



Teten Nugraha
Software Engineer

Introduction

gRPC

in Bahasa



Agenda Hari ini

1

API Revolution

2

Tentang gRPC

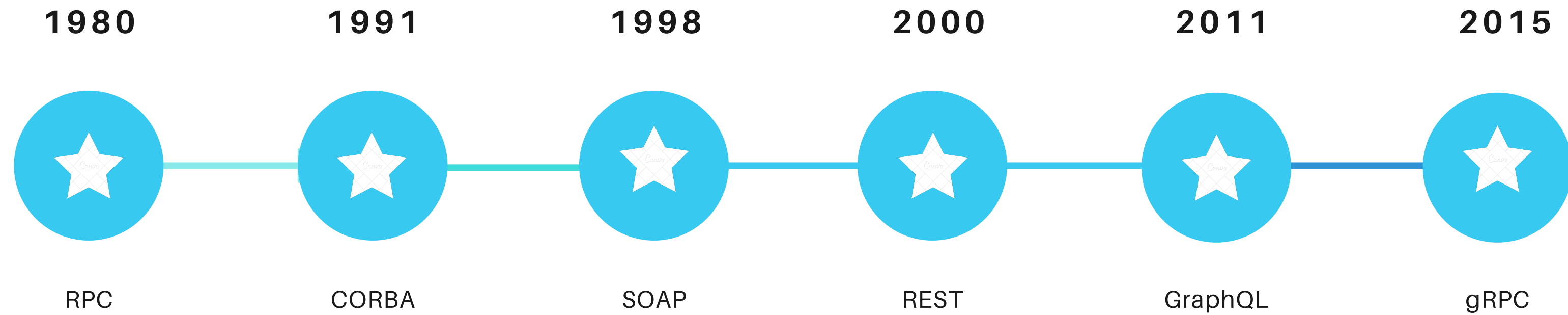
3

Demo

API Revolution



TIMELINE API ARCHITECTURE STYLE



gRPC



Story Behind gRPC

Dimulai dengan project **stubby** yang menghubungkan sejumlah besar layanan microservices.

Pada Maret 2015, google membuat versi stubby terbaru dan menjadikannya opensource



Protocol Buffer

gRPC menggunakan protocol buffer untuk berkomunikasi. Dalam satu .proto digunakan untuk mendefinisikan **message** dan **service**

```
syntax = "proto3";

package greet;

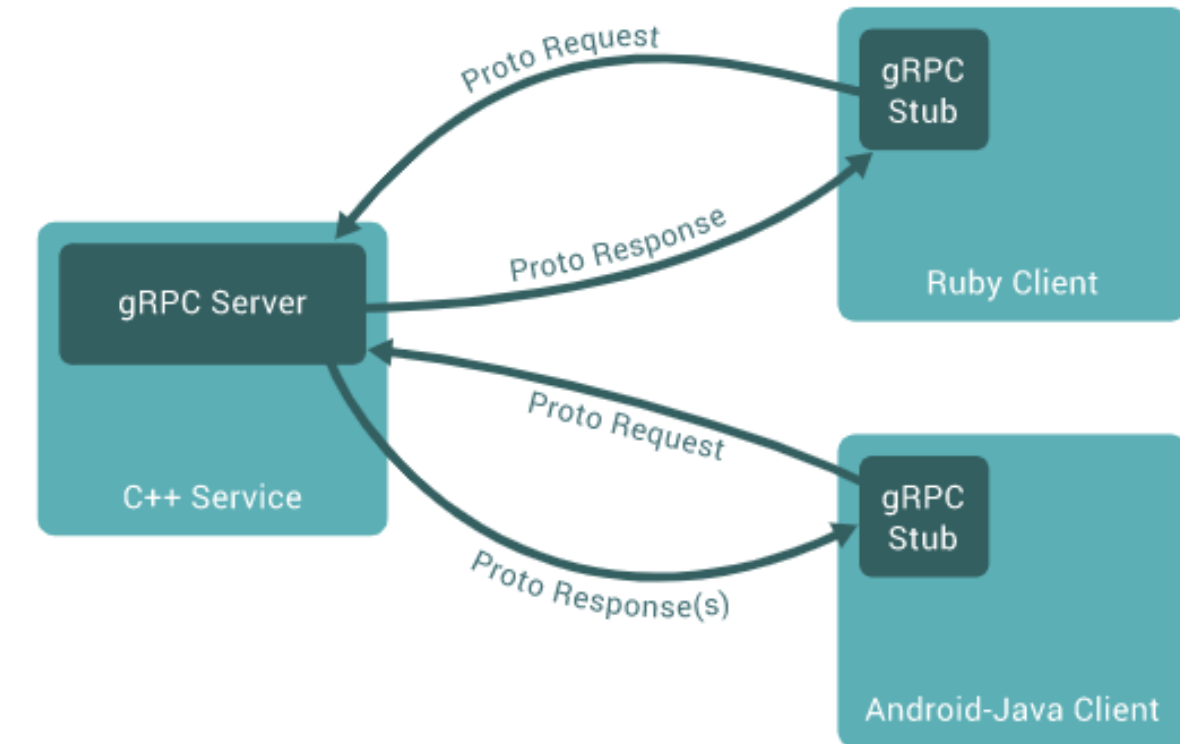
option java_package = "id.proto.greet";
option java_multiple_files = true;

message Greeting {
    string first_name = 1;
    string last_name = 2;
}

message GreetRequest {
    Greeting greeting = 1;
}

message GreetResponse {
    string result = 1;
}

service GreetService {
    // Unary
    rpc Greet(GreetRequest) returns (GreetResponse) {};
}
```



Protocol Buffer vs JSON

```
{
  "age": 30,
  "first_name": "Teten",
  "last_name": "Nugraha"
}
```

JSON 55 bytes

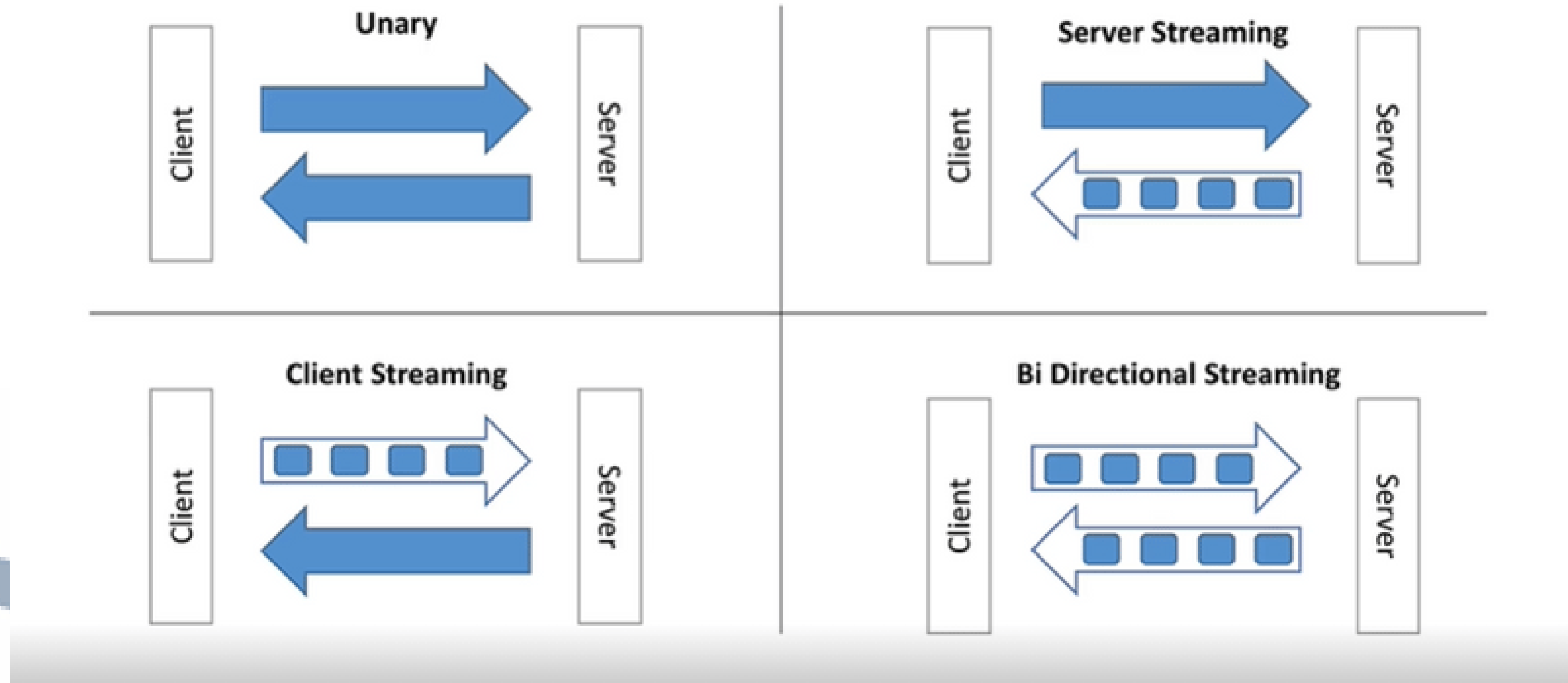
```
message Person {
    int32 age = 1;
    string first_name = 2;
    string last_name = 3;
}
```

Protocol Buffer 20 bytes

gRPC – HTTP/2



4 tipe API gRPC



Maven dependencies

<https://github.com/grpc/grpc-java>

```
<dependency>
  <groupId>io.grpc</groupId>
  <artifactId>grpc-netty-shaded</artifactId>
  <version>1.36.0</version>
</dependency>
<dependency>
  <groupId>io.grpc</groupId>
  <artifactId>grpc-protobuf</artifactId>
  <version>1.36.0</version>
</dependency>
<dependency>
  <groupId>io.grpc</groupId>
  <artifactId>grpc-stub</artifactId>
  <version>1.36.0</version>
</dependency>
<dependency> <!-- necessary for Java 9+ -->
  <groupId>org.apache.tomcat</groupId>
  <artifactId>annotations-api</artifactId>
  <version>6.0.53</version>
  <scope>provided</scope>
</dependency>
```

```
<build>
  <extensions>
    <extension>
      <groupId>kr.motd.maven</groupId>
      <artifactId>os-maven-plugin</artifactId>
      <version>1.6.2</version>
    </extension>
  </extensions>
  <plugins>
    <plugin>
      <groupId>org.xolstice.maven.plugins</groupId>
      <artifactId>protobuf-maven-plugin</artifactId>
      <version>0.6.1</version>
      <configuration>
        <protocArtifact>com.google.protobuf:protoc:3.12.0:exe:${os.detected.classifier}
      </protocArtifact>
      <pluginId>grpc-java</pluginId>
      <pluginArtifact>io.grpc:protoc-gen-grpc-java:1.36.0:exe:${os.detected.classifier}
    </pluginArtifact>
      </configuration>
      <executions>
        <execution>
          <goals>
            <goal>compile</goal>
            <goal>compile-custom</goal>
          </goals>
        </execution>
      </executions>
    </plugin>
  </plugins>
</build>
```

Resources

<https://github.com/grpc/grpc-java>

<https://grpc.io/>

gRPC – Build Modern API and Microservices (Stephane Maarek)

<https://medium.com/backend-habit>

