The background is a dark blue gradient with abstract digital elements. On the left, there are concentric circular patterns resembling a stylized eye or a data visualization, composed of various shades of blue and white. Scattered throughout the background are binary digits (0s and 1s) in different orientations and sizes, some appearing to flow or rotate. The overall aesthetic is high-tech and futuristic.

Open ecosystem for supply chain revolution

SCALES

Architectural Principles



Infrastructure independent

Possibility to deploy the system in on-premise & cloud mode, to respond to heterogeneous technical and compliance requirements.



Privacy

Being SCALES a solution based on DLT, privacy of information and correct sharing of data among different network nodes types is a critical constraint.



Instant Finality

Since SCALES aims to build a more efficient and resilient architecture in order to manage large volumes of data or supporting the implementation of enhanced invoicing and eProcurement services, Instant finality is necessary.



Identity of participant nodes

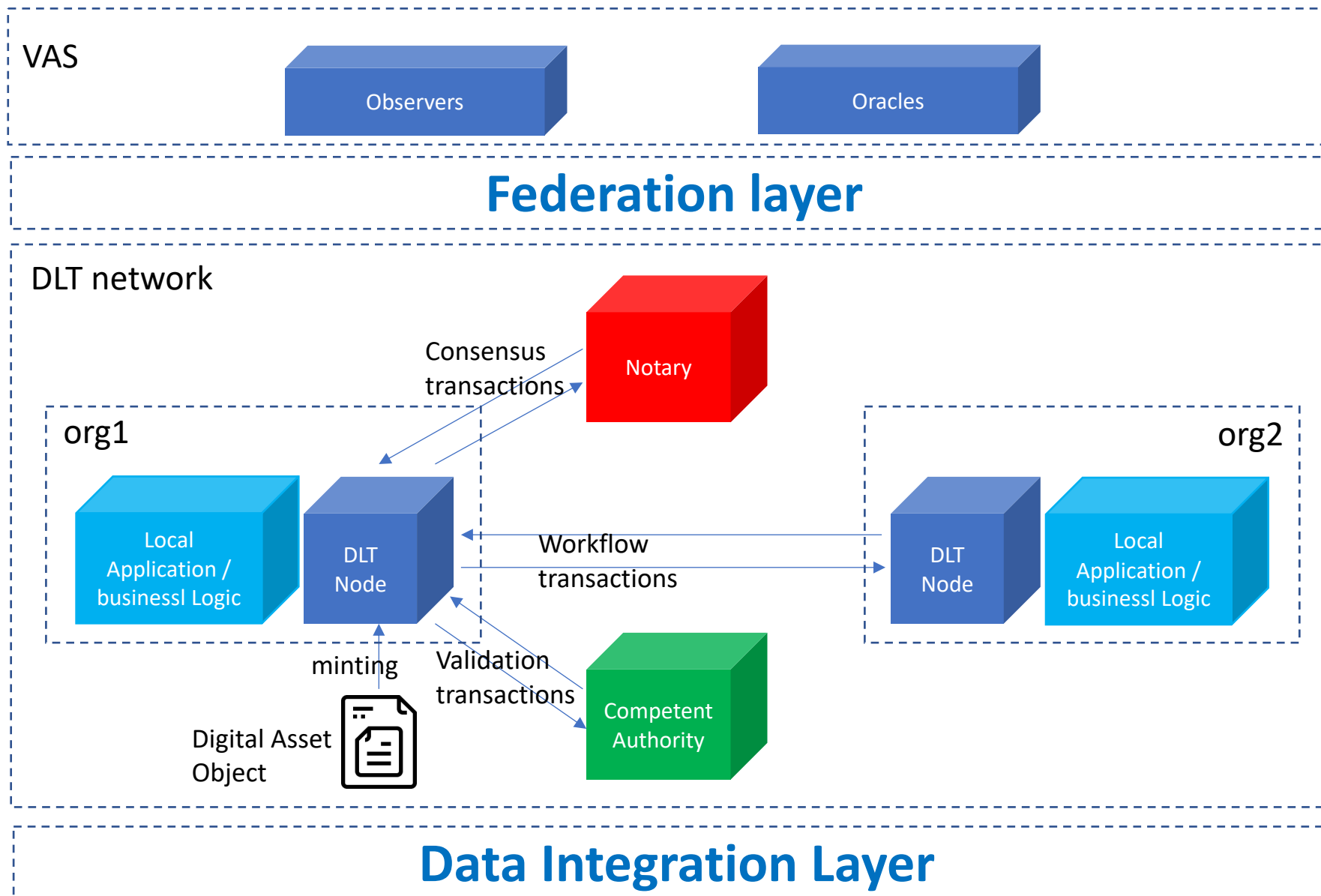
in order to comply with privacy regulation and establish the correct accountability of transactions on data, the Scales node shall be run by legally identified parties.



Software Licensing

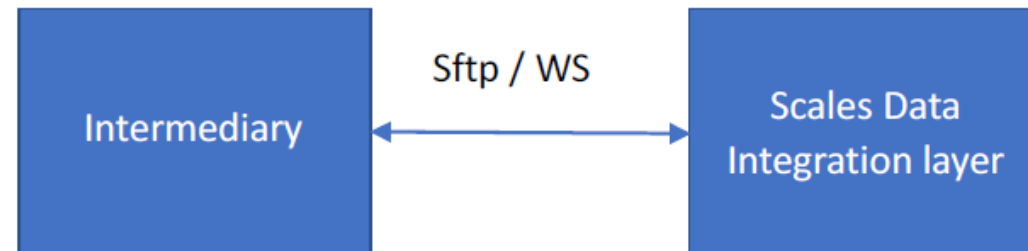
Build a software stack based on Open Source components, leaving to the specific instance provider the freedom to upgrade community / open source version to commercial edition, preserving backward compatibility of software

Design Pattern



Data Integration Layer

- Data integration layer is based on an opensource component allowing ETL (Extract, transform and Load) operation on data.
- It allows hub to upload the data using standard protocol like:
 - RestAPI
 - Event Subscription
 - SFTP/WS

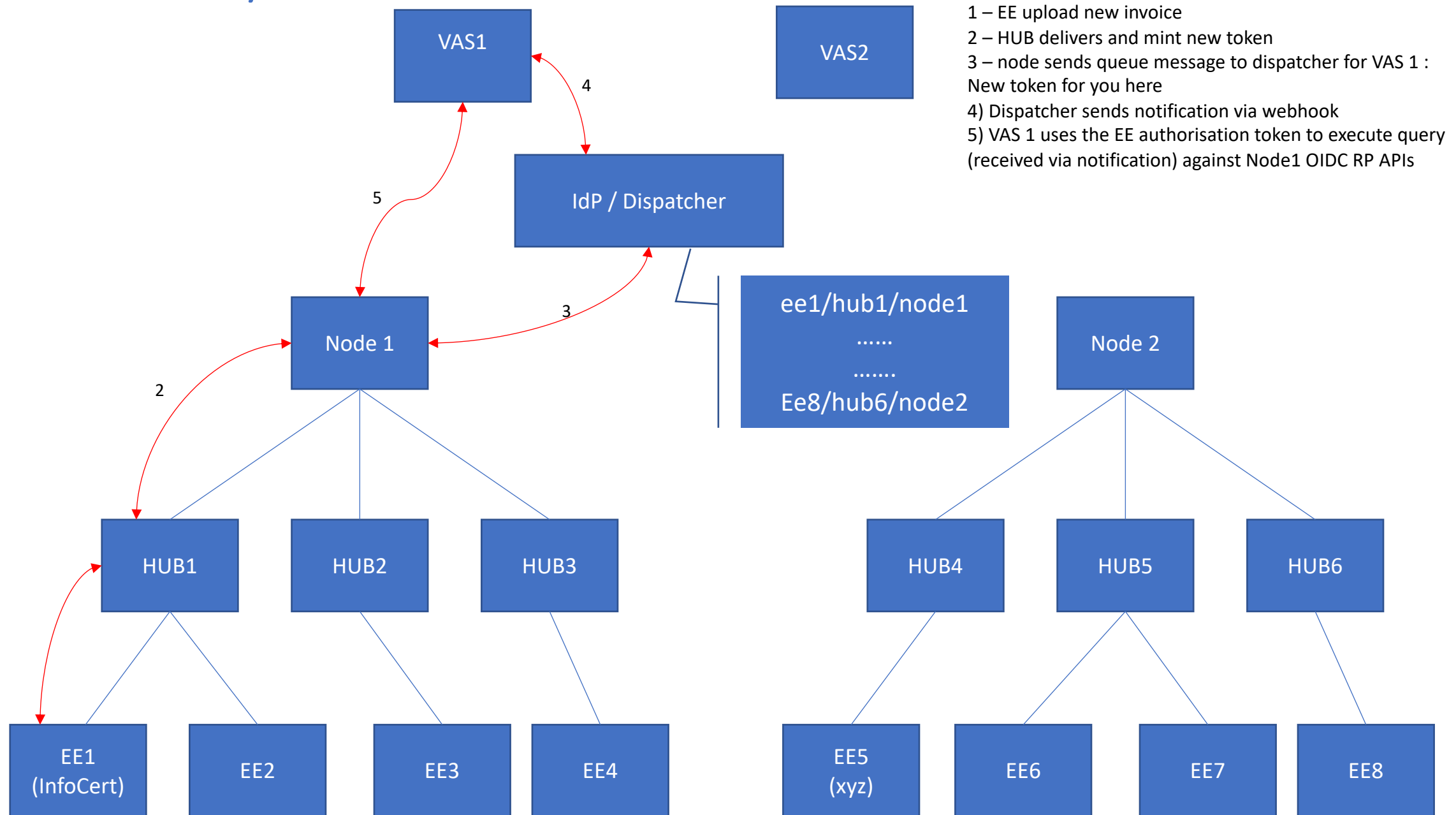


The Intermediary and its Scales node shall exchange x.509 v3 certificate to set up the SFTP Channel. The procedure shall be the same of the SFTP channel set up between and **intermediary and the SDI.**

Federation Layer

- Federation Layer allows third party to register and access private Scales data in order to fetch them and decide to perform transaction.
- **OpenID Protocol** is the technology that unlocks such a critical use case, as it adds to OAuth2.0 protocol all the Identity and signature elements that are fundamental for a privacy preserving, secure and auditable system.
- The federation process is splitted in two main use case:
 - **Third Party registration** | Each TP must enroll its client and store the authorized ClientID
 - **End Entity onboarding** | Each EE shall explicitly authorize the third party to access its own data on Scales

Federation Layer





«adottare il clearing come principio architettonico centrale di un nuovo sistema interamente riformato»

Cosa

Un Sistema di finanziamento che permetta alle imprese di qualsiasi dimensione di gestire crediti e debiti commerciali attraverso la *compensazione multilaterale*

Come

Identificando filiere di società connesse tramite algoritmi innovativi di clustering.

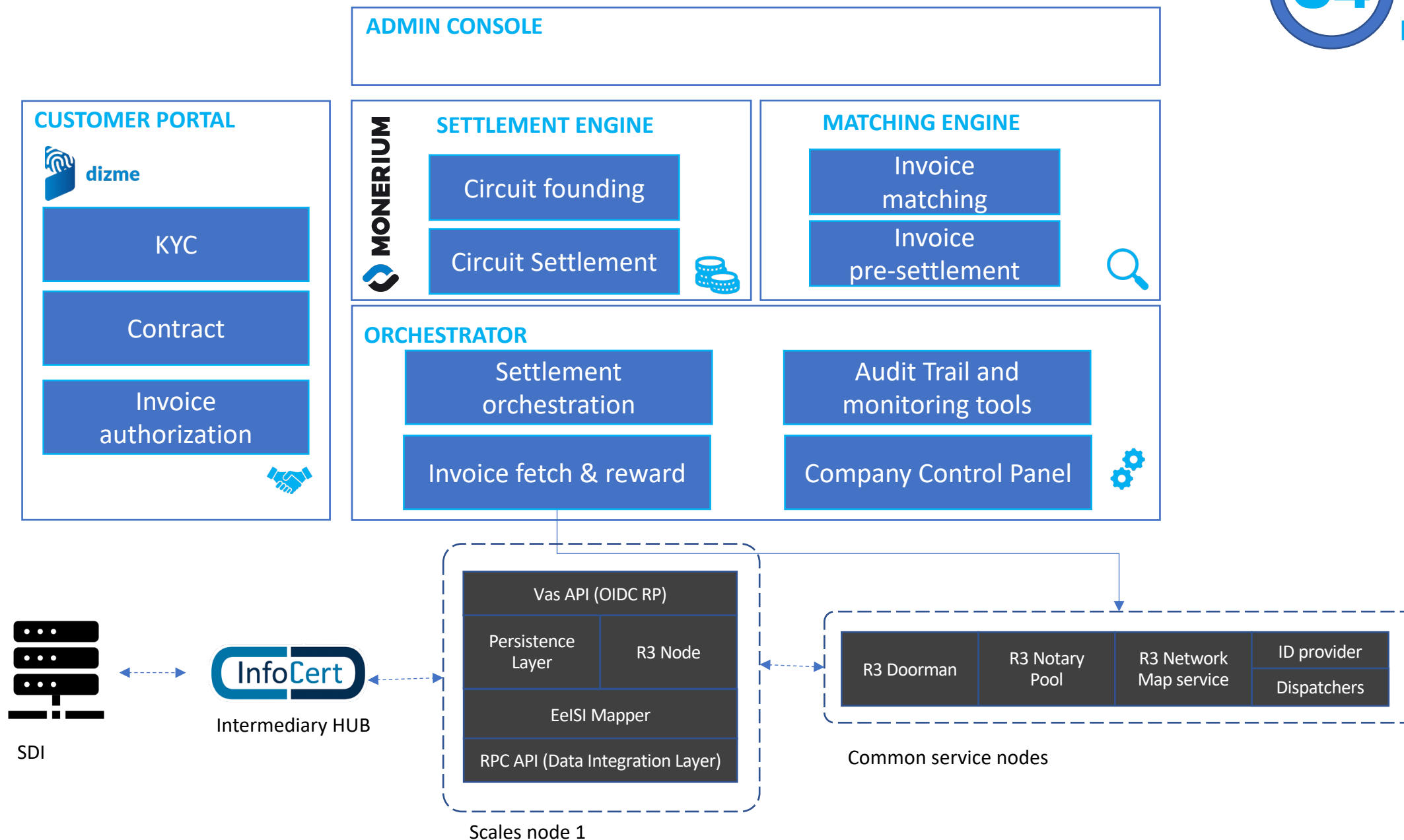
Iniiettando liquidità nel Sistema grazie ad un network di finanziatori

Gestendo i pagamenti in maniera efficiente con processi *on-chain*

Perchè

Liberare liquidità per il rilancio delle imprese italiane

Dall'idea innovativa al VAS





THANK YOU

Open Ecosystem for supply chain Revolution

