Installation et désinstallation du moteur UTD dans SD-WAN avec CLI

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Introduction

Ce document décrit la procédure d'installation et de désinstallation de Unified Threat Defense (UTD) via l'interface de ligne de commande des routeurs SDWAN.

Conditions préalables

Exigences

Cisco vous recommande de prendre connaissance des rubriques suivantes :

- Réseau étendu défini par logiciel (SD-WAN) de Cisco
- Interface de ligne de commande (CLI) Cisco IOS® XE

Composants utilisés

Ce document est basé sur les versions logicielles et matérielles suivantes :

- Routeur ISR4461/K9
- Version logicielle 17.3.4

- Routeur en mode contrôleur

The information in this document was created from the devices in a specific lab environment. All of the devices used in this document started with a cleared (default) configuration. Si votre réseau est en ligne, assurez-vous de bien comprendre l'incidence possible des commandes.

Informations générales

Ces étapes doivent être appliquées lorsque le serveur cedge est en mode CLI ou qu'il n'existe aucune connexion de contrôle entre vManage et le serveur cedge.

Mais si vous avez le plan de contrôle et que votre cordon est en mode vManage, passez à l'article suivant .

Concepts

Les exigences spécifiques de ce document sont les suivantes :

- Cisco vManage version 20.3 ou ultérieure.
- Routeurs à services intégrés Cisco 4431 version 17.3.4

Pour plus d'informations sur les plates-formes prises en charge, accédez à [UTD pour les plates-formes et restrictions prises en charge par SDWAN.]

Configurer

Désinstaller UTD

Vérification Préalable

Ceci est un exemple de la façon dont le routeur cedge ressemble à une désinstallation UTD antérieure.

> * Le périphérique est en mode contrôleur et aucun modèle n'est associé, mais la configuration UTD est appliquée.

```
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
```

Remarque : la configuration UTD doit être supprimée avant de pouvoir être désinstallée.

Configurations

1. Arrêtez le service UTD.

```
cedge#config-transaction
cedge(config)# app-hosting appid utd
cedge(config-app-hosting)# no start
cedge(config-app-hosting)# commit
```

```
Commit complete.
```

Remarque : le statut UTD passe de En cours d'exécution à Déployé une fois **qu'aucun démarrage n**'est appliqué.

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

2. Supprimez la configuration UTD.

```
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. Validation.

Ceci est un exemple de la façon dont le routeur de périphérie se comporte après la suppression de la configuration UTD.

```
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>
```

Remarque : même si la configuration a été supprimée, l'UTD indique qu'elle est installée. C'est prévu.

```
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 config was removed but UTD engine remains installed

** 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. Retirez le moteur UTD.

Conseil : vous devez avoir iox et app-hosting appid utd activés pour désinstaller le moteur UTD.

Voici un exemple de ce qui se produit si UTD est supprimé sans iox et l'activation de l'hébergement d'applications.

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

Voici un exemple de désinstallation réussie de UTD.

```
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#
```

Vérifier

Exécutez les commandes suivantes pour vérifier si UTD a été supprimé.

```
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>
```

Configurer

Installer UTD

Vérification Préalable

Vérifiez la version UTD prise en charge et téléchargez-la dans bootflash.

```
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#
```

Configurations

1. Activez iox et l'hébergement d'applications.

```
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. Installez le moteur UTD.

```
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 'show app-hosting list' for progress.
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' for service container 'utd' is 'Cisco
signed', signing level cached on original install is 'Cisco signed'
*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. Assurez-vous que le moteur UTD est installé. Exécutez les commandes suivantes.

> **Remarque** : l'état *DEPLOYED* signifie *UTD installé mais non configuré*. *L'*état *RUNNING* signifie *UTD installé et configuré*.

```
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 no config yet 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. Afin d'avoir UTD en état d'exécution, continuez à configurer IPS/URL. Ceci est un exemple du TP.

```
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. Assurez-vous que la configuration est terminée.

```
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#
```

Vérifier

1. Exécutez la commande **show logging** et assurez-vous que vous avez des journaux similaires comme indiqué ci-dessous.

```
*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 Current state is running *Mar 3
23:19:38.318: %ONEP_BASE-6-CONNECT: [Element]: ONEP session Application:utd_snort Host:cedge
ID:6633 User: has connected. *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-5-SDVT_HEALTH_UP: Service node is up for
channel Threat Defense. Current Health: Green, Previous Health: Down
```

Remarque : l'état actuel passe de **Down** à **Green** si la configuration a réussi.

2. Exécutez ces commandes pour vérifier l'installation UTD.

```
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" after config. 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
```

Dépannage

Cette section fournit des informations que vous pouvez utiliser pour dépanner votre configuration.

Commandes utiles

```
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
```

Informations connexes

- Guide de configuration de la sécurité : Unified Threat Defense, Cisco IOS XE 17
- Guide de configuration de la sécurité : Unified Threat Defense, Cisco IOS XE 16
- UTD pour plates-formes et restrictions SDWAN prises en charge.
- Installez UTD avec vManage.

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