



ゼロタッチプロビジョニング

ネットワークプロビジョニングの課題に対応するため、シスコは、ゼロタッチプロビジョニングモデルを導入しました。このモジュールでは、ゼロタッチプロビジョニング機能について説明します。



(注) ゼロタッチプロビジョニング機能は自動的に有効になり、設定は不要です。

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ゼロタッチプロビジョニングの制約事項

- ゼロタッチプロビジョニングは、Cisco Catalyst 9200L SKU ではサポートされていません。
- Cisco Catalyst 9800-L ワイヤレスコントローラでは、サービスポートといずれかのデータポートが有効化され、接続されている場合、AutoInstall はデフォルトでサービスポートに到達します。
- Cisco Catalyst 9800-L ワイヤレスコントローラは、仮想ポートグループ (VPG) およびネットワークアドレス変換 (NAT) をサポートしていません。したがって、アプリケーションまたはスクリプトは、データポートを介してゲストシェルからネットワークに通信できません。Cisco Catalyst 9800-L ワイヤレスコントローラでは、データポートまたはサービスポートを介してダウンロードされた ZTP スクリプトは、外部と通信できません。

ゼロタッチプロビジョニングについて

ゼロタッチプロビジョニングの概要

ゼロタッチプロビジョニングは、異機種混在ネットワーク環境でのネットワークデバイスプロビジョニングを自動化する、オープンブートストラップインターフェイスを提供します。

ゼロタッチプロビジョニングをサポートするデバイスが起動し、スタートアップコンフィギュレーションが見つからない場合（初期インストール時）、デバイスはゼロタッチプロビジョニングモードに入ります。デバイスは、Dynamic Host Control Protocol（DHCP）サーバを検索し、インターフェイスのIPアドレス、ゲートウェイ、ドメインネームシステム（DNS）サーバのIPアドレスをブートストラップして、ゲストシェルを有効にします。次にデバイスはHTTP/TFTPサーバのIPアドレスまたはURLを取得し、HTTP/TFTPサーバからデバイスを構成するPythonスクリプトをダウンロードします。

ゲストシェルは、Pythonスクリプトを実行するための環境を提供します。ゲストシェルは、ダウンロードしたPythonスクリプトを実行して、初期構成をデバイスに適用します。

初期プロビジョニングが完了したら、ゲストシェルは有効化されたままになります。詳細については、「ゲストシェル」の章を参照してください。



-
- (注) ゼロタッチプロビジョニングが失敗した場合、デバイスは自動インストールにフォールバックして、コンフィギュレーションファイルをロードします。詳細については、「[Using AutoInstall and Setup](#)」を参照してください。
-

ゼロタッチプロビジョニングのためのDHCPサーバの設定

ゼロタッチプロビジョニングでは、プロビジョニングされる新しいデバイスと同じネットワークでDHCPサーバを実行する必要があります。ゼロタッチプロビジョニングは、管理用ポートとインバンドポートの両方でサポートされます。

新しいデバイスをオンにすると、そのデバイスは、Pythonスクリプトが存在するHTTP/TFTPサーバのIPアドレス情報とPythonスクリプトのフォルダパスをDHCPサーバから取得します。Pythonスクリプトの詳細については、「Python API」および「Python CLI モジュール」の各章を参照してください。

DHCPサーバは、次のオプションでDHCP検出イベントに応答します。

- オプション150：（任意）管理ネットワーク上の、実行されるPythonスクリプトをホストしているHTTP/TFTPサーバを指すIPアドレスの一覧が含まれます。
- オプション67：HTTP/TFTPサーバ上のPythonスクリプトのファイルパスが含まれます。

これらの DHCP オプションを受信すると、デバイスは、HTTP/TFTP サーバに接続して Python スクリプトをダウンロードします。この時点で、デバイスは HTTP/TFTP サーバに到達するルートを持たないため、DHCP サーバによって提供されるデフォルトのルートを使用します。

DHCPv6 のサポート

Cisco IOS XE Fuji 16.9.1 では、Dynamic Host Control Protocol バージョン 6 (DHCPv6) のサポートがゼロタッチプロビジョニング機能に追加されました。DHCPv6 はデフォルトで有効になっており、スタートアップコンフィギュレーションなしでブートするすべてのデバイスで機能します。



(注) DHCPv6 は Catalyst 9300 および 9500 シリーズ スイッチでのみサポートされます。

DHCPv6 は、Python スクリプトの TFTP と HTTP の両方のダウンロードによってサポートされています。Python スクリプトの HTTP または TFTP のダウンロードが失敗した場合、デバイスは開始時点 (設定なしの状態) に戻ります。DHCPv4 と DHCPv6 の両方が機能するためには、正しい HTTP ファイルパスが DHCP 設定で使用できる必要があります。

同じインターフェイスに IPv4 と IPv6 の両方のアドレスがあるか、またはネットワーク内に 2 つの異なるインターフェイスがあることが考えられます。つまり、一方は IPv4 トラフィックを受信でき、他方は IPv6 トラフィックを受信できます。導入環境では DHCPv4 または DHCPv6 オプションのいずれかを使用することをお勧めします。

次に、DHCPv4: /etc/dhcp/dhcpd.conf の例を示します。

```
host <hostname> {
  hardware ethernet xx:xx:xx:xx:xx:xx;
  option dhcp-client-identifier "xxxxxxxxxxxxxxxx";
  option host-name "<hostname>".
  option log-servers x.x.x.x;
  fixed-address x.x.x.x;
  if option vendor-class-identifier = "... " {
    option vendor-class-identifier "...";
    if exists user-class and option user-class = "iPXE" {
      filename "http://x.x.x.x/.../<image>";
    } else {
      filename "http://x.x.x.x/.../<script-name>";
    }
  }
}
```

次に、ISC DHCPv6 サーバの設定例を示します。

```
option dhcp6.bootfile-url "http://[2001:DB8::21]/sample_day0_script.py";
```

ゼロタッチプロビジョニングの構成例

TFTP コピーを使用する管理ポートにおける DHCP サーバ設定の例

次に、デバイスの管理ポート経由で接続されている場合に TFTP コピーを使用して行う DHCP サーバ設定の例を示します。

```
Device> enable
Device# configure terminal
Device(config)# ip dhcp excluded-address 10.1.1.1
Device(config)# ip dhcp excluded-address vrf Mgmt-vrf 10.1.1.1 10.1.1.10
Device(config)# ip dhcp pool pnp_device_pool
Device(config-dhcp)# vrf Mgmt-vrf
Device(config-dhcp)# network 10.1.1.0 255.255.255.0
Device(config-dhcp)# default-router 10.1.1.1
Device(config-dhcp)# option 150 ip 203.0.113.254
Device(config-dhcp)# option 67 ascii /sample_python_dir/python_script.py
Device(config-dhcp)# exit
Device(config)# interface gigabitethernet 1/0/2
Device(config-if)# no ip dhcp client request tftp-server-address
Device(config-if)# end
```

HTTP コピーを使用する管理ポートにおける DHCP サーバ設定の例

次に、デバイスの管理ポート経由で接続されている場合に HTTP コピーを使用して行う DHCP サーバ設定の例を示します。

```
Device> enable
Device# configure terminal
Device(config)# ip dhcp pool pnp_device_pool
Device(config-dhcp)# vrf Mgmt-vrf
Device(config-dhcp)# network 10.1.1.0 255.255.255.0
Device(config-dhcp)# default-router 10.1.1.1
Device(config-dhcp)# option 67 ascii http://198.51.100.1:8000/sample_python_2.py
Device(config-dhcp)# end
```

TFTP コピーを使用したインバンドポートでのサンプル DHCP サーバ構成

次に示すのは、デバイスのインバンドポート経由で接続されている場合の、TFTP コピーを使用したサンプル DHCP サーバ構成です。

```
Device> enable
Device# configure terminal
Device(config)# ip dhcp excluded-address 10.1.1.1
Device(config)# ip dhcp pool pnp_device_pool
```

```

Device(config-dhcp)# network 10.1.1.0 255.255.255.0
Device(config-dhcp)# default-router 10.1.1.1
Device(config-dhcp)# option 150 ip 203.0.113.254
Device(config-dhcp)# option 67 ascii /sample_python_dir/python_script.py
Device(config-dhcp)# exit
Device(config)# interface gigabitethernet 1/0/2
Device(config-if)# no ip dhcp client request tftp-server-address
Device(config-if)# end

```

HTTPコピーを使用したインバンドポートでのサンプルDHCPサーバ構成

次に示すのは、デバイスのインバンドポート経由で接続されている場合の、HTTPコピーを使用したサンプルDHCPサーバ構成です。

```

Device> enable
Device# configure terminal
Device(config)# ip dhcp excluded-address 10.1.1.1
Device(config)# ip dhcp pool pnp_device_pool
Device(config-dhcp)# network 10.1.1.0 255.255.255.0
Device(config-dhcp)# default-router 10.1.1.1
Device(config-dhcp)# option 67 ascii http://192.0.2.1:8000/sample_python_2.py
Device(config-dhcp)# end

```

Linux Ubuntu デバイス上でのサンプルDHCPサーバの構成

次のDHCPサーバ構成例は、サーバがデバイスの管理ポートまたはインバンドポートのどちらかに接続されていることと、PythonスクリプトがTFTPサーバからコピーされることを示しています。

```

root@ubuntu-server:/etc/dhcp# more dhcpd.conf
subnet 10.1.1.0 netmask 255.255.255.0 {
range 10.1.1.2 10.1.1.255;
    host 3850 {
        fixed-address                10.1.1.246 ;
        hardware ethernet           CC:D8:C1:85:6F:00;
        option bootfile-name !<opt 67>  "/python_dir/python_script.py";
        option tftp-server-name !<opt 150> "203.0.113.254";
    }
}

```

次のサンプルDHCP構成は、PythonスクリプトがHTTPサーバからデバイスにコピーされることを示しています。

```

Day0_with_mgmt_port_http
-----
subnet 192.168.1.0 netmask 255.255.255.0 {
range 192.168.1.2 192.168.1.255;

```

```

host C2-3850 {
    fixed-address          192.168.1.246 ;
    hardware ethernet     CC:D8:C1:85:6F:00;
    option bootfile-name  "http://192.168.1.46/sample_python_2.py";
}
}

```

DHCPサーバが実行状態になったら、管理ネットワーク接続デバイスを起動します。これにより構成の残りの部分は自動的に実行されます。

TFTP コピーを使用する管理ポートでの DHCPv6 サーバ設定の例

次に、デバイスの管理ポート経由で接続されている場合に TFTP コピーを使用して行う DHCPv6 サーバ設定の例を示します。

```

Device> enable
Device# configure terminal
Device(config)# ipv6 dhcp pool ztp
Device(config-dhcpv6)# address prefix 2001:DB8::1/64
Device(config-dhcpv6)# domain-name cisco.com
Device(config-dhcpv6)# bootfile-url tftp://[2001:db8::46]/sample_day0_script.py
Device(config-dhcpv6)# exit
Device(config)# interface vlan 20
Device(config-if)# ipv6 dhcp server ztp
Device(config-if)# end

```

サンプルの Python プロビジョニングスクリプト

次に示すのは、HTTP サーバまたは TFTP サーバのいずれかから使用できるサンプル Python スクリプトです。

```

print "\n\n *** Sample ZTP Day0 Python Script *** \n\n"

# Importing cli module
import cli

print "\n\n *** Executing show platform *** \n\n"
cli_command = "show platform"
cli.execute(cli_command)

print "\n\n *** Executing show version *** \n\n"
cli_command = "show version"
cli.execute(cli_command)

print "\n\n *** Configuring a Loopback Interface *** \n\n"
cli.configure(["interface loop 100", "ip address 10.10.10.10 255.255.255.255", "end"])

print "\n\n *** Executing show ip interface brief *** \n\n"
cli_command = "sh ip int brief"
cli.execute(cli_command)

```

```
print "\n\n *** ZTP Day0 Python Script Execution Complete *** \n\n"
```

Cisco 4000 シリーズ サービス統合型ルータの起動ログ

次のゼロタッチプロビジョニングのブートログでは、ゲストシェルが正常に有効にされ、Python スクリプトがゲストシェルにダウンロードされ、ゲストシェルがダウンロードした Python スクリプトを実行してデバイスをデイゼロに設定していることが示されています。

```
% failed to initialize nvram
! <This message indicates that the startup configuration
is absent on the device. This is the first indication that the Day Zero work flow is
going to start.>
```

```
This product contains cryptographic features and is subject to United
States and local country laws governing import, export, transfer and
use. Delivery of Cisco cryptographic products does not imply
third-party authority to import, export, distribute or use encryption.
Importers, exporters, distributors and users are responsible for
compliance with U.S. and local country laws. By using this product you
agree to comply with applicable laws and regulations. If you are unable
to comply with U.S. and local laws, return this product immediately.
```

```
A summary of U.S. laws governing Cisco cryptographic products may be found at:
http://www.cisco.com/wll/export/crypto/tool/stqrg.html
```

```
If you require further assistance please contact us by sending email to
export@cisco.com.
```

```
cisco ISR4451-X/K9 (2RU) processor with 7941237K/6147K bytes of memory.
Processor board ID FJC1950D091
4 Gigabit Ethernet interfaces
32768K bytes of non-volatile configuration memory.
16777216K bytes of physical memory.
7341807K bytes of flash memory at bootflash:.
0K bytes of WebUI ODM Files at webui:.
```

```
%INIT: waited 0 seconds for NVRAM to be available
```

```
--- System Configuration Dialog ---
```

```
Would you like to enter the initial configuration dialog? [yes/no]: %
```

```
!!<DO NOT TOUCH. This is Zero-Touch Provisioning>>
```

```
Generating 2048 bit RSA keys, keys will be non-exportable...
```

```
[OK] (elapsed time was 1 seconds)
```

```
The process for the command is not responding or is otherwise unavailable
The process for the command is not responding or is otherwise unavailable
The process for the command is not responding or is otherwise unavailable
The process for the command is not responding or is otherwise unavailable
The process for the command is not responding or is otherwise unavailable
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The process for the command is not responding or is otherwise unavailable
The process for the command is not responding or is otherwise unavailable
The process for the command is not responding or is otherwise unavailable
The process for the command is not responding or is otherwise unavailable
```

```
Guestshell enabled successfully
```

```

*** Sample ZTP Day0 Python Script ***

*** Configuring a Loopback Interface ***

Line 1 SUCCESS: interface loop 100
Line 2 SUCCESS: ip address 10.10.10.10 255.255.255.255
Line 3 SUCCESS: end

*** Executing show ip interface brief ***

Interface                IP-Address      OK? Method Status        Protocol
GigabitEthernet0/0/0    unassigned      YES unset  down         down
GigabitEthernet0/0/1    unassigned      YES unset  down         down
GigabitEthernet0/0/2    unassigned      YES unset  down         down
GigabitEthernet0/0/3    192.168.1.246  YES DHCP    up           up
GigabitEthernet0        192.168.1.246  YES DHCP    up           up
Loopback100             10.10.10.10    YES TFTP    up           up

*** ZTP Day0 Python Script Execution Complete ***

Press RETURN to get started!

```

デイゼロプロビジョニングが完了すると、IOSプロンプトがアクセス可能になります。

Cisco Catalyst 9000 シリーズ スイッチの起動ログ

次のセクションでは、ゼロタッチプロビジョニングの起動ログのサンプルを表示します。このようなログでは、ゲストシェルが正常に有効にされ、Python スクリプトがゲストシェルにダウンロードされ、ゲストシェルがダウンロードした Python スクリプトを実行してデバイスをデイゼロに設定していることが示されています。

```

% Checking backup nvram
% No config present. Using default config

FIPS: Flash Key Check : Begin
FIPS: Flash Key Check : End, Not Found, FIPS Mode Not Enabled

! <This message indicates that the startup configuration
is absent on the device. This is the first indication that the Day Zero
work flow is
going to start.>

```


Cisco IOS XE Everest 16.6.x から Cisco IOS XE Fuji 16.8.x へ

このセクションでは、.py スクリプトを実行する前の起動ログのサンプルを表示します。

```
Press RETURN to get started!
```

```
The process for the command is not responding or is otherwise unavailable
The process for the command is not responding or is otherwise unavailable
The process for the command is not responding or is otherwise unavailable
The process for the command is not responding or is otherwise unavailable
The process for the command is not responding or is otherwise unavailable
```

```
*** Sample ZTP Day0 Python Script ***
```

```
...
```

```
*** ZTP Day0 Python Script Execution Complete ***
```

このセクションでは、デイゼロプロビジョニング用にデバイスを設定する方法を示します。

```
Initializing Hardware...
```

```
System Bootstrap, Version 17.2.1r[FC1], RELEASE SOFTWARE (P)
Compiled Thu 02/20/2020 23:47:51.50 by rel
```

```
Current ROMMON image : Primary
Last reset cause      : SoftwareReload
C9300-48UXM platform with 8388608 Kbytes of main memory
```

```
Preparing to autoboot. [Press Ctrl-C to interrupt] 0
boot: attempting to boot from [flash:cat9k_iosxe.16.06.05.SPA.bin]
boot: reading file cat9k_iosxe.16.06.05.SPA.bin
```

```
#####
```

```
Both links down, not waiting for other switches
Switch number is 1
```

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cisco Systems, Inc.
170 West Tasman Drive
San Jose, California 95134-1706

```
Cisco IOS Software [Everest], Catalyst L3 Switch Software (CAT9K_IOSXE),
Version 16.6.5, RELEASE SOFTWARE (fc3)
Technical Support: http://www.cisco.com/techsupport
Copyright (c) 1986-2018 by Cisco Systems, Inc.
Compiled Mon 10-Dec-18 12:52 by mcpre
```

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% Checking backup nvram
% No config present. Using default config

FIPS: Flash Key Check : Begin
FIPS: Flash Key Check : End, Not Found, FIPS Mode Not Enabled

This product contains cryptographic features and is subject to United States and local country laws governing import, export, transfer and use. Delivery of Cisco cryptographic products does not imply third-party authority to import, export, distribute or use encryption. Importers, exporters, distributors and users are responsible for compliance with U.S. and local country laws. By using this product you agree to comply with applicable laws and regulations. If you are unable to comply with U.S. and local laws, return this product immediately.

A summary of U.S. laws governing Cisco cryptographic products may be found at:
<http://www.cisco.com/wwl/export/crypto/tool/stqrg.html>

If you require further assistance please contact us by sending email to export@cisco.com.

cisco C9300-48UXM (X86) processor with 1392780K/6147K bytes of memory.
Processor board ID FCW2144L045
2048K bytes of non-volatile configuration memory.
8388608K bytes of physical memory.
1638400K bytes of Crash Files at crashinfo:.
11264000K bytes of Flash at flash:.
0K bytes of WebUI ODM Files at webui:.

Base Ethernet MAC Address	: ec:1d:8b:0a:68:00
Motherboard Assembly Number	: 73-17959-06
Motherboard Serial Number	: FOC21418FPQ
Model Revision Number	: B0
Motherboard Revision Number	: A0
Model Number	: C9300-48UXM
System Serial Number	: FCW2144L045

%INIT: waited 0 seconds for NVRAM to be available

SETUP: new interface Vlan1 placed in "shutdown" state

Press RETURN to get started!

*Sep 4 20:35:07.330: %SMART_LIC-6-AGENT_READY: Smart Agent for Licensing is initialized
*Sep 4 20:35:07.493: %IOSXE_RP_NV-3-NV_ACCESS_FAIL: Initial read of NVRAM contents failed
*Sep 4 20:35:07.551: %IOSXE_RP_NV-3-BACKUP_NV_ACCESS_FAIL: Initial read of backup NVRAM contents failed
*Sep 4 20:35:10.932: dev_pluggable_optics_selftest attribute table internally inconsistent

```
@ 0x1D4
*Sep 4 20:35:13.406: %CRYPTO-4-AUDITWARN: Encryption audit check could not be performed
*Sep 4 20:35:13.480: %SPANTRIE-5-EXTENDED_SYSID: Extended SysId enabled for type vlan
*Sep 4 20:35:13.715: %LINK-3-UPDOWN: Interface Lsmpi18/3, changed state to up
*Sep 4 20:35:13.724: %LINK-3-UPDOWN: Interface EOBC18/1, changed state to up
*Sep 4 20:35:13.724: %LINEPROTO-5-UPDOWN: Line protocol on Interface LI-Null0, changed
state to up
*Sep 4 20:35:13.724: %LINK-3-UPDOWN: Interface GigabitEthernet0/0, changed state to
down
*Sep 4 20:35:13.725: %LINK-3-UPDOWN: Interface LIIN18/2, changed state to up
*Sep 4 20:35:13.749: WCM-PKI-SHIM: buffer allocation failed for SUDI support check
*Sep 4 20:35:13.749: PKI/SSL unable to send Sudi support to WCM
*Sep 4 20:35:14.622: %IOSXE_MGMTVRF-6-CREATE_SUCCESS_INFO: Management vrf Mgmt-vrf
created with ID 1,
    ipv4 table-id 0x1, ipv6 table-id 0x1E000001
*Sep 4 20:34:42.022: %STACKMGR-6-STACK_LINK_CHANGE: Switch 1 R0/0: stack_mgr: Stack
port 1 on Switch 1 is nocable
*Sep 4 20:34:42.022: %STACKMGR-6-STACK_LINK_CHANGE: Switch 1 R0/0: stack_mgr: Stack
port 2 on Switch 1 is down
*Sep 4 20:34:42.022: %STACKMGR-6-STACK_LINK_CHANGE: Switch 1 R0/0: stack_mgr: Stack
port 2 on Switch 1 is nocable
*Sep 4 20:34:42.022: %STACKMGR-6-SWITCH_ADDED: Switch 1 R0/0: stack_mgr: Switch 1 has
been added to the stack.
*Sep 4 20:34:42.022: %STACKMGR-6-SWITCH_ADDED: Switch 1 R0/0: stack_mgr: Switch 1 has
been added to the stack.
*Sep 4 20:34:42.022: %STACKMGR-6-SWITCH_ADDED: Switch 1 R0/0: stack_mgr: Switch 1 has
been added to the stack.
*Sep 4 20:34:42.022: %STACKMGR-6-ACTIVE_ELECTED: Switch 1 R0/0: stack_mgr: Switch 1
has been elected ACTIVE.
*Sep 4 20:35:14.728: %LINEPROTO-5-UPDOWN: Line protocol on Interface Lsmpi18/3, changed
state to up
*Sep 4 20:35:14.728: %LINEPROTO-5-UPDOWN: Line protocol on Interface EOBC18/1, changed
state to up
*Sep 4 20:35:15.506: %HMANRP-6-HMAN_IOS_CHANNEL_INFO: HMAN-IOS channel event for switch
1: EMP_RELAY: Channel UP!
*Sep 4 20:35:15.510: %LINEPROTO-5-UPDOWN: Line protocol on Interface Vlan1, changed
state to down
*Sep 4 20:35:34.501: %LINK-5-CHANGED: Interface Vlan1, changed state to administratively
down
*Sep 4 20:35:34.717: %SYS-5-RESTART: System restarted --
Cisco IOS Software [Everest], Catalyst L3 Switch Software (CAT9K_IOSXE), Version 16.6.5,
RELEASE SOFTWARE (fc3)
Technical Support: http://www.cisco.com/techsupport
Copyright (c) 1986-2018 by Cisco Systems, Inc.
Compiled Mon 10-Dec-18 12:52 by mcpre
*Sep 4 20:35:34.796: %LINK-3-UPDOWN: Interface GigabitEthernet0/0, changed state to up
*Sep 4 20:35:35.266: %SYS-6-BOOTTIME: Time taken to reboot after reload = 283 seconds
*Sep 4 20:35:35.796: %LINEPROTO-5-UPDOWN: Line protocol on Interface GigabitEthernet0/0,
changed state to up
*Sep 4 20:35:36.607: %LINK-3-UPDOWN: Interface GigabitEthernet1/1/1, changed state to
down
*Sep 4 20:35:36.607: %LINK-3-UPDOWN: Interface GigabitEthernet1/1/2, changed state to
down
*Sep 4 20:35:36.607: %LINK-3-UPDOWN: Interface GigabitEthernet1/1/3, changed state to
down
*Sep 4 20:35:36.608: %LINK-3-UPDOWN: Interface GigabitEthernet1/1/4, changed state to
down
*Sep 4 20:35:36.608: %LINK-3-UPDOWN: Interface TenGigabitEthernet1/1/1, changed state
to down
*Sep 4 20:35:36.608: %LINK-3-UPDOWN: Interface TenGigabitEthernet1/1/2, changed state
to down
*Sep 4 20:35:36.608: %LINK-3-UPDOWN: Interface TenGigabitEthernet1/1/3, changed state
to down
```

```
*Sep 4 20:35:36.608: %LINK-3-UPDOWN: Interface TenGigabitEthernet1/1/4, changed state
to down
*Sep 4 20:35:36.608: %LINK-3-UPDOWN: Interface TenGigabitEthernet1/1/5, changed state
to down
*Sep 4 20:35:36.609: %LINK-3-UPDOWN: Interface TenGigabitEthernet1/1/6, changed state
to down
*Sep 4 20:35:36.609: %LINK-3-UPDOWN: Interface TenGigabitEthernet1/1/7, changed state
to down
*Sep 4 20:35:36.609: %LINK-3-UPDOWN: Interface TenGigabitEthernet1/1/8, changed state
to down
*Sep 4 20:35:36.609: %LINK-3-UPDOWN: Interface FortyGigabitEthernet1/1/1, changed state
to down
*Sep 4 20:35:36.609: %LINK-3-UPDOWN: Interface FortyGigabitEthernet1/1/2, changed state
to down
*Sep 4 20:35:37.607: %LINEPROTO-5-UPDOWN: Line protocol on Interface GigabitEthernet1/1/1,
changed state to down
*Sep 4 20:35:37.608: %LINEPROTO-5-UPDOWN: Line protocol on Interface GigabitEthernet1/1/2,
changed state to down
*Sep 4 20:35:37.608: %LINEPROTO-5-UPDOWN: Line protocol on Interface GigabitEthernet1/1/3,
changed state to down
*Sep 4 20:35:37.609: %LINEPROTO-5-UPDOWN: Line protocol on Interface GigabitEthernet1/1/4,
changed state to down
*Sep 4 20:35:37.609: %LINEPROTO-5-UPDOWN: Line protocol on Interface
TenGigabitEthernet1/1/1, changed state to down
*Sep 4 20:35:37.609: %LINEPROTO-5-UPDOWN: Line protocol on Interface
TenGigabitEthernet1/1/2, changed state to down
*Sep 4 20:35:37.609: %LINEPROTO-5-UPDOWN: Line protocol on Interface
TenGigabitEthernet1/1/3, changed state to down
*Sep 4 20:35:37.609: %LINEPROTO-5-UPDOWN: Line protocol on Interface
TenGigabitEthernet1/1/4, changed state to down
*Sep 4 20:35:37.609: %LINEPROTO-5-UPDOWN: Line protocol on Interface
TenGigabitEthernet1/1/5, changed state to down
*Sep 4 20:35:37.609: %LINEPROTO-5-UPDOWN: Line protocol on Interface
TenGigabitEthernet1/1/6, changed state to down
*Sep 4 20:35:43.511: AUTOINSTALL: Obtain tftp server address (opt 150) 159.14.27.2
*Sep 4 20:35:43.511: PNPA: Setting autoinstall complete to true for 159.14.27.2
*Sep 4 20:35:57.673: %PLATFORM_PM-6-FRULINK_INSERTED: 8x10G uplink module inserted in
the switch 1 slot 1
*Sep 4 20:36:19.562: [IOX DEBUG] Guestshell start API is being invoked

*Sep 4 20:36:19.562: [IOX DEBUG] provided idb is mgmt interface

*Sep 4 20:36:19.562: [IOX DEBUG] Setting up guestshell to use mgmt-intf

*Sep 4 20:36:19.562: [IOX DEBUG] Setting up chasfs for iox related activity

*Sep 4 20:36:19.562: [IOX DEBUG] Setting up for iox pre-clean activity if needed

*Sep 4 20:36:19.562: [IOX DEBUG] Waiting for iox pre-clean setup to take affect

*Sep 4 20:36:19.562: [IOX DEBUG] Waited for 1 sec(s) for iox pre-clean setup to take
affect

*Sep 4 20:36:19.562: [IOX DEBUG] Auto-configuring iox feature

*Sep 4 20:36:19.563: [IOX DEBUG] Waiting for CAF and ioxman to be up, in that order

*Sep 4 20:36:20.076: %UICFGEXP-6-SERVER_NOTIFIED_START: Switch 1 R0/0: psd: Server iox
has been notified to start
*Sep 4 20:36:23.564: [IOX DEBUG] Waiting for another 5 secs

*Sep 4 20:36:28.564: [IOX DEBUG] Waiting for another 5 secs
The process for the command is not responding or is otherwise unavailable
```

```

*Sep  4 20:36:33.564: [IOX DEBUG] Waiting for another 5 secs
The process for the command is not responding or is otherwise unavailable

*Sep  4 20:36:34.564: [IOX DEBUG] Waited for 16 sec(s) for CAF and ioxman to come up

*Sep  4 20:36:34.564: [IOX DEBUG] Validating if CAF and ioxman are running

*Sep  4 20:36:34.564: [IOX DEBUG] CAF and ioxman are up and running

*Sep  4 20:36:34.564: [IOX DEBUG] Building the simple mgmt-intf enable command string

*Sep  4 20:36:34.564: [IOX DEBUG] Enable command is: request platform software iox-manager
    app-hosting guestshell enable

*Sep  4 20:36:34.564: [IOX DEBUG] Issuing guestshell enable command and waiting for it
to be up
The process for the command is not responding or is otherwise unavailable
The process for the command is not responding or is otherwise unavailable
The process for the command is not responding or is otherwise unavailable
The process for the command is not responding or is otherwise unavailable

*Sep  4 20:36:38.578: [IOX DEBUG] Waiting for another 5 secs
The process for the command is not responding or is otherwise unavailable

*Sep  4 20:36:39.416: %LINK-3-UPDOWN: Interface TenGigabitEthernet1/0/48, changed state
to up
*Sep  4 20:36:40.416: %LINEPROTO-5-UPDOWN: Line protocol on Interface
TenGigabitEthernet1/0/48,
    changed state to upThe process for the command is not responding or is otherwise
unavailable
The process for the command is not responding or is otherwise unavailable
The process for the command is not responding or is otherwise unavailable

*Sep  4 20:36:43.586: [IOX DEBUG] Waiting for another 5 secs
Guestshell enabled successfully

*Sep  4 20:37:45.321: [IOX DEBUG] Checking for guestshell mount path

*Sep  4 20:37:45.321: [IOX DEBUG] Validating if guestshell is ready for use

*Sep  4 20:37:45.321: [IOX DEBUG] Guestshell enabled successfully

*** Sample ZTP Day0 Python Script ***

*** Executing show platform ***

Switch  Ports      Model                Serial No.  MAC address      Hw Ver.      Sw Ver.
-----  -
1        62      C9300-48UXM         FCW2144L045  ec1d.8b0a.6800  V01          16.6.5

Switch/Stack Mac Address : ec1d.8b0a.6800 - Local Mac Address
Mac persistency wait time: Indefinite

Current
Switch#  Role      Priority  State
-----
*1       Active    1         Ready
    
```

*** Executing show version ***

```

Cisco IOS XE Software, Version 16.06.05
Cisco IOS Software [Everest], Catalyst L3 Switch Software (CAT9K_IOSXE), Version 16.6.5,
  RELEASE SOFTWARE (fc3)
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GPL code under the terms of GPL Version 2.0. For more details, see the
documentation or "License Notice" file accompanying the IOS-XE software,
or the applicable URL provided on the flyer accompanying the IOS-XE
software.
ROM: IOS-XE ROMMON
BOOTLDR: System Bootstrap, Version 17.2.1r[FC1], RELEASE SOFTWARE (P)
Switch uptime is 2 minutes
Uptime for this control processor is 4 minutes
System returned to ROM by Reload Command
System image file is "flash:cat9k_iosxe.16.06.05.SPA.bin"
Last reload reason: Reload Command
This product contains cryptographic features and is subject to United
States and local country laws governing import, export, transfer and
use. Delivery of Cisco cryptographic products does not imply
third-party authority to import, export, distribute or use encryption.
Importers, exporters, distributors and users are responsible for
compliance with U.S. and local country laws. By using this product you
agree to comply with applicable laws and regulations. If you are unable
to comply with U.S. and local laws, return this product immediately.
A summary of U.S. laws governing Cisco cryptographic products may be found at:
http://www.cisco.com/wwl/export/crypto/tool/stqrg.html
If you require further assistance please contact us by sending email to
export@cisco.com.
Technology Package License Information:
-----
Technology-package      Technology-package
Current                 Type                 Next reboot
-----
network-advantage      Permanent            network-advantage
cisco C9300-48UXM (X86) processor with 1392780K/6147K bytes of memory.
Processor board ID FCW2144L045
36 Ethernet interfaces
1 Virtual Ethernet interface
4 Gigabit Ethernet interfaces
20 Ten Gigabit Ethernet interfaces
2 Forty Gigabit Ethernet interfaces
2048K bytes of non-volatile configuration memory.
8388608K bytes of physical memory.
1638400K bytes of Crash Files at crashinfo:.
11264000K bytes of Flash at flash:.
0K bytes of WebUI ODM Files at webui:.
Base Ethernet MAC Address      : ec:1d:8b:0a:68:00
Motherboard Assembly Number    : 73-17959-06
Motherboard Serial Number      : FOC21418FPQ
Model Revision Number          : B0
Motherboard Revision Number    : A0
Model Number                   : C9300-48UXM
System Serial Number           : FCW2144L045

```

```
Switch Ports Model          SW Version  SW Image        Mode
-----
* 1 62    C9300-48UXM    16.6.5      CAT9K_IOSXE    BUNDLE
Configuration register is 0x102
```

*** Configuring a Loopback Interface ***

```
Line 1 SUCCESS: interface loop 100
Line 2 SUCCESS: ip address 10.10.10.10 255.255.255.255
Line 3 SUCCESS: end
```

*** Executing show ip interface brief ***

Interface	IP-Address	OK?	Method	Status	Protocol
Vlan1	unassigned	YES	unset	administratively down	down
GigabitEthernet0/0	10.127.128.3	YES	DHCP	up	up
Tw1/0/1	unassigned	YES	unset	down	down
Tw1/0/2	unassigned	YES	unset	down	down
Tw1/0/3	unassigned	YES	unset	down	down
Tw1/0/4	unassigned	YES	unset	down	down
Tw1/0/5	unassigned	YES	unset	down	down
Tw1/0/6	unassigned	YES	unset	down	down
Tw1/0/7	unassigned	YES	unset	down	down
Tw1/0/8	unassigned	YES	unset	down	down
Tw1/0/9	unassigned	YES	unset	down	down
Tw1/0/10	unassigned	YES	unset	down	down
Tw1/0/11	unassigned	YES	unset	down	down
Tw1/0/12	unassigned	YES	unset	down	down
Tw1/0/13	unassigned	YES	unset	down	down
Tw1/0/14	unassigned	YES	unset	down	down
Tw1/0/15	unassigned	YES	unset	down	down
Tw1/0/16	unassigned	YES	unset	down	down
Tw1/0/17	unassigned	YES	unset	down	down
Tw1/0/18	unassigned	YES	unset	down	down
Tw1/0/19	unassigned	YES	unset	down	down
Tw1/0/20	unassigned	YES	unset	down	down
Tw1/0/21	unassigned	YES	unset	down	down
Tw1/0/22	unassigned	YES	unset	down	down
Tw1/0/23	unassigned	YES	unset	down	down
Tw1/0/24	unassigned	YES	unset	down	down
Tw1/0/25	unassigned	YES	unset	down	down
Tw1/0/26	unassigned	YES	unset	down	down
Tw1/0/27	unassigned	YES	unset	down	down
Tw1/0/28	unassigned	YES	unset	down	down
Tw1/0/29	unassigned	YES	unset	down	down
Tw1/0/30	unassigned	YES	unset	down	down
Tw1/0/31	unassigned	YES	unset	down	down
Tw1/0/32	unassigned	YES	unset	down	down
Tw1/0/33	unassigned	YES	unset	down	down
Tw1/0/34	unassigned	YES	unset	down	down
Tw1/0/35	unassigned	YES	unset	down	down
Tw1/0/36	unassigned	YES	unset	down	down
Te1/0/37	unassigned	YES	unset	down	down
Te1/0/38	unassigned	YES	unset	down	down
Te1/0/39	unassigned	YES	unset	down	down
Te1/0/40	unassigned	YES	unset	down	down
Te1/0/41	unassigned	YES	unset	down	down
Te1/0/42	unassigned	YES	unset	down	down
Te1/0/43	unassigned	YES	unset	down	down
Te1/0/44	unassigned	YES	unset	down	down

```

Tel/0/45          unassigned      YES unset   down        down
Tel/0/46          unassigned      YES unset   down        down
Tel/0/47          unassigned      YES unset   down        down
Tel/0/48          unassigned      YES unset   up          up
GigabitEthernet1/1/1 unassigned      YES unset   down        down
GigabitEthernet1/1/2 unassigned      YES unset   down        down
GigabitEthernet1/1/3 unassigned      YES unset   down        down
GigabitEthernet1/1/4 unassigned      YES unset   down        down
Tel/1/1          unassigned      YES unset   down        down
Tel/1/2          unassigned      YES unset   down        down
Tel/1/3          unassigned      YES unset   down        down
Tel/1/4          unassigned      YES unset   down        down
Tel/1/5          unassigned      YES unset   down        down
Tel/1/6          unassigned      YES unset   down        down
Tel/1/7          unassigned      YES unset   down        down
Tel/1/8          unassigned      YES unset   down        down
Fol/1/1          unassigned      YES unset   down        down
Fol/1/2          unassigned      YES unset   down        down
Loopback100      10.10.10.10    YES TFTP   up          up

```

```

*** Configuring username, password, SSH ***

```

```

Line 1 SUCCESS: username cisco privilege 15 password cisco
Line 2 SUCCESS: ip domain name domain
Line 3 SUCCESS: line vty 0 15
Line 4 SUCCESS: login local
Line 5 SUCCESS: transport input all
Line 6 SUCCESS: end

```

```

*** ZTP Day0 Python Script Execution Complete ***

```

Cisco IOS XE Fuji 16.9.x から Cisco IOS XE Gibraltar 16.11.x へ

このセクションでは、.py スクリプトを実行する前の起動ログのサンプルを表示します。

```

--- System Configuration Dialog ---

```

```

Would you like to enter the initial configuration dialog? [yes/no]: The process for the
command is not
responding or is otherwise unavailable
The process for the command is not responding or is otherwise unavailable
The process for the command is not responding or is otherwise unavailable
The process for the command is not responding or is otherwise unavailable
The process for the command is not responding or is otherwise unavailable
The process for the command is not responding or is otherwise unavailable
guestshell installed successfully
Current state is: DEPLOYED
guestshell activated successfully
Current state is: ACTIVATED
guestshell started successfully
Current state is: RUNNING
Guestshell enabled successfully

```

このセクションでは、デイゼロプロビジョニング用にデバイスを設定する方法を示します。

```

Both links down, not waiting for other switches

```


Switch number is 1

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% Checking backup nvram
% No config present. Using default config

FIPS: Flash Key Check : Key Not Found, FIPS Mode Not Enabled
cisco C9300-48UXM (X86) processor with 1419044K/6147K bytes of memory.
Processor board ID FCW2144L045
2048K bytes of non-volatile configuration memory.
8388608K bytes of physical memory.
1638400K bytes of Crash Files at crashinfo:.
11264000K bytes of Flash at flash:.
0K bytes of WebUI ODM Files at webui:.

Base Ethernet MAC Address : ec:1d:8b:0a:68:00
Motherboard Assembly Number : 73-17959-06
Motherboard Serial Number : FOC21418FPQ
Model Revision Number : B0


```

The process for the command is not responding or is otherwise unavailable
The process for the command is not responding or is otherwise unavailable
The process for the command is not responding or is otherwise unavailable
The process for the command is not responding or is otherwise unavailable
guestshell installed successfully
Current state is: DEPLOYED
guestshell activated successfully
Current state is: ACTIVATED
guestshell started successfully
Current state is: RUNNING
Guestshell enabled successfully

```

```

HTTP server statistics:
Accepted connections total: 0

```

```

*** Sample ZTP Day0 Python Script ***

```

```

*** Executing show platform ***

```

Switch	Ports	Model	Serial No.	MAC address	Hw Ver.	Sw Ver.
1	64	C9300-48UXM	FCW2144L045	ec1d.8b0a.6800	V01	16.9.4

```

Switch/Stack Mac Address : ec1d.8b0a.6800 - Local Mac Address
Mac persistency wait time: Indefinite

```

Switch#	Role	Priority	Current State
*1	Active	1	Ready

```

*** Executing show version ***

```

```

Cisco IOS XE Software, Version 16.09.04
Cisco IOS Software [Fuji], Catalyst L3 Switch Software (CAT9K_IOSXE), Version 16.9.4,
RELEASE SOFTWARE (fc2)
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GPL code under the terms of GPL Version 2.0. For more details, see the
documentation or "License Notice" file accompanying the IOS-XE software,
or the applicable URL provided on the flyer accompanying the IOS-XE
software.
ROM: IOS-XE ROMMON
BOOTLDR: System Bootstrap, Version 17.2.1r[FC1], RELEASE SOFTWARE (P)
Switch uptime is 4 minutes
Uptime for this control processor is 5 minutes
System returned to ROM by Reload Command
System image file is "flash:cat9k_iosxe.16.09.04.SPA.bin"
Last reload reason: Reload Command
This product contains cryptographic features and is subject to United

```

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Technology Package License Information:

```

-----
Technology-package          Type          Technology-package
Current                    Type          Next reboot
-----
network-advantage         Smart License  network-advantage
None                       Subscription Smart License  None
Smart Licensing Status: UNREGISTERED/EVAL EXPIRED
cisco C9300-48UXM (X86) processor with 1419044K/6147K bytes of memory.
Processor board ID FCW2144L045
36 Ethernet interfaces
1 Virtual Ethernet interface
4 Gigabit Ethernet interfaces
20 Ten Gigabit Ethernet interfaces
2 TwentyFive Gigabit Ethernet interfaces
2 Forty Gigabit Ethernet interfaces
2048K bytes of non-volatile configuration memory.
8388608K bytes of physical memory.
1638400K bytes of Crash Files at crashinfo:.
11264000K bytes of Flash at flash:.
0K bytes of WebUI ODM Files at webui:.
Base Ethernet MAC Address      : ec:1d:8b:0a:68:00
Motherboard Assembly Number    : 73-17959-06
Motherboard Serial Number      : FOC21418FPQ
Model Revision Number          : B0
Motherboard Revision Number    : A0
Model Number                   : C9300-48UXM
System Serial Number           : FCW2144L045
Switch Ports Model              SW Version    SW Image      Mode
-----
* 1 64 C9300-48UXM 16.9.4       CAT9K_IOSXE  BUNDLE
Configuration register is 0x102

```

*** Configuring a Loopback Interface ***

```

Line 1 SUCCESS: interface loop 100
Line 2 SUCCESS: ip address 10.10.10.10 255.255.255.255
Line 3 SUCCESS: end

```

*** Executing show ip interface brief ***

```

Any interface listed with OK? value "NO" does not have a valid configuration
Interface          IP-Address      OK? Method Status Protocol
Vlan1              unassigned      NO  unset  up      up
GigabitEthernet0/0 10.127.128.5   YES DHCP  up      up
Tw1/0/1            unassigned      YES  unset  down    down
Tw1/0/2            unassigned      YES  unset  down    down
Tw1/0/3            unassigned      YES  unset  down    down
Tw1/0/4            unassigned      YES  unset  down    down

```

```

Tw1/0/5          unassigned      YES unset   down      down
Tw1/0/6          unassigned      YES unset   down      down
Tw1/0/7          unassigned      YES unset   down      down
Tw1/0/8          unassigned      YES unset   down      down
Tw1/0/9          unassigned      YES unset   down      down
Tw1/0/10         unassigned      YES unset   down      down
Tw1/0/11         unassigned      YES unset   down      down
Tw1/0/12         unassigned      YES unset   down      down
Tw1/0/13         unassigned      YES unset   down      down
Tw1/0/14         unassigned      YES unset   down      down
Tw1/0/15         unassigned      YES unset   down      down
Tw1/0/16         unassigned      YES unset   down      down
Tw1/0/17         unassigned      YES unset   down      down
Tw1/0/18         unassigned      YES unset   down      down
Tw1/0/19         unassigned      YES unset   down      down
Tw1/0/20         unassigned      YES unset   down      down
Tw1/0/21         unassigned      YES unset   down      down
Tw1/0/22         unassigned      YES unset   down      down
Tw1/0/23         unassigned      YES unset   down      down
Tw1/0/24         unassigned      YES unset   down      down
Tw1/0/25         unassigned      YES unset   down      down
Tw1/0/26         unassigned      YES unset   down      down
Tw1/0/27         unassigned      YES unset   down      down
Tw1/0/28         unassigned      YES unset   down      down
Tw1/0/29         unassigned      YES unset   down      down
Tw1/0/30         unassigned      YES unset   down      down
Tw1/0/31         unassigned      YES unset   down      down
Tw1/0/32         unassigned      YES unset   down      down
Tw1/0/33         unassigned      YES unset   down      down
Tw1/0/34         unassigned      YES unset   down      down
Tw1/0/35         unassigned      YES unset   down      down
Tw1/0/36         unassigned      YES unset   down      down
Te1/0/37         unassigned      YES unset   down      down
Te1/0/38         unassigned      YES unset   down      down
Te1/0/39         unassigned      YES unset   down      down
Te1/0/40         unassigned      YES unset   down      down
Te1/0/41         unassigned      YES unset   down      down
Te1/0/42         unassigned      YES unset   down      down
Te1/0/43         unassigned      YES unset   down      down
Te1/0/44         unassigned      YES unset   down      down
Te1/0/45         unassigned      YES unset   down      down
Te1/0/46         unassigned      YES unset   down      down
Te1/0/47         unassigned      YES unset   down      down
Te1/0/48         unassigned      YES unset   up        up
GigabitEthernet1/1/1 unassigned      YES unset   down      down
GigabitEthernet1/1/2 unassigned      YES unset   down      down
GigabitEthernet1/1/3 unassigned      YES unset   down      down
GigabitEthernet1/1/4 unassigned      YES unset   down      down
Te1/1/1          unassigned      YES unset   down      down
Te1/1/2          unassigned      YES unset   down      down
Te1/1/3          unassigned      YES unset   down      down
Te1/1/4          unassigned      YES unset   down      down
Te1/1/5          unassigned      YES unset   down      down
Te1/1/6          unassigned      YES unset   down      down
Te1/1/7          unassigned      YES unset   down      down
Te1/1/8          unassigned      YES unset   down      down
Fo1/1/1         unassigned      YES unset   down      down
Fo1/1/2         unassigned      YES unset   down      down
TwentyFiveGigE1/1/1 unassigned      YES unset   down      down
TwentyFiveGigE1/1/2 unassigned      YES unset   down      down
Loopback100     10.10.10.10    YES TFTP    up        up

```

*** Configuring username, password, SSH ***

```

Line 1 SUCCESS: username cisco privilege 15 password cisco
**CLI Line # 1: WARNING: Command has been added to the configuration using a type 0
password.
    However, type 0 passwords will soon be deprecated. Migrate to a supported password
type
Line 2 SUCCESS: ip domain name domain
Line 3 SUCCESS: line vty 0 15
Line 4 SUCCESS: login local
Line 5 SUCCESS: transport input all
Line 6 SUCCESS: end

```

```

*** ZTP Day0 Python Script Execution Complete ***

```

Press RETURN to get started!

Cisco IOS XE Gibraltar 16.12.x から Cisco IOS XE Amsterdam 17.1.x へ

このセクションでは、.py スクリプトを実行する前の起動ログのサンプルを表示します。

```

--- System Configuration Dialog ---

```

```

Would you like to enter the initial configuration dialog? [yes/no]: day0guestshell
installed successfully
Current state is: DEPLOYED
day0guestshell activated successfully
Current state is: ACTIVATED
day0guestshell started successfully
Current state is: RUNNING
Guestshell enabled successfully

```

```

*** Sample ZTP Day0 Python Script ***

```

```

...

```

```

*** ZTP Day0 Python Script Execution Complete ***

```

```

Guestshell destroyed successfully

```

このセクションでは、デイゼロプロビジョニング用にデバイスを設定する方法を示します。

```

Both links down, not waiting for other switches
Switch number is 1

```

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```

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San Jose, California 95134-1706

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% Checking backup nvram
% No config present. Using default config

FIPS: Flash Key Check : Key Not Found, FIPS Mode Not Enabled

All TCP AO KDF Tests Pass
cisco C9300-48UXM (X86) processor with 1343703K/6147K bytes of memory.
Processor board ID FCW2144L045
2048K bytes of non-volatile configuration memory.
8388608K bytes of physical memory.
1638400K bytes of Crash Files at crashinfo:.
11264000K bytes of Flash at flash:.
0K bytes of WebUI ODM Files at webui:.

Base Ethernet MAC Address : ec:1d:8b:0a:68:00
Motherboard Assembly Number : 73-17959-06
Motherboard Serial Number : FOC21418FPQ
Model Revision Number : B0
Motherboard Revision Number : A0
Model Number : C9300-48UXM
System Serial Number : FCW2144L045

```

--- System Configuration Dialog ---

Would you like to enter the initial configuration dialog? [yes/no]: day0guestshell
installed successfully
Current state is: DEPLOYED
day0guestshell activated successfully
Current state is: ACTIVATED
day0guestshell started successfully
Current state is: RUNNING
Guestshell enabled successfully

HTTP server statistics:
Accepted connections total: 0

*** Sample ZTP Day0 Python Script ***

*** Executing show platform ***

Switch  Ports      Model                Serial No.   MAC address   Hw Ver.      Sw Ver.
-----  -
1        65      C9300-48UXM          FCW2144L045  ec1d.8b0a.6800  V01          16.12.3a

Switch/Stack Mac Address : ec1d.8b0a.6800 - Local Mac Address
Mac persistency wait time: Indefinite

Switch#  Role      Priority    Current
-----  -
*1       Active   1          Ready

*** Executing show version ***

Cisco IOS XE Software, Version 16.12.03a
Cisco IOS Software [Gibraltar], Catalyst L3 Switch Software (CAT9K_IOSXE), Version
16.12.3a,
RELEASE SOFTWARE (fc1)
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documentation or "License Notice" file accompanying the IOS-XE software,
or the applicable URL provided on the flyer accompanying the IOS-XE
software.
ROM: IOS-XE ROMMON
BOOTLDR: System Bootstrap, Version 17.2.1r[FC1], RELEASE SOFTWARE (P)
Switch uptime is 4 minutes
Uptime for this control processor is 9 minutes
System returned to ROM by Reload Command

```



```
System image file is "flash:cat9k_iosxe.16.12.03a.SPA.bin"
Last reload reason: Reload Command
This product contains cryptographic features and is subject to United
States and local country laws governing import, export, transfer and
use. Delivery of Cisco cryptographic products does not imply
third-party authority to import, export, distribute or use encryption.
Importers, exporters, distributors and users are responsible for
compliance with U.S. and local country laws. By using this product you
agree to comply with applicable laws and regulations. If you are unable
to comply with U.S. and local laws, return this product immediately.
A summary of U.S. laws governing Cisco cryptographic products may be found at:
http://www.cisco.com/wwl/export/crypto/tool/stqrg.html
If you require further assistance please contact us by sending email to
export@cisco.com.
```

Technology Package License Information:

```
-----
Technology-package                                Technology-package
Current                                           Next reboot
-----
```

```
network-advantage      Smart License      network-advantage
None                   Subscription Smart License      None
```

```
AIR License Level: AIR DNA Advantage
Next reload AIR license Level: AIR DNA Advantage
Smart Licensing Status: UNREGISTERED/EVAL EXPIRED
cisco C9300-48UXM (X86) processor with 1343703K/6147K bytes of memory.
```

```
Processor board ID FCW2144L045
1 Virtual Ethernet interface
4 Gigabit Ethernet interfaces
36 2.5 Gigabit Ethernet interfaces
20 Ten Gigabit Ethernet interfaces
2 TwentyFive Gigabit Ethernet interfaces
2 Forty Gigabit Ethernet interfaces
2048K bytes of non-volatile configuration memory.
8388608K bytes of physical memory.
1638400K bytes of Crash Files at crashinfo:.
11264000K bytes of Flash at flash:.
0K bytes of WebUI ODM Files at webui:.
Base Ethernet MAC Address      : ec:1d:8b:0a:68:00
Motherboard Assembly Number    : 73-17959-06
Motherboard Serial Number      : FOC21418FPQ
Model Revision Number          : B0
Motherboard Revision Number    : A0
Model Number                   : C9300-48UXM
System Serial Number           : FCW2144L045
```

Switch Ports Model	SW Version	SW Image	Mode
* 1 65 C9300-48UXM	16.12.3a	CAT9K_IOSXE	BUNDLE

Configuration register is 0x102

*** Configuring a Loopback Interface ***

```
Line 1 SUCCESS: interface loop 100
Line 2 SUCCESS: ip address 10.10.10.10 255.255.255.255
Line 3 SUCCESS: end
```

*** Executing show ip interface brief ***

Interface	IP-Address	OK?	Method	Status	Protocol
Vlan1	unassigned	YES	unset	up	up
GigabitEthernet0/0	10.127.128.10	YES	DHCP	up	up

Tw1/0/1	unassigned	YES	unset	down	down
Tw1/0/2	unassigned	YES	unset	down	down
Tw1/0/3	unassigned	YES	unset	down	down
Tw1/0/4	unassigned	YES	unset	down	down
Tw1/0/5	unassigned	YES	unset	down	down
Tw1/0/6	unassigned	YES	unset	down	down
Tw1/0/7	unassigned	YES	unset	down	down
Tw1/0/8	unassigned	YES	unset	down	down
Tw1/0/9	unassigned	YES	unset	down	down
Tw1/0/10	unassigned	YES	unset	down	down
Tw1/0/11	unassigned	YES	unset	down	down
Tw1/0/12	unassigned	YES	unset	down	down
Tw1/0/13	unassigned	YES	unset	down	down
Tw1/0/14	unassigned	YES	unset	down	down
Tw1/0/15	unassigned	YES	unset	down	down
Tw1/0/16	unassigned	YES	unset	down	down
Tw1/0/17	unassigned	YES	unset	down	down
Tw1/0/18	unassigned	YES	unset	down	down
Tw1/0/19	unassigned	YES	unset	down	down
Tw1/0/20	unassigned	YES	unset	down	down
Tw1/0/21	unassigned	YES	unset	down	down
Tw1/0/22	unassigned	YES	unset	down	down
Tw1/0/23	unassigned	YES	unset	down	down
Tw1/0/24	unassigned	YES	unset	down	down
Tw1/0/25	unassigned	YES	unset	down	down
Tw1/0/26	unassigned	YES	unset	down	down
Tw1/0/27	unassigned	YES	unset	down	down
Tw1/0/28	unassigned	YES	unset	down	down
Tw1/0/29	unassigned	YES	unset	down	down
Tw1/0/30	unassigned	YES	unset	down	down
Tw1/0/31	unassigned	YES	unset	down	down
Tw1/0/32	unassigned	YES	unset	down	down
Tw1/0/33	unassigned	YES	unset	down	down
Tw1/0/34	unassigned	YES	unset	down	down
Tw1/0/35	unassigned	YES	unset	down	down
Tw1/0/36	unassigned	YES	unset	down	down
Tel/0/37	unassigned	YES	unset	down	down
Tel/0/38	unassigned	YES	unset	down	down
Tel/0/39	unassigned	YES	unset	down	down
Tel/0/40	unassigned	YES	unset	down	down
Tel/0/41	unassigned	YES	unset	down	down
Tel/0/42	unassigned	YES	unset	down	down
Tel/0/43	unassigned	YES	unset	down	down
Tel/0/44	unassigned	YES	unset	down	down
Tel/0/45	unassigned	YES	unset	down	down
Tel/0/46	unassigned	YES	unset	down	down
Tel/0/47	unassigned	YES	unset	down	down
Tel/0/48	unassigned	YES	unset	up	up
GigabitEthernet1/1/1	unassigned	YES	unset	down	down
GigabitEthernet1/1/2	unassigned	YES	unset	down	down
GigabitEthernet1/1/3	unassigned	YES	unset	down	down
GigabitEthernet1/1/4	unassigned	YES	unset	down	down
Tel/1/1	unassigned	YES	unset	down	down
Tel/1/2	unassigned	YES	unset	down	down
Tel/1/3	unassigned	YES	unset	down	down
Tel/1/4	unassigned	YES	unset	down	down
Tel/1/5	unassigned	YES	unset	down	down
Tel/1/6	unassigned	YES	unset	down	down
Tel/1/7	unassigned	YES	unset	down	down
Tel/1/8	unassigned	YES	unset	down	down
Fo1/1/1	unassigned	YES	unset	down	down
Fo1/1/2	unassigned	YES	unset	down	down
TwentyFiveGigE1/1/1	unassigned	YES	unset	down	down
TwentyFiveGigE1/1/2	unassigned	YES	unset	down	down

```
Ap1/0/1          unassigned    YES unset  up          up
Loopback100     10.10.10.10  YES TFTP   up          up
```

```
*** Configuring username, password, SSH ***
```

```
Line 1 SUCCESS: username cisco privilege 15 password cisco
**CLI Line # 1: WARNING: Command has been added to the configuration using a type 0
password.
However, type 0 passwords will soon be deprecated. Migrate to a supported password type
Line 2 SUCCESS: ip domain name domain
Line 3 SUCCESS: line vty 0 15
Line 4 SUCCESS: login local
Line 5 SUCCESS: transport input all
Line 6 SUCCESS: end
```

```
*** ZTP Day0 Python Script Execution Complete ***
```

```
Guestshell destroyed successfully
```

```
Press RETURN to get started!
```

Cisco IOS XE Amsterdam 17.2.x 以降のリリース

このセクションでは、.py スクリプトを実行する前の起動ログのサンプルを表示します。

```
--- System Configuration Dialog ---
```

```
Would you like to enter the initial configuration dialog? [yes/no]:
Acquired IPv4 address 10.127.128.8 on Interface GigabitEthernet0/0
Received following DHCPv4 options:
    bootfile          : test.py
    tftp-server-ip    : 159.14.27.2
```

```
OK to enter CLI now...
```

```
pnp-discovery can be monitored without entering enable mode
```

```
Entering enable mode will stop pnp-discovery
```

```
Attempting bootfile tftp://159.14.27.2/test.py
day0guestshell activated successfully
Current state is: ACTIVATED
day0guestshell started successfully
Current state is: RUNNING
Guestshell enabled successfully
```

```
*** Sample ZTP Day0 Python Script ***
```

```
...
```

```
*** ZTP Day0 Python Script Execution Complete ***
```

```
Guestshell destroyed successfully
```

このセクションでは、デイゼロプロビジョニング用にデバイスを設定する方法を示します。

```
Both links down, not waiting for other switches
Switch number is 1
```

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```
% Checking backup nvram
% No config present. Using default config
```

```
FIPS: Flash Key Check : Key Not Found, FIPS Mode Not Enabled
```

```
All TCP AO KDF Tests Pass
cisco C9300-48UXM (X86) processor with 1338934K/6147K bytes of memory.
Processor board ID FCW2144L045
```

```
2048K bytes of non-volatile configuration memory.
8388608K bytes of physical memory.
1638400K bytes of Crash Files at crashinfo:.
11264000K bytes of Flash at flash:.
```

```
Base Ethernet MAC Address       : ec:1d:8b:0a:68:00
Motherboard Assembly Number    : 73-17959-06
Motherboard Serial Number      : FOC21418FPQ
Model Revision Number          : B0
Motherboard Revision Number    : A0
Model Number                   : C9300-48UXM
System Serial Number           : FCW2144L045
CLEI Code Number               :
```

```
No startup-config, starting autoinstall/pnp/ztp...
```

```
Autoinstall will terminate if any input is detected on console
```

```
Autoinstall trying DHCPv4 on GigabitEthernet0/0
```

```
Autoinstall trying DHCPv6 on GigabitEthernet0/0
```

```
--- System Configuration Dialog ---
```

```
Would you like to enter the initial configuration dialog? [yes/no]:
Acquired IPv4 address 10.127.128.8 on Interface GigabitEthernet0/0
Received following DHCPv4 options:
    bootfile           : test.py
    tftp-server-ip     : 159.14.27.2
```

```
OK to enter CLI now...
```

```
pnp-discovery can be monitored without entering enable mode
```

```
Entering enable mode will stop pnp-discovery
```

```
Attempting bootfile tftp://159.14.27.2/test.py
day0guestshell activated successfully
Current state is: ACTIVATED
day0guestshell started successfully
Current state is: RUNNING
Guestshell enabled successfully
```

```
*** Sample ZTP Day0 Python Script ***
```

```
*** Executing show platform ***
```

Switch	Ports	Model	Serial No.	MAC address	Hw Ver.	Sw Ver.
1	65	C9300-48UXM	FCW2144L045	ec1d.8b0a.6800	V01	17.02.01

```
Switch/Stack Mac Address : ec1d.8b0a.6800 - Local Mac Address
```

```
Mac persistency wait time: Indefinite
```

```
Current
Switch# Role Priority State
```

```
-----
*1      Active      1      Ready
```

```
*** Executing show version ***
```

```
Cisco IOS XE Software, Version 17.02.01
Cisco IOS Software [Amsterdam], Catalyst L3 Switch Software (CAT9K_IOSXE), Version 17.2.1,
  RELEASE SOFTWARE (fc4)
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GPL code under the terms of GPL Version 2.0. For more details, see the
documentation or "License Notice" file accompanying the IOS-XE software,
or the applicable URL provided on the flyer accompanying the IOS-XE
software.
ROM: IOS-XE ROMMON
BOOTLDR: System Bootstrap, Version 17.2.1r[FC1], RELEASE SOFTWARE (P)
Switch uptime is 2 minutes
Uptime for this control processor is 8 minutes
System returned to ROM by Reload Command
System image file is "flash:cat9k_iosxe.17.02.01.SPA.bin"
Last reload reason: Reload Command
This product contains cryptographic features and is subject to United
States and local country laws governing import, export, transfer and
use. Delivery of Cisco cryptographic products does not imply
third-party authority to import, export, distribute or use encryption.
Importers, exporters, distributors and users are responsible for
compliance with U.S. and local country laws. By using this product you
agree to comply with applicable laws and regulations. If you are unable
to comply with U.S. and local laws, return this product immediately.
A summary of U.S. laws governing Cisco cryptographic products may be found at:
http://www.cisco.com/wwl/export/crypto/tool/stqrg.html
If you require further assistance please contact us by sending email to
export@cisco.com.
Technology Package License Information:
-----
Technology-package      Type      Technology-package
Current                 Next reboot
-----
network-advantage      Smart License      network-advantage
None                   Subscription Smart License      None
AIR License Level: AIR DNA Advantage
Next reload AIR license Level: AIR DNA Advantage
Smart Licensing Status: UNREGISTERED/EVAL EXPIRED
cisco C9300-48UXM (X86) processor with 1338934K/6147K bytes of memory.
Processor board ID FCW2144L045
1 Virtual Ethernet interface
4 Gigabit Ethernet interfaces
36 2.5 Gigabit Ethernet interfaces
20 Ten Gigabit Ethernet interfaces
2 TwentyFive Gigabit Ethernet interfaces
2 Forty Gigabit Ethernet interfaces
2048K bytes of non-volatile configuration memory.
8388608K bytes of physical memory.
1638400K bytes of Crash Files at crashinfo:.
11264000K bytes of Flash at flash:.
Base Ethernet MAC Address      : ec:1d:8b:0a:68:00
```

```

Motherboard Assembly Number      : 73-17959-06
Motherboard Serial Number        : FOC21418FPQ
Model Revision Number            : B0
Motherboard Revision Number      : A0
Model Number                     : C9300-48UXM
System Serial Number             : FCW2144L045
CLEI Code Number                 :
Switch Ports Model                SW Version          SW Image             Mode
-----
*   1 65   C9300-48UXM          17.02.01            CAT9K_IOSXE         BUNDLE
Configuration register is 0x102

```

*** Configuring a Loopback Interface ***

```

Line 1 SUCCESS: interface loop 100
Line 2 SUCCESS: ip address 10.10.10.10 255.255.255.255
Line 3 SUCCESS: end

```

*** Executing show ip interface brief ***

Interface	IP-Address	OK?	Method	Status	Protocol
Vlan1	unassigned	YES	unset	up	up
GigabitEthernet0/0	10.127.128.8	YES	DHCP	up	up
Tw1/0/1	unassigned	YES	unset	down	down
Tw1/0/2	unassigned	YES	unset	down	down
Tw1/0/3	unassigned	YES	unset	down	down
Tw1/0/4	unassigned	YES	unset	down	down
Tw1/0/5	unassigned	YES	unset	down	down
Tw1/0/6	unassigned	YES	unset	down	down
Tw1/0/7	unassigned	YES	unset	down	down
Tw1/0/8	unassigned	YES	unset	down	down
Tw1/0/9	unassigned	YES	unset	down	down
Tw1/0/10	unassigned	YES	unset	down	down
Tw1/0/11	unassigned	YES	unset	down	down
Tw1/0/12	unassigned	YES	unset	down	down
Tw1/0/13	unassigned	YES	unset	down	down
Tw1/0/14	unassigned	YES	unset	down	down
Tw1/0/15	unassigned	YES	unset	down	down
Tw1/0/16	unassigned	YES	unset	down	down
Tw1/0/17	unassigned	YES	unset	down	down
Tw1/0/18	unassigned	YES	unset	down	down
Tw1/0/19	unassigned	YES	unset	down	down
Tw1/0/20	unassigned	YES	unset	down	down
Tw1/0/21	unassigned	YES	unset	down	down
Tw1/0/22	unassigned	YES	unset	down	down
Tw1/0/23	unassigned	YES	unset	down	down
Tw1/0/24	unassigned	YES	unset	down	down
Tw1/0/25	unassigned	YES	unset	down	down
Tw1/0/26	unassigned	YES	unset	down	down
Tw1/0/27	unassigned	YES	unset	down	down
Tw1/0/28	unassigned	YES	unset	down	down
Tw1/0/29	unassigned	YES	unset	down	down
Tw1/0/30	unassigned	YES	unset	down	down
Tw1/0/31	unassigned	YES	unset	down	down
Tw1/0/32	unassigned	YES	unset	down	down
Tw1/0/33	unassigned	YES	unset	down	down
Tw1/0/34	unassigned	YES	unset	down	down
Tw1/0/35	unassigned	YES	unset	down	down
Tw1/0/36	unassigned	YES	unset	down	down
Te1/0/37	unassigned	YES	unset	down	down

```

Tel/0/38          unassigned      YES unset  down          down
Tel/0/39          unassigned      YES unset  down          down
Tel/0/40          unassigned      YES unset  down          down
Tel/0/41          unassigned      YES unset  down          down
Tel/0/42          unassigned      YES unset  down          down
Tel/0/43          unassigned      YES unset  down          down
Tel/0/44          unassigned      YES unset  down          down
Tel/0/45          unassigned      YES unset  down          down
Tel/0/46          unassigned      YES unset  down          down
Tel/0/47          unassigned      YES unset  down          down
Tel/0/48          unassigned      YES unset  up            up
GigabitEthernet1/1/1 unassigned      YES unset  down          down
GigabitEthernet1/1/2 unassigned      YES unset  down          down
GigabitEthernet1/1/3 unassigned      YES unset  down          down
GigabitEthernet1/1/4 unassigned      YES unset  down          down
Tel/1/1           unassigned      YES unset  down          down
Tel/1/2           unassigned      YES unset  down          down
Tel/1/3           unassigned      YES unset  down          down
Tel/1/4           unassigned      YES unset  down          down
Tel/1/5           unassigned      YES unset  down          down
Tel/1/6           unassigned      YES unset  down          down
Tel/1/7           unassigned      YES unset  down          down
Tel/1/8           unassigned      YES unset  down          down
Fol/1/1          unassigned      YES unset  down          down
Fol/1/2          unassigned      YES unset  down          down
TwentyFiveGigE1/1/1 unassigned      YES unset  down          down
TwentyFiveGigE1/1/2 unassigned      YES unset  down          down
Apl/0/1          unassigned      YES unset  up            up
Loopback100     10.10.10.10    YES TFTP   up            up

```

*** Configuring username, password, SSH ***

```

Line 1 SUCCESS: username cisco privilege 15 password cisco
**CLI Line # 1:  WARNING: Command has been added to the configuration using a type 0
password.
However, type 0 passwords will soon be deprecated. Migrate to a supported password type
Line 2 SUCCESS: ip domain name domain
Line 3 SUCCESS: line vty 0 15
Line 4 SUCCESS: login local
Line 5 SUCCESS: transport input all
Line 6 SUCCESS: end

```

*** ZTP Day0 Python Script Execution Complete ***

```

Guestshell destroyed successfully
Script execution success!

```

Press RETURN to get started!

ゼロタッチプロビジョニングの機能情報

次の表に、このモジュールで説明した機能に関するリリース情報を示します。この表は、ソフトウェアリリーストレインで各機能のサポートが導入されたときのソフトウェアリリースだけを示しています。その機能は、特に断りがない限り、それ以降の一連のソフトウェアリリースでもサポートされます。

プラットフォームのサポートおよびシスコソフトウェアイメージのサポートに関する情報を検索するには、Cisco Feature Navigator を使用します。Cisco Feature Navigator にアクセスするには、www.cisco.com/go/cfn に移動します。Cisco.com のアカウントは必要ありません。

表 1: ゼロタッチプロビジョニングの機能情報

機能名	リリース	機能情報
ゼロタッチプロビジョニング	Cisco IOS XE Everest 16.5.1a Cisco IOS XE Everest 16.5.1b Cisco IOS XE Fuji 16.7.1 Cisco IOS XE Fuji 16.8.2 Cisco IOS XE Gibraltar 16.12.1 Cisco IOS XE Amsterdam 17.2.1 Cisco IOS XE Amsterdam 17.3.1	

機能名	リリース	機能情報
		<p>ネットワークプロビジョニングの課題に対応するため、シスコは、ゼロタッチプロビジョニングモデルを導入しました。</p> <p>Cisco IOS XE Everest 16.5.1a では、この機能は次のプラットフォームに実装されていました。</p> <ul style="list-style-type: none"> • Cisco Catalyst 3650 シリーズ スイッチ • Cisco Catalyst 3850 シリーズ スイッチ • Cisco Catalyst 9300 シリーズ スイッチ • Cisco Catalyst 9500 シリーズ スイッチ <p>Cisco IOS XE Everest 16.5.1b では、この機能は次のプラットフォームに実装されていました。</p> <ul style="list-style-type: none"> • ゲストシェルをサポートするための、最低 8 GB の RAM を搭載した Cisco 4000 シリーズ サービス統合型ルータ モデル。 <p>Cisco IOS XE Fuji 16.7.1 では、この機能は次のプラットフォームに実装されていました。</p> <ul style="list-style-type: none"> • Cisco ASR 1000 アグリゲーション サービス ルータ (ASR1001-X、ASR1001-HX、ASR1002-X、ASR1002-HX) <p>Cisco IOS XE Fuji 16.8.2 では、この機能は次のプラットフォームに実装されていました。</p> <ul style="list-style-type: none"> • Cisco ASR 1000 シリーズ アグリゲーション サービス ルータ (ASR1004、ASR1006、ASR1006-X、ASR1009-X、ASR1013)

機能名	リリース	機能情報
		<p>この機能は、Cisco IOS XE Gibraltar 16.12.1 で次のプラットフォームに実装されました。</p> <ul style="list-style-type: none"> • Cisco Catalyst 9200 シリーズ スイッチ <p>(注) この機能は C9200L SKU ではサポートされていません。</p> <ul style="list-style-type: none"> • Cisco Catalyst 9300L SKU • Cisco Catalyst 9600 シリーズ スイッチ • Cisco Catalyst 9800-40 ワイヤレスコントローラ • Cisco Catalyst 9800-80 ワイヤレスコントローラ <p>この機能は、Cisco IOS XE Amsterdam 17.2.1で次のプラットフォームに実装されました。</p> <ul style="list-style-type: none"> • Cisco Cloud Services Router 1000V シリーズ • Cisco C1100 ターミナル サービス ゲートウェイ (C1100TGX-1N24P32A でのみサポート) <p>この機能は、Cisco IOS XE Amsterdam 17.3.1で次のプラットフォームに実装されました。</p> <ul style="list-style-type: none"> • Cisco Catalyst 8200 シリーズ エッジ プラットフォーム • Cisco Catalyst 8300 シリーズ エッジ プラットフォーム • Cisco Catalyst 8500 および 8500L シリーズ エッジ プラットフォーム

機能名	リリース	機能情報
		<p>この機能は、Cisco IOS XE Bengaluru 17.4.1で次のプラットフォームに実装されました。</p> <ul style="list-style-type: none"> • Cisco Catalyst 8000V Edge ソフトウェア
<p>ゼロタッチプロビジョニング : HTTPダウンロード</p>	<p>Cisco IOS XE Fuji 16.8.1 Cisco IOS XE Fuji 16.8.1a</p>	<p>ゼロタッチプロビジョニングは、HTTPおよびTFTPのファイルダウンロードをサポートします。</p> <p>Cisco IOS XE Everest 16.8.1では、この機能は次のプラットフォームに実装されていました。</p> <ul style="list-style-type: none"> • Cisco 4000 シリーズ サービス統合型ルータ • Cisco Catalyst 3650 シリーズ スイッチ • Cisco Catalyst 3850 シリーズ スイッチ • Cisco Catalyst 9300 シリーズ スイッチ • Cisco Catalyst 9500 シリーズ スイッチ <p>Cisco IOS XE Fuji 16.8.1aでは、この機能はCisco Catalyst 9500 ハイパフォーマンス シリーズ スイッチに実装されていました。</p>

機能名	リリース	機能情報
ゼロタッチプロビジョニングのための DHCPv6 のサポート	Cisco IOS XE Fuji 16.9.1 Cisco IOS XE Amsterdam 17.3.2a	Cisco IOS XE Fuji 16.9.1 では、この機能は次のプラットフォームに実装されていました。 <ul style="list-style-type: none">• Cisco Catalyst 9300 シリーズ スイッチ• Cisco Catalyst 9500 シリーズ スイッチ Cisco IOS XE Amsterdam 17.3.2a では、この機能は次のプラットフォームに導入されました。 <ul style="list-style-type: none">• Cisco Catalyst 9800-40 ワイヤレスコントローラ• Cisco Catalyst 9800-80 ワイヤレスコントローラ

機能名	リリース	機能情報
<p>コンフィギュレーションデータベースの副次的同期</p>	<p>Cisco IOS XE Bengaluru 17.4.1</p>	<p>DMI の設定変更中に、コマンドまたは RPC の設定時にトリガーされる変更の部分的な同期が行われます。これは副次的同期と呼ばれ、同期時間と NETCONF のダウンタイムを短縮します。</p> <p>この機能は、次のプラットフォームに実装されていました。</p> <ul style="list-style-type: none"> • Cisco ASR 1000 アグリゲーション サービス ルータ • Cisco Catalyst 8500 および 8500L シリーズ エッジプラットフォーム • Cisco Catalyst 9200 シリーズ スイッチ • Cisco Catalyst 9300 シリーズ スイッチ • Cisco Catalyst 9400 シリーズ スイッチ • Cisco Catalyst 9500 シリーズ スイッチ • Cisco Catalyst 9600 シリーズ スイッチ
<p>YANG モデルによるゼロタッチプロビジョニング</p>	<p>Cisco IOS XE Cupertino 17.7.1</p>	<p>ZTP は、NETCONF が有効であれば、YANG モデルを介して有効化されます。</p> <p>この機能は、NETCONF-YANG をサポートするすべてのプラットフォームでサポートされています。</p>
<p>データポートでのゼロタッチプロビジョニングのサポート</p>	<p>Cisco IOS XE Cupertino 17.7.1</p>	<p>ZTP は、IPv4 と IPv6 の両方のデータポートでサポートされています。</p> <p>この機能は、次のプラットフォームに実装されています。</p> <ul style="list-style-type: none"> • Cisco Catalyst 9800-L ワイヤレス コントローラ

翻訳について

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