Moving Beyond JSON and XML with Protocol Buffers

INTRODUCTION

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Initial release: 2008

Default for gRPC

Used throughout Google

```
message Person {
    string name = 1;
    int32 id = 2;
    string email = 3;
}
```

Key Features

Binary format

Separate context and data

Separate Context and Data

```
{

    "firstName": "Peter",

    "lastName": "Davison"

}
```

```
message Person {

        string first_name = 1;

        string last_name = 2;

}
```

125Peter227Davison

```
message Person {

    string first_name = 1;

    string last_name = 2;

}
```

125Peter227Davison

{field_number} + {field_type} + {data}

```
message Person {
    string first_name = 1;

    string last_name = 2;

}
```

125Peter227Davison

1	first_name
2	length based
5	length
Peter	data

{field_number} + {field_type} + {data}

Protocol Buffer Versions

proto2

stable

proto3

beta(ish)

JSON vs Protocol Buffers

	JSON	Protocol Buffers	

JSON | **Protocol Buffers**

Total size: 249 bytes | 199 bytes: Total size

Header: 94 bytes | 98 bytes: Header

Content: 43 bytes | 43 bytes: Content

Overhead and other: 112 bytes | 58 bytes: Overhead and other

-48%

Course Outline

Defining Messages

Using Other Features

Managing Message Revisions

Working with Other Languages