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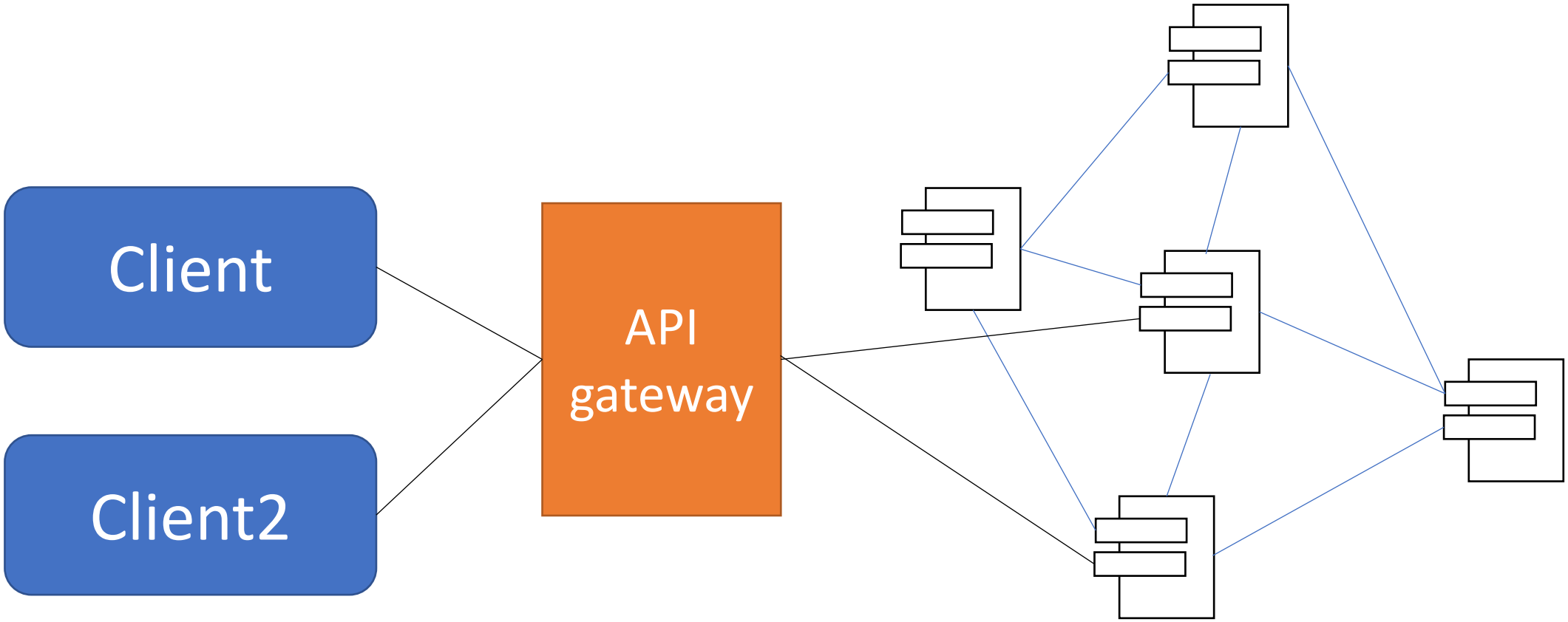
Hosting&monitoring

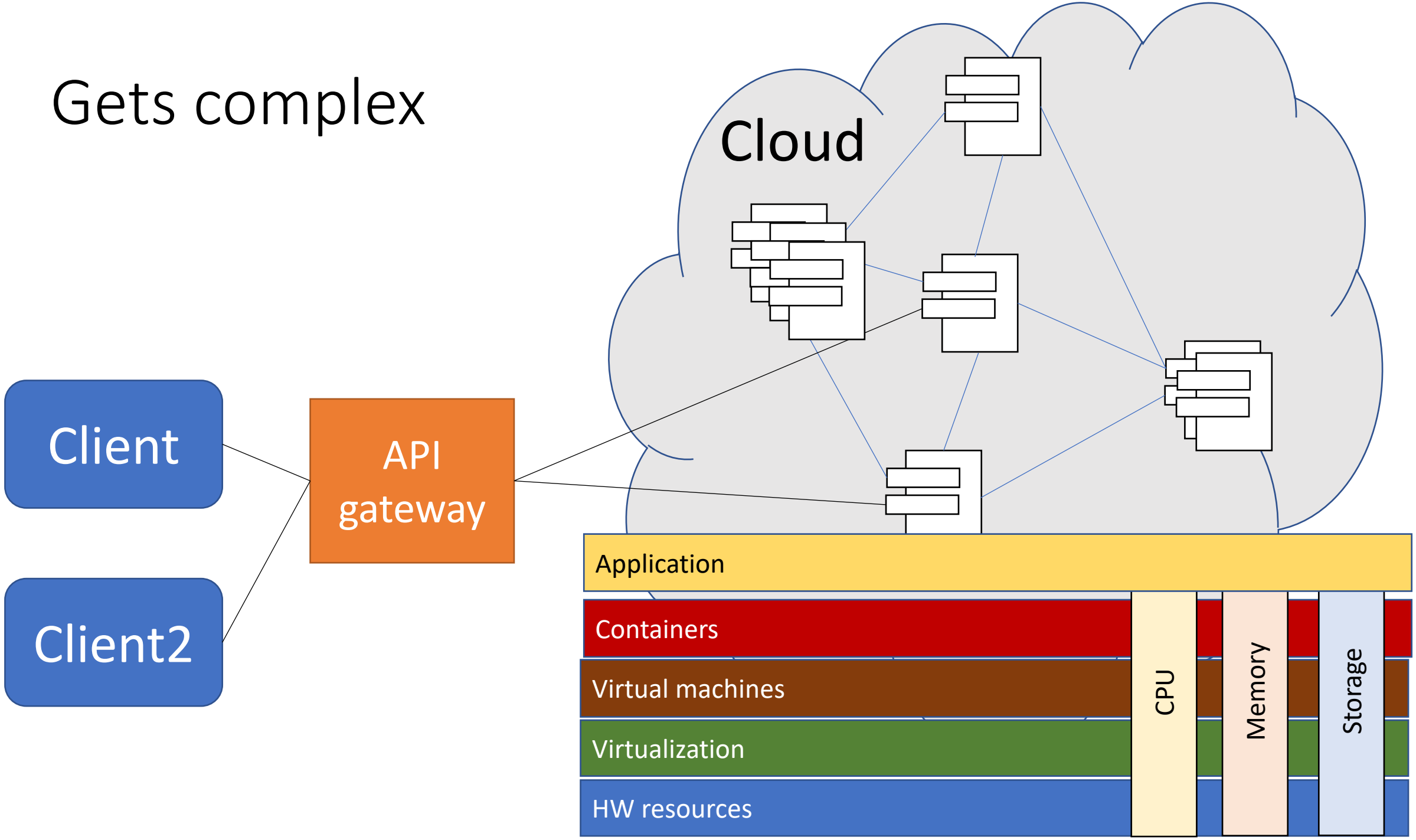
Kari Systä

How to monitor

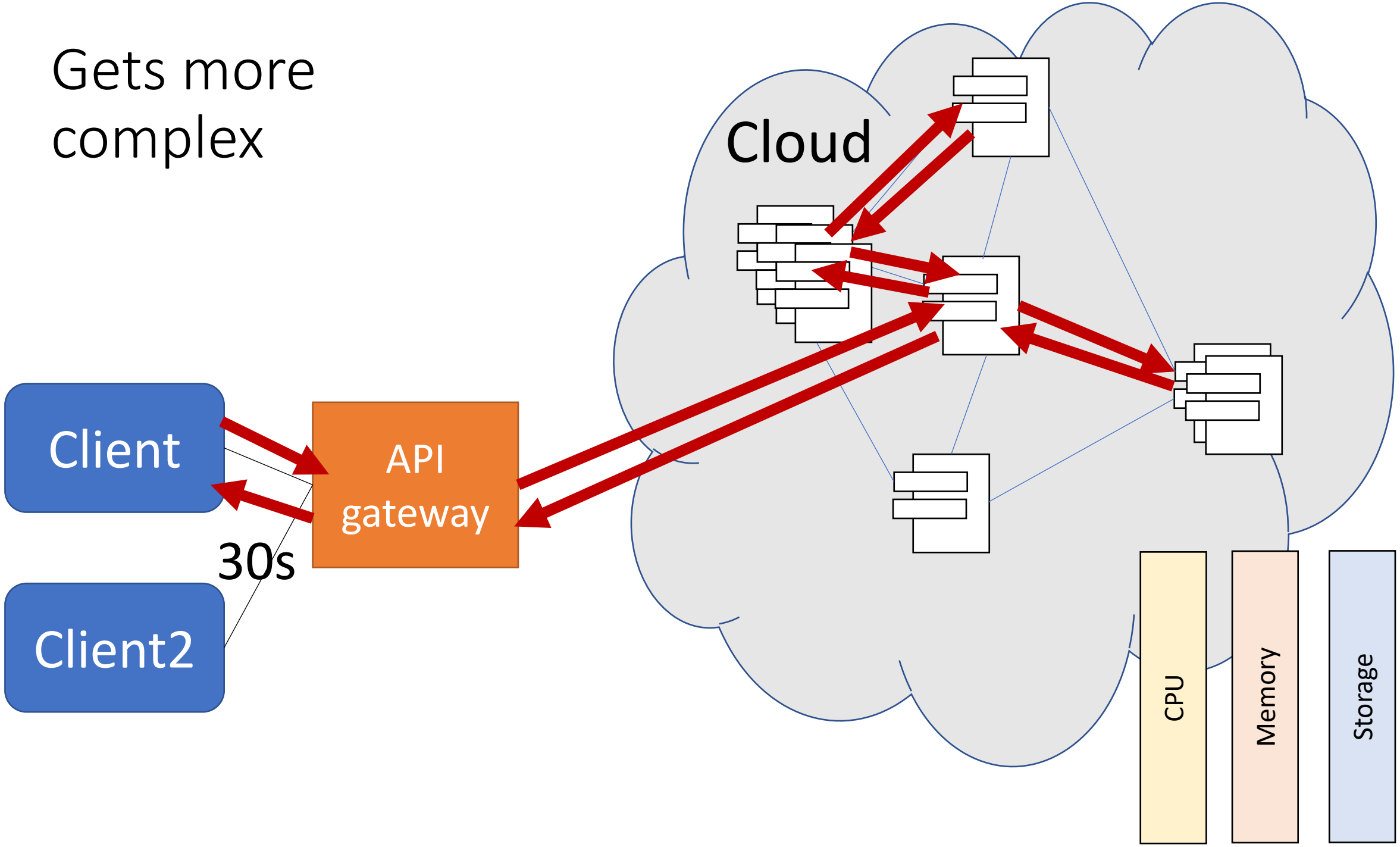
Recall a possible microservice architecture



Gets complex



Gets more complex



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Is the problem

- In your application code?
- In your intrastructure code?

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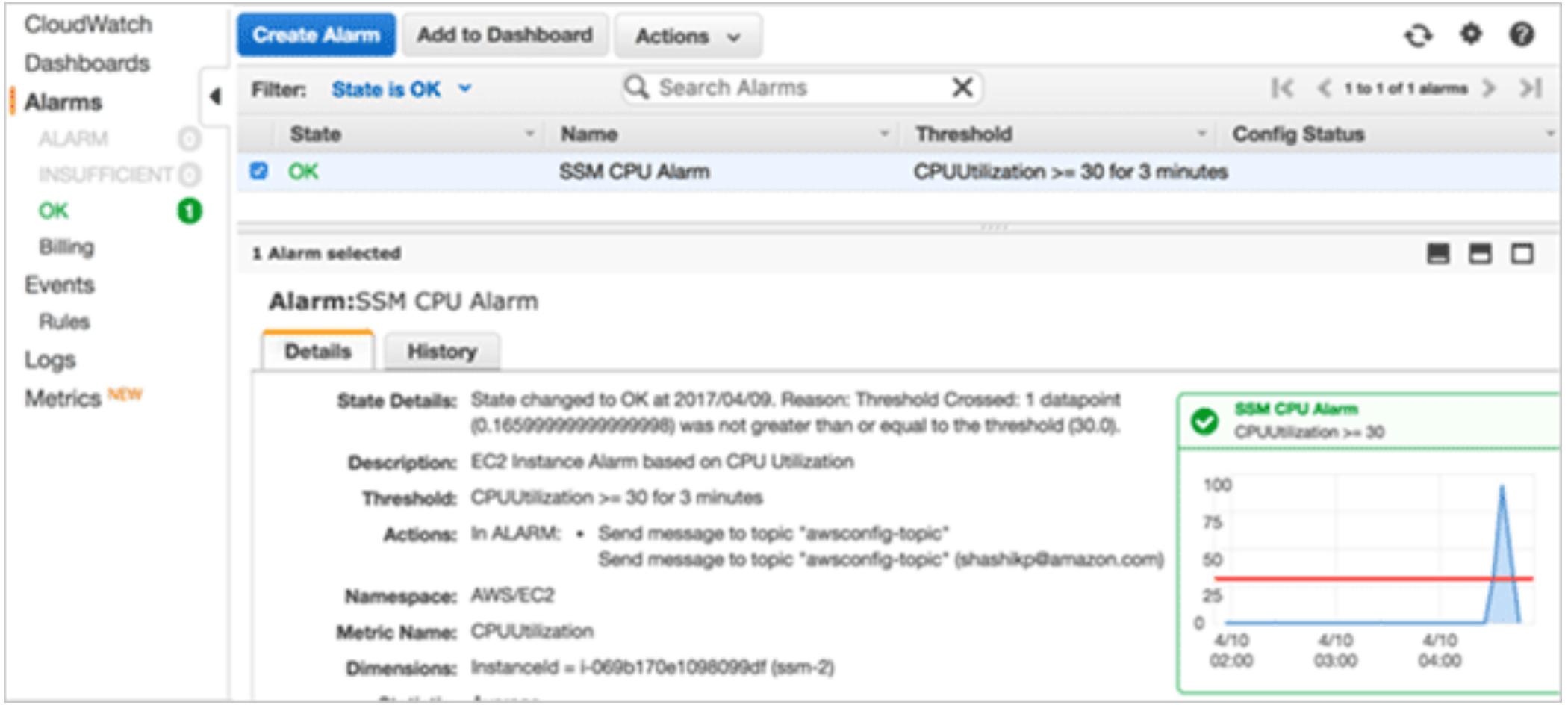
Example: Amazon CloudWatch



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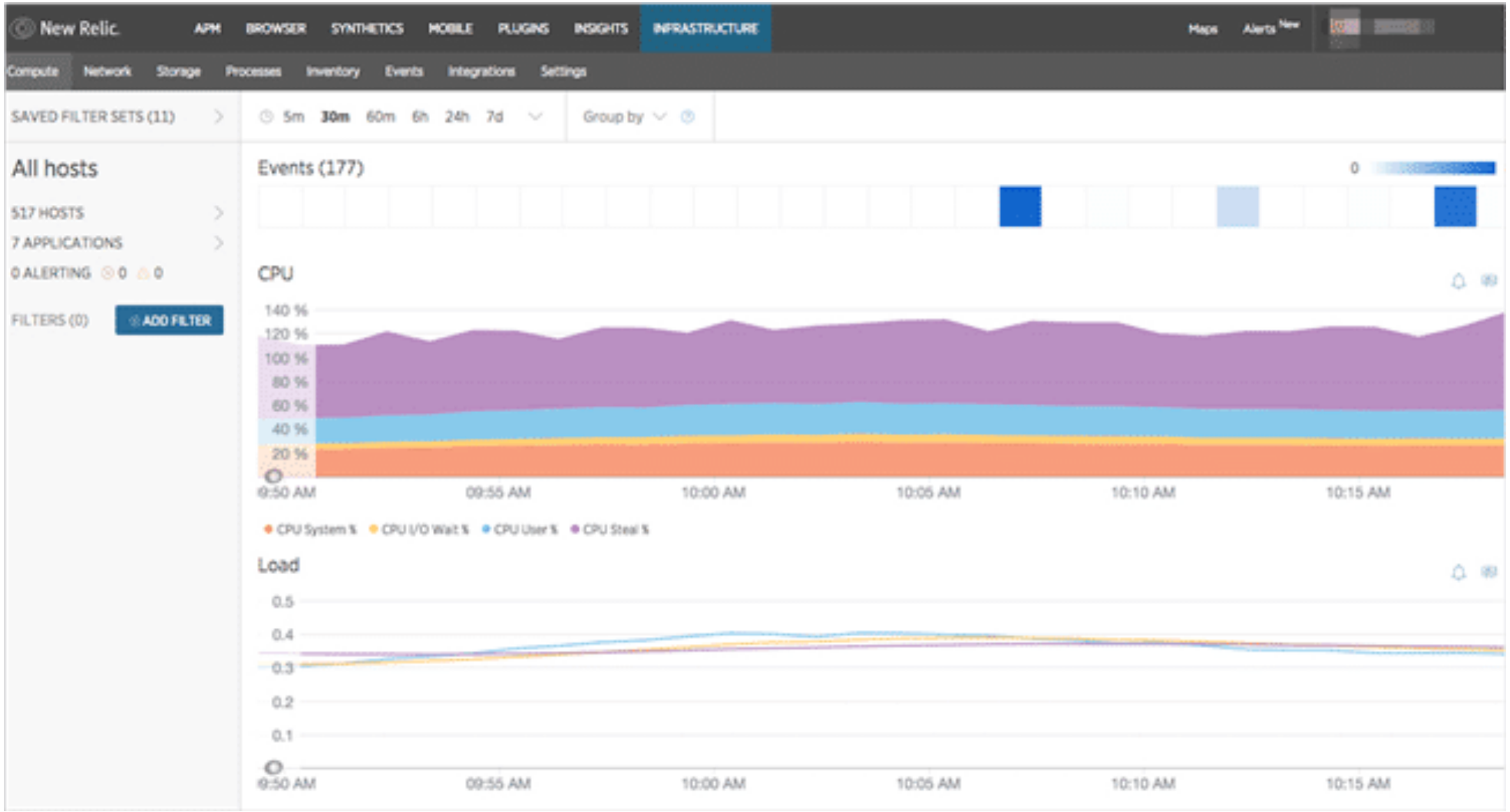
Example: New Relic



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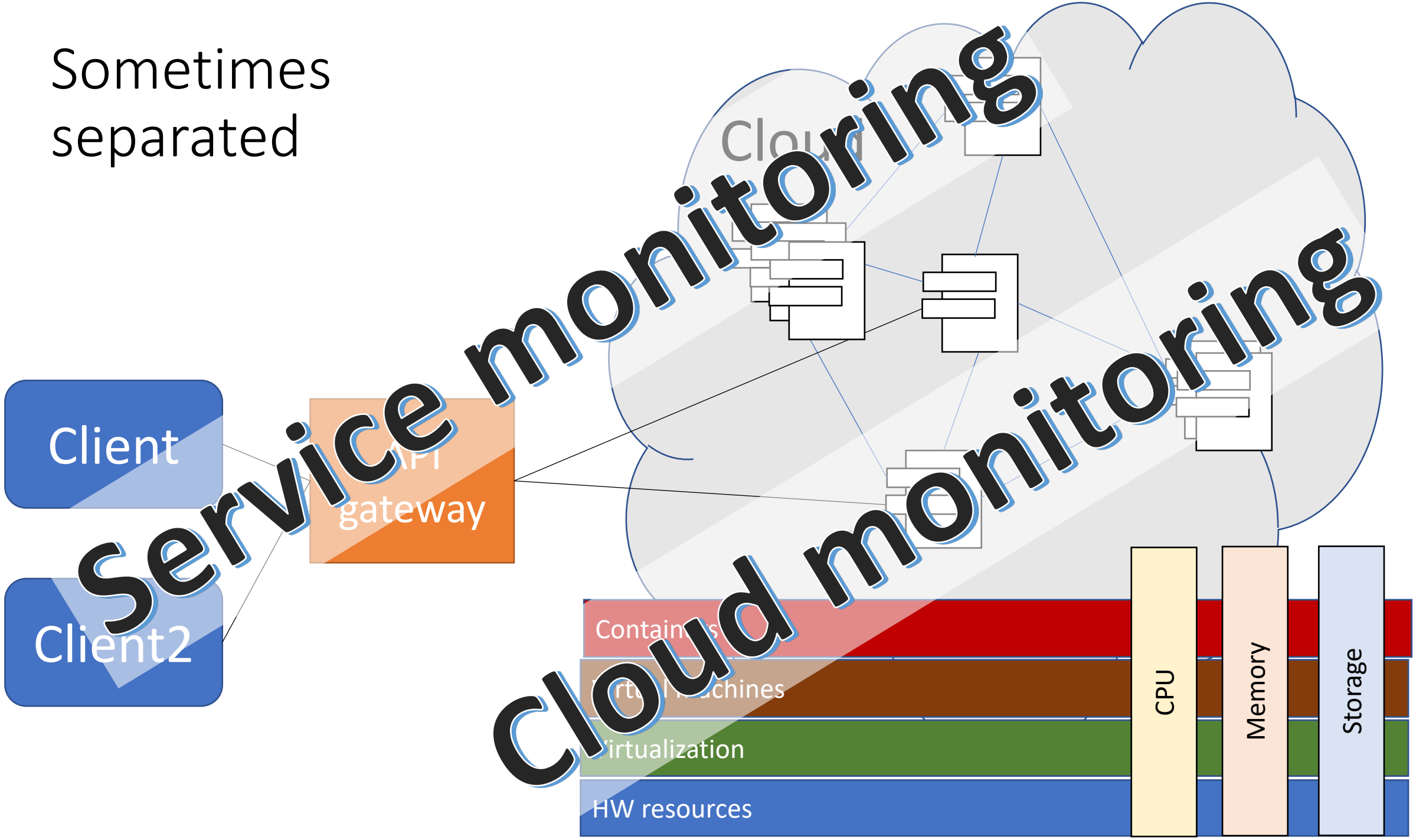
New Relic

Sometimes separated



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What might be monitored

- Availability
- MTBF (mean time between failures)
- Throughput
- Response time
- Latency
- Security threats
- Scalability
- Cost per customer
- Usage (recall A/B testing)
- Application specific measures

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In your project

- *(Optional)* implement monitoring and logging for troubleshooting. This should be a separate service that the user can use through browser. It should show at least start time of the service, number of requests it has received after start.

- Waiting for creative solutions !

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Couple of cloud quality ”terms”

- QoS (Quality of Service): measure of capacity, performance etc.
- SLA (Service Level Agreement): an agreement between provider client about capacity, performance etc.
  - Or at least promise

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https://www.wired.com/insights/2011/12/service-level-agreements-in-the-cloud-who-cares/
(Thomas J. Trappler; “If It’s in the Cloud, Get it on Paper: Cloud Computing Contract Issues” https://er.educause.edu/articles/2010/6/if-its-in-the-cloud-get-it-on-paper-cloud-computing-contract-issues.)

- Codifies the specific parameters and minimum levels required for each element of the service, as well as remedies for failure to meet those requirements.
- Affirms your institution’s ownership of its data stored on the service provider’s system, and specifies your rights to get it back.
- Details the system infrastructure and security standards to be maintained by the service provider, along with your rights to audit their compliance.
- Specifies your rights and cost to continue and discontinue using the service.

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Possible content

- Availability (e.g. 99.99% during work days, 99.9% for nights/weekends)
- Performance (e.g. maximum response times)
- Security / privacy of the data (e.g. encrypting all stored and transmitted data)
- Disaster Recovery expectations (e.g. worse case recovery commitment)
- Location of the data (e.g. consistent with local legislation)
- Access to the data (e.g. data retrievable from provider in readable format)
- Portability of the data (e.g. ability to move data to a different provider)
- Process to identify problems and resolution expectations (e.g. call center)
- Change Management process (e.g. changes – updates or new services)
- Dispute mediation process (e.g. escalation process, consequences)
- Exit Strategy with expectations on the provider to ensure smooth transition