What makes a chain standard?

The standard configuration within the OP Stack ensures that chains deployed in the Superchain ecosystem adhere to a consistent set of technical and governance parameters. This standardization is critical for Superchain interoperability, network security, and ease of upgrading your chain.

This guide provides an in-depth explanation of what defines a standard configuration, how the op-deployer aids standardization, and why adhering to these standards is essential.

What is a Standard chain?

A standard chain in the OP Stack refers to a rollup that adheres to the following principles:

1. Technical conformance:
2.
    - Compliance with the consensus parameters, policy parameters, admin roles, and service roles defined in the specifications.
3.
    - For more details, please see the OP Stack Configurability Specification(opens in a new tab)
4.
    - .
5.
    - Utilization of officially supported features and modules of the OP Stack.
6. Governance alignment:
7.
    - Adherence to the Standard Rollup Charter
8.
    - .
9.
    - Transparent and collaborative decision-making aligned with the Superchain ecosystem.
10. Interoperability:
11.
    - Maintaining compatibility with the Superchain protocol level cross-chain interactions.

Chains that deviate from these principles, such as introducing unsupported features like custom gas tokens, are considered non-standard configurations.

Role of op-deployer in standardization

The op-deployer is a powerful tool designed to automate and streamline the deployment of standard configuration-compliant chains. Key features include:

- Default values:
- op-deployer provides default values that adhere to standard specifications.
- Ease of customization within standards:
- The op-deployer tool allows for overriding default values. For example, you can override the L2 block time to 1s, which is standard. However, please ensure you know what you're doing when applying overrides because they may violate standard specifications.

By using op-deployer, chain operators can reduce the complexity of chain deployment while ensuring alignment with Superchain standards.

Why standardization matters

Standardization benefits the Superchain ecosystem in several ways:

- Interoperability:
- A standard stack and security model makes your chain eligible for interactions between other standard chains, such as single block cross-chain messaging and token transfers.
- Simplified upgrade path:
- Reduces the complexity of upgrading your chain to the latest version.
- Reduced Support Overhead:
- Minimizes the need for custom support by ensuring uniformity across deployments.

Standard features

- Default system contracts:

- Core protocol contracts must use governance approved release implementations of the OP Stack to provide security and compatibility.
- Specified sequencer configurations:
- Sequencer settings must follow prescribed parameters for transaction ordering and submission to maintain network stability.

What is Not Standard?

Certain configurations are explicitly not part of the standard setup. For example:

- Custom Gas Tokens:
- Introducing a gas token other than the default is currently not considered standard.
- Modified system contracts:
- Any alterations to core system contracts break standardization and aren't supported in the official OP Stack specification.

For a detailed list of standard configurations, refer to the Standard rollup configuration page .

Superchain Registry

The Superchain Registry is the authoritative index of all chains within the Superchain ecosystem. It ensures:

- Transparency:
- All registered chains are publicly listed with their configurations.
- Superchain levels:
- Chains listed in the registry are denoted with a superchain_level (opens in a new tab)
- which tells you which chains are standard.
- Community trust:
- Being part of the registry signals reliability and alignment with Optimism Collective principles.

Next Steps

1. Understand standards:
2. Familiarize yourself with the OP Stack specifications(opens in a new tab)
3. and the Blockspace Charter.
4. Use op-deployer:
5. Leverage op-deployer to ensure your chain aligns with standard configurations.
6. Seek guidance:
7. Consult the developer support(opens in a new tab)
8. team for clarifications on standardization.
9. Contribute to the ecosystem:
10. Engage with the Optimism Collective(opens in a new tab)
11. to share feedback and propose improvements.

References

- OP Stack Specifications(opens in a new tab)
- Blockspace Charter
- Superchain Registry(opens in a new tab)