

What Should Not Move

A statement from the inventor of CCI.ID.1

Every invention begins with noticing something everyone has stopped seeing.

In communications, what had stopped being seen was that the telephone number does two jobs at once. It says who you are trying to reach, and it tells the network where to take the call. For most of the twentieth century, those two jobs were close enough to be treated as one. The number named a line, the line was in a place, and the person was usually to be found there.

Almost every change since then has been an attempt to keep the two jobs together while the world pulled them apart. Number portability allowed a number to move between operators, but it still had to be held by one of them. Mobile made the number personal, but tied it to a subscription. Messaging and video services created new identifiers, but each belongs to its own service and reaches only its own users. Each of these is an ingenious answer. Each leaves identity attached to something that can end: a line, a contract, a device, an account.

The question I kept returning to was not how to make the number more flexible. It was a different question.

In a communication, what should never have to move?

The answer is the identity. Everything else can move, and should be free to: the device, the network, the service, the endpoint, the transport. If identity is defined first, and every route is treated as a current, authorized way of reaching it, then a change of route no longer puts the identity at risk. A person can change device, operator or service, and the people who reach them do not need to know.

Stated that way, the principle sounds almost obvious. Making it hold is not. An identity that is independent of every route must also be independent of the first one, including the telephone number it may begin alongside. Control of it must rest with the person, organization or role it represents, not with whichever system happens to carry it today. And it must work with the networks the world already relies on, because infrastructure that asks everyone to start again is not infrastructure. It is a proposal.

CCI.ID.1 is my answer to those requirements. It treats identity, authority, resolution and transport as distinct functions, so that each can change without disturbing the others.

I hold the work to a plain standard of evidence. In our reference environment, we have demonstrated communication between identities with no telephone number involved, an identity that persists when its endpoint changes, communication arriving from existing networks, and two-way communication with an identity that has no telephone number behind it. Other parts of the architecture are designed but not yet demonstrated, and we describe them that way. The distinction matters. An identity layer asks to be trusted for decades. It should not begin by claiming more than it has shown.

The telephone number made a person reachable by anyone, anywhere, through one shared system. That universality is worth keeping. What no longer holds is the assumption that universality requires identity and route to be the same thing.

They are not. The identity stays the same. The route can change.

Matthew Smith

Inventor, CCI.ID.1

Founder, Color Communication Infrastructure