Use DHCP Reservations Instead of Static IP Addresses

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I was in an online discussion recently in which the other party talked about using static IP addresses on his/her devices. And I told that person this: the only time I can conceive of there being a need to utilize a static IP address on a device is if the device doesn't support DHCP, which would be a very rare situation.

As long as a device supports DHCP, the best way to get that device to utilize a known and consistent IP address is to utilize DHCP with the device and a DHCP reservation in the DHCP server (which in most home networks would be a function of the router). You want to have the sever (in this case, the router) dictating to the clients rather than having the clients dictating to the server. In so doing, you centralize your IP address control in the DHCP server instead of decentralizing that control to the devices. There are so many reasons this is the best approach:

- It allows you to change your network address scheme in one place should you want to do so. And it's all seamless for the clients: you make the change on the DHCP server and that's it, you don't have to change anything on the client side.
- You can move clients to another DHCP-enabled network (which is pretty much any network) without reconfiguring them. If you take a device to another network, it will just pick right up and work because it's set for DHCP.
- You don't have to track the IP addresses your devices are using, your router does that for you. This means you will never have IP address conflicts. With static IP addresses, you could put multiple devices on the same IP address which would cause network issues. Not only that, you have to account for the IP addresses of your devices using static IP addresses in DHCP anyway (that is, you have to make sure that your DHCP server doesn't give out these addresses to other devices), so why not just have your DHCP server give out those addresses in the first place?
- With many routers, you can address your devices by hostname and not just by IP address because the DHCP server registers those hostnames. Then that gives you even more flexibility. For example, while I have no intention to ever change the IP addresses of the cameras on my network, I can if I want to because all my viewer apps address those cameras by hostnames and so a change to the IP addresses those cameras are using will be completely transparent to my viewer apps.