Protobuf

What？

Google

独立于平台

独立于预言

可扩展的

序列化

结构化数据

的机制

Protocol buffers are a flexible, efficient, automated mechanism for serializing structured data – think XML, but smaller, faster, and simpler. You define how you want your data to be structured once, then you can use special generated source code to easily write and read your structured data to and from a variety of data streams and using a variety of languages. You can even update your data structure without breaking deployed programs that are compiled against the "old" format.

 the protocol buffer format supports the idea of extending the format over time in such a way that the code can still read data encoded with the old format

## Why Use Protocol Buffers

Pickling

but it doesn't deal well with schema evolution, and also doesn't work very well if you need to share data with applications written in C++ or Java.

invent

require writing one-off encoding and parsing code, and the parsing imposes a small run-time cost. This works best for encoding very simple data.

XML

However, XML is notoriously space intensive, and encoding/decoding it can impose a huge performance penalty on applications. Also, navigating an XML DOM tree is considerably more complicated than navigating simple fields in a class normally would be

和marshal之间的联系，为啥和客户的通信部直接用marshal，可以把他的效率和marshal对比，考虑对比下几种序列化工具的效率marshal c\_marshal pickl protbuf

和rpc之间的联系，是否可以作为固定存储

XML文档被看作是文档的数据库化和数据的文档化

# Development Warning

The Python implementation of Protocol Buffers is not as mature as the C++ and Java implementations. It may be more buggy, and it is known to be pretty slow at this time. If you would like to help fix these issues, join the Protocol Buffers discussion list and let us know!

<http://www.jianshu.com/p/0c563b2c0fdb> win下如何使用的方法

hjc另外研究的几个

可以从这篇开始，这一篇比较全，里面还有一些外部连接，也可以看看

<http://mikewang.blog.51cto.com/3826268/1432136/>

这个是官方文档

<https://developers.google.com/protocol-buffers/>

这个是源代码地址

<https://github.com/google/protobuf/>

其他一些链接

文档翻译？

http://blog.csdn.net/menuconfig/article/details/12837173

http://andrewliu.in/2016/06/05/Google-protobuf-C-学习笔记/?hmsr=toutiao.io&utm\_medium=toutiao.io&utm\_source=toutiao.io

http://swiftcafe.io/2017/02/26/protobuffer/?hmsr=toutiao.io&utm\_medium=toutiao.io&utm\_source=toutiao.io

<http://www.oschina.net/p/pyrobuf?fromerr=5bXFrvBj>

<https://www.ibm.com/developerworks/cn/linux/l-cn-gpb/>