Demo @ Golang Melbourne - September 2017
Jonathan Gomez

GRPC

— Google open sourced in Feb 2015
— **Transport**: HTTP/2
— **Wire format**: Protocol Buffers v3
— **Service definition**: Protocol Buffers IDL
— Libraries in ~10 languages (native C, Go, Java)
— Microservices framework

Step 1: Define IDL

```
syntax = "proto3";

package service;

service BookmarksService {
    rpc Add(AddRequest) returns (AddResponse) {}
    rpc LastAdded(LastAddedRequest) returns (LastAddedResponse) {}
}

message AddRequest {
    string URL = 1;
    string title = 2;
}

message AddResponse {}

message LastAddedRequest {}

message LastAddedResponse {
    string ID = 1;
    string URL = 2;
    string title = 3;
}
```
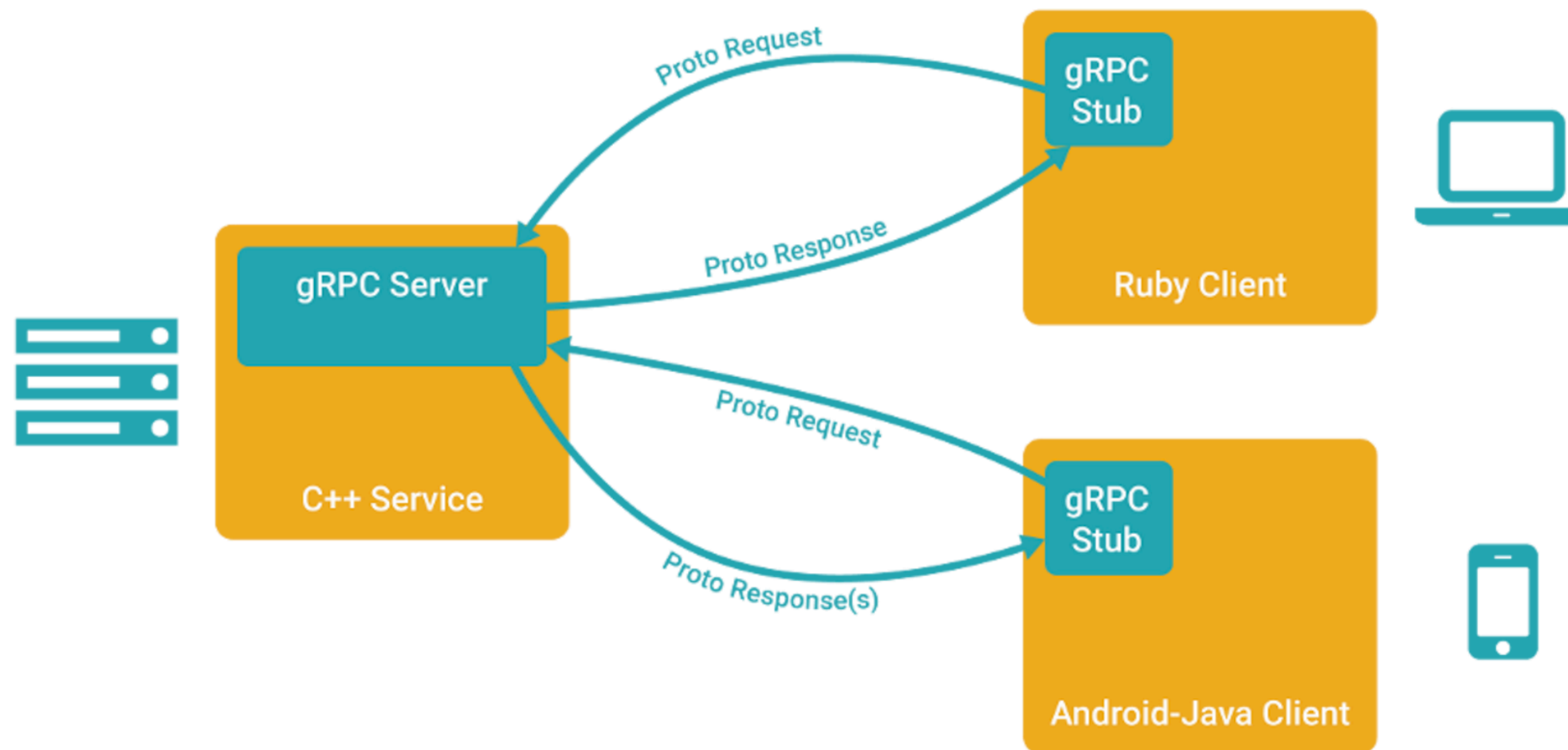
Step 2: Compile

Generate Server Interfaces and Client Stubs

FlatBuffers with gRPC

— support since December 2016
— **Wire format**: `FlatBuffers`
— **Service definition**: `FlatBuffers IDL`
— languages: C++, Go (experimental...)

— **Protocol Buffers**

    — entire buffer must be parsed to read data inside

    — i.e. allocation and deallocation

— **FlatBuffers**

    — allows random access by storing the offsets

    — still allows for forwards/backwards compatibility

Demo

— https://github.com/jonog/grpc-flatbuffers-example

References

— https://github.com/google/flatbuffers/blob/master/grpc/tests/go_test.go

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