Sharing MATLAB Based Applications

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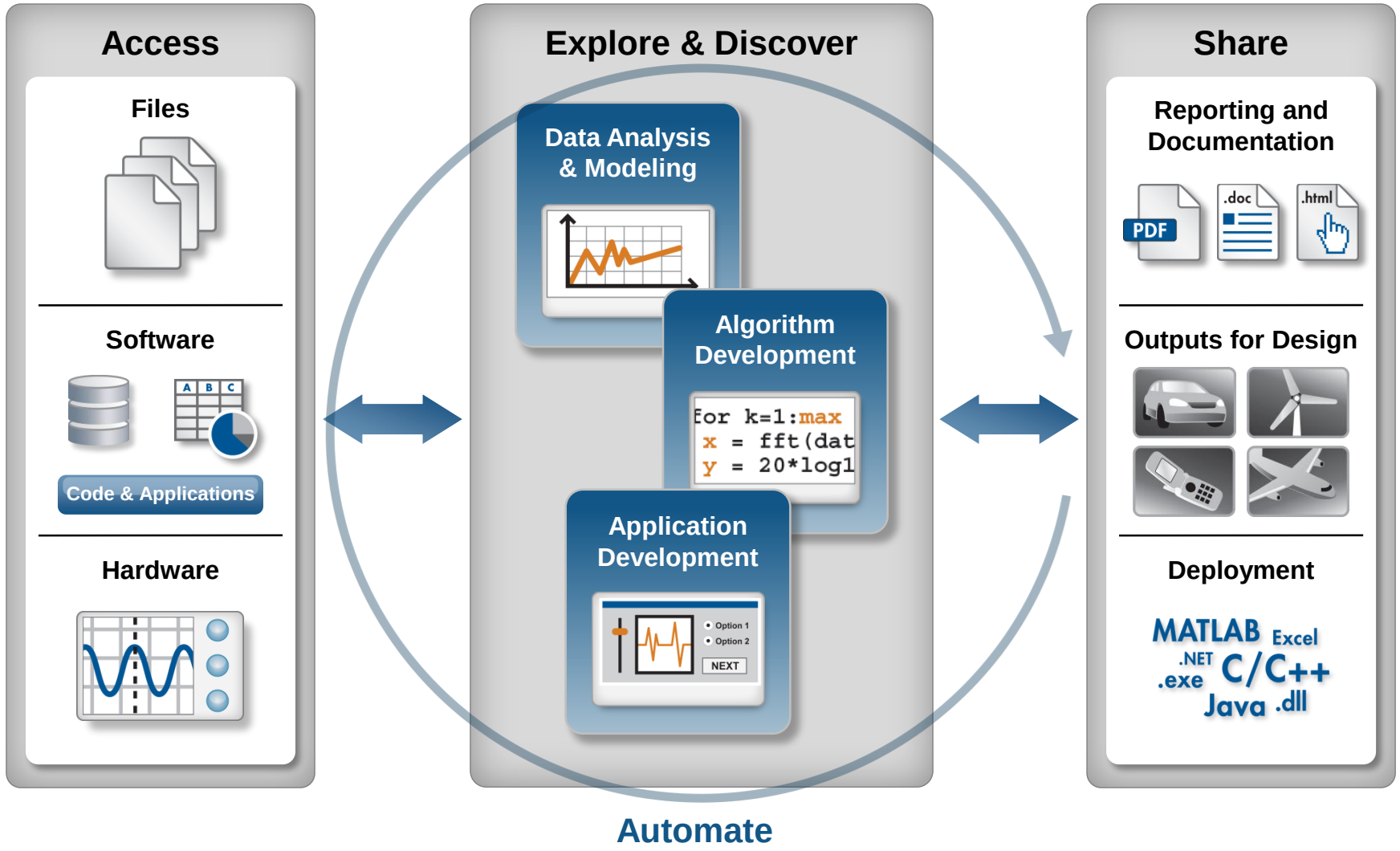
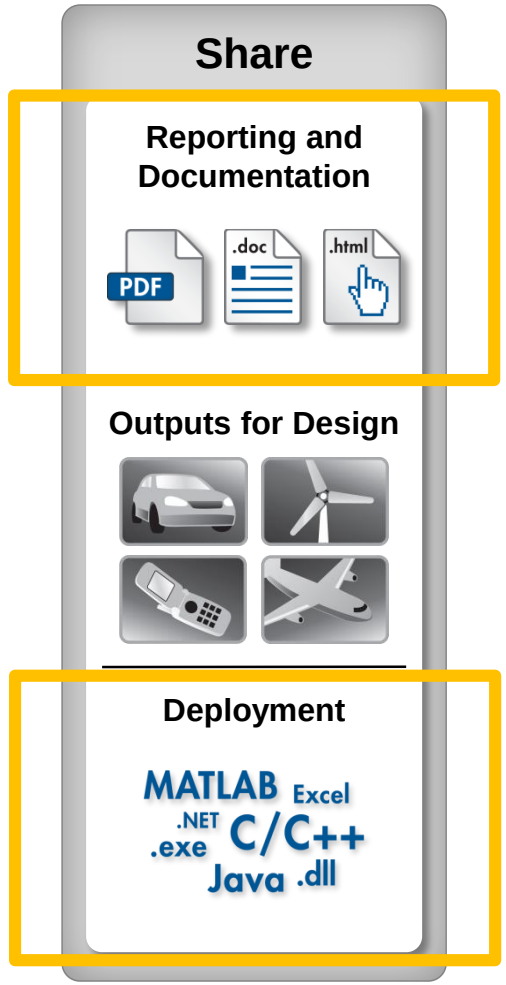
Moving from Ideas and Data to Results



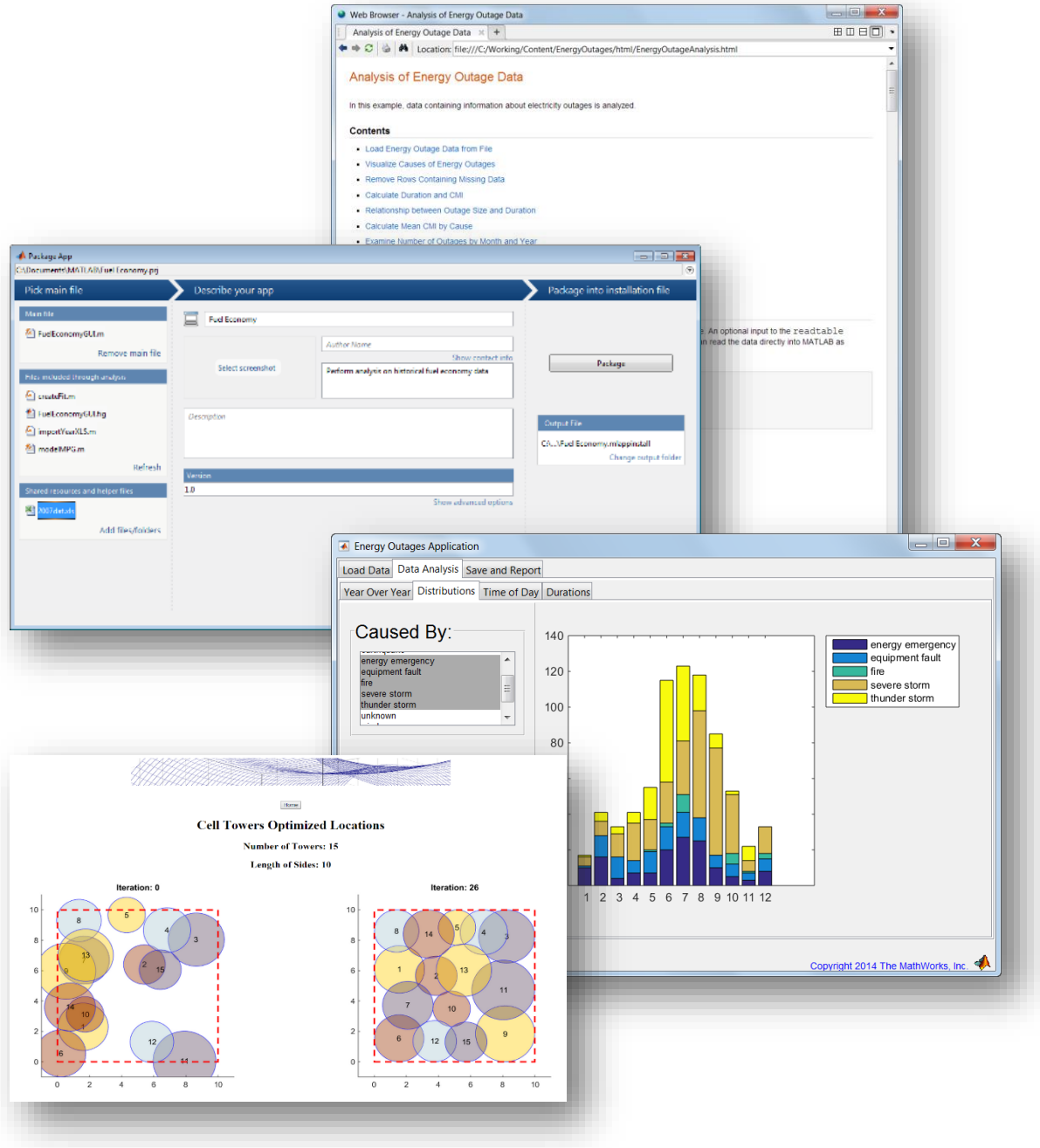
How Will You Share the Work You Have Done in MATLAB?

- Generate documentation of your computations and results
- Package and distribute your MATLAB code to other MATLAB users
- Provide desktop applications so others can use your algorithms without having MATLAB
- Integrate your custom algorithms into a web application to reach a larger community

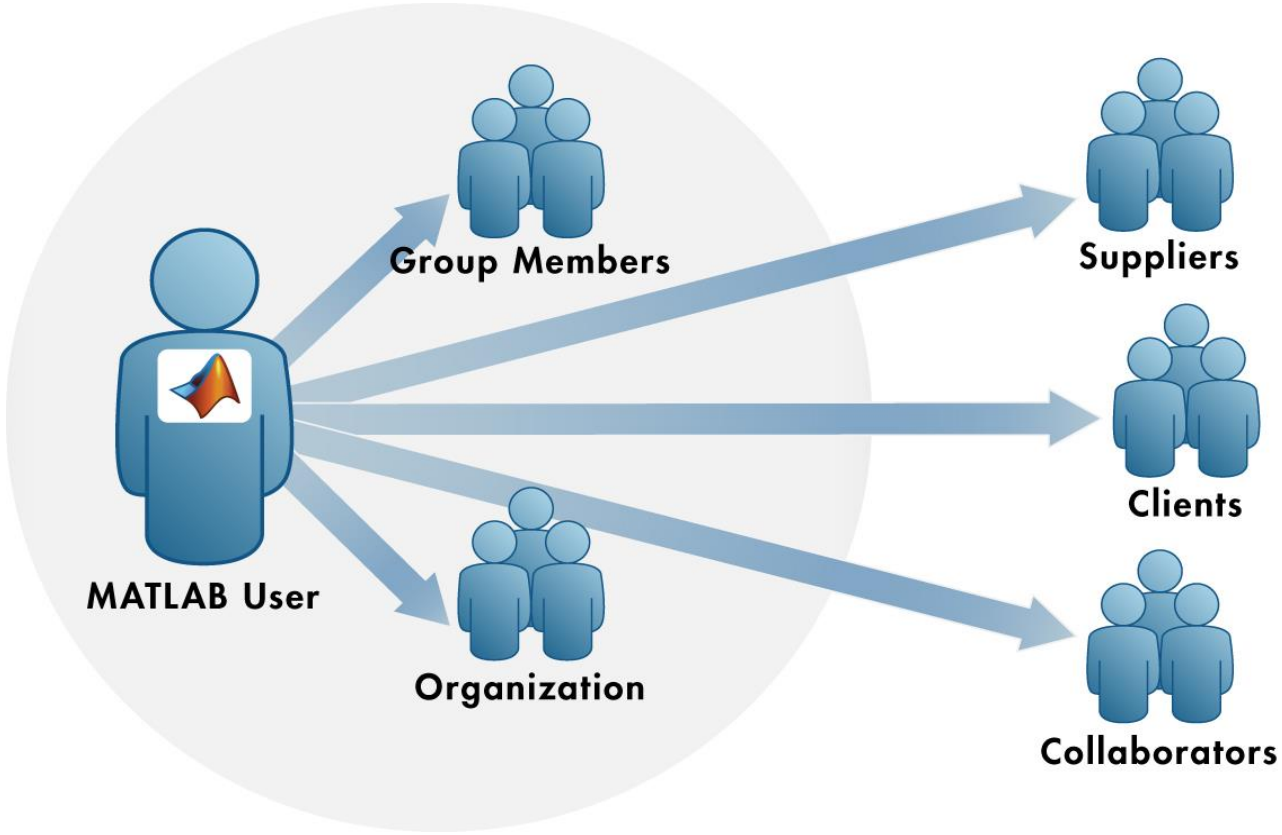


Sharing Your Work

- Automatically generate reports and documentation
- Package as a MATLAB app or custom toolbox
- Deploy applications to other environments

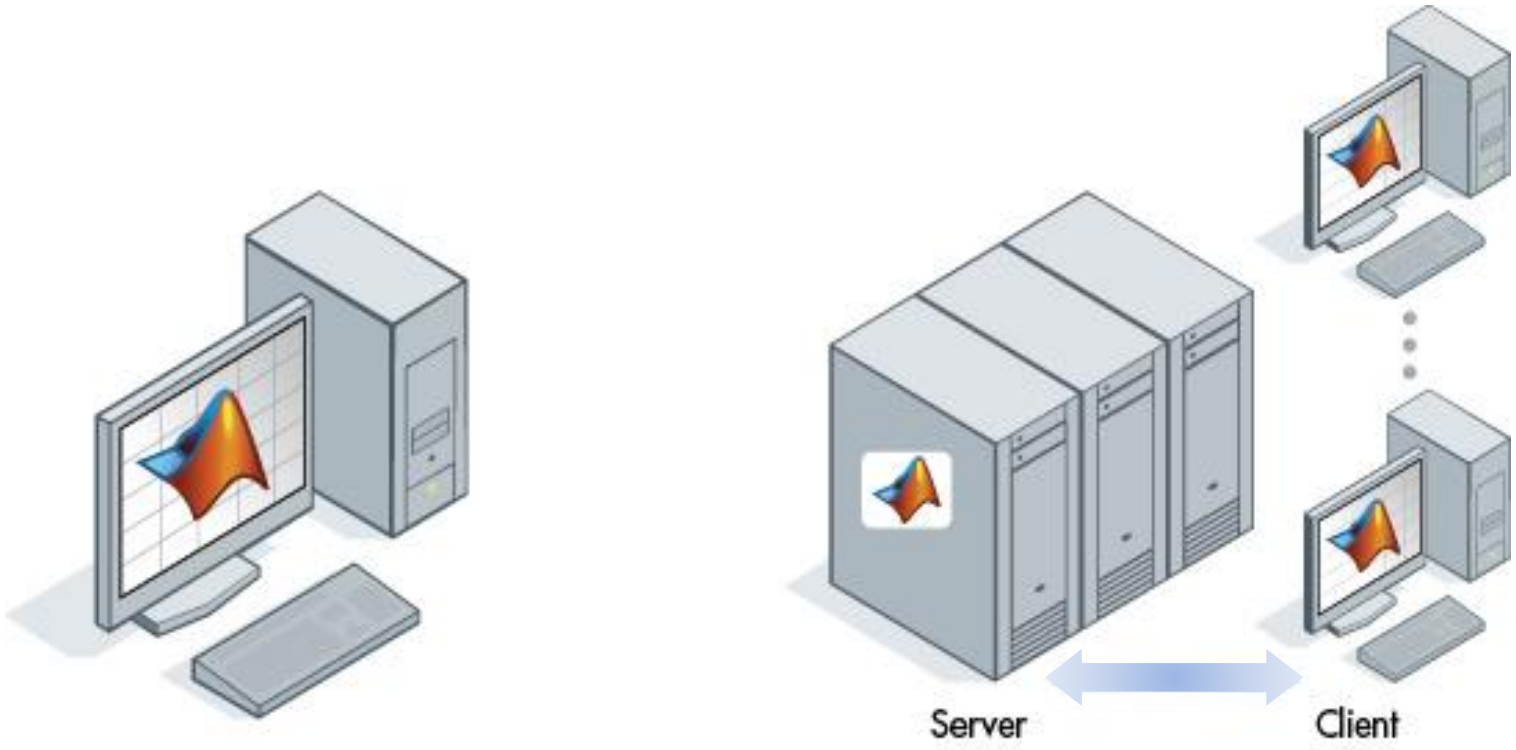


Who Do You Need To Share Your Work With?



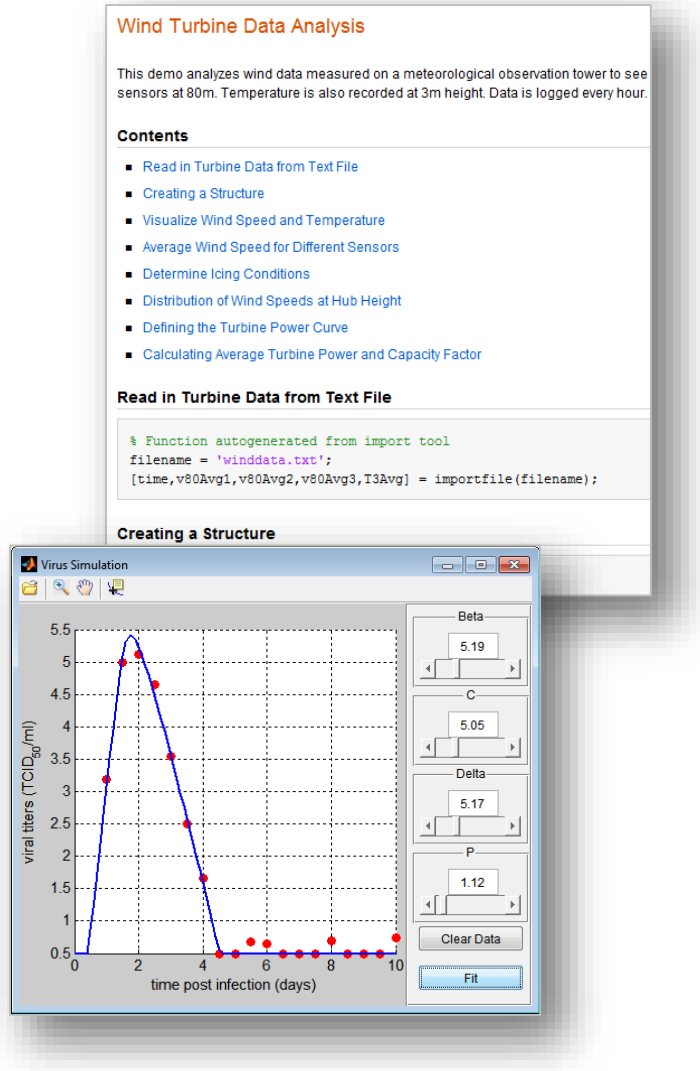
Deploy your MATLAB code to people who do not have MATLAB

The Range of Application Platforms



Sharing for the Desktop

- Automatically generate reports
  - Publish MATLAB files
  - Customize reports using MATLAB Report Generator
- Package apps and toolboxes as a single installable file
- Generate standalone applications



Sharing Your Work

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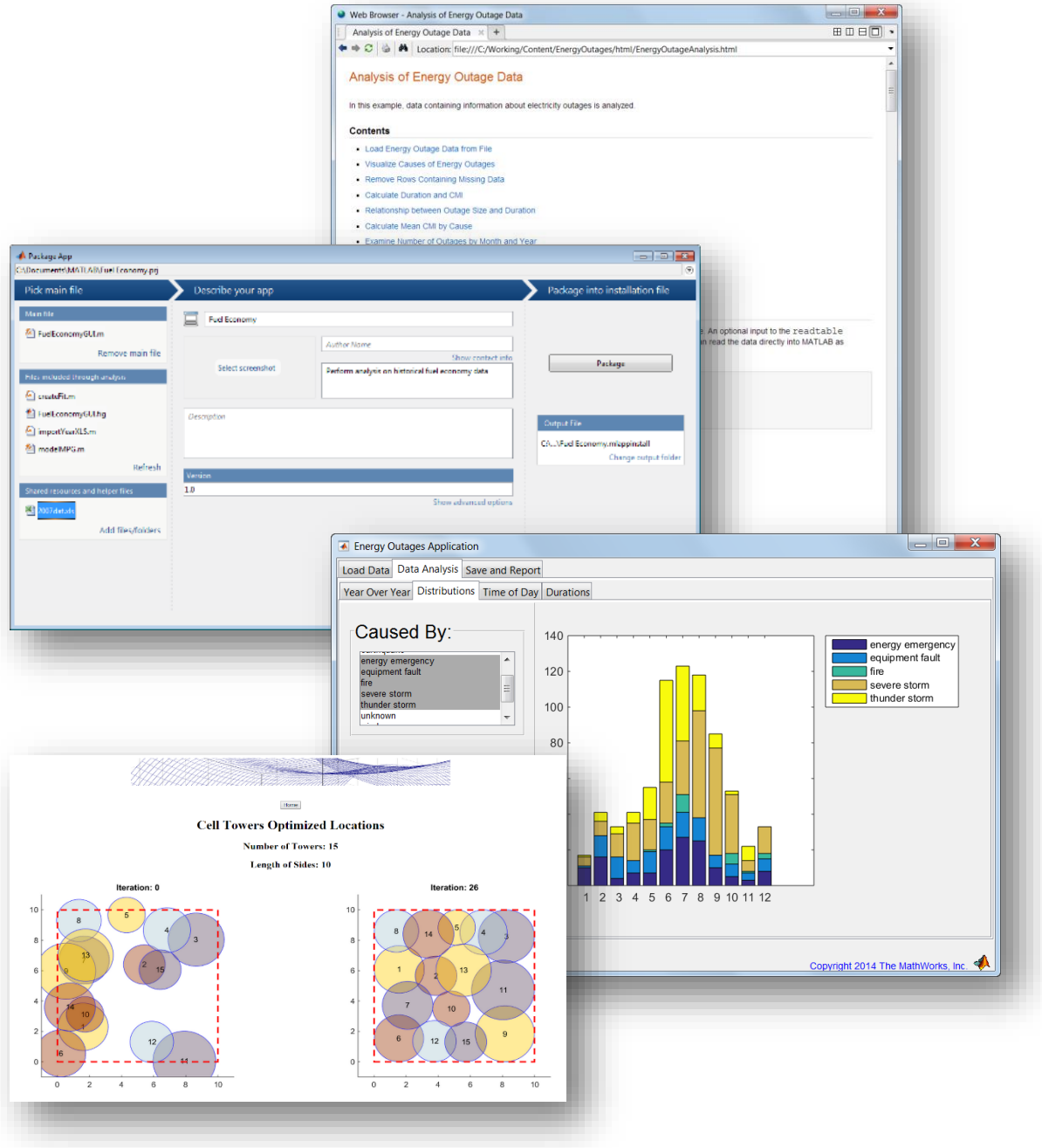
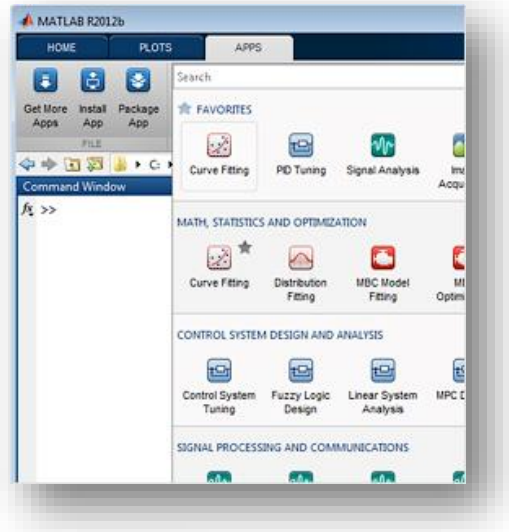
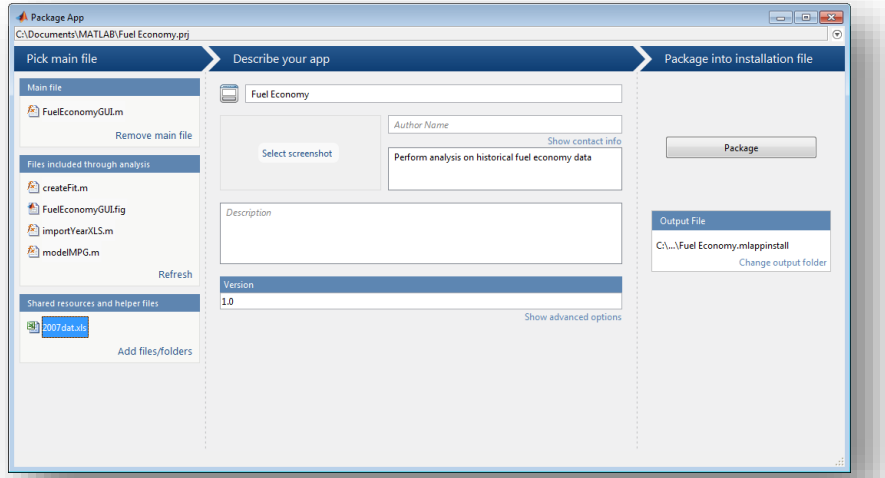


Packaging and Sharing MATLAB Apps

- Create single file for distribution and installation into gallery

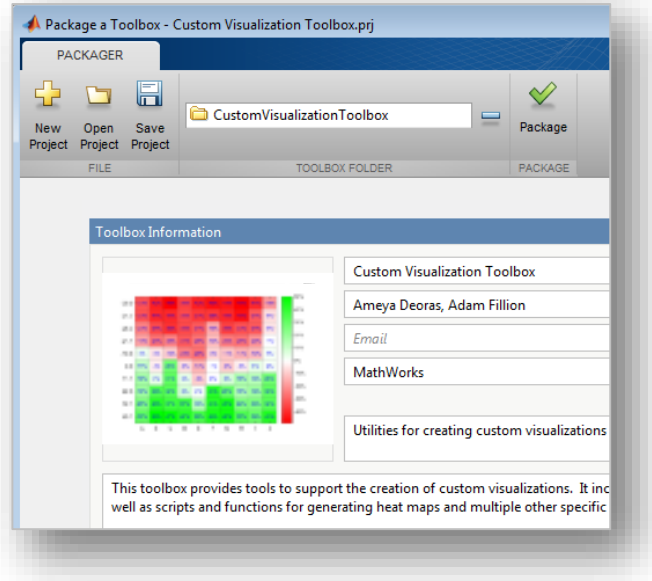
- Packaging tool:
  - Automatically includes all necessary files
  - Documents required products

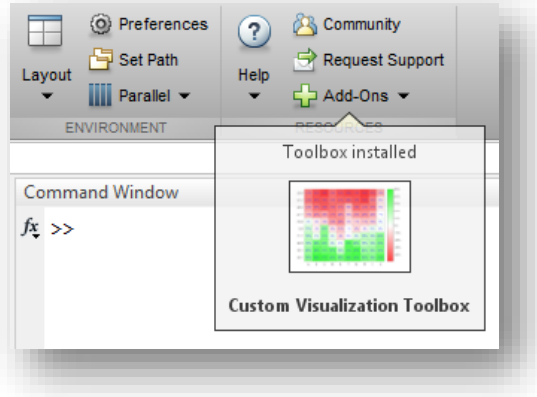




Toolbox Packaging

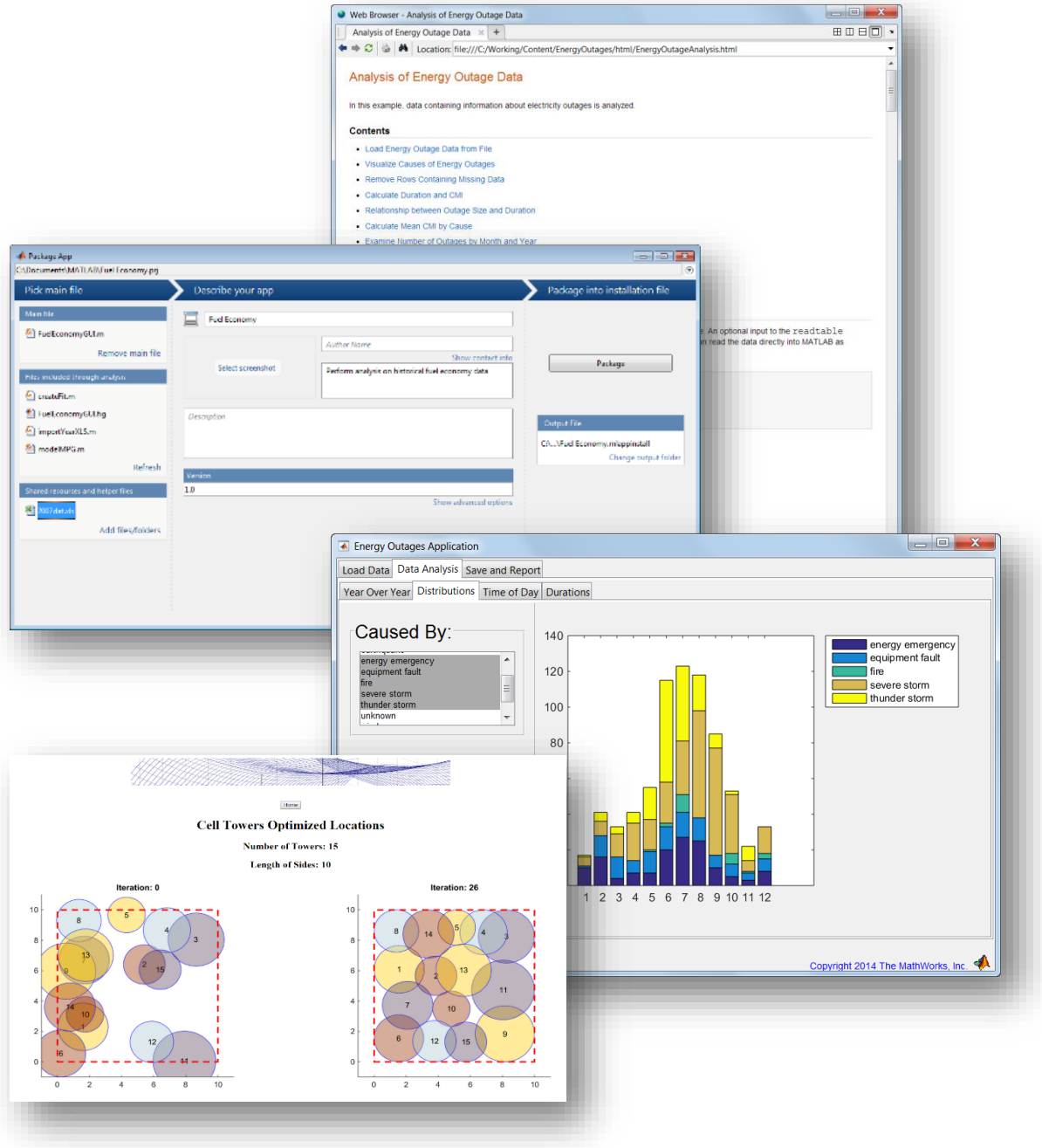
- Package your toolbox as a single installer file
  - Contains all of the code, data, apps, documentation, and examples
  - Checks for dependent files and automatically includes them
  - Documents required products
- Included folders and files automatically appear on path when installed
- View details and uninstall toolboxes with Manage Custom Toolboxes dialog box





Sharing Your Work

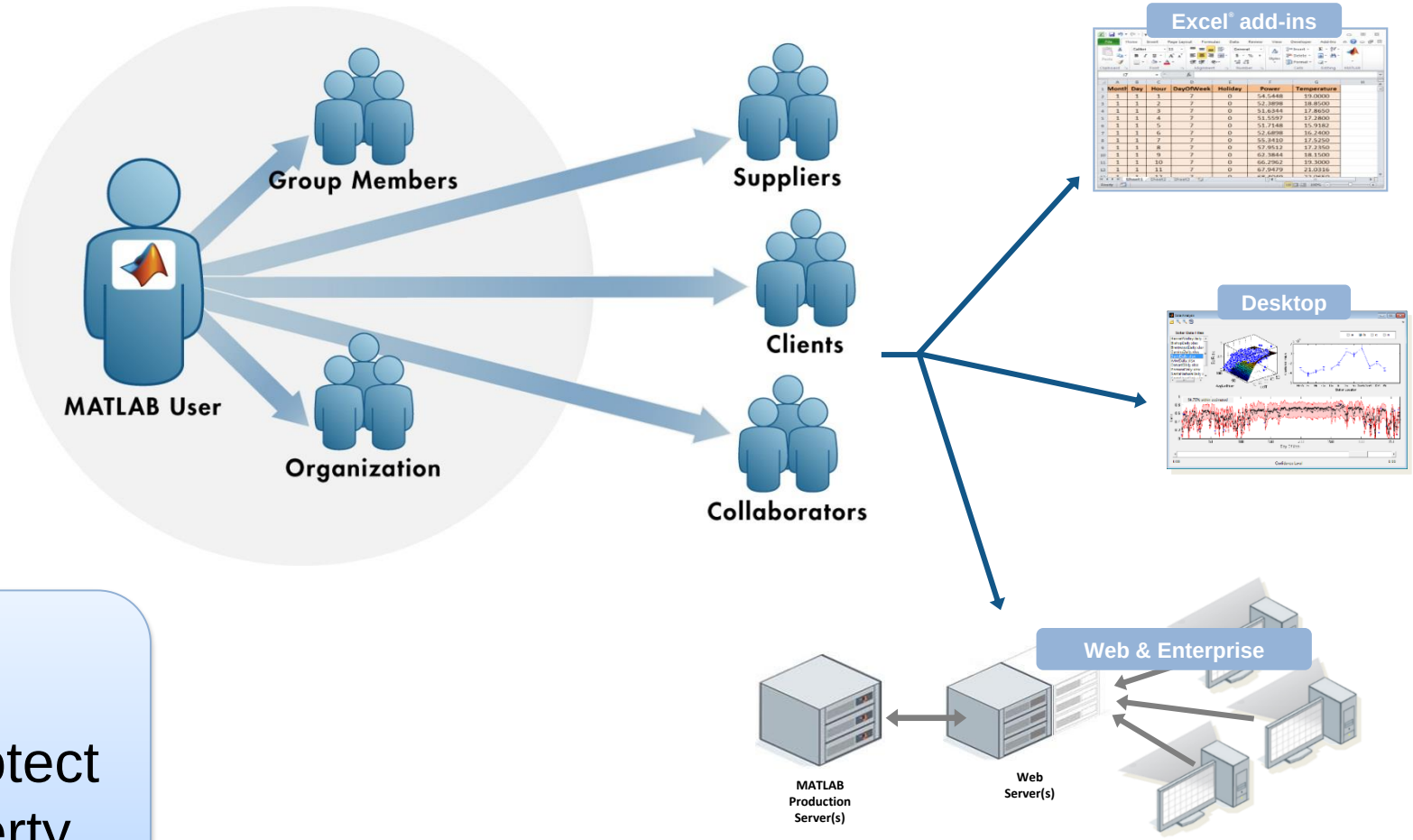
- Automatically generate reports and documentation
- Package as a MATLAB app or custom toolbox
- Deploy applications to other environments



Benefits of Deploying MATLAB Code

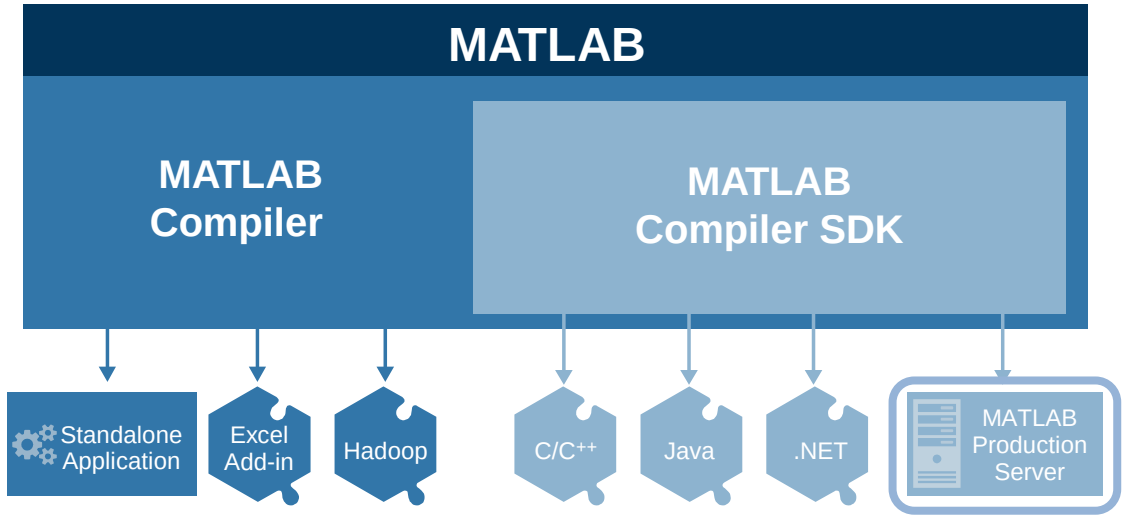
- Domain experts maintain ownership of ideas, algorithms, and applications
- Flexibility to integrate with different programming languages
- Implement a common algorithm on different platforms
- Avoid time consuming and error prone re-coding
- Easily adopt algorithm improvements throughout lifecycle

Sharing Programs Outside of MATLAB



- Royalty-free
- Encryption to protect intellectual property

Which Product will Fit Your Needs?



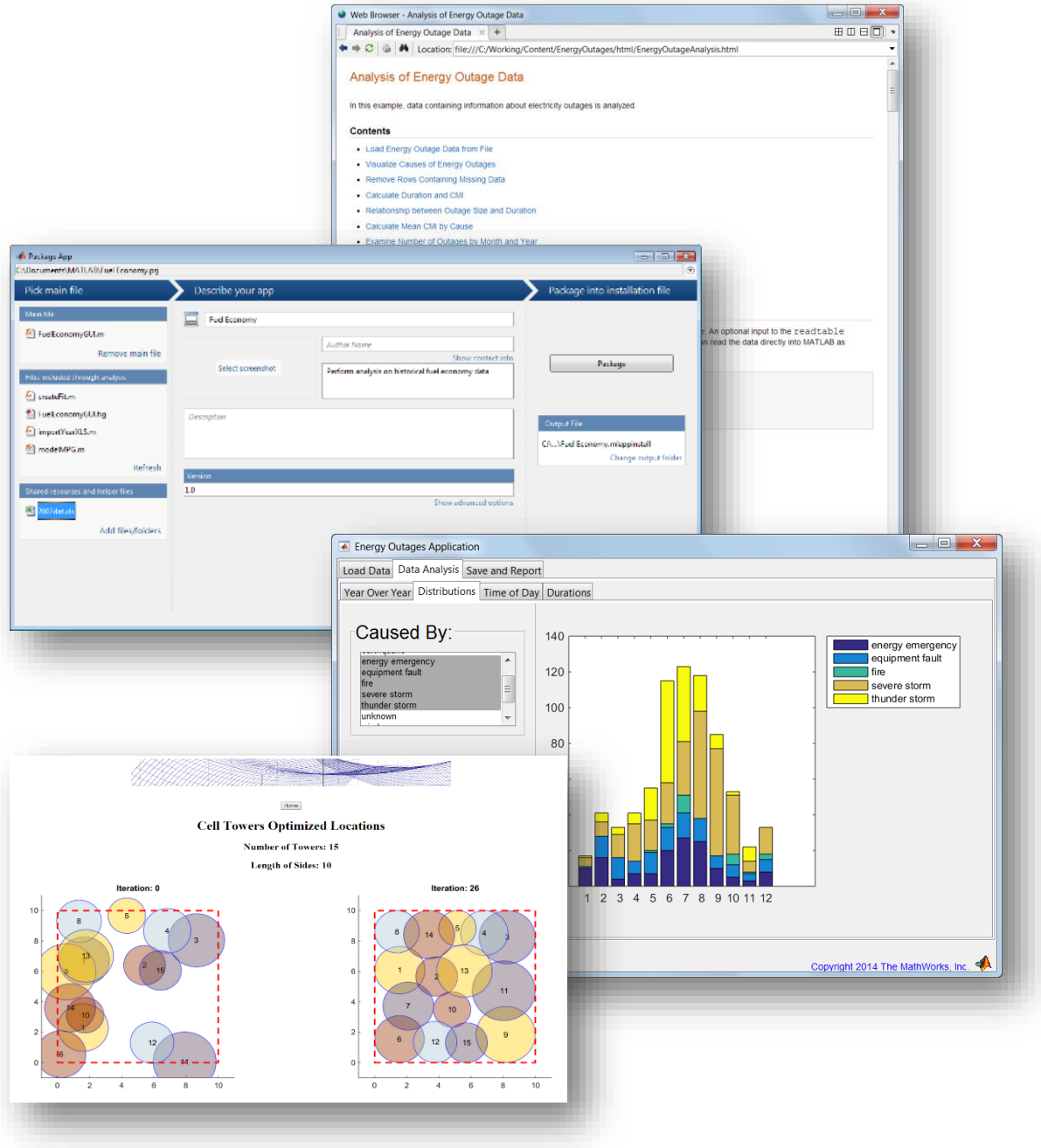
MATLAB Compiler for sharing MATLAB programs without integration programming

MATLAB Compiler SDK provides implementation and platform flexibility for software developers

MATLAB Production Server provides the most efficient development path for secure and scalable web and enterprise applications

Sharing Your Work

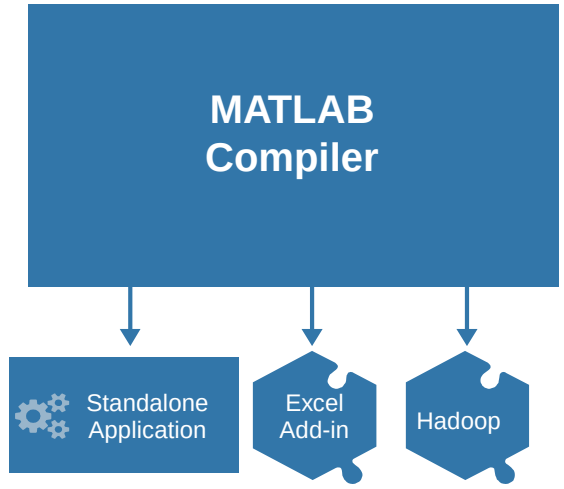
- Automatically generate reports and documentation
- Package as a MATLAB app or custom toolbox
- Deploy applications to other environments
  - Without integration programming



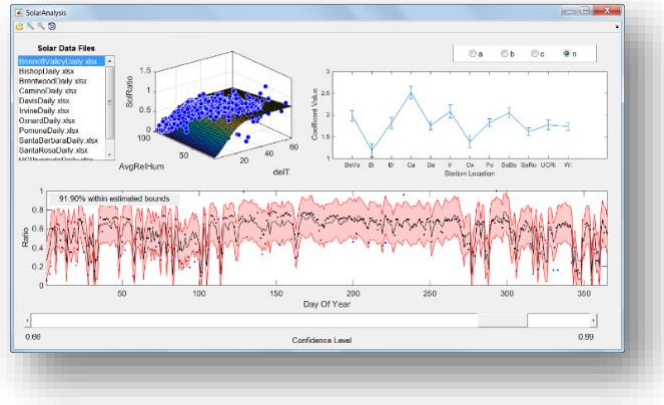
Using MATLAB Compiler

Compiled applications can be shared as:

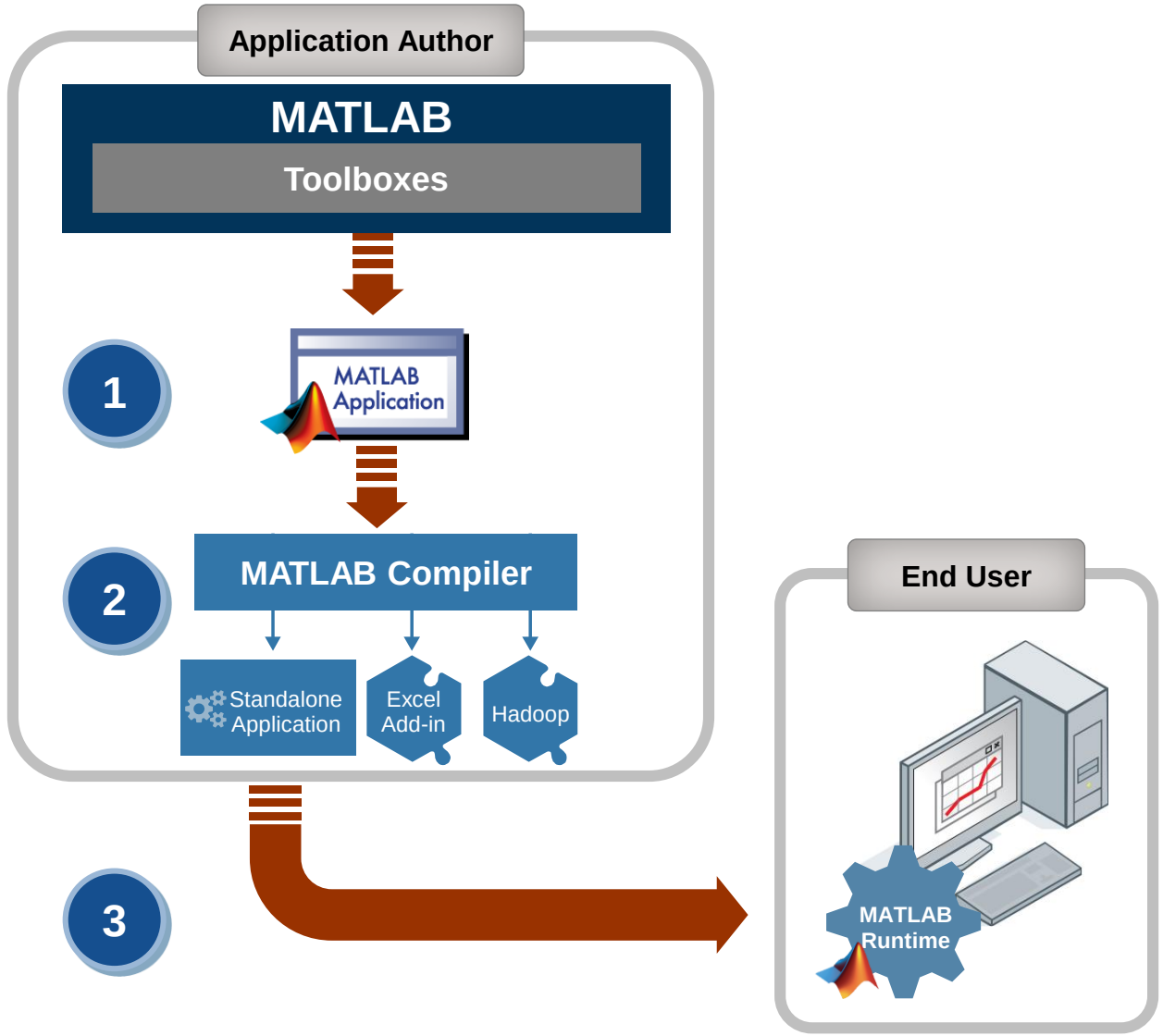
- Standalone desktop applications
- Add-ins for integration with Microsoft Excel spreadsheets
- Components that run MATLAB code against Hadoop



Create professional software with customizable installers, icons, and splash screens … without integration programming

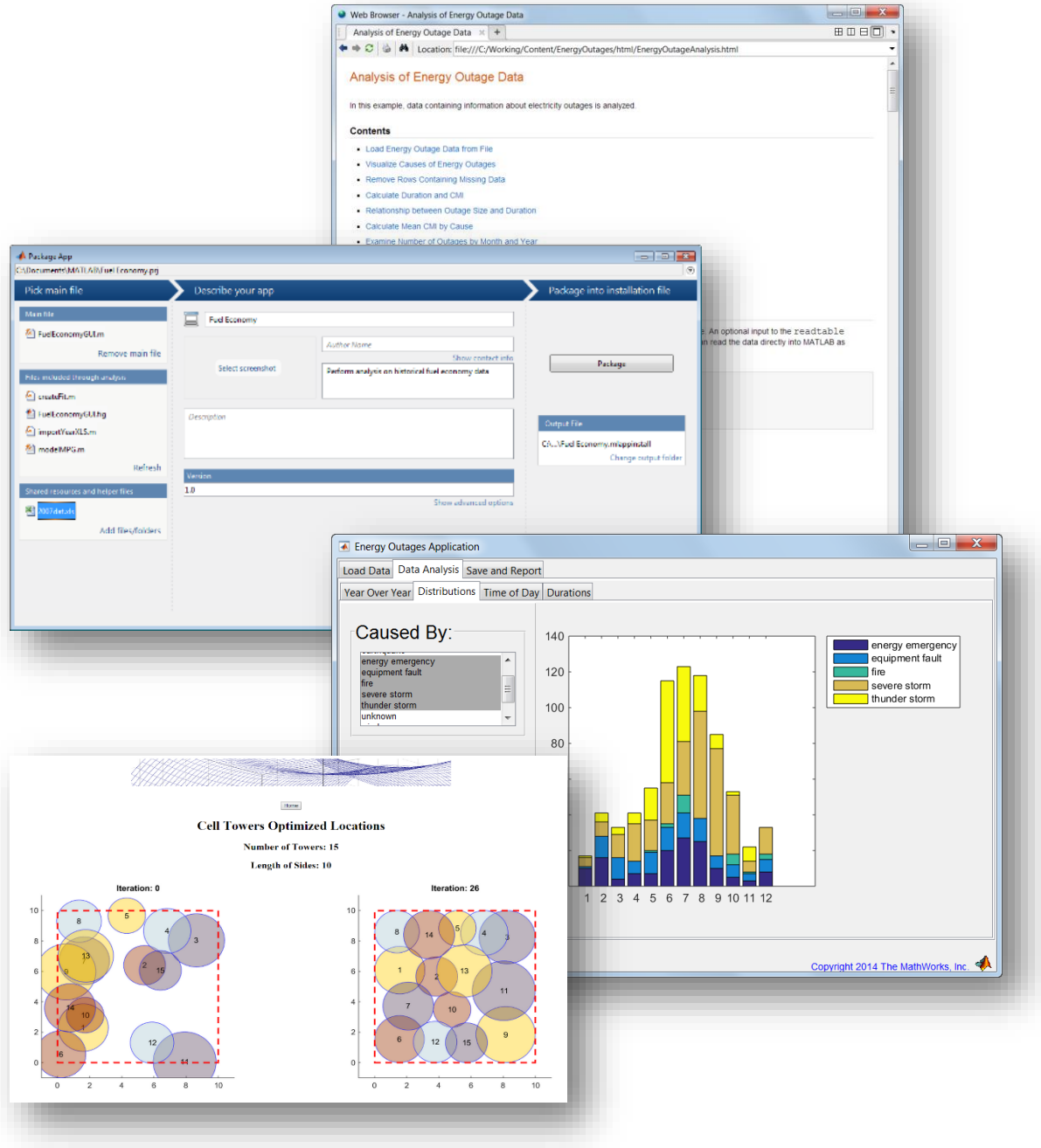


Sharing Standalone Applications



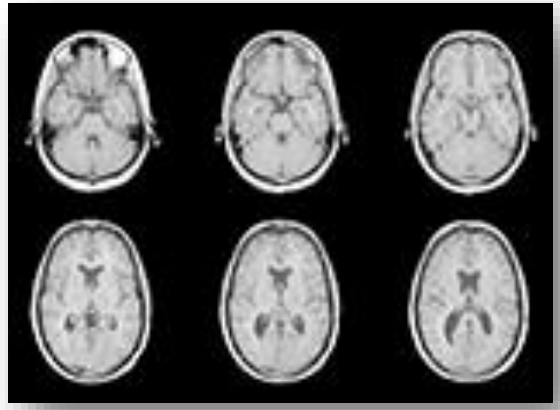
Sharing Your Work

- Automatically generate reports and documentation
- Package as a MATLAB app or custom toolbox
- Deploy applications to other environments
  - With integration programming



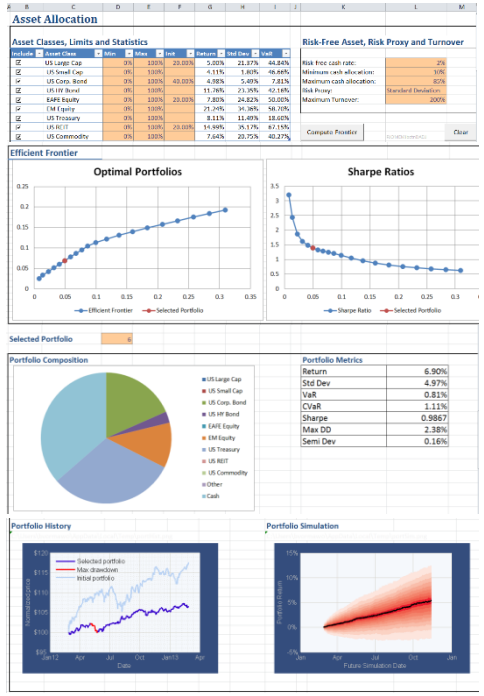
What If You Need to Share with Many Users?

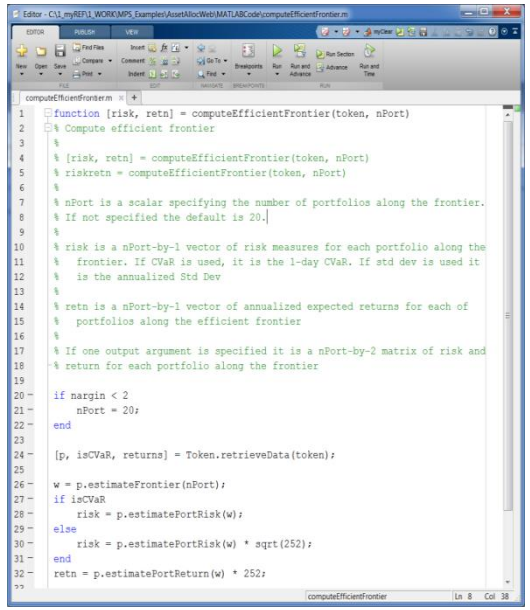
- Share research data and web-based analytical tools
  - Web access to specialized databases for external researchers
  - Sharing of novel detection or treatment algorithms for use on external researcher data
- Many users accessing your application at one time
- Several versions available
- Centrally managed and maintained



Common Algorithm, Different Integration

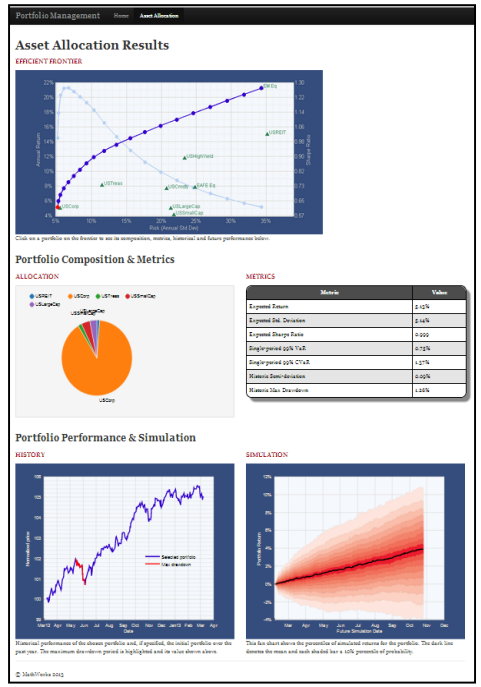
Deploy to Desktop





Native code in MATLAB

Deploy to a Web app

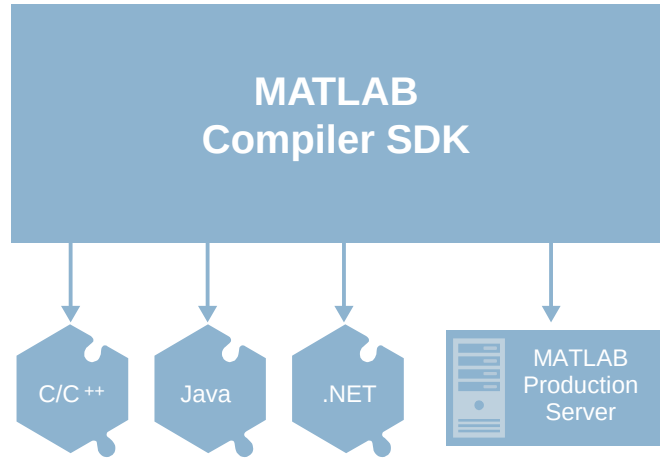


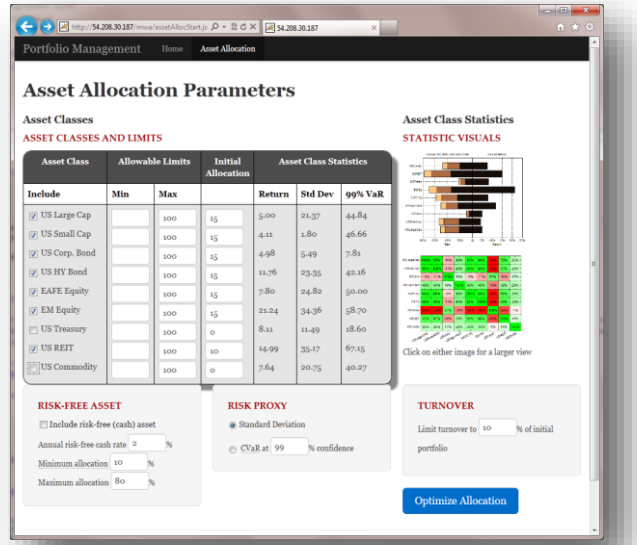
Using MATLAB Compiler SDK

Flexibility and value for software developers

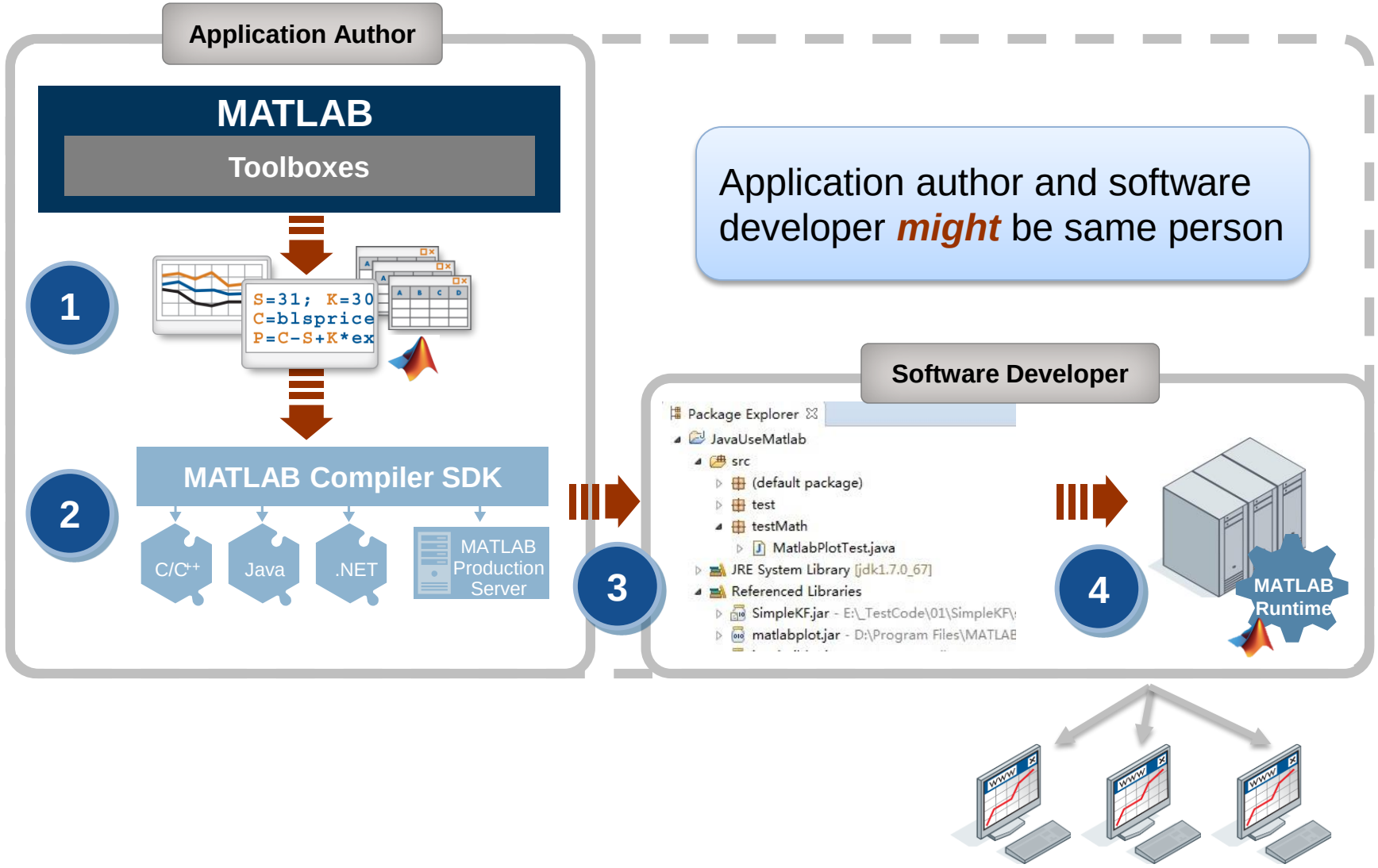
- Capabilities for integrating with: C/C++, .NET, Java
- Development toolkit for MATLAB Production Server

Develop a custom application server or deploy with MATLAB Production Server



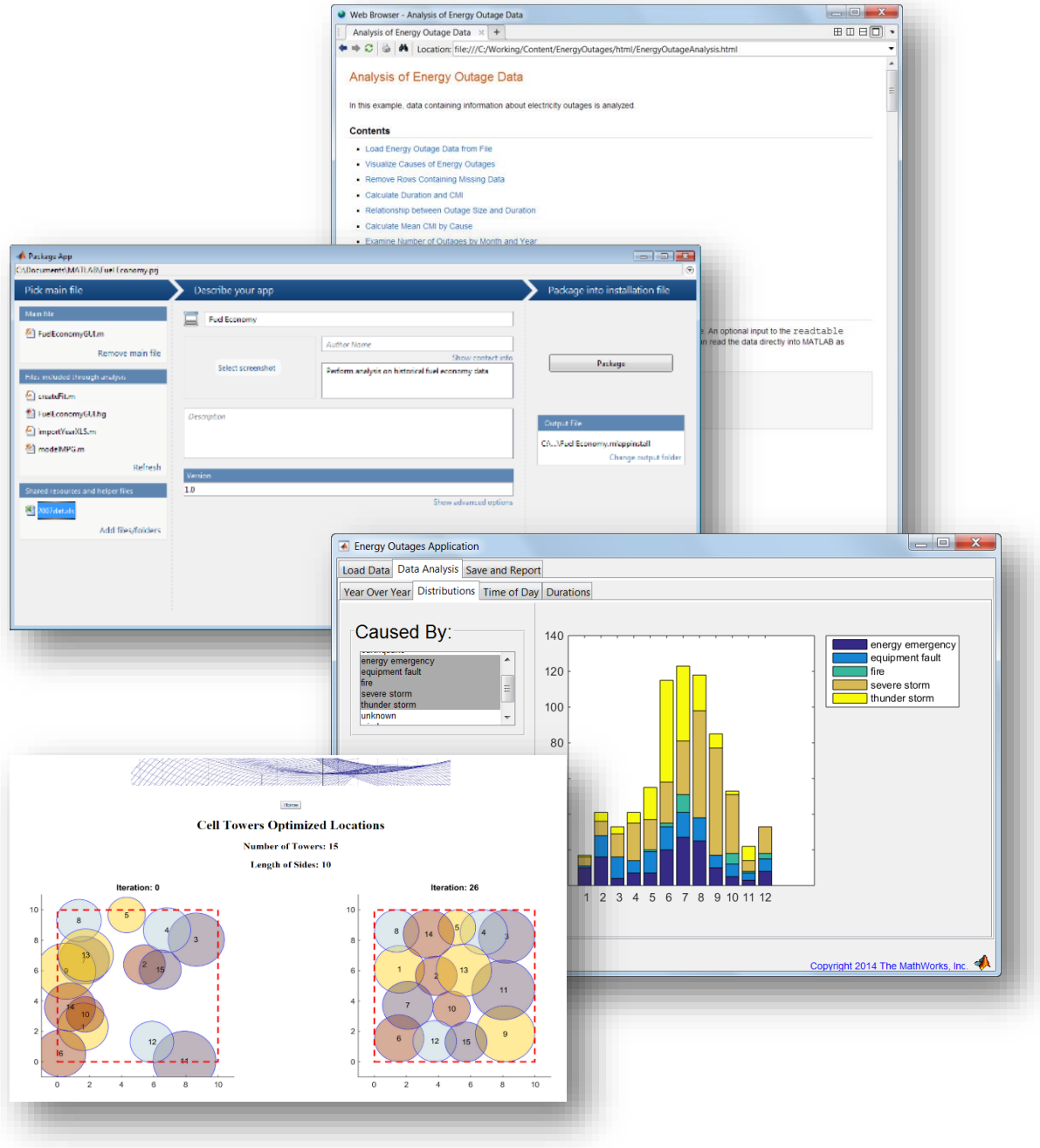


Integrating MATLAB-based Components



Sharing Your Work

- Automatically generate reports and documentation
- Package as a MATLAB app or custom toolbox
- Deploy applications to other environments
  - Develop and test framework
    - For MATLAB Production Server



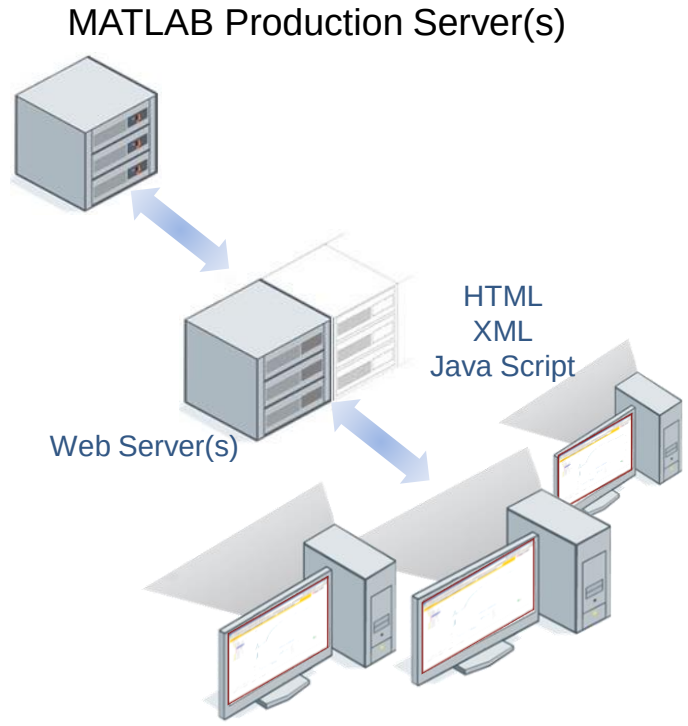
Scale up with MATLAB Production Server

Most efficient path for creating enterprise applications

Deploy MATLAB programs into production

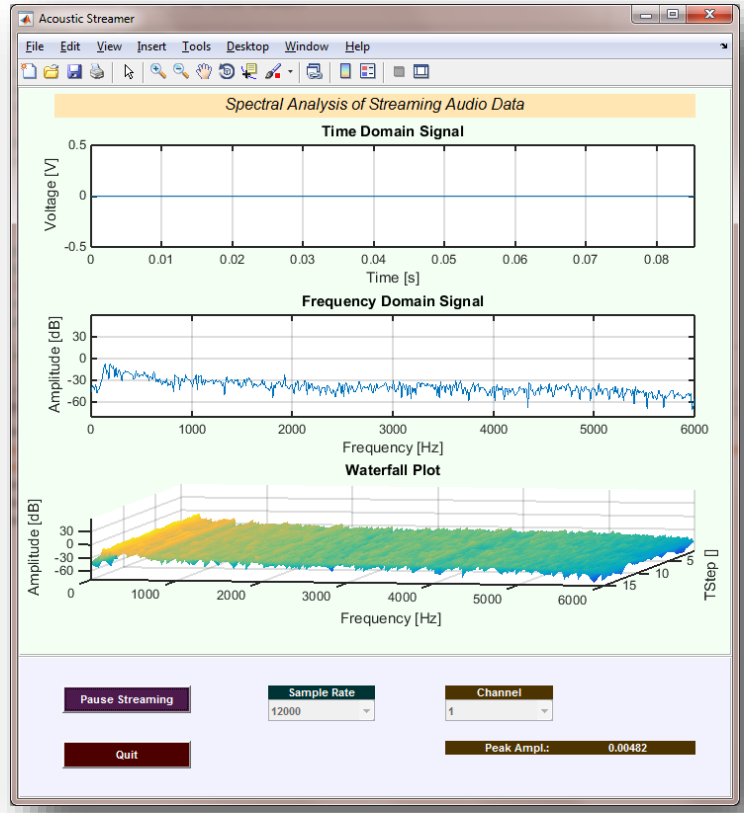
- Manage multiple MATLAB programs and versions
- Update programs without server restarts
- Reliably service large numbers of concurrent requests

Integrate with web, database, and application servers



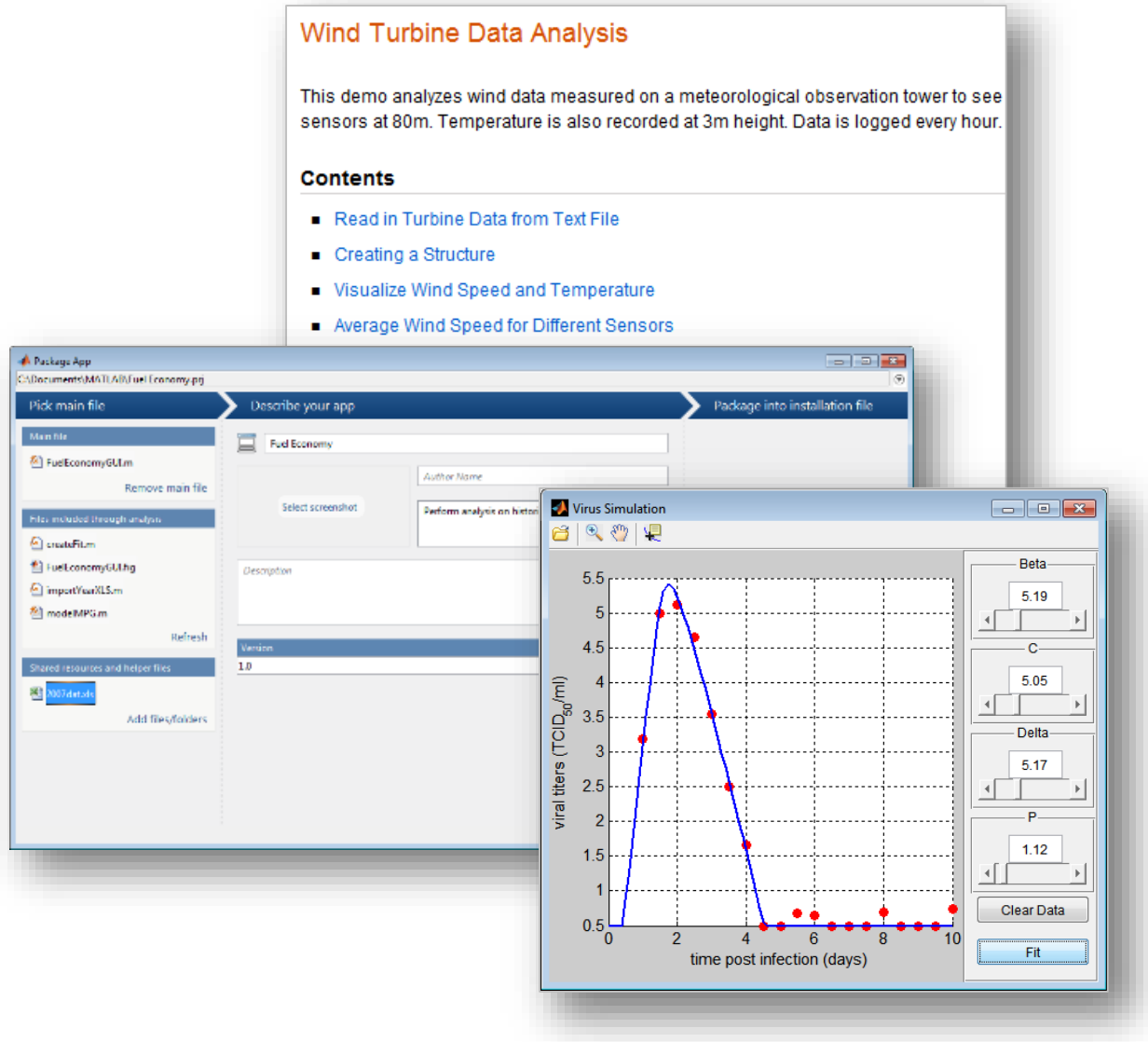
MATLAB Application Deployment

- Share MATLAB programs with people who do not have MATLAB
  - Royalty-free distribution
  - Encryption to protect your intellectual property
- Create both standalone applications and components for integration
- Deploy to desktop, web, and enterprise applications



Sharing Your Work

- Automatically generate reports and documentation
- Package as a MATLAB app or custom toolbox
- Deploy applications to other environments
- Automatically generate standalone C and HDL code



Learn more …

Product and Solutions home pages

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- http://www.mathworks.com/products/matlab-compiler-sdk/
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Thank you

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