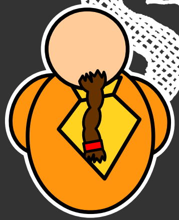
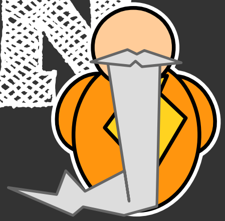
Wenn

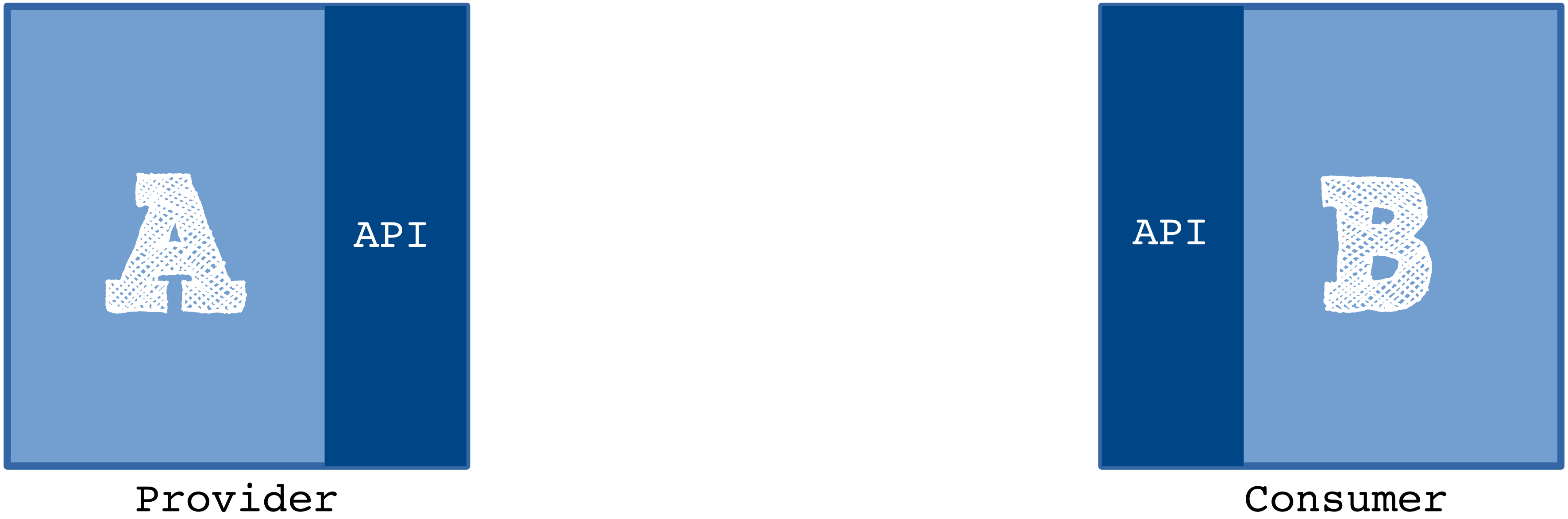
SCHNITTSTELLEN





alt werden...

claus.straube@muenchen.de



A

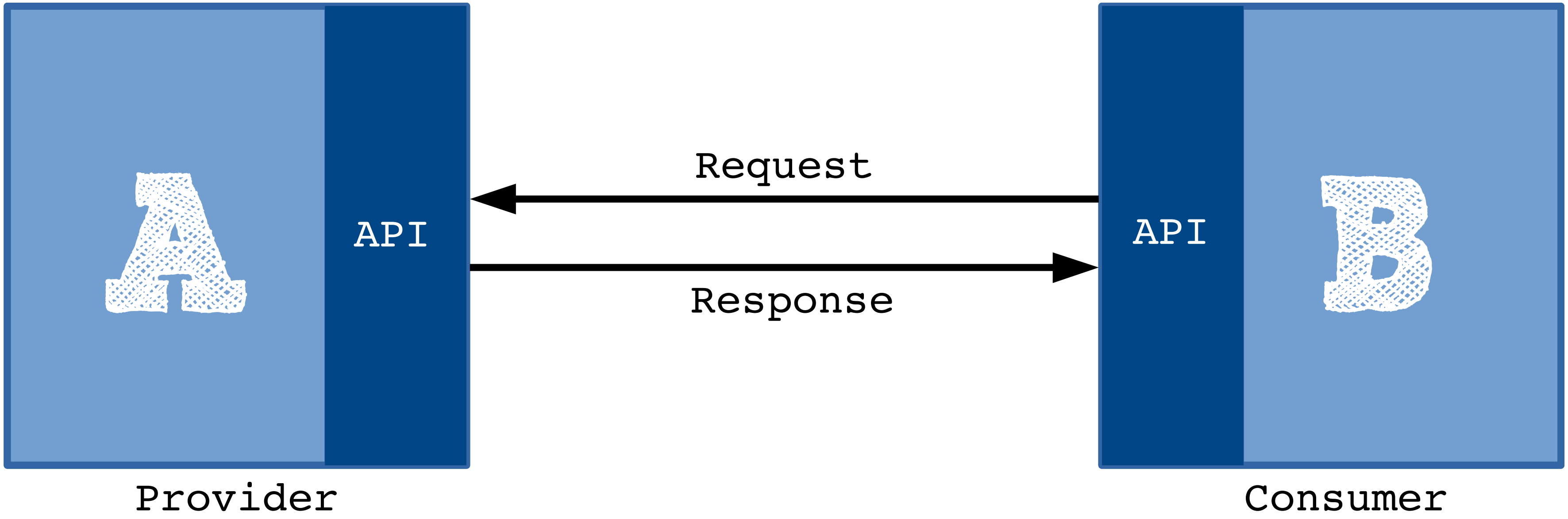
API

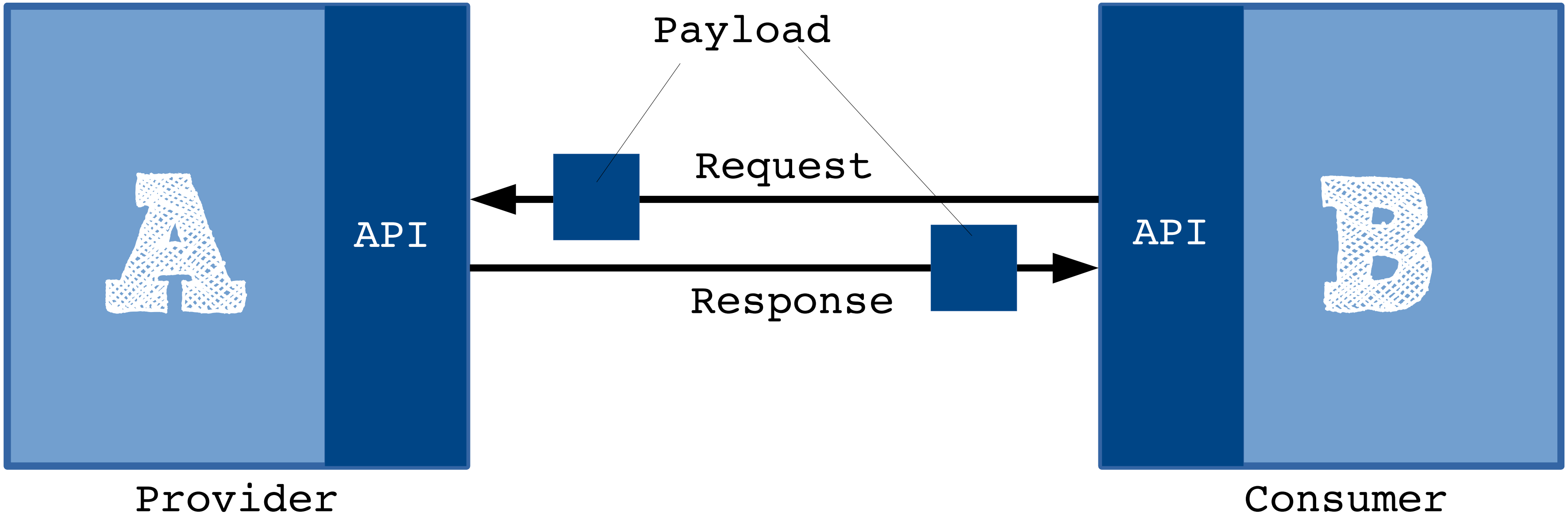
Provider

API

B

Consumer


A
API
Request
Response
API
B
Provider
Consumer



A

API

Payload

Request

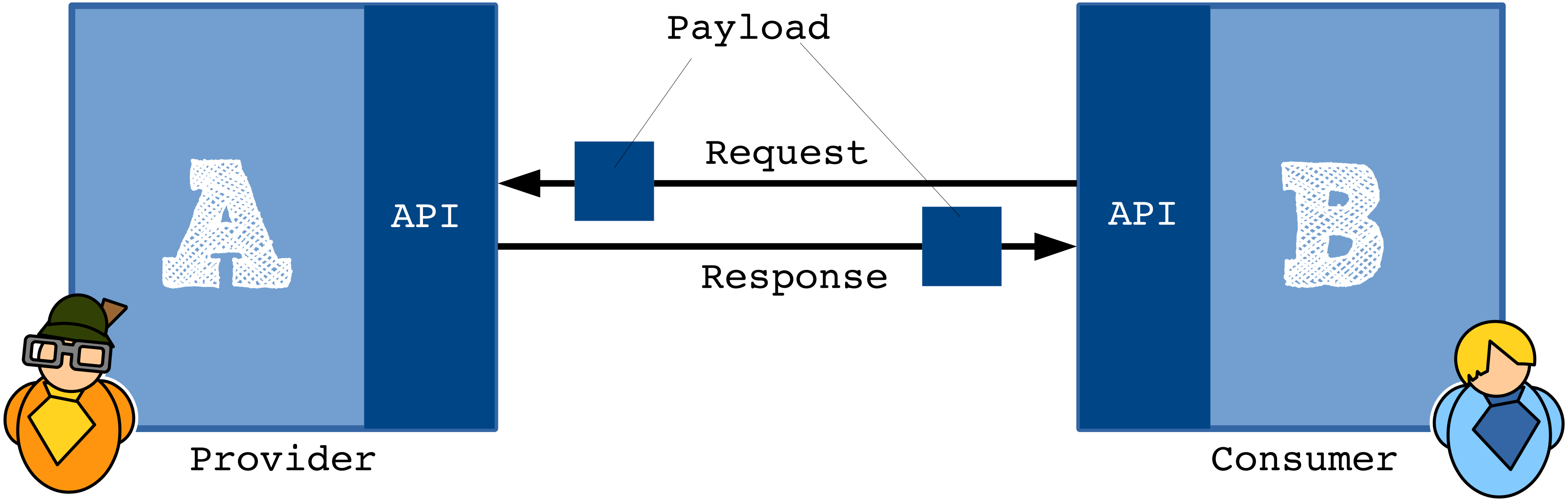
Response

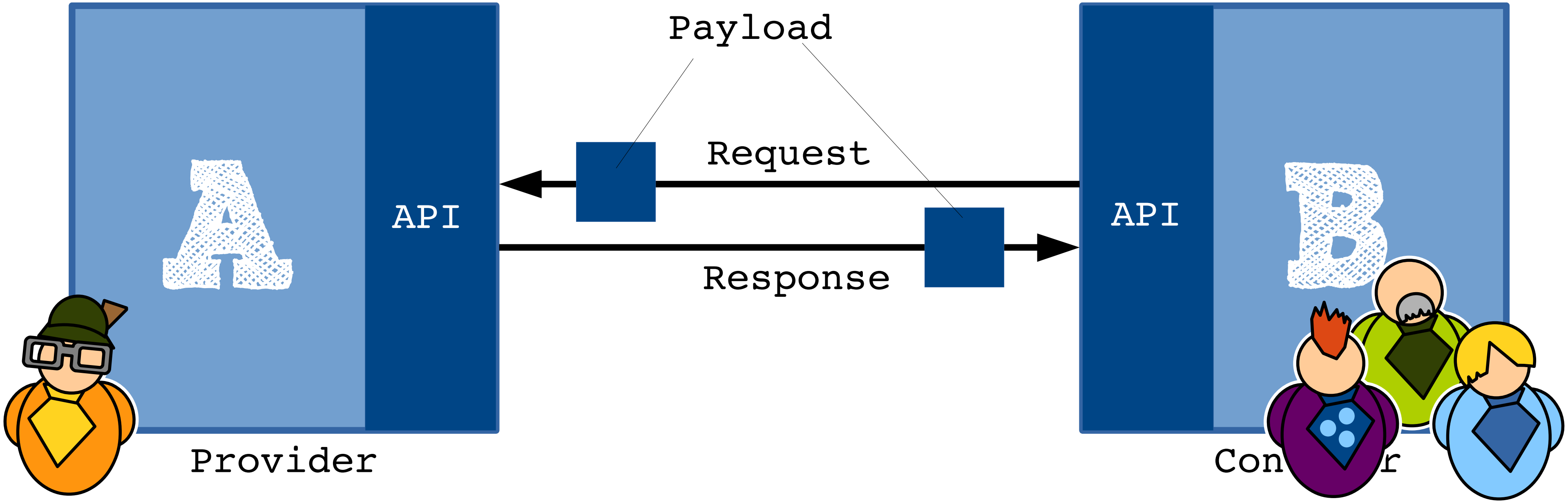
API

B

Provider

Consumer


Payload
Request
Response
A
API
API
B
Provider
Consumer



Payload

Request

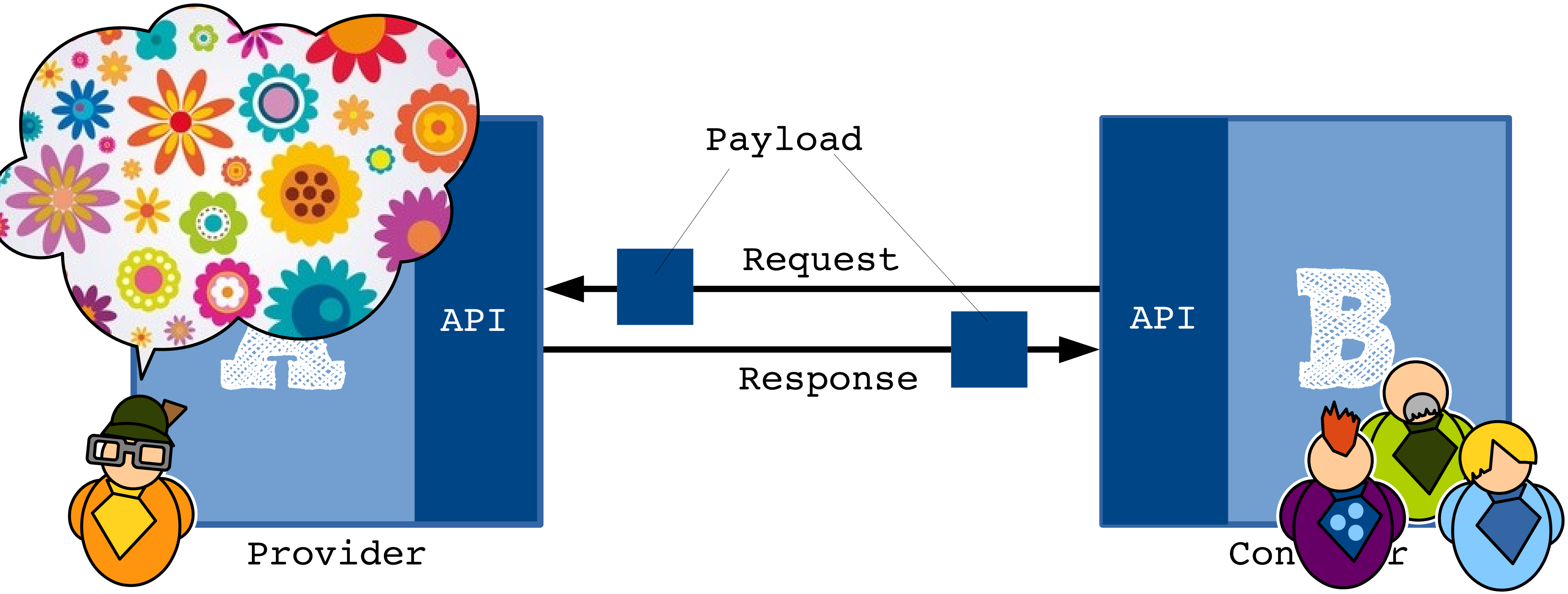
Response

API

API

Provider

Con r



Payload

Request

Response

API

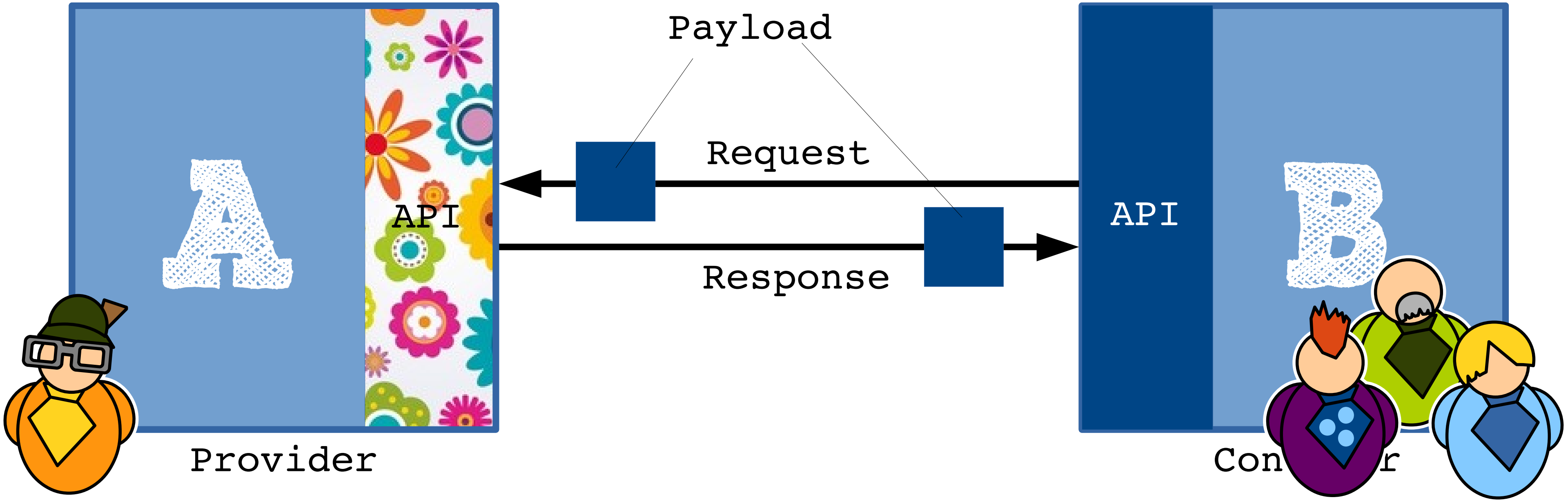
API

A

B

Provider

Con r



A

API

Payload

Request

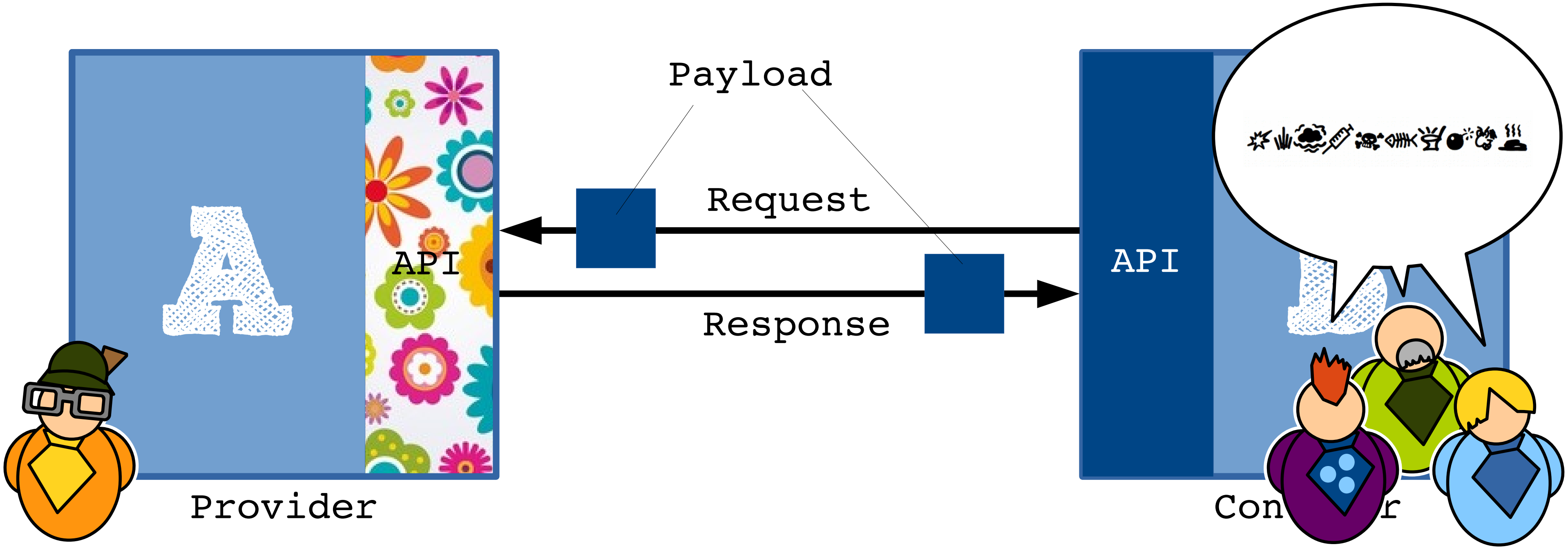
Response

API

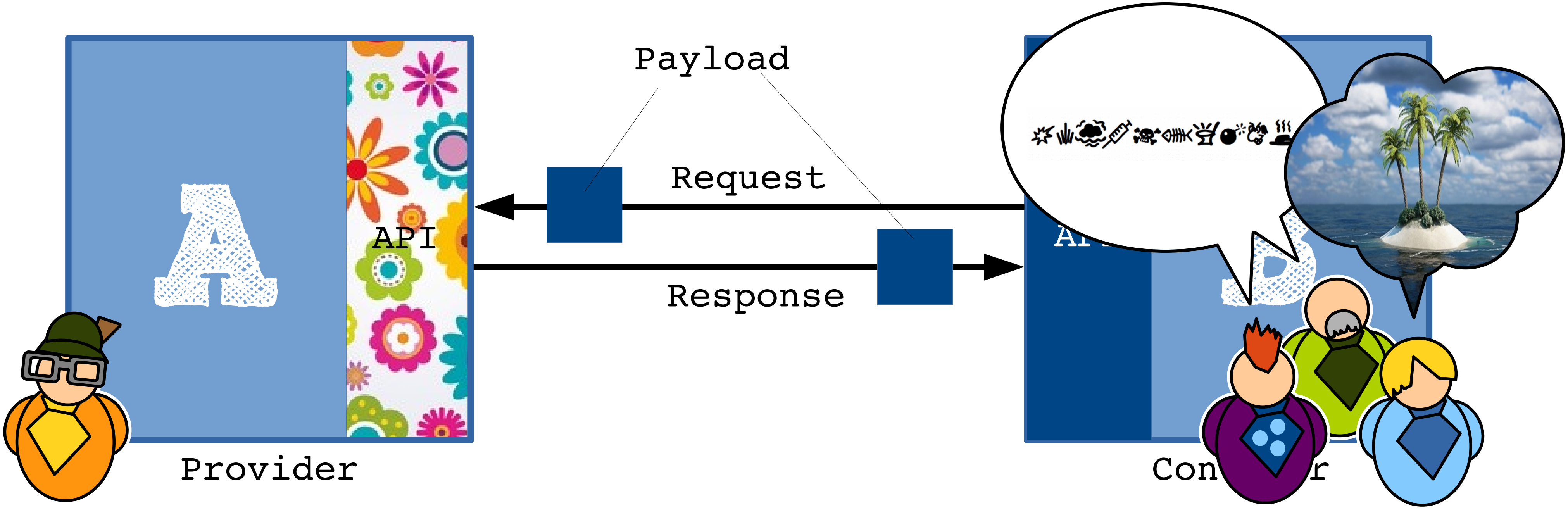
B

Provider

Con r



A
API
Payload
Request
Response
API
Provider
Con r



A

API

Payload

Request

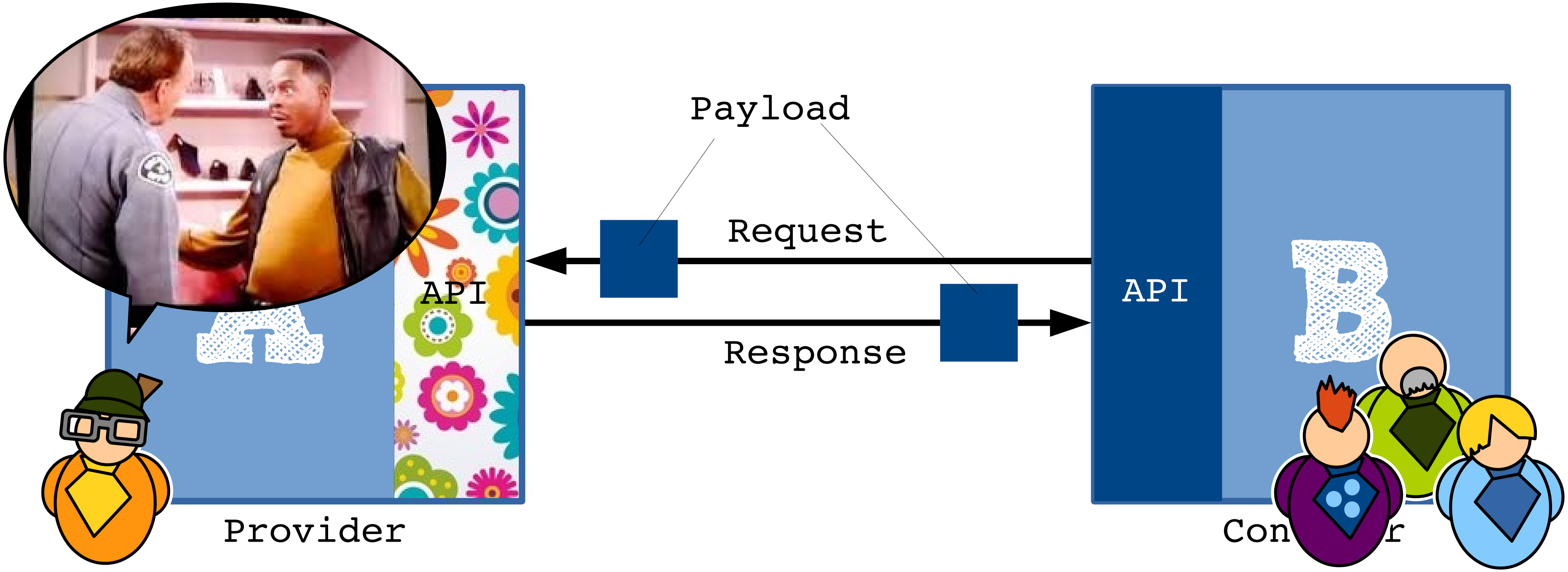
Response

AP

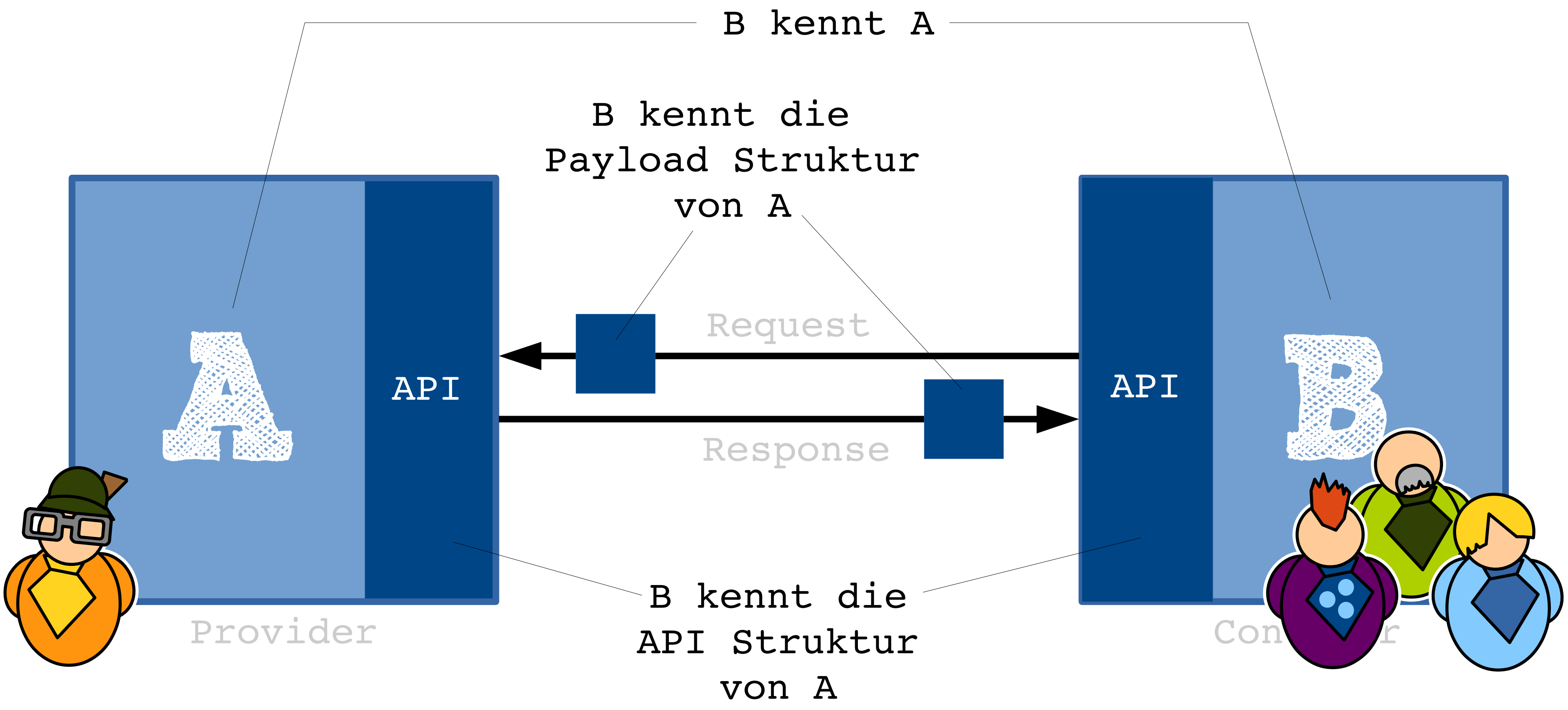
B

Provider

Con r



Payload
Request
Response
API
API
A
B
Provider
Con r

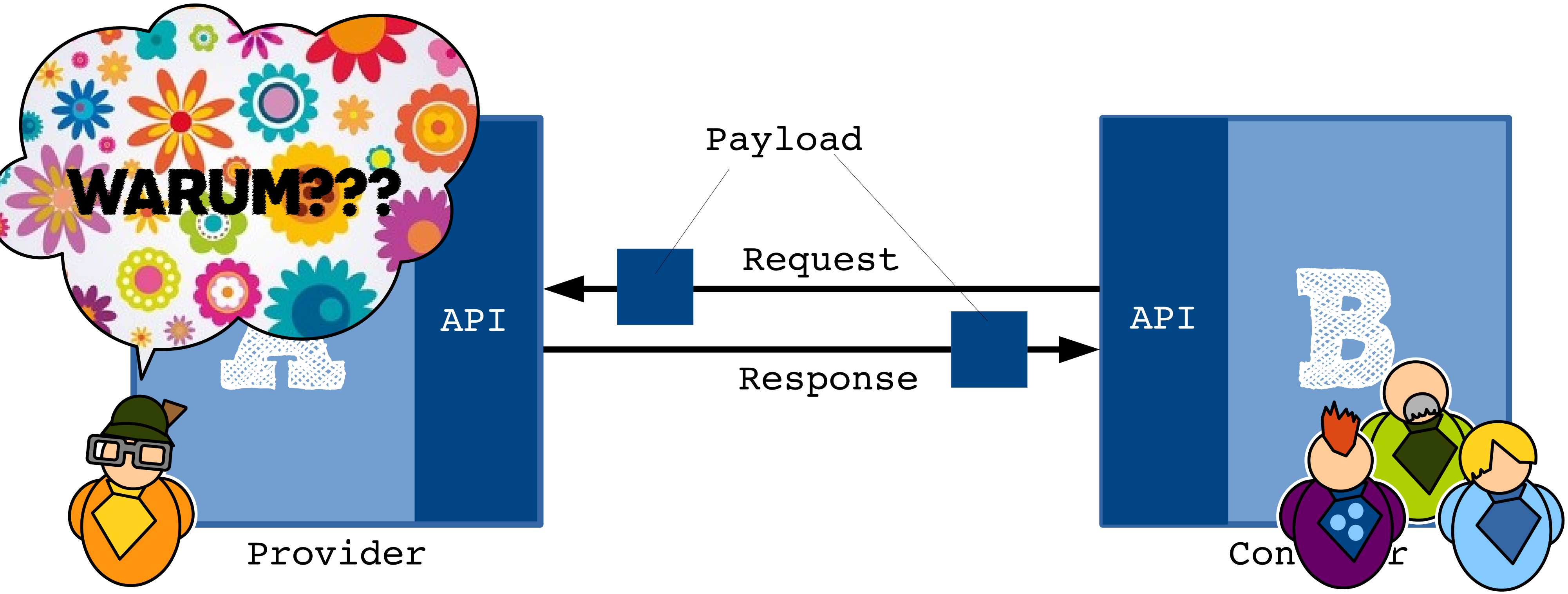


B kennt A

B kennt die Payload Struktur von A

B kennt die API Struktur von A

System B muss ziemlich viel von System A kennen, damit die Kommunikation funktioniert!



WARUM???

Payload

Request

Response

API

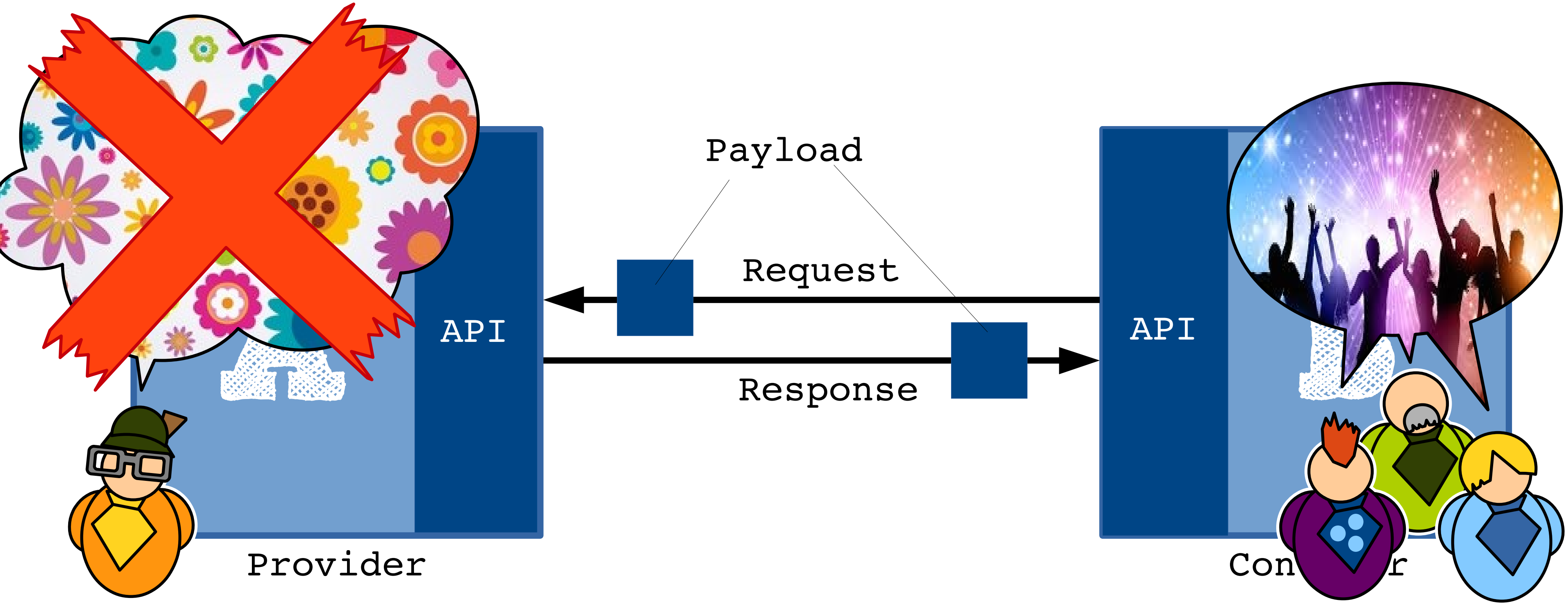
API

A

B

Provider

Con r



Payload

Request

Response

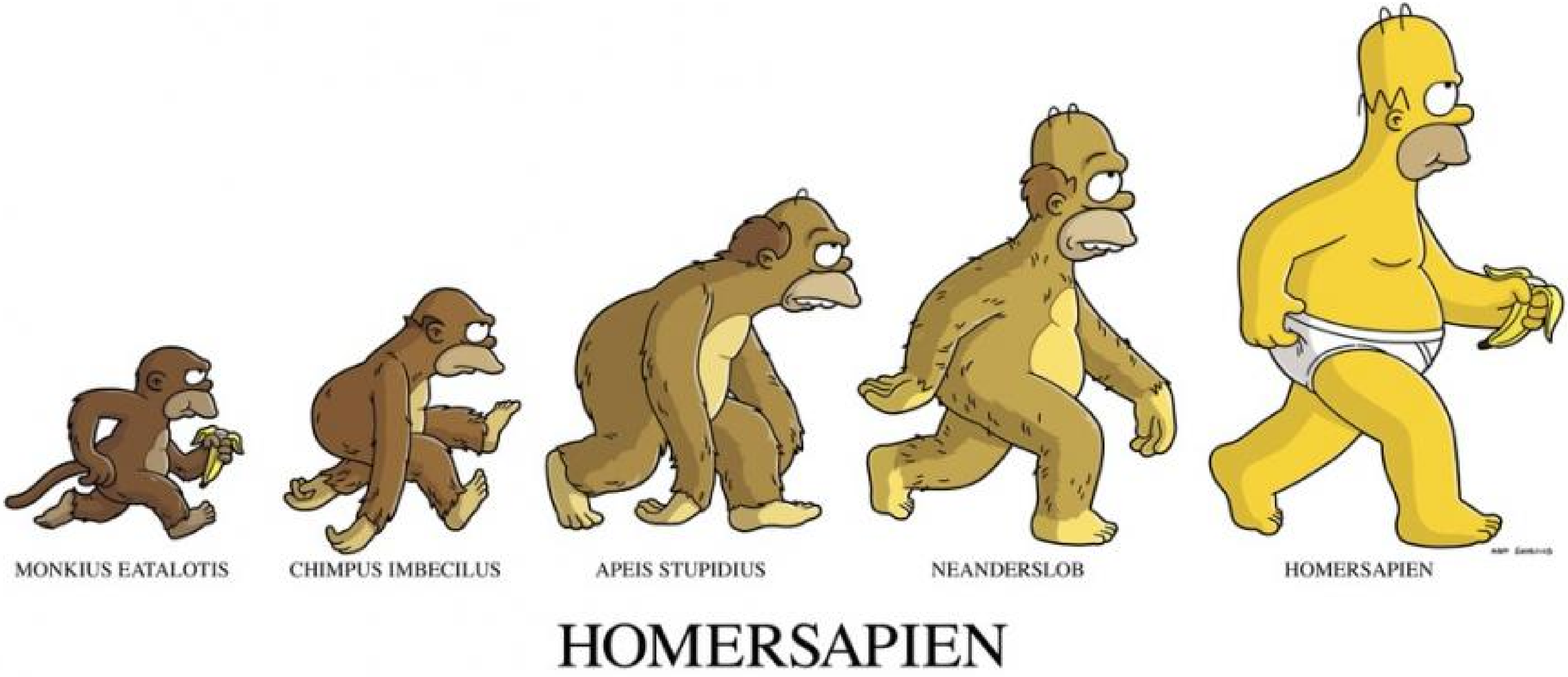
API

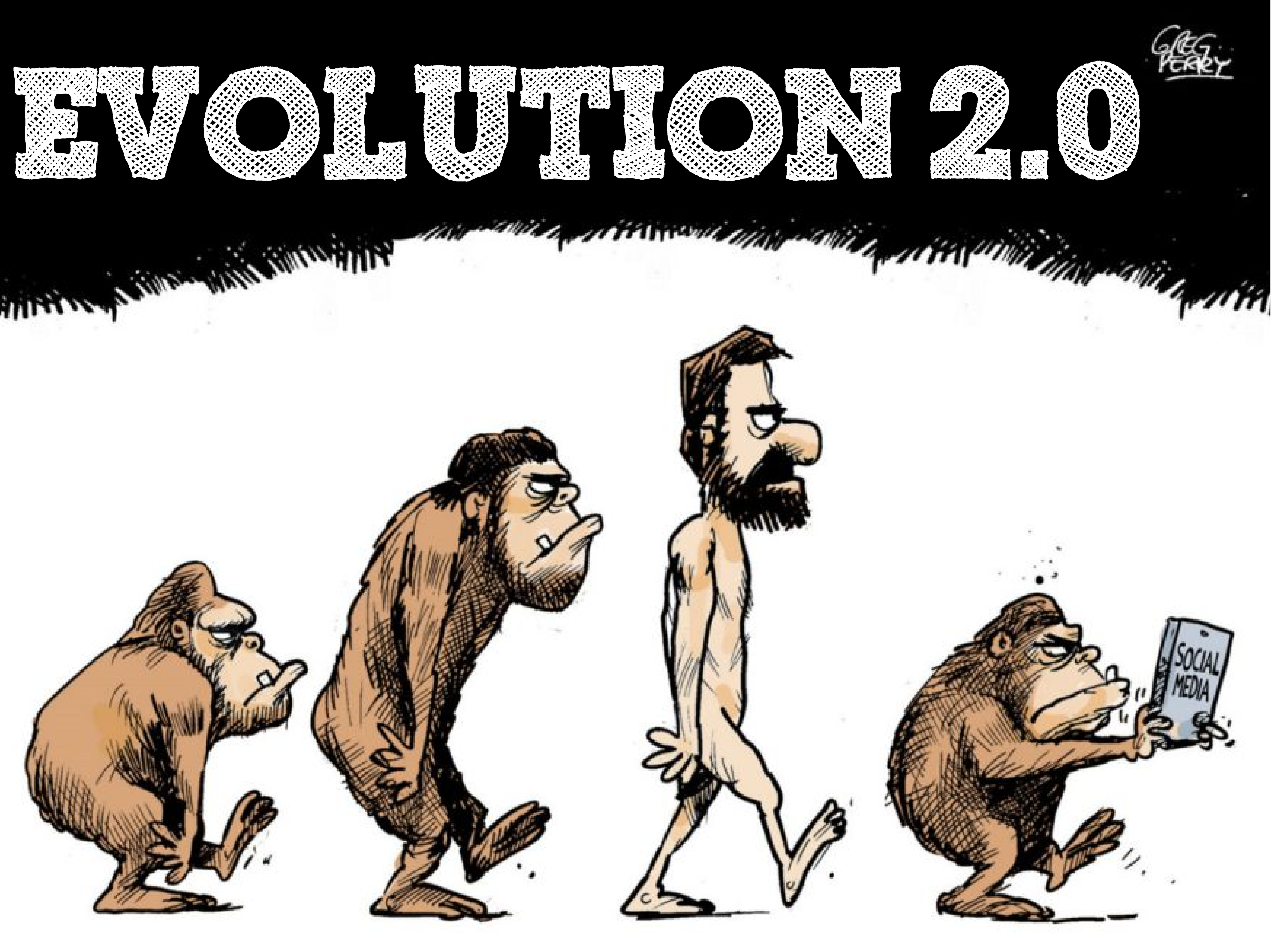
API

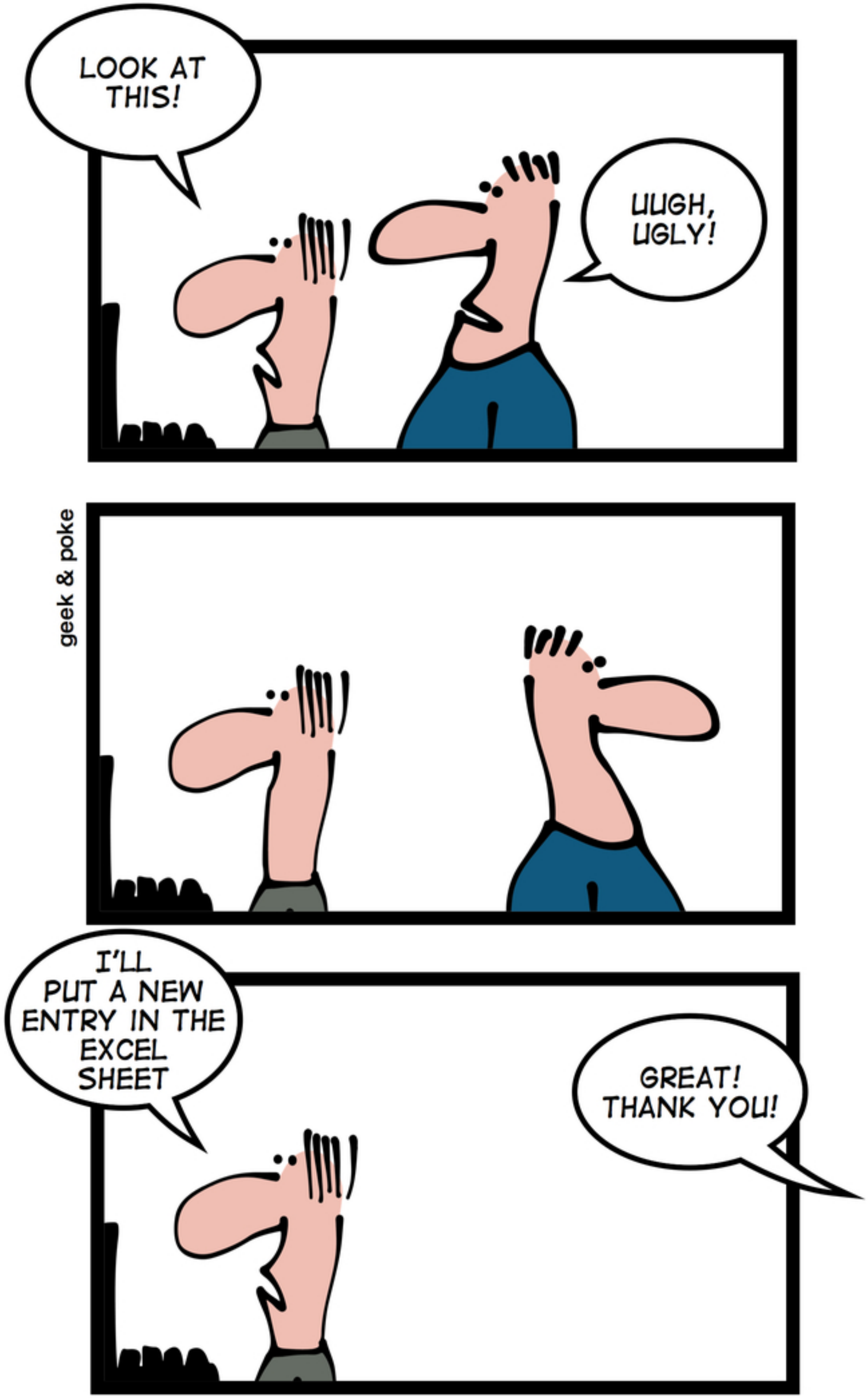
Provider

Con r

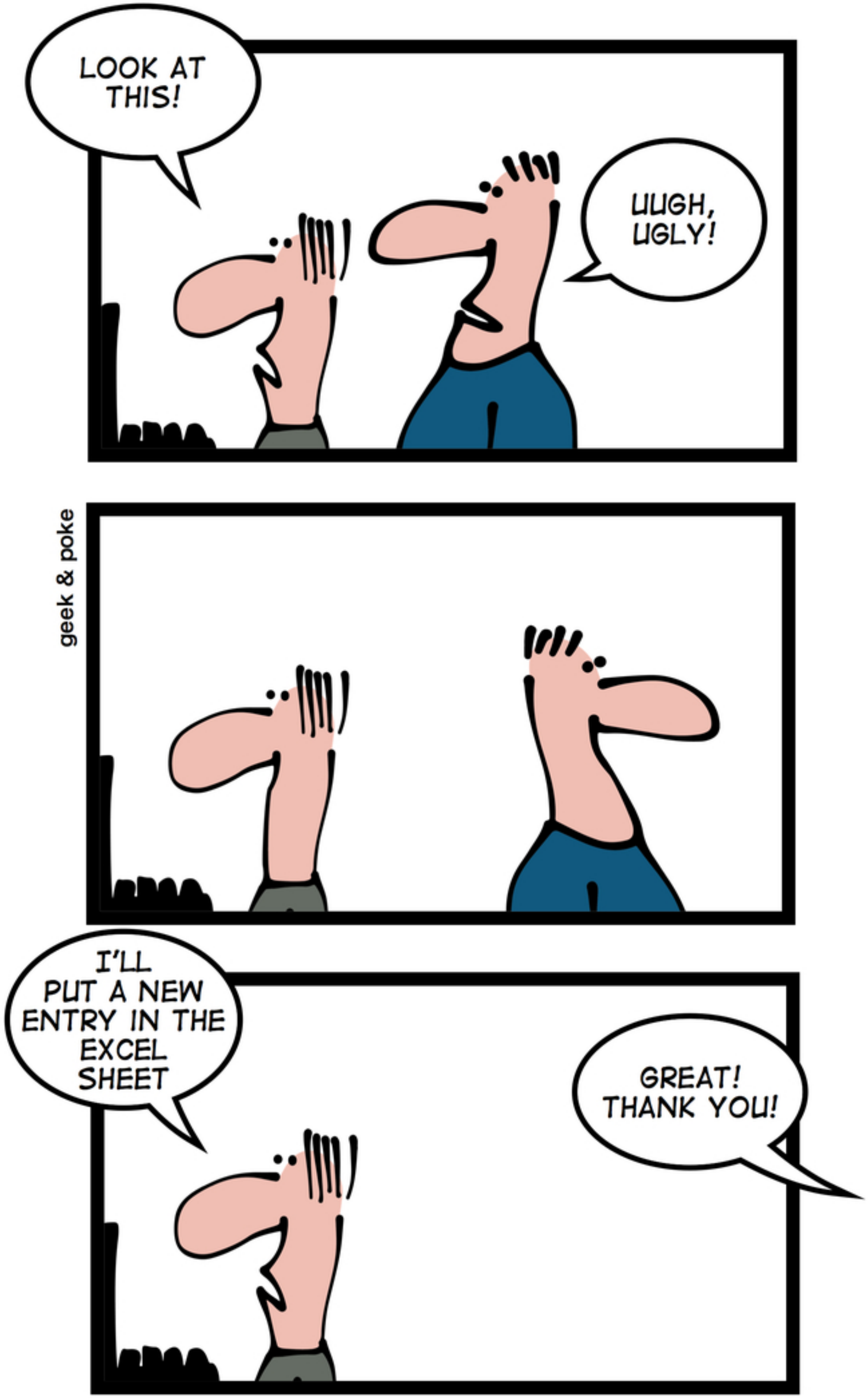
EVOLUTION


MONKIUS EATALOTIS
CHIMPUS IMBECILUS
APEIS STUPIDIUS
NEANDERSLOB
HOMERSAPIEN
HOMERSAPIEN


EVOLUTION 2.0
GREG PERRY
SOCIAL MEDIA

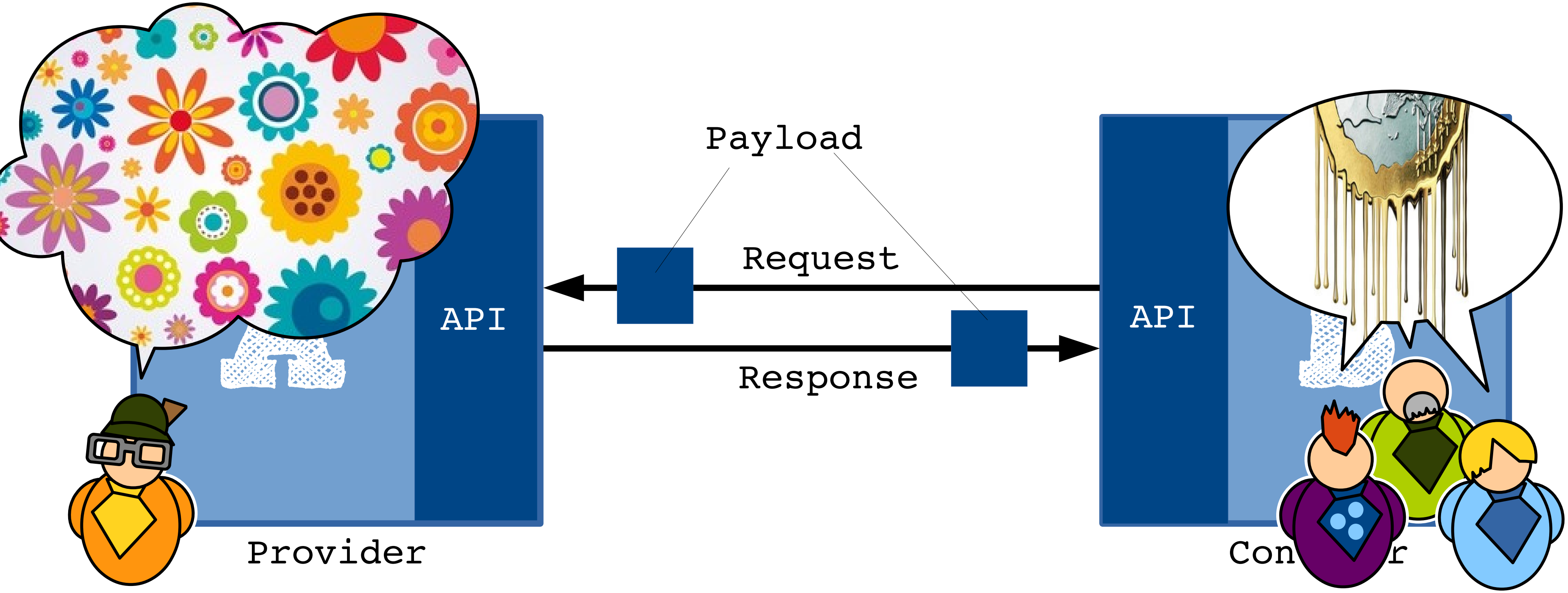


technicalDebts.xls



technicalDebts.xls

TECHNICAL DEPT



Payload

Request

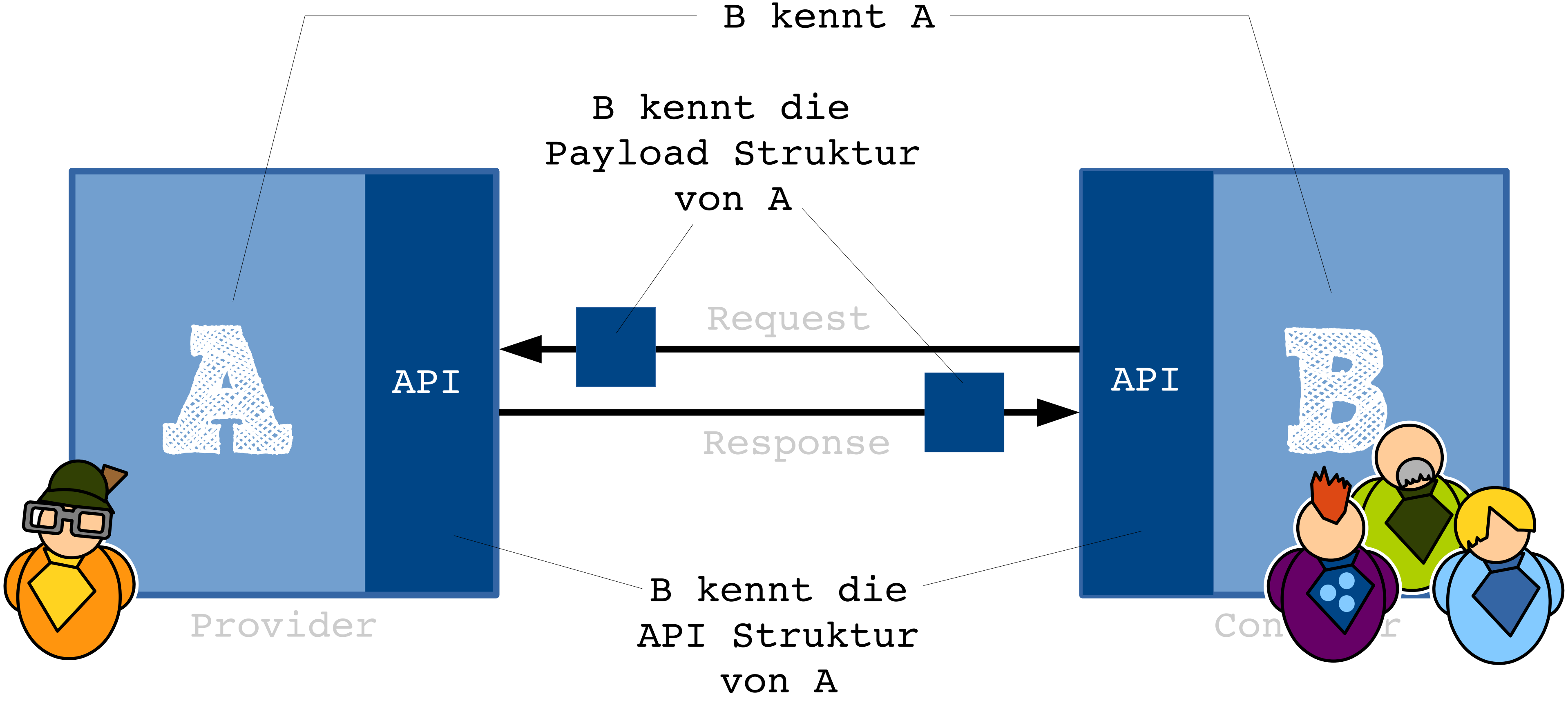
Response

API

API

Provider

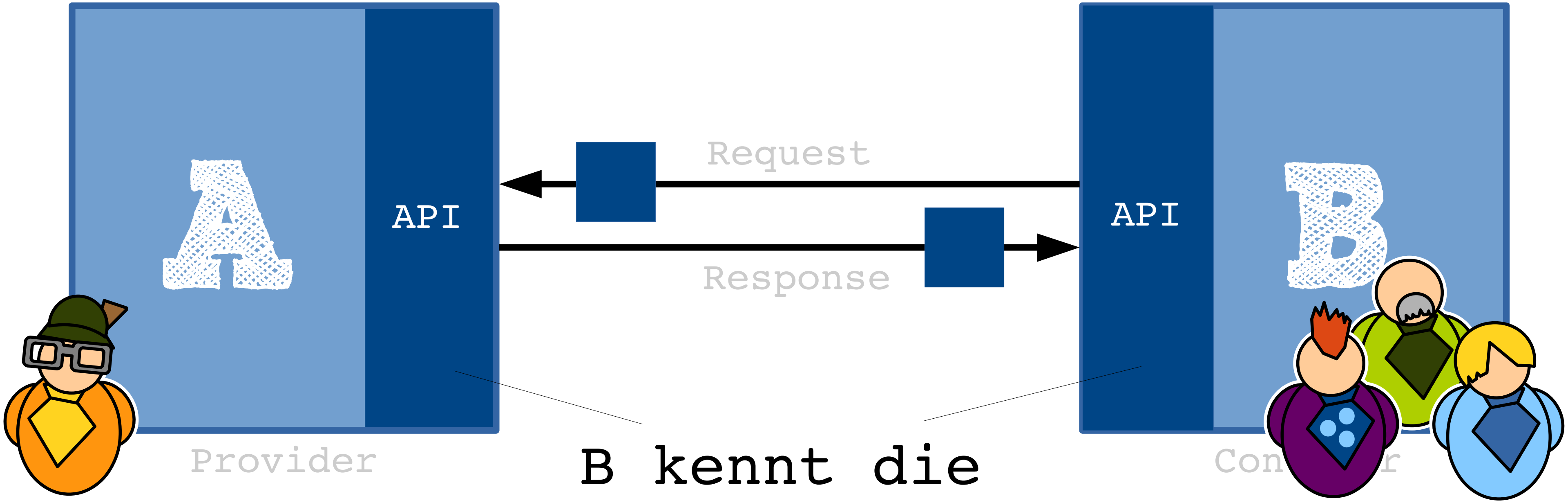
Con r



B kennt A

B kennt die
Payload Struktur
von A

B kennt die
API Struktur
von A



B kennt die API Struktur von A

RESTBUCKS, THE SAMPLE

http://codebetter.com/glennblock/2011/06/06/rest-in-practice-the-book-restbucks-the-sample

https://github.com/olivergierke/spring-restbucks

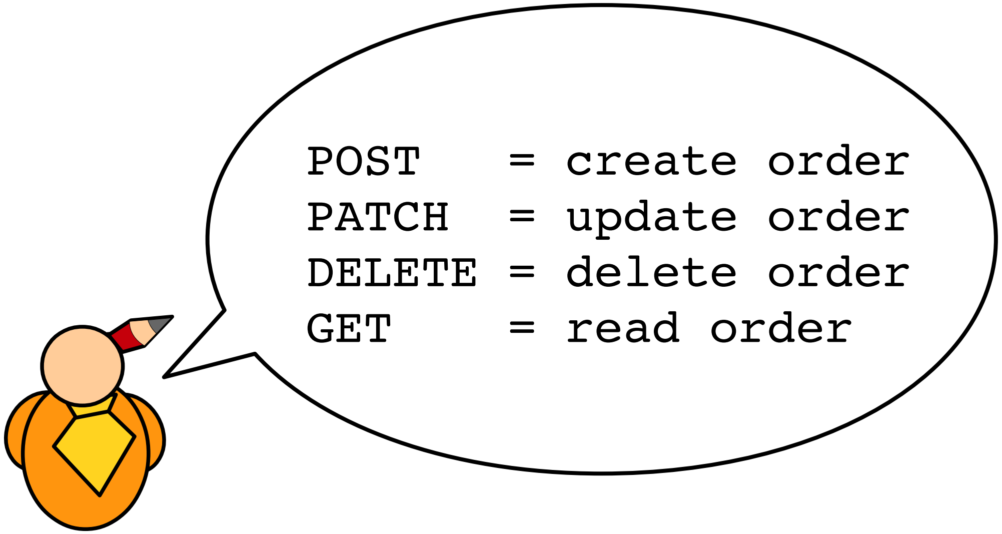
https://speakerdeck.com/olivergierke

http://olivergierke.de/2016/04/benefits-of-hypermedia/

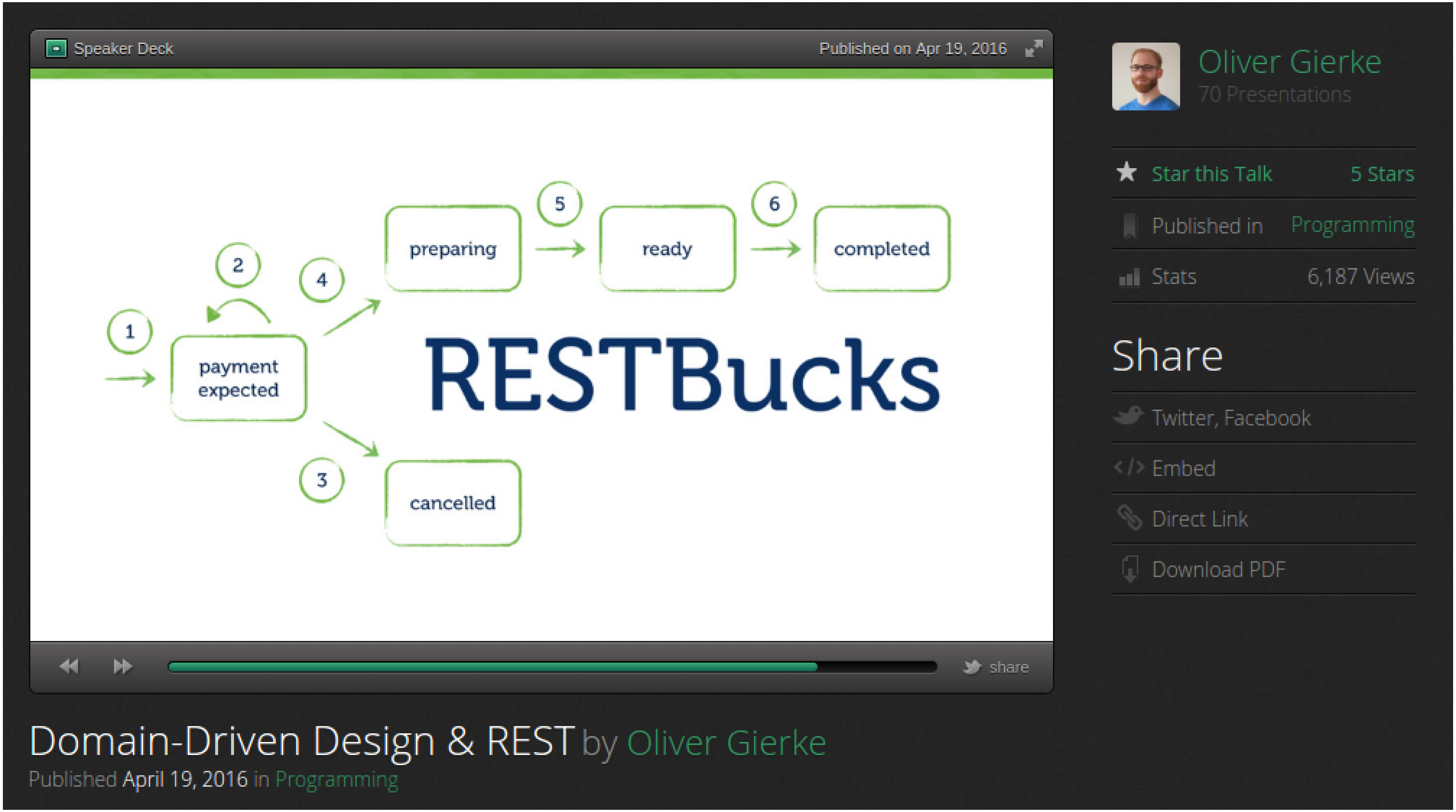
https://RESTBUCKS.IO/V1/CREATE_ORDER

https://RESTBUCKS.IO/V2/CREATE_ORDER

https://RESTBUCKS.IO/V2/ORDER/{ID}

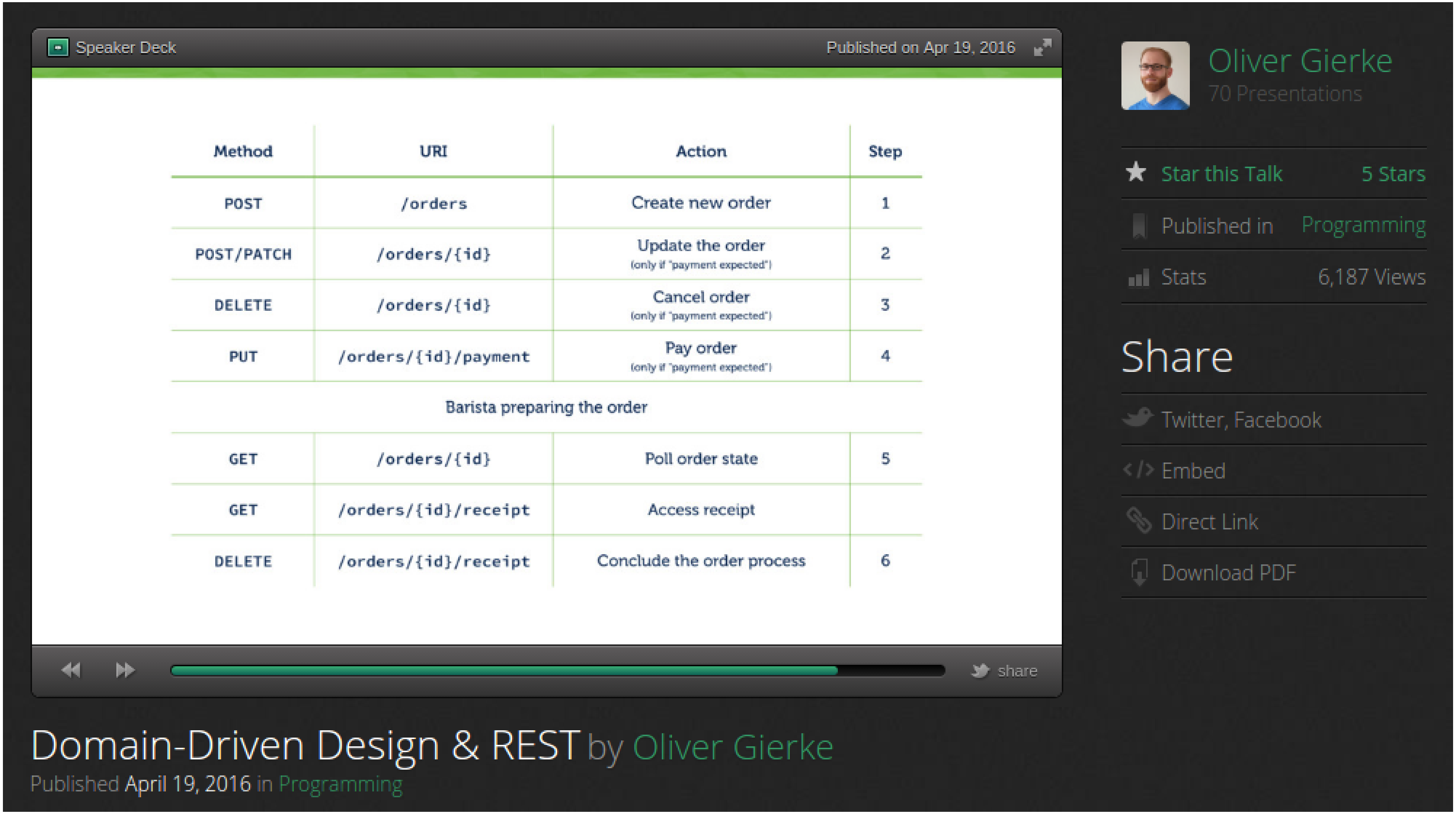


```
POST   = create order
PATCH  = update order
DELETE = delete order
GET    = read order
```



Domain-Driven Design & REST by Oliver Gierke

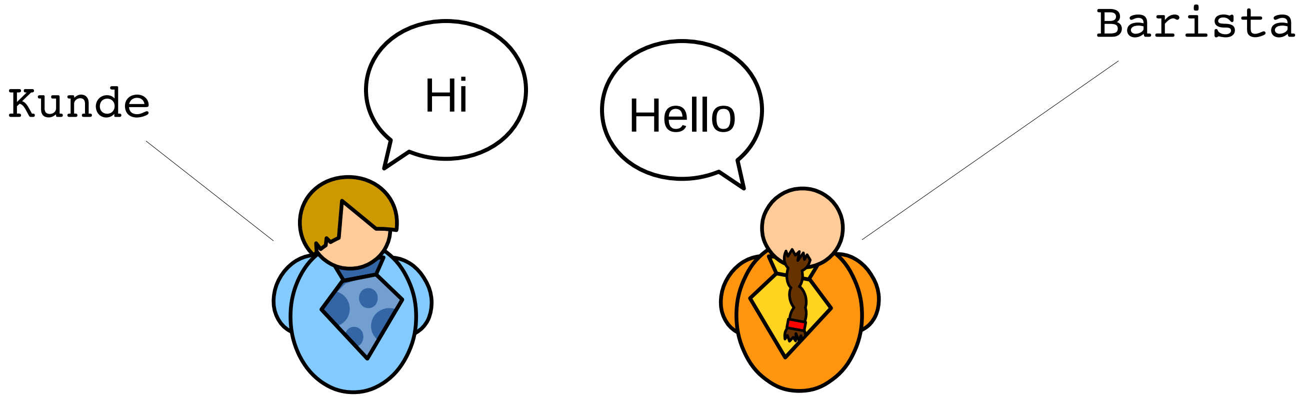
Published April 19, 2016 in Programming



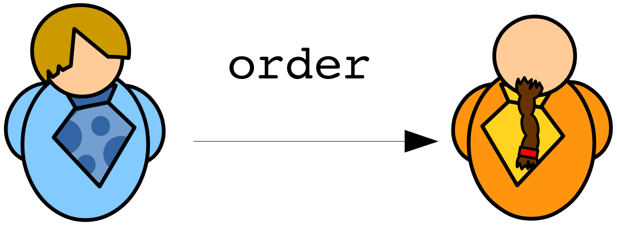
Method	URI	Action	Step
POST	/orders	Create new order	1
POST/PATCH	/orders/{id}	Update the order (only if "payment expected")	2
DELETE	/orders/{id}	Cancel order (only if "payment expected")	3
PUT	/orders/{id}/payment	Pay order (only if "payment expected")	4
Barista preparing the order			
GET	/orders/{id}	Poll order state	5
GET	/orders/{id}/receipt	Access receipt	
DELETE	/orders/{id}/receipt	Conclude the order process	6

Domain-Driven Design & REST by Oliver Gierke

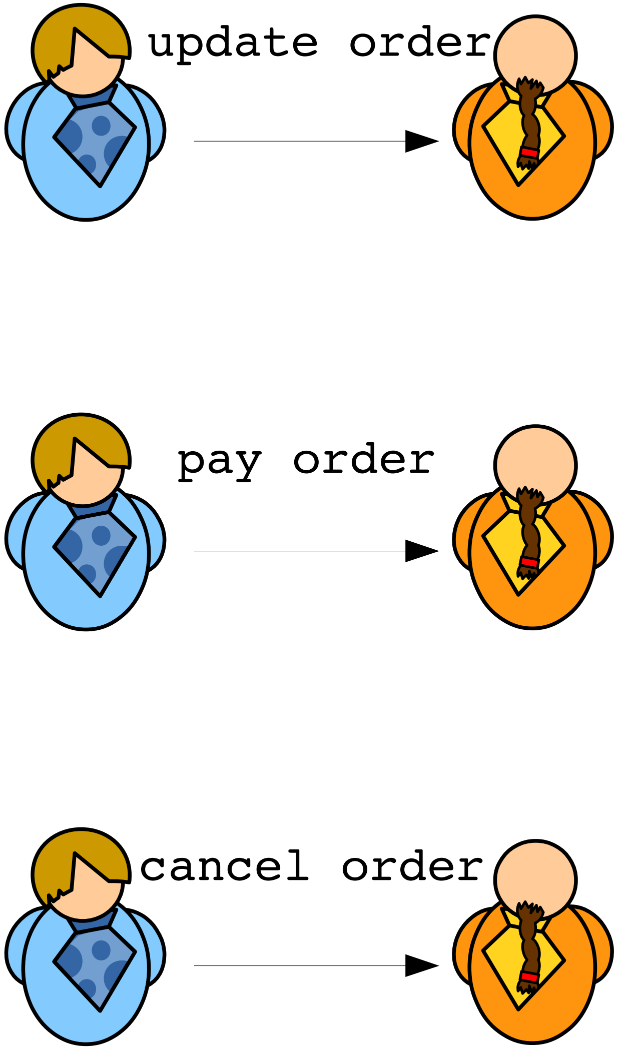
Published April 19, 2016 in Programming


Kunde
Hi
Hello
Barista

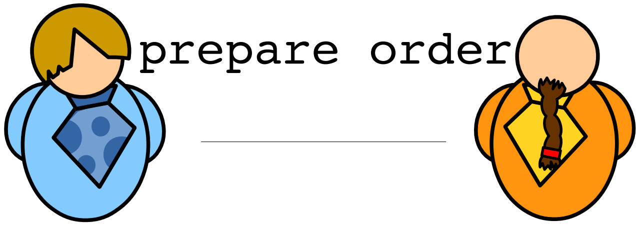
SCHRITT 1



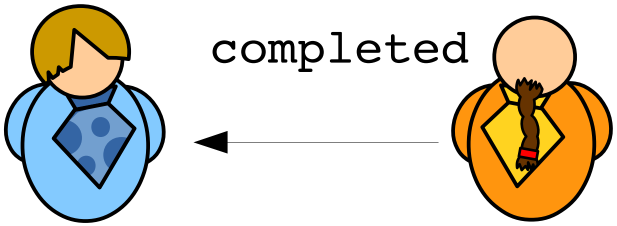
SCHRITT 2



SCHRITT 3

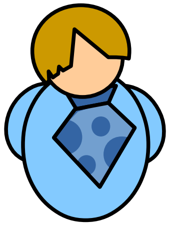


SCHRITT 4



completed

SCHRITT 5



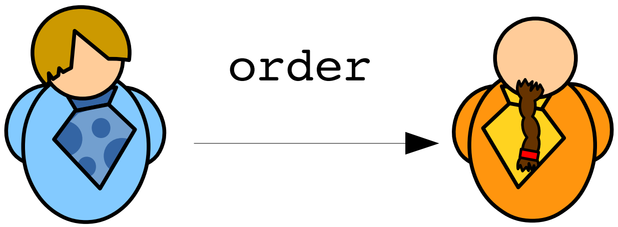
drink
event

HATEOAS

Hypermedia
As
The
Engine
Of
Application
State

SCHRITT 1

Request



POST: RESTBUCKS.io/v2/order

Response

self
GET: RESTBUCKS.io/v2/order/1
RESTBUCKS.io/v2/order/{id}

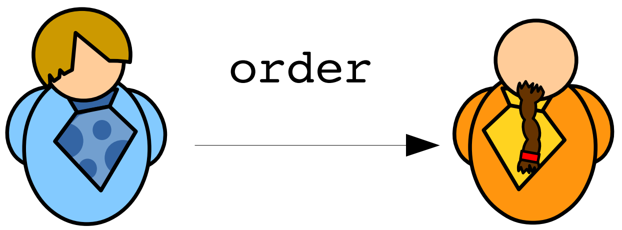
update_order
POST/PATCH: RESTBUCKS.io/v2/order/1
RESTBUCKS.io/v2/order/{id}

cancel_order
DELETE: RESTBUCKS.io/v2/order/1
RESTBUCKS.io/v2/order/{id}

pay_order
PUT: RESTBUCKS.io/v2/order/1/payment
RESTBUCKS.io/v2/order/{id}/payment

SCHRITT 1

Request



POST: RESTBUCKS.io/v2/order

Response

self

```
GET:         RESTBUCKS.io/v2/order/1
             RESTBUCKS.io/v2/order/{id}
```

update_order

```
POST/PATCH:  RESTBUCKS.io/v2/order/1
             RESTBUCKS.io/v2/order/{id}
```

cancel_order

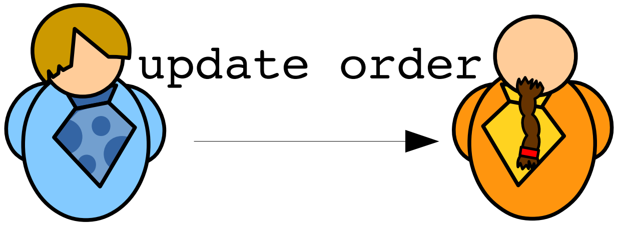
```
DELETE:      RESTBUCKS.io/v2/order/1
             RESTBUCKS.io/v2/order/{id}
```

pay_order

```
PUT:         RESTBUCKS.io/v2/order/1/payment
             RESTBUCKS.io/v2/order/{id}/payment
```

SCHRITT 2

Request	Response

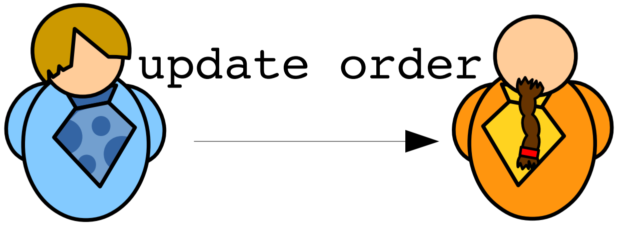


PATCH: RESTBUCKS.io/v2/order/1

RESTBUCKS.io/v2/order/{id}

SCHRITT 2

Request	Response



```
PATCH: RESTBUCKS.io/v2/order/1
       RESTBUCKS.io/v2/order/{id}
```

self

```
GET:         RESTBUCKS.io/v2/order/1
             RESTBUCKS.io/v2/order/{id}
```

update_order

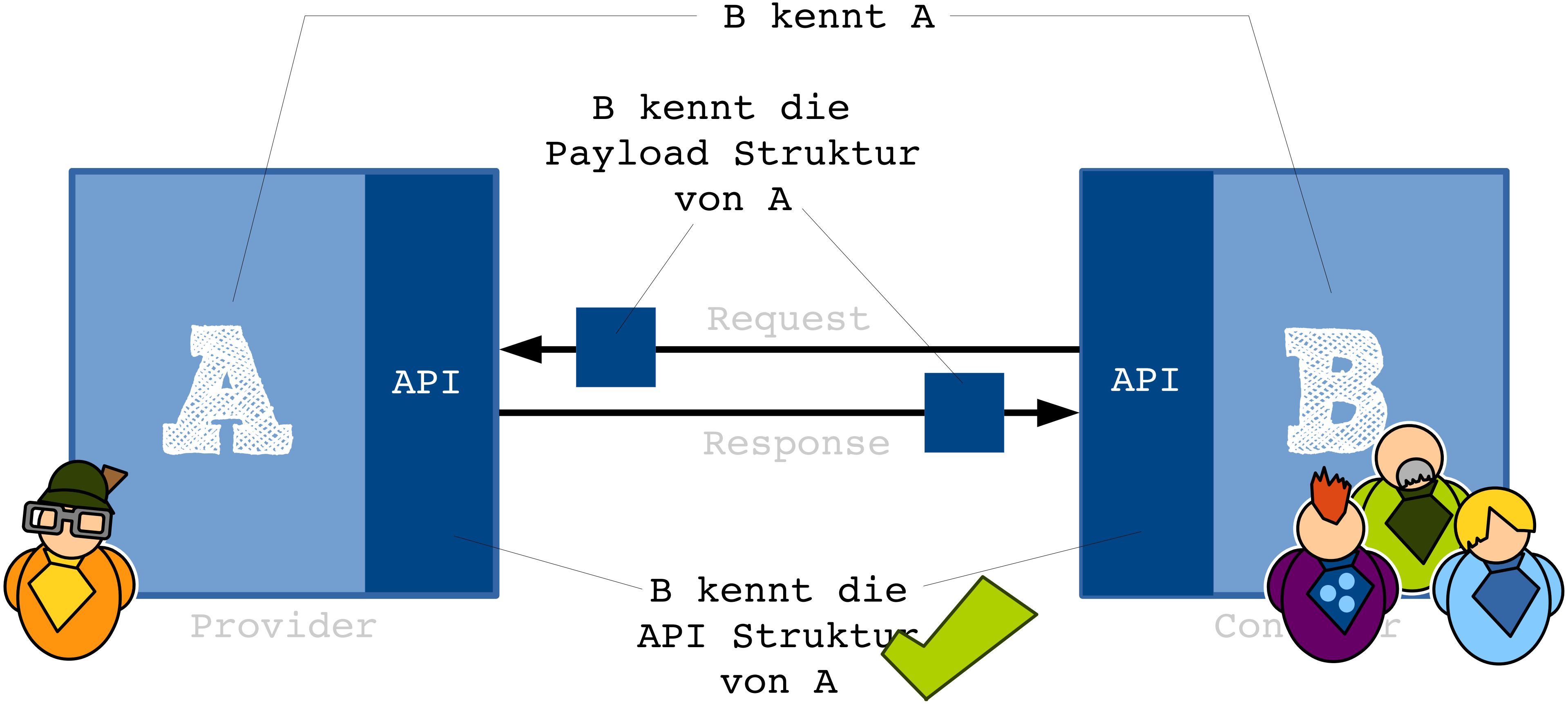
```
POST/PATCH:  RESTBUCKS.io/v2/order/1
             RESTBUCKS.io/v2/order/{id}
```

cancel_order

```
DELETE:      RESTBUCKS.io/v2/order/1
             RESTBUCKS.io/v2/order/{id}
```

pay_order

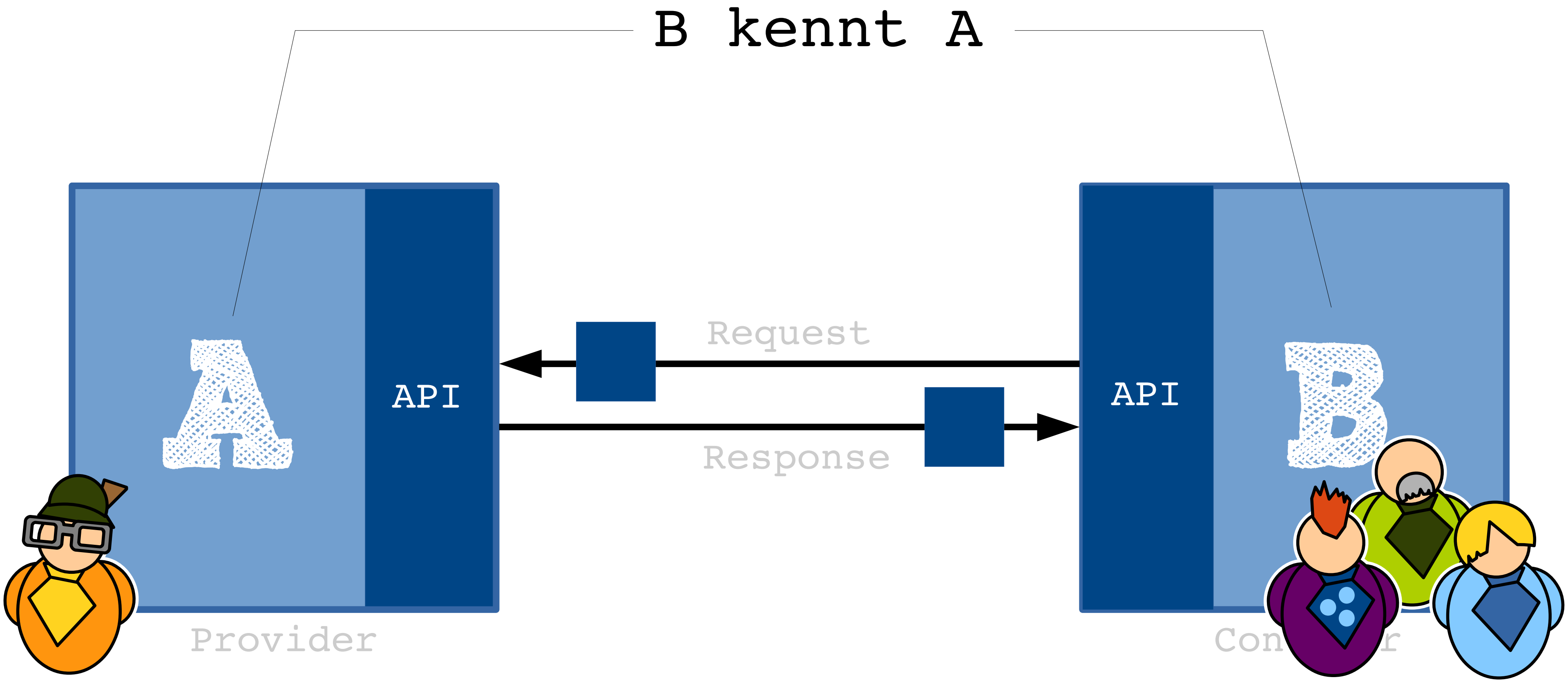
```
PUT:         RESTBUCKS.io/v2/order/1/payment
             RESTBUCKS.io/v2/order/{id}/payment
```



B kennt A

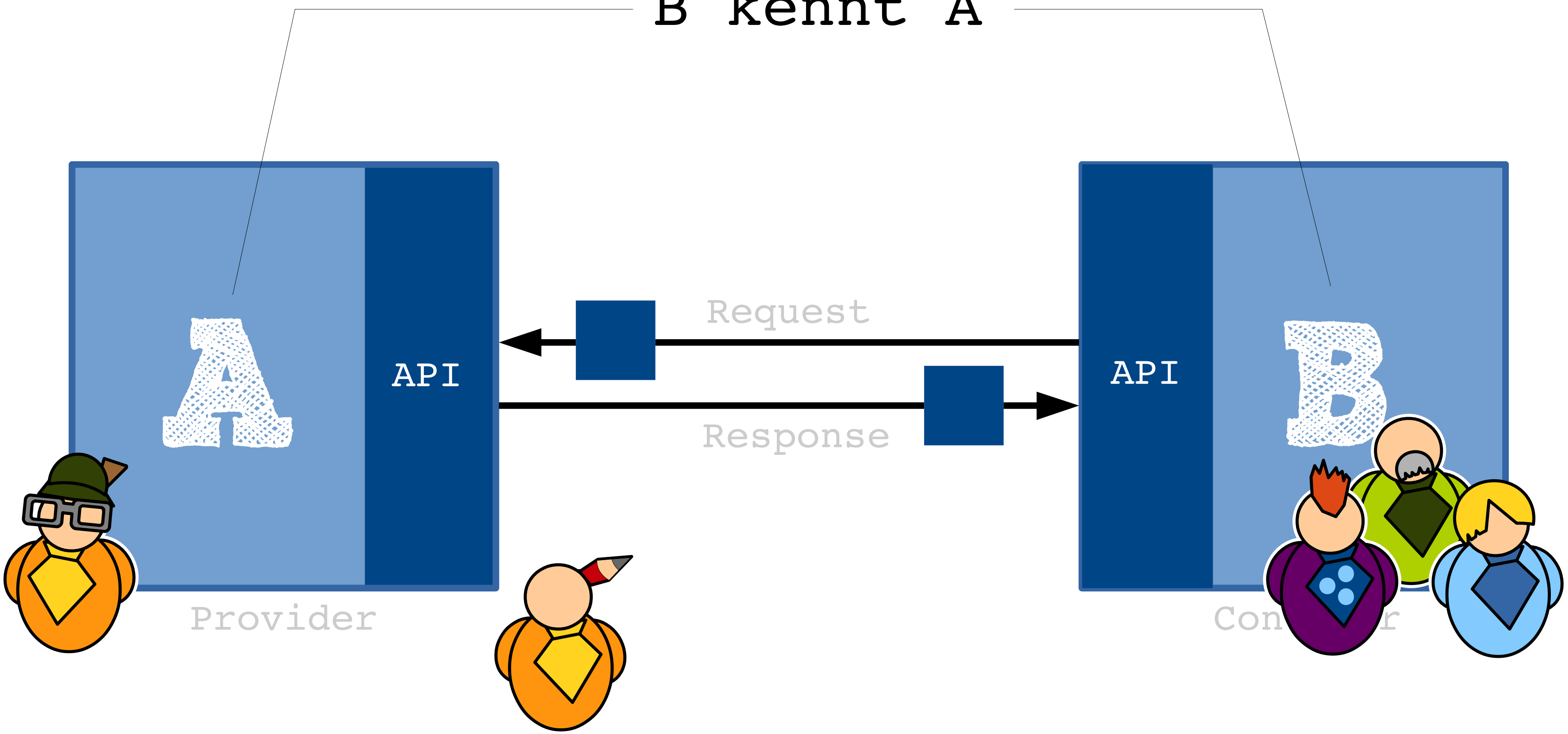
B kennt die
Payload Struktur
von A

B kennt die
API Struktur
von A



B kennt A

B kennt A



A

API

Request

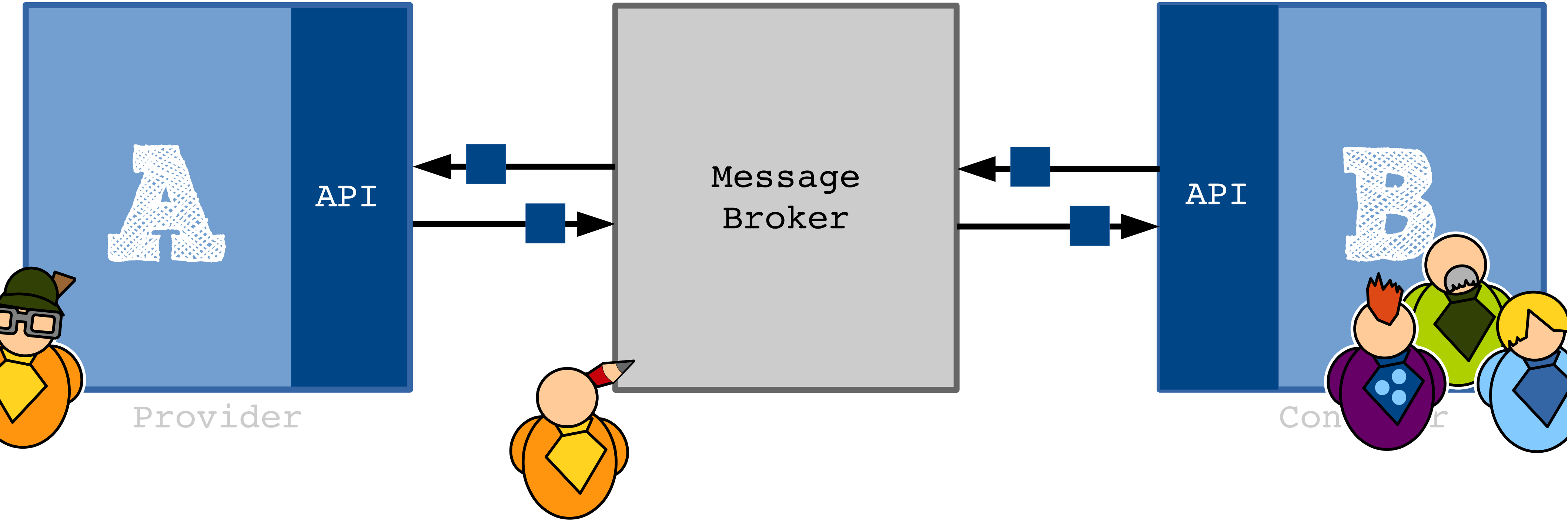
Response

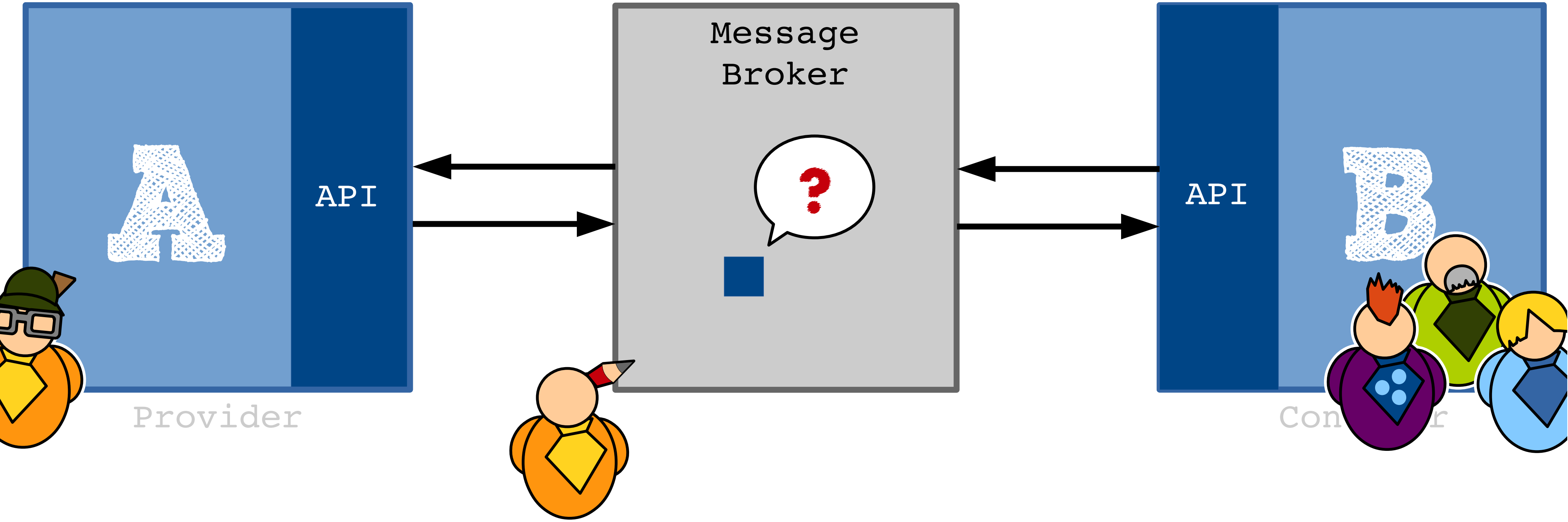
API

B

Provider

Con r


A
API
Message
Broker
API
B
Provider
Con r



Message Broker

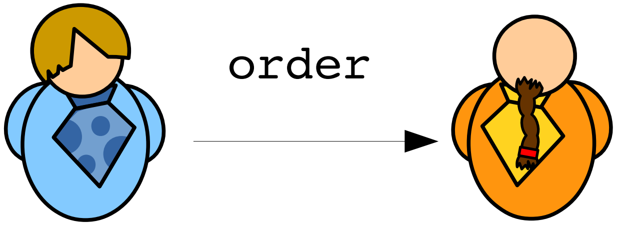
API

API

Provider

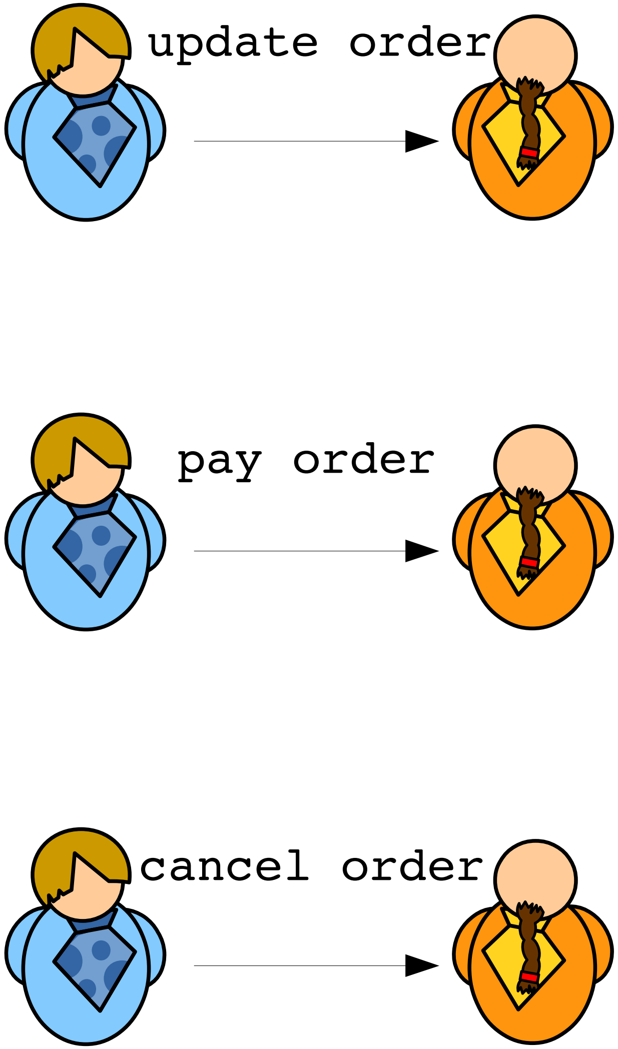
Con r

SCHRITT 1



order

SCHRITT 2

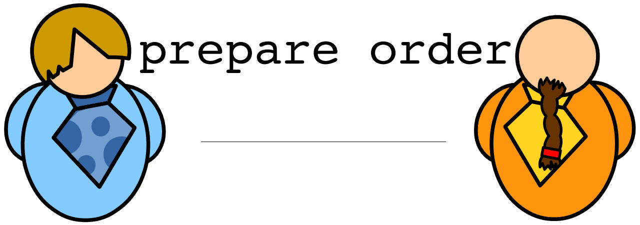


update order

pay order

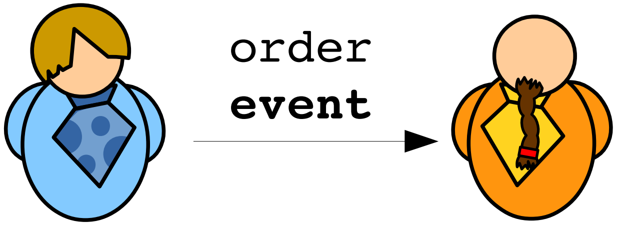
cancel order

SCHRITT 3



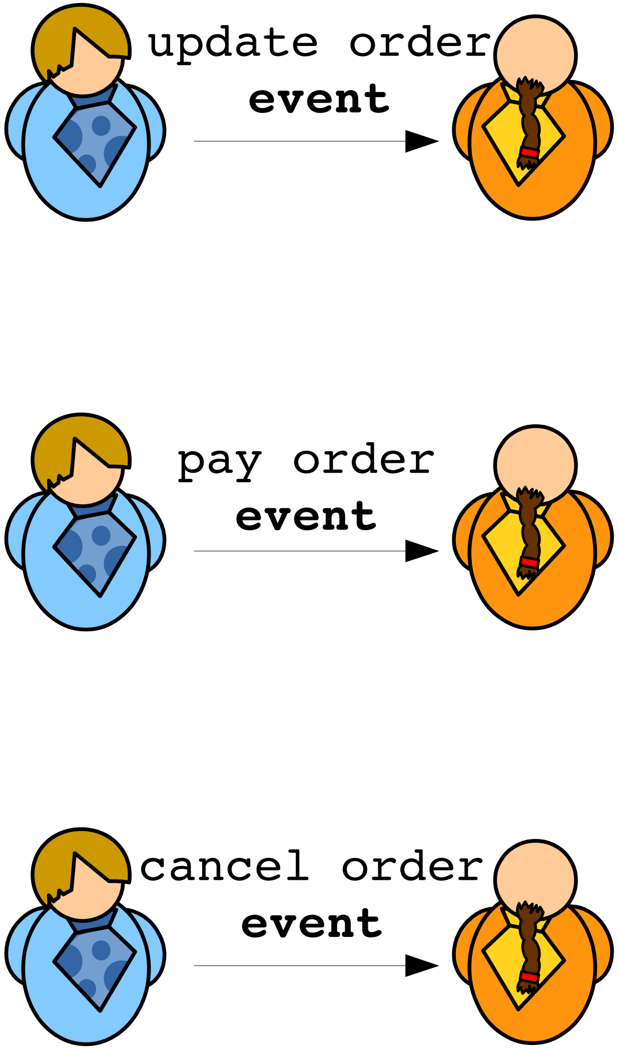
prepare order

SCHRITT 1



order
event

SCHRITT 2

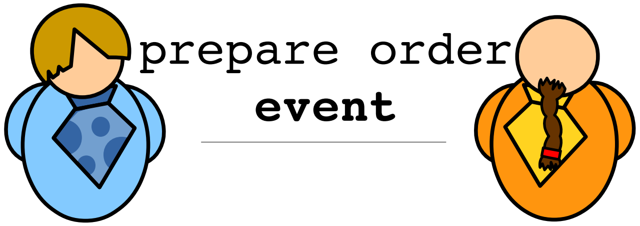


update order
event

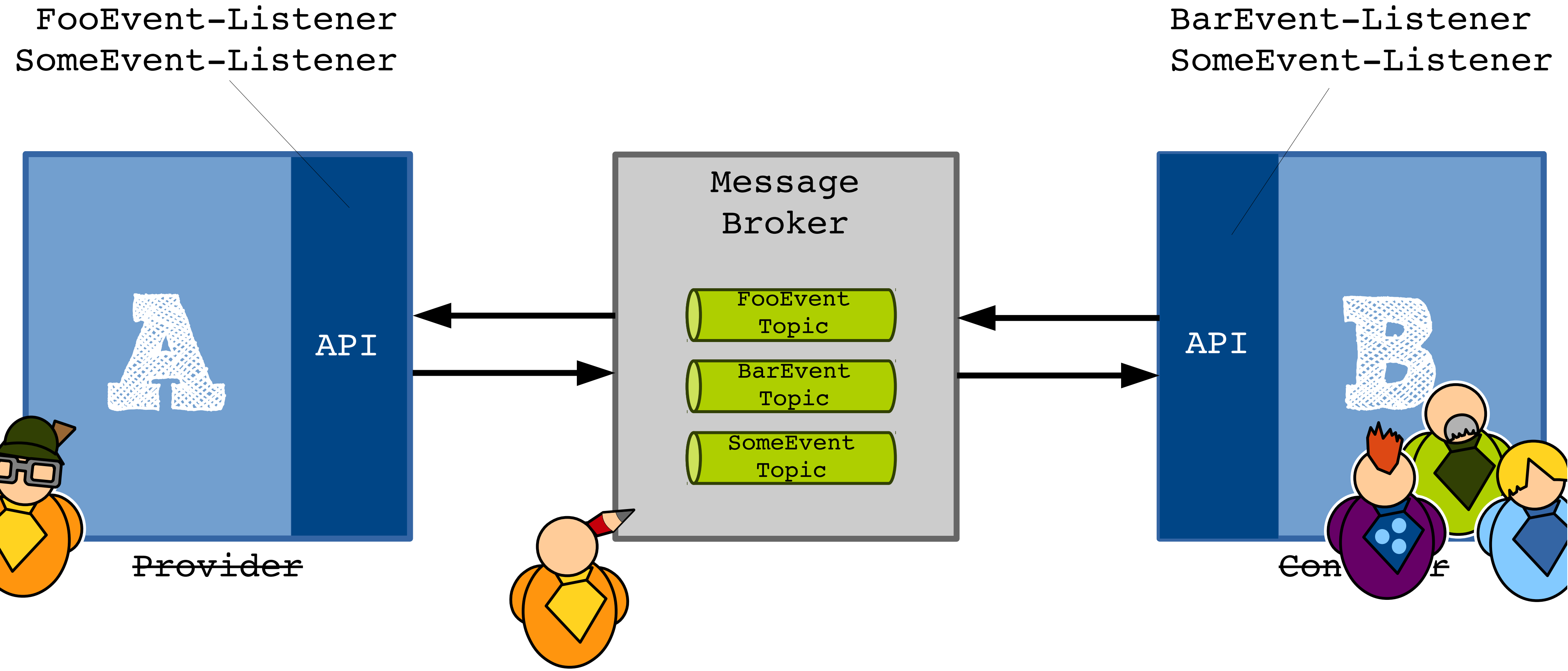
pay order
event

cancel order
event

SCHRITT 3



prepare order
event



FooEvent-Listener
SomeEvent-Listener

BarEvent-Listener
SomeEvent-Listener

A

API

Message
Broker

FooEvent
Topic

BarEvent
Topic

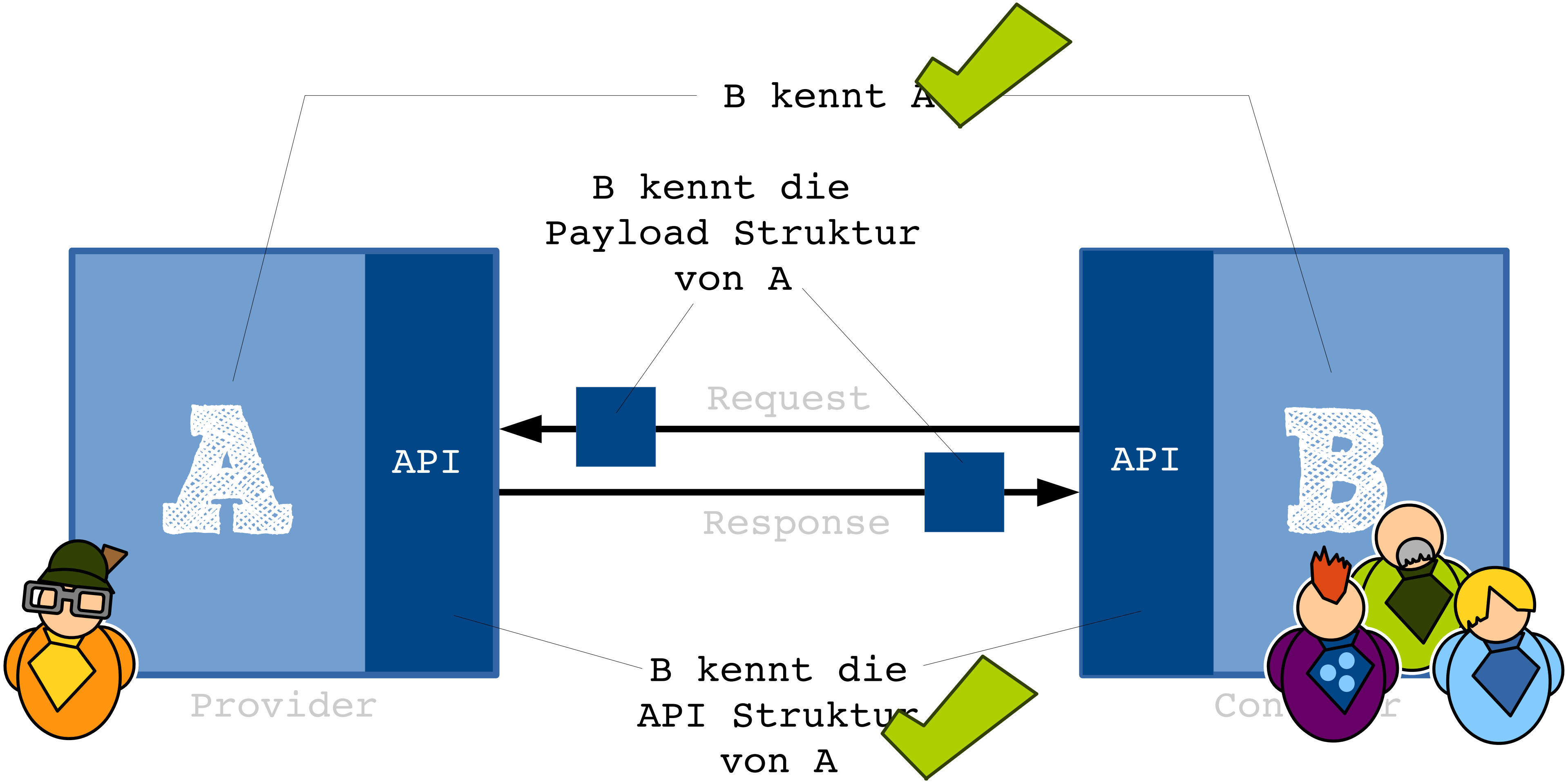
SomeEvent
Topic

API

B

~~Provider~~

~~Con r~~

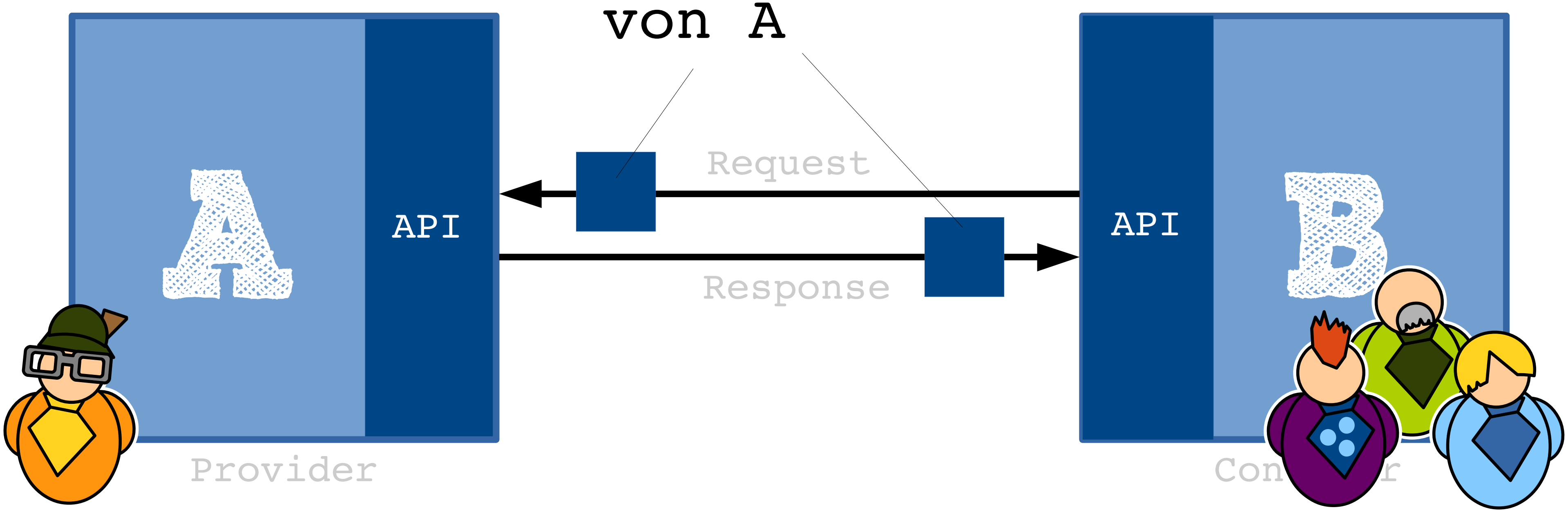


B kennt A

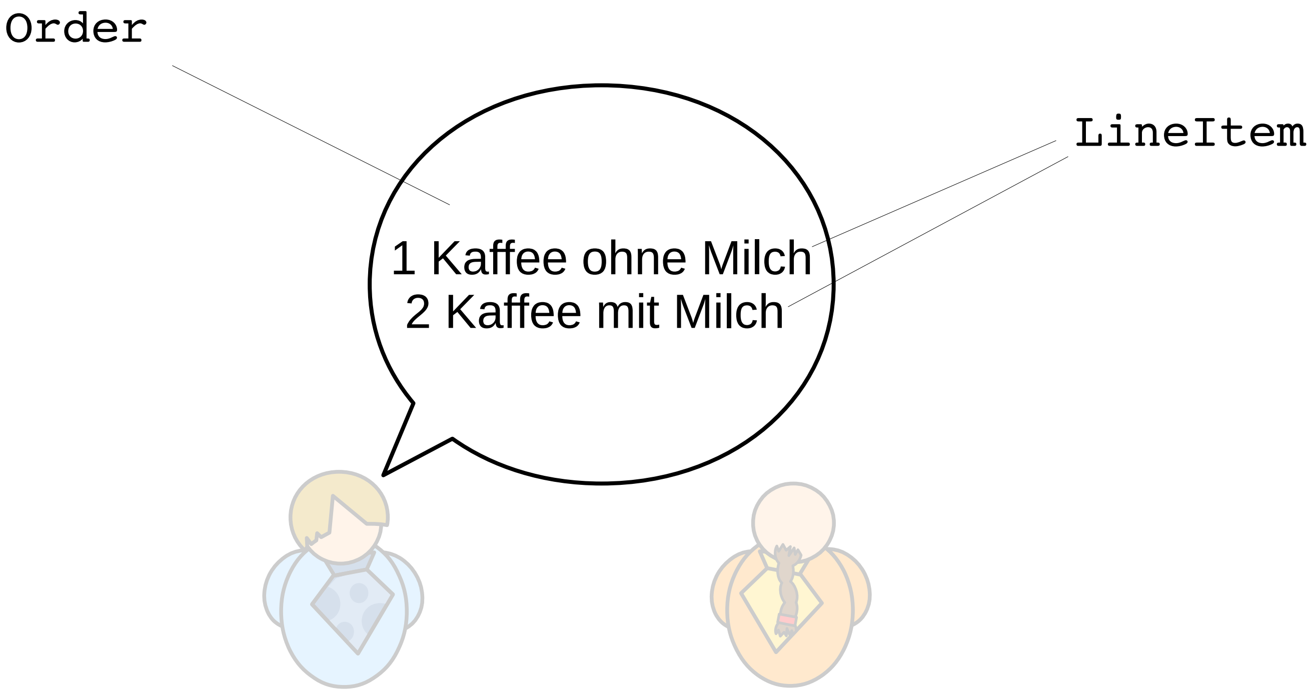
B kennt die Payload Struktur von A

B kennt die API Struktur von A

B kennt die Payload Struktur von A



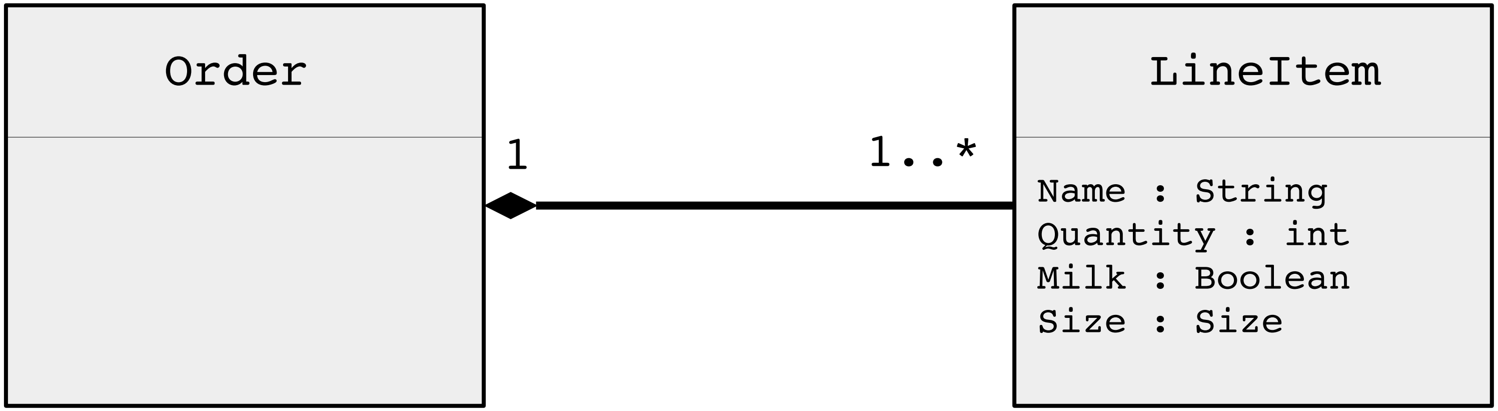
1 Kaffee ohne Milch
2 Kaffee mit Milch



Order

LineItem

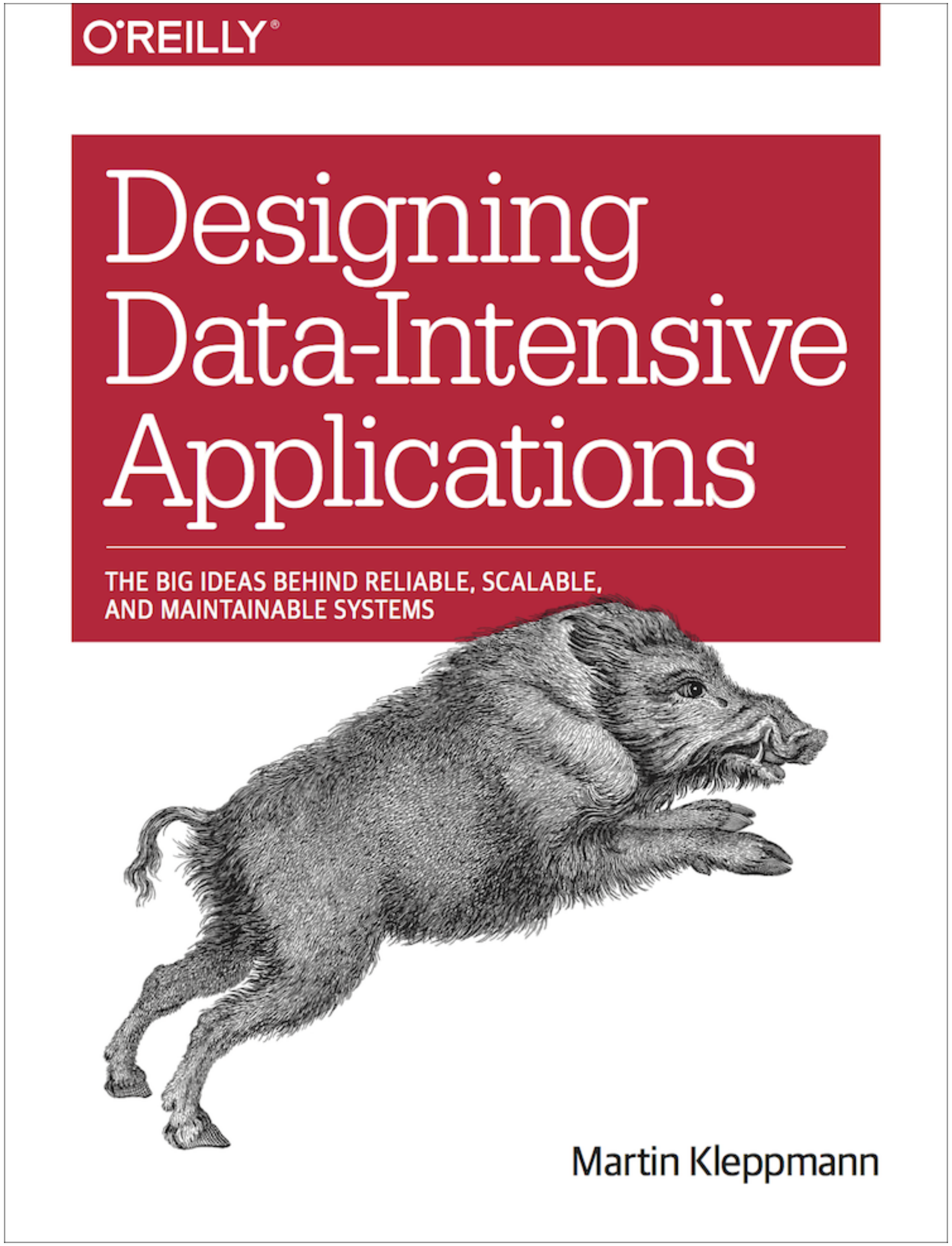
1 Kaffee ohne Milch
2 Kaffee mit Milch


Order
1
1..*
LineItem
Name : String
Quantity : int
Milk : Boolean
Size : Size

SCHEMA EVOLUTION

MY HADOOP IS BIGGER THAN YOURS...

AVRO™



O'REILLY®

Designing Data-Intensive Applications

THE BIG IDEAS BEHIND RELIABLE, SCALABLE, AND MAINTAINABLE SYSTEMS

Martin Kleppmann

Schema Registry Server:

spring-cloud-stream-schema-server als Dependency

@EnableSchemaRegistryServer

Schema Registry Client:

spring-cloud-stream-schema als Dependency

@EnableSchemaRegistryClient

Funktioniert auch mit der confluent schema registry (https://www.confluent.io/)