Chapter 18
Network Devices

HCA contains a tool that lets you determine how HCA interacts with network devices via a network "Ping". A Ping is defined as:

*Query another computer on a network to determine whether there is a connection to it.*

What this tool does is to periodically ping one or more network devices and based upon if the respond or not and the rules you set carry out different actions.

When we say "network devices" we are mostly talking about mobile phones and tablets that are communicating on your internal network using WiFi.

Why would you use this feature? Everyone now has some sort of a smart device that they often have with them. Using the feature you can tell if that person is within range of the computer or not – that is, are they home or are they not home?

Configuration

In the Design category in the Home Configuration panel is a Button named "Network Devices"
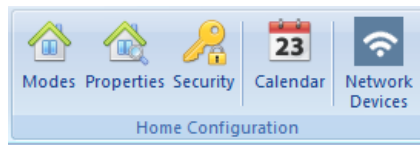
When that button is pressed, this dialog opens.
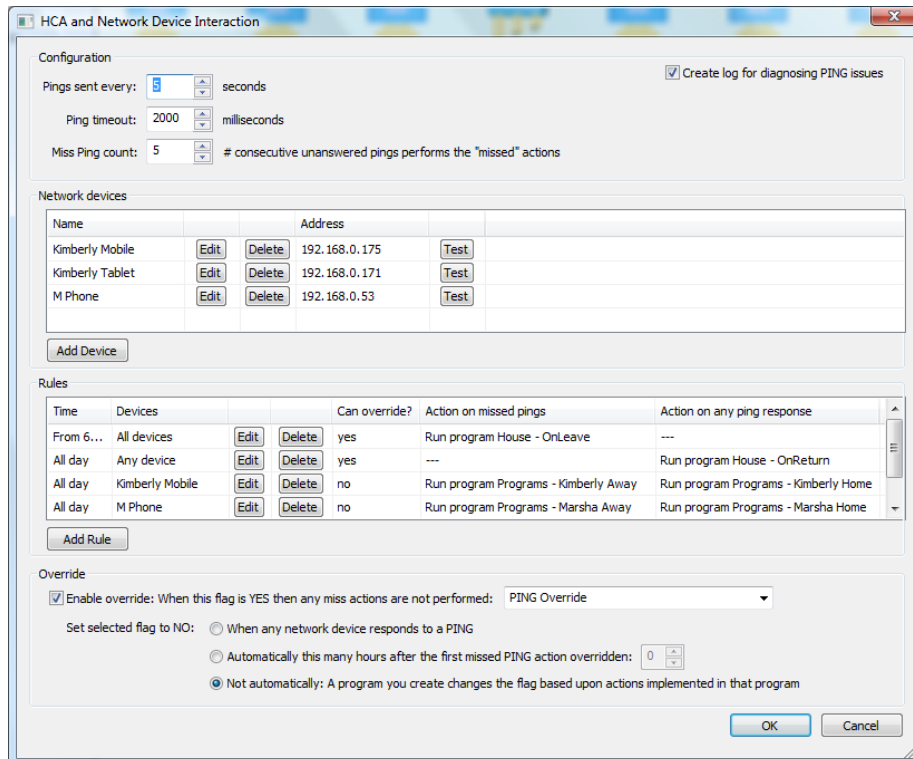
In the first part of the dialog you specify how often the devices are pinged and how long they have to respond before they are considered unavailable. An important configuration parameter is the "miss count". Sometimes devices don't respond to a pin because it is missed, they device is busy, or temporally out of range. It is best to set the miss count to greater than 1. However if a device does go out of range for real then it will take 'n' pings, each timing out at the time you have set before the "miss" rules are evaluated.

For example, in the above dialog the count is set to 5 and the timeout is set to 2 seconds. That means that in the best case it will be 10 seconds after a network device leaves the range of the network before the miss rules will be evaluated.

To add a device, press the Add Device button. A dialog opens where you can enter in the IP address of the device and give it a name for easier reference. This dialog also contains a "test" button to verify that you have the IP address correct.

You can input up to 32 network devices and specify how often they are pinged.

Rules

Also specified in the configuration are a series of rules as to what happens when devices respond or don't respond to a PING. Each rule can apply to all devices, any device, or a selected set of devices.

You can create as many rules as you need. A rule specifies the time of day it is in effect and which devices it applies to. You can specify a specific device or devices, or choose "any" or "all". Each rule specifies what happens on a miss (no reply to the ping) or a response (the device responds to the ping). The action of a rule can either change home modes or start a program.
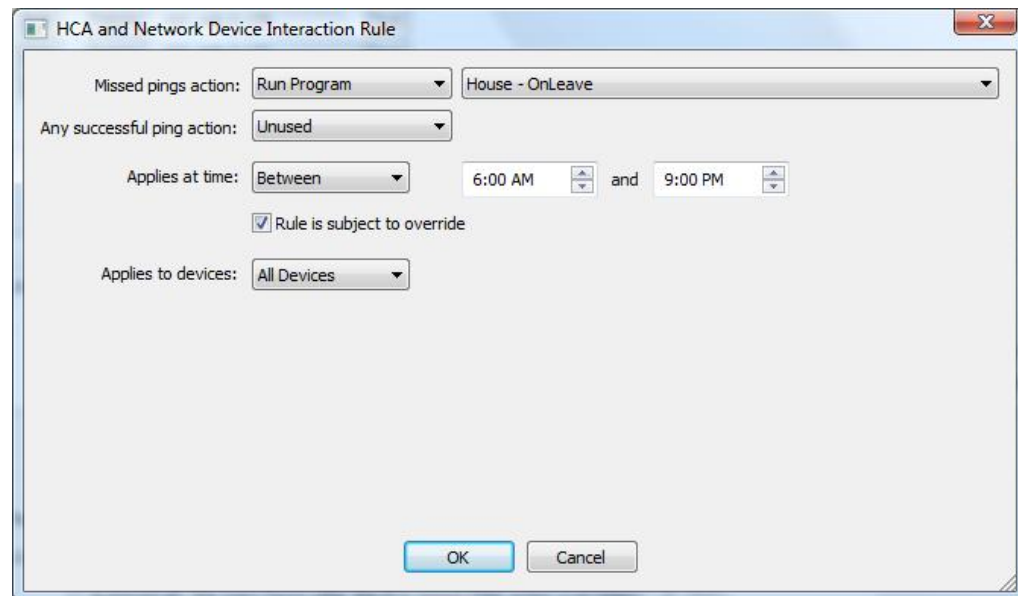
- A rule that applies to "Any" device will be useful for conditions where you want to see if anyone is at home.

- A rule that applies to "All" devices will be useful for conditions when no one is at home.

- The "All" and "Any" rules are most useful when you are changing the home mode.

- Rules tied to specific devices will be helpful to track the comings and goings of individual devices.

It is important to remember that the "miss" action only happens if the device doesn't respond after 'n' consecutive pings. 'n' being set in the configuration settings.

If you are starting a program on a response condition, the program should have a single value parameter. A string representing the name of the device that caused the response is passed to that program as that value parameter. The name is the name of the network device as displayed in the "Network Devices" list.

Tip: See the programs chapter for information on Parameterized programs.

Override

There is an override mechanism you can use to control the actions of the PING Tool. Once the override is enabled, if the selected flag has a value of YES then actions of any rules that are subject to the override are never executed. There are three options to clear the override flag.

- Clear the flag (set its value to No) when <u>any</u> device responds to a PING

- Automatically after a specified number of hours

- Never automatically cleared. In this case you are responsible for creating a program or some mechanism to clear the override flag.

Why use the override mechanism? Suppose you are using this tool to change the home mode when all the occupants – each with their mobile phone/tablet – are away. But also suppose that while "everyone" is leaving the baby sitter is home with your 3 year old who – remarkably doesn't have their own mobile phone. You don't want the home to go into "away" mode. In this case you can enable the override – perhaps via a HCA keypad – before leaving home.

Logging

There is a logging facility that you can enable which creates "ping.log" in the HCA documents area Logs folder. This lets you track how it works and get a sense on how your devices respond and the rules are evaluated.