使用Active Directory WMI提供程式配置ISE 2.2 PIC

目錄

簡介

本文檔介紹如何使用Active Directory Windows Management Instrumentation(AD WMI)提供程式配置身份服務引擎被動身份聯結器(ISE PIC)部署並對其進行故障排除。ISE PIC是關注被動ID功能的輕量ISE版本。

ISE PIC是僅使用被動身份的所有思科安全產品組合的單ID解決方案。這意味著無法在ISE PIC上配置授權或策略。它支援不同的提供程式（代理、WMI、系統日誌、API），並可通過REST API進行

整合。它具有查詢端點的功能(使用者是否登入？終端是否仍然連線？)

必要條件

需求

思科建議您瞭解以下主題的基本知識：

- 思科身分識別服務引擎
- Microsoft Active Directory
- Microsoft WMI

採用元件

本文中的資訊係根據以下軟體和硬體版本：

- 思科身分識別服務引擎被動身分識別聯結器版本2.2.0.470
- Microsoft Windows 7 Service Pack 1
- Microsoft Windows Server 2012 r2

本文中的資訊是根據特定實驗室環境內的裝置所建立。文中使用到的所有裝置皆從已清除（預設）的組態來啟動。如果您的網路正在作用，請確保您已瞭解任何指令可能造成的影響。

背景資訊

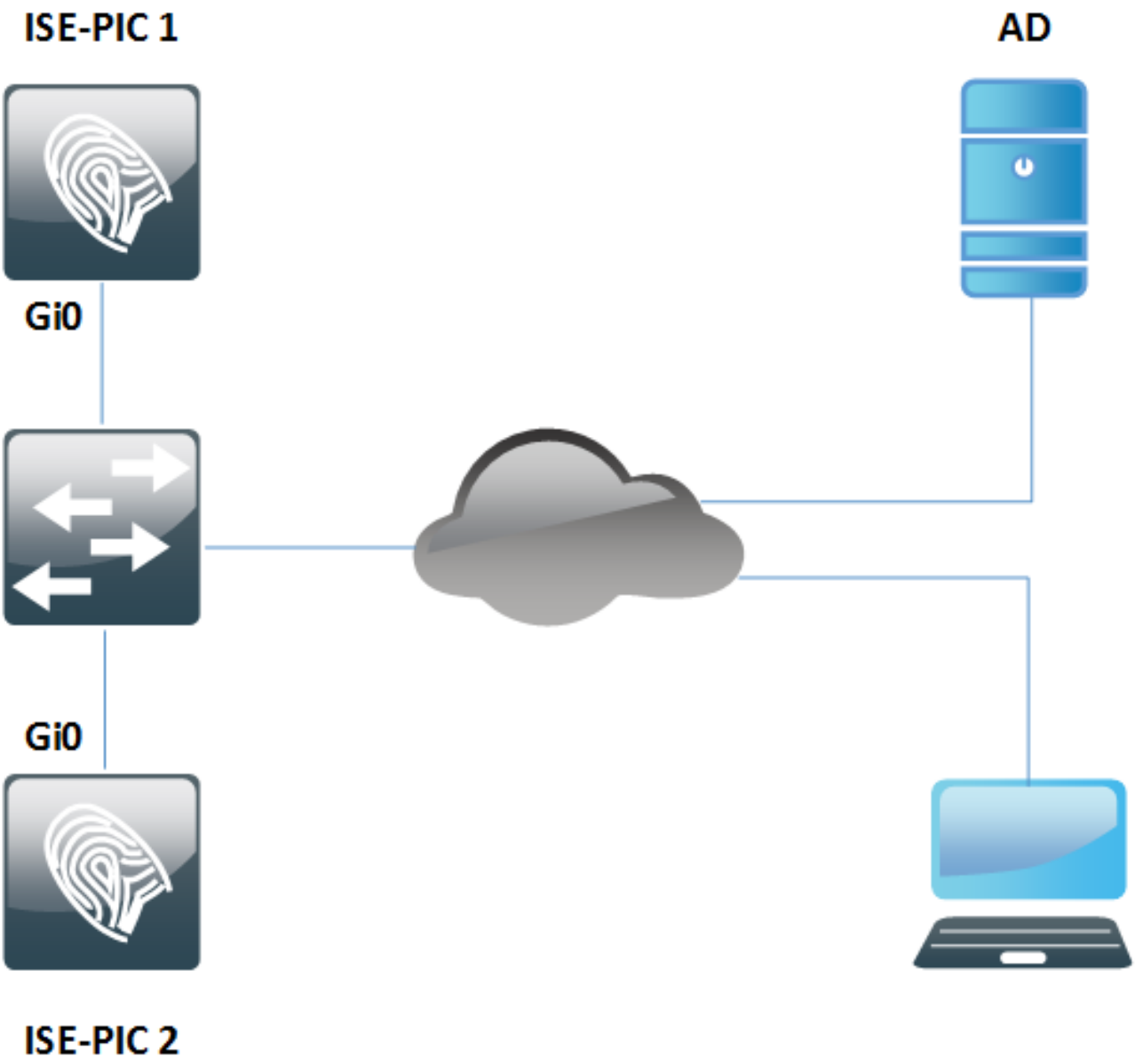
ISE PIC部署中的最大節點數量為2。此示例說明如何配置ISE PIC部署以實現高可用性，從而使用2個虛擬機器(VM)。在ISE PIC部署中，節點可以具有以下角色：主要和輔助。在此模式下，一次只能有一個節點為主節點，並且只能通過GUI手動更改角色。如果主裝置發生故障，除UI外，所有功能仍會在輔助裝置上運行。只有手動提升為主使用者才能啟用使用者介面。

此示例說明如何為Active Directory配置WMI提供程式。WMI包含一組對Windows驅動程式模型的擴展，這些擴展提供一個作業系統介面，通過這個介面被檢測的元件提供資訊和通知。WMI是Microsoft從分散式管理任務組(DMTF)實施的基於Web的企業管理(WBEM)和通用資訊模型(CIM)標準。

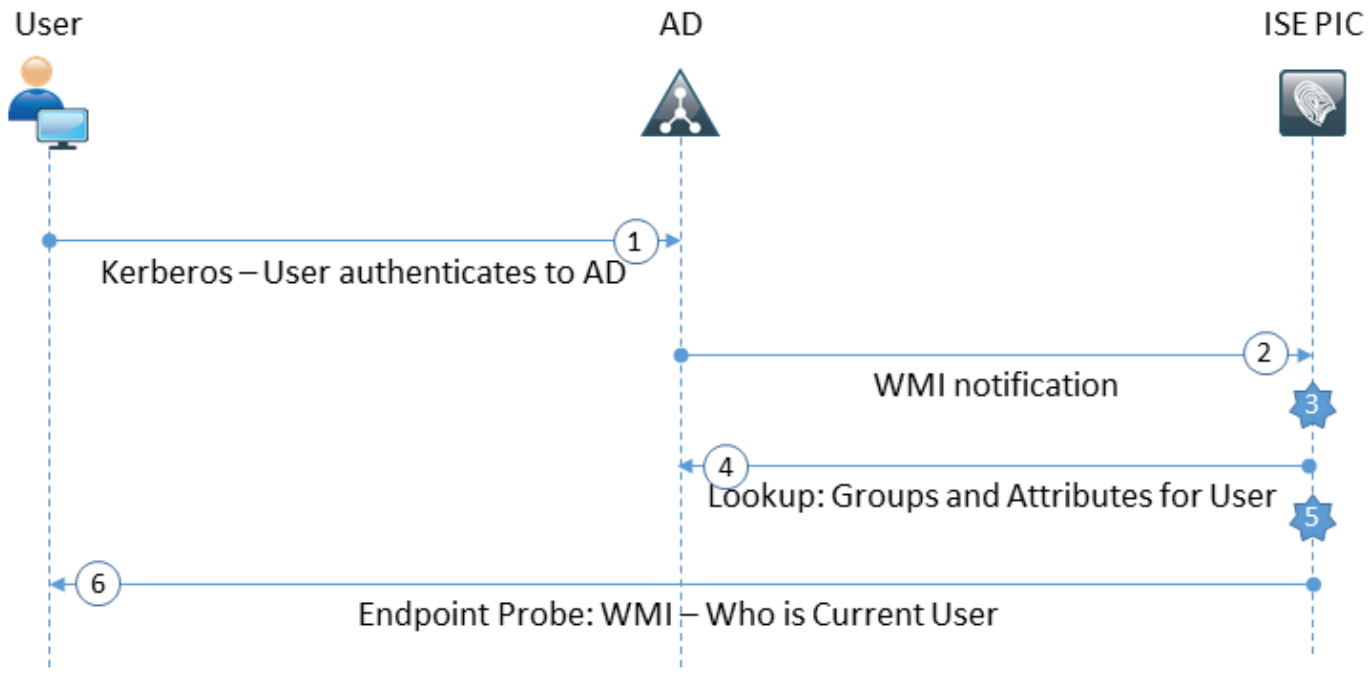
> **附註：**有關WMI的詳細資訊可以在官方Microsoft站點上找到：關於WMI

網路圖表

檔案中的資訊使用圖中所示的網路設定：



工作流程



1. 登入到PC並在AD上通過身份驗證。

2. WMI通知ISE PIC有關此身份驗證。

3. ISE將繫結Username:IP_Address新增到其會話目錄。

4. ISE從AD檢索使用者組和屬性。

5. ISE將此資訊儲存到其會話目錄中。

6. 每4小時（不可配置）ISE PIC運行終端探測：
   首先，它嘗試通過WMI訪問終結點。如果WMI失敗，則ISE PIC運行ISExec。它將查詢使用者的終結點並啟用下一次的WMI。此外，ISE PIC會檢索終端和作業系統型別的MAC地址。

   在ISE PIC中，僅可以啟用/禁用終端探測。主節點查詢所有端點，輔助節點僅用於高可用性。

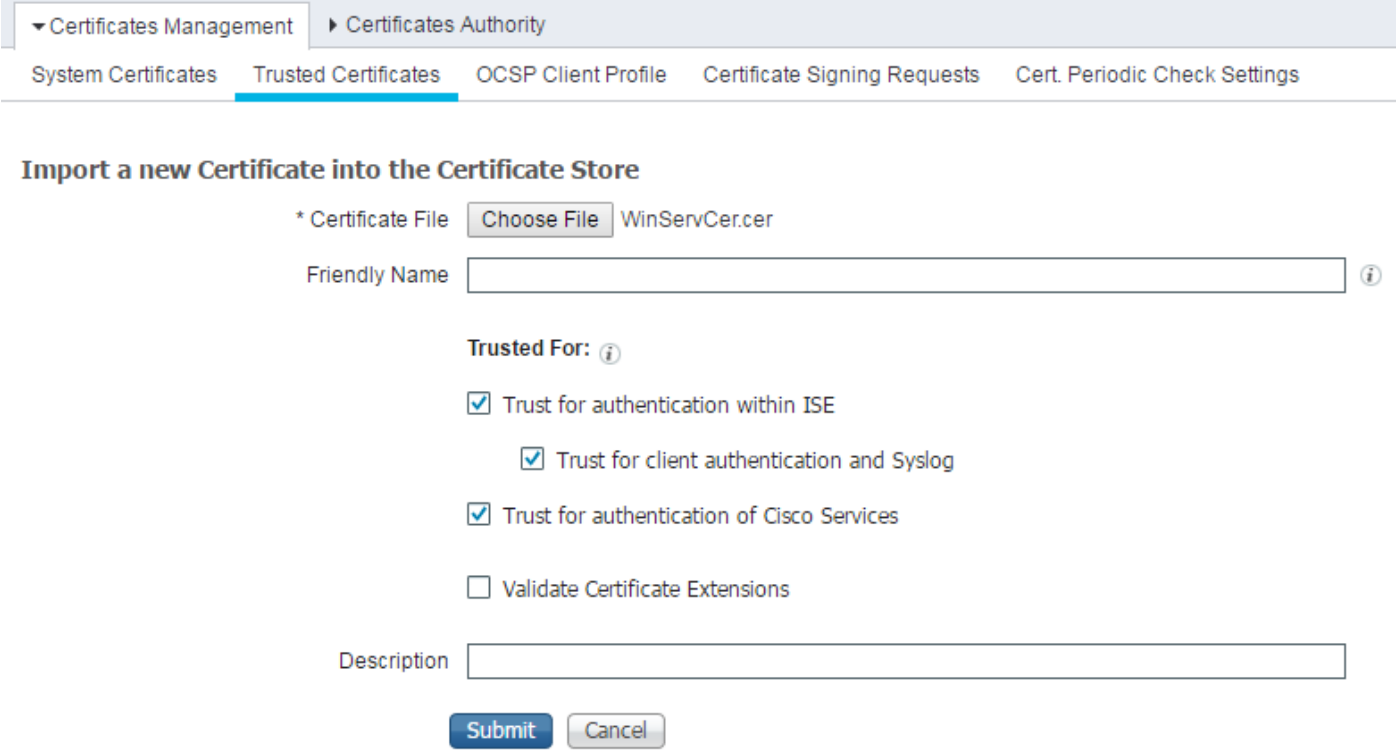
設定

配置ISE PIC部署

第1步（可選）。 安裝受信任的證書。

應將證書頒發機構(CA)的完整證書鏈安裝到ISE受信任儲存。登入到ISE PIC GUI並導航到**證書>證書管理>受信任證書**。按一下**Import**，然後從您的PC中選擇您的CA證書。

如圖所示，按一下**Submit**以儲存變更。對鏈結的所有憑證重複此步驟。在輔助節點上重複步驟。

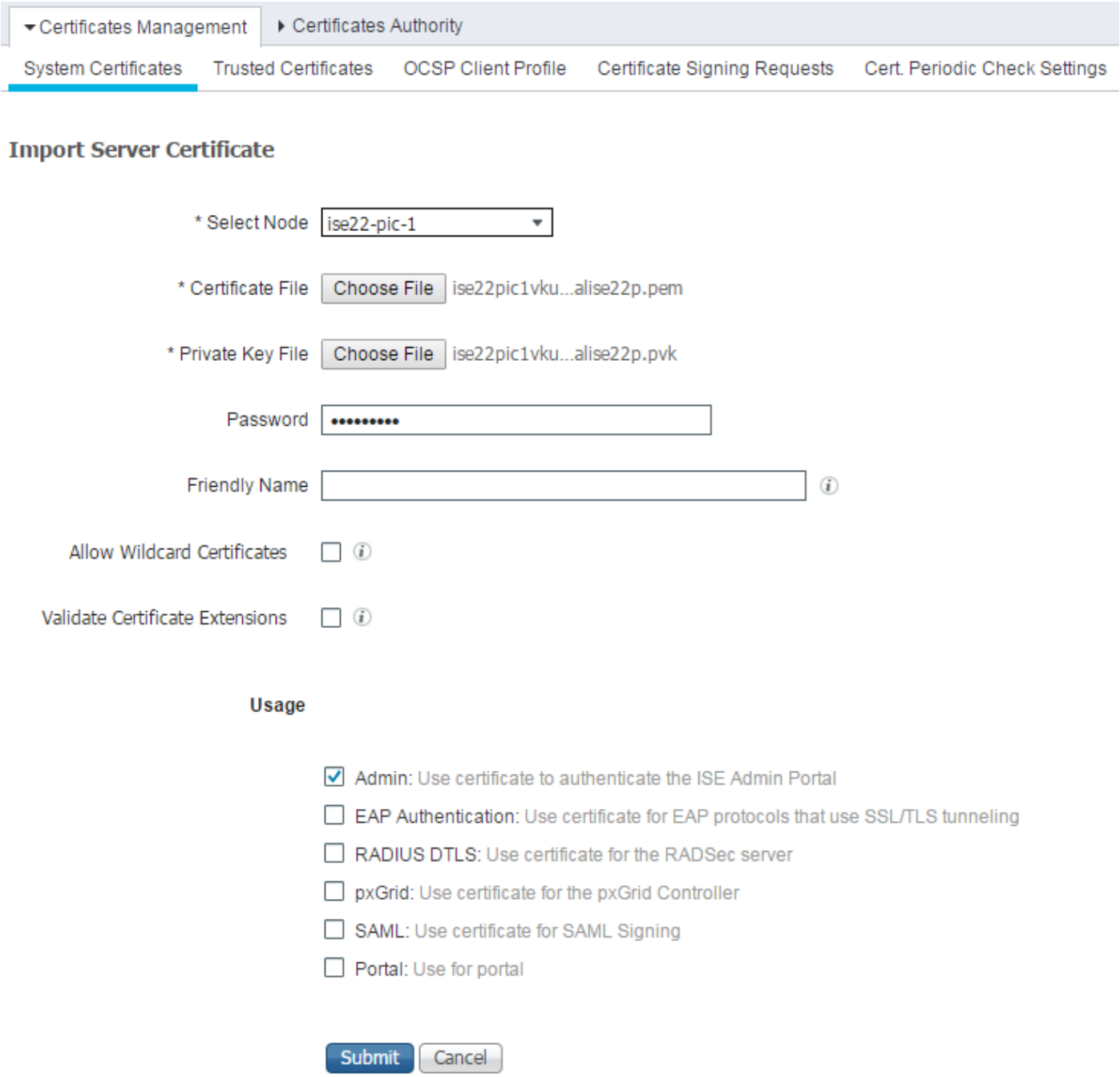


第2步（可選）。 安裝系統證書。

選項1:CA已連同私鑰一起產生的憑證。

導覽至**Certificates > Certificates Management > System Certificates**，然後按一下**Import**。選擇**Certificate File**和**Private Key File**，如果私鑰已加密，請輸入*Password*欄位。

如下圖所示，勾選「**Usage**」選項：



附註：由於ISE PIC基於ISE代碼，可以輕鬆轉換為具有相應許可證的全功能ISE，因此所有使用選項均可用。ISE PIC不使用**EAP身份驗證**、**RADIUS DTLS**、**SAML**和**門戶**等角色。

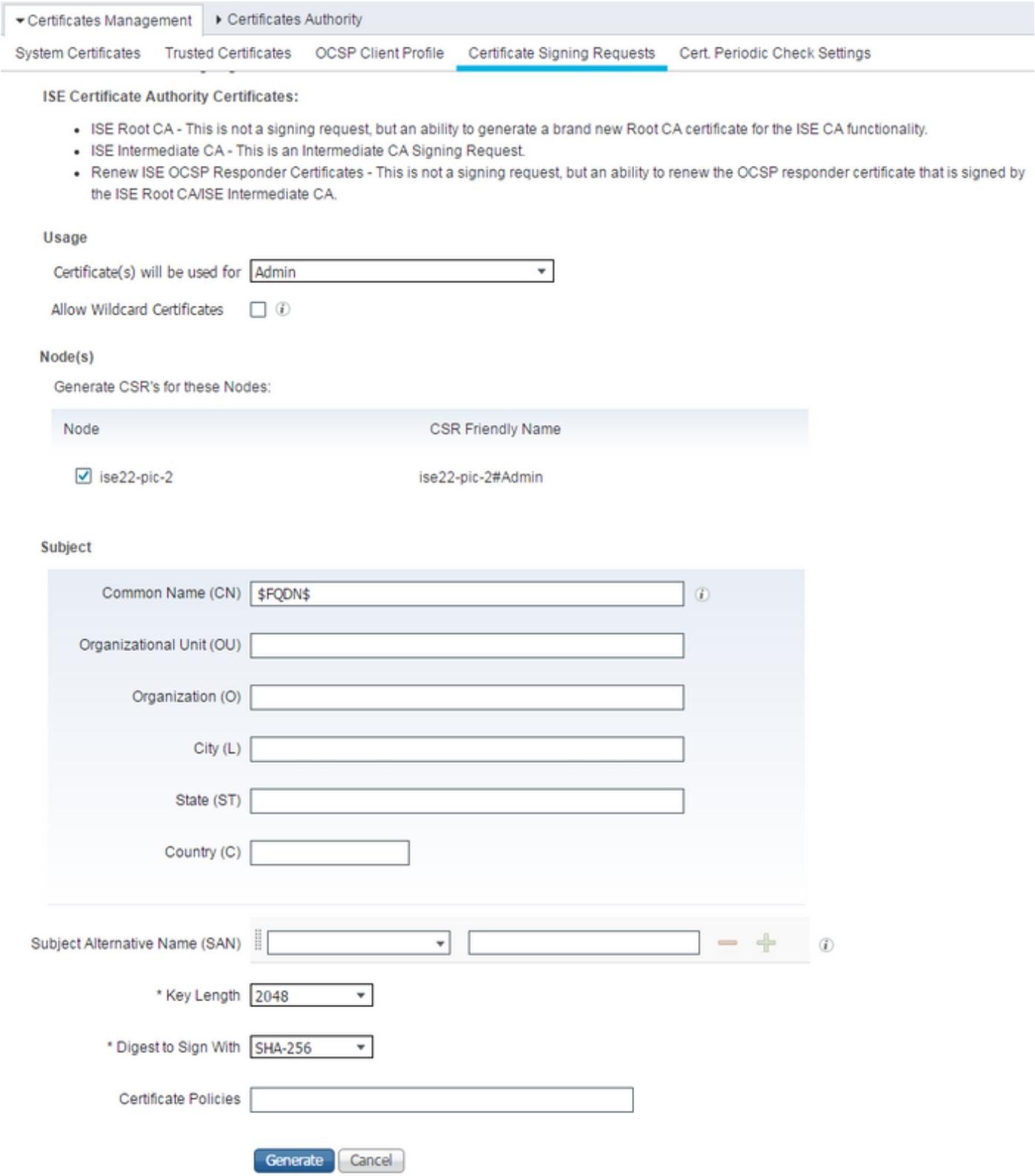
按一下**Submit**安裝證書。在輔助節點上也重複此過程。

附註：ISE PIC節點上的所有服務在伺服器證書匯入後重新啟動。

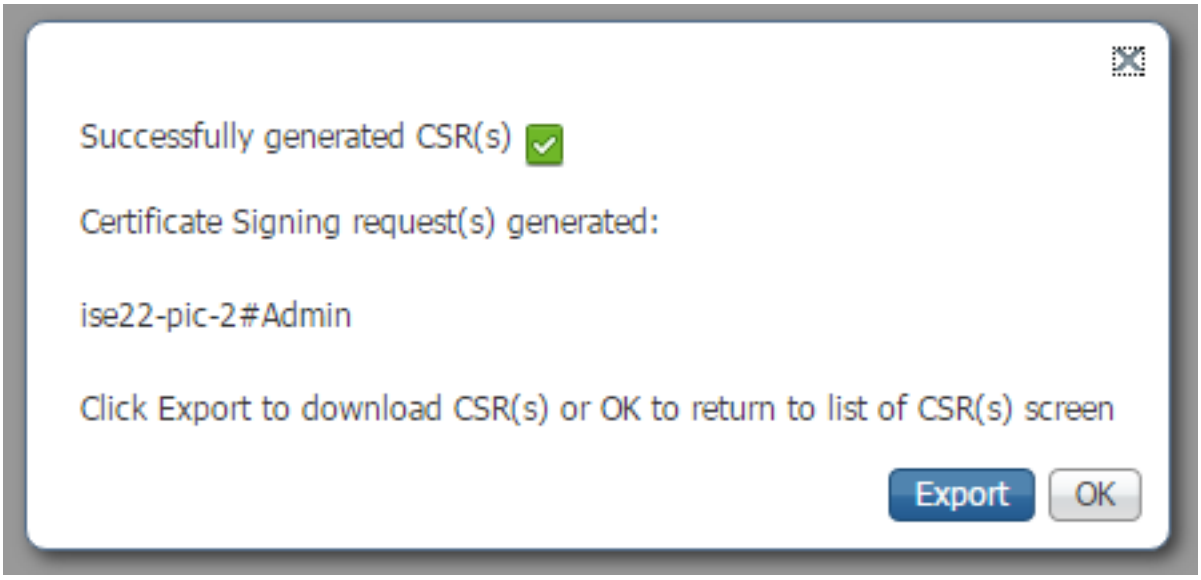
選項2.生成證書簽名請求(CSR)，使用CA對其進行簽名並在ISE上繫結。

導覽至**Certificates > Certificates Management > Certificate Signing Requests**頁面，然後按一下**Generate Certificate Signing Requests(CSR)**。

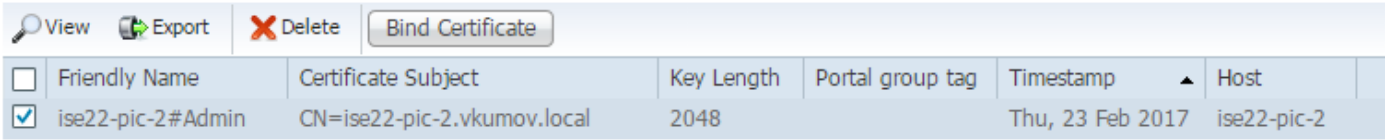
選擇節點和使用情況，如果需要，輸入其他欄位：



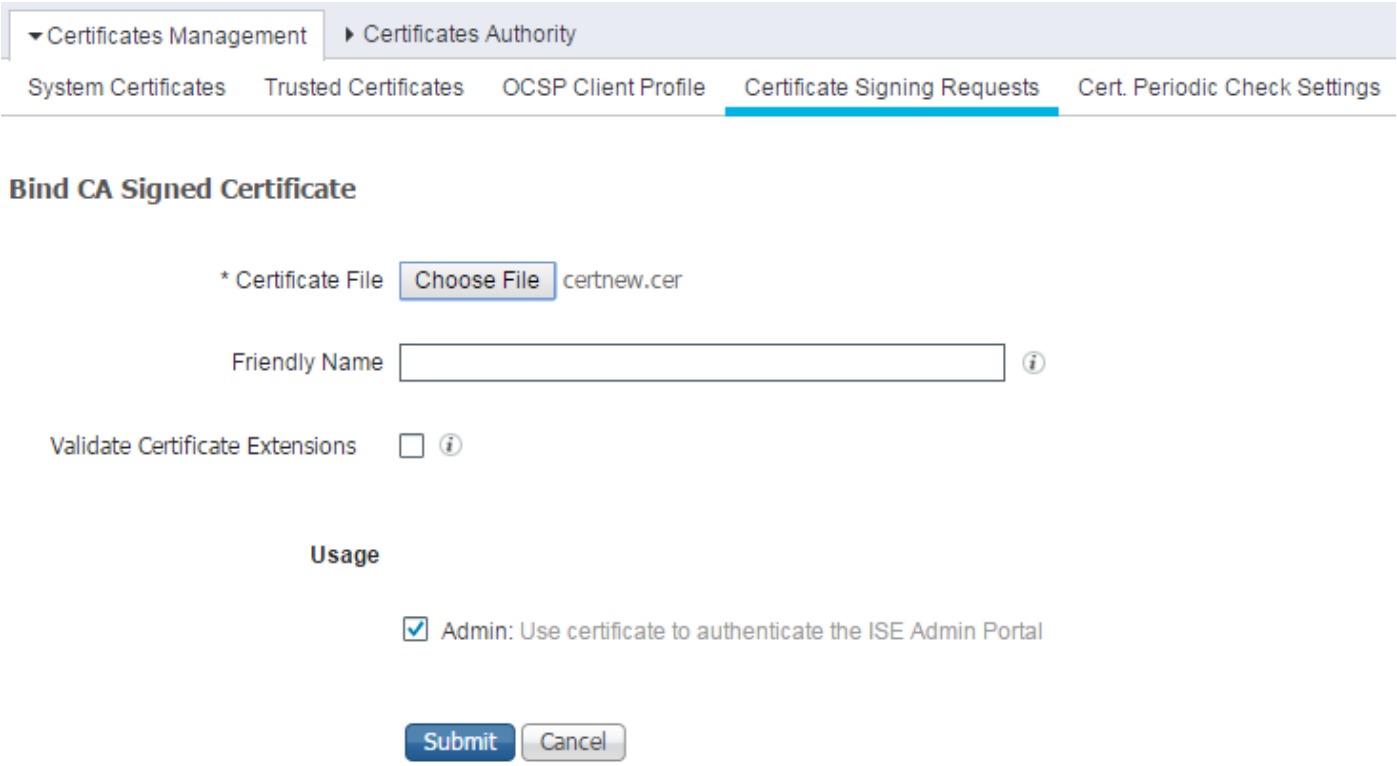
按一下「**Generate**」。**系統隨即會彈出新視窗，並顯示Export** generated CSR:



按一下「**Export**」，儲存產生的***.pem**檔案，然後使用CA對其進行簽名。簽署CSR後，導覽回**憑證>憑證管理>憑證簽署請求**頁面，選擇您的CSR，然後按一下**Bind Certificate**:



選擇與您的CA簽名的證書，然後按一下**Submit**以應用更改：

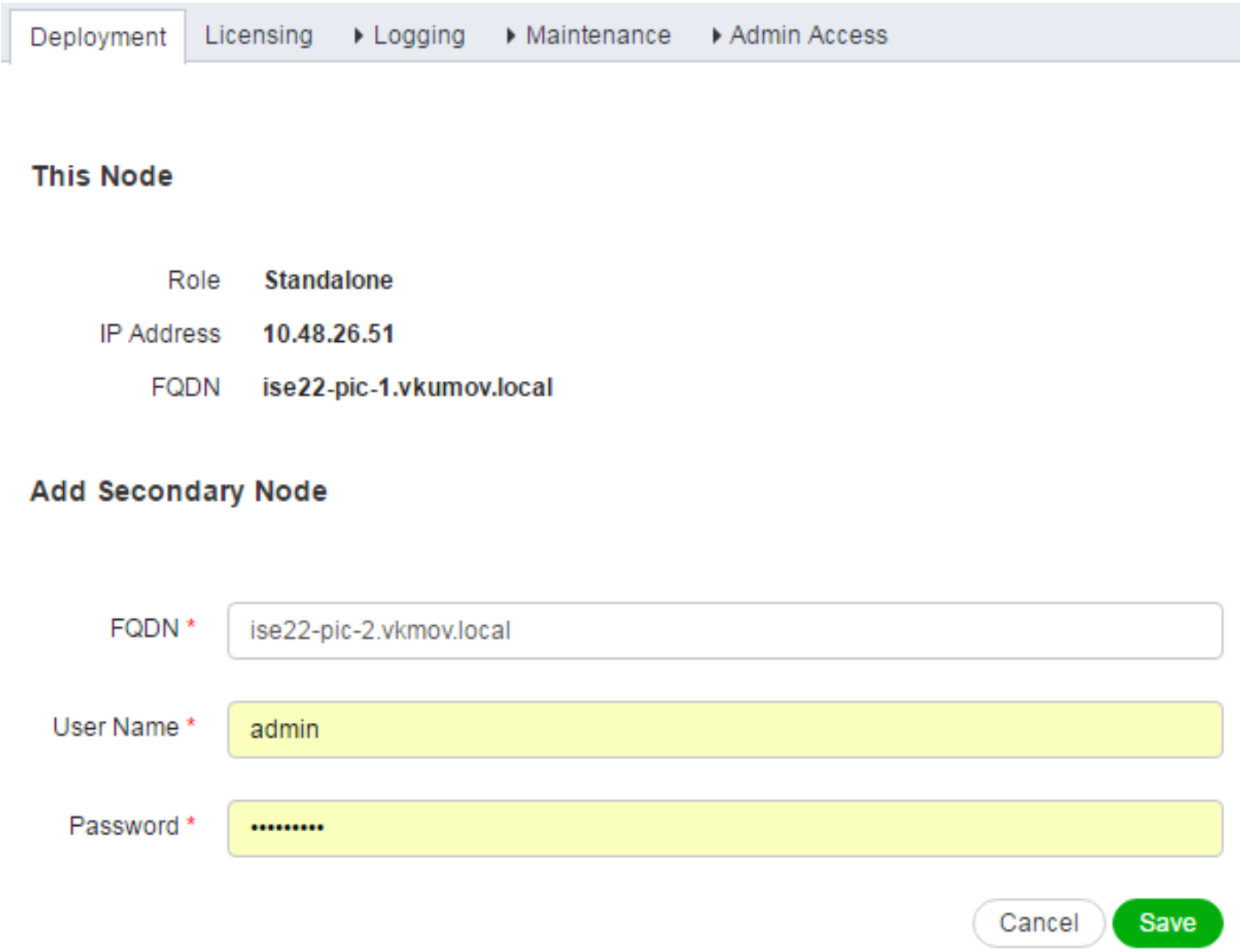


按一下**Submit**安裝證書後，ISE PIC節點上的所有服務都會重新啟動。

步驟3.將輔助節點新增到部署中。

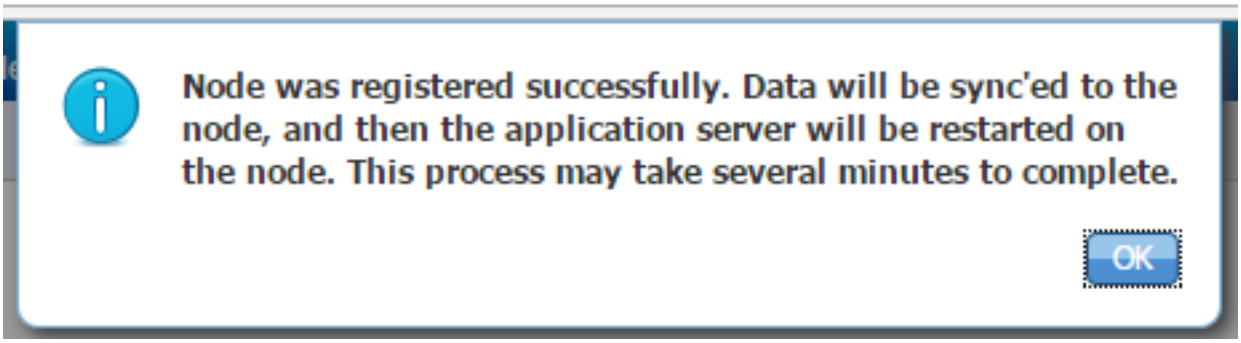
ISE PIC允許在部署中具有2個節點以實現高可用性。它不需要具有雙向證書信任（與常規ISE部署

相比）。 要將輔助節點新增到部署，請在主ISE PIC節點上導航到**管理>部署**頁面，如下圖所示：

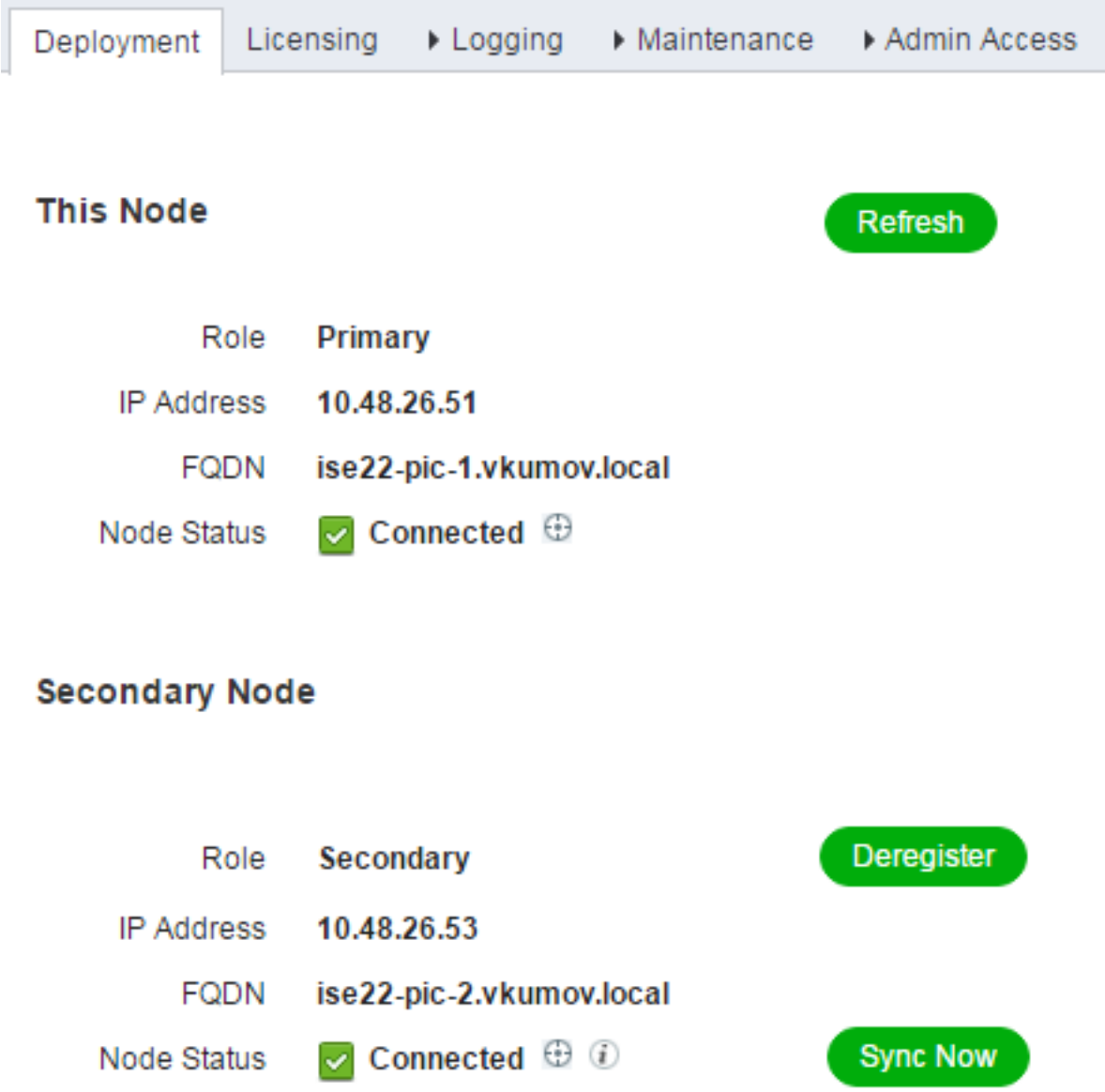


輸入輔助節點的完全限定域名(FQDN)以及該節點的管理員憑據，然後按一下**儲存**。如果主ISE PIC節點無法驗證第二個節點的管理員證書，它會在受信任儲存中安裝證書之前要求確認。

在這種情況下，按一下Import Certificate and Proceed將節點加入部署。您應該會收到已成功新增節點的通知。輔助節點上的所有服務都會重新啟動。



應在10-20分鐘內同步節點，且節點的狀態應從 **進行中** 成長至 **已連線**:



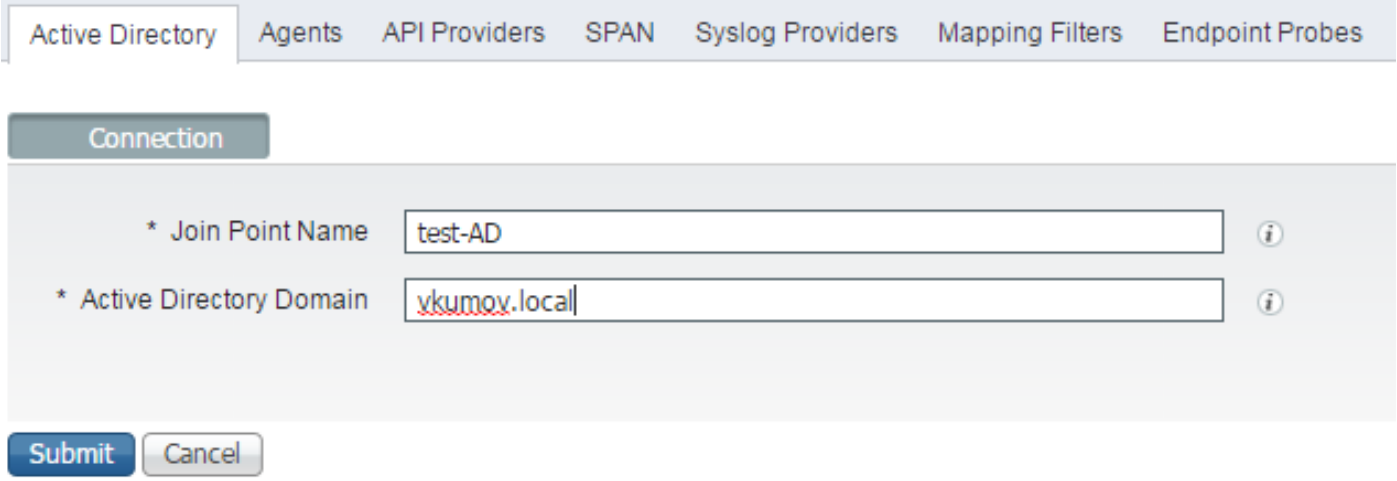
配置Active Directory提供程式

ISE PIC使用Windows Management Instrumentation(WMI)從AD收集有關會話的資訊，並像Pub/Sub通訊一樣工作，這意味著：

- ISE PIC訂閱某些事件
- 發生以下事件時WMI會向ISE PIC發出警報： 4768（Kerberos票證授予）和4770（Kerberos票證續訂）會話目錄中的條目過期（清除）

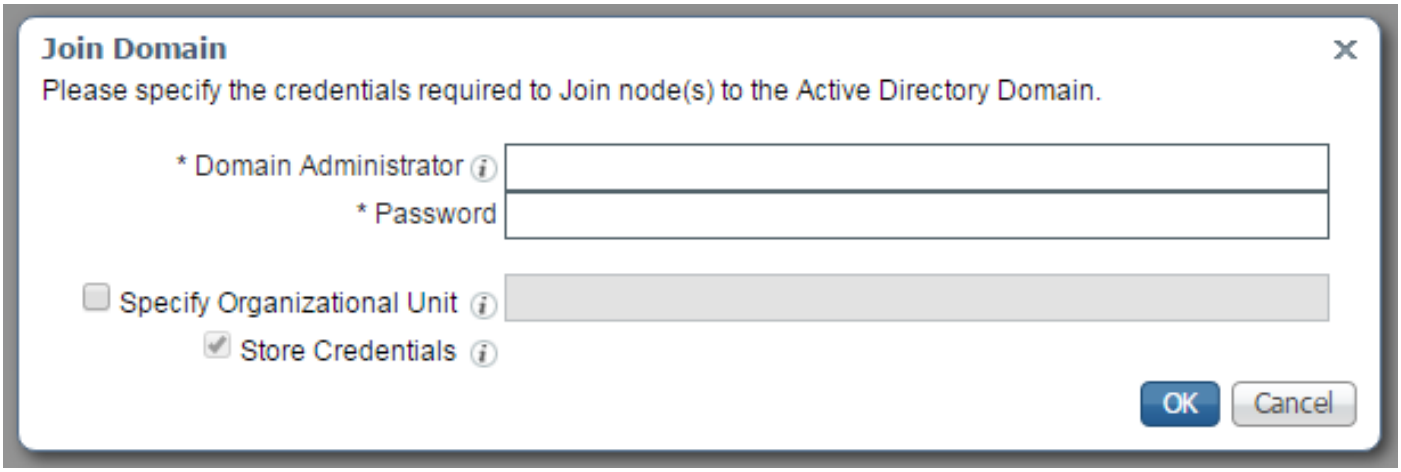
步驟1.將ISE PIC加入域。

若要將ISE PIC加入域，請導航到**Providers > Active Directory**並按一下**Add**:



填充**加入點名稱**和**Active Directory域**欄位，然後按一下**Submit**以儲存更改。**連線點名**稱是僅在ISE PIC中使用的名稱。**Active Directory域是**應加入ISE PIC的域的名稱，它應該能夠通過ISE PIC上配置的DNS伺服器進行解析。

建立加入點後，ISE PIC應詢問您是否希望將節點加入域。按一下**Yes（是）。**應彈出一個視窗，以便您提供加入域的憑據：



填充**域管理員**和**密碼**欄位，然後按一下**確定。**

即使該欄位名為**域管理員**，也無需使用管理員使用者**將**ISE PIC加入域。此使用者應具有足夠的許可權，可以在域中建立和刪除電腦帳戶，或者更改以前建立的電腦帳戶的密碼。執行各種操作所需的Active Directory帳戶許可權可以在本文檔中找到。

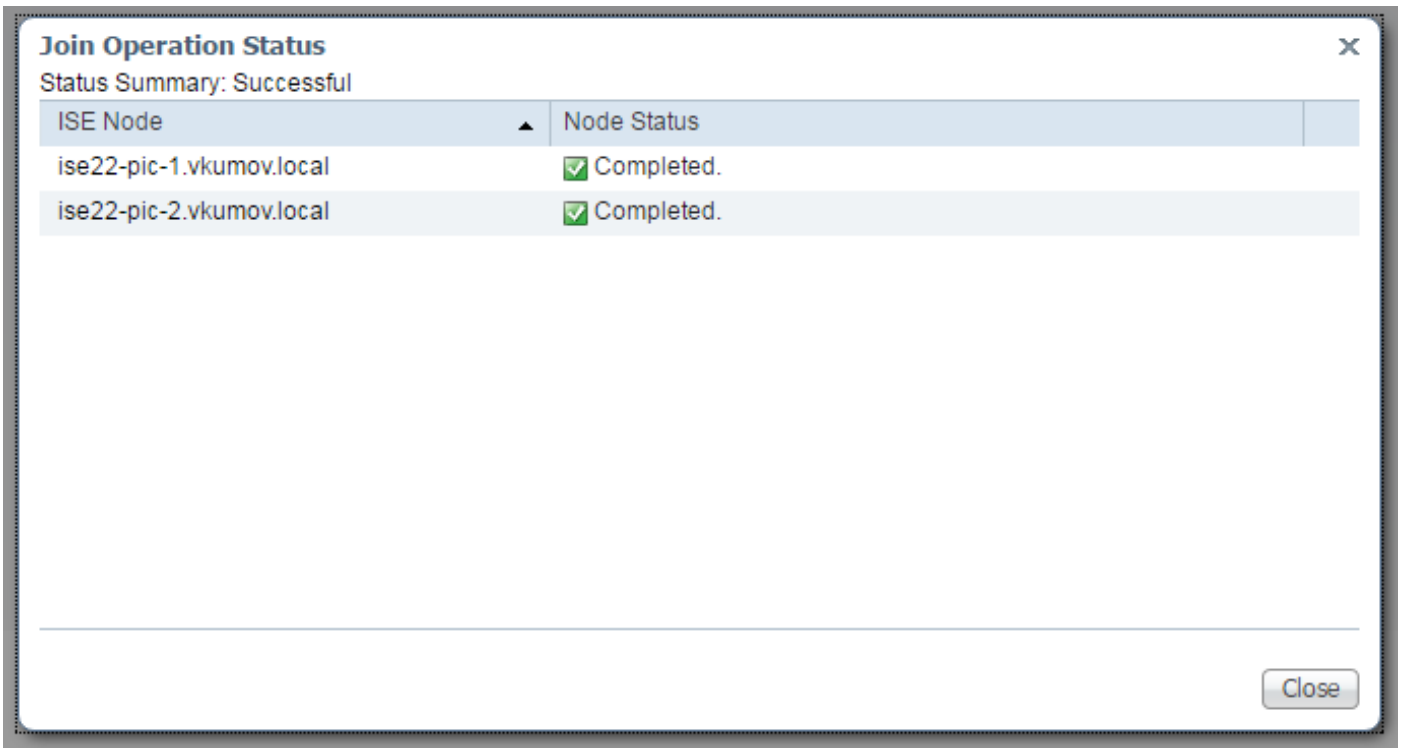
但是，如果您想要使用WMI，則需要在加入期間使用域管理員憑據。**Config WMI選**項要求：

- 登錄檔更改
- 使用DCOM的許可權
- 遠端使用WMI的許可權
- 有權讀取AD域控制器的安全事件日誌

- Windows防火牆必須允許來自/發往ISE PIC的流量(在配置WMI期間將建立相應的**Windows防火牆**策略)

  附註：由於端點探測和WMI配置需要儲存憑據，因此始終在ISE PIC上啟用儲存憑據。ISE在內部對其進行加密儲存。

如圖所示，ISE PIC在新視窗中顯示操作結果：



步驟2.調整AD許可權。

根據文檔檢查並調整使用者對AD的許可權：[身份服務引擎被動身份聯結器(ISE-PIC)安裝和管理員指南：]

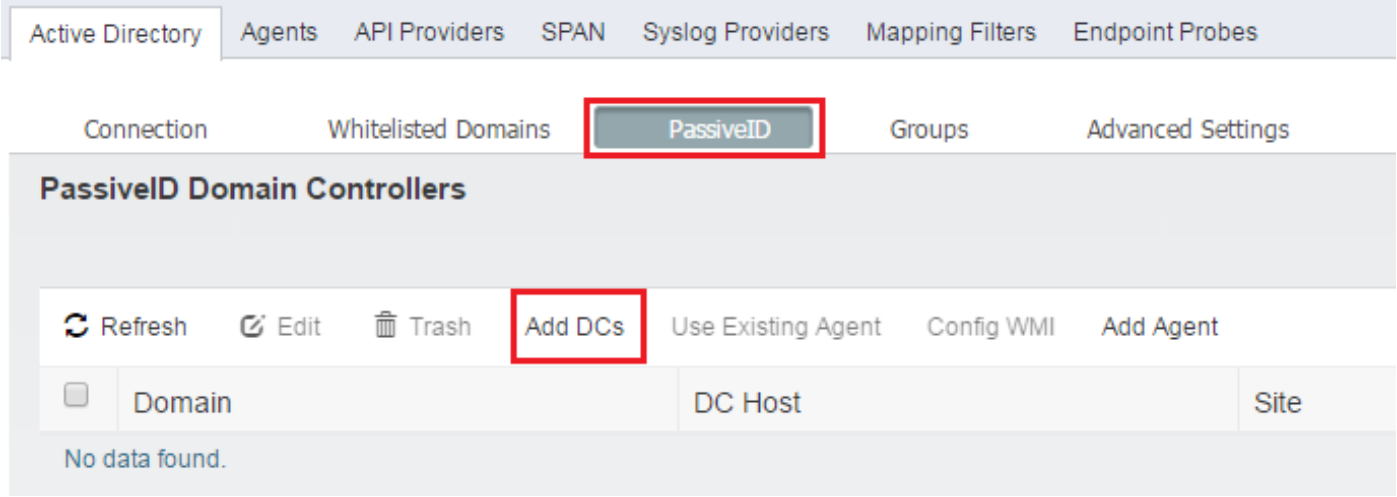
在域管理組中的AD使用者時設定許可權

對於Windows 2008 R2、Windows 2012和Windows 2012 R2，預設情況下，域管理組對Windows作業系統中的某些登錄檔項沒有完全控制。Active Directory管理員必須向Active Directory使用者授予對下列登錄檔項的完全控制許可權

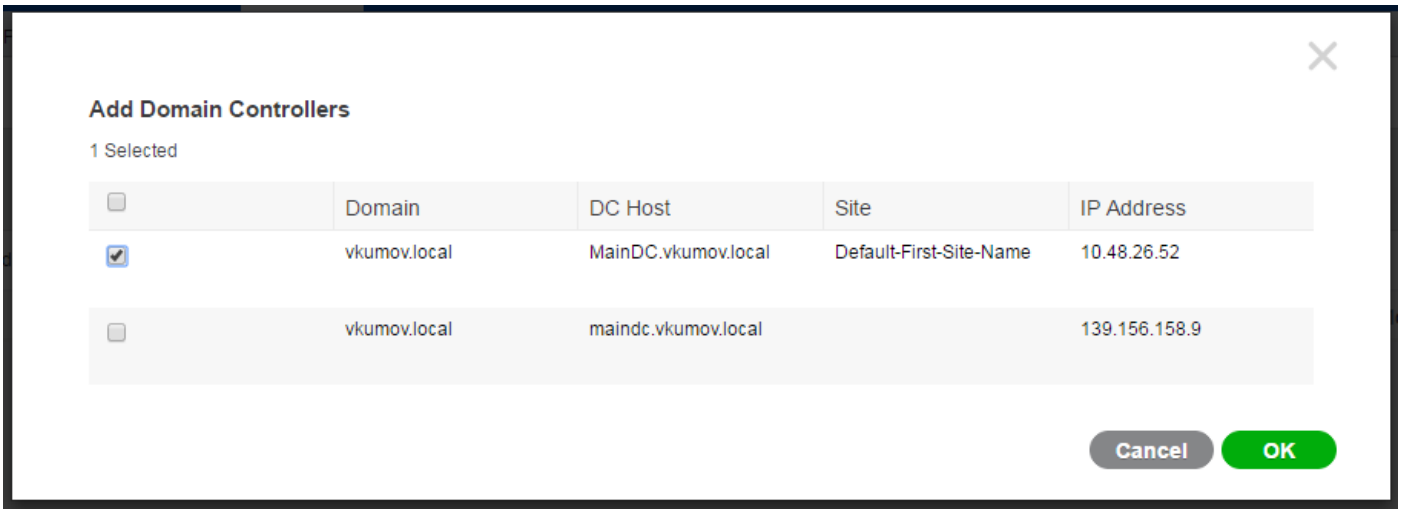
- `HKEY_CLASSES_ROOT\CLSID\{76A64158-CB41-11D1-8B02-00600806D9B6}`
- `HKLM\Software\Classes\Wow6432Node\CLSID\{76A64158-CB41-11D1-8B02-00600806D9B6}`

步驟3.新增PassiveID代理。

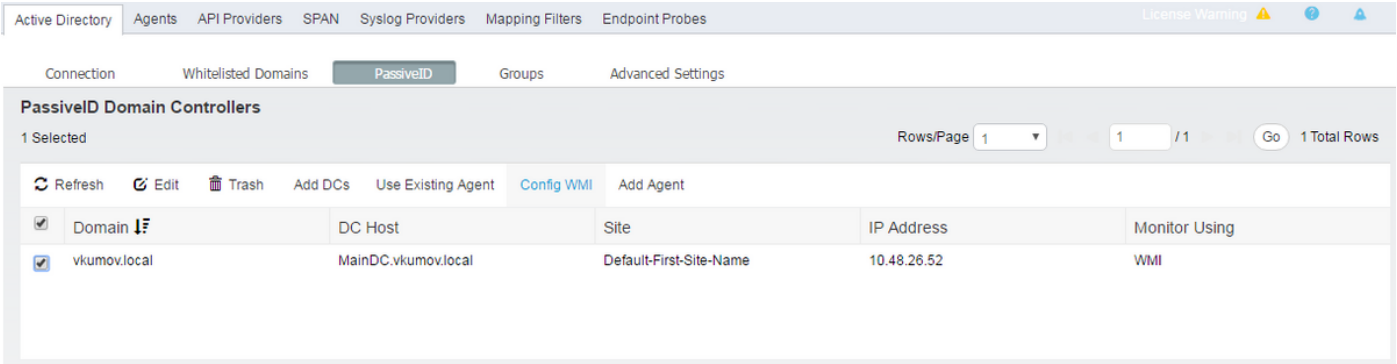
在AD域頁面上，導航到PassiveID頁籤，然後點選**Add DC**，如下圖所示：



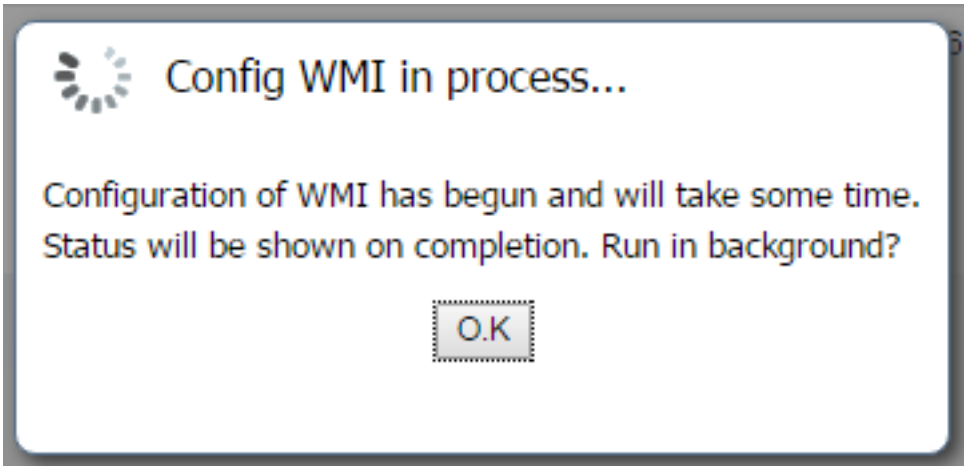
系統彈出一個新視窗，ISE載入所有可用域控制器的清單。選擇要配置WMI的DC，然後按一下**OK**以儲存更改，如下圖所示：



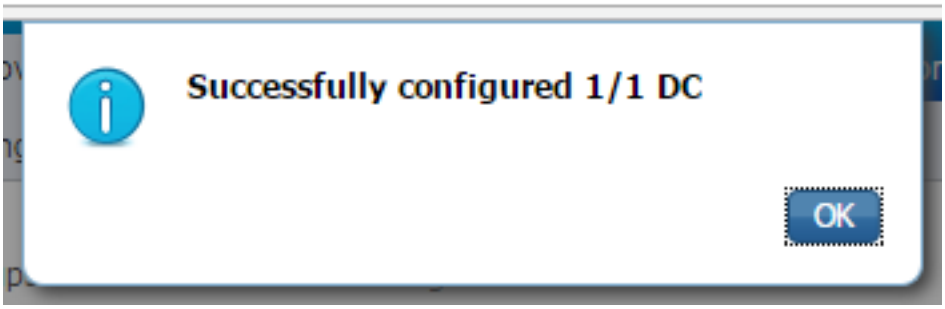
選定的DC將新增到PassiveID域控**制器的清單中。選擇您的DC，然後按一下Config WMI** 按鈕：



ISE PIC顯示一條消息，說明配置過程正在進行：



幾分鐘後，它向您顯示一條消息，表明已在選定的DC上成功配置WMI:



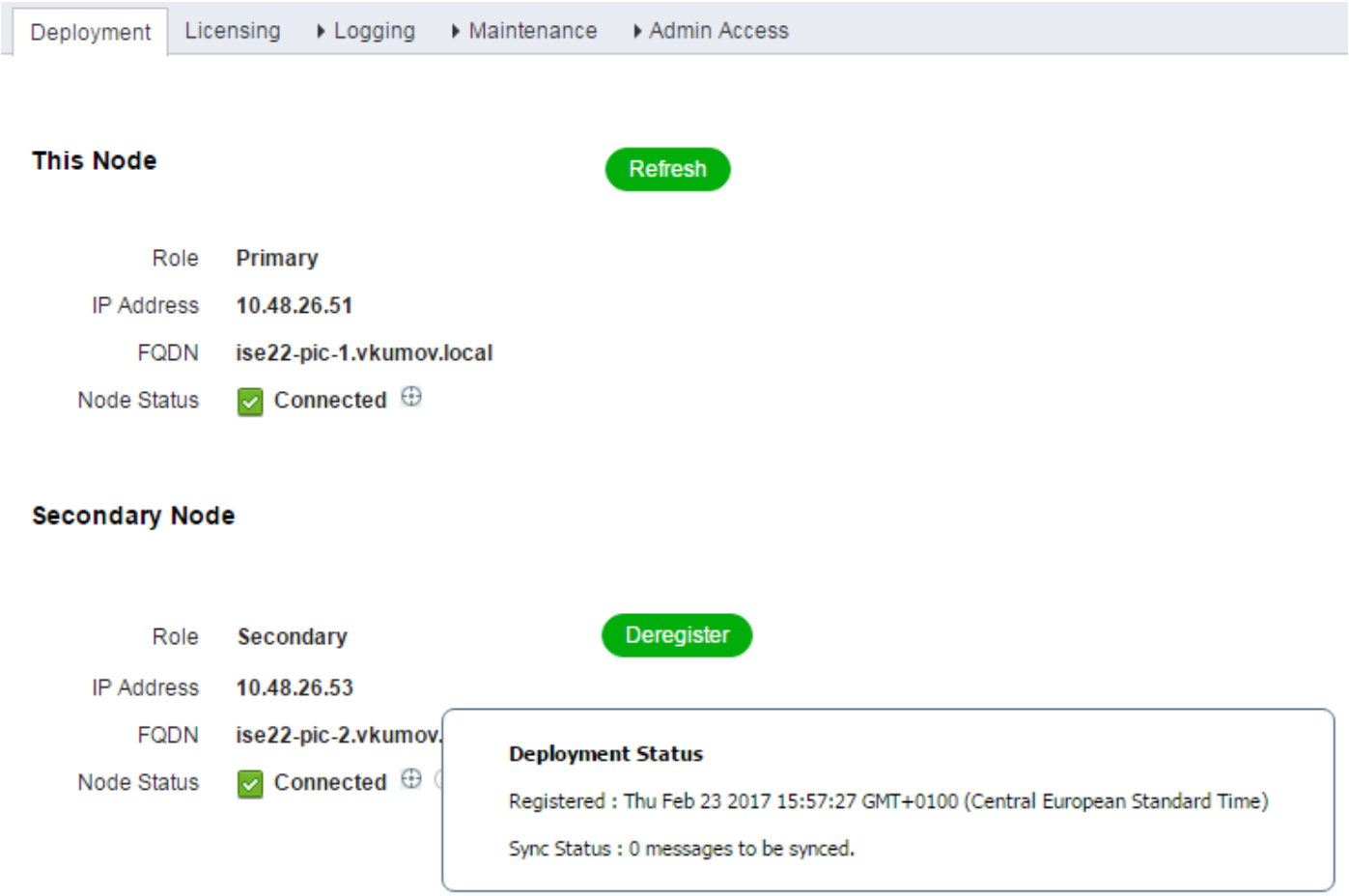
驗證

部署

可以通過幾種方法檢查部署狀態：

部署頁面

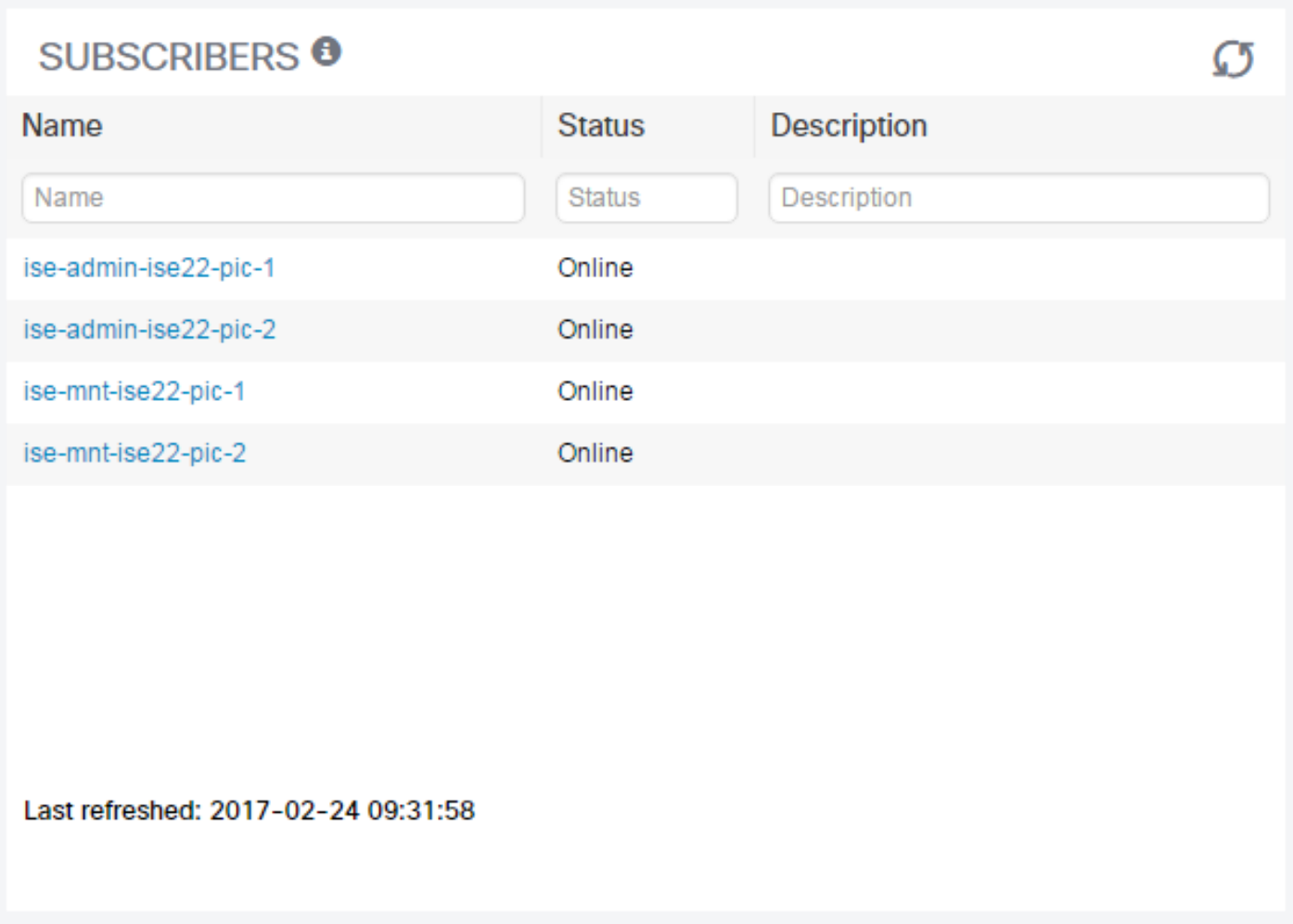
導航到**管理>部署**頁，可以檢查部署的當前狀態：



如果需要，可從此頁面取消註冊輔助節點。可以啟動手動同步並**檢查同**步狀態。

儀表板頁

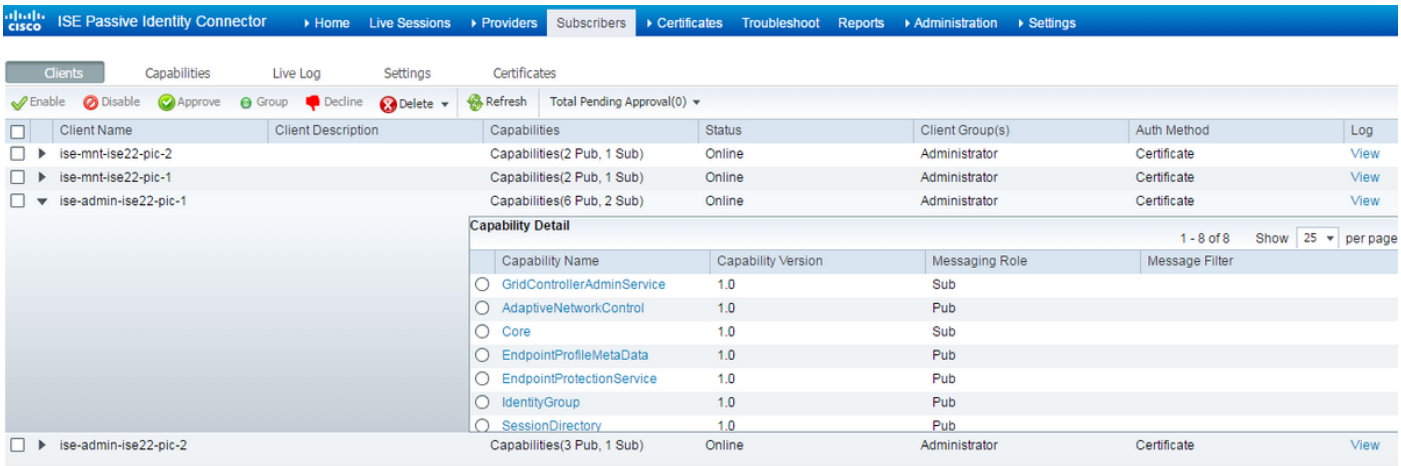
在ISE PIC首頁面上，有一個名為**Subscribers**的Dashlet。通過此dashlet，您可以檢查ISE PIC節點的當前狀態，如下圖所示：



ISE PIC為每個節點建立2個訂戶 — admin和mnt。**所有節點都應處於Online** 狀態，這意味著節點可訪問且運行正常。

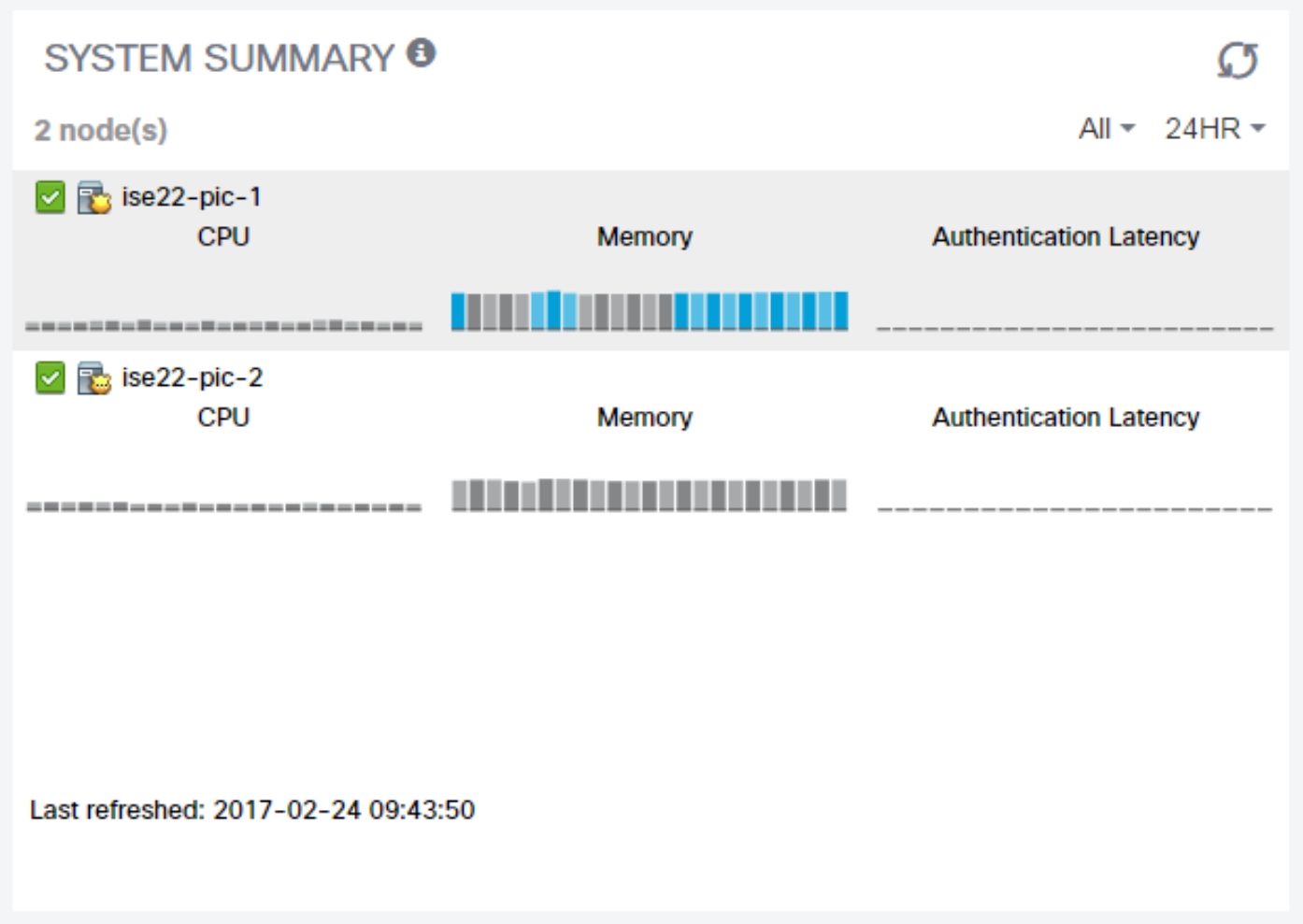
訂閱者

訂閱者頁面是來自ISE PIC首頁的訂戶dashlet的擴展版本。此頁顯示所有與pxGrid相關的內容，但也可在此處檢查ISE PIC節點的狀態：



系統摘要

ISE PIC還允許監控節點的運行狀況摘要。此Dashlet位於**Home > Dashboard > Additional**:

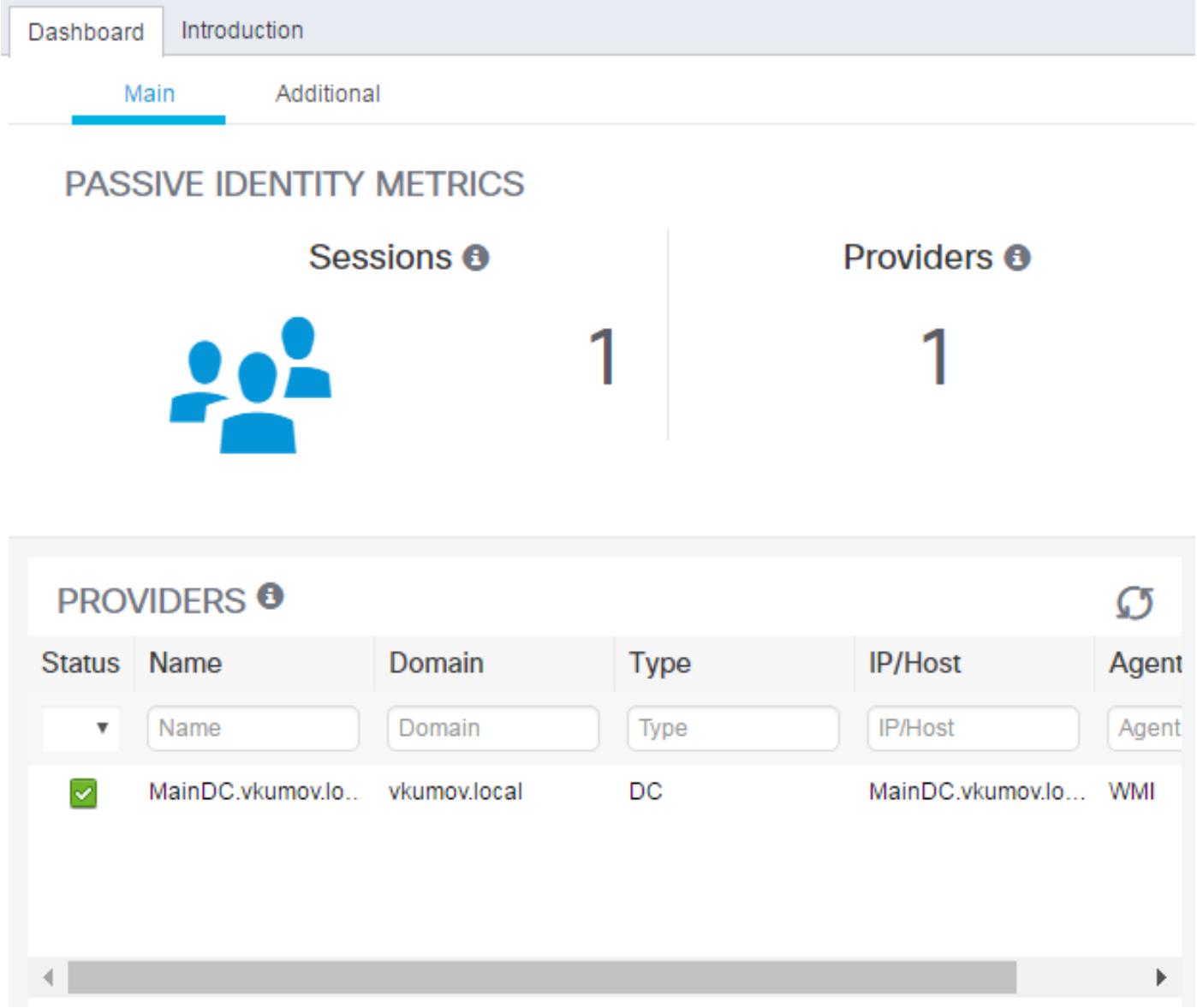


身份驗證延遲始終為0ms，因為ISE PIC不執行任何身份驗證/授權。

提供商和會話

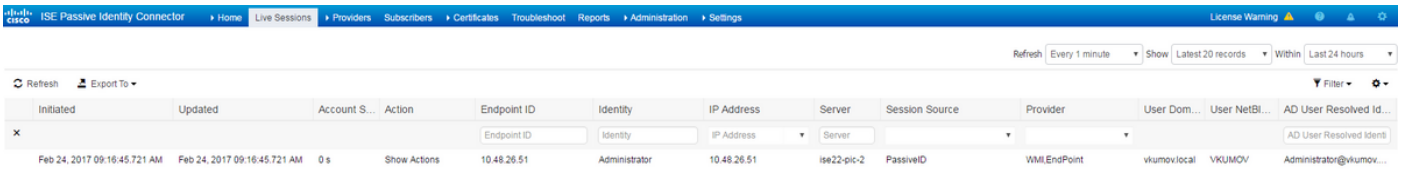
首頁

導航到**Home > Dashboard**頁時，可以檢查提供程式狀態、其找到的會話的數量和數量：



即時會話

有關所有找到的使用者會話的詳細資訊，請參閱**即時會話**頁面：



包含以下資訊：

- 提供程式 — 用於標識此會話的提供程式
- 啟動和更新 — 啟動和相應地更新會話的時間戳
- IP地址 — 終端的地址
- 操作 — ISE可以執行的操作（例如，檢查終端狀態，或者如果ISE PIC與pxGrid整合，則傳送請求以清除會話）

疑難排解

部署

若要解決部署和複製問題，請檢視以下日誌檔案：

- replication.log
- deployment.log
- ise-psc.log

若要啟用調試，請導航到**管理>記錄>調試日誌配置**:

Node List > **ise22-pic-1.vkumov.local**

Debug Level Configuration

Edit Reset to Default

Component Name	Log Level	Description
portal-web-action	INFO	Base Portal debug messages
posture	INFO	Posture debug messages
previewportal	INFO	Preview Portal debug messages
profiler	INFO	profiler debug messages
provisioning	INFO	Client Provisioning client debug messages
prrt-JNI	INFO	prrt policy decision request processing layer related messages
pxgrid	INFO	pxGrid messages
Replication-Deployment	DEBUG	Logger related to Deployment Registeration,Deregistration,Sync and ...
Replication-JGroup	WARN	Logger related to JGroup Node State
ReplicationTracker	INFO	PSC replication related debug messages
report	INFO	Debug reports on M&T nodes
RuleEngine-Attributes	INFO	Additional rule evaluation attributes in audit logging at DEBUG
RuleEngine-Policy-IDGroups	INFO	Additional policy vs id group audit logging at DEBUG

這些調試將寫入**replication.log**檔案。以下是正常複製過程的示例：

```
2017-02-24 10:11:06,893 INFO [pool-215-thread-1][]
cisco.cpm.deployment.replication.PublisherImpl -:::::- Calling the publisher job from
clusterstate processor
2017-02-24 10:11:06,893 DEBUG [pool-214-thread-1][]
cisco.cpm.deployment.replication.PublisherImpl -:::::- Started executing publisher job
2017-02-24 10:11:06,894 DEBUG [pool-214-thread-1][]
cisco.cpm.deployment.replication.PublisherImpl -:::::- Number of messages with no sequence number
is 0
2017-02-24 10:11:06,894 DEBUG [pool-214-thread-1][]
cisco.cpm.deployment.replication.PublisherImpl -:::::- Finished executing publisher job
2017-02-24 10:11:06,895 DEBUG [pool-214-thread-1][]
api.services.persistance.dao.ChangeDataDaoImpl -:::::- Data returned in getMinMaxBySequence
method=[id=[63ce2fe0-f8cd-11e6-b0ad-005056991a2e],startTime=[0],endTime=[0],applied=[false],data
length=[794],sequenceNumber=[502]2017-02-22 08:06:10.782]
2017-02-24 10:11:06,895 DEBUG [pool-214-thread-1][]
api.services.persistance.dao.ChangeDataDaoImpl -:::::- Data returned in getMinMaxBySequence
method=[id=[3ded93c0-fa70-11e6-b684-005056990fbb],startTime=[0],endTime=[0],applied=[false],data
length=[794],sequenceNumber=[1600]2017-02-24 10:04:26.364]
2017-02-24 10:11:06,895 DEBUG [pool-214-thread-1][]
cisco.cpm.deployment.replication.ClientNodeProxy -:::::- Calling setClusterState(name: ise22-pic-
1, minSequence: 502, sequence: 1600, active: {ise22-pic-1-5015})
```

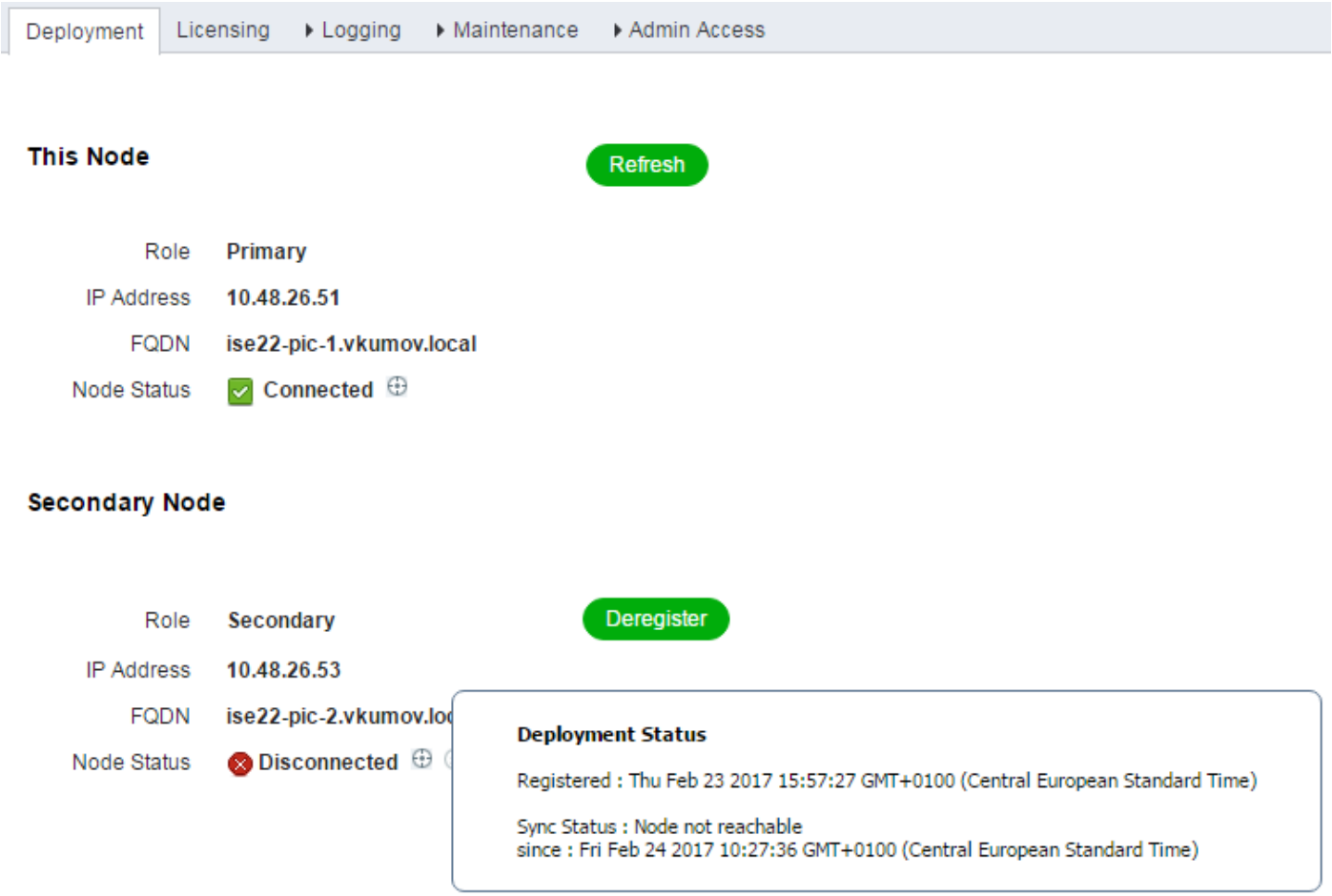
```
2017-02-24 10:11:06,896 INFO [pool-214-thread-1][]
cisco.cpm.deployment.replication.PublisherImpl -::::- Finished sending the clusterState !!!
2017-02-24 10:11:06,899 DEBUG [pool-216-thread-1][]
cisco.cpm.deployment.replication.NodeStateMonitorImpl -:::NodeStateMonitor:- MonitorJob starting
2017-02-24 10:11:06,901 DEBUG [pool-216-thread-1][]
cisco.cpm.deployment.replication.ClientNodeProxy -:::NodeStateMonitor:- Calling getNodeStates()
2017-02-24 10:11:06,904 INFO [pool-216-thread-1][]
cisco.cpm.deployment.replication.NodeStateMonitorImpl -:::NodeStateMonitor:- Nodes in
distrubution: {ise22-pic-2=nodeName: ise22-pic-2, status: SYNC COMPLETED, transientStatus: ,
lastStatusTime: 1487927436906, seqNumber: 1600, createTime: 2017-02-24 10:04:26.364} --- Nodes
in cluster: [name: ise22-pic-2, Address: ise22-pic-2-38077, sequence: 1600, createtime: 2017-02-
24 10:04:26.364]
2017-02-24 10:11:06,904 DEBUG [pool-216-thread-1][]
cisco.cpm.deployment.replication.NodeStateMonitorImpl -:::NodeStateMonitor:- Adding [ nodeName:
ise22-pic-2, status: SYNC COMPLETED, transientStatus: , lastStatusTime: 1487927436906,
seqNumber: 1600, createTime: 2017-02-24 10:04:26.364 ] to liveDeploymentMembers
2017-02-24 10:11:06,905 DEBUG [pool-216-thread-1][]
api.services.persistance.dao.ChangeDataDaoImpl -:::NodeStateMonitor:- Data returned in
getMinMaxBySequence method=[id=[63ce2fe0-f8cd-11e6-b0ad-
005056991a2e],startTime=[0],endTime=[0],applied=[false],data
length=[794],sequenceNumber=[502]2017-02-22 08:06:10.782]
2017-02-24 10:11:06,905 DEBUG [pool-216-thread-1][]
api.services.persistance.dao.ChangeDataDaoImpl -:::NodeStateMonitor:- Data returned in
getMinMaxBySequence method=[id=[3ded93c0-fa70-11e6-b684-
005056990fbb],startTime=[0],endTime=[0],applied=[false],data
length=[794],sequenceNumber=[1600]2017-02-24 10:04:26.364]
2017-02-24 10:11:06,905 INFO [pool-216-thread-1][]
cisco.cpm.deployment.replication.NodeStateMonitorImpl -:::NodeStateMonitor:- Primary node
current status minmum sequence[ 1600 ], cluster state: [ name: ise22-pic-1, minSequence: 502,
sequence: 1600, active: {ise22-pic-1-5015} ]
2017-02-24 10:11:06,905 DEBUG [pool-216-thread-1][]
cisco.cpm.deployment.replication.NodeStateMonitorImpl -:::NodeStateMonitor:- Processing node
state [ name: ise22-pic-2, Address: ise22-pic-2-38077, sequence: 1600, createtime:2017-02-24
10:04:26.364 ]
2017-02-24 10:11:06,905 DEBUG [pool-216-thread-1][]
cisco.cpm.deployment.replication.NodeStateMonitorImpl -:::NodeStateMonitor:- ise22-pic-2 - [
nodeName: ise22-pic-2, status: SYNC COMPLETED, transientStatus: , lastStatusTime: 1487927436906,
seqNumber: 1600, createTime: 2017-02-24 10:04:26.364 ]
2017-02-24 10:11:06,905 DEBUG [pool-216-thread-1][]
cisco.cpm.deployment.replication.NodeStateMonitorImpl -:::NodeStateMonitor:- Adding nodeName:
ise22-pic-2, status: SYNC COMPLETED, transientStatus: , lastStatusTime: 1487927436906,
seqNumber: 1600, createTime: 2017-02-24 10:04:26.364 to liveJGroupMembers
2017-02-24 10:11:06,905 INFO [pool-216-thread-1][]
cisco.cpm.deployment.replication.NodeStateMonitorImpl -:::NodeStateMonitor:- No Of
deployedNodes: [ 1 ], No Of liveJGroupNodes: [ 1 ], deadOrSyncInPrgMembersExist: [ false ],
latestMinSequence: [ 502 ]
2017-02-24 10:11:06,905 DEBUG [pool-216-thread-1][]
cisco.cpm.deployment.replication.NodeStateMonitorImpl -:::NodeStateMonitor:-
deadOrSyncInPrgMembersExist =[false], minSequence=[1598],clusterState=[502]
```

來自**ise-psc.log**的消息：

```
2017-02-24 10:19:36,902 INFO   [pool-216-thread-1][]
api.services.persistance.dao.DistributionDAO -:::NodeStateMonitor:- Host Name: ise22-pic-2, DB
'SEC_REPLICATIONSTATUS' = SYNC COMPLETED, Node Persona: SECONDARY, ReplicationStatus obj status:
SYNC_COMPLETED
```

常見問題：輔助節點無法訪問

如果輔助節點無法訪問，則將顯示在**管理>部署**頁面：



ise-psc.log包含以下消息：

```
2017-02-24 10:43:21,587 INFO   [admin-http-pool155][]
admin.restui.features.deployment.DeploymentIDCUIApi -::::- Replication status for node ise22-
pic-2 = NODE NOT REACHABLE
```

以下訊息說明無法到達的專案，例如節點沒有回應ping:

```
2017-02-24 11:03:53,359 INFO   [counterscheduler-call-1][]
cisco.cpm.infrastructure.utils.GenericUtil -::::- Received pingNode response : Node is reachable
```

要採取的操作：檢查全域性節點的FQDN是否可解析，檢查節點之間的基本網路連線。

如果應用程式在輔助節點上未處於運行狀態，或節點之間存在防火牆，則ise-psc.log可能會顯示以下消息：

```
2017-02-24 11:08:14,656 INFO   [Thread-10][] com.cisco.epm.util.NodeCheck -::::- Now checking
against secondary pap ise22-pic-2
2017-02-24 11:08:14,656 INFO   [Thread-10][] com.cisco.epm.util.NodeCheckHelper -::::-  inside
getHostConfigRemoteServer
2017-02-24 11:08:14,766 WARN   [Thread-10][]
deployment.client.cert.validator.HttpsCertPathValidatorImpl -::::- Error while connecting to
host: ise22-pic-2.vkumov.local. java.net.ConnectException: Connection refused
2017-02-24 11:08:14,871 WARN   [Thread-10][] com.cisco.epm.util.NodeCheckHelper -::::- Unable to
retrieve the host config from standby pap java.net.ConnectException: Connection refused
2017-02-24 11:08:14,871 WARN   [Thread-10][] com.cisco.epm.util.NodeCheckHelper -::::- returning
null from getHostConfigRemoteServer
```

```
2017-02-24 11:08:14,871 INFO   [Thread-10][] com.cisco.epm.util.NodeCheck -:::-
remotePrimaryConfig.getNodeRoleStatus() NULL
2017-02-24 11:08:14,871 INFO   [Thread-10][] com.cisco.epm.util.NodeCheck -:::-
remoteClusterInfo.getDeploymentName NULL
```

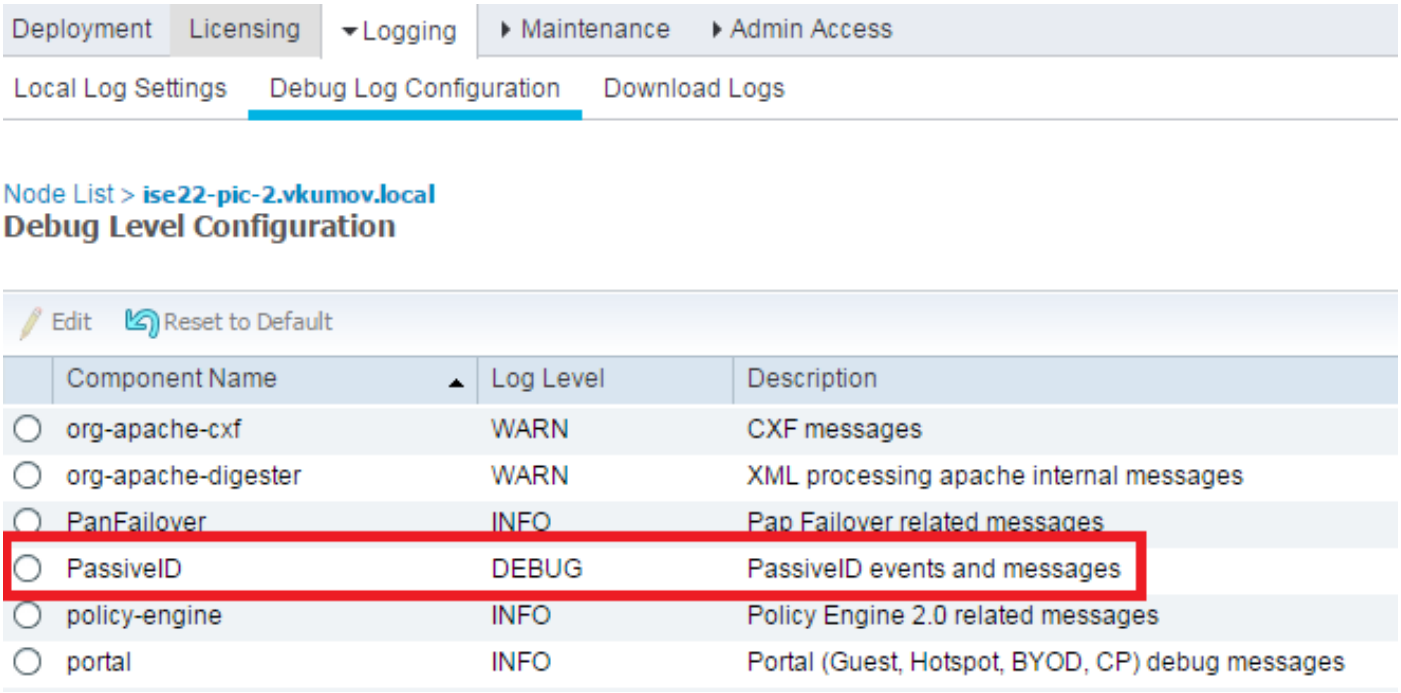
要執行的操作：檢查輔助節點上的應用狀態，如果允許節點間的所有連線，則檢查網路連線。

Active Directory和WMI

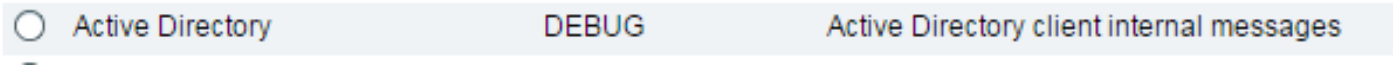
要對Active Directory WMI進行故障排除，請查詢這些檔案：

- passive-wmi.log
- passive-endpoint.log
- ise-psc.log
- ad_agent.log

而且可以在**Administration > Logging > Debug Log Configuration**中啟用有用的調試：



和:



以下是啟用調試的從**passive-wmi.log**獲取的新會話的示例：

```
2017-02-24 11:36:22,584 DEBUG  [Thread-11][] com.cisco.idc.dc-probe- New login event retrieved
from Domain Controller. Identity Mapping.ticket =
instance of __InstanceCreationEvent
{
SECURITY_DESCRIPTOR = {1, 0, 20, 128, 96, 0, 0, 0, 112, 0, 0, 0, 0, 0, 0, 0, 20, 0, 0, 0, 2, 0,
76, 0, 3, 0, 0, 0, 0, 0, 20, 0, 69, 0, 15, 0, 1, 1, 0, 0, 0, 0, 0, 5, 18, 0, 0, 0, 0, 0, 24, 0,
69, 0, 0, 0, 1, 2, 0, 0, 0, 0, 0, 5, 32, 0, 0, 0, 32, 2, 0, 0, 0, 0, 24, 0, 65, 0, 0, 0, 1, 2,
0, 0, 0, 0, 0, 5, 32, 0, 0, 0, 61, 2, 0, 0, 1, 2, 0, 0, 0, 0, 0, 5, 32, 0, 0, 0, 32, 2, 0, 0, 1,
1, 0, 0, 0, 0, 0, 5, 18, 0, 0, 0};
TargetInstance =
instance of Win32_NTLogEvent
```

{
Category = 14339;
CategoryString = "Kerberos Authentication Service";
ComputerName = "MainDC.vkumov.local";
EventCode = 4768;
EventIdentifier = 4768;
EventType = 4;
InsertionStrings = {"Administrator", "vkumov.local", "S-1-5-21-2952046201-2792970045-1866348404-500", "krbtgt", "S-1-5-21-2952046201-2792970045-1866348404-502", "0x40810010", "0x0", "0x12", "2", "::1", "0", "", "", ""};
Logfile = "Security";
Message = "A Kerberos authentication ticket (TGT) was requested.
\n
\nAccount Information:
\n\tAccount Name:\t\tAdministrator
\n\tSupplied Realm Name:\tvkumov.local
\n\tUser ID:\t\t\tS-1-5-21-2952046201-2792970045-1866348404-500
\n
\nService Information:
\n\tService Name:\t\tkrbtgt
\n\tService ID:\t\tS-1-5-21-2952046201-2792970045-1866348404-502
\n
\nNetwork Information:
\n\tClient Address:\t\t::1
\n\tClient Port:\t\t0
\n
\nAdditional Information:
\n\tTicket Options:\t\t0x40810010
\n\tResult Code:\t\t0x0
\n\tTicket Encryption Type:\t0x12
\n\tPre-Authentication Type:\t2
\n
\nCertificate Information:
\n\tCertificate Issuer Name:\t\t
\n\tCertificate Serial Number:\t
\n\tCertificate Thumbprint:\t\t
\n
\nCertificate information is only provided if a certificate was used for pre-authentication.
\n
\nPre-authentication types, ticket options, encryption types and result codes are defined in RFC 4120.";
RecordNumber = 918032;
SourceName = "Microsoft-Windows-Security-Auditing";
TimeGenerated = "20170224103621.575178-000";
TimeWritten = "20170224103621.575178-000";
Type = "Audit Success";
};
TIME_CREATED = "131324061825752057";
};
, Identity Mapping.dc-domainname = vkumov.local , Identity Mapping.dc-connection-type = Current events , Identity Mapping.dc-name = MainDC.vkumov.local , Identity Mapping.dc-host = MainDC.vkumov.local/10.48.26.52 ,
2017-02-24 11:36:22,587 DEBUG [Thread-11][] com.cisco.idc.dc-probe- Replaced local IP. Identity Mapping.ticket =
instance of __InstanceCreationEvent
{
SECURITY_DESCRIPTOR = {1, 0, 20, 128, 96, 0, 0, 0, 112, 0, 0, 0, 0, 0, 0, 0, 20, 0, 0, 0, 2, 0, 76, 0, 3, 0, 0, 0, 0, 0, 20, 0, 69, 0, 15, 0, 1, 1, 0, 0, 0, 0, 0, 5, 18, 0, 0, 0, 0, 0, 24, 0, 69, 0, 0, 0, 1, 2, 0, 0, 0, 0, 0, 5, 32, 0, 0, 0, 32, 2, 0, 0, 0, 0, 24, 0, 65, 0, 0, 0, 1, 2, 0, 0, 0, 0, 0, 5, 32, 0, 0, 0, 61, 2, 0, 0, 1, 2, 0, 0, 0, 0, 0, 5, 32, 0, 0, 0, 32, 2, 0, 0, 1, 1, 0, 0, 0, 0, 0, 5, 18, 0, 0, 0};
TargetInstance =
instance of Win32_NTLogEvent
{

Category = 14339;
CategoryString = "Kerberos Authentication Service";
ComputerName = "MainDC.vkumov.local";
EventCode = 4768;
EventIdentifier = 4768;
EventType = 4;
InsertionStrings = {"Administrator", "vkumov.local", "S-1-5-21-2952046201-2792970045-1866348404-500", "krbtgt", "S-1-5-21-2952046201-2792970045-1866348404-502", "0x40810010", "0x0", "0x12", "2", "::1", "0", "", "", ""};
Logfile = "Security";
Message = "A Kerberos authentication ticket (TGT) was requested.
\n
\nAccount Information:
\n\tAccount Name:\t\tAdministrator
\n\tSupplied Realm Name:\tvkumov.local
\n\tUser ID:\t\t\tS-1-5-21-2952046201-2792970045-1866348404-500
\n
\nService Information:
\n\tService Name:\t\tkrbtgt
\n\tService ID:\t\tS-1-5-21-2952046201-2792970045-1866348404-502
\n
\nNetwork Information:
\n\tClient Address:\t\t::1
\n\tClient Port:\t\t0
\n
\nAdditional Information:
\n\tTicket Options:\t\t0x40810010
\n\tResult Code:\t\t0x0
\n\tTicket Encryption Type:\t0x12
\n\tPre-Authentication Type:\t2
\n
\nCertificate Information:
\n\tCertificate Issuer Name:\t\t
\n\tCertificate Serial Number:\t
\n\tCertificate Thumbprint:\t\t
\n
\nCertificate information is only provided if a certificate was used for pre-authentication.
\n
\nPre-authentication types, ticket options, encryption types and result codes are defined in RFC 4120.";
RecordNumber = 918032;
SourceName = "Microsoft-Windows-Security-Auditing";
TimeGenerated = "20170224103621.575178-000";
TimeWritten = "20170224103621.575178-000";
Type = "Audit Success";
};
TIME_CREATED = "131324061825752057";
};
 , Identity Mapping.dc-domainname = vkumov.local , Identity Mapping.dc-connection-type = Current events , Identity Mapping.probe = WMI , Identity Mapping.event-local-ip-address = ::1 , Identity Mapping.dc-name = MainDC.vkumov.local , Identity Mapping.dc-host = MainDC.vkumov.local/10.48.26.52 , Identity Mapping.server = ise22-pic-2 , Identity Mapping.event-ip-address = 10.48.26.52 ,
2017-02-24 11:36:22,589 DEBUG [Thread-11][] com.cisco.idc.dc-probe- Received login event.
Identity Mapping.ticket =
instance of __InstanceCreationEvent
{
SECURITY_DESCRIPTOR = {1, 0, 20, 128, 96, 0, 0, 0, 112, 0, 0, 0, 0, 0, 0, 0, 20, 0, 0, 0, 2, 0, 76, 0, 3, 0, 0, 0, 0, 0, 20, 0, 69, 0, 15, 0, 1, 1, 0, 0, 0, 0, 0, 5, 18, 0, 0, 0, 0, 0, 24, 0, 69, 0, 0, 0, 1, 2, 0, 0, 0, 0, 0, 5, 32, 0, 0, 0, 32, 2, 0, 0, 0, 0, 24, 0, 65, 0, 0, 0, 1, 2, 0, 0, 0, 0, 0, 5, 32, 0, 0, 0, 61, 2, 0, 0, 1, 2, 0, 0, 0, 0, 0, 5, 32, 0, 0, 0, 32, 2, 0, 0, 1, 1, 0, 0, 0, 0, 0, 5, 18, 0, 0, 0};
TargetInstance =
instance of Win32_NTLogEvent

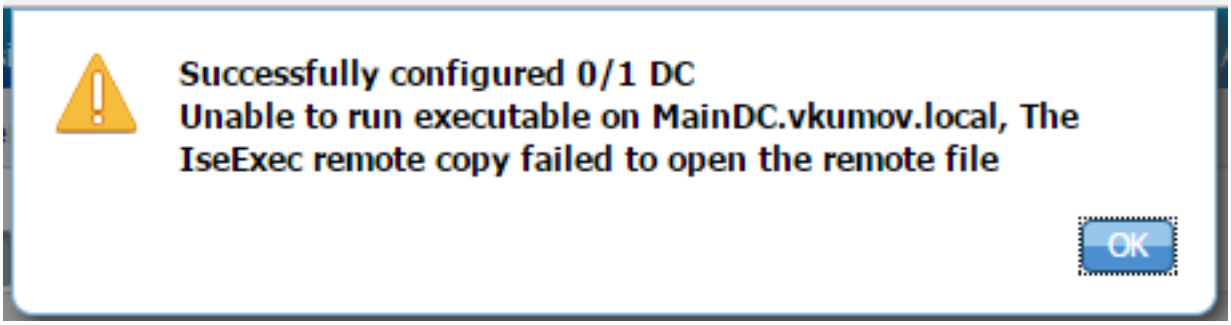
{
Category = 14339;
CategoryString = "Kerberos Authentication Service";
ComputerName = "MainDC.vkumov.local";
EventCode = 4768;
EventIdentifier = 4768;
EventType = 4;
InsertionStrings = {"Administrator", "vkumov.local", "S-1-5-21-2952046201-2792970045-1866348404-500", "krbtgt", "S-1-5-21-2952046201-2792970045-1866348404-502", "0x40810010", "0x0", "0x12", "2", "::1", "0", "", "", ""};
Logfile = "Security";
Message = "A Kerberos authentication ticket (TGT) was requested.
\n
\nAccount Information:
\n\tAccount Name:\t\tAdministrator
\n\tSupplied Realm Name:\tvkumov.local
\n\tUser ID:\t\t\tS-1-5-21-2952046201-2792970045-1866348404-500
\n
\nService Information:
\n\tService Name:\t\tkrbtgt
\n\tService ID:\t\tS-1-5-21-2952046201-2792970045-1866348404-502
\n
\nNetwork Information:
\n\tClient Address:\t\t::1
\n\tClient Port:\t\t0
\n
\nAdditional Information:
\n\tTicket Options:\t\t0x40810010
\n\tResult Code:\t\t0x0
\n\tTicket Encryption Type:\t0x12
\n\tPre-Authentication Type:\t2
\n
\nCertificate Information:
\n\tCertificate Issuer Name:\t\t
\n\tCertificate Serial Number:\t
\n\tCertificate Thumbprint:\t\t
\n
\nCertificate information is only provided if a certificate was used for pre-authentication.
\n
\nPre-authentication types, ticket options, encryption types and result codes are defined in RFC 4120.";
RecordNumber = 918032;
SourceName = "Microsoft-Windows-Security-Auditing";
TimeGenerated = "20170224103621.575178-000";
TimeWritten = "20170224103621.575178-000";
Type = "Audit Success";
};
TIME_CREATED = "131324061825752057";
};
, Identity Mapping.dc-domainname = vkumov.local , Identity Mapping.dc-connection-type = Current events , Identity Mapping.probe = WMI , Identity Mapping.event-local-ip-address = ::1 , Identity Mapping.dc-name = MainDC.vkumov.local , Identity Mapping.event-user-name = Administrator , Identity Mapping.dc-host = MainDC.vkumov.local/10.48.26.52 , Identity Mapping.server = ise22-pic-2 , Identity Mapping.event-ip-address = 10.48.26.52 ,

從passive-endpoint.log進行端點檢查的示例（在這種情況下，無法從ISE訪問端點）：

```
2017-02-23 13:48:29,298 INFO   [EndPointProbe-Workers-Check-2][] com.cisco.idc.endpoint-probe-[PsExec-10.48.26.51]  is User=vkumov.local/Administrator Still There ? ...
2017-02-23 13:48:32,335 INFO   [EndPointProbe-Workers-Check-2][] com.cisco.idc.endpoint-probe-[PsExec-10.48.26.51]  Identity check result is - > Endpoint UNREACHABLE
```

常見問題：ISE PIC拋出「無法在<DC名稱>上運行執行檔……」 錯誤

如果用於將ISE PIC加入域的使用者沒有足夠的許可權，ISE PIC會在WMI配置過程中引發錯誤：



可以在**ad_agent.log**檔案中找到適當的調試（Active Directory日誌級別應設定為DEBUG）：

```
26/02/2017 19:15:45,VERBOSE,139954093012736,SMBGSSContextNegotiate: state =
1,lwio/server/smbcommon/smbkrb5.c:460
26/02/2017 19:15:45,VERBOSE,139956055955200,Session 0x7f49bc001430 is eligible for
reaping,lwio/server/rdr/session2.c:290
26/02/2017 19:15:45,VERBOSE,139954101405440,Error at ../../lsass/server/auth-providers/ad-open-
provider/provider-main.c:7503 [code: C0000022],lsass/server/auth-providers/ad-open-
provider/provider-main.c:7503
26/02/2017 19:15:45,VERBOSE,139954101405440,Extended Error code: 60190 (symbol:
LW_ERROR_ISEEXEC_CP_OPEN_REMOTE_FILE),lsass/server/auth-providers/ad-open-provider/provider-
main.c:7627
26/02/2017 19:15:45,VERBOSE,139954101405440,Error at ../../lsass/server/auth-providers/ad-open-
provider/provider-main.c:7628 [code: C0000022],lsass/server/auth-providers/ad-open-
provider/provider-main.c:7628
26/02/2017 19:15:45,VERBOSE,139954101405440,Error code: 5 (symbol:
ERROR_ACCESS_DENIED),lsass/server/auth-providers/ad-open-provider/provider-main.c:7782
26/02/2017 19:15:45,VERBOSE,139954101405440,Error code: 5 (symbol:
ERROR_ACCESS_DENIED),lsass/server/auth-providers/ad-open-provider/provider-main.c:7855
26/02/2017 19:15:45,VERBOSE,139954101405440,Error code: 5 (symbol:
ERROR_ACCESS_DENIED),lsass/server/api/api2.c:2713
26/02/2017 19:15:45,VERBOSE,139956064347904,(session:ee880a4e15e682f4-08401b84f371a140)
Dropping: LWMSG_STATUS_PEER_CLOSE,lwmsg/src/peer-task.c:625
26/02/2017 19:15:50,VERBOSE,139956055955200,RdrSocketRelease(0x7f496800b6e0, 38): socket is
eligible for reaping,lwio/server/rdr/socket.c:2239
```

要執行的操作：使用域管理員憑據將ISE PIC節點重新加入域，或將用於加入操作的使用者新增到AD中的*域管*理員組。