如何从CVP VXML服务器收集堆转储和线程转储

目录

简介

本文档介绍如何从思科客户语音门户(CVP)语音可扩展标记语言服务器(VXML)收集Tomcat的堆转储和线程转储。

先决条件

要求

Cisco 建议您了解以下主题：

- CVP
- CVP VXML服务器
- CVP VXML应用

使用的组件

本文档中的信息基于以下软件和硬件版本：

- CVP版本11.5
- CVP VXML服务器11.5

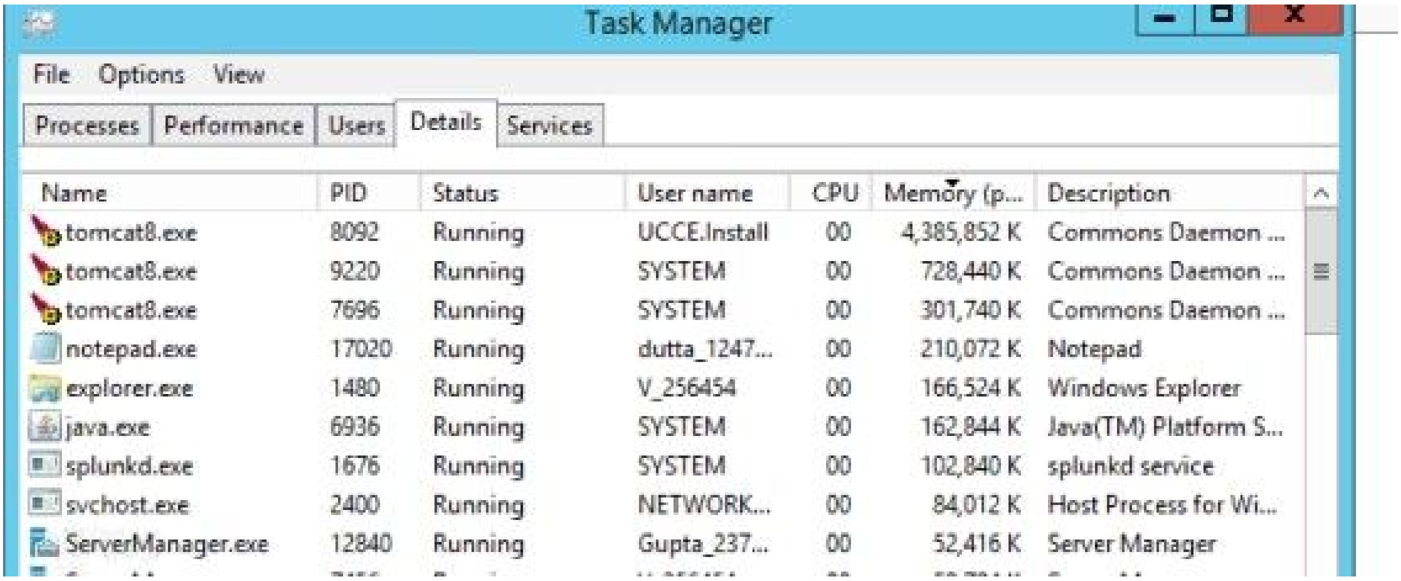
本文档中的信息都是基于特定实验室环境中的设备编写的。用于本文的所有设备始于初始（默认）配置。如果您的网络处于活动状态，请确保您了解所有命令的潜在影响。

问题

场景1.监控VXML服务器性能时，您发现它使用4GB内存。 您希望在内存泄漏崩溃之前了解其根本原因。

场景2.在监控VXML服务器时，您发现VXML服务器使用高线程（约500），这非常罕见。您想了解如何分析线程使用情况并找出线程状态和需要更多线程的组件/应用程序。

例如：VXML Tomcat消耗4.5GB的总内存，如图所示。



Name	PID	Status	User name	CPU	Memory (p...	Description
tomcat8.exe	8092	Running	UCCE.Install	00	4,385,852 K	Commons Daemon ...
tomcat8.exe	9220	Running	SYSTEM	00	728,440 K	Commons Daemon ...
tomcat8.exe	7696	Running	SYSTEM	00	301,740 K	Commons Daemon ...
notepad.exe	17020	Running	dutta_1247...	00	210,072 K	Notepad
explorer.exe	1480	Running	V_256454	00	166,524 K	Windows Explorer
java.exe	6936	Running	SYSTEM	00	162,844 K	Java(TM) Platform S...
splunkd.exe	1676	Running	SYSTEM	00	102,840 K	splunkd service
svchost.exe	2400	Running	NETWORK...	00	84,012 K	Host Process for Wi...
ServerManager.exe	12840	Running	Gupta_237...	00	52,416 K	Server Manager

4.5 GB的VXML内存

故障排除

获取堆转储的步骤

步骤1.下载与CVP中安装的版本类似的JDK版本

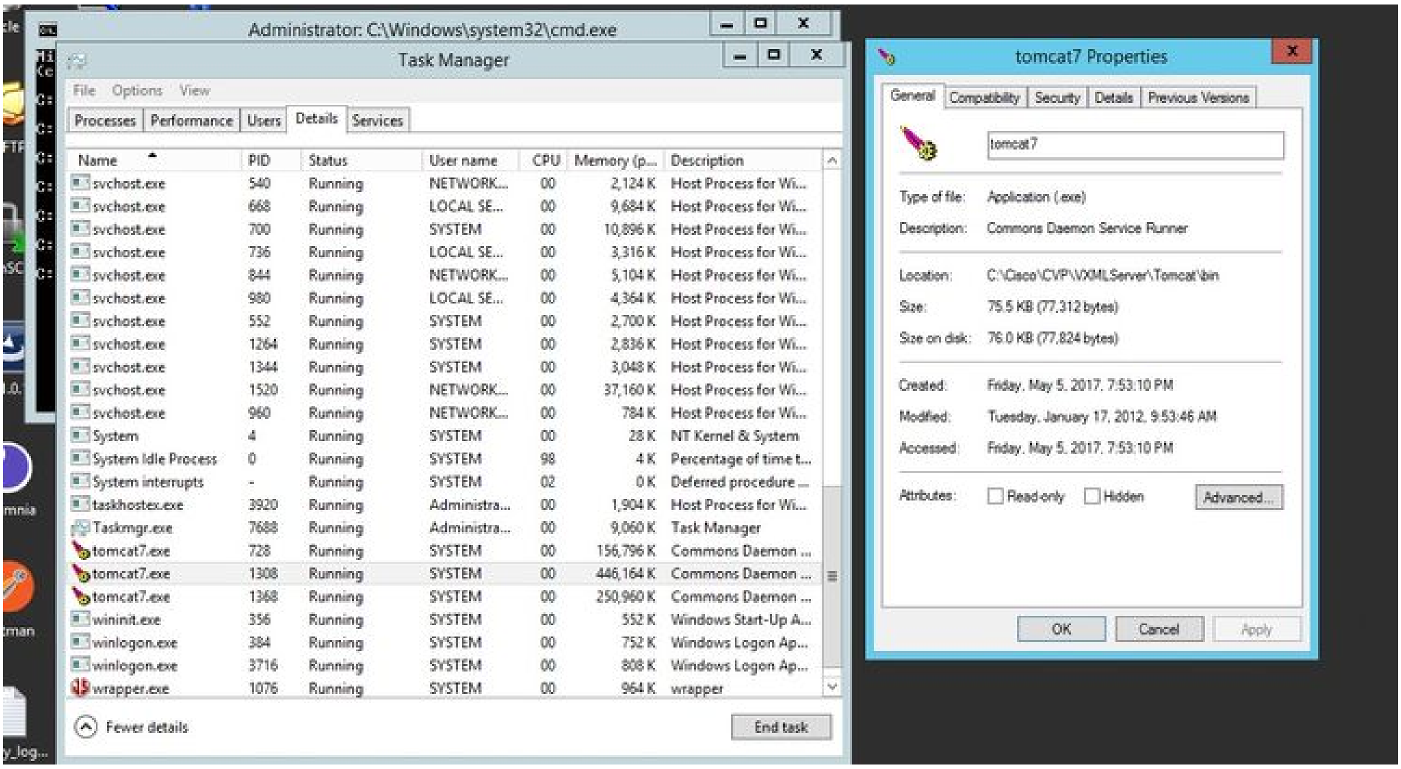
```
C:\Cisco\CVP\jre\bin>java -version
java version "1.7.0_51"
Java(TM) SE Runtime Environment (build 1.7.0_51-b13)
Java HotSpot(TM) Client VM (build 24.51-b03, mixed mode)
```

步骤2.将JDK从桌面复制到CVP服务器。

```
Download windows JDK exe
Open with 7-Zip
Dump contents into a directory %JDK-EXE%
cmd: cd %JDK-EXE%.rsrc\1033\JAVA_CAB10
cmd: extrac32 111
Now have a tools.zip in directory, open it in 7-Zip
Extract contents into a new directory %JDK-VERSION%
cmd: cd %JDK-VERSION%
cmd: for /r %x in (*.pack) do .\bin\unpack200 -r "%x" "%~dx%~px%~nx.jar"
```

> **注意：**只需从http://www.oracle.com/technetwork/java/javaee/downloads/index.html下载JDK，并在本地文件夹上安装EXE，然后将JDK从本地计算机复制到CVP。

步骤3.从任务管理器收集VXML服务器的进程ID**(PID)。**



Administrator: C:\Windows\system32\cmd.exe

Task Manager

Name	PID	Status	User name	CPU	Memory (p...	Description
svchost.exe	540	Running	NETWORK...	00	2,124 K	Host Process for Wi...
svchost.exe	668	Running	LOCAL SE...	00	9,684 K	Host Process for Wi...
svchost.exe	700	Running	SYSTEM	00	10,896 K	Host Process for Wi...
svchost.exe	736	Running	LOCAL SE...	00	3,316 K	Host Process for Wi...
svchost.exe	844	Running	NETWORK...	00	5,104 K	Host Process for Wi...
svchost.exe	980	Running	LOCAL SE...	00	4,364 K	Host Process for Wi...
svchost.exe	552	Running	SYSTEM	00	2,700 K	Host Process for Wi...
svchost.exe	1264	Running	SYSTEM	00	2,836 K	Host Process for Wi...
svchost.exe	1344	Running	SYSTEM	00	3,048 K	Host Process for Wi...
svchost.exe	1520	Running	NETWORK...	00	37,160 K	Host Process for Wi...
svchost.exe	960	Running	NETWORK...	00	784 K	Host Process for Wi...
System	4	Running	SYSTEM	00	28 K	NT Kernel & System
System Idle Process	0	Running	SYSTEM	98	4 K	Percentage of time t...
System interrupts	-	Running	SYSTEM	02	0 K	Deferred procedure ...
taskhostex.exe	3920	Running	Administra...	00	1,904 K	Host Process for Wi...
Taskmgr.exe	7688	Running	Administra...	00	9,060 K	Task Manager
tomcat7.exe	728	Running	SYSTEM	00	156,796 K	Commons Daemon ...
tomcat7.exe	1308	Running	SYSTEM	00	446,164 K	Commons Daemon ...
tomcat7.exe	1368	Running	SYSTEM	00	250,960 K	Commons Daemon ...
wininit.exe	356	Running	SYSTEM	00	552 K	Windows Start-Up A...
winlogon.exe	384	Running	SYSTEM	00	752 K	Windows Logon Ap...
winlogon.exe	3716	Running	SYSTEM	00	808 K	Windows Logon Ap...
wrapper.exe	1076	Running	SYSTEM	00	964 K	wrapper

tomcat7 Properties

tomcat7

Type of file: Application (.exe)

Description: Commons Daemon Service Runner

Location: C:\Cisco\CVP\VXMLServer\Tomcat\bin

Size: 75.5 KB (77,312 bytes)

Size on disk: 76.0 KB (77,824 bytes)

Created: Friday, May 5, 2017, 7:53:10 PM

Modified: Tuesday, January 17, 2012, 9:53:46 AM

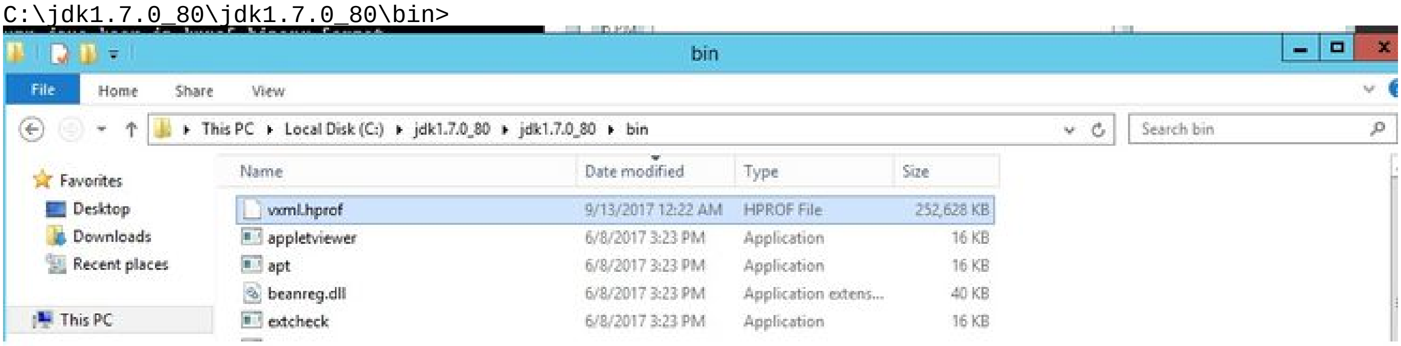
Accessed: Friday, May 5, 2017, 7:53:10 PM

Attributes: □ Read-only □ Hidden

步骤4.执行此命令以收集堆转储。（例如：jmap -dump:file=vxml.hprof <PID OF TOMCAT实例）。

```
C:\jdk1.7.0_80\jdk1.7.0_80\bin>jmap -dump:file=vxml.hprof 1308
Dumping heap to C:\jdk1.7.0_80\jdk1.7.0_80\bin\vxml.hprof ...
Heap dump file created

C:\jdk1.7.0_80\jdk1.7.0_80\bin>
```



bin

Name	Date modified	Type	Size
vxml.hprof	9/13/2017 12:22 AM	HPROF File	252,628 KB
appletviewer	6/8/2017 3:23 PM	Application	16 KB
apt	6/8/2017 3:23 PM	Application	16 KB
beanreg.dll	6/8/2017 3:23 PM	Application extens...	40 KB
extcheck	6/8/2017 3:23 PM	Application	16 KB

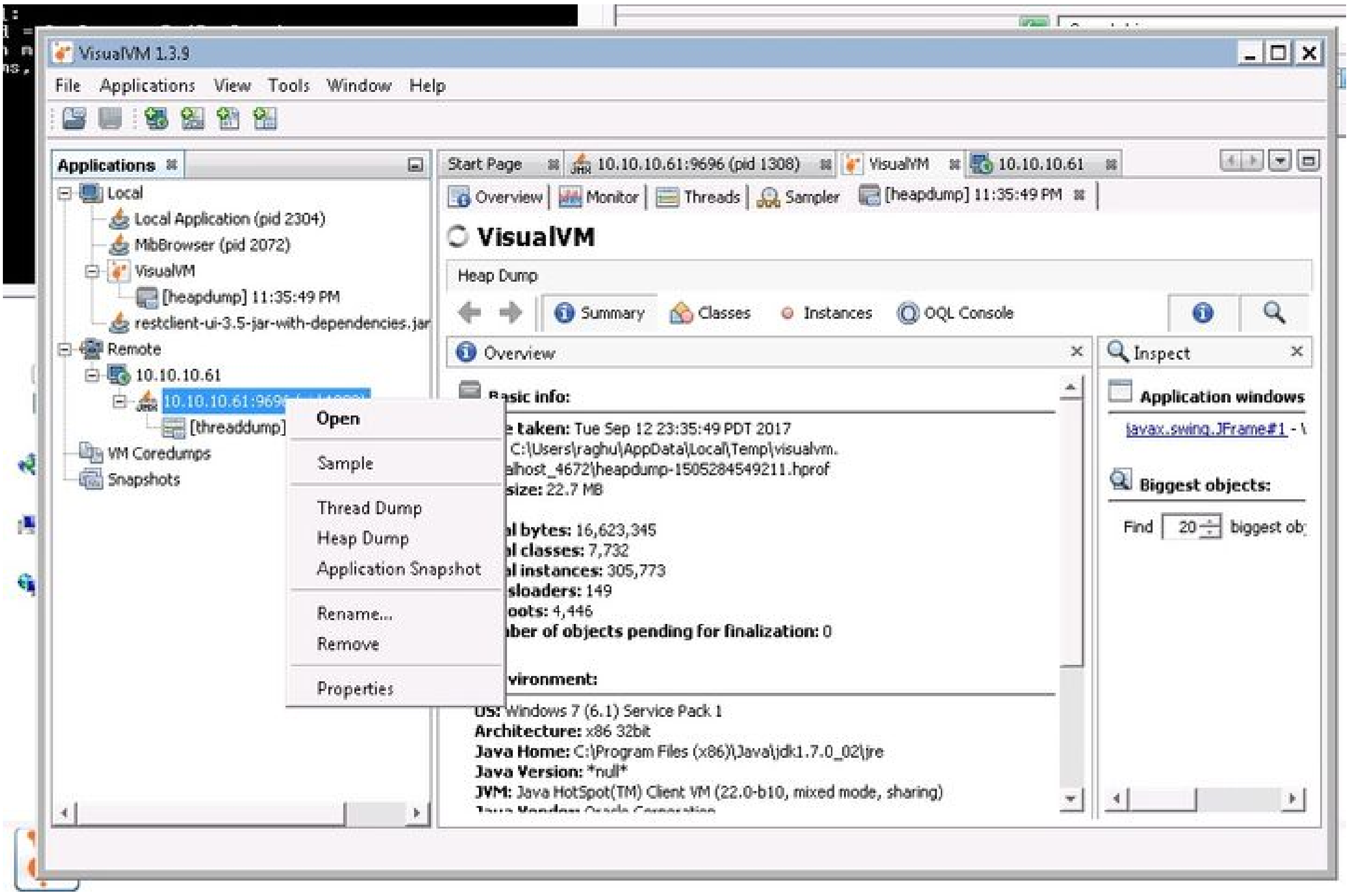
注意：您的专业版已创建，您可以复制到本地系统并脱机监控。

获取线程转储的步骤

与堆转储相比，线程转储收集相对容易。

步骤1.在<CVP VXML Server>:9696（9696是使用jVisualVM的VXML服务器的默认JMX端口）上连接到CVP VXML服务器。

步骤2.在JXM连接上右键**单击并**收集**线程转储**。



Basic info:

e taken: Tue Sep 12 23:35:49 PDT 2017
C:\Users\raghu\AppData\Local\Temp\visualvm.
alhost_4672\heapdump-1505284549211.hprof
size: 22.7 MB

l bytes: 16,623,345
l classes: 7,732
l instances: 305,773
sloaders: 149
oots: 4,446
ber of objects pending for finalization: 0

vironment:

OS: Windows 7 (6.1) Service Pack 1
Architecture: x86 32bit
Java Home: C:\Program Files (x86)\Java\jdk1.7.0_02\jre
Java Version: *null*
JVM: Java HotSpot(TM) Client VM (22.0-b10, mixed mode, sharing)

步骤3.此处线程转储转储转储到远程服务器中，可将其另存为文件并用于进一步分析。