



Alchemy Technical Requirements for Network Partners

Overview

This document sets forth the technical requirements applicable to blockchain protocols or node networks (“Network”) supported by Alchemy. The applicable Network team should inform Alchemy as soon as possible if it believes it is not currently meeting these requirements so that the parties can jointly agree on the Network’s timeline for resolving any issues. If these requirements are not met, Alchemy reserves the right to delay launch, limit customer support or release of its APIs, developer tooling, and related features or functionalities for the Network (“Offerings”), or otherwise apply the appropriate tagging (e.g. “Alpha” or “Beta”) to indicate the maturity of the Offerings. If Alchemy reasonably concludes that the requirements will not be met during the term of an applicable agreement with the Network, Alchemy reserves the right to terminate the agreement or the relevant portions thereof.

Why Impose Node Management Standards?

The purpose of these technical requirements is to promote the success of Alchemy’s partnership with the Network by reducing the risk of outages and failures at the Network level so that developers have a consistent and reliable base layer upon which to build applications for end users that grow the ecosystem. Standards and improvements suggested in this document are intended to bolster the Network’s ecosystem and benefit node operators, blockchain protocol teams, individual developers, end users, and consumers. A consistent standard is beneficial to all of the participants in the ecosystem for the following reasons:

1. *Node management standards promote higher rates of decentralization.* Standards enable a single playbook for running blockchain nodes. This incentivizes participation in decentralized networks by reducing the cognitive overhead of familiarizing node operators with a particular technology and lowering the barrier to entry for running nodes.
2. *Node management standards bolster developer adoption.* Standards enable predictable, stable, and highly available infrastructure when run at scale. Reliability, availability, and scalability are key for developers looking to bring their applications to market.
3. *Node management standards support safer ecosystems.* Standards allow for node managers to more quickly and safely upgrade nodes. Like all software, node clients may occasionally have bugs and vulnerabilities that require hotfixes that need to be deployed in a time-sensitive manner.

Partnership Technical Requirements

In order for Alchemy to support a Network, the below technical requirements must be met to streamline integration with the Alchemy infrastructure and provide safe mechanisms for changes and updates. Standardizing a set of development best practices will help promote a high threshold of quality and safety for the ecosystem.

Network stability

Required:

- Networks that frequently suffer deep re-orgs shall be considered in Beta.
- Networks that suffer frequent network stoppages shall be considered in Beta until the system stabilizes.

Performance Benchmarking/Networking

Required:

- For EVM-equivalent nodes, all EVM-equivalent execution based methods should exhibit P99 on the **order of seconds** and a P50 on the **order of tens of milliseconds** to execute under high load (1000+ concurrent QPS). For methods whose runtime can exceed these estimates due to user input, they should be clarified ahead of integration and exceptions will be made.
- Systems should not undergo scheduled re-genesis events
- Unstable/changing API specs (e.g. method names, method protocols, request/response payloads) shall be considered in Beta until the system stabilizes.

Processes

Required:

- Non-backward compatible change releases (e.g. hard forks, irreversible change in data formats) should be scoped to be as minimal as possible, and node operators (including Alchemy) must be given at least 6 weeks notice and 4 weeks of early access with new node binaries for testing.
- Nodes must be able to be instantiated on demand by Alchemy to handle auto-scaling, potentially up to a predetermined cap, without external limitations (e.g. no requirements for public keys).

- Public API documentation should be communicated before any public launch, including Beta launches.
- Alchemy requires a point-of-contact in the US time zone with sufficient expertise in the client binary to escalate production level issues in a timely manner (response time: 1 hr for P0 issues; 1 day for P1 issues), and they must be reachable 24/7 by telephone, Telegram, or Slack.
 - A P0 issue shall mean an outage attributable to node software or the network itself.
 - A P1 issue shall mean elevated error rates or latencies attributable to the node software or the network, but not to a level that breaches Alchemy's SLAs.
- All commits should be QA'd and appropriately load tested to ensure there are not performance regressions in 200 response rate, or data correctness issues.
- 24/7 phone access (anticipated only for usage in high priority instances) and a text thread with the CEO, executive team, and core infra team.

If any of the above requirements are not met, the Network will be considered in Beta until remediated, and support by Alchemy will be subject to additional charges.

Please contact Alchemy if you have any questions or concerns regarding these requirements.