

Demystifying use cases of REST, gRPC and GraphQL

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REST in peace, SOAP

OCTOBER 15, 2010
IN TECH MUSINGS

REST is the new SOAP



Pakal De Bonchamp

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JULY 24, 2017 / #GRAPHQL

REST APIs are REST-in-Peace APIs. Long Live GraphQL.



Samer Buna

Sources:

<https://www.pingdom.com/blog/rest-in-peace-soap/>

<https://www.freecodecamp.org/news/rest-apis-are-rest-in-peace-apis-long-live-graphql-d412e559d8e4/>

<https://medium.com/free-code-camp/rest-is-the-new-soap-97ff6c09896d>

There is no right API style for everything

- Business
- Technical
- Socio-technical

“If an API is mostly actions, maybe it should be RPC. If an API is mostly CRUD and manipulates related data, it must be REST”

Phil Sturgeon

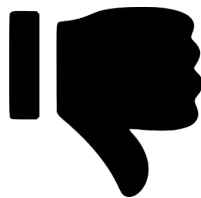
Software Engineer, WeWork



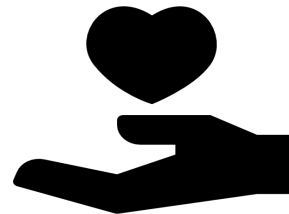
REST(REpresentational State Transfer) - 2000



- Standard method names, arguments and status codes
- Utilizes HTTP features
- Easy to maintain



- Big payloads
- Multiple HTTP roundtrips

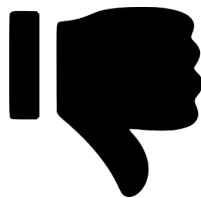


- Best for APIs that expose CRUD like operations

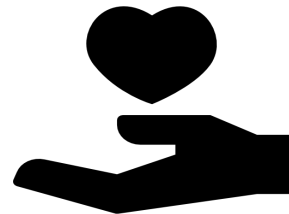
gRPC(Google Remote Procedure Calls) - 2015



- Easy to understand
- Lightweight payloads
- High performance



- Difficult discovery
- Limited standardization
- Leads to function explosion



- Best for APIs exposing several actions

GraphQL - 2012



- Saves multiple round trips
- Smaller payload size



- Added complexity
- Difficult performance optimization
- Too complicated for simple API



- Best when you need querying flexibility

Specific use cases

REST



Application web forms
that involve simple
CRUD

GraphQL



Composite web forms or
microservices that
involve schema stitching
using multiple APIs, data
source agnostic

gRPC



Native mobile BFF which
involves single client, API is static
and well documented, mostly
single clients with real-time
interaction

Further reading/viewing

- GraphQL, gRPC or REST- Resolving the API developers dilemma by Rob Crowley
- <https://nordicapis.com/when-to-use-what-rest-graphql-webhooks-grpc/>
- REST vs gRPC vs GraphQL - How do I pick the right API paradigm ?

Reach out to me



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Thank you