

# REST API 和 gRPC 的協奏曲

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# Tommy Chen

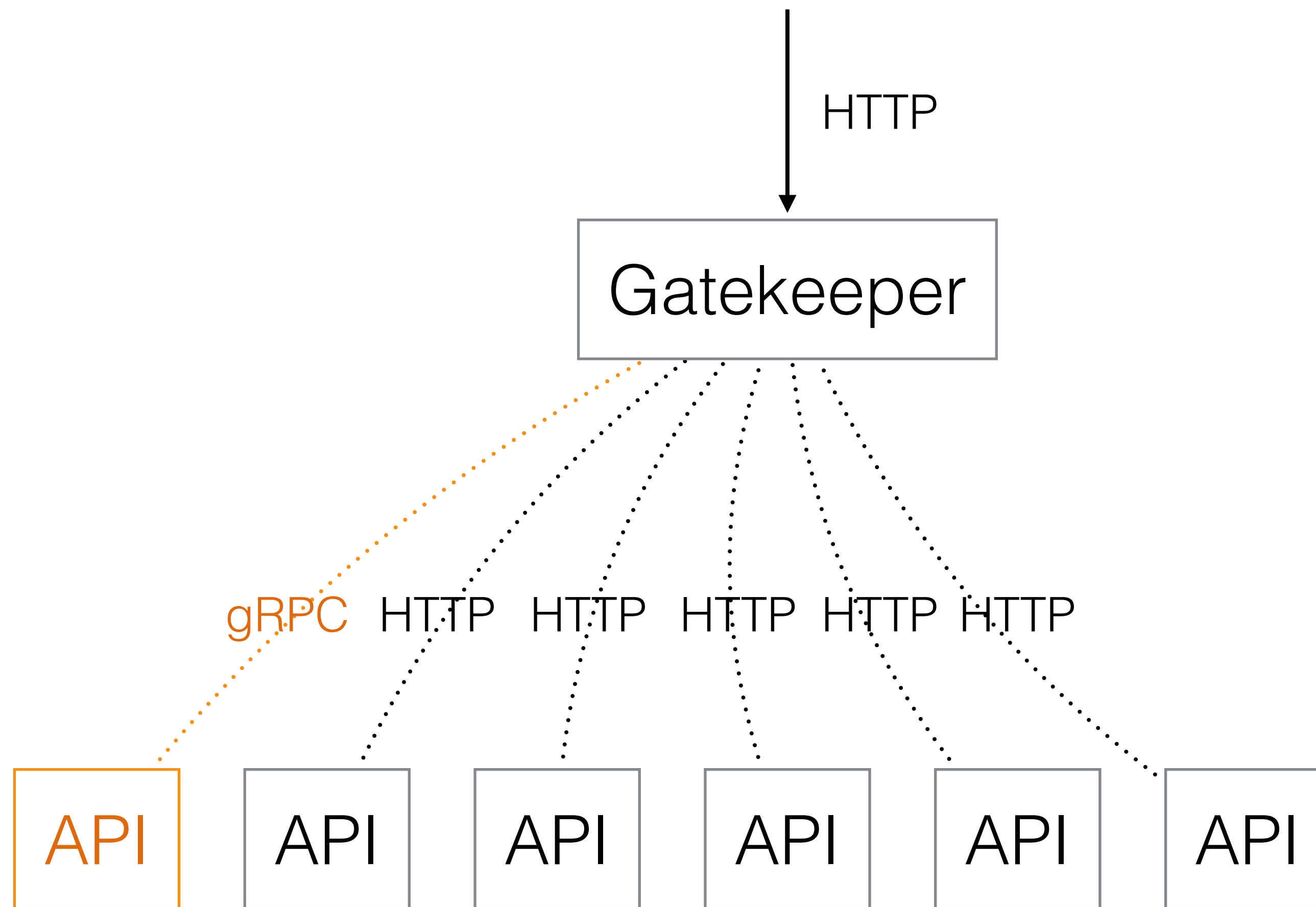


- a.k.a. SkyArrow
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# Why gRPC?

- 速度比較快
- ~~聽起來比較厲害~~

# 現有架構

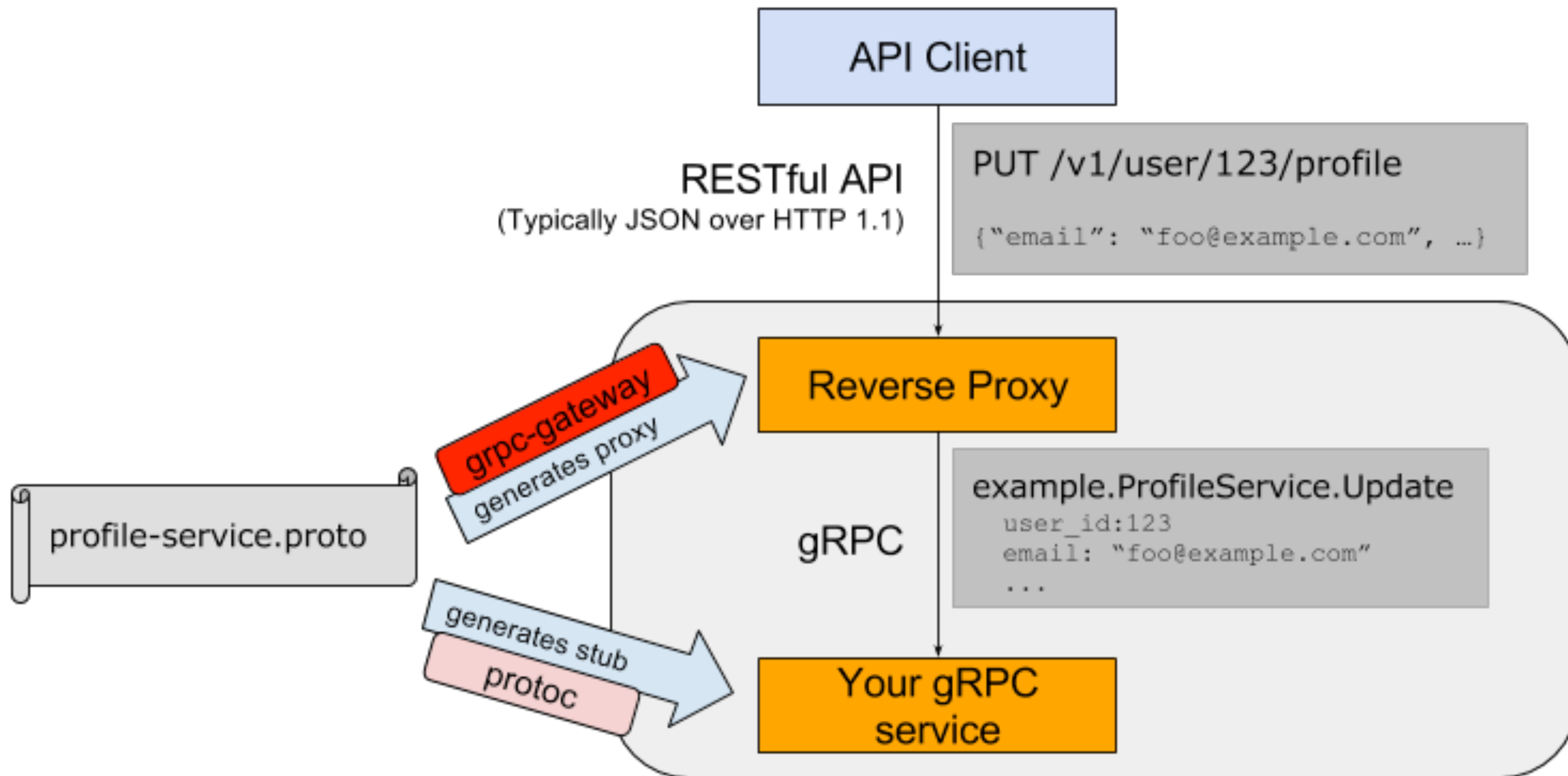


根據路徑分配 requests

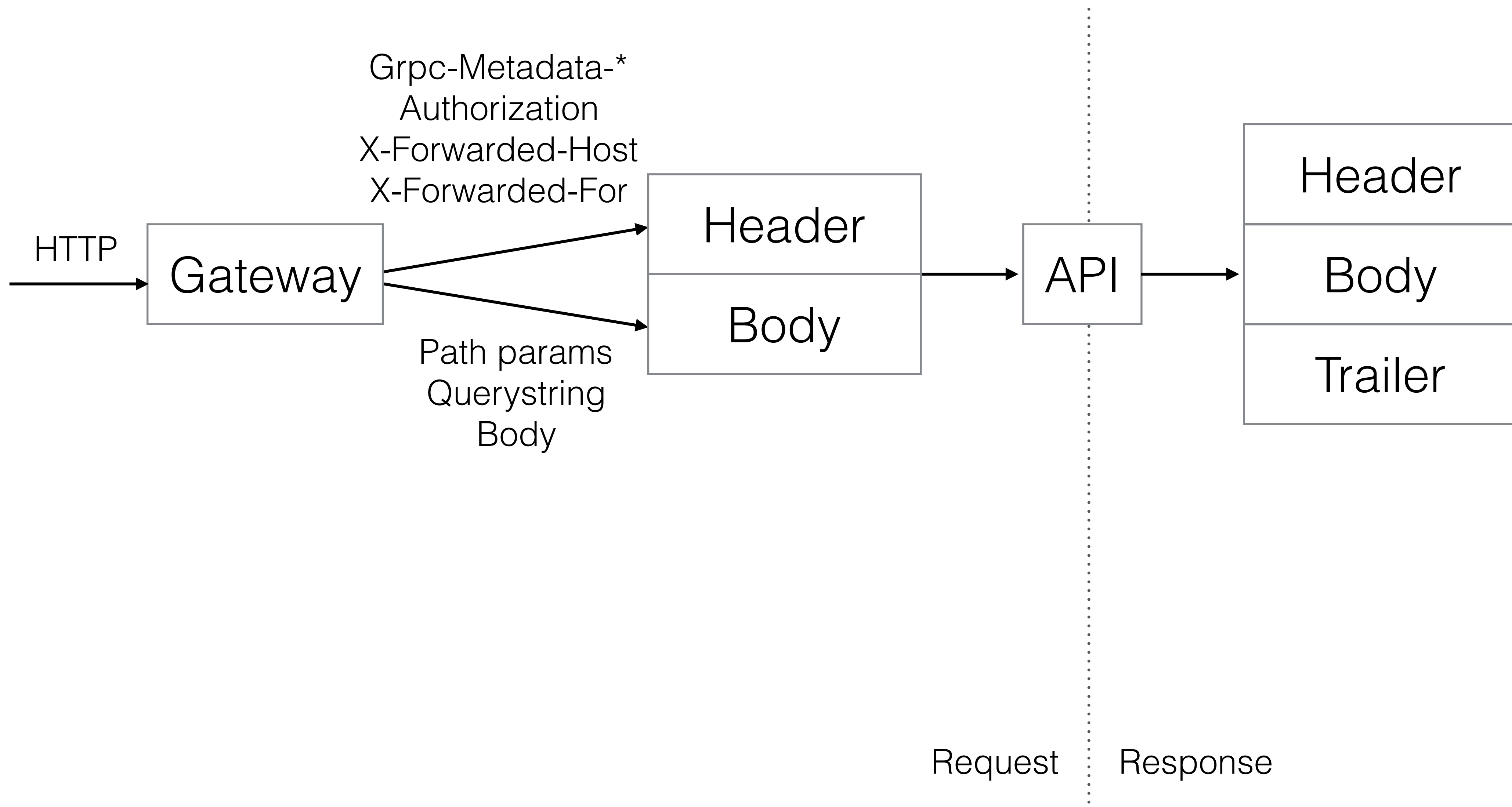
# 難題

- Gatekeeper 用 fasthttp 實作，但是 grpc-gateway 用 net/http
- gRPC 定義的錯誤碼有限，現有 API 的錯誤碼過於豐富
- 支援 application/x-www-form-urlencoded

# grpc-gateway



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# 造輪子

<https://github.com/tommy351/fasthttp-grpc-gateway>

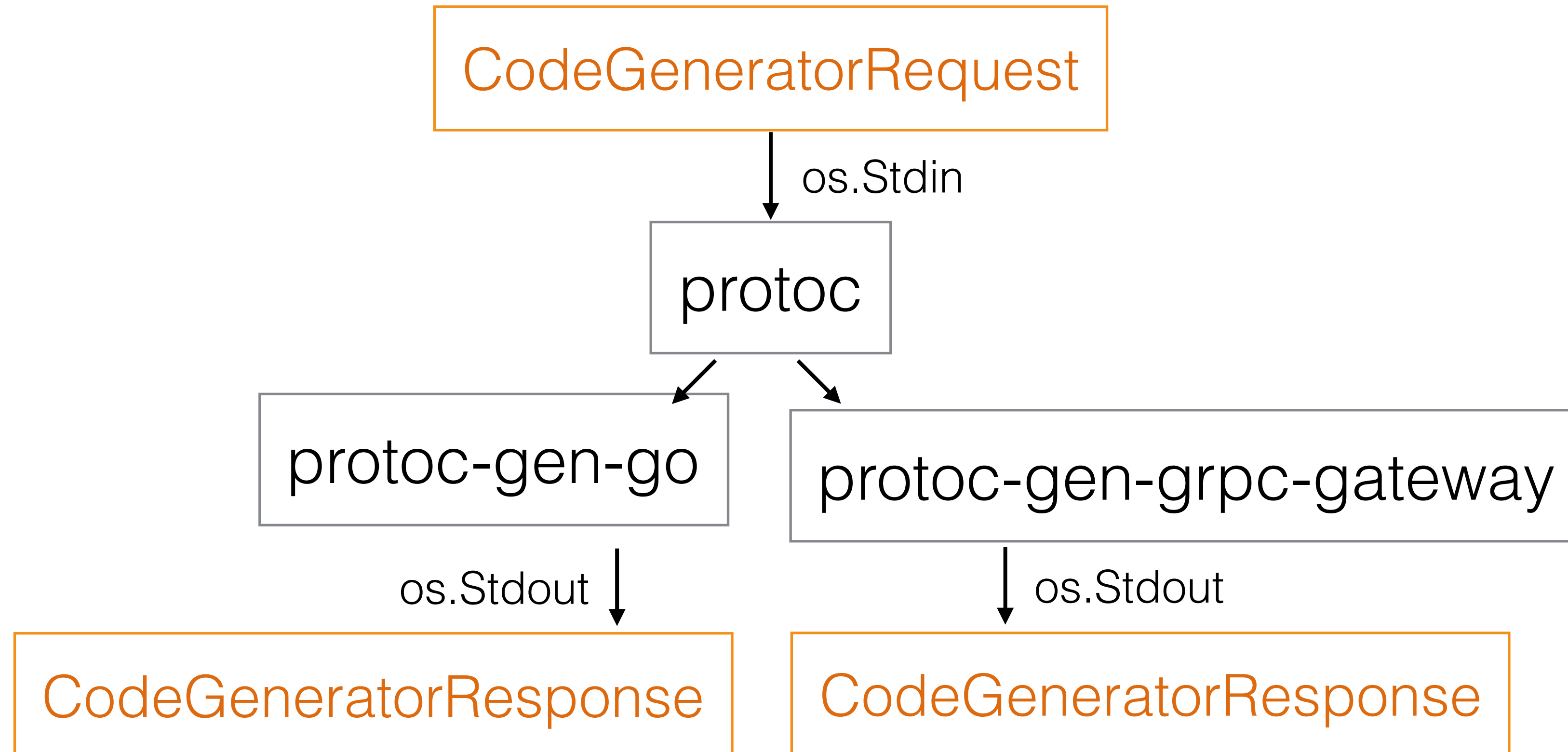


# google/protobuf/compiler/plugin.proto

```
message CodeGeneratorRequest {  
    repeated string file_to_generate = 1;  
    optional string parameter = 2;  
    repeated FileDescriptorProto proto_file = 15;  
}
```

```
message CodeGeneratorResponse {  
    optional string error = 1;  
  
    message File {  
        optional string name = 1;  
        optional string insertion_point = 2;  
        optional string content = 15;  
    }  
    repeated File file = 15;  
}
```

# Generator



```
protoc -go_out="plugins=grpc:." -fasthttp-grpc-gateway_out="."
```

# 錯誤處理

General errors

Case	Status code
Client application cancelled the request	GRPC_STATUS_CANCELLED
Deadline expired before server returned status	GRPC_STATUS_DEADLINE_EXCEEDED
Method not found on server	GRPC_STATUS_UNIMPLEMENTED
Server shutting down	GRPC_STATUS_UNAVAILABLE
Server threw an exception (or did something other than returning a status code to terminate the RPC)	GRPC_STATUS_UNKNOWN

Network failures

Case	Status code
No data transmitted before deadline expires. Also applies to cases where some data is transmitted and no other failures are detected before the deadline expires	GRPC_STATUS_DEADLINE_EXCEEDED
Some data transmitted (for example, the request metadata has been written to the TCP connection) before the connection breaks	GRPC_STATUS_UNAVAILABLE

Protocol errors

Case	Status code
Could not decompress but compression algorithm supported	GRPC_STATUS_INTERNAL
Compression mechanism used by client not supported by the server	GRPC_STATUS_UNIMPLEMENTED
Flow-control resource limits reached	GRPC_STATUS_RESOURCE_EXHAUSTED
Flow-control protocol violation	GRPC_STATUS_INTERNAL
Error parsing returned status	GRPC_STATUS_UNKNOWN
Unauthenticated: credentials failed to get metadata	GRPC_STATUS_UNAUTHENTICATED
Invalid host set in authority metadata	GRPC_STATUS_UNAUTHENTICATED
Error parsing response protocol buffer	GRPC_STATUS_INTERNAL
Error parsing request protocol buffer	GRPC_STATUS_INTERNAL

# 錯誤放在 Trailer

```
func (s *server) ShowApplication(ctx context.Context, req
*v2.ShowApplicationRequest) (*v2.ApplicationResponse, error)
{
    grpc.SetTrailer(ctx, metadata.New(map[string]string{
        "error":    "1002",
        "message": "test",
    }))

    return nil, grpc.Errorf(codes.InvalidArgument, "bad
request")
}
```

Thanks!