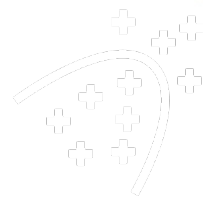


MATLAB EXPO 2018



MATLAB 与开源软件集成

王焱

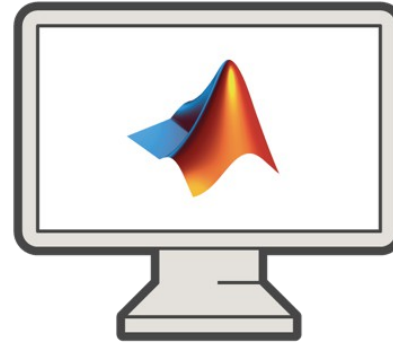
内容

- MATLAB 如何融入系统架构
- 用 MATLAB 调用 Python
- 用 Python 调用 MATLAB
- 打包 MATLAB 应用

解决方案系统架构

Microsoft SQL Server
 mongoDB
 Cassandra
 amazon web services S3
 cloudera
 HORTONWORKS
 OSIsoft
 neo4j
 SQL

DATA SOURCES



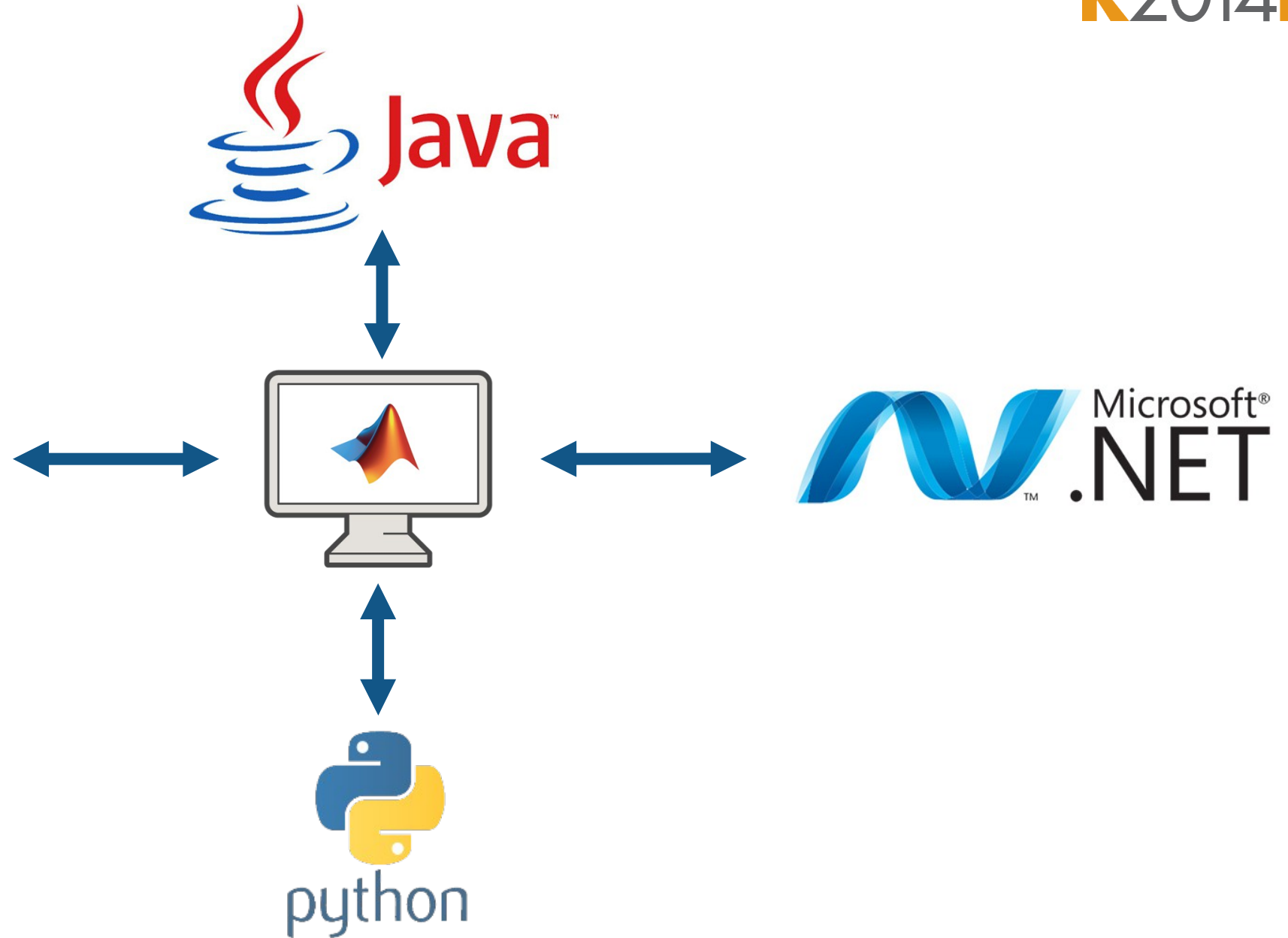
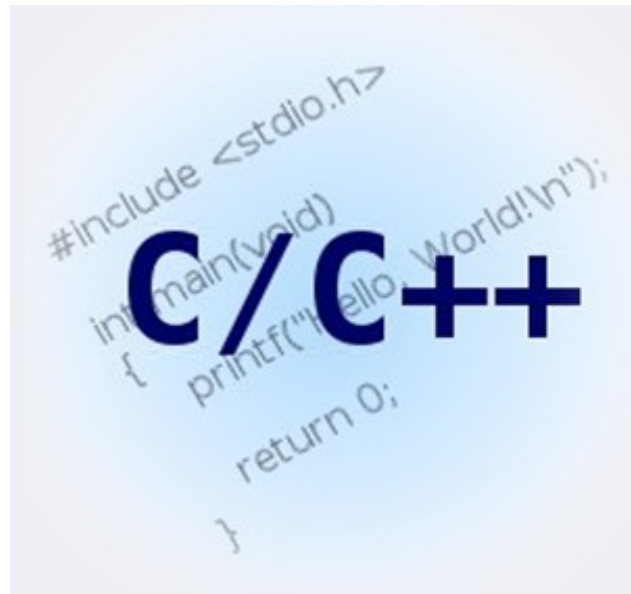
Qlik
 Spotfire
 Microsoft Power BI
 Tableau
 kafka
 OSIsoft

BUSINESS SYSTEMS

vmware
 openstack
 rackspace
 Microsoft IIS
 Apache Tomcat
 amazon web services
 Azure

CLOUD / WEB

MATLAB APIs



MATLAB 与 Python 集成

■ 三种集成方法：



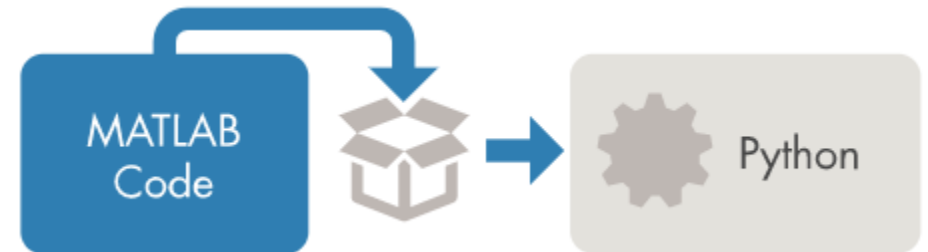
Algorithm
Developers

- 用 MATLAB 调用 Python
- 用 Python 调用 MATLAB



Users

- 打包 MATLAB 程序给 Python 使用

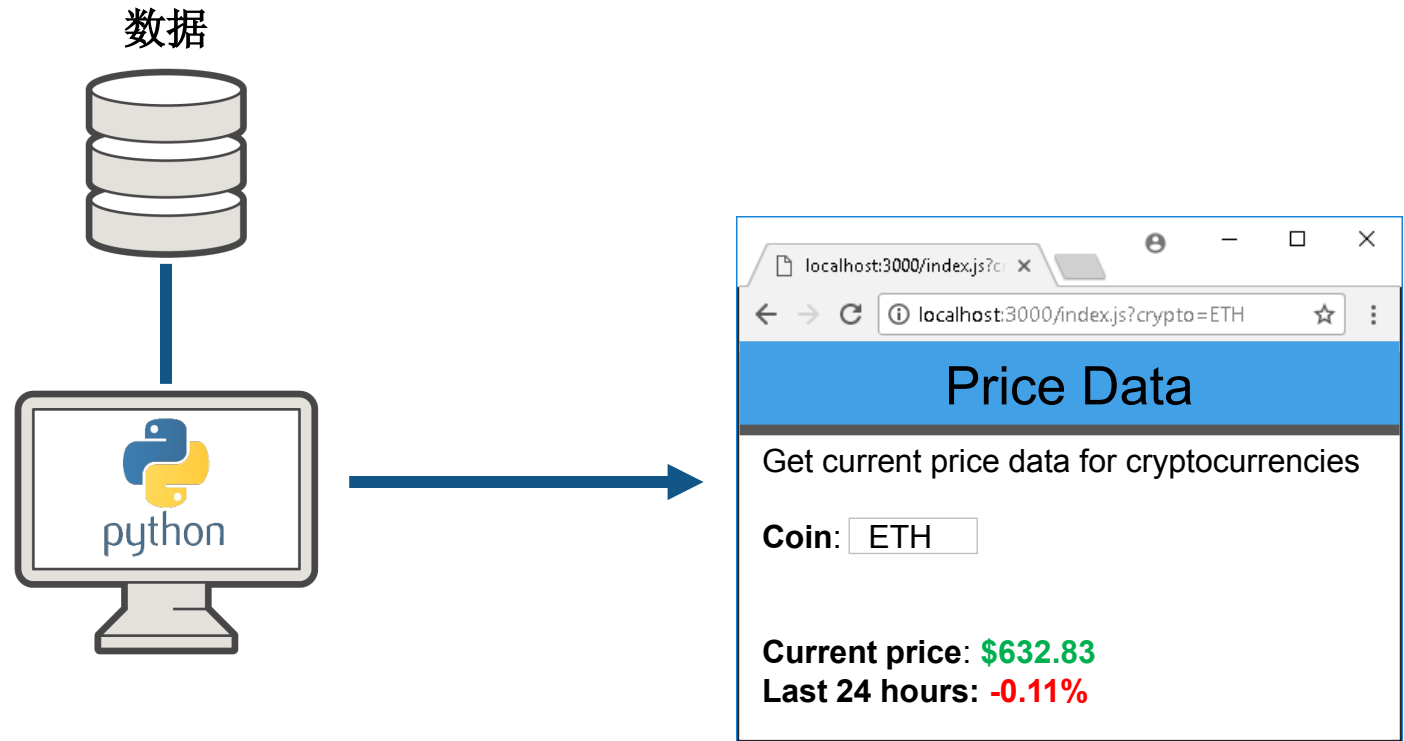


价格走势分析

- **目标：**
 - 软件即服务：加密货币价格走势分析
- **方案：**
 - 使用 IT 管理的数据函数库
 - 快速开发预测模型
 - 发布模型到 RESTful API
- **挑战：**
 - 没有预测模型经验
 - 缺乏 IT 系统知识



传统模式



模型开发

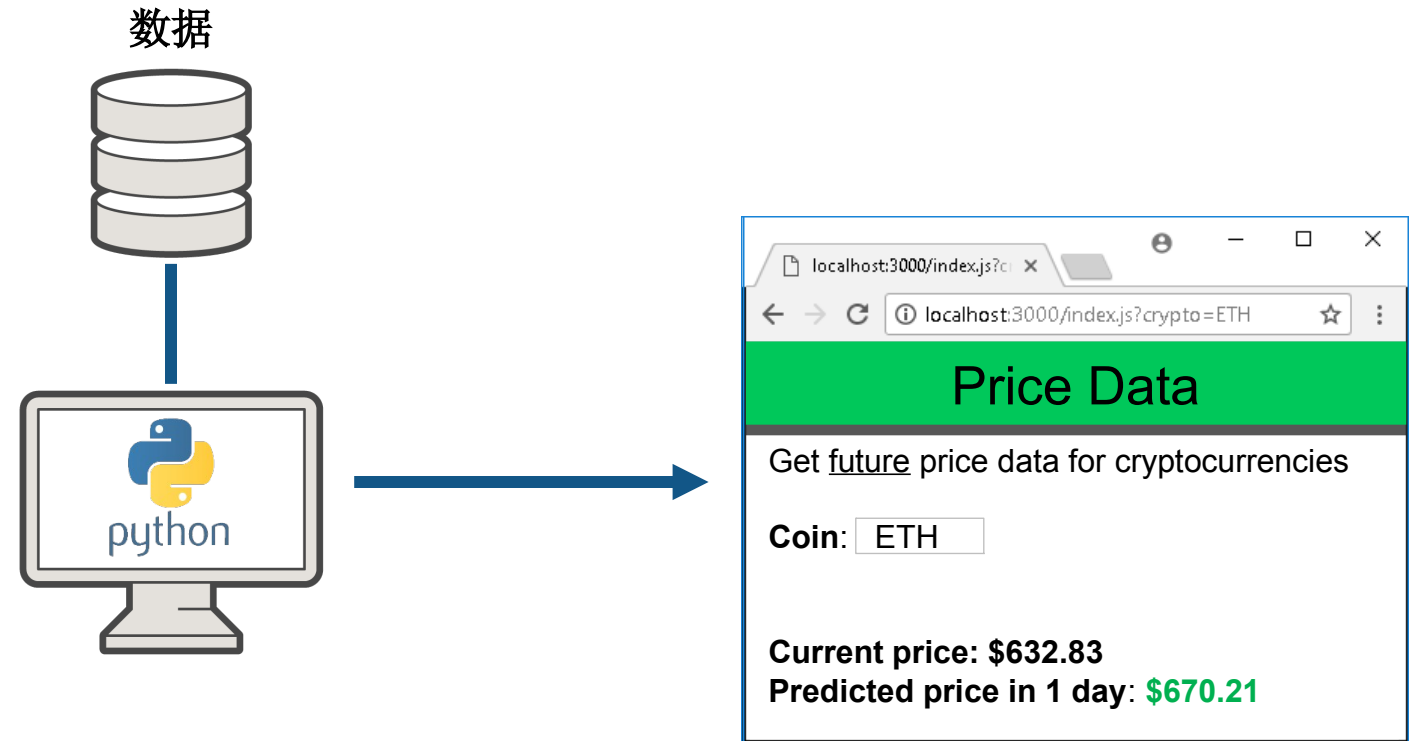


IT



用户

新模式



模型开发

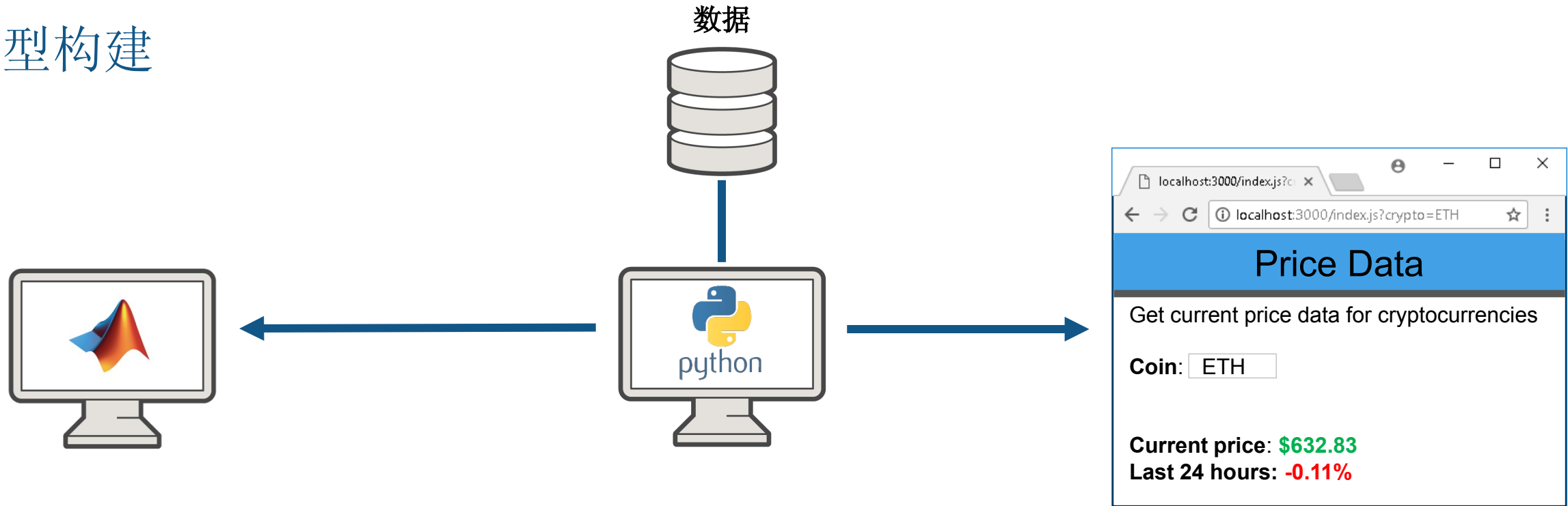


IT



用户

模型构建



模型开发

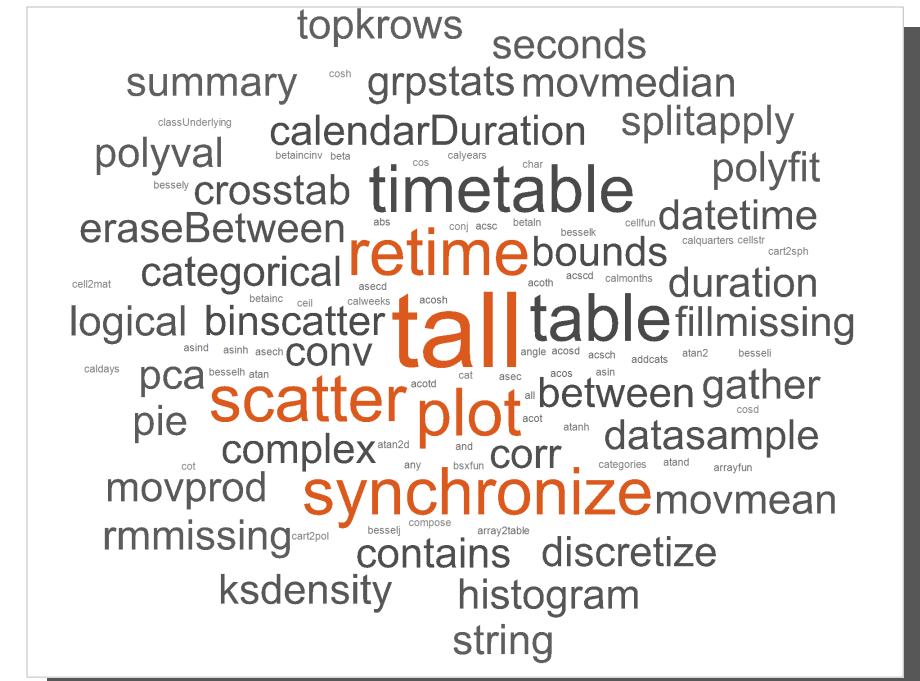
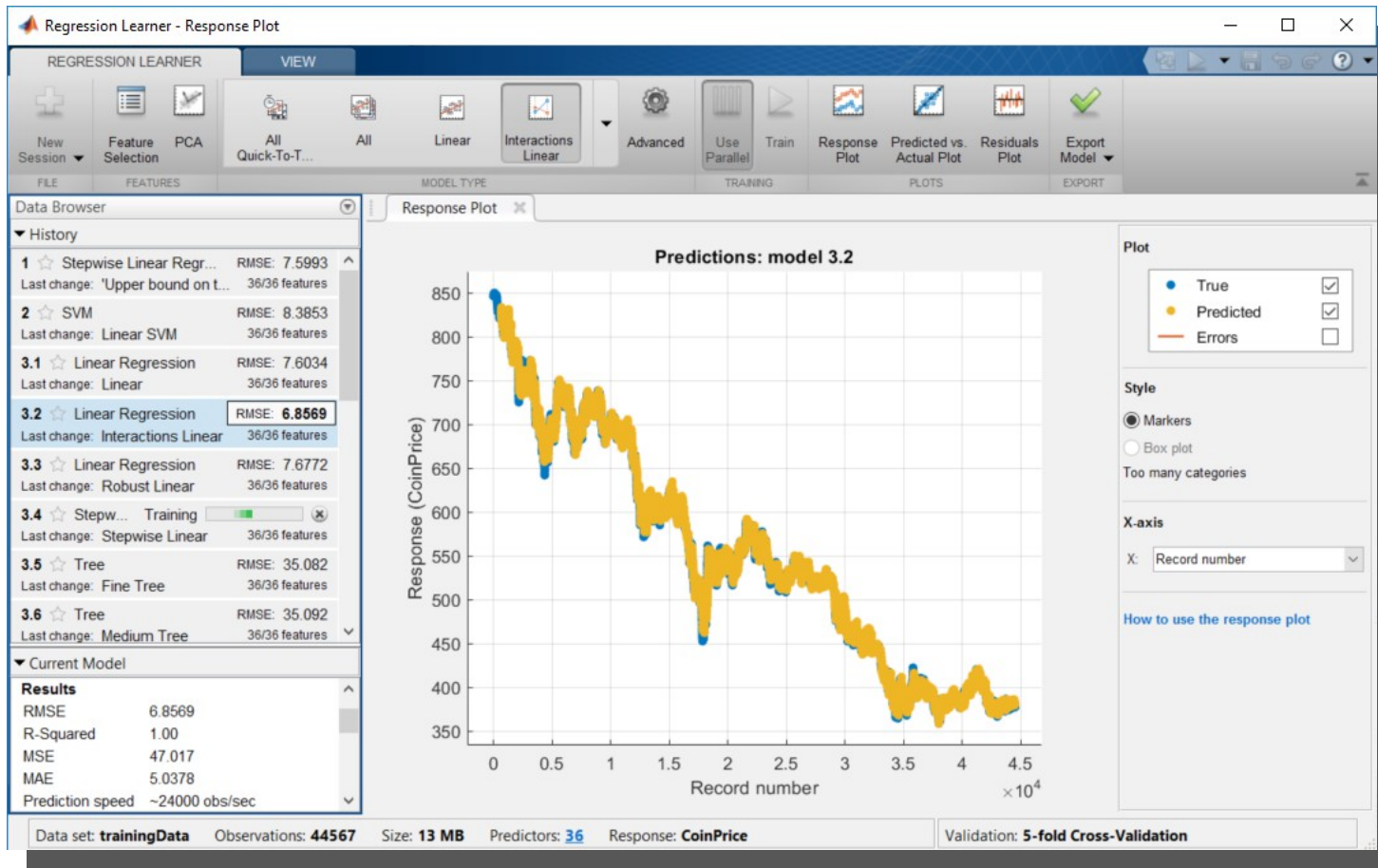


IT

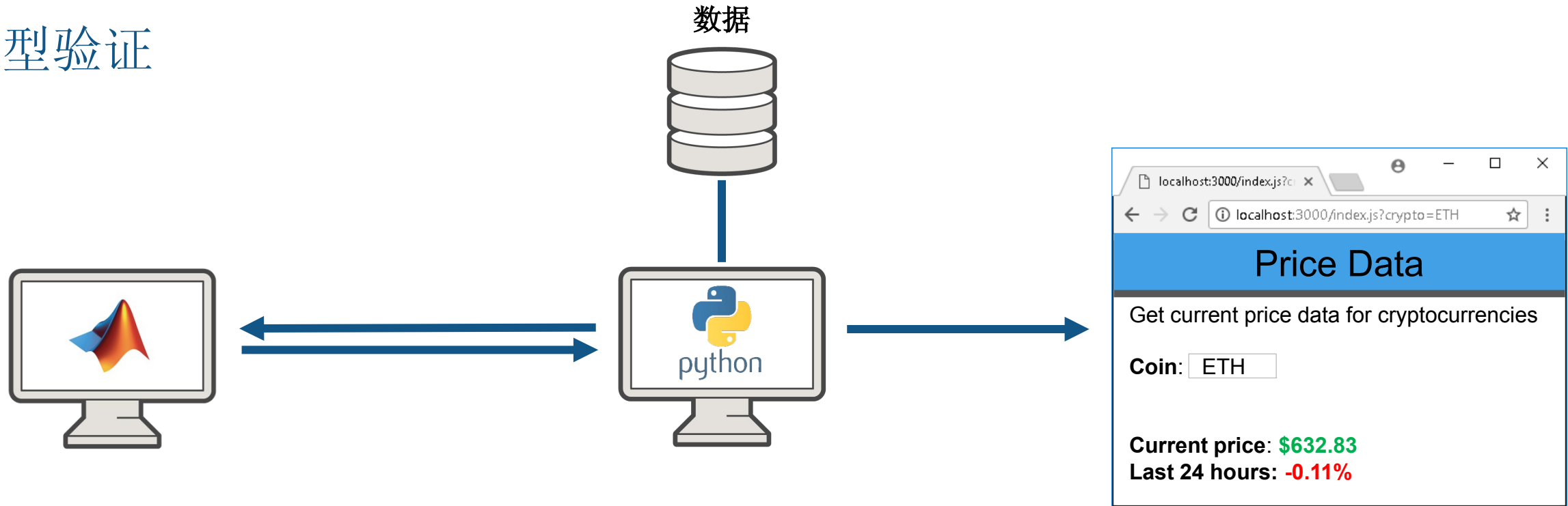


用户

预测模型开发



模型验证



模型开发

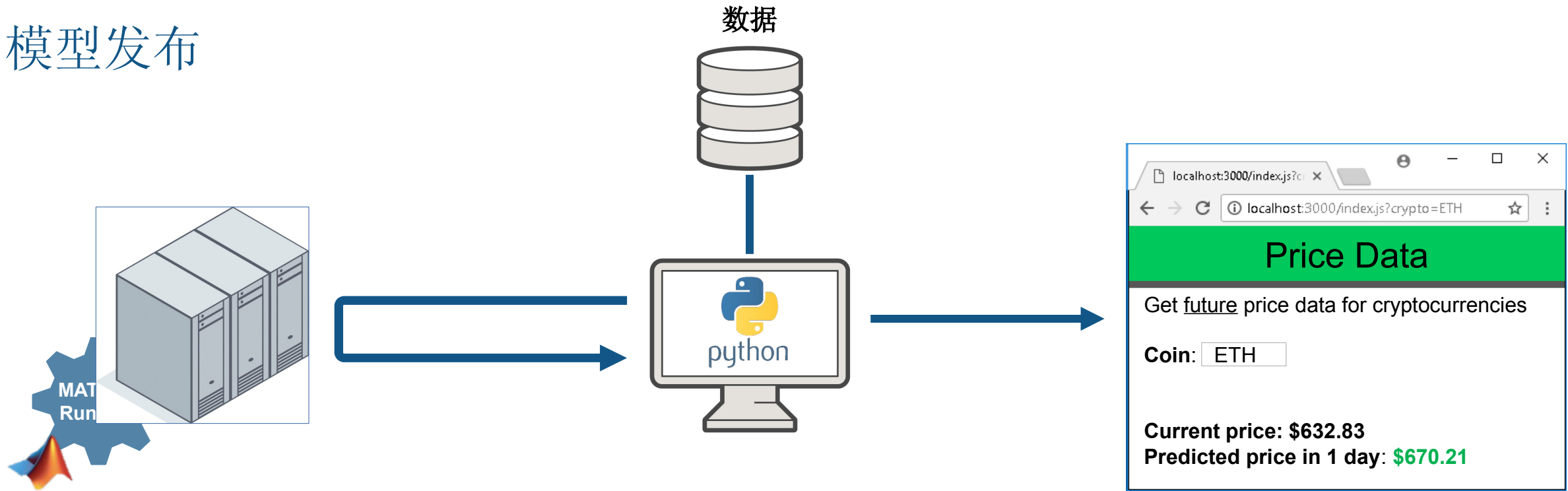


IT



用户

模型发布



模型开发

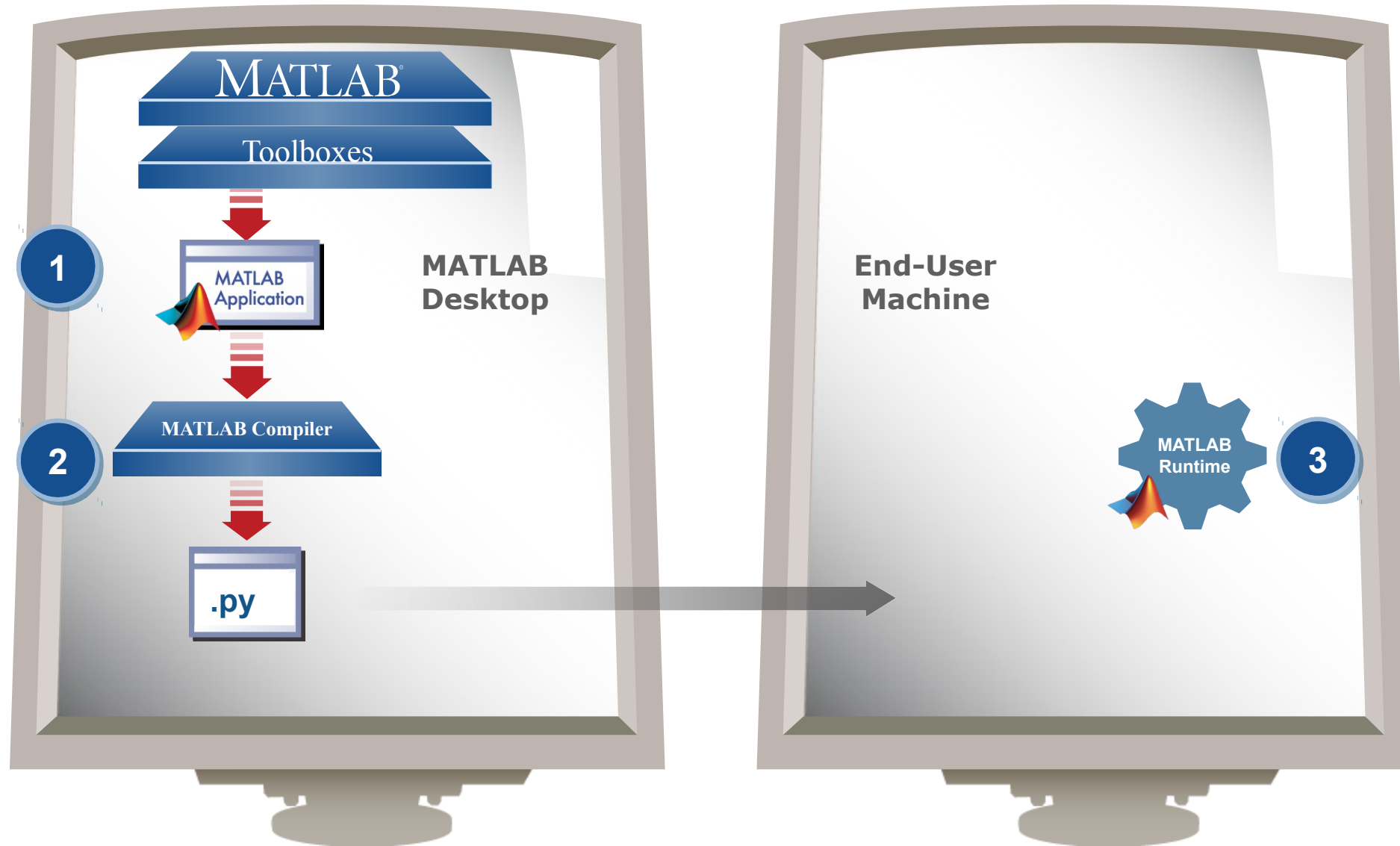


IT



用户

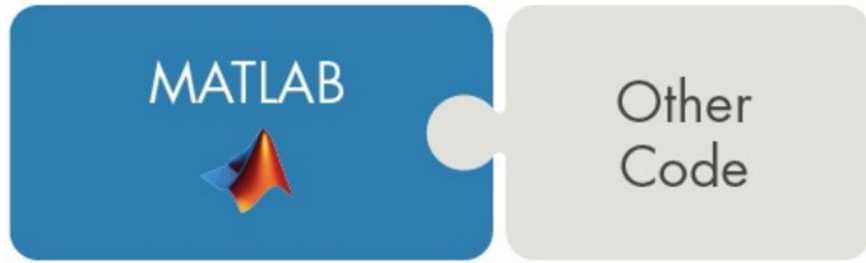
MATLAB 模型发布



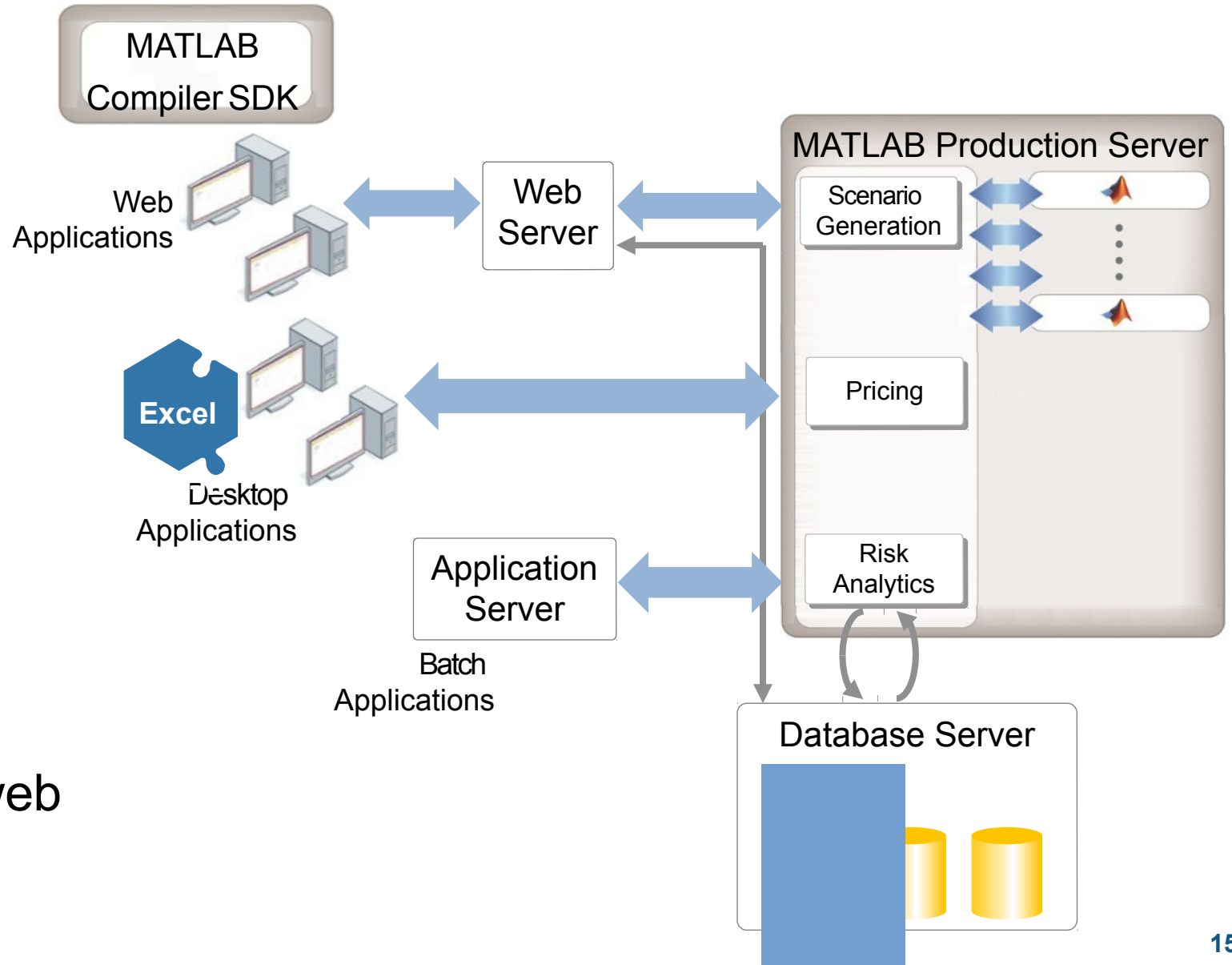
企业系统挑战

- 各种系统需求
- 维持多版本模型 / 软件
- 支持多用户使用场景
- 模型开发验证速度

发布 MATLAB 模型到生产环境

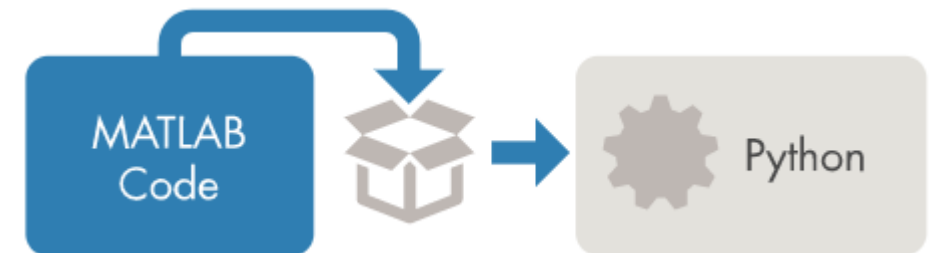


- C/C++
- Java
- C# and .NET
- Python
- Excel
- COM Automation Server
- RESTful, HTTP, and WSDL web services



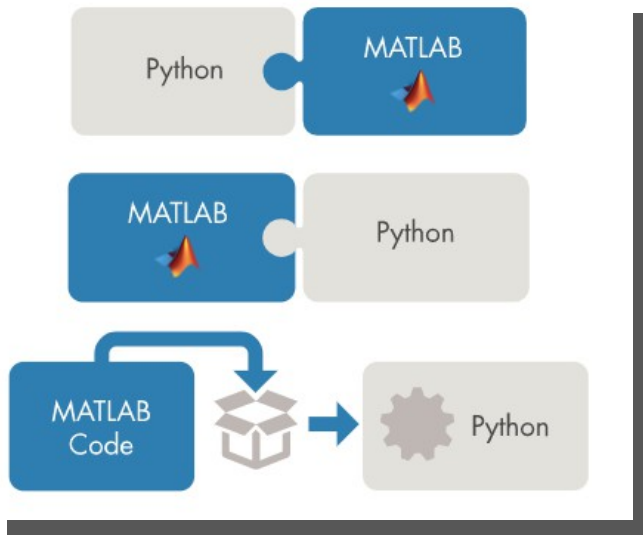
总结：MATLAB 与 Python 集成

- 用 MATLAB 调用 Python
 - MATLAB
- 用 Python 调用 MATLAB
 - MATLAB
- 打包 MATLAB 程序给 Python 使用
 - MATLAB Compiler SDK
 - MATLAB Production Server

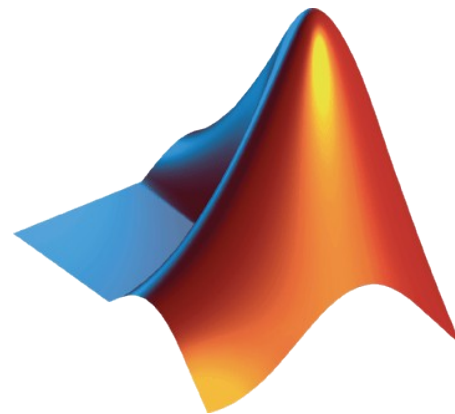


更多资源

- MATLAB 与 Python
 - <https://www.mathworks.com/solutions/matlab-and-python.html>
- 预测模型
 - <https://www.mathworks.com/discovery/predictive-analytics.html>
- 深度学习
 - <https://www.mathworks.com/discovery/deep-learning.html>



The screenshot shows a MathWorks webpage with two ebook download options. The first is "Mastering Machine Learning: A Step-by-Step Guide with MATLAB" and the second is "Introducing Deep Learning with MATLAB". Both have "Download ebook" buttons.



Appendix Slides