HCA Tech Note

HCA Version 14: What you need to know about the top 10 changes

HCA 14 is a major upgrade from HCA 13, not just in function, but in the facilities used to connect your home to the outside world. Here are the ten key points and links to other documents that will help you transition from version 13 to version 14.

#1 Existing designs will still work!

If you are using a prior version of HCA then, in almost all cases, <u>everything</u> you have working today will work with HCA 14. There are some small areas that have changed in non-compatible ways. These are marked in the version 14 release notes "design changes may be required". But don't worry too much about this as the changes are small and in areas that most modern designs do not use.

#2 Version 13 release notes

This note is only an overview of the major changes in HCA 14. There have been many smaller – but no less important – changes and these are in the complete - and long - release notes.

www.HCATech.com/download/V14/V14_ChangeNotes.pdf

#3 HCA Cloud

One of the major changes in HCA 14 is to recognize that a large component of HCA is now running in "The Cloud" (on an Amazon Web Service server in case you really wanted to know). This gives HCA the ability to continue to support Amazon Alexa, and in V14, Google Home too. As well as building bridges between your HCA Server and "Internet of things" devices.

That's the good news but there is another part to this: To support this there is now a yearly subscription fee ($2 / month) for the Cloud Components to operate. It is important to understand that if you don't want to use any of the cloud facilities and just want HCA to work as it did before - all in your home – then you do not need the subscription. The first 30-days of HCA Cloud use is free so you don't need to subscribe right way.

To be as clear as possible:

- Stay on V13. No subscription needed.
    - No upgrade cost.
    - No subscription cost
    - If were using Alexa with V13 it keeps working without a subscription
    - No access to new cloud facilities

- Update to V14 and were not using Alexa with V13
  - Usual major version upgrade cost
  - No subscription needed
  - No access to new cloud facilities

- Upgrade to V14 and were using Alexa with V13 and don't want to keep using Alexa
  - Usual major version upgrade cost
  - No subscription needed
  - No access to new cloud facilities

- Upgrade to V14 and were using Alexa with V13 and want to keep using Alexa (or start using Alexa)
  - Usual major version upgrade cost
  - $2/month subscription needed
  - Full access to new cloud facilities

If you do plan to use the HCA Cloud, there are several steps and here they are in brief. The linked note below has all the details:

1. Make a backup of your HCA design file! It is dumb not to. Then review the "Before upgrading" section at the end of this note.

2. In HCA 13 – before you upgrade – open the DDNS and Alexa configuration dialogs and write down your HCA user name (called "Name" in the Alexa setup dialog) and password (called "Remote code" in the Alexa setup dialog).

3. There are actions you need to take using HCA stand-alone. If you are using client-server first shutdown the server and any clients, then install HCA 14, and then start HCA.exe and open your design file there. Don't start the server at this time until all these steps are complete then you can process as normal.

4. After install of HCA 14, in the "HCA Cloud" ribbon category press the "Account Management" button to open a browser for access to your HCA cloud account. Login with your existing username and password and then update and confirm your account.

5. Back in HCA, perform the "Link file to account" operation – also in the "HCA Cloud" ribbon.

There are various "helpful" prompts to guide you through this process once you start HCA 14 and open your design file created with V13.

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This is a *complex* area so please review this note which says all the above in much greater detail:
www.HCATech.com/download/V14/Doc/TechNotes/TechNote_500_HCACloud.pdf

#4 Google Home Support
If you would prefer to speak "Googleish" and not "Amazonease" then you should know that HCA 14 supports the Google Home product. There are some "features" of that support you should know about so review this tech note.

www.HCATech.com/download/V14/Doc/TechNotes/TechNote_512_GoogleHome.pdf

#5 Additional Thermostat Support
In version 14 the whole concept of device control has been expanded to allow users to create HCA programs that control devices and thermostats and do so in ways that "link into" all the existing HCA user interface. Once these "class programs" are added to your design you can then add devices of those new types. All the HCA facilities – On, Off, schedules, programs, thermostat support - work with that device by executing the program that supports it. This means you have access to how the device works and can change, extend, or add new function to these kinds of devices. The general facilities are described in this technical note:

www.HCATech.com/download/V14/Doc/TechNotes/TechNote_600_UserClasses.pdf

With this initial release, there are "classes" you can add to your design that implement control of the Venstar and Ecobee thermostats.

www.HCATech.com/download/V14/Doc/TechNotes/TechNote_610_Venstar.pdf

www.HCATech.com/download/V14/Doc/TechNotes/TechNote_611_Ecobee.pdf

#6 Partner Services
With the HCA Cloud access, it is now possible to link your HCA Server to other "Internet of Things" devices so that your design can respond to their actions. Initially HCA 14 supports the Ring doorbell and the NEST devices.

www.HCATech.com/download/V14/Doc/TechNotes/TechNote_501_CloudPartnerServices.pdf

www.HCATech.com/download/V14/Doc/TechNotes/TechNote_510_Ring.pdf

www.HCATech.com/download/V14/Doc/TechNotes/TechNote_511_Nest.pdf

#7 Phillips Hue & IP Foscam Cameras

HCA 14 now supports IP addressed Phillips HUE bulbs that are controlled by the Phillips Hue bridge. These devices can be controlled by HCA using the normal ON, OFF, and DIM operations as well as the new HUE VP element that gives you access to HUE scenes and colors. More information about this is in the change notes and the HUE user guide appendix.

www.HCATech.com/download/V14/Doc/a13_Phillips Hue.pdf

The Foscam IP Camera, that is sold under many different brand names, is now supported for control and capturing of snapshots. More information is here:

www.HCATech.com/download/V14/Doc/a14_Camera.pdf

#8 Device Control

When controlling a device from HCA you didn't always know that the device actually responded. In previous versions of HCA if the control didn't happen – the device didn't acknowledge – you could generate an alert that was logged but you didn't get immediate feedback.

In HCA 14 you can now enable device properties so that if the device doesn't get controlled you are immediately told that this happened. The updated mobile applications show this by putting the icon label in red to show a device control problem. This is a complex area and the release notes have more on this in the "Device Control notification" section.

#9 REST Interface

If you have applications that you want to interface with the HCA Server, in previous versions it wasn't hard but then again it wasn't "simple". Now HCA has a REST interface (if you have not seen that term before, read it to mean that you can control the server by doing HTTP operations).

www.HCATech.com/download/V14/Doc/TechNotes/TechNote_502_CloudDeveloperAccess.pdf

#10 What's gone?

Things are added and things are removed. In HCA 14 support for METAR weather is removed as it was in almost all cases no longer working as the FTP servers for the weather data are being taken offline.

Moved to legacy status is the much un-loved browser interface. With the mobile applications, it was unnecessary. "Legacy" status means that it is still there and can be reactivated in HCA Options on the "Legacy" tab but no support, bug fixes, or improvements, will be done.

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Before upgrading

What follows isn't an exhaustive list of what's changed or removed. There are just a few areas that, if they affect you, are things that you should resolve <u>before</u> you are forced to by the press of a new version.

More important: Parameterized programs

HCA 13 introduced programs that could accept parameters. The parameters could be objects (devices, groups, programs) or values (numbers, date-time, strings, yes/no). There is a good technical note on this that was recently updated and you should review it as parameterized programs become more important in V14 and you may need to understand this topic to get full use out of V14 new features.

http://www.hcatech.com/download/V14/Doc/TechNotes/TechNote_107_ProgramWithParameters.pdf

More important: HTML Views

A HTML display is a very cool way for you to show complex information beyond simply a "field of icons" or text. The HCA example file uses HTML view to show weather and astronomical information in a nice-looking display.

If your design has HTML displays and the HTML file references a style sheet or image files it is very important you make sure that each HTML display locates all the pieces of that display in a folder used just for that display. There is a tech note about this and if you are working with HTML displays you really should review it and if necessary restructure your files to use this recommended organization.

http://www.hcatech.com/download/V14/Doc/TechNotes/TechNote_105_HTML.pdf

Change: Percentages and Levels

In HCA, most everywhere where you can control a device to a level other than OFF or ON accepts a percentage. For example, the DIM Visual Programmer element, the popup slider in the UI, the "hover" tip over a device that shows its percentage. Unfortunately, there remained in all versions since version 1.0 (!) some places where device "levels" are exposed. As time went on this really didn't matter as most modern devices all have 100 levels so a percentage and level became the same. But the holdover persisted and it caused a mess that had to be resolved to make new features possible.

You can get ready for this, look for places where "levels" are used and not percentages. This includes these Compute expression functions:

- _dimLevel - Instead use _dimPercent
- _dimToLevel - Instead use _dimToPercent

Also effected are these HCA Object methods.

- Device.DimToLevel - Instead use Device.DimToPercent
- Device.DimUp - Instead use Device.DimUpPercent
- Device.DimDown - Instead use Device.DimDownPercent
- Controller.DimToLevel - Instead use Controller.DimToPercent
- Controller.DimUp - Instead use Controller.DimUpPercent
- Controller.DimDown - Instead use Controller.DimDownPercent

Change: Suspend

Past HCA versions have a concept of a "suspended" device. The idea is that some device would be controlled by a schedule, a program, or by some reception, and for some reason you wanted to stop that action for some length of time. A useful idea I think. The problem was that it was overly complex and because of that became increasingly not functioning correctly in all cases. The problem was in the specificity – you could suspend from control by a program, by a schedule, or by a reception. Too complex and almost never needed.

While "suspend" is still around, in V14 it is cut down to a single state. A device is either suspended or not. If it is suspended then any action on it that isn't from you directly controlling it from the HCA UI or a mobile app, will have no effect. For example, from a program or schedule. Look for any places in your existing design where you care about the different types of "suspend" and modify them.

Change: X10

V14 makes several changes in X10 support. For those of you with existing X10 gear don't worry as X10 is still supported! But there are some areas that may impact X10 users. If you are using Insteon or UPB then none of this need concern you.

Group operations. Suppose in X10 you had two devices, one with address B2 and the other B6. If those two devices were in a HCA group and you controlled the group ON, HCA would send X10 commands so that both devices would come on at the same time. This will no longer happen. One will go on and then the other. No big deal but it will be different.

Dim. Dimming with X10 has always been difficult. Unlike UPB or Insteon there was no good way to dim an X10 device to a percentage. The device got controlled ON and then some number of DIM commands were transmitted to control the device to go down some number of levels to a final level approximating the desired percentage. A particular device, with a particular wattage bulb, controlled by a particular X10 interface, would get you to about the percentage wanted. HCA 14 may not get to the exact same percentage as HCA 13. Close but no guarantee of the exact same.

Preset-Dim. There are X10 devices made that used an alternative form of dimming called "Preset Dim". Basically, this gave the device 32 levels of dim and the ability to go directly to any of those 32 levels. HCA tried to expose this – it was

not a good idea to do this - and that is being corrected. If a device does support preset-dim, then a dim operation still uses it but you will no longer be able to select the exact one of the 32 levels desired. This effects the DIM visual programmer element as it let you make that 1-of-32 selection, and that option in that element properties is removed in V14.

Change: Security

Another overly complex area in the HCA 13 that has been in existence since version 1 – also little used and no longer fully implemented – are two passwords that could be set that would block actions from the UI in modifying the design and/or controlling devices. These are being removed. Only two will remain – the remote access password and the code to exit the Control User Interface.

Change: Windows XP support dropped

For HCA 13 we have been providing HCA installs for XP. With version 14 that is ending and HCA no longer installs on Windows XP. If you still have an XP machine you are using for HCA now is the time to replace it. There are a lot of small footprint machines available these days that are well under $200 that come with Windows 10 installed and are perfect for running the HCA Server.

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