Creating an Action Profile to Start Any Windows Service

Overview

This article describes how to create a single Action Profile that can start various Windows Services when Uptime Infrastructure Monitor observes that a Windows Service has stopped.

- Background
- Create a Service Monitor
- Create Recovery Script
- Create an Action Profile
- Testing
- Notes

Background

Alerts and Actions can be triggered in Uptime Infrastructure Monitor when an Element changes state. This is discussed in the Uptime Infrastructure Monitor Administrator's Guide here: Alerts and Actions. Several actions are available out-of-the-box: Log to File, Recovery Script, Windows Service and SNMP trap.

The Windows Service action can Start, Stop or Restart a Windows Service identified by name. This is useful when you've created a Service Monitor using the Windows Service Check monitor to watch for a state change with a specific Windows Service. A typical scenario would be to set a Critical Status if a specified Windows Service is Stopped. In this case the Windows Service action in Uptime Infrastructure Monitor could be used to automatically try to start the Windows Service in an attempt to minimize service disruption.

The limitation to leveraging the Windows Service action on an Action Profile is that the Windows Service to be started must be identified by name. If you have a large number of Windows Services that could drive an action you will need to create a new Action Profile for each Windows Service and ensure you tie it to the correct Service Monitor. In environments where the number of Windows Services that fit this scenario is small this works well. However, in larger environments where the number of Windows Services that fit this scenario is large it might be desirable to create a single Action Profile that can restart any Windows Service.

This article explores how to restart any Windows Service with an Action Profile as an alternative to creating a specific Action Profile for each Windows Service.

Create a Service Monitor

Start by creating a Service Monitor as follows:

• Create a Service Monitor selecting the Windows Service Check monitor.

IMPORTANT: You must match the Service Name to the Windows Service Display Name. This name will be leveraged later to select the Windows Service to start. Note that Microsoft has both a Display Name and a Service Name. We want the Display Name (see the images that follow).

O Services						×
<u>File</u> <u>Action</u> <u>V</u> iew	<u>H</u> elp					
🔶 🔿 🔚 🔲 🤇	à 🔒 🛛 📷 🕨 🔲 II II>					
🎎 Services (Local)	Name	Description	Status	Startup Type	Log On As	
	🔍 Credential Manager	Provides secure storage and retrieval of credentials to	Started	Manual	Local Syste	
	🔍 Credential Vault Host Control Service	Host Control Service for Fingerprint Processing	Started	Automatic	Local Syste	
	鵒 Credential Vault Host Storage	Host Storage Service for Persisting CV Objects into Har	Started	Automatic	Local Syste	
	Cryptographic Services	Provides four management services: Catalog Database	Started	Automatic	Network S	
	COM Server Process Launcher	The DCOMLAUNCH service launches COM and DCOM	Started	Automatic	Local Syste	
	🔍 Desktop Window Manager Session M	Provides Desktop Window Manager startup and maint	Started	Automatic	Local Syste	
	G DHCP Client	Registers and updates IP addresses and DNS records fo	Started	Automatic	Local Service	
	🔅 Diagnostic Policy Service	The Diagnostic Policy Service enables problem detecti	Started	Automatic	Local Service	
	🔅 Diagnostic Service Host	The Diagnostic Service Host is used by the Diagnostic	Started	Manual	Local Service	
	🔍 Diagnostic System Host	The Diagnostic System Host is used by the Diagnostic		Manual	Local Syste	
	🔍 Disk Defragmenter	Provides Disk Defragmentation Capabilities.		Manual	Local Syste	
	🔍 Distributed Link Tracking Client	Maintains links between NTFS files within a computer	Started	Automatic	Local Syste	
Display name	Distributed Transaction Coordinator	Coordinates transactions that span multiple resource		Manual	Network S	
	DNS Client	The DNS Client service (dnscache) caches Domain Na	Started	Automatic	Network S	
	Encrypting Tile System (EFS)	Provides the core file encryption technology used to st		Manual	Local Syste	
	🔍 Endpoint Protection.cloud	Endpoint Protection.cloud	Started	Automatic	Local Syste	
	端 Extensible Authentication Protocol	The Extensible Authentication Protocol (EAP) service p	Started	Manual	Local Syste	
	端 Fax	Enables you to send and receive faxes, utilizing fax reso		Manual	Network S	
	端 Function Discovery Provider Host	The FDPHOST service hosts the Function Discovery (F		Manual	Local Service	
	🛸 Function Discovery Resource Publicat	Publishes this computer and resources attached to this		Manual	Local Service	
	鵒 Google Update Service (gupdate)	Keeps your Google software up to date. If this service is		Automatic (D	Local Syste	
	🖓 Google Update Service (gupdatem)	Keeps your Google software up to date. If this service is		Manual	Local Syste	
	Group Policy Client	The service is responsible for applying settings configu	Started	Automatic	Local Syste	
	Gentlicate Managem	Provides X.509 certificate and key management service		Manual	Local Syste	
		Martin and States a			1 16 1	_
	Extended Standard			·		

D	NS Client Properti	es (Local Computer)	x
	General Log On	Recovery Dependencies	
	Service name:	Dnscache	
4	Display name:	DNS Client	
	Description:	The DNS Client service (dnscache) caches Domain Name System (DNS) names and registers the full	
1	Path to executable C:\Windows\syste	e: em32\svchost.exe +k NetworkService	
1	Startup type:	Automatic	
	Help me configure	service startup options.	
	Service status:	Started	
	<u>S</u> tart	Stop Pause Resume	
	You can specify th from here.	ne start parameters that apply when you start the service	
	Start para <u>m</u> eters:		
		OK Cancel Apply	

Complete the remainder of the Service Monitor making sure the Windows Service - Service Name is also the Display Name.
Raise a Critical Alert when the Service Status is Stopped.

• Your Service Monitor should look something like the image that follows.

Edit Service - DNS Cli	ient		
Service Name	DNS Client		
Description			
Host	Single System DEV-PDYER (localhost)		
	Unassigned		
Windows Service Che	eck Settings		
		Save All for Graphing	
Service Name	DNS Client		
Service Status		Save for Graphing	
Warning	Select a comparison method 🔻 Choose one 🔻		
Critical	exactly matches		
Response time		Save for Graphing	
Warning	Select a comparison method 🔻		
Critical	Select a comparison method 🔻		

Create Recovery Script

We are going to leverage a Recovery Script in an Action Profile to Start the Windows Service. This will be a very simple script. We are going to leverage two key components built into Uptime Infrastructure Monitor:

- First, the ability to create a script on the Uptime Infrastructure Monitor Monitoring Station that directs an Uptime Infrastructure Monitor Agent to
 perform an action. In fact, the Uptime Infrastructure Monitor Agent exposes a method to the Uptime Infrastructure Monitor Monitoring Station to
 Start a Window Service we simply have to supply the Windows Service name.
- Second, the use of Recovery Script Variables (variables available when creating Recovery Scripts). These are variables handed into our script by
 Uptime Infrastructure Monitor.

Here is what the Recovery Script looks like:

<pre>@ECHO OFF agentcmd.exe -s -p 9998 %UPTIME_HOSTNAME%</pre>	<pre>svc_start \"%UPTIME_SERVICENAME%\"</pre>	Changeme2
recoverysvc.bat - Notepad	The following is an example formal and	

Fil	Edit	Format	View	Help		
@E	HO OF	F				~
ag	entemo	.exe -	s -p	9998	%UPTIME_HOSTNAME% svc_start \"%UPTIME_SERVICENAME%\" Changeme2	
						-

Some items to note:

- %UPTIME_HOSTNAME% is the name of the system raising the Alert, also the system where the Windows Service will be restarted.
- %UPTIME_SERVICENAME% is the name of the Service Monitor we created earlier. Note that this is why we needed the Service Monitor name to match the Windows Service Display Name.
- The \" may look strange, this ensures the whole Windows Service name gets included regardless of spaces.
- Changeme2 is the Uptime Infrastructure Monitor Agent Password in this environment, your environment will differ.

This script is saved to the Scripts directory on the Uptime Infrastructure Monitor Monitoring Station (default: C:\Program Files\uptime software\uptime\scripts).

For the sake of brevity we will skip the remaining details. However, if you want more information you can find it online, here are two key articles:

Creating an Action Profile Recovery Script (for the purposes of this article focus on the Monitoring Station Script).

Alert Profile and Action Profile Variables (for the purposes of this article focus on the Recovery Script Variables):

Create an Action Profile

Lastly, we need to tie the Service Monitor and Recovery Script together in an Action Profile. Follow these steps:

- Create a new Action Profile and name it appropriately (no specific name is required).
- Populate the full path to the recovery script.
- Add the Service Monitor we created above.

It should look something like this:

Action Profiles	
Name of Action Profile:	Windows Service Start
Start action on notification number:	1
End action on notification number:	
	Never Stop Notifying
Log to File	
Log File:	
Recovery Script	
Recovery Script:	C:\Program Files\uptime software\uptime\s(
Windows Service	
● Agent ○ WMI	
Windows Host:	
Agent Port:	9998
Use SSL:	
Agent Password:	
Windows Service:	
Action:	None
	Start
	Stop
	Restart
SNMP Trap	
SNMP Trap Host:	
SNMP Trap Port:	162
SNMP Trap Community:	public
SNMP Trap OID (optional):	

Service Monitors

Select the Service Monitors that will use this Profile

Search	Add all 1 items selected	Remove all
Adobe Acrobat Update Service	+ C DNS Client	-
Audio Service	+	
chrome.exe	+	
Default Agent Service Check	+	
Default File System Capacity	+ _	
B. C. R. M. Landson		

Cancel Save

Testing

The final test is to make sure that everything works as expected. Testing is as simple as stopping the Windows Service from your Service Monitor. You may want to adjust the Timing Settings on the Service Monitor to trigger the action sooner for the purposes of testing.

If you are familiar with Action Profiles you may know that Uptime Infrastructure Monitor has a built in Test Action Profile capability. However, that won't work in our case because the variables we are leveraging only get populated when a Service Monitor is triggered.

Notes

The Windows Service will be started in the security context of the Uptime Infrastructure Monitor agent running on the system where the Windows Service is being started (by default Local System).

This is only one way to accomplish this task, other viable options exist. You could create an Uptime Infrastructure Monitor Agent side script to perform the recovery, you could call a third party tool from the recovery script to start the service, etc.