



SRE Best Practices for API Design

Navendu Pottekkat



About Me

Developer Advocate at API7.ai

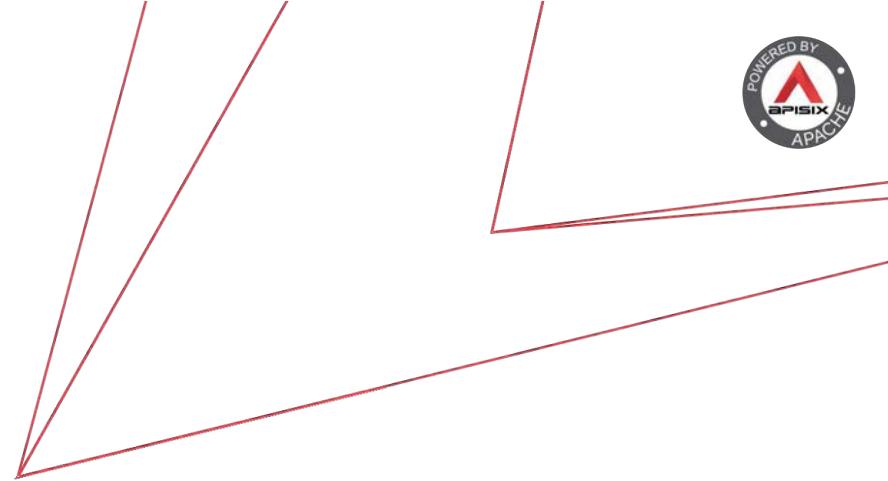
Contributor to Apache APISIX

Former CNCF **Maintainer**

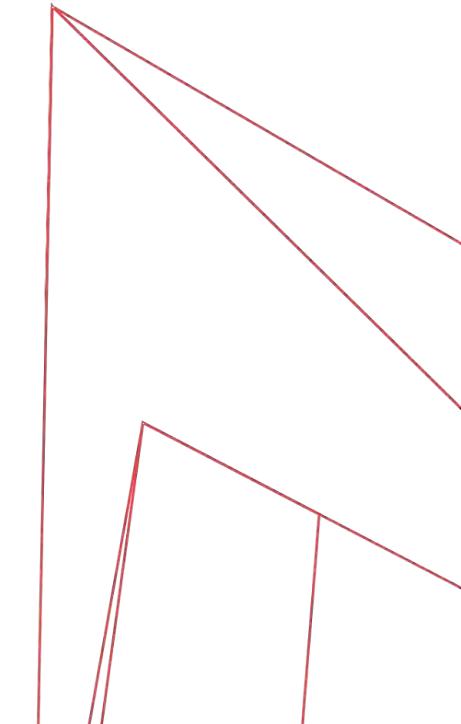
GSoC and LFX **Mentor**



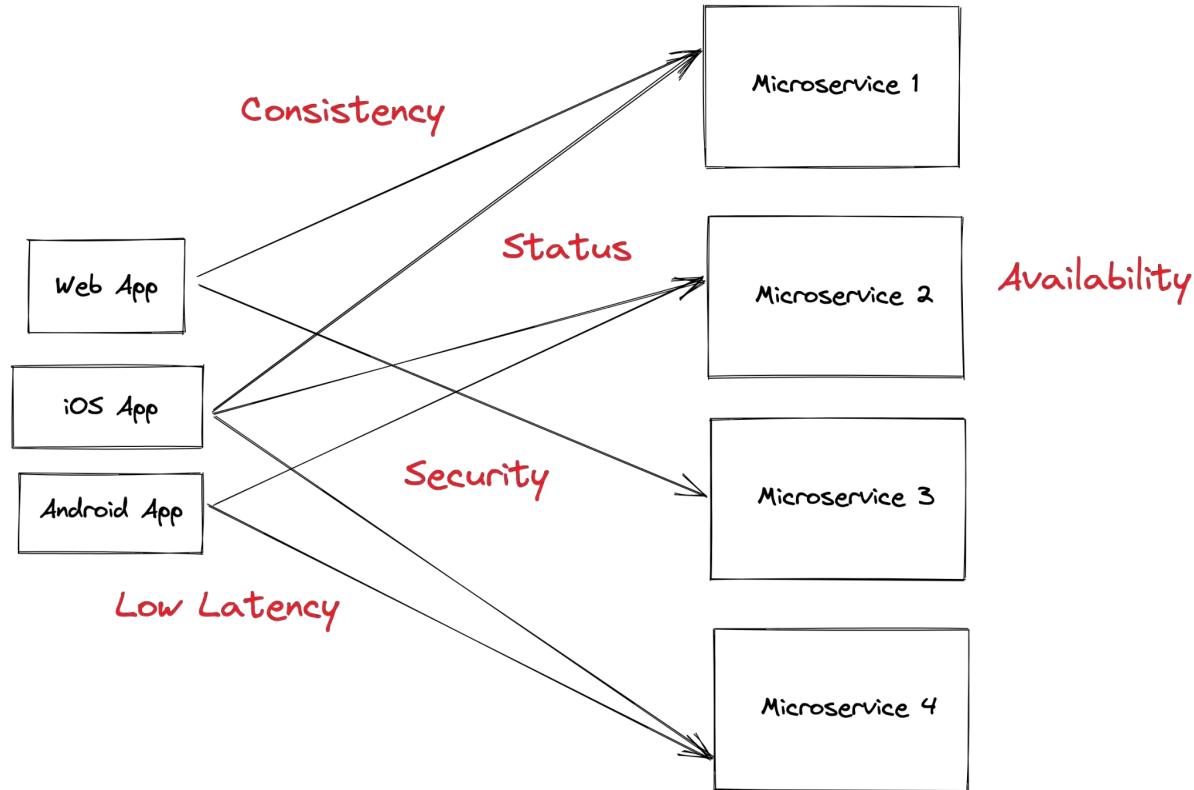
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Reliability of APIs



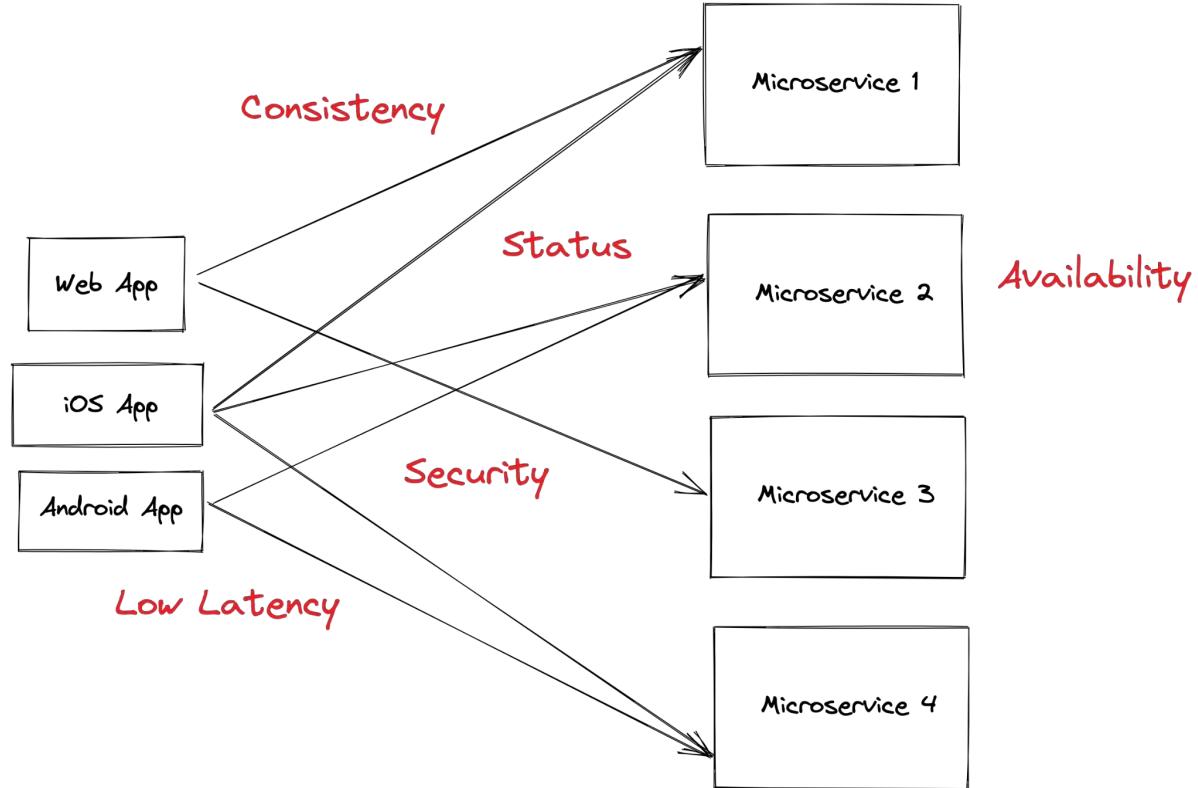
Reliability of APIs



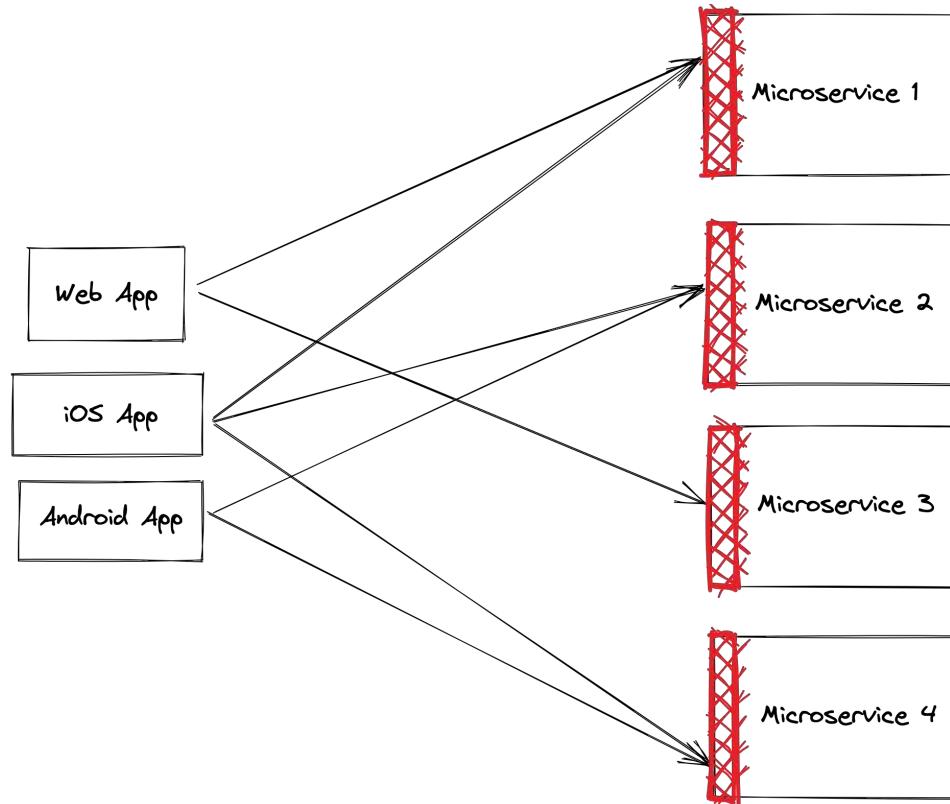
Problem with Traditional API Architectures

A red line graph is positioned on the right side of the slide. It features a vertical line segment and several diagonal line segments that form a series of peaks and valleys, suggesting a complex or problematic process.

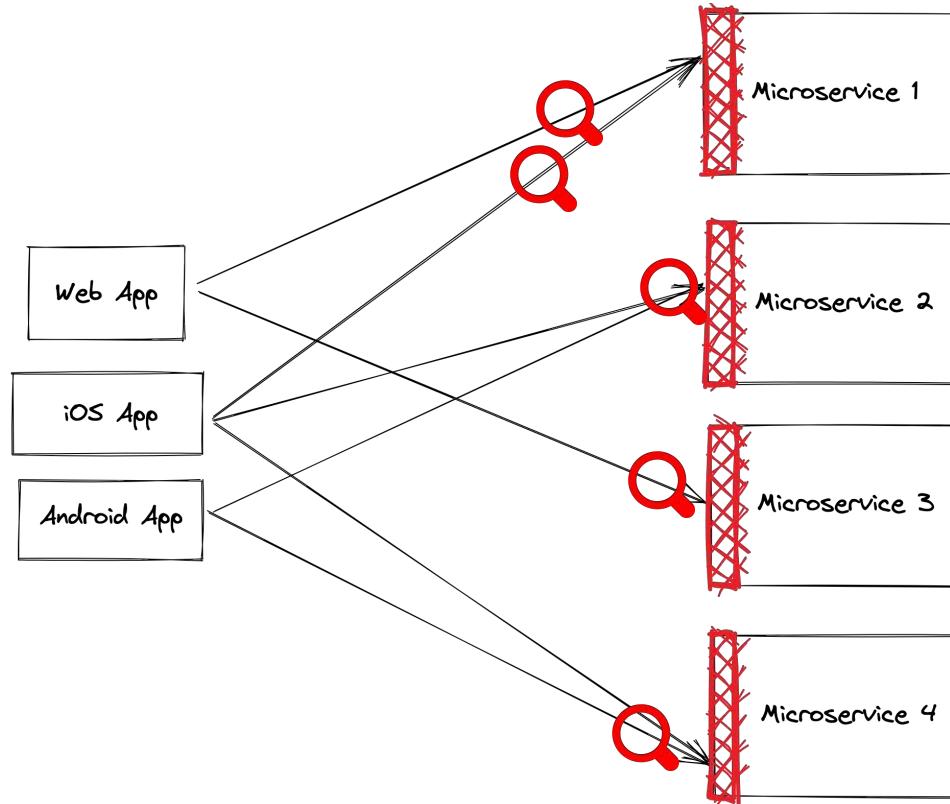
Problem with Traditional API Architectures



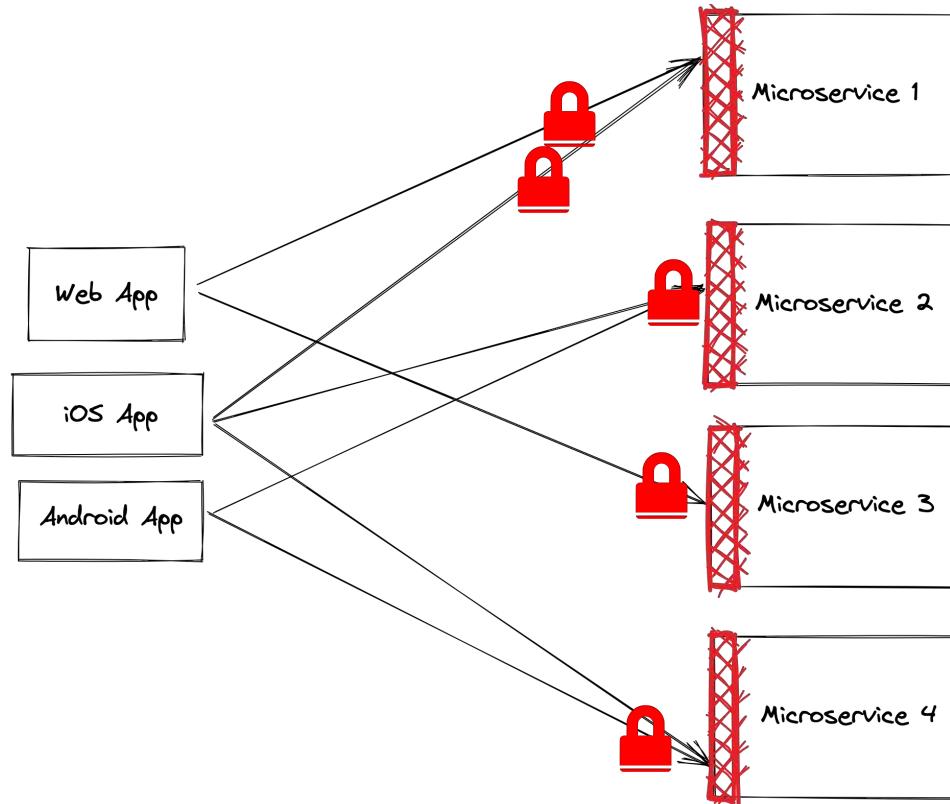
Problem with Traditional API Architectures



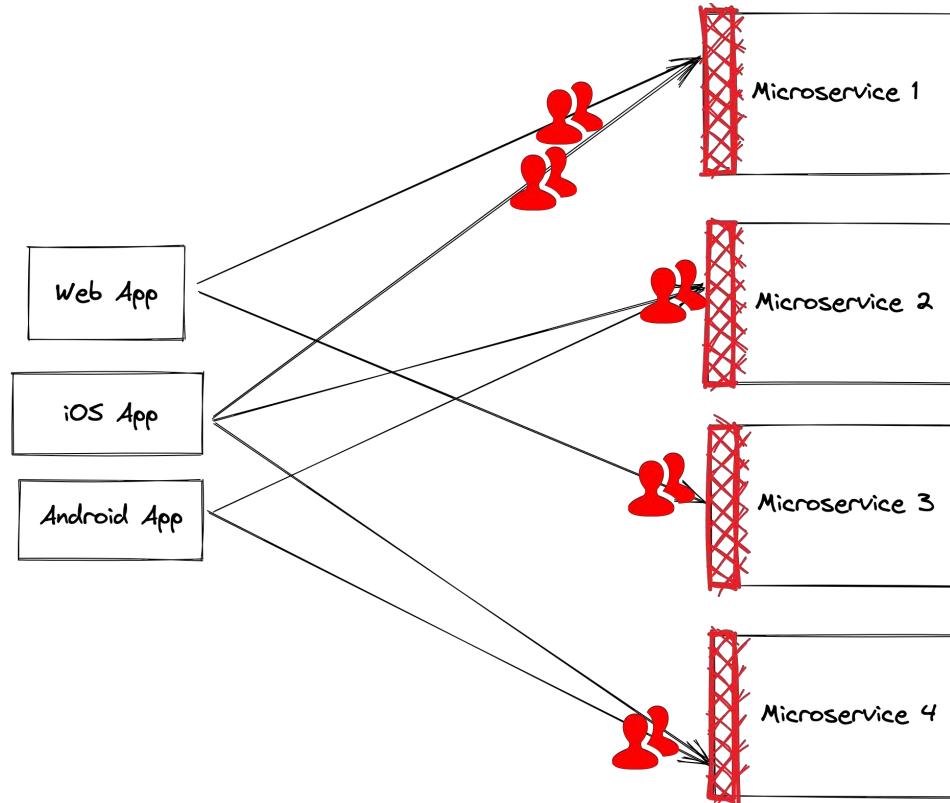
Problem with Traditional API Architectures



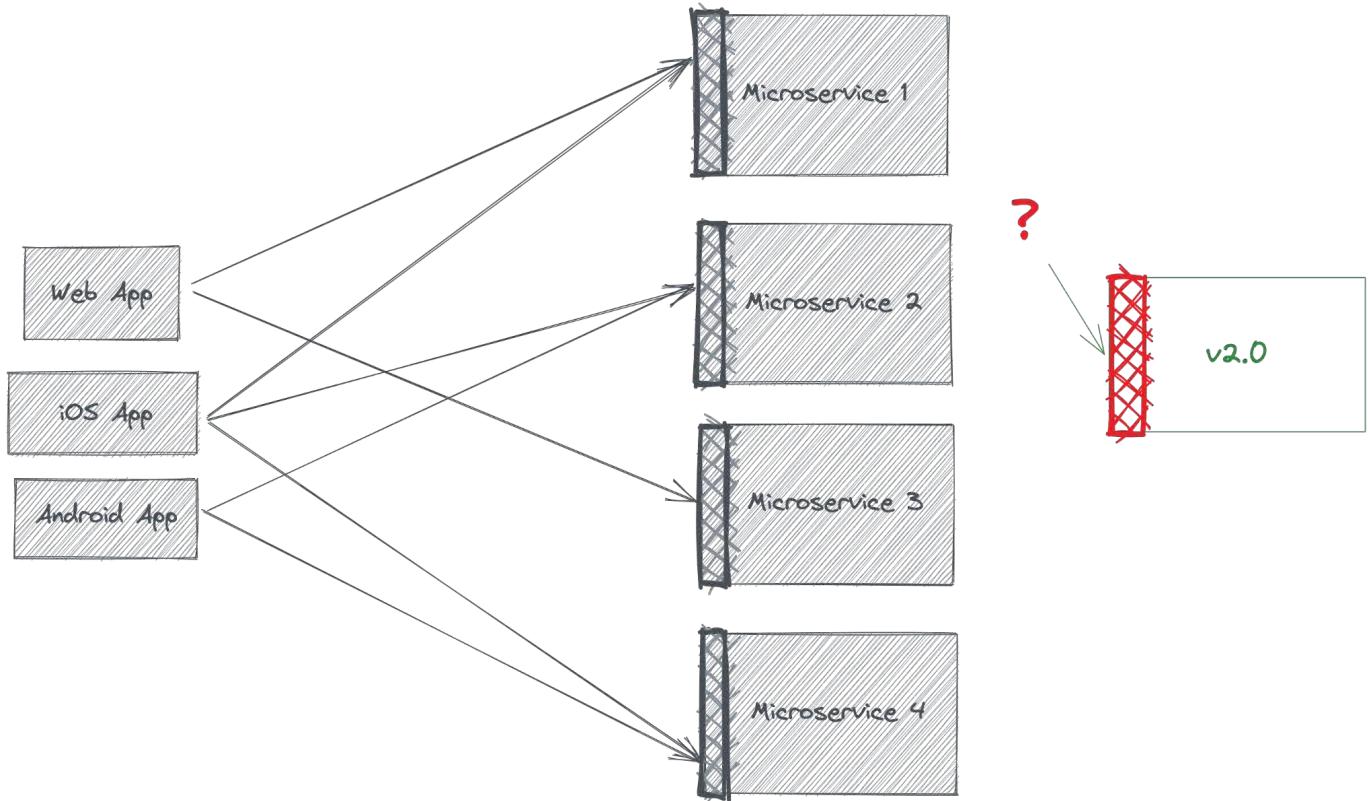
Problem with Traditional API Architectures



Problem with Traditional API Architectures

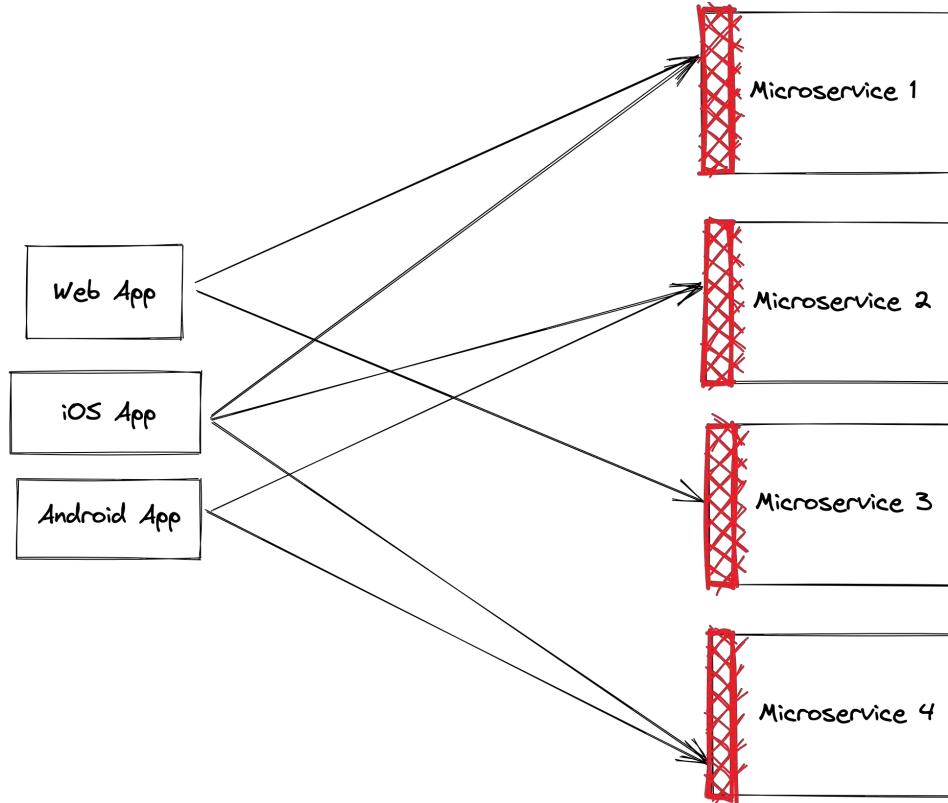


Problem with Traditional API Architectures

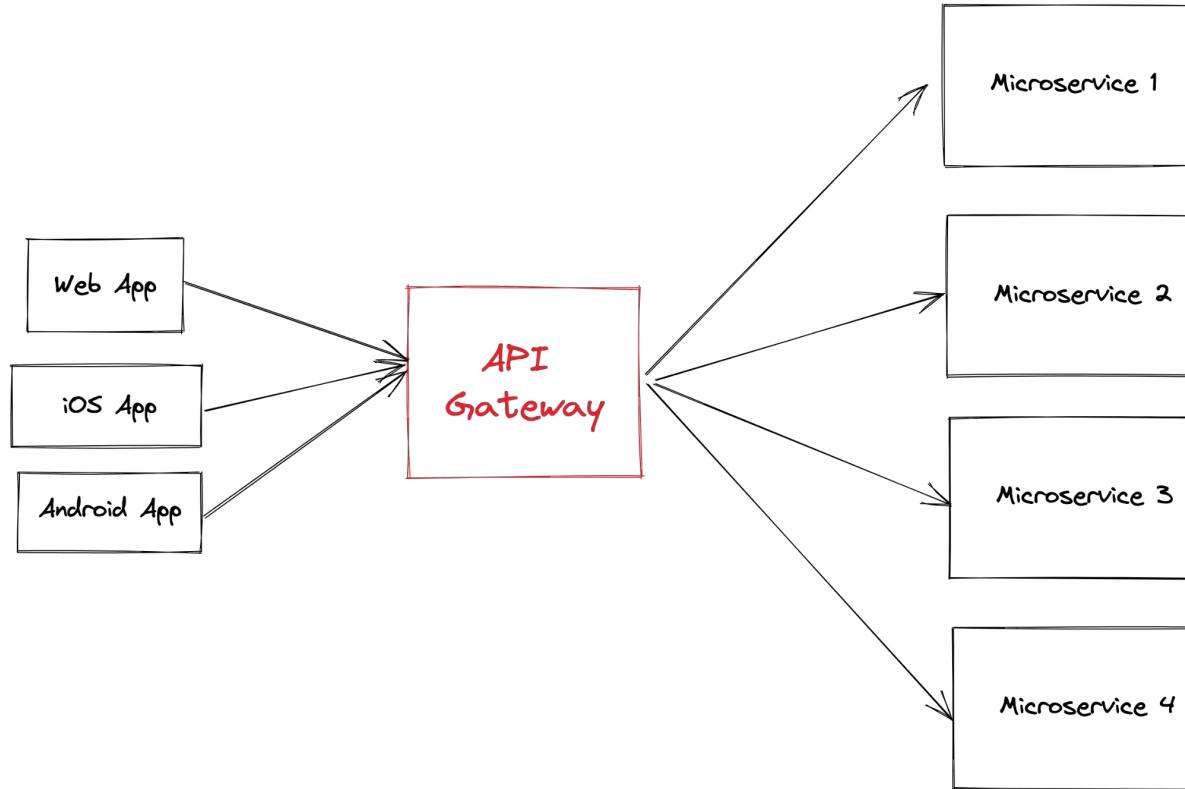


Evolving to API Gateways

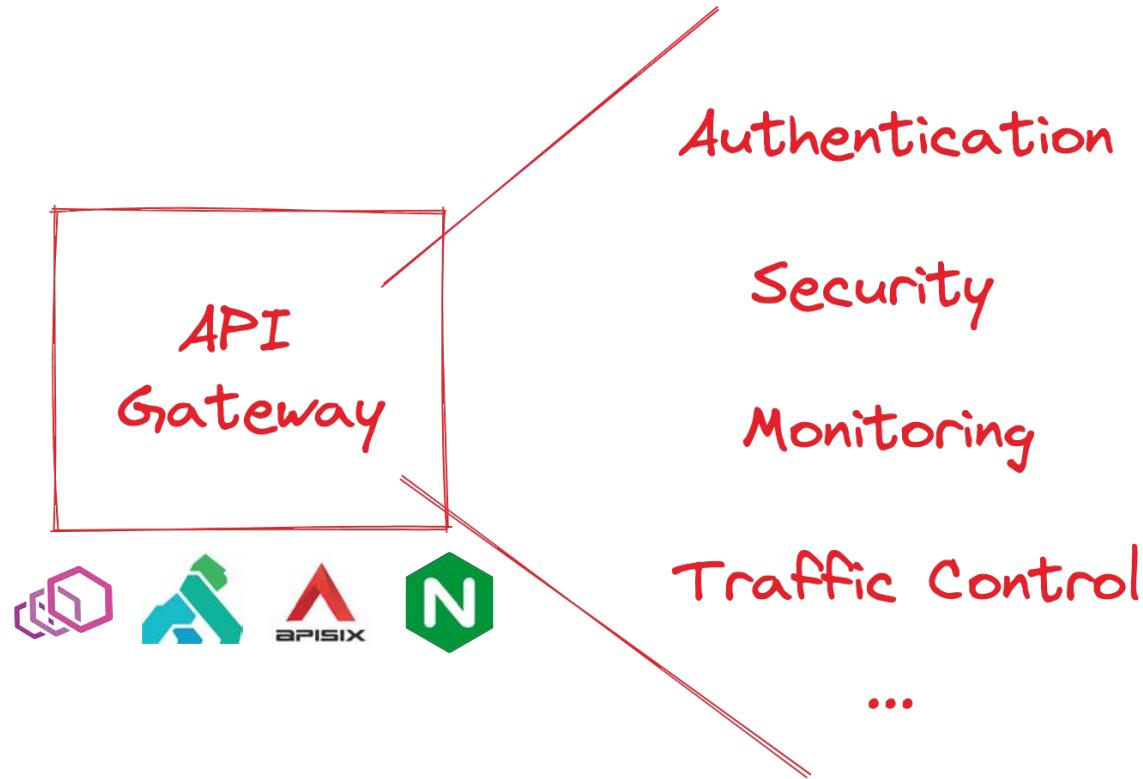
Evolving to API Gateways



Evolving to API Gateways

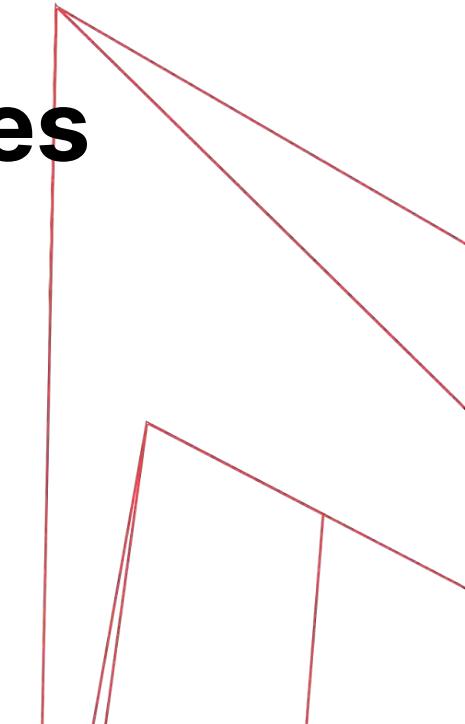


Evolving to API Gateways





Reliability Best Practices *with API Gateways*



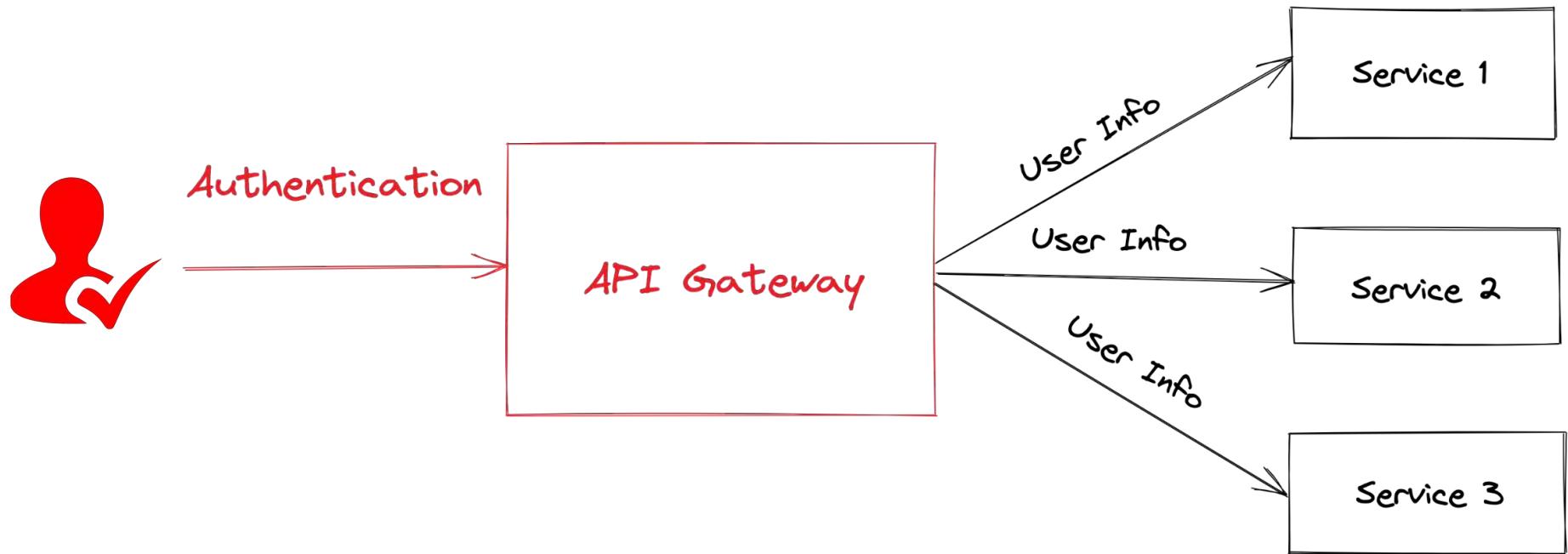


Authentication and Security



Authentication and Security

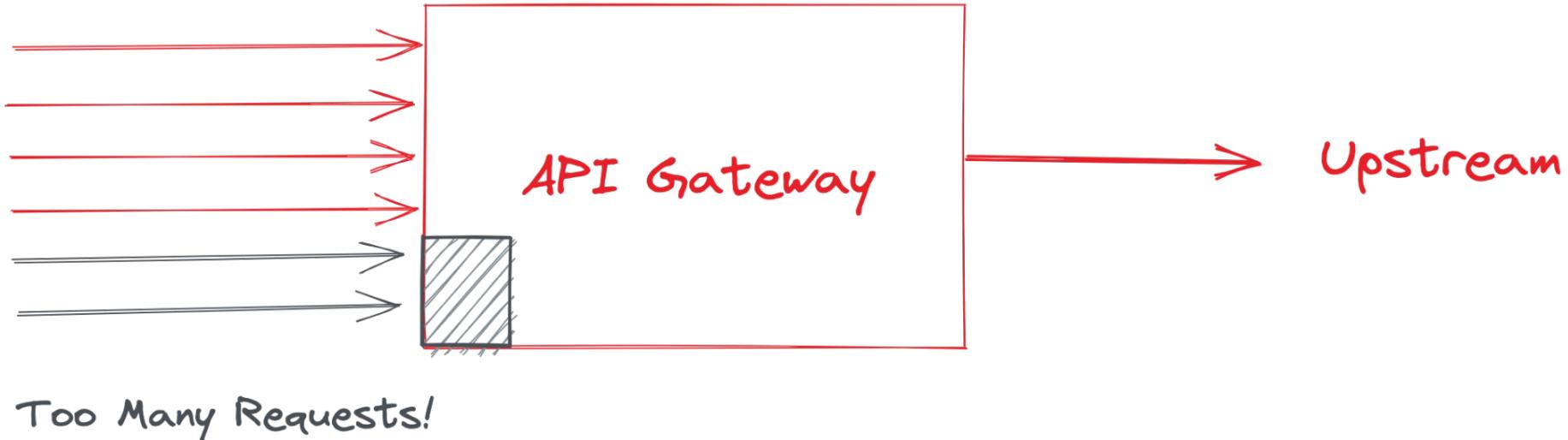
User Authentication



Authentication and Security

Rate Limiting

Reject/Delay

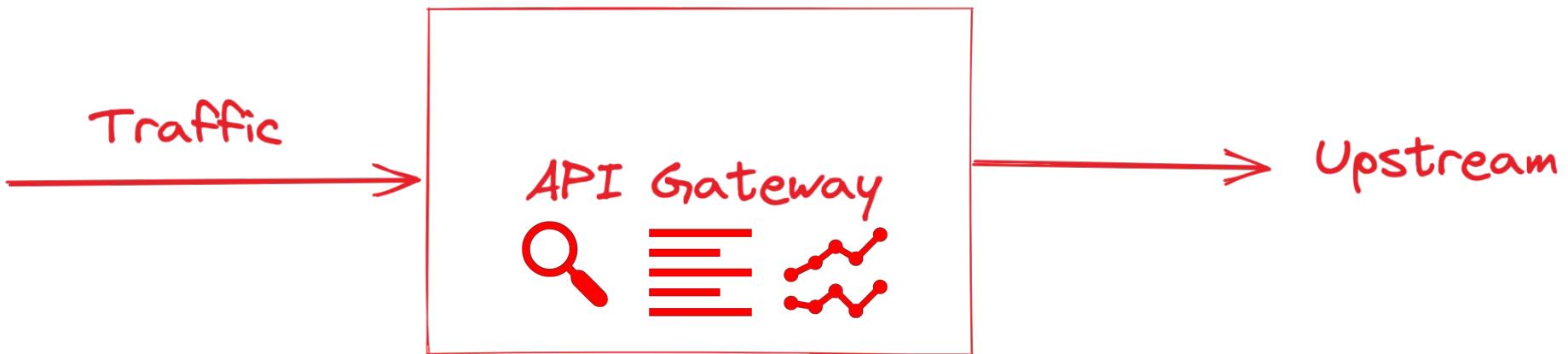


Monitoring and Observability

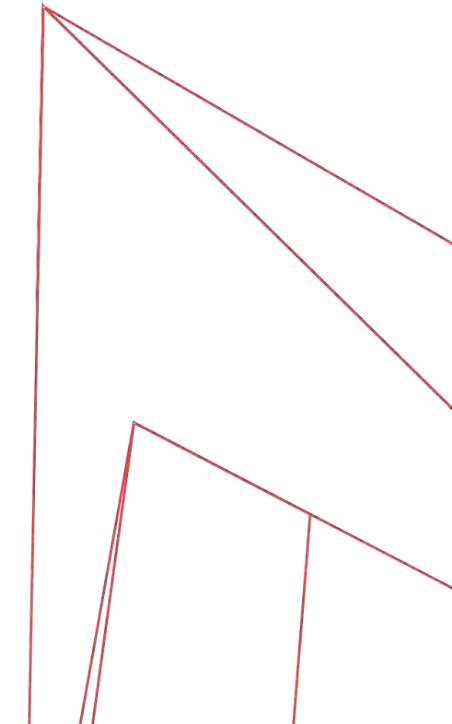


Monitoring and Observability

Tracing, Logging, and Metrics

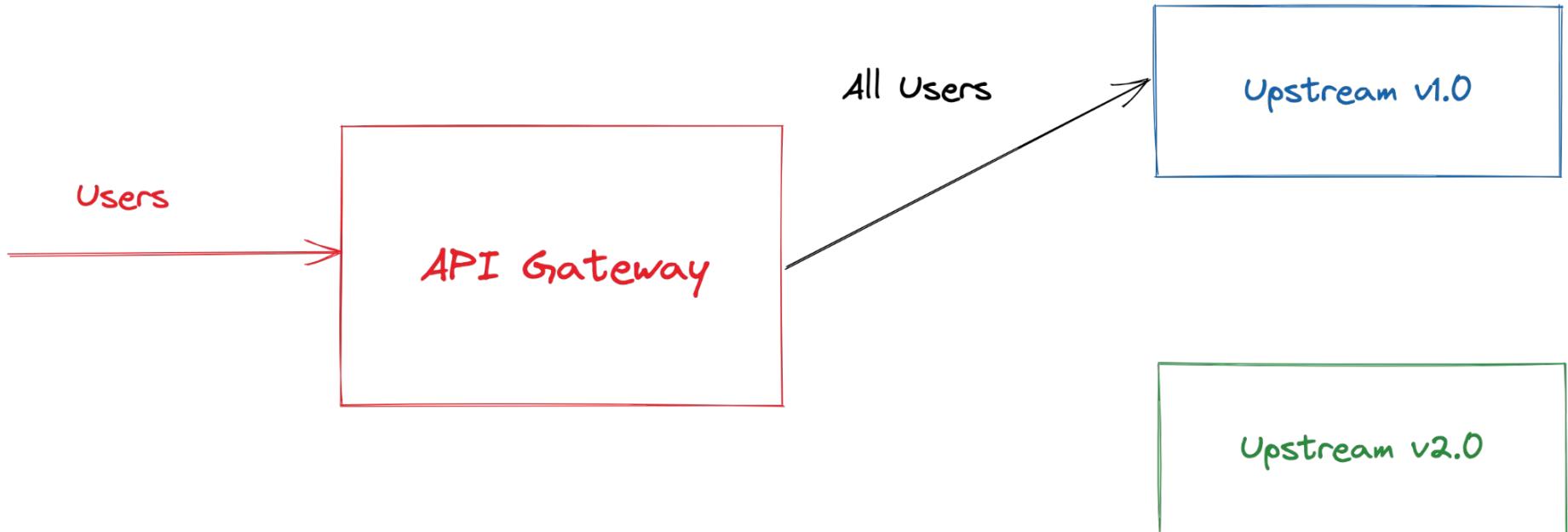


Version Control and Zero Downtime



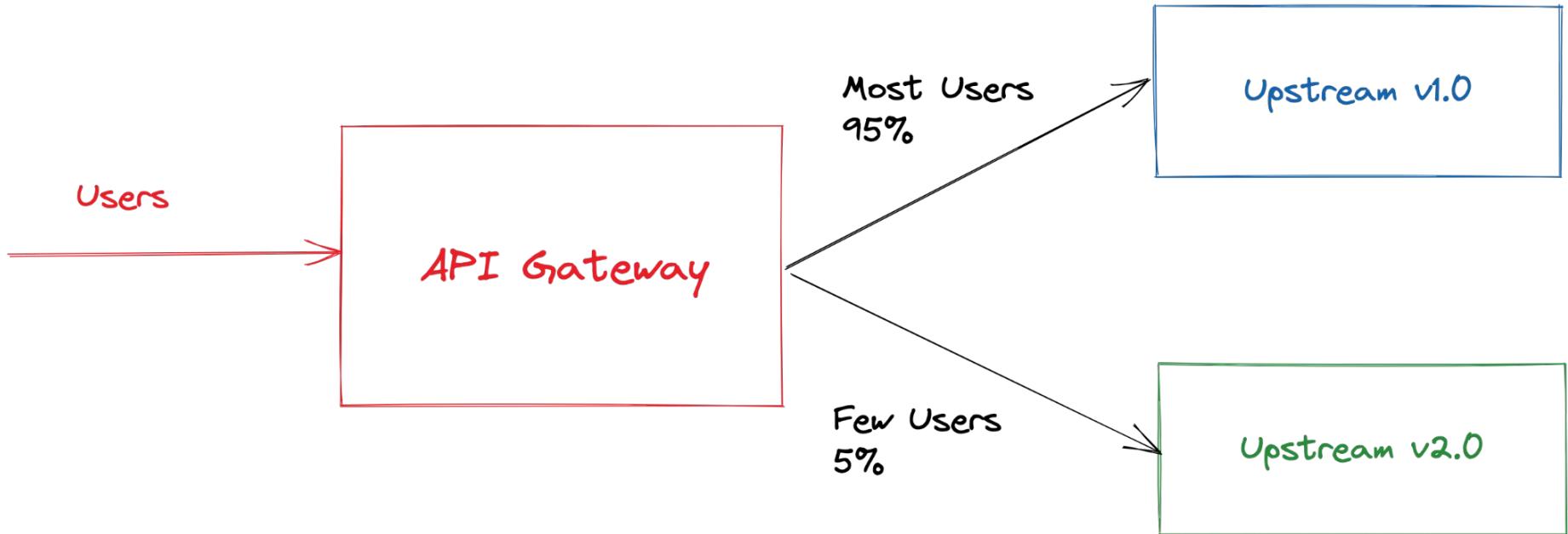
Version Control and Zero Downtime

Canary Release



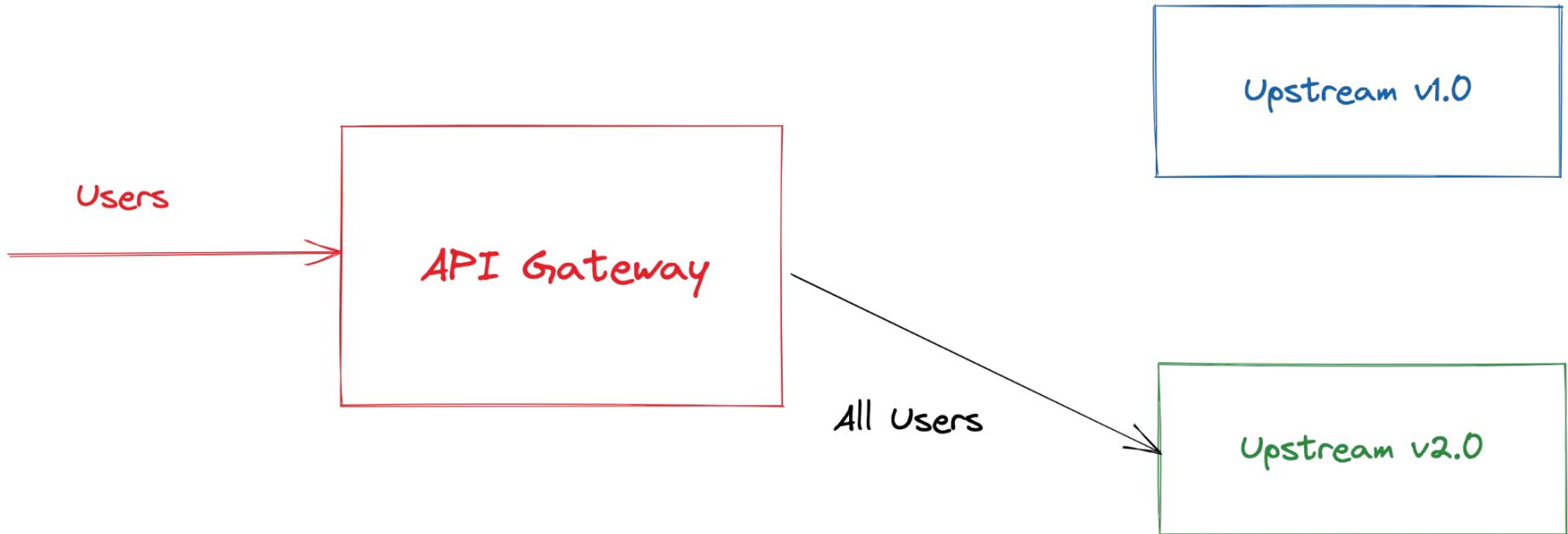
Version Control and Zero Downtime

Canary Release



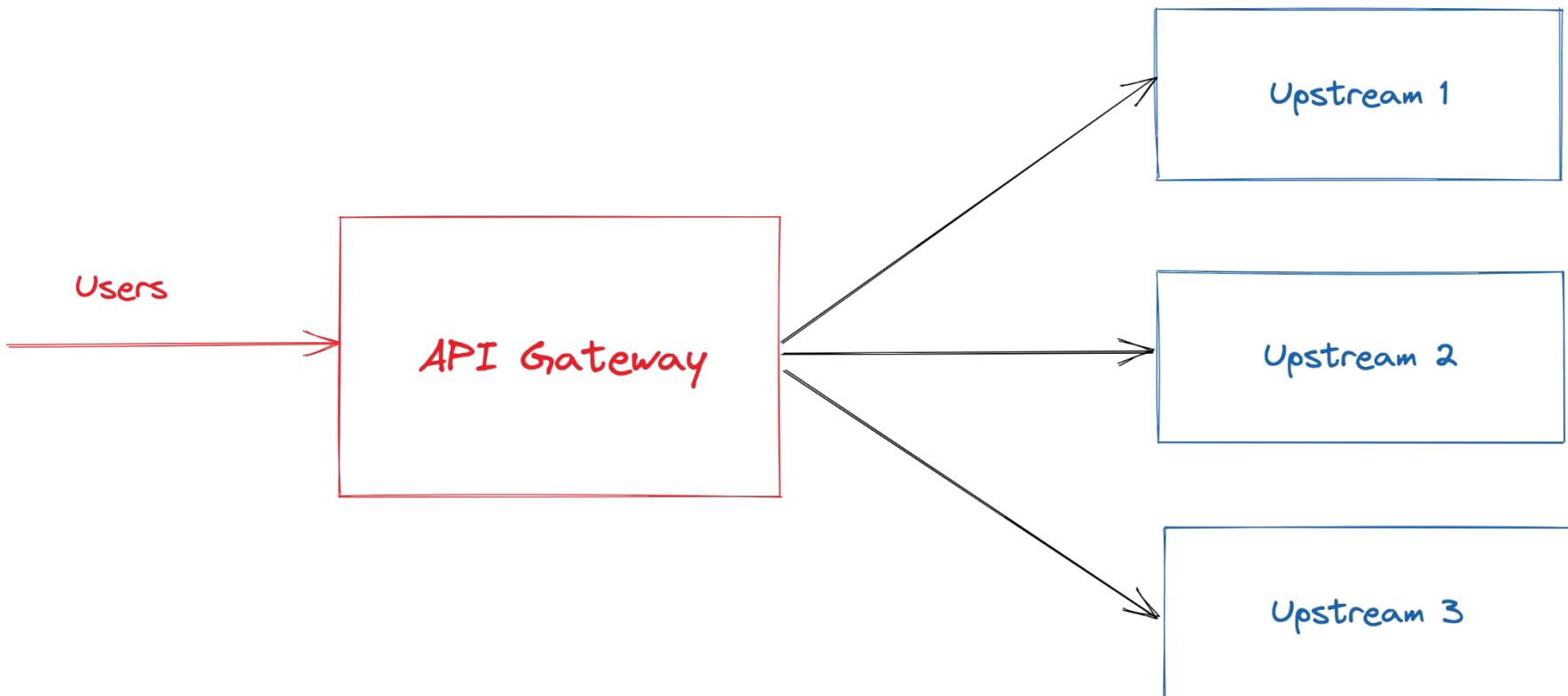
Version Control and Zero Downtime

Canary Release



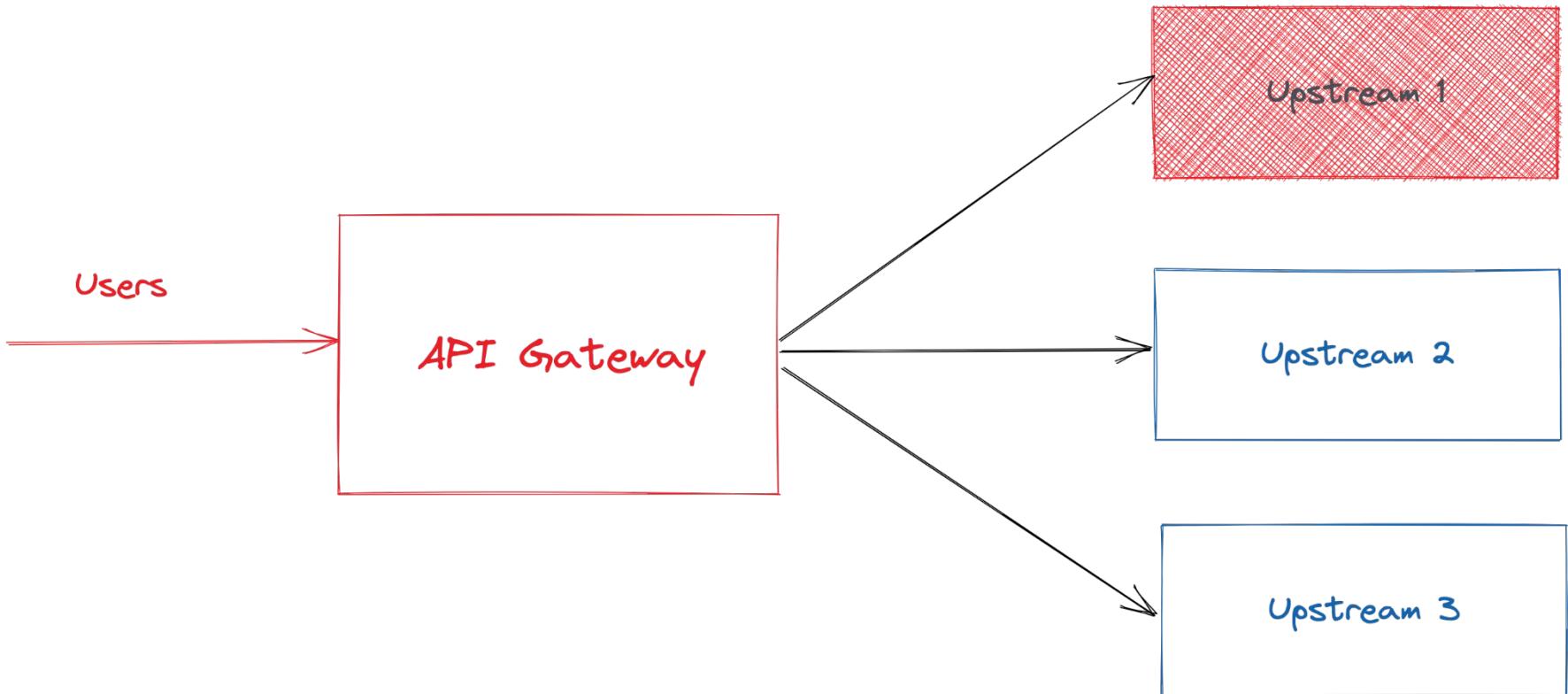
Version Control and Zero Downtime

Circuit Breaking



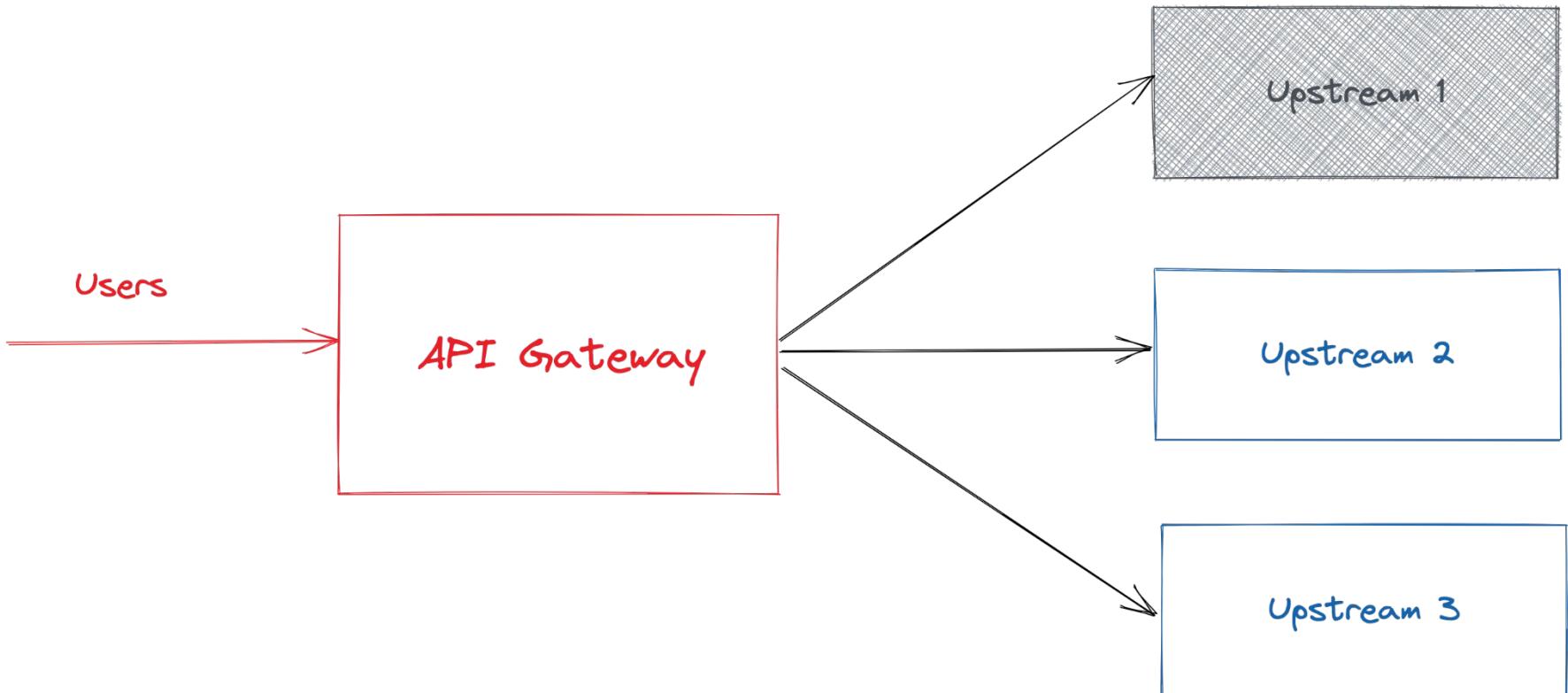
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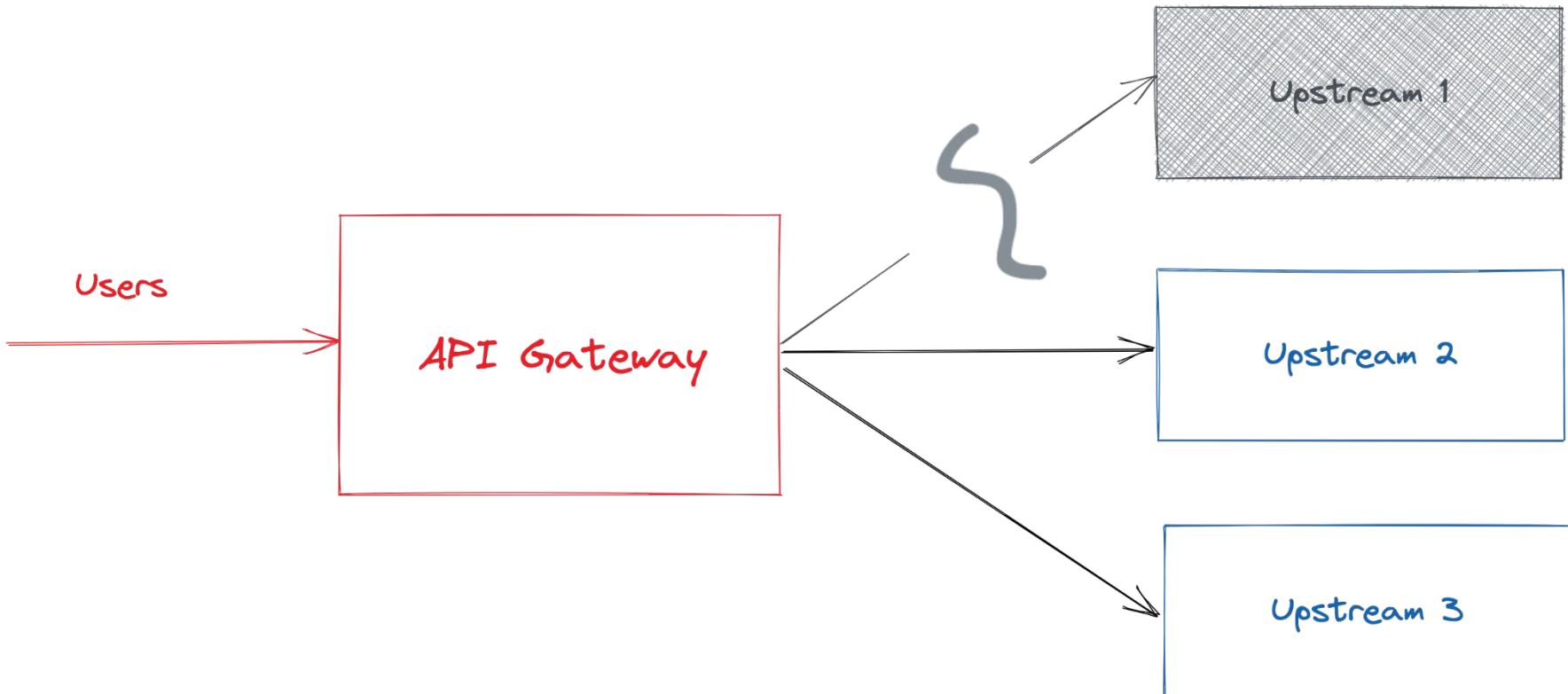
Version Control and Zero Downtime

Circuit Breaking



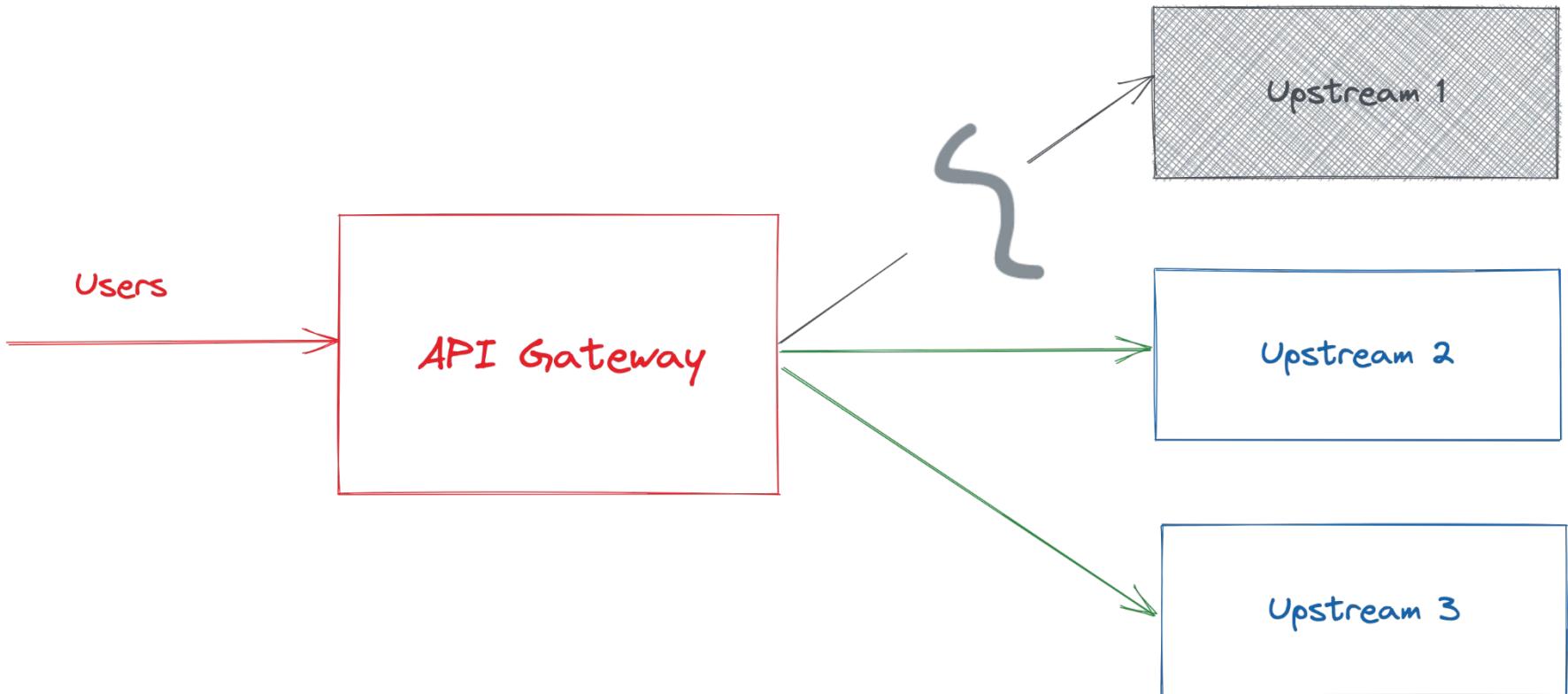
Version Control and Zero Downtime

Circuit Breaking



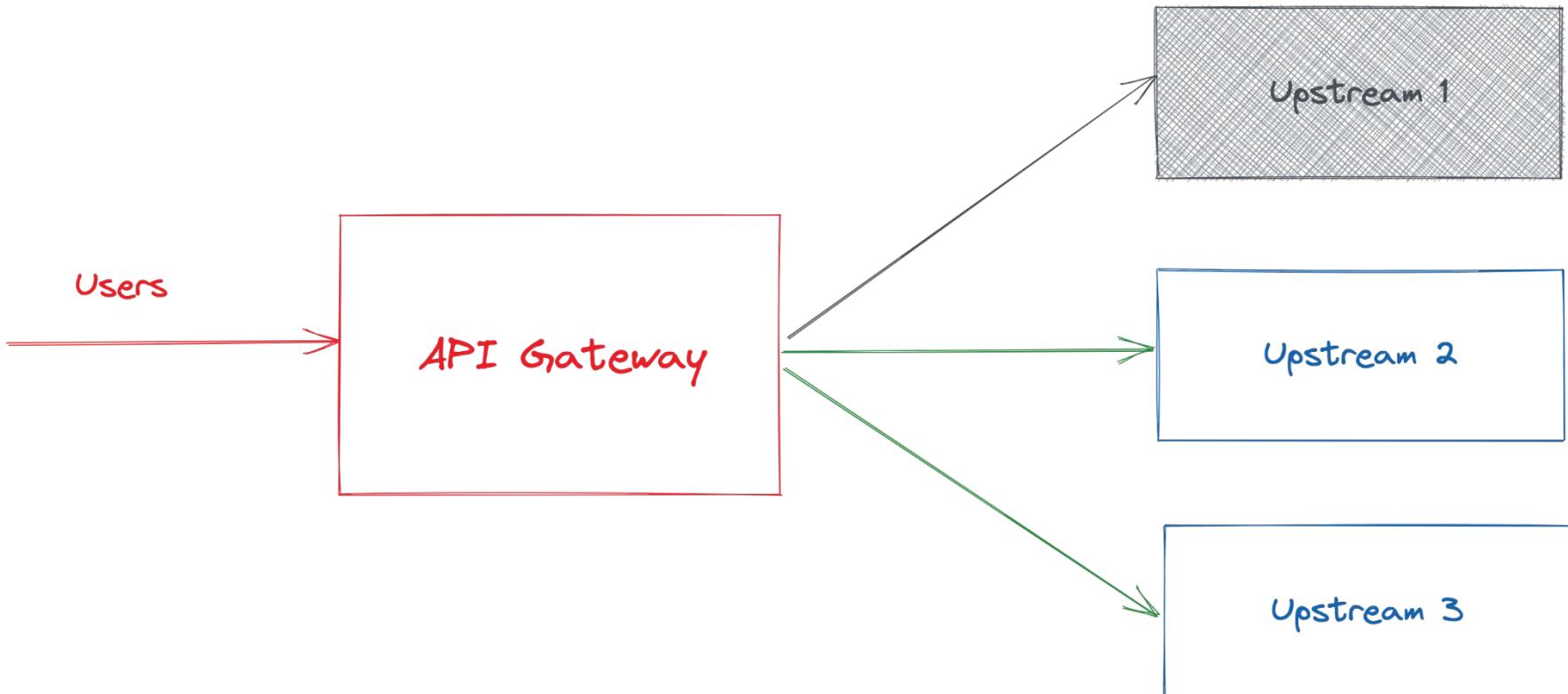
Version Control and Zero Downtime

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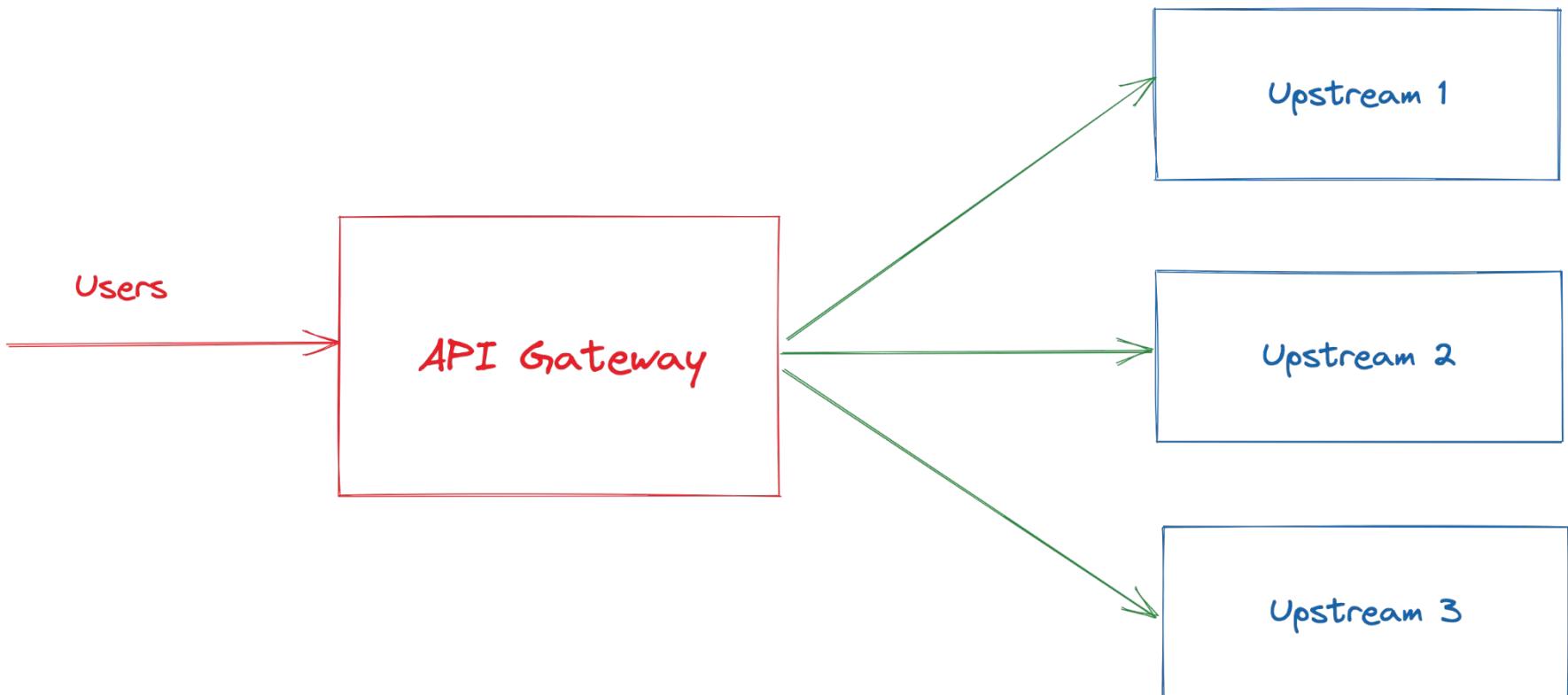
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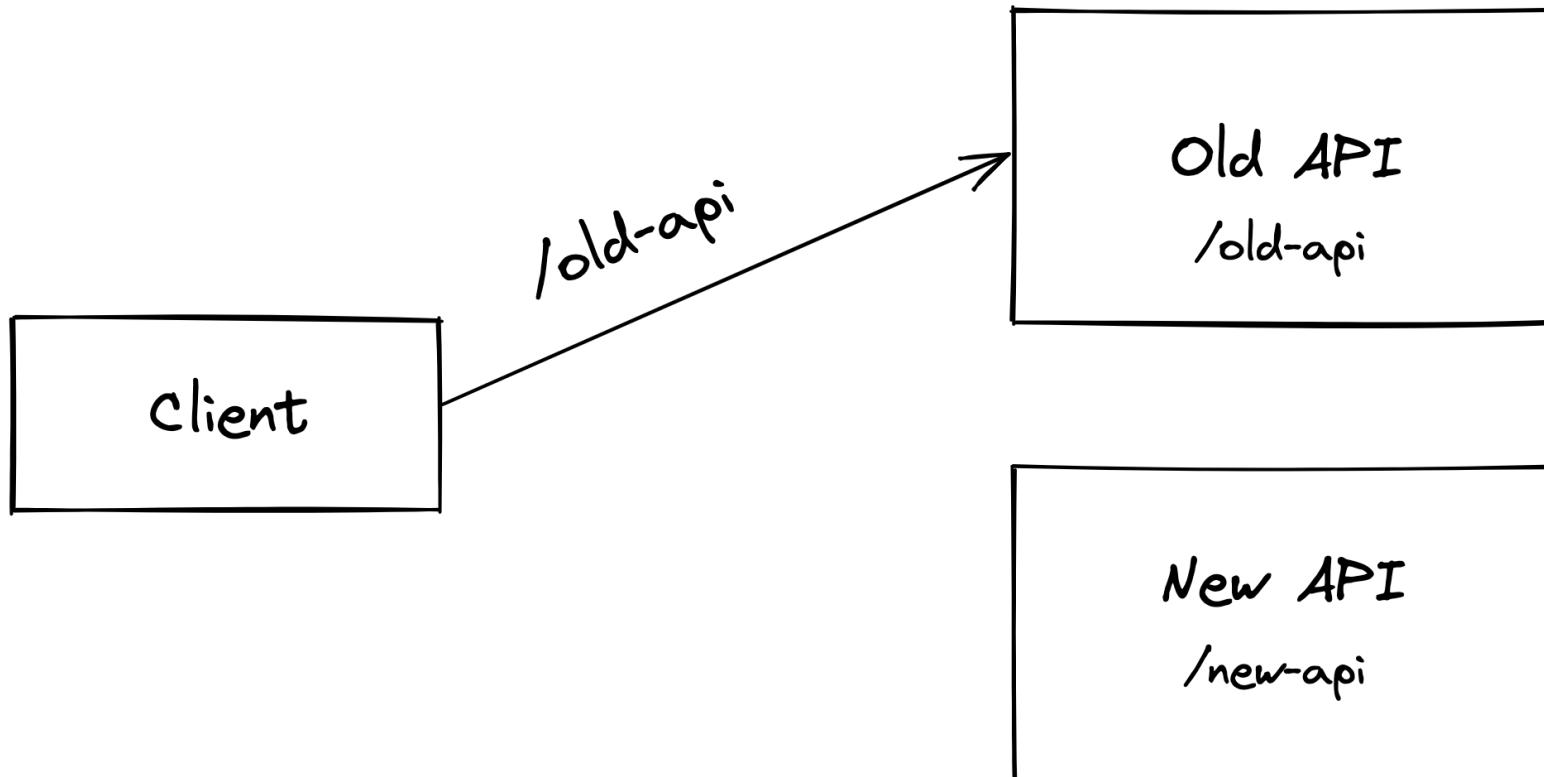
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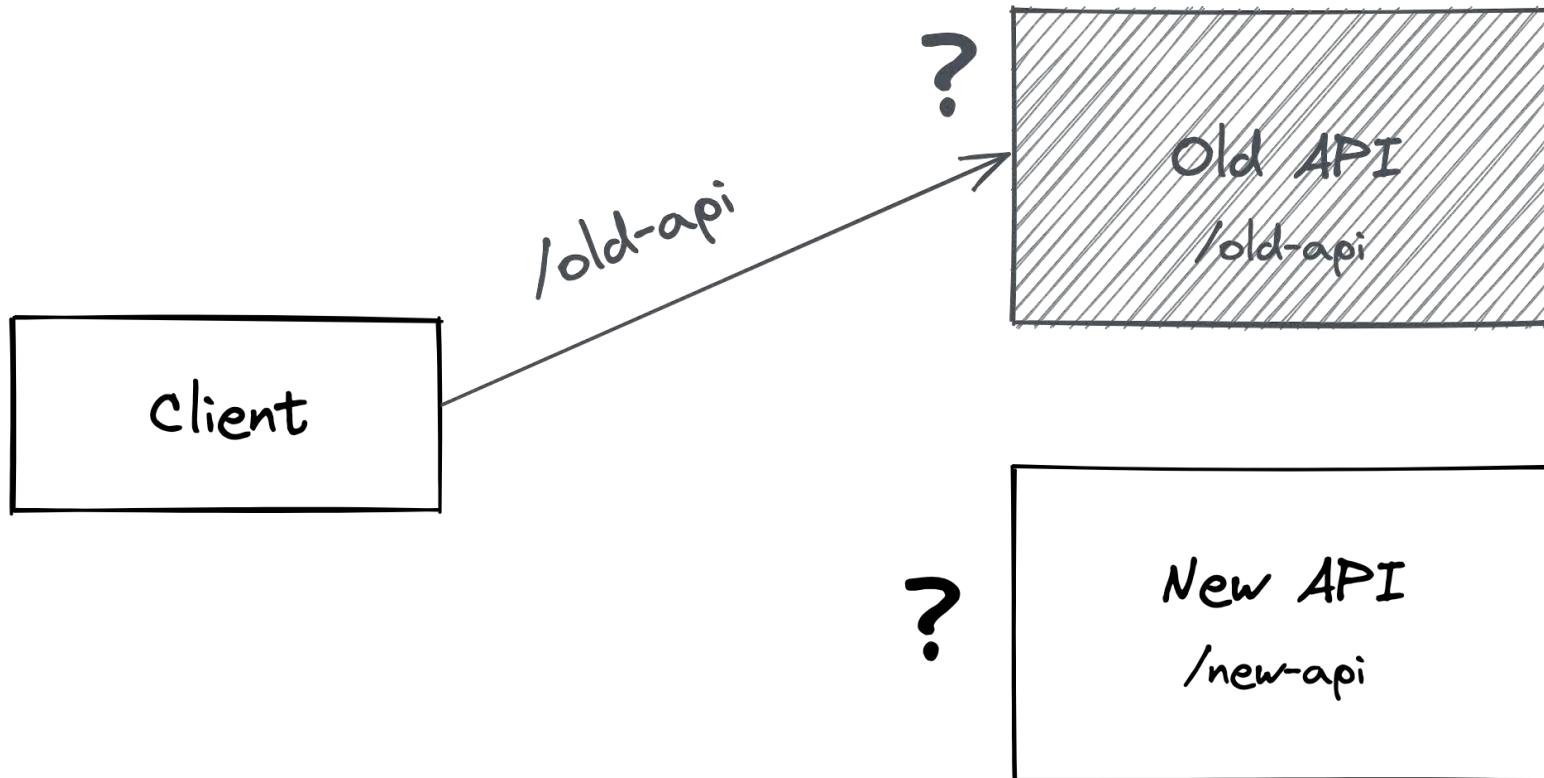
Version Control and Zero Downtime

Changing Path/ Redirect



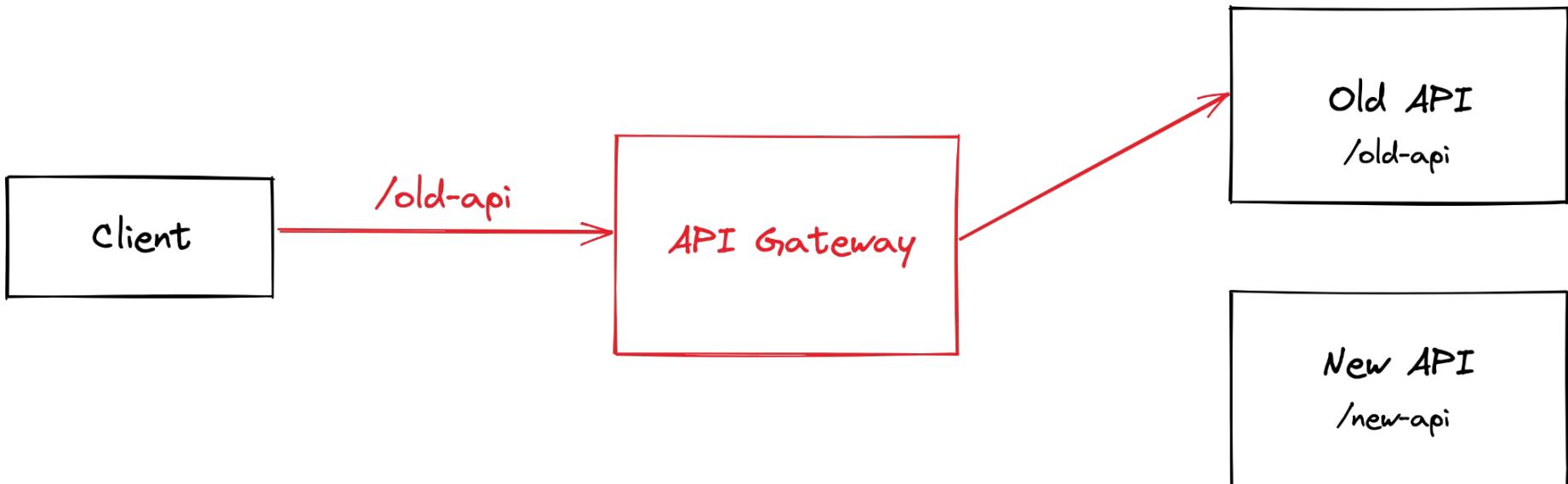
Version Control and Zero Downtime

Changing Path/ Redirect



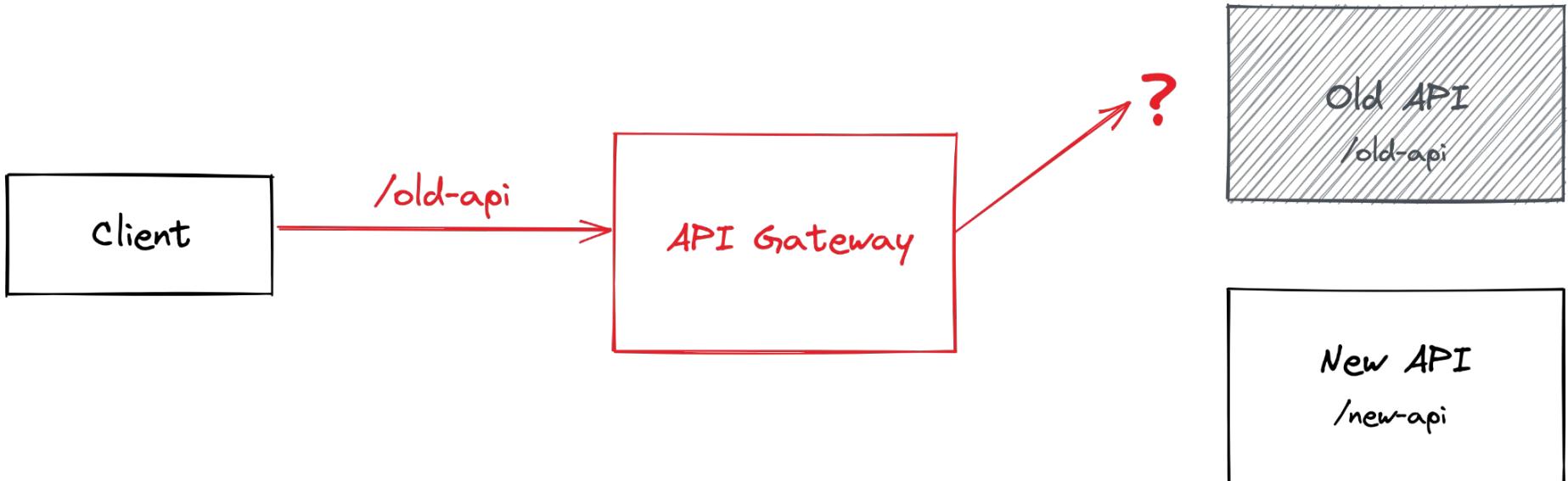
Version Control and Zero Downtime

Changing Path/ Redirect



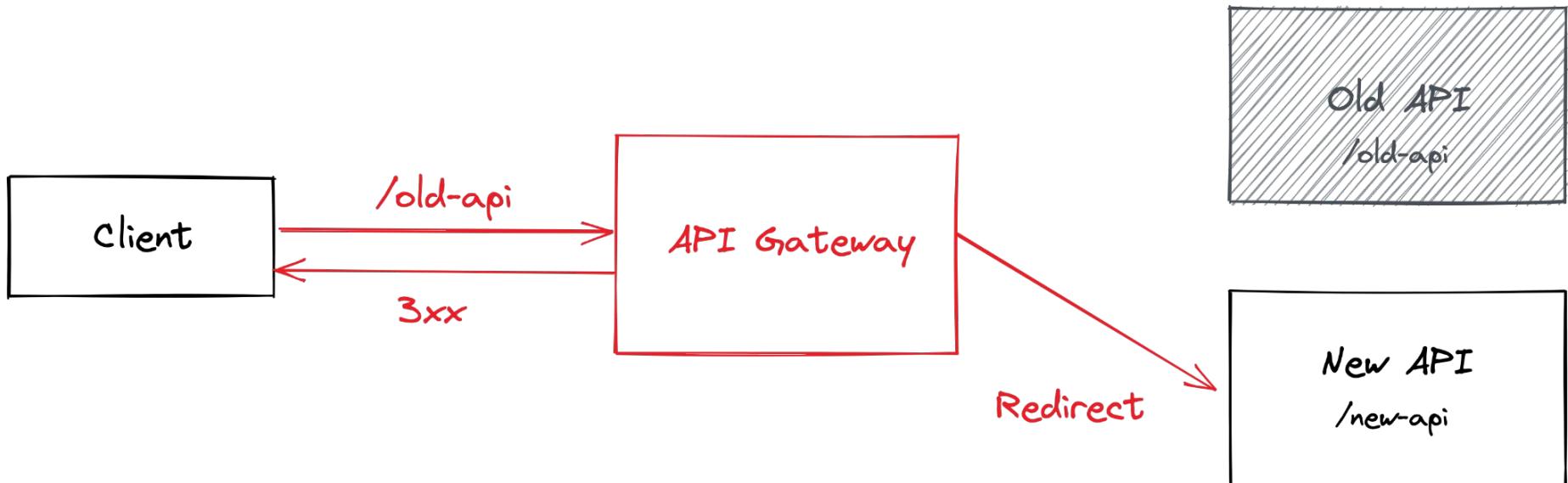
Version Control and Zero Downtime

Changing Path/ Redirect



Version Control and Zero Downtime

Changing Path/ Redirect



Summary and **Key** Takeaways

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Reliability of APIs is **more than just the uptime**

It is also about

Consistency

Availability

Low latency

Security

Status



Summary and Key Takeaways

API gateways **overcome** the issues of traditional API architectures

Best practices in

Authentication and Security

Monitoring and Observability

Version Control and Zero Downtime



Learn More

apisix.apache.org