Why can't I configure Google Chromecast for use on the MIT wireless?

Q: Why can't I configure Google Chromecast for use on the MIT wireless?

- Why does Google Chromecast say UPnP is disabled when trying to configure on MIT wireless?
- Why can't I see my Google Chromecast on the network?
- Will Google Chromecast work on the MIT network?

Context

- Google Chomecast device (https://store.google.com/us/product/chromecast)
- MIT's 802.11b/g/n enterprise wireless network (showing **MIT SECURE**, **MIT**, **MIT GUEST**, and **eduroam** SSIDs)

Answer

According to Google's documentation, Google Chromecast uses Universal Plug and Play (UPnP), an implementation of the ZEROCONF protocol for device discovery on small networks. Unfortunately, this protocol is disabled on the wireless networks at MIT. While ZEROCONF and Bonjour work well on home or small business networks, they are not compatible with large enterprise networks, which can frequently have thousands of devices in the same wireless address space. ZEROCONF relies on multicast traffic to discover devices on the network, which exhibits crippling performance and load issues on large enterprise network implementations. Even if it were enabled on the network, results would be slow to return and potentially return lists of hundreds of devices to choose from.

More Information

- See the resources section in [Why does my iPhone not connect to Keynote?]
- Chromecast UPnP KB http://support.google.com/chromecast/answer/3213086