MATLAB EXPO 2016
Sharing and Deploying MATLAB Programs

Guangyuan Yang
Why MATLAB?

1. Analytics increasingly require **both business and engineering data**

   - DATA
     - Engineering, Scientific, and Field
     - Business and Transactional

2. Enable **Domain Experts to be Data Scientists**

3. Develop **embedded systems** with analytics powered functionality

4. Develop analytics to run on **both enterprise and embedded platforms**

   - Embedded Systems
   - Business Systems

DATA
- Engineering, Scientific, and Field
- Business and Transactional
Why MATLAB?

Analytics increasingly require **both business and engineering data**

1. **DATA**
   - Engineering, Scientific, and Field
   - Business and Transactional

2. **Enable Domain Experts to be Data Scientists**

3. **Develop embedded systems with analytics powered functionality**

4. **Develop analytics to run on both enterprise and embedded platforms**

- Smarter Embedded Systems
- Business Systems
Why MATLAB?

- Quantitative Analysts
- Programmers of the calculation rules
- IT-specialists for front-end visuals

MATLAB

MATLAB production server
Write Your Programs Once
Then Share To Different Targets

MATLAB
MATLAB Compiler
MATLAB Compiler SDK

Apps
Files
Standalone Application
Excel Add-in
Hadoop
C/C++
Java
.NET
Python
MATLAB Production Server

With MATLAB
Users

Custom Toolbox

With People Who Do
Not Have MATLAB

MATLAB EXPO 2016
Share with MATLAB Users

- Package an App
- Package Entire Toolboxes
- Directly share MATLAB files

MATLAB Apps

Files

Custom Toolbox

Package an App

Files

dataFile.mat
exampleLiveScriptmlx
exampleScript.m

.MLtbx

MATLAB EXPO 2016
Share with People Who Do Not Have MATLAB

- MATLAB Compiler
- MATLAB Compiler SDK

- Standalone Application
- Excel Add-in
- Hadoop
- C/C++
- Java
- .NET
- Python
- MATLAB Production Server

Share Applications Built Completely in MATLAB

Integrate MATLAB Programs With Your Own Software

- IP Protection via Encryption
- Royalty-free Sharing

MATLAB EXPO 2016
Share Applications Built Completely in MATLAB

MATLAB
Toolboxes

1. Application Author

MATLAB Application

2. MATLAB Compiler

- Standalone Application
- Excel Add-in
- Hadoop

3. End User

MATLAB Runtime
Integrate MATLAB Programs With Your Own Software

1. MATLAB Toolboxes

2. MATLAB Compiler SDK

3. Application author and software developer *might* be same person

4. Software Developer
Scale Up with MATLAB Production Server

Most efficient path for creating enterprise applications

Deploy MATLAB programs into production
- Manage multiple MATLAB programs and versions
- Hot Deployment: Update programs without server restarts
- Reliably service concurrent requests

Integrate with web, database, and application servers
Select Zone

Zone

Generate Forecast

Model Diagnostics Report

Forecast

Select zone & generate forecast

Comparison
Share with People Who Do not Have MATLAB

- Program once, then choose your target:
  - Desktop, Web, Enterprise applications
  - C++, Java, Python, .NET
- Royalty-free distribution
- Encryption to protect your IP