# 如何恢复无法启动的vEdge-5000或ISR1100

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# 简介

本文档介绍vEdge-5000或ISR1100系列(ISR1100-4G/ISR1100-6G)路由器的恢复过程,以防设备无 法启动操作系统。

#### 问题

设备无法启动。如果连接到控制台,您可能会在屏幕上看到以下消息之一:

•	•	teinet	7.21
No	option to boot to.		



您可能还会看到设备已引导至恢复工具,如图所示。

Cisco vEdge-5000 Recovery Tool
/> I Boot vEdge Software (Normal Boot)
Clean Install vEdge Software (From USB)     View Installed Certificates

如果从菜单**中选择"Boot vEdge Software(Normal Boot)(启动vEdge软件(正常启**动))",并且设备不可 启动,您会看到:



尝试重新启动或用窄窄工具长按重置按钮硬重置都无济于事。

### 解决方案

要恢复设备,您需要准备可启动的USB驱动器:

1.将USB驱动器格式化为MS-DOS(FAT32)文件系统。

2.从software.cisco.com获取软件映像,并将其保存在PC/笔记本电脑上。例如,vSmart、vEdge云

- 、vEdge 5000、ISR1100系列和vBond升级映像**viptela-19.2.2-x86\_64.tar.gz**在此处找到
- : https://software.cisco.com/download/home/286320995/type/286321394/release/19.2.2

3.复制viptela-19.2.2-x86\_64.tar.gz到USB驱动器,并重命名为viptela-image-genericx86\_64.tar.gz。

4.在USB驱动器上创建/EFI/BOOT/目录。

5.在PC**/笔记本电脑上本地提取viptela-19.2.2-x86\_64.tar.gz,**任何无档案器。例如,使用tar CLI实 用程序:

- \$ tar -xvf viptela-19.2.2-x86\_64.tar.gz
- x md5sum
- x rootfs.img
- x rootfsimg.sig
- x vmlinuz
- x crash.kernel
  x bootx64.efi
- x sigs/
- x sigs/3.sig
- x sigs/l.sig
- x sigs/2.sig

x sigs/5.sig x sigs/4.sig x sigs.vip x image-signing.crt x cisco\_crl.pem 6.将vmlinuz文件复制到USB磁盘驱动器。

#### 7.将bootx64.efi复制到/EFI/BOOT/磁盘。

最后,USB盘的内容必须如下所示:

Name	<ul> <li>Date C</li> </ul>	reated
🔻 🛄 EFI	Today	at 12:42
🔻 🛅 BOOT	Today	at 12:43
bootx64.efi	Today	at 12:42
viptela-image-genericx86_64.tar.gz	22 Jur	2020 at 22:23
vmlinuz	Today	at 12:42

8.将此引导驱动器插入vEdge-5000或ISR1100系列路由器的USB插槽。将自动检测到。

9.如果连接到设备控制台时看到此菜单,请选择Clean Install vEdge Software(From USB),如图所示。



继续执行步骤14。

10.如果未看到"恢复工具"菜单,则需要按BIOS设置的启动顺序指定USB。重新启动设备,您会看到 初始化提示,如图所示。 TAB Key on Remote Keyboard To Enter Setup Menu Version 2.17.1249. Copyright (C) 2017 American Megatrends, Inc. Viptela vEdge-5000 Ver. VIP5000.P01 11/22/2017 Press <DEL> or <ESC> to enter setup.



11.按**<DEL>或**<ESC>按钮以进入BIOS,然后导航到键盘上带箭头键的菜单的**Boot**部分,并将 [USB设备]设置为第一个启动选项,如图所示。

Aptio Setup Utility Main Advanced Securi	<ul> <li>Copyright (C) 2017 Amer</li> <li>ty Boot Save &amp; Exit</li> </ul>	ican Megatrends, Inc.
Boot Configuration		-+ ISets the system boot
Setup Prompt Timeout	3	lorder I
Bootup NumLock State	[0n]	
Quiet Boot	[Disabled]	
FIXED BOOT ORDER Priori	FIXED BOOT ORDER Priorities	
Boot Option #1	[USB Device]	1
Boot Option #2	[Hard Disk:UEFI: SAT]	1
Boot Option #3	[Disable]	[]
1		I><: Select Screen
> UEFI Hard Disk Drive BB	S Priorities	IAV: Select Item
> UEFI NETWORK Drive BBS	- UEFI NETWORK Drive BBS Priorities	
1		I+/-: Change Opt.
		IF1: General Help
		IF2: Previous Values
		IF3: Optimized Defaults
		IE4: Save & Exit
		IESC: Exit
		taber and
Version 2.17.1249.	Copyright (C) 2017 Americ	an Megatrends, Inc. AB

12.然后导航至"保**存并退出"**,并在箭头键**的帮助下从菜**单中选择"保存更改并退出",然后选择"输入 ",如图所示。



13.您必须看到步骤9中的"恢复工具"菜单。

14.如果格式正确,USB驱动器会自动检测到,您会看到类似的输出,如图所示。



15.如果步骤1-8未成功完成(例如,文件系统错误、给出的文件名不正确或创建了目录结构),您 将看到:



再次检查步骤1-8是否成功完成,并重复该过程。如果您仍然遇到任何问题,请联系Cisco TAC寻求帮助。

16.如果恢复工具在USB驱动器上找到所有必需文件,您将看到下一个屏幕,选择**是**(如图所示)以 继续安装。



设备尝试安装过程并重新加载两次。请勿中断此过程。

17.如果设备能够重新安装软件,您最终会看到欢迎提示,如图所示。

Opts: data-ordered Mounting aufs at /rootfs Loading ENA driver ..., ena: Elastic Network Adapter (ENA) v1.5.0g done Mounting pseudo filesystems... Setting up hotplug... Mounting filesystems... Setting hostname... Configuring kernel parameters... Configuring network interfaces... Setting up syslogd service.. Setting up klogd service.. Verifying current time against timestamp... Setting up log files... Checking 10G ports for NVM flash update ... done Starting services... proc fs opened successfully acpid: starting up with proc fs parsing conf file /etc/acpi/events/powerbtn acpid: 1 rule loaded acpid: waiting for events: event logging is off viptela 19.2.2 vedge login:

对于ISR1100,这意味着设备已成功恢复,您可以从头开始配置。对于vEdge-5000,请勾选下一节。

# 恢复vEdge-5000的额外步骤

在vEdge-5000上,还需要重置TPM芯片。如果不执行此操作,主板ID将不会初始化,vEdge-5000将无法建立控制连接。您可能会看到以下输出:

BRU-SDW-V5K-01# show control local-properties | i ^serial-num serial-num BOARD-ID-NOT-INITIALISED

#### 要修复此问题:

1.连接到控制台并重新启动设备以进入BIOS(在**此处**按DEL**或**ESC键):

TAB Key on Remote Keyboard To Enter Setup Menu Version 2.17.1249. Copyright (C) 2017 American Megatrends, Inc. Viptela vEdge-5000 Ver. VIP5000.P01 11/22/2017 Press <DEL> or <ESC> to enter setup. Loading software...

2.您会看到BIOS屏幕。选择带箭头键的"高级"选项卡:

BIOS Information		IChoose the system
BIOS Vendor	American Megatrends	Idefault language
Core Version	5.11	1
Compliancy	UEFI 2.4; PI 1.3	1
Project Version	0ACFL 0.23 x64	1
Build Date and Time	11/22/2017 10:25:33	- 1
Access Level	Administrator	1
Memory Information		
Total Memory	32768 MB	
		<pre>l&gt;&lt;: Select Screen</pre>
System Language	[English]	IAV: Select Item
		Enter: Select
System Date	[Sun 10/18/2020]	I+/-: Change Opt.
System Time	[07:39:47]	IF1: General Help
		IF2: Previous Values
		IF3: Optimized Defaults
		IF4: Save & Exit
		IESC: Exit

3.在"高级**"选**项卡上,选**择"受**信任计算"菜单条**目并按Enter**键:

Main Advanced Security Boot Save & Ex	it
Above 4G Decoding [Enabled] SR-IOV Support [Enabled] Trusted Computing HW Health Status Serial Port Console Redirection USB Configuration	ITrusted Computing ISettings I I I I I I I I I I I I I I I I I I I
	IFA: Select Item IEnter: Select I+/-: Change Opt. IF1: General Help IF2: Previous Values IF3: Optimized Defaults IF4: Save & Exit IF5C: Exit

4.在出现的屏幕上,选**择"挂起**操作"**,然后按**Enter键,然后从**菜单中选**择"TPM清除":



5.接下来,按**F4**保存设置或在箭头键的帮助下导航至"保**存并退**出"选项**卡,然后从菜**单中选择**"保存** 更改并退出"。

Aptio Setup Utility - Copyright (C) 2017 Ame Main Advanced Security Boot Save & Exit	rican Megatrends, Inc.
/	+\
Save Options	IExit system setup after I
I Save Changes and Exit	Isaving the changes.
I Discard Changes and Exit	1
L Sous Changes and Parat	
1 Save changes and Reset	
I Discara Changes and Reset	
I Save Changes	
I Discard Changes	i i
1	[]
Default Options	I><: Select Screen I
I Restore Defaults	IAV: Select Item
I Save as User Defaults	Enter: Select
I Restore User Defaults	I+/-: Change Opt. I
1	IF1: General Help I
Boot Override	IF2: Previous Values
UEFI: SATA SSD, Partition 1 (P1: TS128VSDMD	IF3: Optimized Defaults
UEFI: IP4 Intel(R) I210 Gigabit Network Co	IF4: Save & Exit I
UEFI: SATA SSD, Partition 1	IESC: Exit
\	+/
Version 2.17.1249. Copyright (C) 2017 Ameri	can Megatrends, Inc.
	AB

6.重新加载设备,重复步骤1-3进入BIOS并再次导航至"高**级"**选项卡。此处再次启用TPM(与此处的 屏幕截图一样),方法是从菜**单中选**择"TPM状态",然后在显示的**菜单中**将状态更改为"已启用":



7.重复步骤5以保存设置。

设备重新启动后,恢复过程完成,TPM芯片将重新初始化,您可以从头开始配置。