

# 使用CLI在SD-WAN中安裝和解除安裝UTD引擎

## 目錄

---

[簡介](#)

[必要條件](#)

[需求](#)

[採用元件](#)

[背景資訊](#)

[概念](#)

[設定](#)

[解除安裝UTD](#)

[預檢查](#)

[組態](#)

[驗證](#)

[設定](#)

[安裝UTD](#)

[預檢查](#)

[組態](#)

[驗證](#)

[疑難排解](#)

[相關資訊](#)

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## 簡介

本文檔介紹通過SDWAN路由器的CLI安裝和解除安裝統一威脅防禦(UTD)的過程。

## 必要條件

### 需求

思科建議您瞭解以下主題：

- 思科軟體定義廣域網路(SD-WAN)
- Cisco IOS® XE命令列介面(CLI)

### 採用元件

本檔案是根據以下軟體和硬體版本所編制：

- 路由器ISR4461/K9
- 軟體版本17.3.4
- 處於控制器模式的路由器

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。如果您的網路運作中，請確保您瞭解任何指令可能造成的影響。

## 背景資訊

當cedge處於CLI模式或vManage和cedge之間沒有控制連線時，需要應用這些步驟。

但是，如果您有控制平面，並且您的邊緣處於vManage模式，則繼續檢視此其他文章。

## 概念

本文檔的具體要求包括：

- Cisco vManage 20.3版或更高版本。
- 思科整合多業務路由器4431版本17.3.4

有關支援的平台的更多資訊，請導航至[SDWAN支援的平台和限制的UTD](#)。

## 設定

### 解除安裝UTD

### 預檢查

以下是解除安裝UTD之前的cedge路由器示例。

\*裝置處於控制器模式，未連線任何模板，但應用了UTD配置。

```
cedge#show sdwan system
Viptela (tm) vEdge Operating System Software
Copyright (c) 2013-2022 by Viptela, Inc.
Controller Compatibility: 20.3
Version: 17.03.04a.0.5574
Build: Not applicable
```

```
Model name:          ISR4461/K9
Services:             None
vManaged:            false
Commit pending:       false
Configuration template: None
```

```
cedge#show platform software device-mode
Device Operating-mode: Controller-Managed
```

```
cedge#show run | sec utd
utd multi-tenancy
utd engine standard multi-tenancy
```

```

threat-inspection whitelist profile Sig-white-list
  generator id 3 signature id 22089
  generator id 3 signature id 36208
threat-inspection profile IPS-POLICY
  threat detection
  policy balanced
  logging level alert
  whitelist profile Sig-white-list
policy utd-policy-vrf-1
  vrf 511
  all-interfaces
  threat-inspection profile IPS-POLICY
app-hosting appid utd
app-vnic gateway0 virtualportgroup 0 guest-interface 0
  guest-ipaddress 192.168.1.2 netmask 255.255.255.252
app-vnic gateway1 virtualportgroup 1 guest-interface 1
  guest-ipaddress 192.0.2.2 netmask 255.255.255.252
app-resource package-profile urlf-low
start
cedge#
cedge#show running-config | section VirtualPortGroup0
interface VirtualPortGroup0
  description Management interface
  vrf forwarding 65529
  ip address 192.168.1.1 255.255.255.252
  no mop enabled
  no mop sysid
cedge#show running-config | section VirtualPortGroup1
interface VirtualPortGroup1
  description Data interface
  ip address 192.0.2.1 255.255.255.252
  no mop enabled
  no mop sysid
cedge#

```



附註：必須先刪除UTD配置，然後才能解除安裝。

---

## 組態

### 1. 停止UTD服務。

<#root>

```

cedge#config-transaction
cedge(config)#

```

```

app-hosting appid utd

```

```

cedge(config-app-hosting)#

```

```

no start

```

```

cedge(config-app-hosting)# commit

```

Commit complete.



附註：未應用啟動後，UTD狀態從Running更改為Deployed。

```
cedge#show app-hosting list
App id                               State
-----
utd                                  DEPLOYED
cedge#
```

## 2.刪除UTD配置。

<#root>

```
cedge#config-transaction
cedge(config)#
```

**utd engine standard multi-tenancy**

```
cedge(config-utd-multi-tenancy)# no policy utd-policy-vrf-1
cedge(config-utd-multi-tenancy)# commit
Commit complete.
cedge(config-utd-multi-tenancy)#
cedge#config-transaction
cedge(config)#
```

**utd multi-tenancy**

```
cedge(config)#
```

**utd engine standard multi-tenancy**

```
cedge(config-utd-multi-tenancy)# no threat-inspection whitelist profile Sig-white-list
cedge(config-utd-multi-tenancy)# no threat-inspection profile IPS-POLICY
cedge(config-utd-multi-tenancy)# exit
cedge(config)# commit
Commit complete.
cedge(config)# no utd engine standard multi-tenancy
cedge(config)# commit
Commit complete.
cedge(config)#
cedge#config-transaction
cedge(config)# no utd multi-tenancy
cedge(config)# commit
Commit complete.
cedge(config)#
cedge(config)#
```

**app-hosting appid utd**

```
cedge(config-app-hosting)# no app-vnic gateway0 virtualportgroup 0 guest-interface 0
```

```
cedge(config-app-hosting)# no app-vnic gateway1 virtualportgroup 1 guest-interface 1
cedge(config-app-hosting)# no app-resource package-profile urlf-low
cedge(config-app-hosting)# commit
Commit complete.
cedge(config-app-hosting)#exit
cedge(config)# no app-hosting appid utd
cedge(config)# commit
Commit complete.
cedge(config)#
cedge(config)#
```

**no interface VirtualPortGroup0**

```
cedge(config)#
```

**no interface VirtualPortGroup1**

```
cedge(config)# commit
Commit complete.
cedge(config)#
cedge(config)#
```

**no iox**

```
cedge(config)# commit
Commit complete.
cedge(config)#
```

### 3.驗證。

以下是刪除UTD組態後cedge路由器應如何處理的一個範例。

<#root>

```
cedge#show running-config | section
```

**iox**

```
cedge#show running-config | section
```

**VirtualPortGroup0**

```
cedge#show running-config | section
```

**VirtualPortGroup1**

```
cedge#show running-config | section
```

**utd**

```
cedge#
cedge#
```

**show platform software utd global**

```
UTD Global state
=====
Engine : Standard
Global Inspection : Disabled
Operational Mode : Intrusion Detection
Fail Policy : Fail-open
Container technology : LXC
Redirect interface : Not specified
UTD interfaces
```

**No interfaces are protected by UTD**

<snipped>



附註：雖然組態已移除，UTD仍會顯示installed。這是意料之中的。

---

<#root>

```
cedge#show utd engine standard version
UTD Virtual-service Name: utd
IOS-XE Recommended UTD Version: 1.0.16_SV2.9.16.1_XE17.3
IOS-XE Supported UTD Regex: ^1\.0\.([0-9]+)_SV(.*)_XE17.3$
UTD
```

#### **Installed**

Version: 1.0.16\_SV2.9.16.1\_XE17.3

```
cedge#show virtual-service
Virtual Service Global State and Virtualization Limits:
Infrastructure version : 1.7
Total virtual services
```

#### **installed**

```
: 1
Total virtual services activated : 0
<snipped>
```

```
cedge#show app-hosting list
The process for the command is not responding or is otherwise unavailable >>>> Expected because UTD c
```

\*\*

#### **Before to remove Configuration**

```
**
cedge#show virtual-service version name utd running
Virtual service utd running version:
Name : UTD-Snort-Feature
Version : 1.0.16_SV2.9.16.1_XE17.3
```

\*\*

#### **After configuration is removed**

```
**
cedge#
cedge#show virtual-service version name utd running
```

```
Virtual service utd running version:  
Name : UTD-Snort-Feature  
Version : None
```

#### 4.刪除UTD引擎。



提示：您需要啟用iox和應用宿主appid utd才能解除安裝UTD引擎。

---

以下範例顯示了在未啟用iox和應用託管啟用的情況下刪除UTD會發生的情況。

```
cedge#app-hosting uninstall appid utd    >>>> No action is taken.  
cedge#
```

以下是成功解除安裝UTD的範例。

<#root>

```
cedge#config-transaction  
cedge(config)#
```

**iox**

```
cedge(config)#
```

**app-hosting appid utd**

```
cedge(config-app-hosting)# commit  
Commit complete.  
cedge(config-app-hosting)#
```

```
*Mar 3 20:25:24.889: %UICFGEXP-6-SERVER_NOTIFIED_START: R0/0: psd: Server iox has been notified to start
```

```
*Mar 3 20:25:50.268: %IM-6-IOX_RECONCILE_INFO: R0/0: ioxman:
```

**App-hosting application reconcile process start**

```
*Mar 3 20:25:51.956: %IM-6-IOX_ENABLEMENT: R0/0: ioxman:
```

**IOX is ready**

```
.  
cedge#  
cedge#app-hosting uninstall appid utd  
Uninstalling 'utd'. Use 'show app-hosting list' for progress.
```

```
cedge#  
*Mar 3 20:26:31.653: %VIRT_SERVICE-5-INSTALL_STATE:
```

**Successfully uninstalled virtual service utd**

```
*Mar 3 20:26:32.706: %IM-6-INSTALL_MSG: R0/0: ioxman:
```

**app-hosting: Uninstall succeeded: utd uninstalled successfully**

cedge#

## 驗證

運行以下命令以驗證是否刪除了UTD。

<#root>

cedge#

**show app-hosting list**

No App found

cedge#

**show virtual-service version name utd running**

% Error: Virtual-service utd is not found

cedge#

**show utd engine standard version**

IOS-XE Recommended UTD Version: 1.0.16\_SV2.9.16.1\_XE17.3

IOS-XE Supported UTD Regex: ^1\.0\.([0-9]+)\_SV(.\*)\_XE17.3\$

cedge#

**show virtual-service**

Virtual Service Global State and Virtualization Limits:

Infrastructure version : 1.7

Total virtual services

**installed**

:

0

Total virtual services activated : 0

<snipped>

## 設定

安裝UTD

預檢查



檢視UTD支援的版本，然後將其下載到bootflash中。

```
<#root>
```

```
cedge#  
cedge#show utd engine standard version  
IOS-XE Recommended UTD Version:
```

```
1.0.16_SV2.9.16.1_XE17.3
```

```
IOS-XE Supported UTD Regex: ^1\.0\.([0-9]+)_SV(.*)_XE17.3$
```

```
cedge#  
cedge#dir bootflash: | i utd  
36 -rw- 55050240 Mar 1 2022 01:08:29 +00:00 secapp-utd.
```

```
17.03.04a.1.0.16_SV2.9.16.1_XE17.3
```

```
.x86_64.tar  
cedge#
```

## 組態

### 1.啟用iox和應用託管。

```
<#root>
```

```
cedge#config-transaction  
cedge(config)#
```

```
iox
```

```
cedge(config)#
```

```
app-hosting appid utd
```

```
cedge(config-app-hosting)# commit  
Commit complete.  
cedge(config-app-hosting)#  
*Mar 3 20:25:24.889: %UICFGEXP-6-SERVER_NOTIFIED_START: R0/0: psd:
```

```
Server iox has been notified to start
```

```
*Mar 3 20:25:50.268: %IM-6-IOX_RECONCILE_INFO: R0/0: ioxman:
```

```
App-hosting application reconcile process start
```

```
*Mar 3 20:25:51.956: %IM-6-IOX_ENABLEMENT: R0/0: ioxman:
```

```
IOX is ready
```

```
.  
cedge#
```

2.安裝UTD引擎。

```
<#root>

cedge#

app-hosting install appid utd package bootflash:

secapp-utd.17.03.04a.1.0.16_SV2.9.16.1_XE17.3.x86_64.tar
Installing package 'bootflash:secapp-utd.17.03.04a.1.0.16_SV2.9.16.1_XE17.3.x86_64.tar' for 'utd'. Use
cedge#
*Mar 3 21:07:43.529: %VMAN-5-PACKAGE_SIGNING_LEVEL_ON_INSTALL: R0/0: vman: Package 'secapp-utd.17.03.04a.1.0.16_SV2.9.16.1_XE17.3.x86_64.tar'
*Mar 3 21:07:56.332: %VIRT_SERVICE-5-INSTALL_STATE:

Successfully installed virtual service utd

*Mar 3 21:07:56.922: %IM-6-INSTALL_MSG: R0/0: ioxman: app-hosting:

Install succeeded

: utd installed successfully Current state is deployed
cedge#
```

3.確保已安裝UTD引擎。運行下一命令。



附註：DEPLOYED狀態指已安裝但未配置的UTD。RUNNING state表示UTD Installed and configured。

```
cedge#show app-hosting list
App id                               State
-----
utd                                  DEPLOYED

cedge#show virtual-service version name utd running
Virtual service utd running version:
  Name : UTD-Snort-Feature
  Version : None                                     >>>> "None", it is expected due to the fact that

cedge#show utd engine standard version
UTD Virtual-service Name: utd
IOS-XE Recommended UTD Version: 1.0.16_SV2.9.16.1_XE17.3
IOS-XE Supported UTD Regex: ^1\.0\.[0-9]+\_SV(\.*)_XE17.3$
UTD Installed Version: 1.0.16_SV2.9.16.1_XE17.3      >>>> UTD Package installed

cedge#
cedge#show virtual-service
Virtual Service Global State and Virtualization Limits:

Infrastructure version : 1.7
Total virtual services installed : 1                  >>>> Installed 1 but Activated 0 as expected
Total virtual services activated : 0
```

4.要使UTD處於運行狀態，請繼續配置IPS/URL。這是來自實驗室的一個示例。

```
cedge#config-transaction
cedge(config)# interface VirtualPortGroup0
cedge(config-if)# description Management interface
cedge(config-if)# vrf forwarding 65529
cedge(config-if)# ip address 192.168.1.1 255.255.255.252
cedge(config-if)# exit
cedge(config)# commit
Commit complete.
cedge(config)#
cedge(config)# interface VirtualPortGroup1
cedge(config-if)# description Data interface
cedge(config-if)# ip address 192.168.2.1 255.255.255.252
cedge(config-if)# exit
cedge(config)# commit
Commit complete.
cedge(config)#
cedge(config)# app-hosting appid utd
cedge(config-app-hosting)# app-vnic gateway0 virtualportgroup 0 guest-interface 0
cedge(config-app-hosting-gateway)# guest-ipaddress 192.168.1.2 netmask 255.255.255.252
cedge(config-app-hosting-gateway)# exit
cedge(config-app-hosting)# app-vnic gateway1 virtualportgroup 1 guest-interface 1
cedge(config-app-hosting-gateway)# guest-ipaddress 192.168.2.2 netmask 255.255.255.252
cedge(config-app-hosting-gateway)# exit
cedge(config-app-hosting)# app-resource package-profile urlf-low
cedge(config-app-hosting)# start
cedge(config-app-hosting)# commit
Commit complete.
cedge(config-app-hosting)#
cedge(config-app-hosting)# exit
cedge(config)# utd multi-tenancy
cedge(config)# utd engine standard multi-tenancy
cedge(config-utd-multi-tenancy)# threat-inspection whitelist profile Sig-white-list
cedge(config-utd-mt-whitelist)# generator id 3 signature id 22089
cedge(config-utd-mt-whitelist)# generator id 3 signature id 36208
cedge(config-utd-mt-whitelist)# exit
cedge(config-utd-multi-tenancy)# threat-inspection profile IPS-POLICY
cedge(config-utd-mt-threat)# threat detection
cedge(config-utd-mt-threat)# policy balanced
cedge(config-utd-mt-threat)# whitelist profile Sig-white-list
cedge(config-utd-mt-threat)# logging level alert
cedge(config-utd-mt-threat)# exit
cedge(config-utd-multi-tenancy)# commit
Commit complete.
cedge(config-utd-multi-tenancy)#
cedge(config-utd-multi-tenancy)# policy utd-policy-vrf-1
cedge(config-utd-mt-policy)# vrf 511
cedge(config-utd-mt-policy)# all-interfaces
cedge(config-utd-mt-policy)# fail close
cedge(config-utd-mt-policy)# threat-inspection profile IPS-POLICY
cedge(config-utd-mt-policy)# exit
cedge(config-utd-multi-tenancy)# commit
Commit complete.
cedge(config-utd-multi-tenancy)#
cedge(config-utd-multi-tenancy)# end
cedge#
```

## 5.確保配置完成。

<#root>

cedge#

show run | section utd

```
utd multi-tenancy
utd engine standard multi-tenancy
threat-inspection whitelist profile Sig-white-list
generator id 3 signature id 22089
generator id 3 signature id 36208
threat-inspection profile IPS-POLICY
threat detection
policy balanced
logging level alert
whitelist profile Sig-white-list
policy utd-policy-vrf-1
vrf 511
all-interfaces
threat-inspection profile IPS-POLICY
fail close
app-hosting appid utd
app-vnic gateway0 virtualportgroup 0 guest-interface 0
guest-ipaddress 192.168.1.2 netmask 255.255.255.252
app-vnic gateway1 virtualportgroup 1 guest-interface 1
guest-ipaddress 192.168.2.2 netmask 255.255.255.252
app-resource package-profile urlf-low
start
cedge#
```

## 驗證

### 1.運行show logging並確保您獲得類似日誌 ( 如下所示 ) 。

```
*Mar 3 23:17:17.573: %LINK-3-UPDOWN: Interface VirtualPortGroup0, changed state to up
*Mar 3 23:17:18.094: %LINK-3-UPDOWN: Interface VirtualPortGroup1, changed state to up
*Mar 3 23:17:18.572: %LINEPROTO-5-UPDOWN: Line protocol on Interface VirtualPortGroup0, changed state to up
*Mar 3 23:17:19.095: %LINEPROTO-5-UPDOWN: Line protocol on Interface VirtualPortGroup1, changed state to up
*Mar 3 23:17:25.630: %LINEPROTO-5-UPDOWN: Line protocol on Interface Tunnel2000000001, changed state to up
*Mar 3 23:19:36.863: %VIRT_SERVICE-5-ACTIVATION_STATE: Successfully activated virtual service utd
*Mar 3 23:19:37.577: %IM-6-START_MSG: R0/0: ioxman: app-hosting: Start succeeded: utd started successfully
*Mar 3 23:19:38.318: %ONEP_BASE-6-CONNECT: [Element]: ONEP session Application:utd_snort Host:cedge ID:1
*Mar 3 23:19:50.428: %IOSXE_UTD-4-MT_CONFIG_DOWNLOAD: UTD MT configuration download has started
*Mar 3 23:20:06.460: %IOSXE_UTD-4-MT_CONFIG_DOWNLOAD: UTD MT configuration download has completed
*Mar 3 23:20:08.389: %IOSXE-5-PLATFORM: R0/0: cpp_cp: QFP:0.0 Thread:011 TS:00000780131568867961 %SDVT-
```



附註：如果配置成功，當前運行狀況將從Down更改為Green。

---

## 2.運行這些命令以驗證UTD安裝。

```
cedge#show app-hosting list
App id                               State
-----
utd                                  RUNNING    >>> State change from Deployed to Running

cedge#show utd engine standard version
UTD Virtual-service Name: utd
IOS-XE Recommended UTD Version: 1.0.16_SV2.9.16.1_XE17.3
IOS-XE Supported UTD Regex: ^1\.0\.([0-9]+)_SV(.*)_XE17.3$
UTD Installed Version: 1.0.16_SV2.9.16.1_XE17.3

cedge#show virtual-service version name utd running
Virtual service utd running version:
  Name : UTD-Snort-Feature
  Version : 1.0.16_SV2.9.16.1_XE17.3                                     >>>> Changed from NONE to "1.0.16_SV2.9.16.1_XE17.3"

cedge#
cedge#show virtual-service
Virtual Service Global State and Virtualization Limits:
Infrastructure version : 1.7
Total virtual services installed : 1
Total virtual services activated : 1                                     >>>>>>>> Now it is activated

cedge#show virtual-service version name utd running
Virtual service utd running version:
  Name : UTD-Snort-Feature
  Version : 1.0.16_SV2.9.16.1_XE17.3
```

## 疑難排解

本節提供的資訊可用於對組態進行疑難排解。

### 有用的命令

<#root>

```
show platform software device-mode
show app-hosting list
show virtual-service version name utd running
show utd engine standard version
show utd engine standard status
show virtual-service
```

## 相關資訊

- [安全配置指南：統一威脅防禦，Cisco IOS XE 17](#)
- [安全配置指南：統一威脅防禦，Cisco IOS XE 16](#)
- [用於SDWAN支援的平台和限制的UTD。](#)
- [使用vManage安裝UTD。](#)

## 關於此翻譯

思科已使用電腦和人工技術翻譯本文件，讓全世界的使用者能夠以自己的語言理解支援內容。請注意，即使是最佳機器翻譯，也不如專業譯者翻譯的內容準確。Cisco Systems, Inc. 對這些翻譯的準確度概不負責，並建議一律查看原始英文文件（提供連結）。