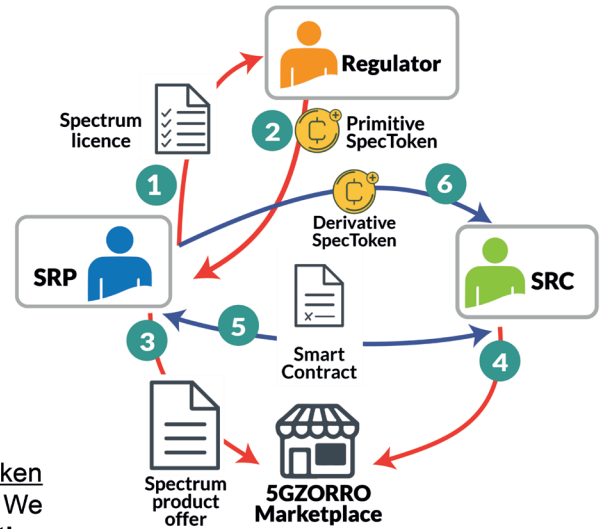


Automated and Secured transactive Spectrum sharing

5GZORRO introduces a Marketplace that enables to trade different network resources, including spectrum.

Key aspects:

- The **Spectrum Resource Provider (SRP)** publishes **spectrum resource offers**
- An **SRP** interested in trading on a particular licensed band submits the **Spectrum License** to the **Regulator**, who approves the SRP to create spectrum resource offers on that licensed band
- **Spectrum resource offers** are constrained to a Spectrum License in terms of frequency range, area of application, and lease time.
- Upon agreement of **price** and **SLA** terms, a **Spectrum Resource Consumer (SRC)** sets up a **Smart Contract** with the **SRP** for the **temporal transfers of rights** for the spectrum resource.



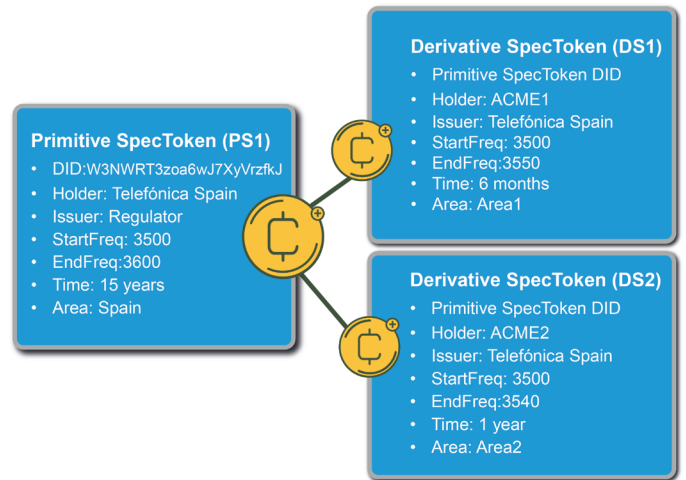
5GZORRO leverages the concept of **SpecToken**, a **Non-Fungible Token (NFT)**, to monitor current and past utilisation of spectrum resources. We differentiate two types of SpecToken: **Primitive** and **Derivative SpecToken**

Primitive SpecToken:

- Issued by the Regulator to SRPs
- Used to create spectrum product offers within the boundaries of the Primitive SpecToken

Derivative SpecToken:

- Issued by an **SRP**
- It is a **"fraction"** of a valid **Primitive SpecToken** in terms of **frequencies**, **area of application**, and **time**.
- The holder has the exclusive use of the spectrum resource in 5GZORRO
- If the leased spectrum be misused or incurring in an **SLA violation**, the 5GZORRO will send the SpecToken back to the issuer (i.e., SRP)
- Upon smart contract termination, the **Derivative Spectoken** returns to the SRP



Primitive and Derivative SpecToken lifecycle phases:



SpecToken can be moved or redeemed based on termination of the lease or an SLA breach detection

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5GZORRO Consortium

