example.com]
2019-05-22 14:31:17,770:INFO:qtp281049997-52711:PxgridController:: Sending ServiceRegister
request to pxGridServer ISE24-1ek.example.com
2019-05-22 14:31:17,786:INFO:qtp281049997-52711:PxgridController::
Request={"name": "com.cisco.endpoint.asset", "properties": {"wsPubsubService": "com.cisco.ise.pubsub
", "restBaseUrl": "https://WIN2012-
AAA:8910/pxgrid/ind/asset/", "assetTopic": "/topic/com.cisco.endpoint.asset"}}
2019-05-22 14:31:17,911:INFO:qtp281049997-52711:PxgridController:: Response={"id": "76d4abaf-
9efd-4c68-a046-79e049564902", "reregisterTimeMillis": "300000"}
2019-05-22 14:31:17,911:INFO:qtp281049997-52711:PxgridController:: Send Request ServiceLookup
invoked with pxGridServer(s) [ISE24-1ek.example.com]

```

```
2019-05-22 14:31:17,911:INFO:qtp281049997-52711:PxgridController:: Sending ServiceLookup request
to pxGridServer ISE24-lek.example.com
2019-05-22 14:31:17,911:INFO:qtp281049997-52711:PxgridController::
Request={"name":"com.cisco.ise.pubsub"}
2019-05-22 14:31:17,911:INFO:qtp281049997-52711:PxgridController::
Response={"services":[{"name":"com.cisco.ise.pubsub","nodeName":"ise-pubsub-ise24-
lek","properties":{"wsUrl":"wss://ISE24-lek.example.com:8910/pxgrid/ise/pubsub"}}]}
2019-05-22 14:31:17,911:INFO:qtp281049997-52711:PxgridPublisher:: wsUrl=wss://ISE24-
lek.example.com:8910/pxgrid/ise/pubsub
2019-05-22 14:31:17,911:INFO:qtp281049997-52711:PxgridController:: Send Request AccessSecret
invoked with pxGridServer(s) [ISE24-lek.example.com]
2019-05-22 14:31:17,911:INFO:qtp281049997-52711:PxgridController:: Sending AccessSecret request
to pxGridServer ISE24-lek.example.com
2019-05-22 14:31:17,926:INFO:qtp281049997-52711:PxgridController:: Request={"peerNodeName":"ise-
pubsub-ise24-lek"}
2019-05-22 14:31:17,926:INFO:qtp281049997-52711:PxgridController:: Access Secret recieved
2019-05-22 14:31:17,926:INFO:qtp281049997-52711:PxgridPublisher:: Client created
```

Zoals te zien is in de documenten heeft IND zich geregistreerd voor het assetTopic

2. ISE PSN met een xgrid-test is een bulkdownload van bestaande pxGrid-activa (profiler.log):

```
2019-05-22 14:39:25,817 INFO [ProfilerINDSubscriberPoller-56-thread-1][]
cisco.profiler.infrastructure.probemgr.INDSubscriber -::- New services are: [Service
[name=com.cisco.endpoint.asset, nodeName=ind2, properties={wsPubsubService=com.cisco.ise.pubsub,
restBaseUrl=https://WIN2012-AAA:8910/pxgrid/ind/asset/,
assetTopic=/topic/com.cisco.endpoint.asset}]]
2019-05-22 14:39:26,011 INFO [ProfilerINDSubscriberPoller-56-thread-1][]
cisco.profiler.infrastructure.probemgr.INDSubscriber -::- NODENAME:ind2
2019-05-22 14:39:26,011 INFO [ProfilerINDSubscriberPoller-56-thread-1][]
cisco.profiler.infrastructure.probemgr.INDSubscriber -::- REQUEST
BODY{"offset":"0","limit":"500"}
2019-05-22 14:39:26,046 INFO [ProfilerINDSubscriberPoller-56-thread-1][]
cisco.profiler.infrastructure.probemgr.INDSubscriber -::- Response status={}200
2019-05-22 14:39:26,046 INFO [ProfilerINDSubscriberPoller-56-thread-1][]
cisco.profiler.infrastructure.probemgr.INDSubscriber -::- Content: "OUT_OF_SYNC"
2019-05-22 14:39:26,047 INFO [ProfilerINDSubscriberPoller-56-thread-1][]
cisco.profiler.infrastructure.probemgr.INDSubscriber -::- Status is : "OUT_OF_SYNC"
2019-05-22 14:39:26,047 DEBUG [ProfilerINDSubscriberPoller-56-thread-1][]
cisco.profiler.infrastructure.probemgr.INDSubscriber -::- Static set after adding new services:
[Service [name=com.cisco.endpoint.asset, nodeName=ind,
properties={wsPubsubService=com.cisco.ise.pubsub, restBaseUrl=https://WIN2012-
AAA:8910/pxgrid/ind/asset/, assetTopic=/topic/com.cisco.endpoint.asset}], Service
[name=com.cisco.endpoint.asset, nodeName=ind2, properties={wsPubsubService=com.cisco.ise.pubsub,
restBaseUrl=https://WIN2012-AAA:8910/pxgrid/ind/asset/,
assetTopic=/topic/com.cisco.endpoint.asset}]]
2019-05-22 14:39:26,052 INFO [ProfilerINDSubscriberBulkRequestPool-80-thread-1][]
cisco.profiler.infrastructure.probemgr.INDSubscriber -::- NODENAME:ind2
2019-05-22 14:39:26,052 INFO [ProfilerINDSubscriberBulkRequestPool-80-thread-1][]
cisco.profiler.infrastructure.probemgr.INDSubscriber -::- REQUEST
BODY{"offset":"0","limit":"500"}
2019-05-22 14:39:26,111 INFO [ProfilerINDSubscriberBulkRequestPool-80-thread-1][]
cisco.profiler.infrastructure.probemgr.INDSubscriber -::- Response status={}200
2019-05-22 14:39:26,111 INFO [ProfilerINDSubscriberBulkRequestPool-80-thread-1][]
cisco.profiler.infrastructure.probemgr.INDSubscriber -::- Content:
{"assets":[{"assetId":"100","assetName":"WIN2012-
CHILD","assetIpAddress":"10.62.145.131","assetMacAddress":"00:50:56:b6:46:87","assetVendor":"VMware",
"assetProductId":"Unknown","assetSerialNumber":"","assetDeviceType":"Server","assetSwRevision":
"", "assetHwRevision":"","assetProtocol":"NetBIOS","assetConnectedLinks":[],"assetCustomAttributes":
[{"key":"assetGroup","value":"Root"}, {"key":"assetTag","value":"SEC_TAG2"}]}, {"assetId":"
101","assetName":"win2012.example.com","assetIpAddress":"10.62.145.72","assetMacAddress":"00:50:
56:9c:3f:92","assetVendor":"VMware","assetProductId":"Unknown","assetSerialNumber":"","assetDevi
ceType":"Server","assetSwRevision":"","assetHwRevision":"","assetProtocol":"NetBIOS","assetConne
```

```
ctedLinks": [], "assetCustomAttributes": [{"key": "assetGroup", "value": "Root"}, {"key": "assetTag", "value": ""}]]}]}
```

```
2019-05-22 14:39:26,111 DEBUG [ProfilerINDSubscriberBulkRequestPool-80-thread-1][[]
```

```
cisco.profiler.infrastructure.probemgr.INDSubscriber -::- Parsing bulk response
```

```
{"assets": [{"assetId": "100", "assetName": "WIN2012-CHILD", "assetIpAddress": "10.62.145.131", "assetMacAddress": "00:50:56:b6:46:87", "assetVendor": "VMware", "assetProductId": "Unknown", "assetSerialNumber": "", "assetDeviceType": "Server", "assetSwRevision": "", "assetHwRevision": "", "assetProtocol": "NetBIOS", "assetConnectedLinks": [], "assetCustomAttributes": [{"key": "assetGroup", "value": "Root"}, {"key": "assetTag", "value": "SEC_TAG2"}]}, {"assetId": "101", "assetName": "win2012.example.com", "assetIpAddress": "10.62.145.72", "assetMacAddress": "00:50:56:9c:3f:92", "assetVendor": "VMware", "assetProductId": "Unknown", "assetSerialNumber": "", "assetDeviceType": "Server", "assetSwRevision": "", "assetHwRevision": "", "assetProtocol": "NetBIOS", "assetConnectedLinks": [], "assetCustomAttributes": [{"key": "assetGroup", "value": "Root"}, {"key": "assetTag", "value": ""}]}]}
```

3. Nieuw eindpunt wordt ontdekt op IND (eindpunt moet met een protocol worden ontdekt, anders wordt het eindpunt niet geïdentificeerd als een pxGrid Asset en wordt het niet gedeeld via pxGrid met ISE).

The screenshot shows the Cisco Industrial Network Director (IND) interface. The top navigation bar includes 'Operate' and 'Inventory'. The main content area is titled 'DEVICE OVERVIEW' and displays details for the device 'win2012.example.com'. The details are organized into two columns:

Property	Value	Property	Value
Name	win2012.example.com	Device Type	Server
IP Address	10.62.145.72	Protocol	NetBIOS
MAC Address	00:50:56:9c:3f:92	Group	Root
Vendor	VMware	Connected to	
pxGrid Asset	Yes	Tag(s)	+

4. IND publiceert deze informatie naar ISE pxGrid-knooppunt

5. PSN via pxGrid-sonde ontvangt deze gegevens (profiler.log):

```
2019-05-22 15:20:40,616 DEBUG [Grizzly(2)][[]
```

```
cisco.profiler.infrastructure.probemgr.INDSubscriber -::- Parsing push notification response:
```

```
{"asset": {"assetId": "101", "assetName": "win2012.example.com", "assetIpAddress": "10.62.145.72", "assetMacAddress": "00:50:56:9c:3f:92", "assetVendor": "VMware", "assetProductId": "Unknown", "assetSerialNumber": "", "assetDeviceType": "Server", "assetSwRevision": "", "assetHwRevision": "", "assetProtocol": "NetBIOS", "assetConnectedLinks": [], "assetCustomAttributes": [{"key": "assetGroup", "value": "Root"}, {"key": "assetTag", "value": "SEC_TAG2"}]}, "opType": "UPDATE"}
```

```
2019-05-22 15:20:40,616 DEBUG [Grizzly(2)][[]
```

```
cisco.profiler.infrastructure.probemgr.INDSubscriber -::- sending endpoint to
```

```
forwarder{"assetId": "101", "assetName": "win2012.example.com", "assetIpAddress": "10.62.145.72", "assetMacAddress": "00:50:56:9c:3f:92", "assetVendor": "VMware", "assetProductId": "Unknown", "assetSerialNumber": "", "assetDeviceType": "Server", "assetSwRevision": "", "assetHwRevision": "", "assetProtocol": "NetBIOS", "assetConnectedLinks": [], "assetCustomAttributes": [{"key": "assetGroup", "value": "Root"}, {"key": "assetTag", "value": "SEC_TAG2"}]}
```

```
2019-05-22 15:20:40,617 INFO [Grizzly(2)][[] cisco.profiler.infrastructure.probemgr.Forwarder -::- Forwarder Mac 00:50:56:9C:3F:92 MessageCode null epSource PXGRIDPROBE
```

```
2019-05-22 15:20:40,617 DEBUG [forwarder-2][[]
```

```
cisco.profiler.infrastructure.probemgr.ForwarderHelper -:ProfilerCollection:- sequencing Radius message for mac = 00:50:56:9C:3F:92
```

```
2019-05-22 15:20:40,617 DEBUG [forwarder-2][[] cisco.profiler.infrastructure.probemgr.Forwarder -:ProfilerCollection:- Processing endpoint:00:50:56:9C:3F:92
```

```
2019-05-22 15:20:40,618 DEBUG [forwarder-2][[] com.cisco.profiler.im.EndPoint -
```

```
:ProfilerCollection:- filtered custom attributes are:{assetGroup=Root, assetTag=SEC_TAG2}
```

```
2019-05-22 15:20:40,618 DEBUG [forwarder-2][] cisco.profiler.infrastructure.probemgr.Forwarder -
:ProfilerCollection:- Filtering:00:50:56:9C:3F:92
2019-05-22 15:20:40,618 DEBUG [forwarder-2][] cisco.profiler.infrastructure.probemgr.Forwarder -
:ProfilerCollection:- Endpoint Attributes:EndPoint[id=<null>,name=<null>]
MAC: 00:50:56:9C:3F:92
Attribute:BYODRegistration value:Unknown
Attribute:DeviceRegistrationStatus value:NotRegistered
Attribute:EndPointProfilerServer value:ISE24-1ek.example.com
Attribute:EndPointSource value:PXGRIDPROBE
Attribute:MACAddress value:00:50:56:9C:3F:92
Attribute:NmapSubnetScanID value:0
Attribute:OUI value:VMware, Inc.
Attribute:PolicyVersion value:0
Attribute:PortalUser value:
Attribute:PostureApplicable value:Yes
Attribute:assetDeviceType value:Server
Attribute:assetGroup value:Root
Attribute:assetHwRevision value:
Attribute:assetId value:101
Attribute:assetIpAddress value:10.62.145.72
Attribute:assetMacAddress value:00:50:56:9c:3f:92
Attribute:assetName value:win2012.example.com
Attribute:assetProductId value:Unknown
Attribute:assetProtocol value:NetBIOS
Attribute:assetSerialNumber value:
Attribute:assetSwRevision value:
Attribute:assetTag value:SEC_TAG2
Attribute:assetVendor value:VMware
Attribute:b310a420-78a5-11e9-a189-9ac8f4107843 value:Root
Attribute:b8e73d50-78a5-11e9-a189-9ac8f4107843 value:SEC_TAG2
Attribute:ip value:10.62.145.72
Attribute:SkipProfiling value:false
```

6. Context Zichtbaarheid wordt met juiste gegevens bijgewerkt

00:50:56:9C:3F:92



MAC Address: 00:50:56:9C:3F:92
 Username:
 Endpoint Profile: IOT_DEVICE2
 Current IP Address: 10.62.145.72
 Location:

- Applications
- Attributes**
- Authentication
- Threats
- Vulnerabilities

General Attributes

Description

Static Assignment	false
Endpoint Policy	IOT_DEVICE2
Static Group Assignment	false
Identity Group Assignment	Profiled

Custom Attributes

Filter

	Attribute Name	Attribute Value
×	<input type="text" value="Attribute Name"/>	<input type="text" value="Attribute Value"/>
	assetGroup	Root
	LogicalProfile	
	assetTag	SEC_TAG2

Other Attributes

Configuraties

Opmerking: De stappen 1 - 3 zijn vereist zelfs als u slechts één zichtbaarheid van assetGroup en assetTag wilt hebben in Context Visibility

Stap 1. Configureer endpointkenmerken op ISE

Navigeer naar **Administratie > Identity Management > Instellingen > Endpoint Custom Attributes**. Configureer aangepaste kenmerken (assetGroup en assetTag) overeenkomstig de onderstaande afbeelding.

Identity Services Engine Home Context Visibility Operations Policy Administration Work Centers

System Identity Management Network Resources Device Portal Management pxGrid Services Feed Service Threat Centric NAC

Identities Groups External Identity Sources Identity Source Sequences Settings

- User Custom Attributes
- User Authentication Settings
- Endpoint Purge
- Endpoint Custom Attributes

Endpoint Custom Attributes

Endpoint Attributes (for reference)

Mandatory	Attribute Name	Data Type
	PostureApplicable	STRING
	EndPointPolicy	STRING
	AnomalousBehaviour	STRING
	OperatingSystem	STRING
	BYODRegistration	STRING
	PortalUser	STRING
	LastAUPAcceptanceHours	INT
	LogicalProfile	STRING

Endpoint Custom Attributes

Attribute name	Type
assetGroup	String -
assetTag	String - +

Reset Save

Stap 2. Het beleid van het filter configureren met behulp van aangepaste kenmerken

Navigeren in op **Workcenters > Profiler > Profileren > Profileren beleid**. Klik op **Toevoegen**. Configureer beleid dat vergelijkbaar is met de onderstaande afbeelding.

Profiler Policy

* Name: IOT_DEVICE1 Description: []

Policy Enabled:

* Minimum Certainty Factor: 20 (Valid Range 1 to 65535)

* Exception Action: NONE

* Network Scan (NMAP) Action: NONE

Create an Identity Group for the policy: Yes, create matching Identity Group
 No, use existing Identity Group hierarchy

* Parent Policy: NONE

* Associated CoA Type: Global Settings

System Type: Administrator Created

Rules

If Condition: CUSTOMATTRIBUTE_assetTag_EQUALS... Then: Certainty Factor Increases 20

Condition Name: [] Expression: CUSTOMATTRIB... EQUALS SEC_TAG1

Stap 3. Aangepaste kenmerken inschakelen voor handhaving van profielen

Navigeer naar **werkcentra > Profiel > Instellingen > Aangepaste profielen**. Verzekeren **Aangepaste kenmerk inschakelen voor controle op profielen** selectiekноп is ingeschakeld.

 Enabled."/>

Profiler Configuration

* CoA Type: Reauth

Current custom SNMP community strings: [] (Show)

Change custom SNMP community strings: [] (For NMAP, comma separated. Field will be cleared on successful saved change.)

Confirm changed custom SNMP community strings: [] (For NMAP, comma separated. Field will be cleared on successful saved change.)

EndPoint Attribute Filter: Enabled

Enable Anomalous Behaviour Detection: Enabled

Enable Anomalous Behaviour Enforcement: Enabled

Enable Custom Attribute for Profiling Enforcement: Enabled

Save Reset

Stap 4: Indeling van het type "export"

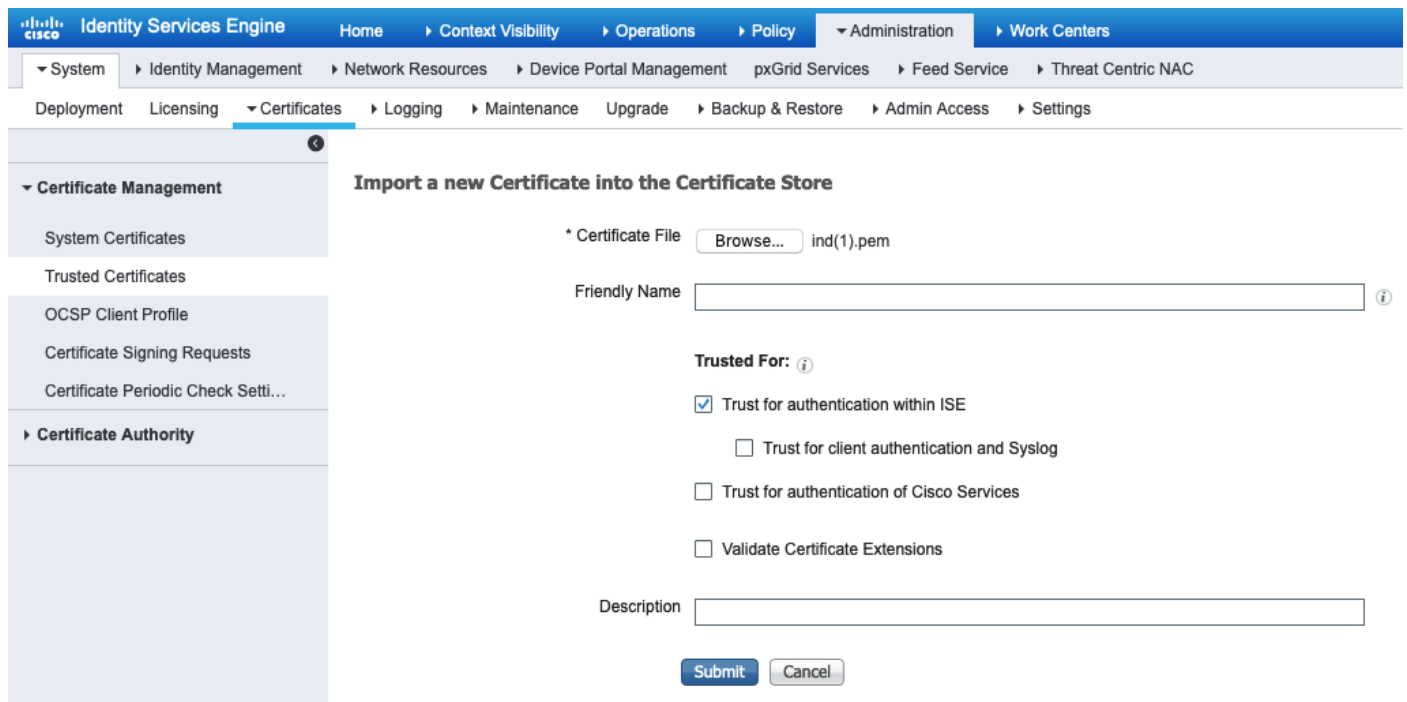
Navigeer naar **Instellingen > pxGrid**. Klik op **Download .pem IND certificaat**. Dit certificaat wordt gebruikt tijdens pxGrid-registratie, zodat ISE het moet vertrouwen.

pxGrid

Download .pem IND certificate

Stap 5. identiteitsbewijs uploaden naar ISE Trusted Store

Navigeer naar **Administratie > Certificaten > certificaatbeheer > Trusted Certificaten**. Klik op **Importeren**. Klik op **Bladeren** en selecteer het IND/DEM-certificaat in stap 3. Klik op **Inzenden**.



The screenshot shows the Cisco Identity Services Engine (ISE) Administration console. The breadcrumb navigation is: Home > Context Visibility > Operations > Policy > Administration > Work Centers. The left sidebar shows the navigation menu with 'Certificate Management' expanded, containing 'System Certificates', 'Trusted Certificates', 'OCSP Client Profile', 'Certificate Signing Requests', and 'Certificate Periodic Check Setti...'. The main content area is titled 'Import a new Certificate into the Certificate Store'. The form includes the following fields and options:

- * Certificate File: ind(1).pem
- Friendly Name:
- Trusted For: Trust for authentication within ISE, Trust for client authentication and Syslog, Trust for authentication of Cisco Services, Validate Certificate Extensions
- Description:
- Buttons:

Stap 6: genereert certificaat voor IND

IND gebruikt geen client certificaat dat ISE CA afgeeft. In plaats daarvan is het doel de IND.D.-winkel te bevolken, dus als ISE het PxGrid-certificaat verstuurt (tijdens TLS-uitwisseling), wordt het vertrouwd door IND.

Navigeer naar **Administratie > pxGrid Services > Certificaten**. Velden volgens de onderstaande afbeelding bevolken. Het GN-veld is verplicht, aangezien het doel van ISE CA de afgifte van een identiteitsbewijs is. Idealiter zou u de FQDN van IND moeten invoeren, maar aangezien het identiteitsbewijs niet door IND wordt gebruikt, is de GN veldwaarde niet kritiek.

Identity Services Engine Home Context Visibility Operations Policy Administration Work Centers

System Identity Management Network Resources Device Portal Management pxGrid Services Feed Service Threat Centric NAC

All Clients Web Clients Capabilities Live Log Settings Certificates Permissions

Generate pxGrid Certificates

I want to *

Common Name (CN) *

Description

Certificate Template [PxGrid_Certificate_Template](#) ⓘ

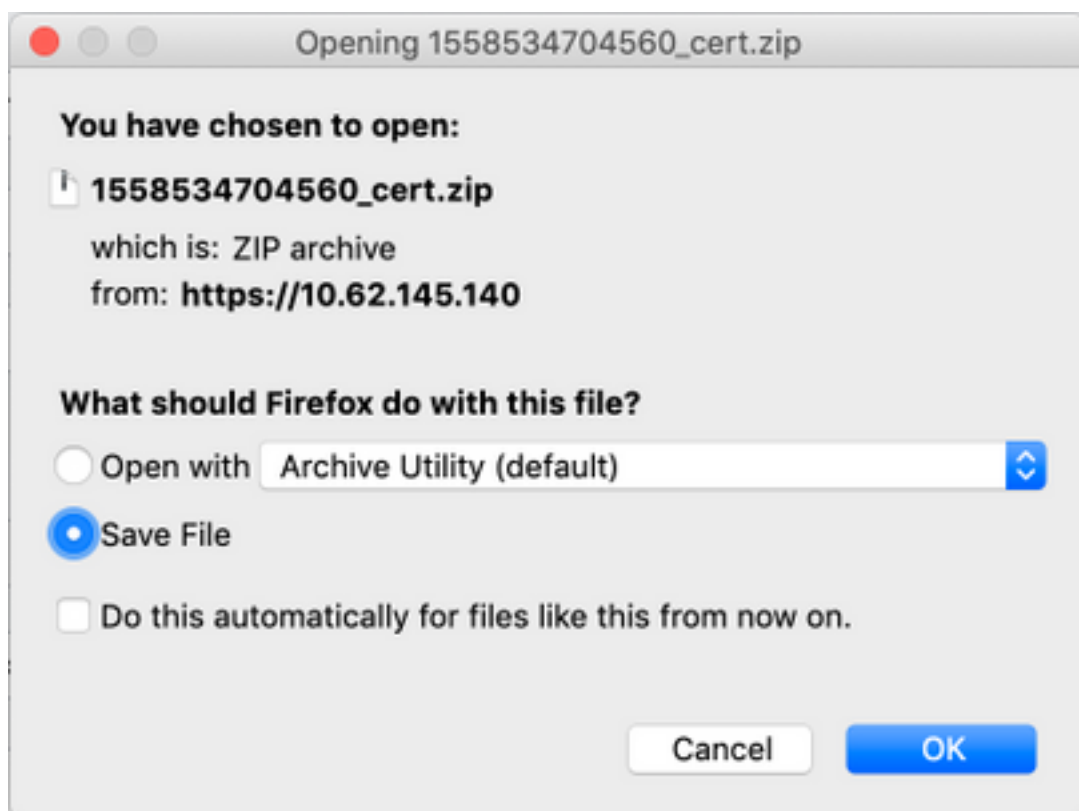
Subject Alternative Name (SAN) - +

Certificate Download Format * ⓘ

Certificate Password * ⓘ

Confirm Password *

Stap 7. Schatkist downloaden van certificaten in PKCS12-indeling



Stap 8. Uploadcertificaat keten van IND

Navigeer naar **Instellingen > pxGrid > Vertrouwde certificaten**. Klik op **New**. Voer de naam in (keten wordt met deze naam gezien op IND). Het wachtwoord is het wachtwoord uit Stap 1.

Upload Trusted Certificate
✕

Name *

Password

Certificate *

Stap 9. Policy Server op IND configureren

Navigeer naar **Instellingen > Beleidsservers** en klik op **Nieuw**. Voer ISE FQDN in en ip-adres van ISE pxGrid-knooppunt.

INDUSTRIAL NETWORK DIRECTOR
Settings > Policy Servers
🔔 0
📄

< Back to Servers
New Server

Protocols *

RADIUS pxGrid

Host Name *	IP Address	Description
<input type="text" value="ISE24-1ek.example.com"/>	<input type="text" value="10.62.145.140"/>	<input type="text"/>

Stap 10. Configureer de PxGrid-integratie met de IND

Navigeer naar **Instellingen > pxGrid** en schakelt pxGrid-integratie in. Klik op de knop **Aanpassen**. Voer de naam Node in, deze Host Name is de naam van de PxGrid-client in op ISE. Selecteer de ISE eerder ingesteld in het uitrolmenu in het veld Server 1. Klik op **Registreren**.

INDUSTRIAL NETWORK DIRECTOR
Settings > pxGrid
🔔 0
📄
⚙️
👤

pxGrid

Enable pxGrid- Settings

Connect Using the Existing Node

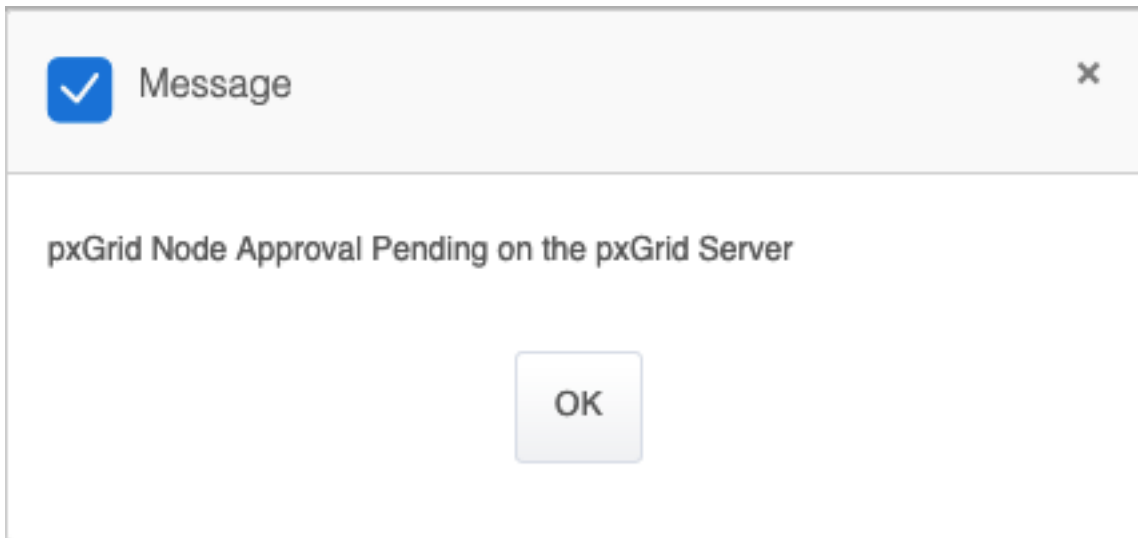
Register a New Node

ISE Server

Node Name *	Server 1 *	Server 2
<input type="text" value="IND"/>	<input type="text" value="ISE24-1ek.example.com"/>	<input type="text" value="Select a server"/>

Opmerking: De stappen 11 - 12 kunnen worden genegeerd wanneer automatisch de nieuwe op certificaat gebaseerde instelling wordt goedgekeurd op ISE.

Het volgende bericht wordt op IND weergegeven na succesvolle registratie:



Stap 11. Goedkeuring van IND op ISE

Navigeer naar **Beheer > PxGrid Services > Alle Clients**. Open Total in afwachting van goedkeuring(1), uitrolmenu. Klik op **Alles goedkeuren**.

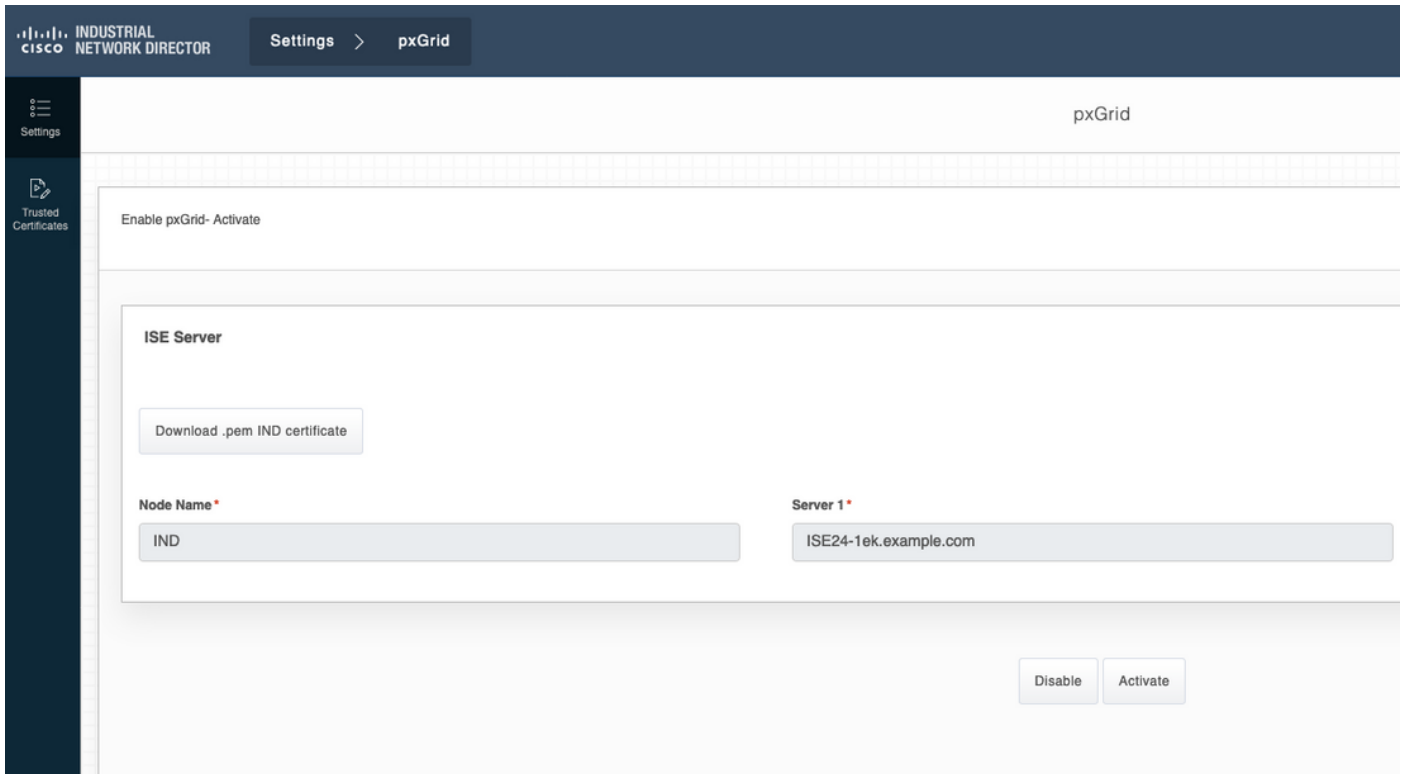
The screenshot shows the Cisco Identity Services Engine (ISE) interface. The top navigation bar includes "Identity Services Engine" and various menu items like "Home", "Context Visibility", "Operations", "Policy", "Administration", and "Work Centers". The breadcrumb trail is "System > Identity Management > Network Resources > Device Portal Management > pxGrid Services > Feed Service > Threat Centric NAC".

Under the "All Clients" tab, there are several action buttons: "Enable", "Disable", "Approve", "Group", "Decline", "Delete", and "Refresh". A dropdown menu for "Total Pending Approval(1)" is open, showing "Approve All" and "Decline All" options.

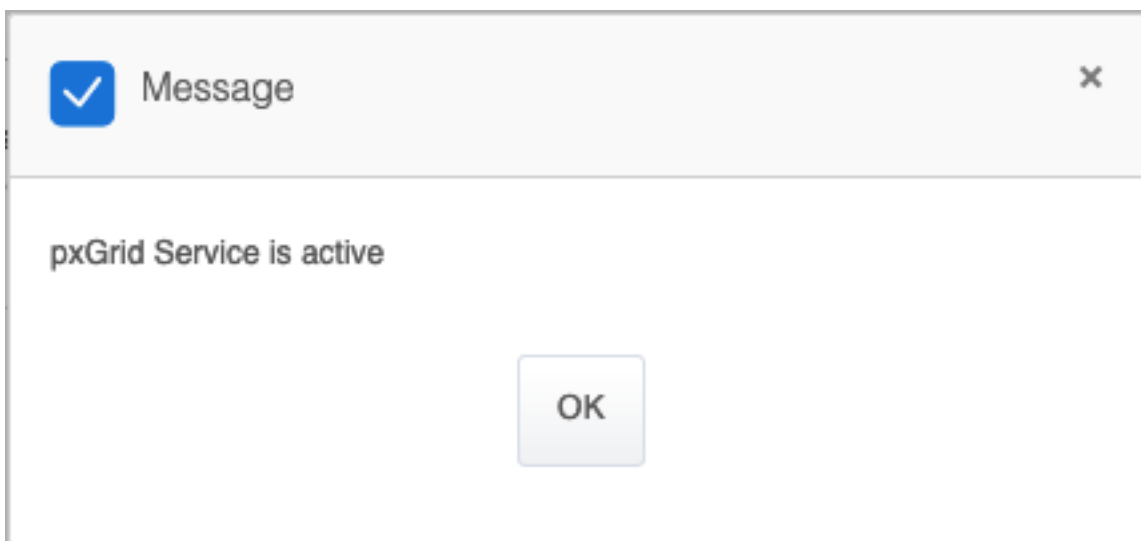
Client Name	Client Description	Capabilities	Status	Client Group(s)
ise-fanout-ise24-1ek		Capabilities(0 Pub, 0 Sub)	Online (XMPP)	Internal
ise-pubsub-ise24-1ek		Capabilities(0 Pub, 0 Sub)	Online (XMPP)	Internal
ise-pubsub-ise24-2ek		Capabilities(0 Pub, 0 Sub)	Online (XMPP)	Internal
ise-fanout-ise24-2ek		Capabilities(0 Pub, 0 Sub)	Online (XMPP)	Internal
ise-admin-ise24-3ek		Capabilities(0 Pub, 0 Sub)	Online (XMPP)	Internal
ise-mnt-ise24-2ek		Capabilities(2 Pub, 1 Sub)	Online (XMPP)	Internal
ise-mnt-ise24-1ek		Capabilities(2 Pub, 1 Sub)	Online (XMPP)	Internal
ise-bridge-ise24-1ek		Capabilities(0 Pub, 4 Sub)	Online (XMPP)	Internal
ise-admin-ise24-1ek		Capabilities(5 Pub, 2 Sub)	Online (XMPP)	Internal
ise-admin-ise24-2ek		Capabilities(1 Pub, 1 Sub)	Online (XMPP)	Internal
ind		Capabilities(0 Pub, 0 Sub)	Pending	

Stap 12. Activeer PxGrid-service bij het IND

Navigeer naar **Instellingen > pxGrid**. Klik op **Activeren**.



Het volgende bericht wordt bij succesvolle activering op IND weergegeven:



Verifiëren

ISE-verificatie

Navigeer naar **Beheer > PxGrid Services > Alle Clients**. Verwacht wordt om IND client als offline (XMPP) in Alle clients te zien, gebruikt IND PxGrid versie 2.

Cisco Identity Services Engine						
Home		Context Visibility	Operations	Policy	Administration	Work Centers
System		Identity Management	Network Resources	Device Portal Management	pxGrid Services	Feed Service Threat Centric NAC
All Clients Web Clients Capabilities Live Log Settings Certificates Permissions						
<input checked="" type="checkbox"/> Enable	<input checked="" type="checkbox"/> Disable	<input checked="" type="checkbox"/> Approve	<input checked="" type="checkbox"/> Group	<input checked="" type="checkbox"/> Decline	<input checked="" type="checkbox"/> Delete	<input checked="" type="checkbox"/> Refresh
Total Pending Approval(0)						
Client Name	Client Description	Capabilities	Status	Client Group(s)		
ise-fanout-ise24-1ek		Capabilities(0 Pub, 0 Sub)	Online (XMPP)	Internal		
ise-pubsub-ise24-1ek	Client Name: Not Sortable	Capabilities(0 Pub, 0 Sub)	Online (XMPP)	Internal		
ise-pubsub-ise24-2ek		Capabilities(0 Pub, 0 Sub)	Online (XMPP)	Internal		
ise-fanout-ise24-2ek		Capabilities(0 Pub, 0 Sub)	Online (XMPP)	Internal		
ise-admin-ise24-3ek		Capabilities(0 Pub, 0 Sub)	Online (XMPP)	Internal		
ise-mnt-ise24-2ek		Capabilities(2 Pub, 1 Sub)	Online (XMPP)	Internal		
ise-mnt-ise24-1ek		Capabilities(2 Pub, 1 Sub)	Online (XMPP)	Internal		
ise-bridge-ise24-1ek		Capabilities(0 Pub, 4 Sub)	Online (XMPP)	Internal		
ise-admin-ise24-1ek		Capabilities(5 Pub, 2 Sub)	Online (XMPP)	Internal		
ise-admin-ise24-2ek		Capabilities(1 Pub, 1 Sub)	Online (XMPP)	Internal		
ind		Capabilities(0 Pub, 0 Sub)	Offline (XMPP)			

Klik op **Web Clients**, bevestig dat IND client een status ON heeft en dat /topic/com.cisco.endpoint.asset deel uitmaakt van Subscriptions.

Cisco Identity Services Engine								
Home		Context Visibility	Operations	Policy	Administration	Work Centers		
System		Identity Management	Network Resources	Device Portal Management	pxGrid Services	Feed Service	Threat Centric NAC	
All Clients Web Clients Capabilities Live Log Settings Certificates Permissions								
Rows/Page 25 1 / 1 Go 12 Total Rows								
Refresh Filter								
Client Name	Connect To	Session Id	Certificate	Subscriptions	Publications	IP Address	Status	Start time
IND	ISE24-1ek	ISE24-1ek:181	CN=WIN2012-AAA, ...			10.62.145.130	ON	2019-05-23 08:27
ise-mnt-ise24-1ek	ISE24-1ek	ISE24-1ek:182	CN=ISE24-1ek.exe ...	/topic/com.cisco.ise.session.internal		10.62.145.140	ON	2019-05-23 08:28
ise-fanout-ise24-1ek	ISE24-1ek	ISE24-1ek:183	CN=ISE24-1ek.exe ...	/topic/distributed	/topic/distributed	10.62.145.140	ON	2019-05-23 08:28
ise-admin-ise24-1ek	ISE24-1ek	ISE24-1ek:184	CN=ISE24-1ek.exe ...	/topic/com.cisco.endpoint.asset		10.62.145.140	OFF	2019-05-23 08:28
ise-mnt-ise24-2ek	ISE24-1ek	ISE24-1ek:185	No Certificate	/topic/com.cisco.ise.session.internal	/topic/com.cisco.ise.session.internal	10.62.145.141	OFF	2019-05-23 08:59
ise-admin-ise24-2ek	ISE24-1ek	ISE24-1ek:188	No Certificate			10.62.145.141	ON	2019-05-23 09:30
ise-bridge-ise24-1ek	ISE24-1ek	ISE24-1ek:189	CN=ISE24-1ek.exe ...			127.0.0.1	OFF	2019-05-23 09:30
ise-fanout-ise24-1ek	ISE24-1ek	ISE24-1ek:190	CN=ISE24-1ek.exe ...	/topic/wildcard		127.0.0.1	ON	2019-05-23 09:30
ise-mnt-ise24-2ek	ISE24-1ek	ISE24-1ek:191	No Certificate	/topic/com.cisco.ise.session.internal	/topic/com.cisco.ise.session.internal	10.62.145.141	ON	2019-05-23 09:43
ise-admin-ise24-1ek	ISE24-1ek	ISE24-1ek:192	CN=ISE24-1ek.exe ...	/topic/com.cisco.endpoint.asset		10.62.145.140	ON	2019-05-23 09:43
ise-bridge-ise24-1ek	ISE24-1ek	ISE24-1ek:193	CN=ISE24-1ek.exe ...			127.0.0.1	OFF	2019-05-23 10:04
ise-bridge-ise24-1ek	ISE24-1ek	ISE24-1ek:194	CN=ISE24-1ek.exe ...			127.0.0.1	ON	2019-05-23 10:09

IND Verificatie

IND moet overschakelen naar in sync status. Het wordt gedaan als bulkdownload succesvol is op ISE, als het niet het geval is zal IND in uit de staat van de Synthetisch steken.

Cisco Platform Exchange Grid (pxGrid) is an open, scalable data-sharing and threat control platform that allows seamless integration between multivendor identity, network, security and asset management systems. Enabling the feature below activates the sharing of endpoint assets discovered by this system with a Cisco Identity Services Engine (ISE) pxGrid controller. This information can then be leveraged by upstream security systems to monitor security, detect threats, and set network policy. Learn more [here](#).

Download .pem IND certificate

ISE Server

Node Name*

Server 1*

Server 2

Statistics

	Sync. Status	In Sync	Last Sync. Status Probe Time
Number of Assets Shared via Last Bulk Request	2		2019-05-23 10:19:16
Last Update Operation	Update		Last Bulk Request Time 2019-05-23 08:29:14
Total pxGrid Asset Count	2		Last Update Time 2019-05-22 20:17:36

Problemen oplossen

Sync status bijhouden in Out Sync op IND

Overgang van uit sync naar in sync gebeurt als bulkdownload succesvol is op ISE. IND Application.log hieronder.

```
2019-05-22 22:09:06,902:INFO:qtp281049997-53444:PxgridConfigMgr:: Pxgrid Statistics Start:: Bulk Request : bulkReqAssetCount:2 add: false
2019-05-22 22:09:06,902:INFO:qtp281049997-53444:PxgridConfigMgr:: Pxgrid Statistics updated:: Bulk Request : AssetCount:2
2019-05-22 22:09:06,902:INFO:qtp281049997-53444:PxgridConfigMgr:: Sync Status transition to IN_SYNC
2019-05-22 22:09:06,918:INFO:qtp281049997-53444:PxGridServiceRestController:: getAssets Completed
```

Het is van cruciaal belang dat ISE de IND/hostname kan oplossen die door IND/DEM wordt gedeeld. Anders kan ISE geen bulkdownload doen en zal de IND nooit overgang naar in staat van de Sync. U kunt de volgende uitzondering in profiler.log zien als het downloaden van bulk mislukt (WIN2012-AAA was niet oplosbaar door ISE). Om de bulkdownload te activeren kunt u de pxGrid-sonde op PSN uitschakelen en controleren.

```
2019-04-30 13:59:50,708 INFO [ProfilerINDSubscriberPoller-60-thread-1][[]]
cisco.profiler.infrastructure.probemgr.INDSubscriber -::- New services are: []
2019-04-30 13:59:50,714 INFO [ProfilerINDSubscriberPoller-60-thread-1][[]]
cisco.profiler.infrastructure.probemgr.INDSubscriber -::- NODENAME:ind
2019-04-30 13:59:50,714 INFO [ProfilerINDSubscriberPoller-60-thread-1][[]]
cisco.profiler.infrastructure.probemgr.INDSubscriber -::- REQUEST
BODY{"offset":"0","limit":"500"}
2019-04-30 13:59:50,716 ERROR [ProfilerINDSubscriberPoller-60-thread-1][[]]
cisco.profiler.infrastructure.probemgr.INDSubscriber -::- Unable to get sync statusWIN2012-AAA:WIN2012-AAA
java.net.UnknownHostException: WIN2012-AAA
at java.net.AbstractPlainSocketImpl.connect(AbstractPlainSocketImpl.java:184)
at java.net.SocksSocketImpl.connect(SocksSocketImpl.java:392)
at java.net.Socket.connect(Socket.java:589)
at sun.security.ssl.SSLSocketImpl.connect(SSLSocketImpl.java:673)
```

```

at sun.security.ssl.BaseSSLSocketImpl.connect(BaseSSLSocketImpl.java:173)
at sun.net.NetworkClient.doConnect(NetworkClient.java:180)
at sun.net.www.http.HttpClient.openServer(HttpClient.java:463)
at sun.net.www.http.HttpClient.openServer(HttpClient.java:558)
at sun.net.www.protocol.https.HttpsClient.<init>(HttpsClient.java:264)
at sun.net.www.protocol.https.HttpsClient.New(HttpsClient.java:367)
at
sun.net.www.protocol.https.AbstractDelegateHttpsURLConnection.getNewHttpClient(AbstractDelegateH
ttpsURLConnection.java:191)
at sun.net.www.protocol.http.HttpURLConnection.plainConnect0(HttpURLConnection.java:1156)
at sun.net.www.protocol.http.HttpURLConnection.plainConnect(HttpURLConnection.java:1050)
at
sun.net.www.protocol.https.AbstractDelegateHttpsURLConnection.connect(AbstractDelegateHttpsURLCo
nnection.java:177)
at sun.net.www.protocol.http.HttpURLConnection.getOutputStream0(HttpURLConnection.java:1334)
at sun.net.www.protocol.http.HttpURLConnection.getOutputStream(HttpURLConnection.java:1309)
at
sun.net.www.protocol.https.HttpURLConnectionImpl.getOutputStream(HttpURLConnectionImpl.java:25
9)
at com.cisco.profiler.infrastructure.probemgr.INDSubscriber.getRequest(INDSubscriber.java:362)
at com.cisco.profiler.infrastructure.probemgr.INDSubscriber.isInSync(INDSubscriber.java:500)
at
com.cisco.profiler.infrastructure.probemgr.INDSubscriber.populateIOTServiceList(INDSubscriber.ja
va:462)
at
com.cisco.profiler.infrastructure.probemgr.INDSubscriber$WorkerThread.run(INDSubscriber.java:441
)
at java.util.concurrent.Executors$RunnableAdapter.call(Executors.java:511)
at java.util.concurrent.FutureTask.runAndReset(FutureTask.java:308)
at
java.util.concurrent.ScheduledThreadPoolExecutor$ScheduledFutureTask.access$301(ScheduledThreadP
oolExecutor.java:180)
at
java.util.concurrent.ScheduledThreadPoolExecutor$ScheduledFutureTask.run(ScheduledThreadPoolExec
utor.java:294)
at java.util.concurrent.ThreadPoolExecutor.runWorker(ThreadPoolExecutor.java:1149)
at java.util.concurrent.ThreadPoolExecutor$Worker.run(ThreadPoolExecutor.java:624)
at java.lang.Thread.run(Thread.java:748)

```

Niet alle endpoints worden gedeeld met ISE

Endpoints op basis van IND worden alleen met ISE gedeeld indien pxGrid Asset flag Ja is, dient ook MAC-adres beschikbaar te zijn, anders heeft ISE niet genoeg gegevens om een eindpunt te maken.

The screenshot shows the Cisco Industrial Network Director interface. The top navigation bar includes 'Operate' and 'Inventory'. The main content area displays the 'DEVICE OVERVIEW' for a device named 'WIN2012-CHILD'. The device details are as follows:

Property	Value	Property	Value
Name	WIN2012-CHILD	Device Type	Server
IP Address	10.62.145.131	Protocol	NetBIOS
MAC Address	00:50:56:b6:46:87	Group	Root
Vendor	VMware	Connected to	
pxGrid Asset	Yes	Tag(s)	SEC_TAG2

assetTag en AssetGroup zijn niet beschikbaar op ISE

Als assetTag alleen niet beschikbaar is, kan dit het geval zijn bij het verkeerde TAG type gebruikt. U moet Security Tag (niet reguliere tag) gebruiken wanneer u het eindpunt bijwerkt.

Associated Device Tags ×

No Tags Associated with this device

Add Regular Tag

Select a tag

Add Security Tag

✓ Select a tag
SEC_TAG1
SEC_TAG2

Als zowel AssetTag als AssetGroup niet beschikbaar zijn, kunnen er meerdere redenen zijn

1. Het beleid voor het maken van profielen is niet ingesteld met behulp van aangepaste kenmerken (zie Stap 1-3 in het gedeelte Configuraties van het document)
2. Als gevolg van een gebrek aan [CSCvn66106](#) Filter van EndPoint-kenmerken: moet worden uitgeschakeld. Anders filtert het aangepaste eigenschappen van de classifier. Het volgende logbestand kan in profiler.log worden gezien.

```
2019-05-22 11:20:11,796 DEBUG [PersistentWorker-8-18-thread-1][] com.cisco.profiler.im.EndPoint
-:Profiling:- filtered custom attributes are:{assetGroup=Root, assetTag=SEC_TAG2, b310a420-78a5-
11e9-a189-9ac8f4107843=Root, b8e73d50-78a5-11e9-a189-9ac8f4107843=SEC_TAG2}
```