

Creating a hyper connectivity framework

May 6, 2022

1 definition

What does hyper-connectivity mean? Well, a common interpretation is to be available on multiple different channels. We all know that one guy whom you contact on text message only to get a reply on Signal, just to get a follow up using email.

Then what does it mean for devices to be hyper connected? In this case it means using all available forms of communication in order to get data from one place to another, which is what this article is about.

Today, when a developer wants a system to send data from one place to another he needs to pick a transport protocol such as http. Then connect

2 reason

3 target

4 design

5 connection

6 reconnection

7 authentication

we will need a way for our devices to identify with one and another, and since we might not have access to any particular node in the system at the time of authentication, this needs to work without a trusted third party at the time of connection.

The best way I can think of here is to use a signing authority.

Our authentication will consist of two main concepts; a passport and a passport authority.

Each device will create a passport, which contains some various information but most important is a public key corresponding to a private key stored on the device. A device then has to go through a "claim process" where a user assigns it as their device. This happens by that uses passport authority uses a private key to sign the device's passport, and giving it the authority's public key.

Now our device has a signed passport, and the public key of the authority, so when two devices need to connect they can now go through an authentication process to verify each other's passport. If both devices verify the other device's passport as valid the connection can be established.

8 security

9 transport-nodes

10 proof-of-concept

11 conclusion