IMPORTANT NOTE: This paper will be revised over time as the Ayra Cards initiative and First Person Project evolve.

Ayra Cards: An Introduction

A White Paper from the Ayra Association

https://ayra.forum/

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Executive Summary

At the Ayra Association's public launch in January 2025 in Davos, the concept of Ayra Network Credentials was the central theme. The concept of globally relevant, broadly accepted, simple credentials resonated widely.

First Person Credentials, a type of Ayra Network Credential, have inspired two complementary projects that work together to address different aspects of digital trust:

- **Ayra Cards** - focused on immediate, practical credential sharing for organizations and individuals using existing technologies; and
- **The First Person Project** - developing advanced capabilities like decentralized trust graphs and zero-knowledge proofs for future edge-issuance scenarios

This paper introduces Ayra Cards and demonstrates how they provide a practical implementation path that aligns with and supports the broader First Person Project vision while delivering immediate value to enterprises.

The Ayra Trust Network provides the technical foundation through four core components:

- **Trust Registries & Registry-of-Registries** - creating a connected web of ecosystems with technical interoperability
- **Conformance Test Suite** - ensuring reliable integration across business, governance, and technology requirements
- **Type Catalogue** - enabling a decentralized marketplace of credential types and trusted information
- **Layered Governance Framework** - supporting modular participation across multiple ecosystems

Ayra's members are developing a set of Ayra Network Credentials called Ayra Cards. Ayra Cards are a family of simple, global credentials. The Ayra Cards approach really does four things:

- Establishes a **trusted channel** - authenticated, privately encrypted connections that eliminate intermediary dependencies. This durable communication may be short-lived or exist for years, as we build a richer and more trusted relationship using it.
- Codifies a **simple credential** - All Ayra Cards are intentionally simple, as they must meet a global business reach. The number of attributes is intentionally limited as more specialized credentials meet more specialized needs.
- Allows sharing of arbitrary data **payloads** - These payloads provide information beyond the standard verifiable credential attributes/claims. These payloads can be simple data or blobs,

verifiable presentations to request further credentials, or endpoints (e.g. an A2A link to my corporate personal AI agent). Receiving systems (verifiers) may not understand all (or any) of the payloads - and that's ok. Payloads will range from very informal to very structured and ecosystem-focused - meaning not all payloads will be helpful to everyone.

- Limits **interactions** - Ayra Cards are focused on a small number of interactions for creating the trusted channel and the initial sharing of a credential (with its payloads). The analogy Ayra uses is that Ayra Cards standardize the first couple of steps of a "dance" - and depending on what is shared and what is needed, you take it from there.

The Ayra Cards initiative enables organizations to participate in multiple digital trust ecosystems through modular governance frameworks, eliminating the need for bilateral agreements with each ecosystem. This "light connection" approach solves the current intermediary/gatekeeper problem by creating direct, private relationships between entities. Organizations can:

- **Unlock stranded data** without full ecosystem integration - monetizing valuable information assets while maintaining core system boundaries
- **Solve wallet interoperability challenges** through the Zero-to-Hero Network Effect - enabling broad credential acceptance without proprietary wallet dependencies
- **Enable gradual adoption** - organizations can start with simple credential sharing and expand capabilities over time
- **Leverage network effects** across four dimensions: Trust Network, Zero-to-Hero, First Person, and Trusted Channel effects

Ready to begin? **Contact Ayra** to discuss Ayra Cards.

https://ayra.forum/contact/

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1. Introduction

This paper presents information about an Ayra initiative called **Ayra Cards**.

We'll begin by discussing the key capabilities (the "adjacent possible") that the creation of the Ayra Trust Network has made both the First Person Project and Ayra Cards possible. We explore the concept of Ayra Cards, their alignment with the First Person Project, and conclude by discussing how they drive adoption and network effects within the Ayra Trust Network's ecosystems.

Ayra Cards are an early-stage project at the Ayra Association. Several strategic members have leaned in to begin the exploration of this project.

2. Ayra Trust Network

The founding premise behind Ayra is that we need a new trust layer for the internet. A global trust infrastructure is required in order to repair and build trust in the digital world.

Like the Internet, this layer of infrastructure can not be built by any single company, government, or open source project. It needs to be built, operated, and governed collaboratively by all stakeholders. Like the Internet, it needs a neutral international nonprofit governance organization designed to equitably represent the interests of people, organizations, and governments everywhere in establishing this new layer. Ayra Association is such an organization, and it is in the process of establishing the Ayra Trust Network.

The capabilities that the Ayra Trust Network bring are broadly simple:

- **Layered and modular governance** enables organizations to seamlessly join multiple digital trust ecosystems.
- A network of **Trust Registries** that creates a connected web of ecosystems. Ayra's registry of registries capability anchors the Ayra Trust Network - connecting member ecosystems in an ecosystem-of-ecosystems manner.
- A **Type Catalogue** that begins to create a decentralized marketplace of credential types and other trusted information available in the Ayra Trust Network.
- A **Conformance Test Suite** that assures that interoperability is practical from a business, governance, and technology perspective. This test suite is aimed at supporting a future Ayra trustmark program - creating a global acceptance network capability.

Special Network Effects & Ayra Cards

The Ayra Trust Network also made Ayra Cards possible. In the Special Network Effects of Ayra Network Credentials[1], the general idea that has become Ayra Cards was presented.

Ayra Cards requires the trust infrastructure that the Ayra Trust Network provides.

Ayra Cards also help accelerate the build and hardening of that trust infrastructure.

First Person Project Builds on the Ayra Trust Network

As the First Person Project Whitepaper mentions, the concept of the First Person Project was not feasible until a trust network like the Ayra Trust Network came into existence. Ayra Cards are network credentials. They are intentionally designed to be broadly applicable across many ecosystems, jurisdictions, and industries.

The First Person Project is focused on solving its own set of problems: proving who we are, our relationships, and more.

We'll get more into the alignment of the First Person Project later. For now, we'll focus on Ayra Cards.

3. Ayra Cards: The Basics

Ayra Cards are much more than just verifiable credentials. While the data are anchored in standard verifiable credentials, the creation of a trusted channel and the use of a payload concept, and standardization of initial interactions make them a simple, complete solution for establishing a trusted relationship..

3.1. Trusted Channels

The internet is currently a land of intermediaries and gatekeepers that insert themselves into what are really private relationships between people, organizations, and other entities. In this brokered world, we don't have direct connections; instead, we "borrow" or rent connections that are held by third parties who may or may not have our best interests at heart. This pattern creates incentives that are misaligned when two entities want to do something together. Both Ayra Cards and the First Person Project create private, direct connections that are durable.

[1] https://ayra.forum/ayra-network-effects-whitepaper/

We call those connections “trusted channels”. Trusted channels are authenticated (we know who we are dealing with), privately encrypted, and allow the sharing of trusted information. These trusted channels are the backbone of trusted digital relationships.

3.2. Simple, Global Credentials

Ayra Cards are simple credentials. They have minimal requirements and are intentionally limited to ensure they don’t become bloated.

Ayra Cards are being established at Ayra in a member-driven process. The initial candidate credentials include:

- **Business Cards** - issued by an employer (or self-issued) to an employee, they fulfill a similar purpose to a physical business card.
- **Staff Passes** - similar to an employee badge, this Ayra Card is designed for internal use within an employer but also serves as a useful external credential (e.g., proving bona fides at a customer’s site, availing oneself of employer-negotiated or network benefits).
- **Personhood Credential** - Many Ayra Members provide identity and document verification services and could issue credentials expressly to prove that official documents exist.

3.3. Payloads

Ayra Card Payloads are simple pieces of data attached to Ayra Cards that the card itself doesn't need to understand, but simply carries along for potential use by verifiers at their discretion. These payloads enable the sharing of data without requiring deep knowledge of the content unless the recipient specifically cares about that particular payload type.

There are two main categories of payloads:

- **Attributes & Data** - unverifiable information like email addresses,
- **Pointers** - information that directs the verifier to additional information. Examples include **Verifiable Presentation Requests** - pre-formed requests that return verified credential proofs from other systems, **URIs**, and **Endpoints** - connection details for system-to-system communication (e.g. Agentic AI A2A and MCP endpoints).

The payloads concept anticipates a future ecosystem where payloads range from entirely private for industry-specific to broadly standardized, following the same pattern as Ayra Network Credentials, with formal standardization expected to develop as the concept matures through real-world testing.

These payloads allow us to focus on only the most basic interactions.

3.4. Basic Interactions

The codification of simple interactions is the fourth critical aspect that Ayra Cards bring. When too many options for connectivity and interactions are presented, the optionality creates complexity that doesn't add value. The Ayra Cards approach is opinionated and will focus on keeping the initial interactions as simple as possible, eschewing optionality.

There are many different interactions (dances) in the digital trust world. Depending on what we are doing, we may need to conduct a wildly varied set of orchestrated steps. Many of these intricate "dances" are well understood; once we know enough, we can determine the next steps.

It is the first couple of dance steps that are hard. How do we start dancing?

What if everyone learned the same opening sequence? A standardized set of initial steps that gets partners in sync and quickly reveals what kind of dance they're about to (or can) perform together. Not the whole choreography - just those crucial first moves that let you gracefully discover whether you're partners for a waltz, a tango, or something entirely different.

That's what Ayra Cards provide: a universal opening that smoothly transitions into whatever specific interaction (dance) the digital trust relationship requires.

Where the dance goes from there is up to what you and your systems are doing. Ayra Cards don't impose on those next steps.

The interactions related to Ayra Cards are intentionally limited to establishing a connection where we don't have one, and to sharing an Ayra Credential (presentation request). Interactions beyond the initial few steps of the dance are up to the entities that are interacting. They know what their goals and outcomes are.

4. Ayra Cards: Scaling Integration

In our individual lives, we encounter numerous systems that are not integrated, leading to high friction or exclusion (i.e., we don't connect with them). The failure to integrate systems is partly due to the use of point-to-point integration, which is costly to build and even more costly to maintain.

4.1. Point-to-Point Integration Can't Scale For Individuals

As an individual moves through a day, they encounter numerous systems that they need to interact with. Some systems are inside the boundaries of a single organization (e.g. work) while other systems are outside those boundaries (e.g. client systems, travel providers, benefit providers). Making information

move across these boundaries is hard enough that we often give up and fail to integrate them. Point-to-point integration costs are 65-70% of integration budgets. They simply don't scale.

4.2. The Individual is The Point (of Integration)

Ayra Cards change the paradigm - the individual carrying the data is the integration point. They are the consistent and central point of the integration - they are the reason we want systems to be integrated.

The Ayra Cards they carry allow for simple, repeatable, and inexpensive integrations.

The individual is the point of integration.

4.3. Moving Complexity Out

Ayra Cards are not designed to solve all trusted information sharing interactions. They are designed to establish a connection (trusted channel) and share a small amount of consistent information (a credential and the payloads it carries). Once that is done, the reasons that the parties have connected will drive the next steps. Those next steps will be conducted in a context that the parties understand - and Ayra Cards doesn't need to.

Moving the complexity of the following steps further into the interaction moves decisions and actions to a stage of interaction where the parties know more about each other and what they are trying to do. If things get complex, that's ok - they may be doing complex things.

One of the key benefits of moving the complexity out is its alignment with the First Person Project, which many Ayra Cards support. The aligned Ayra Cards align incredibly well with the First Person Project. That's not a surprise - the concepts came out of efforts that were nurtured at Ayra.

5. Ayra Cards: Aligned With The First Person Project

With the launch of the First Person Project Whitepaper, questions have arisen about how Ayra Cards and the First Person Project fit together. The use of language in the Ayra Cards section that is aligned with the First Person Project is not an accident. It is due to a combination of the shared origins and the ongoing alignment work.

5.1. The First Person Network Governance Framework

The first coordinated effort on the First Person Project engaged Ayra directly to help create the starting point for the governance framework that the First Person Project required. This governance framework focused explicitly on the First Person Network - the network of ecosystems that the First Person Project is bringing into being.

Many technology-forward projects overlook governance, leading to failure later in the project. The funders behind the First Person Project understood that laying down a foundational governance framework was critical.

The First Person Network Governance Framework is hosted at Ayra.

5.1.1. Layered & Modular Governance

The Ayra Trust Network allows for layered and modular governance. An organization or ecosystem that wants to share information across ecosystems doesn't have to establish individual agreements and contracts with each ecosystem. If it did, the number of connections would necessarily be small (only the most immediately critical connections would be made). By accepting governance frameworks as entry into a number of ecosystems, a large number of ecosystems can be connected.

Ayra Cards is layered on top of the Ayra Trust Network Governance Framework (ATNGF), as is the First Person Project Governance Framework (FPNGF) - more on that later.

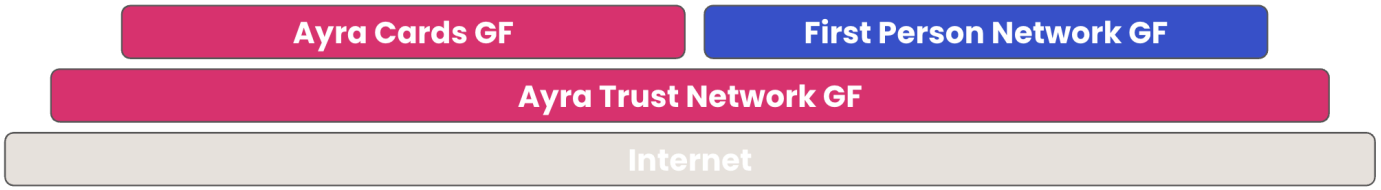

Figure 1: Layered Governance

Ayra Cards modular governance will allow integration with the First Person Project on both a governance and technology level.

These governance frameworks can reference each other to a certain extent. The First Person Network and Ayra Cards governance frameworks are dependent on the Ayra Trust Network governance framework (as in Figure 1 above).

Figure 2 below shows this interconnectedness of the governance frameworks.

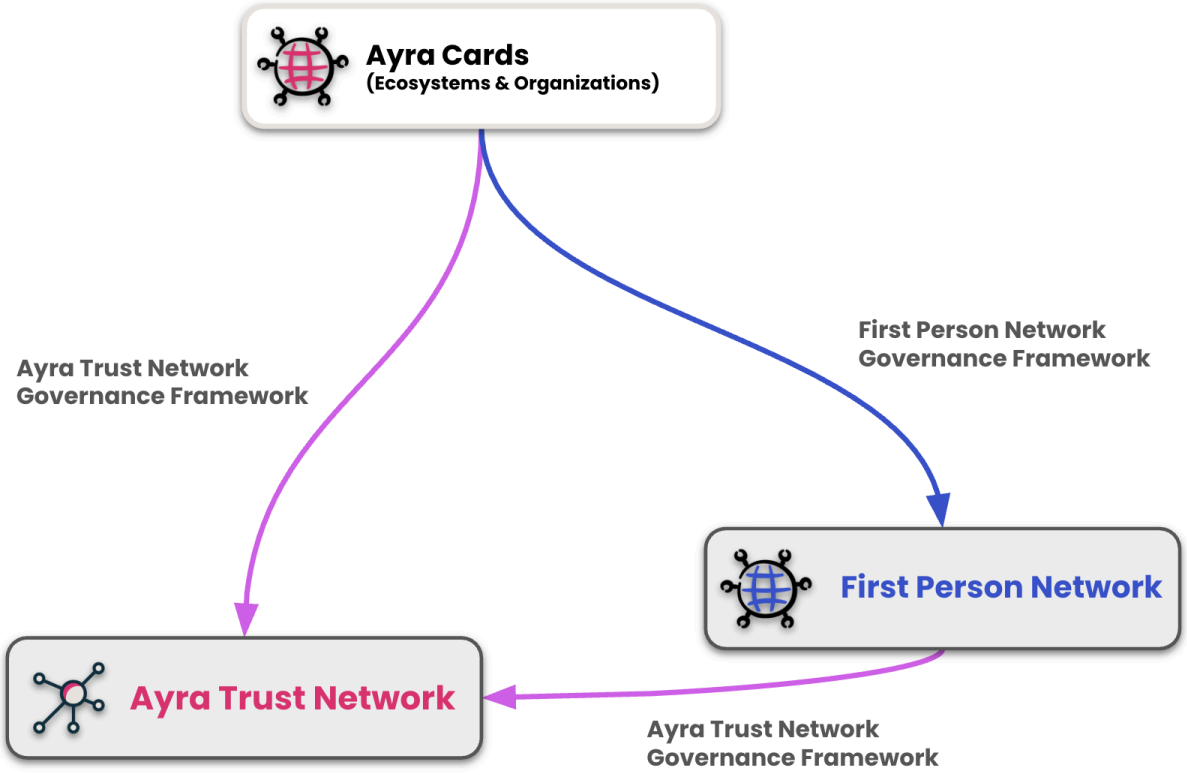

Figure 2: Modular Governance of Ayra Cards, First Person Network, and Ayra Trust Network

5.1.2. Where Ayra Cards Fit

Ayra is focused on using Ayra Cards that are valuable to the members of the Ayra Association. This w

- **Ayra Cards are being built now** - there are no new technologies required. Simply applying existing specifications, standards, and technology. That work is being conducted at Ayra. Members and other interested parties can learn more here: Ayra Cards. They provide a starting point for the First Person Network - creating a pool of employer-issued Ayra Cards that can meet PHC and VRC requirements.
- **Many Ayra Cards are First Person Project Ready** - Ayra Cards that meet the First Person Network requirements will be able to participate in the broad First Person Network - providing Personhood Credential (PHC) and Verifiable Relationship Credential (VRC) capabilities that feed into the First Person Network.

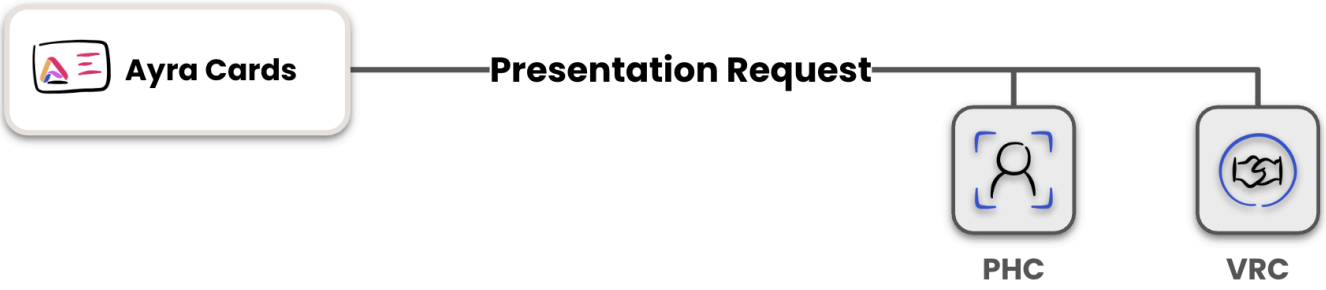

Figure 3: Ayra Cards can meet PHC and VRC requirements

- **Trust Infrastructure** - Ayra is building out the Ayra Trust Network. This includes:
    - **Trust Registries and Registry-of-Registries** - Ayra is leading the adoption and build of the Trust Registry capabilities that the First Person Network will rely upon. Ayra Members already provide trust registry services today for many ecosystems.
    - **Ayra Conformance Testing Suite** - Ayra is focused on building out the conformance testing suite to support the Ayra Cards that go into production. As many Ayra Cards are FPP-aligned, that is helpful for the broader FPP community. The CTS is open source and available for use by any party, but Ayra-specific use is led by the Ayra Association.

5.1.3. Where The First Person Project is Leading

- **Establishing the Network Management** - FPP is designing personal and community/organization network management
- **Decentralized Trust Graph** - FPP is working towards the use of a decentralized trust graph specification and implementation to support pure “edge issuance” and “edge proof of personhood”. Ayra supports these efforts, and as they come to fruition, Ayra will work with its members to plan out adoption.
- **Zero Knowledge Proofs** - FPP is collaborating with multiple parties to develop new zero knowledge proof capabilities that leverage edge-issuance and the decentralized trust graph. As these capabilities mature, they will likely be adopted in the Ayra Trust Network over time.

6. Ayra Cards: Driving Alignment & Network Effects

6.1. Ayra Cards Are An Aligning Force

6.1.1. The Coordination Challenge

Sharing information today isn't working - the digital trust interactions that we perform are chaotically fragmented. Every platform, organization, and system has developed proprietary "handshakes" that create integration nightmares and prevent value creation. Organizations cannot discover what others have that they need, nor can they effectively signal what they possess that might be valuable to potential partners. To use the dance analogy, we simply don’t know what our dance partner is going to need.

The result is **coordination paralysis**: potential value remains trapped in silos because stakeholders cannot reliably discover and coordinate with each other.

6.1.2. Solving the Coordination Challenge

Ayra Cards solve this coordination paralysis by providing standardized interaction patterns that enable organizations to:

- **Discover Hidden Value**: Signal available capabilities and identify coordination opportunities
- **Coordinate Without Compromise**: Maintain competitive advantages while participating in value-creating ecosystems
- **Start the Dance**: Use standardized "first few moves" that reveal what kind of coordination relationship is possible
- **Scale Trust Relationships**: Build from simple interactions to sophisticated coordination through payload architecture

6.1.3. Alignment of Business & Governance

A fundamental part of the Ayra story is that governance plays a critical role in ensuring that parties involved understand the terms and conditions of information sharing. This governance need goes beyond the technology, but also creates the technical connection between ecosystems through the trust registries that are part of the Ayra Trust Network. Ayra Cards will have a lightweight governance framework that is easily adopted by many parties - creating those initial connections that form the Ayra Trust Network.

6.1.4. Alignment of Ecosystems

It is all too easy to assume that ecosystems will open up and connect widely to the world. We've learned that it isn't a normal pattern yet - opening up an existing ecosystem is a non-trivial thing to consider, and creating new open ecosystems requires new "muscles". Ayra Cards allow ecosystems to connect "lightly" - sharing small amounts of information, not everything - to drive both value unlocking (for stranded data), drive traffic (back to source ecosystems), and create simplicity of integration.

6.1.5. Alignment of Core Ayra Technologies

Ayra Cards require both the build and use of all of the core technologies that were initially imagined for the Ayra Network:

- **Trust Registries** - from organizations that are issuing employees, consultants, and customers types of Ayra Cards, to broad ecosystems, Ayra Cards drive the need for deployed Trust Registries.
- **Conformance Test Suite (CTS)** - the CTS forms the integration backbone of the Ayra Trust Network and will be used to test and, in time, certify all built-out Ayra Cards.
- **Type Catalogue** - both the credentials and payload types will be managed in a type catalogue capability. (note: this is a future capability, but Ayra Cards help drive requirements and design).

Figure 4 (below) builds on the governance framework connections shown in Figure 2 - as the ecosystem trust registries create the web of connections that form the Ayra Trust Network. These trust registries wire up the ecosystems - taking the business and governance terms and connecting them at the technology level.

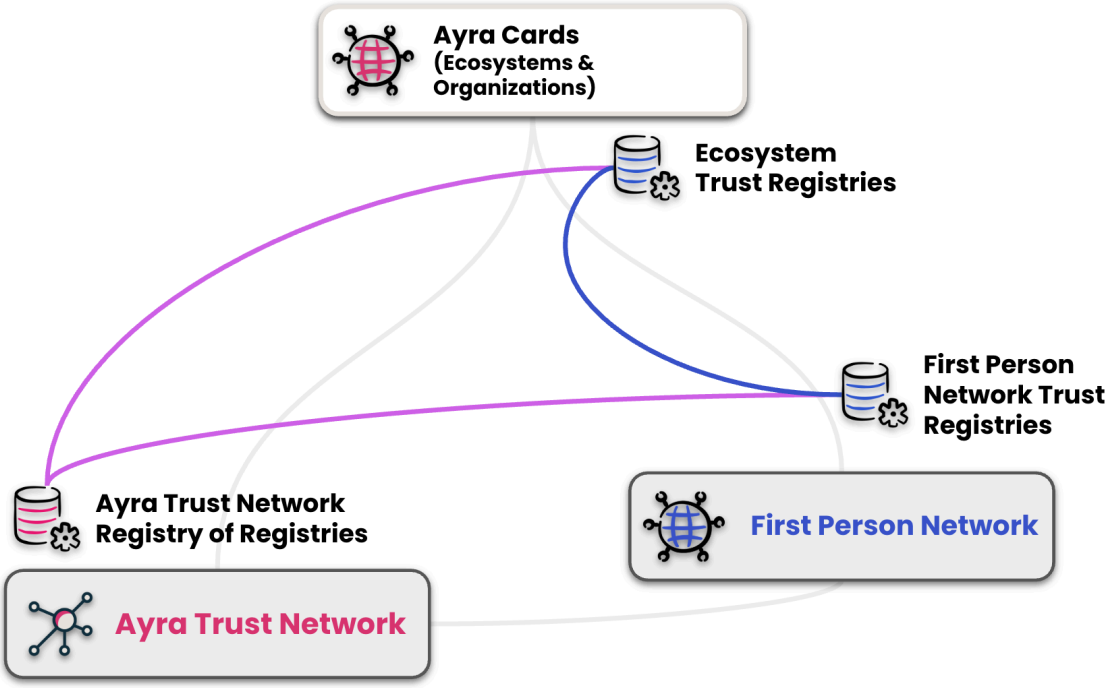

Figure 4: Trust Registries connect ecosystems technically, tied to the governance frameworks

6.2. Network Effects

In the Special Network Effects whitepaper, Ayra outlined the network effects that Ayra Network Credentials created. Ayra Cards drive all four of these network effects:

- **The Trust Network Effect** - because Ayra Cards are designed to work together as a family, they achieve network effects at the credential level. In other words, the more Ayra Cards available in the Ayra Trust Network, the more valuable the Ayra Trust Network becomes for every member. As more ecosystems join the Ayra Trust Network, more trust registries come online, which in turn attracts more ecosystems.
- **Zero to Hero Network Effect** - digital credentials have not been able to tap into broad network connection dynamics to date. One reason is that they require digital wallets to work. Unfortunately, interoperable digital wallets—wallets that use open standard credential formats and exchange protocols that make it easy for developers to build new applications—are still in short supply. With the Ayra Trust Network, Ayra Cards, and the Ayra Conformance Test Suite, we can change that.

- **First Person Network Effect** - Organizations and individuals seek connections for various reasons. There are both same-side network effects and cross-side network effects at play with Ayra Cards.
- **The Trusted Channel Network Effect** - as organizations and people create more and more connections, the number of trusted channels that can be used grows.

7. Ayra Cards: By Members for Members

Ayra Cards is a project that is being developed at the Ayra Association. Ayra is a member-owned, Swill nonprofit. It creates a neutral, antitrust and competition friendly environment.

To learn more about how to participate, reach out to Ayra.