

Configuración de la integración de ISE 2.4 pxGrid IND 1.6.1

Contenido

[Introducción](#)

[Prerequisites](#)

[Requirements](#)

[Componentes Utilizados](#)

[Configurar](#)

[Diagrama de flujo de alto nivel](#)

[Configuraciones](#)

[Paso 1. Configurar atributos personalizados de terminal en ISE](#)

[Paso 2. Configurar la política del generador de perfiles mediante atributos personalizados](#)

[Paso 3. Habilitar atributos personalizados para la aplicación de perfiles](#)

[Paso 4. Exportar certificado de identidad IND](#)

[Paso 5. Cargar el certificado de identidad IND en el almacén de confianza de ISE](#)

[Paso 6. Generar certificado para IND](#)

[Paso 7. Descargar cadena de certificados en formato PKCS12](#)

[Paso 8. Cargar cadena de certificados en IND](#)

[Paso 9. Configurar el servidor de políticas en IND](#)

[Paso 10. Configuración de la integración de pxGrid en IND](#)

[Paso 11. Aprobar IND en ISE](#)

[Paso 12. Activar el servicio pxGrid en IND](#)

[Verificación](#)

[Verificación de ISE](#)

[Verificación IND](#)

[Troubleshoot](#)

[El estado de sincronización se ha detenido sin sincronizar en IND](#)

[No todos los terminales se comparten con ISE](#)

[assetTag y AssetGroup no están disponibles en ISE](#)

Introducción

Este documento describe cómo configurar y resolver problemas de la integración de Identity Services Engine (ISE) 2.4 y Industrial Network Director 1.6.1-4 sobre pxGrid (Platform Exchange Grid). Cisco IND se registra con pxGrid como editor y publica información sobre los atributos de los terminales en ISE para IOTASSET Dictionary.

Prerequisites

Requirements

Cisco recomienda que tenga conocimientos básicos sobre estos temas:

- Cisco Identity Service Engine
- Director de red industrial de Cisco

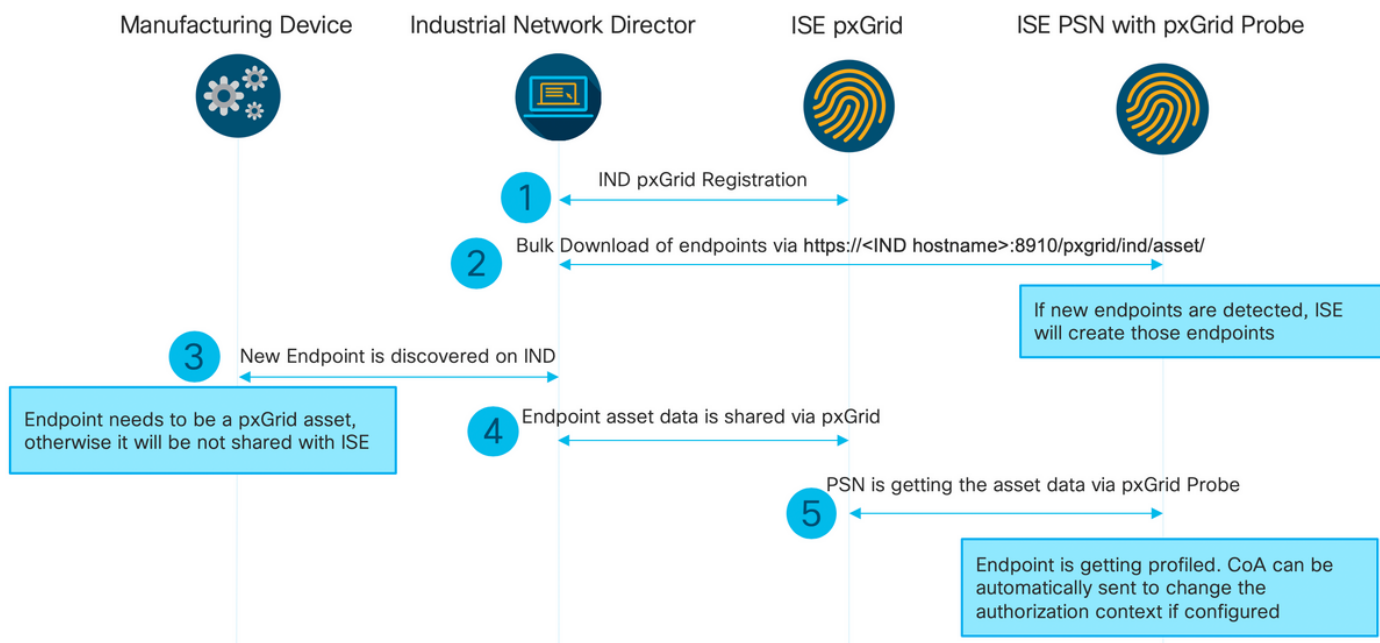
Componentes Utilizados

La información que contiene este documento se basa en las siguientes versiones de software y hardware.

- Cisco Identity Service Engine versión 2.4 p6
- Director de red industrial 1.6.1-4

Configurar

Diagrama de flujo de alto nivel



1. IND se registra con ISE a través de la versión 2 de pxGrid en el nodo PxGrid de ISE. Registros correspondientes de 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 ISE24-1ek.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-ise24-1ek","properties":{"wsUrl":"wss://ISE24-1ek.example.com:8910/pxgrid/ise/pubsub"}}]}
2019-05-22 14:31:17,911:INFO:qtp281049997-52711:PxgridPublisher:: wsUrl=wss://ISE24-1ek.example.com:8910/pxgrid/ise/pubsub
2019-05-22 14:31:17,911:INFO:qtp281049997-52711:PxgridController:: Send Request AccessSecret invoked with pxGridServer(s) [ISE24-1ek.example.com]
2019-05-22 14:31:17,911:INFO:qtp281049997-52711:PxgridController:: Sending AccessSecret request to pxGridServer ISE24-1ek.example.com
2019-05-22 14:31:17,926:INFO:qtp281049997-52711:PxgridController:: Request={"peerNodeName":"ise-pubsub-ise24-1ek"}
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

```

Como se ve en los registros, IND se ha registrado para assetTopic

2. ISE PSN con la sonda pxgrid habilitada realiza una descarga masiva de los recursos pxGrid existentes (profiler.log):

```

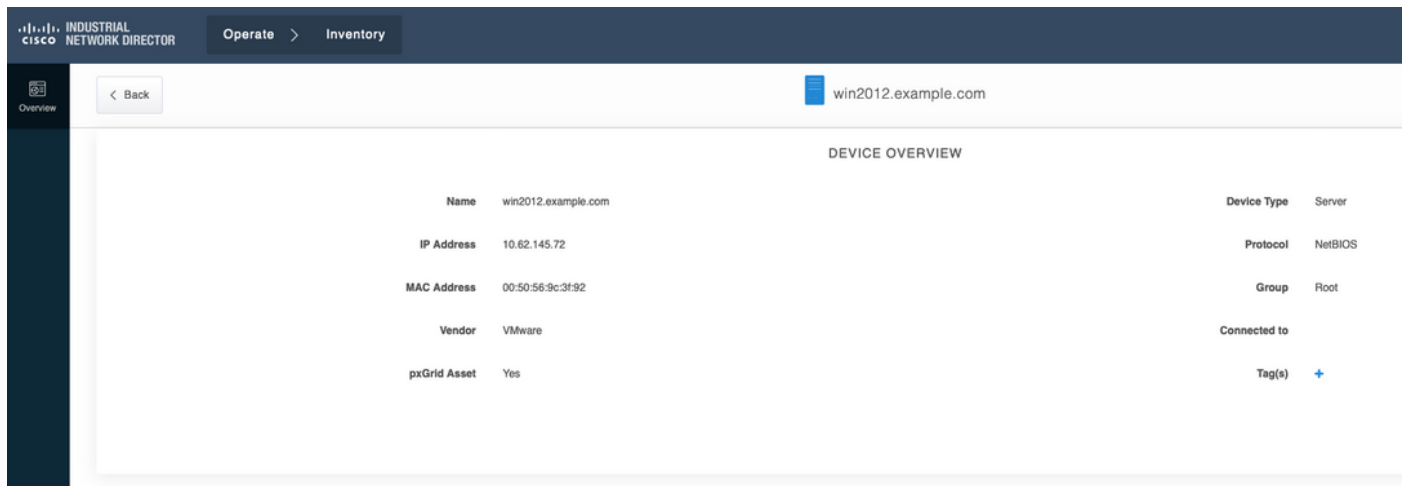
2019-05-22 14:39:25,817 INFO [ProfilerINDSubscriberPoller-56-thread-1][[]
cisco.profiler.infrastructure.probemgr.INDSubscriber -::- New services are: [Service [name=com.cisco.endpoint.asset, nodeName=ind2, properties={wsPubsubService=com.cisco.ise.pubsub, restBaseUrl=https://WIN2012-AAA:8910/pxgrid/ind/asset/, 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":"VMw

```

```
are", "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": ""}]]}]}
```

```
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. Se detecta un nuevo terminal en IND (el terminal debe detectarse con un protocolo; de lo contrario, el terminal no se identifica como un activo pxGrid y no se comparte a través de pxGrid con ISE).



4. IND publica esta información en el nodo pxGrid de ISE

5. PSN a través de la sonda pxGrid recibe estos datos (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. La visibilidad del contexto se actualiza con los datos correctos

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

Configuraciones

Nota: Los pasos 1 a 3 son obligatorios aunque sólo desee tener visibilidad de assetGroup y assetTag en la visibilidad del contexto

Paso 1. Configurar atributos personalizados de terminal en ISE

Vaya a **Administration > Identity Management > Settings > Endpoint Custom Attributes**. Configure los atributos personalizados (assetGroup y assetTag) de acuerdo con la siguiente imagen.

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

Paso 2. Configurar la política del generador de perfiles mediante atributos personalizados

Vaya a **Centros de trabajo > Generador de perfiles > Políticas de perfiles**. Haga clic en **Agregar**. Configure la política del generador de perfiles de forma similar a la siguiente imagen.

Profiler Policy

* Name: IOT_DEVICE1 Description: [Empty]

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: [Empty] Expression: CUSTOMATTRIB... EQUALS SEC_TAG1

Paso 3. Habilitar atributos personalizados para la aplicación de perfiles

Vaya a **Centros de trabajo > Generador de perfiles > Configuración > Configuración del generador de perfiles**. Garantizar **Habilitar atributo personalizado para la aplicación de perfiles** está activada.

Profiler Configuration

* CoA Type: Reauth

Current custom SNMP community strings: [Redacted] Show

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

Confirm changed custom SNMP community strings: [Empty] (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

Paso 4. Exportar certificado de identidad IND

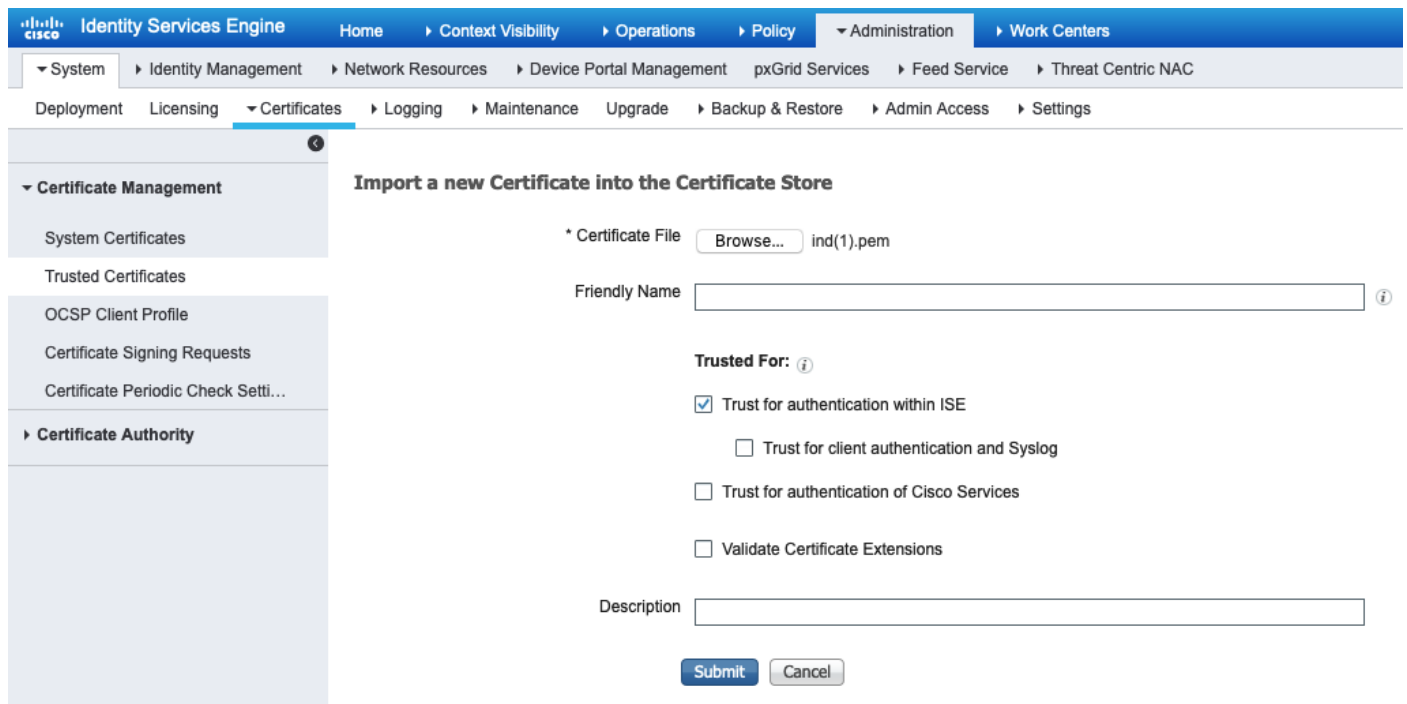
Vaya a **Settings > pxGrid**. Haga clic en **Descargar certificado .pem IND**. Este certificado se utiliza durante el registro de pxGrid, por lo que ISE debe confiar en él.

pxGrid

Download .pem IND certificate

Paso 5. Cargar el certificado de identidad IND en el almacén de confianza de ISE

Vaya a **Administración > Certificados > Administración de certificados > Certificados de confianza**. Haga clic en **Importar**. Haga clic en **Examinar** y seleccione el certificado IND en el Paso 3. Haga clic en **Submit** (Enviar).



The screenshot shows the Cisco Identity Services Engine (ISE) Administration console. The navigation menu includes Home, Context Visibility, Operations, Policy, Administration, and Work Centers. The 'Administration' menu is expanded to show Certificates, Logging, Maintenance, Upgrade, Backup & Restore, Admin Access, and Settings. The 'Certificates' menu is further expanded to show Certificate Management, Certificate Authority, System Certificates, Trusted Certificates, OCSP Client Profile, Certificate Signing Requests, and Certificate Periodic Check Settings. The 'Certificate Management' section is active, displaying the 'Import a new Certificate into the Certificate Store' form. The form includes a 'Certificate File' field with a 'Browse...' button and the filename 'ind(1).pem'. A 'Friendly Name' field is present. The 'Trusted For' section has four checkboxes: 'Trust for authentication within ISE' (checked), 'Trust for client authentication and Syslog', 'Trust for authentication of Cisco Services', and 'Validate Certificate Extensions'. A 'Description' field is also present. 'Submit' and 'Cancel' buttons are at the bottom.

Paso 6. Generar certificado para IND

IND no utiliza el certificado de cliente que emite la CA de ISE. En su lugar, el objetivo es rellenar el almacén de confianza IND, de modo que cuando ISE envía su certificado pxGrid (durante el intercambio de TLS), IND confía en él.

Vaya a **Administration > pxGrid Services > Certificates**. Rellene los campos de acuerdo con la imagen siguiente. El campo CN es obligatorio, ya que el objetivo de ISE CA es emitir el certificado de identidad. Lo ideal es que introduzca el FQDN de IND, pero dado que IND no utiliza el certificado de identidad, el valor del campo CN no es crítico.

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](#) ⓘ

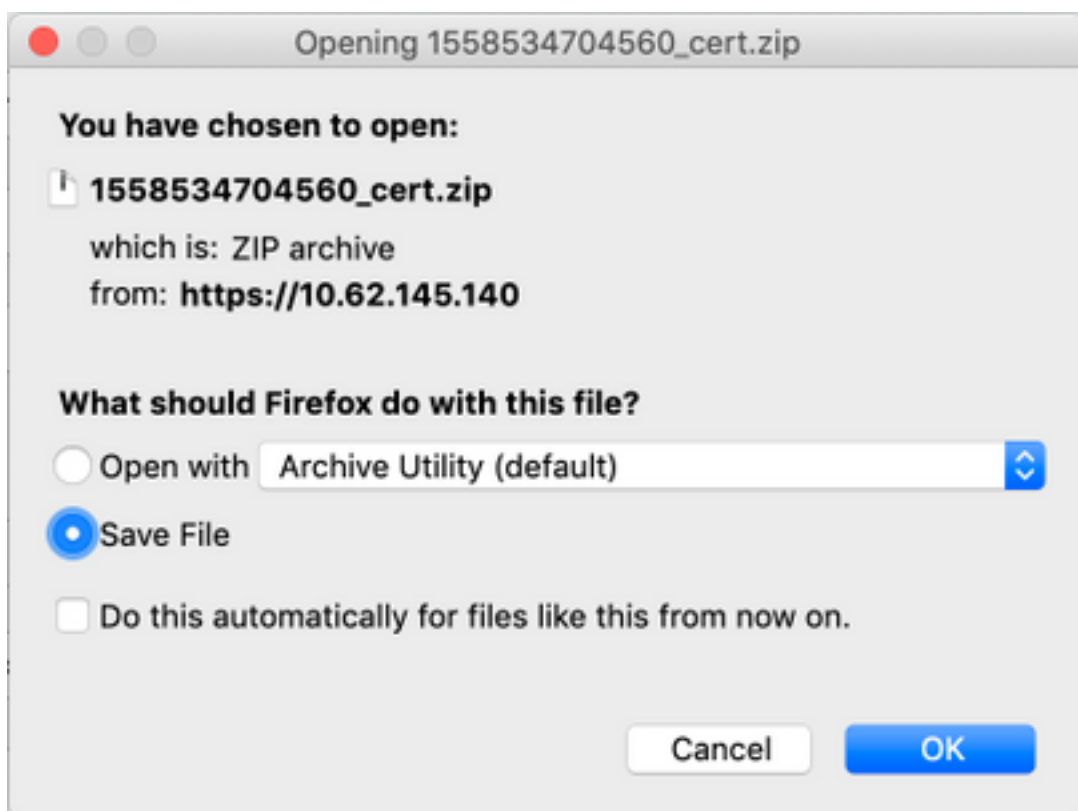
Subject Alternative Name (SAN) - +

Certificate Download Format * ⓘ

Certificate Password * ⓘ

Confirm Password *

Paso 7. Descargar cadena de certificados en formato PKCS12



Paso 8. Cargar cadena de certificados en IND

Vaya a **Settings > pxGrid > Trusted Certificates**. Haga clic en **Nuevo**. Introduzca el nombre (se mostrará la cadena con este nombre en IND). La contraseña es la del paso 1.

Upload Trusted Certificate
✕

Name *

Password

Certificate * Browse ▲ ✕

Upload
Cancel

Paso 9. Configurar el servidor de políticas en IND

Vaya a **Settings > Policy Servers**, haga clic en **New**. Introduzca el FQDN ISE y la dirección IP del nodo pxGrid de ISE.

INDUSTRIAL NETWORK DIRECTOR
Settings > Policy Servers
🔔 0 🗑

New Server

Protocols *

RADIUS pxGrid

Host Name *	IP Address	Description
ISE24-1ek.example.com	10.62.145.140	

Cancel
Save

Paso 10. Configuración de la integración de pxGrid en IND

Navegue hasta **Settings > pxGrid** y habilite la integración pxGrid. Haga clic en el botón de alternar. Introduzca el nombre del nodo; este nombre de host es el nombre del cliente pxGrid en ISE. Seleccione el ISE configurado anteriormente en el menú desplegable del campo Servidor 1. Haga clic en **Registro**.

INDUSTRIAL NETWORK DIRECTOR
Settings > pxGrid
🔔 0 🗑 ⚙ 👤

pxGrid

Enable pxGrid- Settings

Download .pem IND certificate

Connect Using the Existing Node

Register a New Node

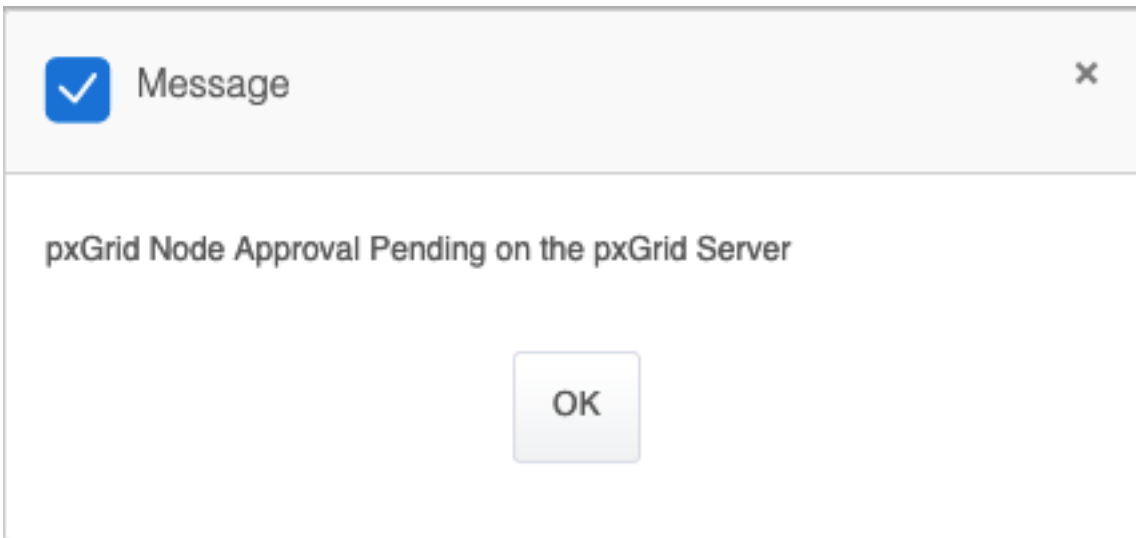
ISE Server

Node Name *	Server 1 *	Server 2
IND	ISE24-1ek.example.com	Select a server

Cancel
Register

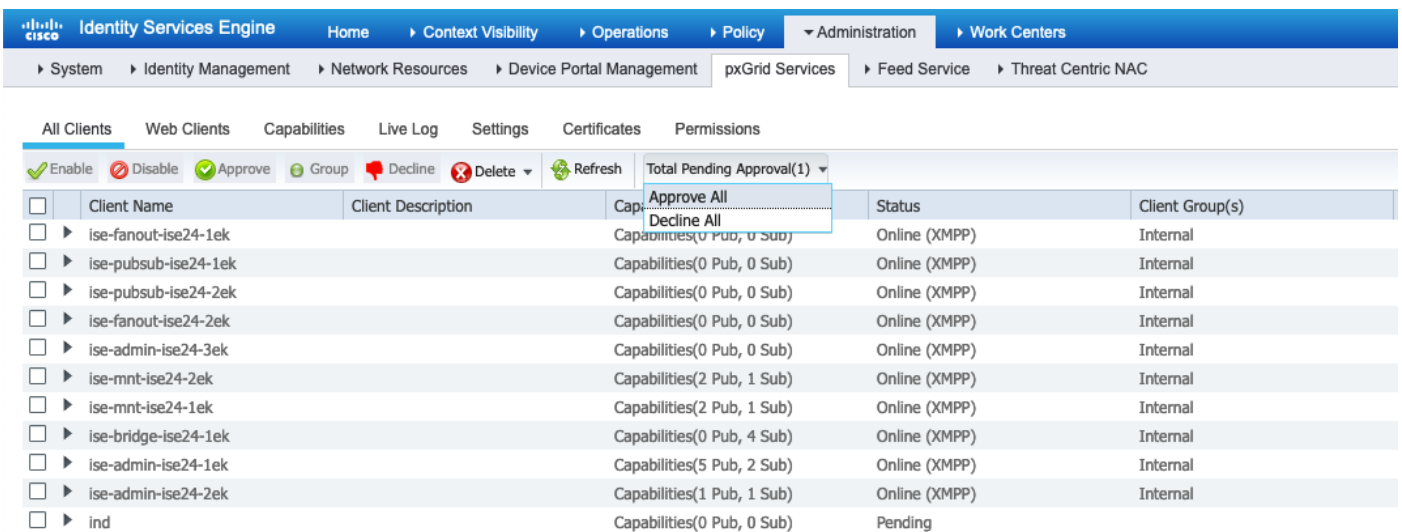
Nota: Los pasos 11 - 12 se pueden ignorar si la configuración de nuevas cuentas basadas en certificados automáticamente está habilitada en ISE.

El siguiente mensaje se muestra en IND tras el registro correcto:



Paso 11. Aprobar IND en ISE

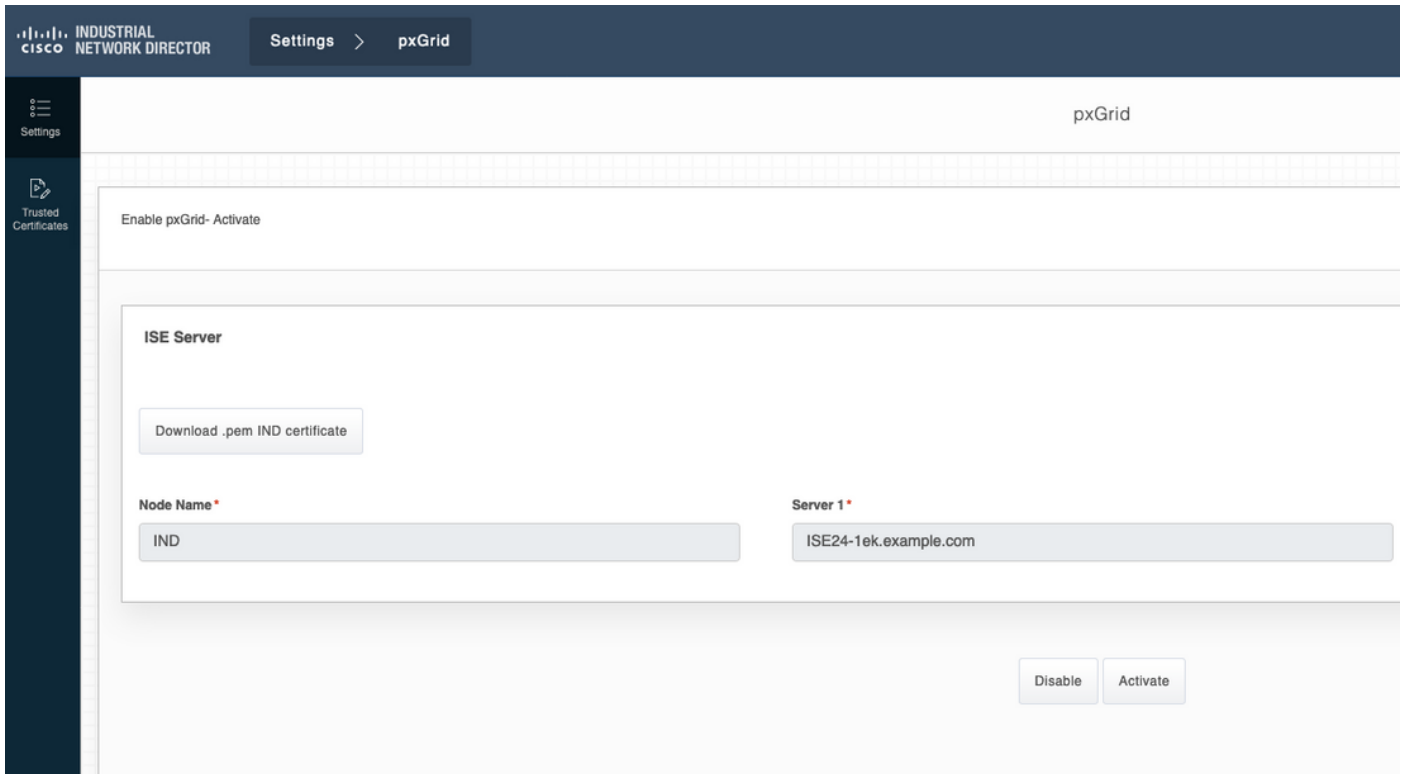
Vaya a **Administration > pxGrid Services > All Clients**. Abrir el menú desplegable Total pendiente de aprobación(1). Haga clic en **Aprobar todo**.



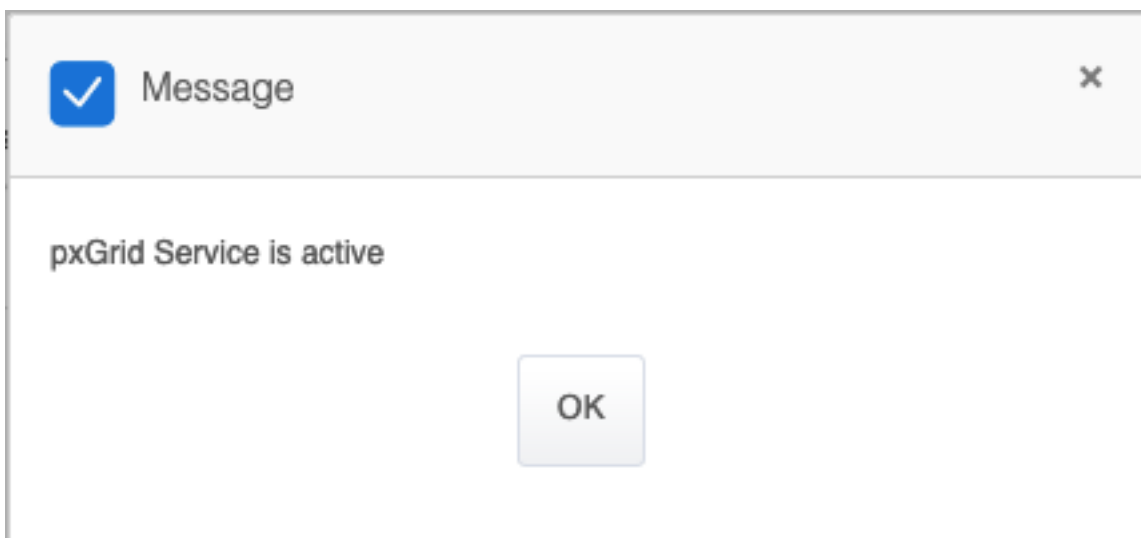
Client Name	Client Description	Capabilities	Status	Client Group(s)
ise-fanout-ise24-1ek		Capabilities(0 Pub, 0 Sub)	Online (XMPP)	Internal
ise-pubsub-ise24-1ek		Capabilities(0 Pub, 0 Sub)	Online (XMPP)	Internal
ise-pubsub-ise24-2ek		Capabilities(0 Pub, 0 Sub)	Online (XMPP)	Internal
ise-fanout-ise24-2ek		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	

Paso 12. Activar el servicio pxGrid en IND

Vaya a **Settings > pxGrid**. Haga clic en **Activar**.



El siguiente mensaje se muestra en IND tras la activación correcta:



Verificación

Verificación de ISE

Vaya a **Administration > pxGrid Services > All Clients**. Se espera ver el cliente IND como Offline (XMPP) en Todos los Clientes, IND utiliza pxGrid versión 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)		
<input type="checkbox"/> ▶ ise-fanout-ise24-1ek		Capabilities(0 Pub, 0 Sub)	Online (XMPP)	Internal		
<input type="checkbox"/> ▶ ise-pubsub-ise24-1ek	Client Name: Not Sortable	Capabilities(0 Pub, 0 Sub)	Online (XMPP)	Internal		
<input type="checkbox"/> ▶ ise-pubsub-ise24-2ek		Capabilities(0 Pub, 0 Sub)	Online (XMPP)	Internal		
<input type="checkbox"/> ▶ ise-fanout-ise24-2ek		Capabilities(0 Pub, 0 Sub)	Online (XMPP)	Internal		
<input type="checkbox"/> ▶ ise-admin-ise24-3ek		Capabilities(0 Pub, 0 Sub)	Online (XMPP)	Internal		
<input type="checkbox"/> ▶ ise-mnt-ise24-2ek		Capabilities(2 Pub, 1 Sub)	Online (XMPP)	Internal		
<input type="checkbox"/> ▶ ise-mnt-ise24-1ek		Capabilities(2 Pub, 1 Sub)	Online (XMPP)	Internal		
<input type="checkbox"/> ▶ ise-bridge-ise24-1ek		Capabilities(0 Pub, 4 Sub)	Online (XMPP)	Internal		
<input type="checkbox"/> ▶ ise-admin-ise24-1ek		Capabilities(5 Pub, 2 Sub)	Online (XMPP)	Internal		
<input type="checkbox"/> ▶ ise-admin-ise24-2ek		Capabilities(1 Pub, 1 Sub)	Online (XMPP)	Internal		
<input type="checkbox"/> ▶ ind		Capabilities(0 Pub, 0 Sub)	Offline (XMPP)			

Haga clic en **Cientes Web**, confirme que el cliente IND tiene el estado ON y que /topic/com.cisco.endint.asset forma parte de las suscripciones.

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								
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

Verificación IND

IND debe pasar al estado En sincronización. Se realiza si la descarga masiva es exitosa en ISE, si no es así, IND permanecerá en estado Out of Sync.

pxGrid

Download .pem IND certificate

ISE Server

Node Name* IND

Server 1* ISE24-1ek.example.com

Server 2

	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

Troubleshoot

El estado de sincronización se ha detenido sin sincronizar en IND

La transición de Out of Sync a In Sync se produce si la descarga masiva se realiza correctamente en ISE. IND application.log a continuación.

```
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
```

Es fundamental que ISE pueda resolver el nombre de host IND que comparte IND. De lo contrario, ISE no puede realizar descargas masivas y IND nunca pasará al estado En sincronización. Puede ver la siguiente excepción en profiler.log si falla la descarga masiva (ISE no pudo resolver WIN2012-AAA). Para activar la descarga masiva, puede desmarcar y verificar la sonda pxGrid en PSN.

```
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)

```

No todos los terminales se comparten con ISE

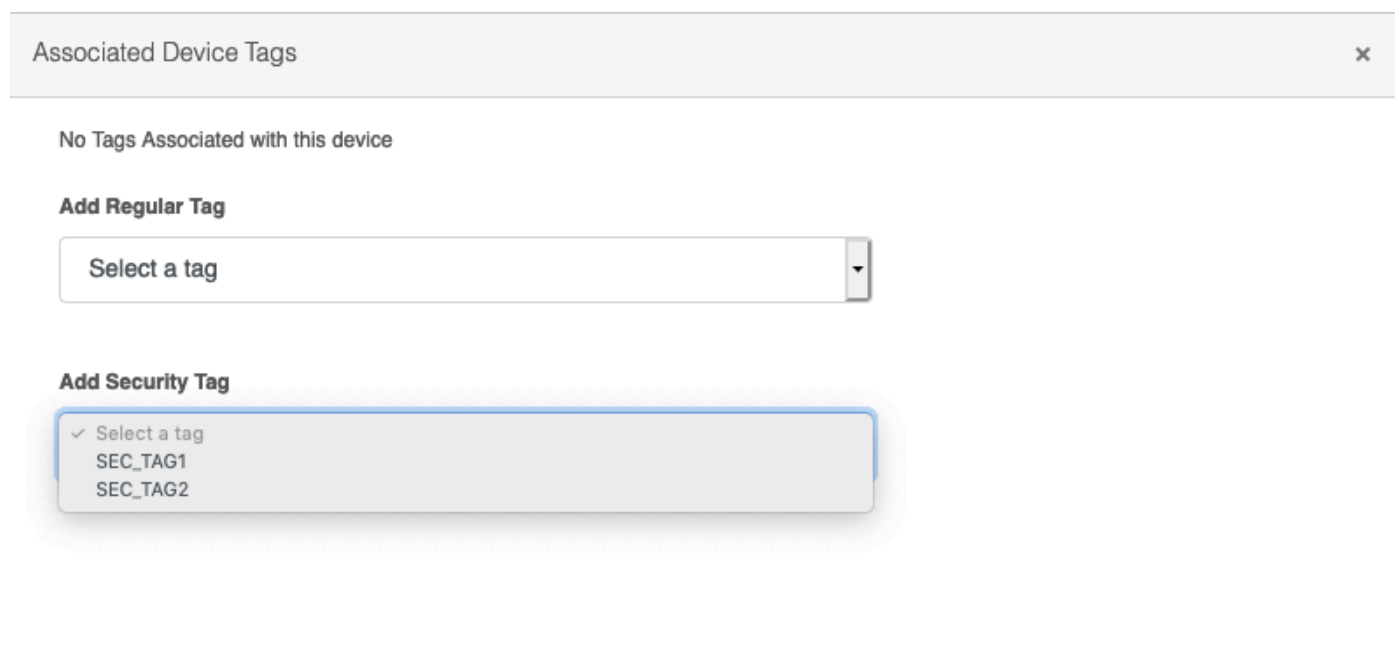
Los terminales de IND se comparten con ISE sólo si el indicador de activos de pxGrid es Sí, la dirección MAC también debería estar disponible, de lo contrario ISE no dispone de datos suficientes para crear un terminal.

The screenshot shows the 'DEVICE OVERVIEW' for a device named 'WIN2012-CHILD'. The interface includes a navigation bar at the top with 'Operate' and 'Inventory' tabs. The main content area displays the following information:

Field	Value	Field	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 y AssetGroup no están disponibles en ISE

Si assetTag solamente no está disponible, puede ser el caso cuando se utiliza un tipo TAG incorrecto. Debe utilizar la etiqueta de seguridad (no la etiqueta normal) cuando actualice el terminal.



Si no están disponibles tanto AssetTag como AssetGroup, puede haber varias razones detrás

1. La política de generación de perfiles no se ha configurado utilizando atributos personalizados (consulte el paso 1-3 en Configuraciones, parte del documento)

2. Debido al defecto [CSCvn66106](#) Filtro de atributos de EndPoint: debe estar desactivado. De lo contrario, filtra los atributos personalizados del clasificador. El siguiente registro se puede ver en profiler.log.

```
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}
```