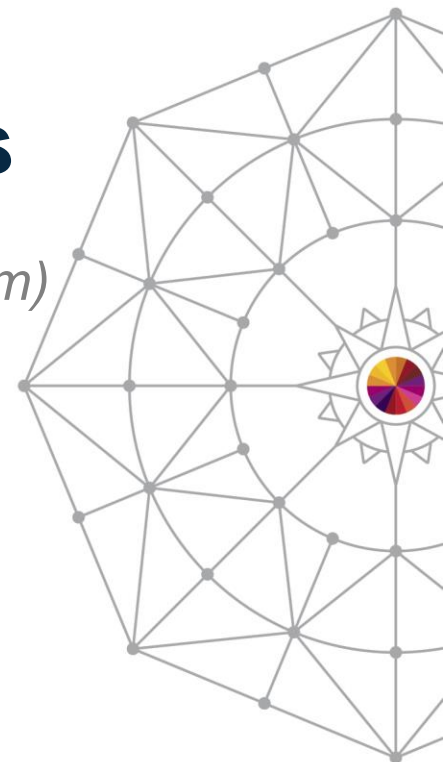# Mainframe Integration: Making the Right Connections

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Director of Products & Services
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August 4, 2014: 10:00 AM - 11:00 AM
Session Number: 15914

Roger Hammer (PMP)

- Director of Products and Services – blackboxIT, Inc
  - Background
    - Software / Systems Engineering
    - Project Management / Product Management
    - Mainframe Understanding Consulting
- blackboxIT Product: **evolveIT**
  - Automated Analysis Tool
- Support of Fortune 500 Customers
  - Mainframe Analysis
  - Modernization
  - Integration
  - Business Rules

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Topics

- Integration Survey of Customers

- Application architectures impact ability to integrate.

- Accurately identifying Integration points in your Mainframe?

- Integration as a first step to Modernization.

Experience with customers has taught us

but…

Survey Data is a good confirmation!!!

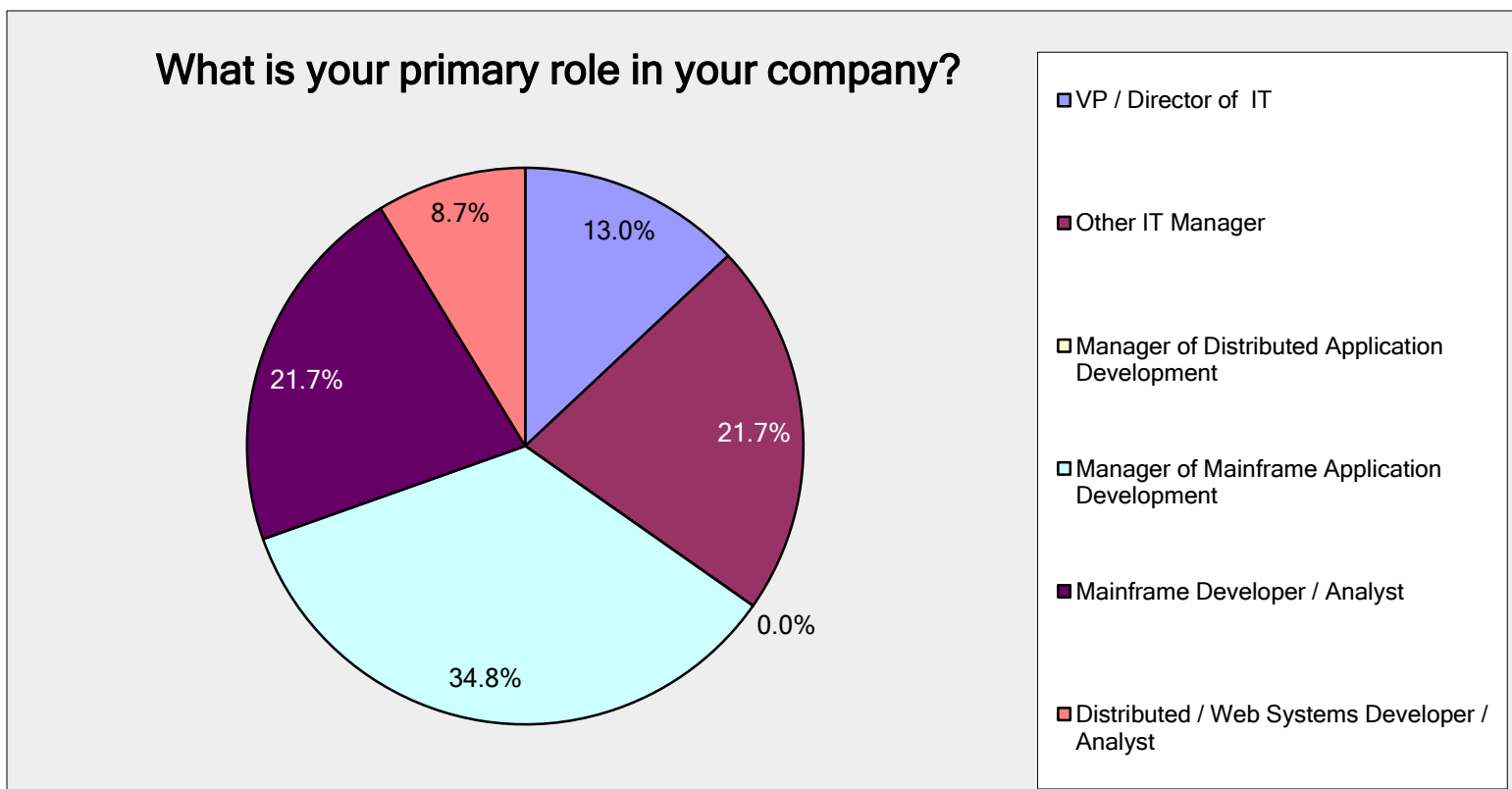Complete your session evaluations online at www.SHARE.org/Pittsburgh-Eval

Customers were asked 5 questions

- What is your primary role in your company?

- What kinds of Integration approaches has your company used to connect the Mainframe to Distributed/Web Applications?

- My experience shows that it is _____ to identify the Mainframe functions / Data that we want to integrate with Distributed / Web Systems.

- My company uses the following approaches to identify Mainframe functionality for integration.

- Has your company ever integrated a Mainframe Function/Service and later realized that the Function/Service being provided by the Mainframe was not the one desired?
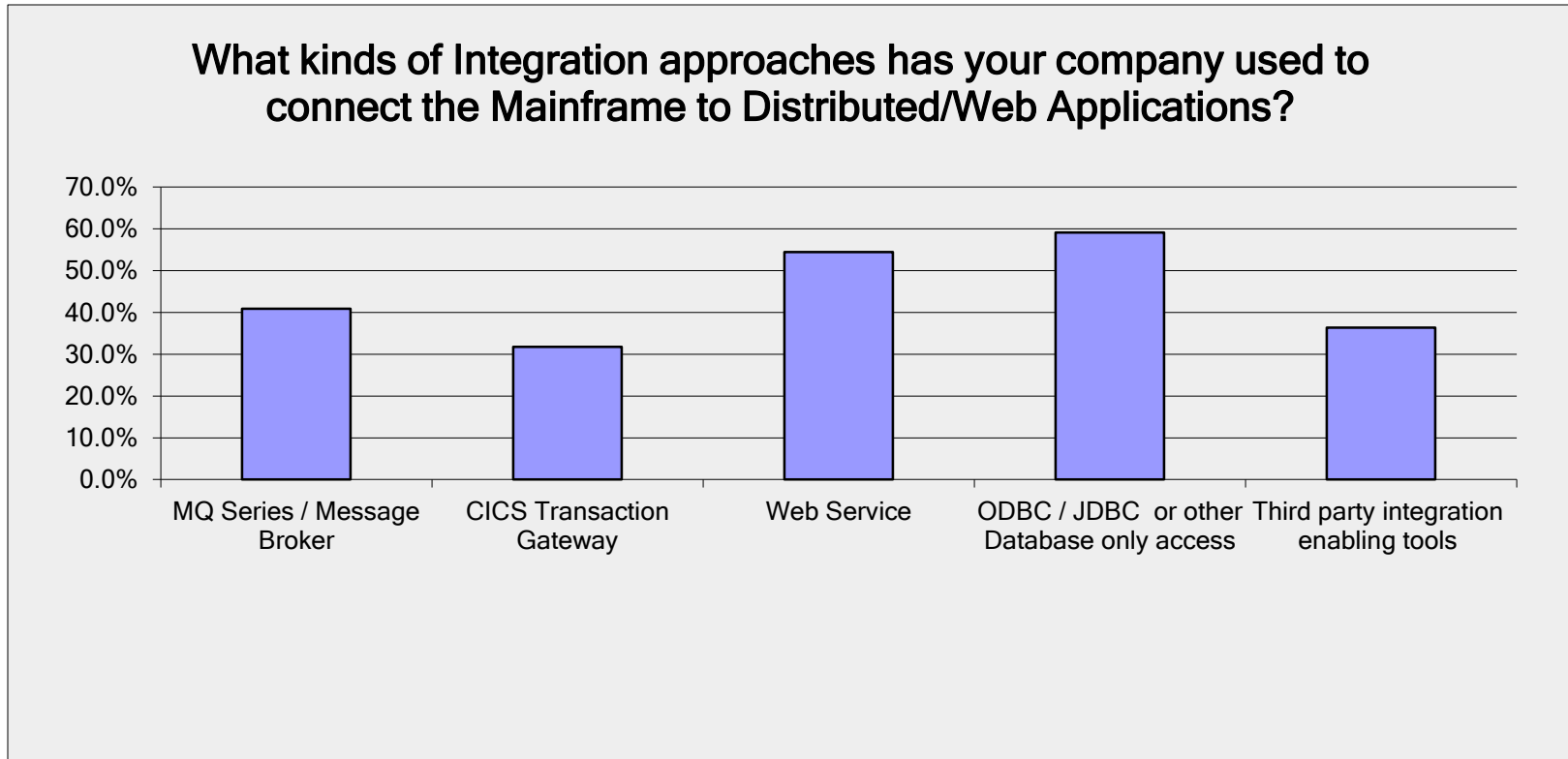
Survey Says?

- ## Who Responded

What is your primary role in your company?

- VP / Director of IT: 13.0%
- Other IT Manager: 21.7%
- Manager of Distributed Application Development: 0.0%
- Manager of Mainframe Application Development: 34.8%
- Mainframe Developer / Analyst: 21.7%
- Distributed / Web Systems Developer / Analyst: 8.7%

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Survey Says?

- What kinds of integration?

What kinds of Integration approaches has your company used to connect the Mainframe to Distributed/Web Applications?

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Survey Says?

- Difficulty to find Mainframe integration points?

My experience shows that it is _____ to identify the Mainframe functions / Data that we want to integrate with Distributed / Web Systems.
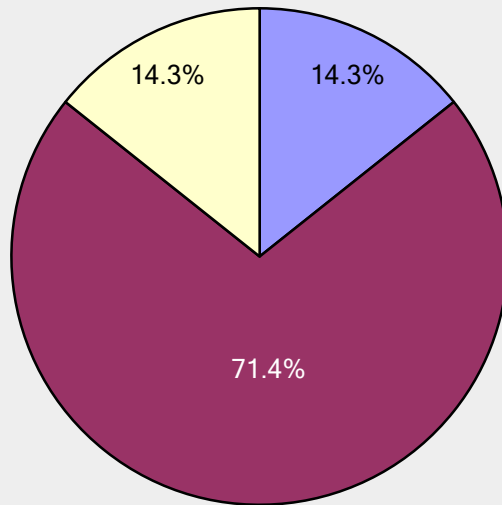
- Easy (Our SME's know what to connect without analyzing Mainframe source code)

- Medium Difficulty (Our SME's have a general Idea but we have to analyze source code to make the right connections)
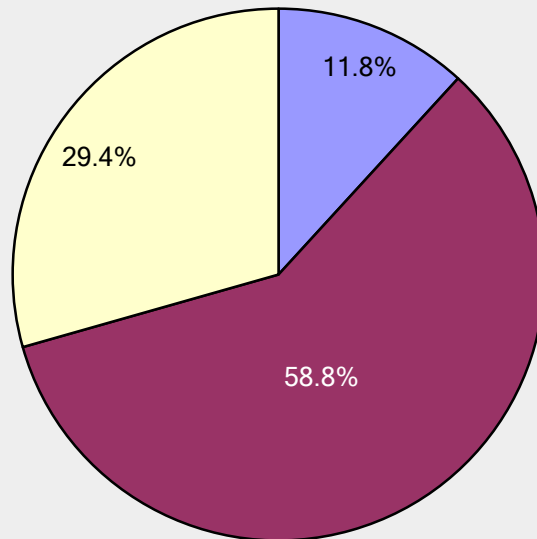
- Difficult - (We do extensive analysis to make sure we connect the right Mainframe functionality)

14.3%   14.3%   71.4%

Survey Says?

- Approach to understanding Mainframe integration?

My company uses the following approaches to identify Mainframe functionality for integration.

11.8%

29.4%

58.8%

- We identify Business Interfaces and then it is easy to make the connection.

- We identify Business Interfaces but we still need to find the specific point of connection through code analysis.

- We start with mainframe source code to find the transactions / data and key functions/services. It takes source code analysis to make the right connections.

Survey Says?

- Integrated the wrong process on Mainframe?

Has your company ever integrated a Mainframe Function/Service and later realized that the Function/Service being provided by the Mainframe was not the one desired?

- Yes: 37.5%
- No: 62.5%
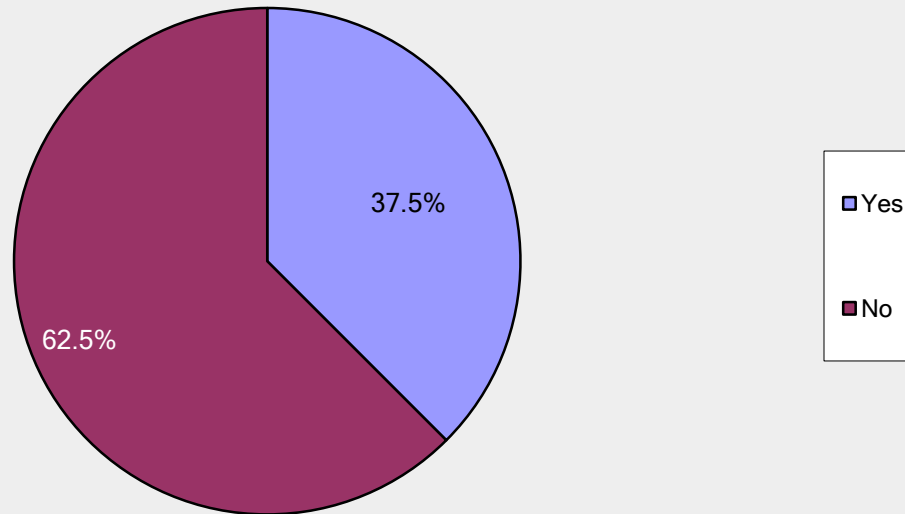
Why Integrate Mainframe Applications?

- Improved User Interface - Business Process focus
  - Aggregate Data from mainframe screens into new Web UI

- Lower Costs - Customer self service Portal

- Reduce errors due to manual processes
  - Integration with outside applications
  - B2B integration

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Why have >35% experienced incorrect Integration Results.

- Incomplete analysis - because it is hard to do the complete job without automated tools.
    - Many companies still use Text Scans and Code editors for Mainframe analysis

- Assumptions by Analyst that they know the application.

- It's Difficult!

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Architectures affect the analysts ability to accurately find Integration points

- Lots of "unique" architectures on the mainframe.
- Difficult to find functionality because of many years of change

Some "Uniqueness" That Make it difficult

- Dynamic functionality / Data Access

- Data accessed through custom I/O routines

- Database partially replaced (old and new database)

- Data Names reused but with different meaning

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High Data Coupling

A system connectivity "Heat Map" can identify the degree of coupling of Application Data.
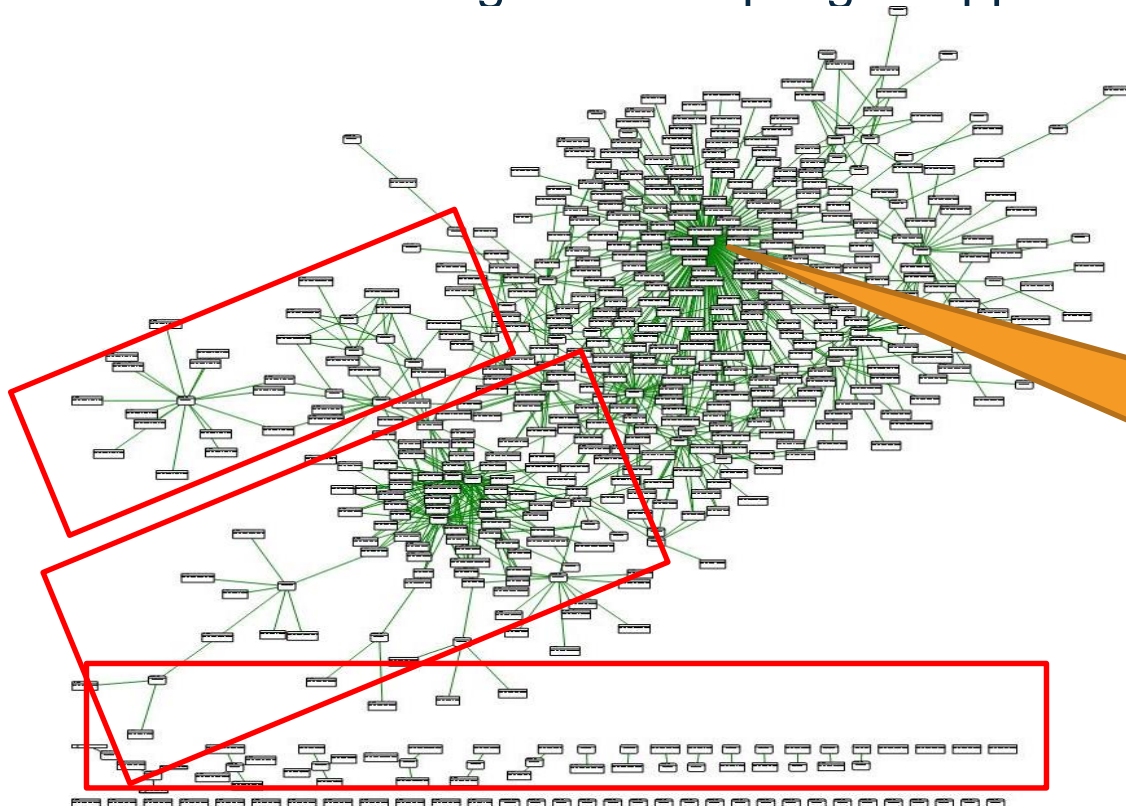
Areas of Higher density and connectivity indicate higher risk.

How to overcome the Architecture Challenges?

A Proposed Process to "Make the Right Connection"

- Determine the goal of Integration

- Focus on the Business Process

- Identify Output Data used by Business Process

- Trace Output Data using a Backward Slice

- Identify the "When" using "Logic (Decision) Flow"

- Validate! Validate! Validate!

Keep the Focus on the end user of the Integration

Not just data on screen??

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Accurately identify Integration points in your Mainframe?

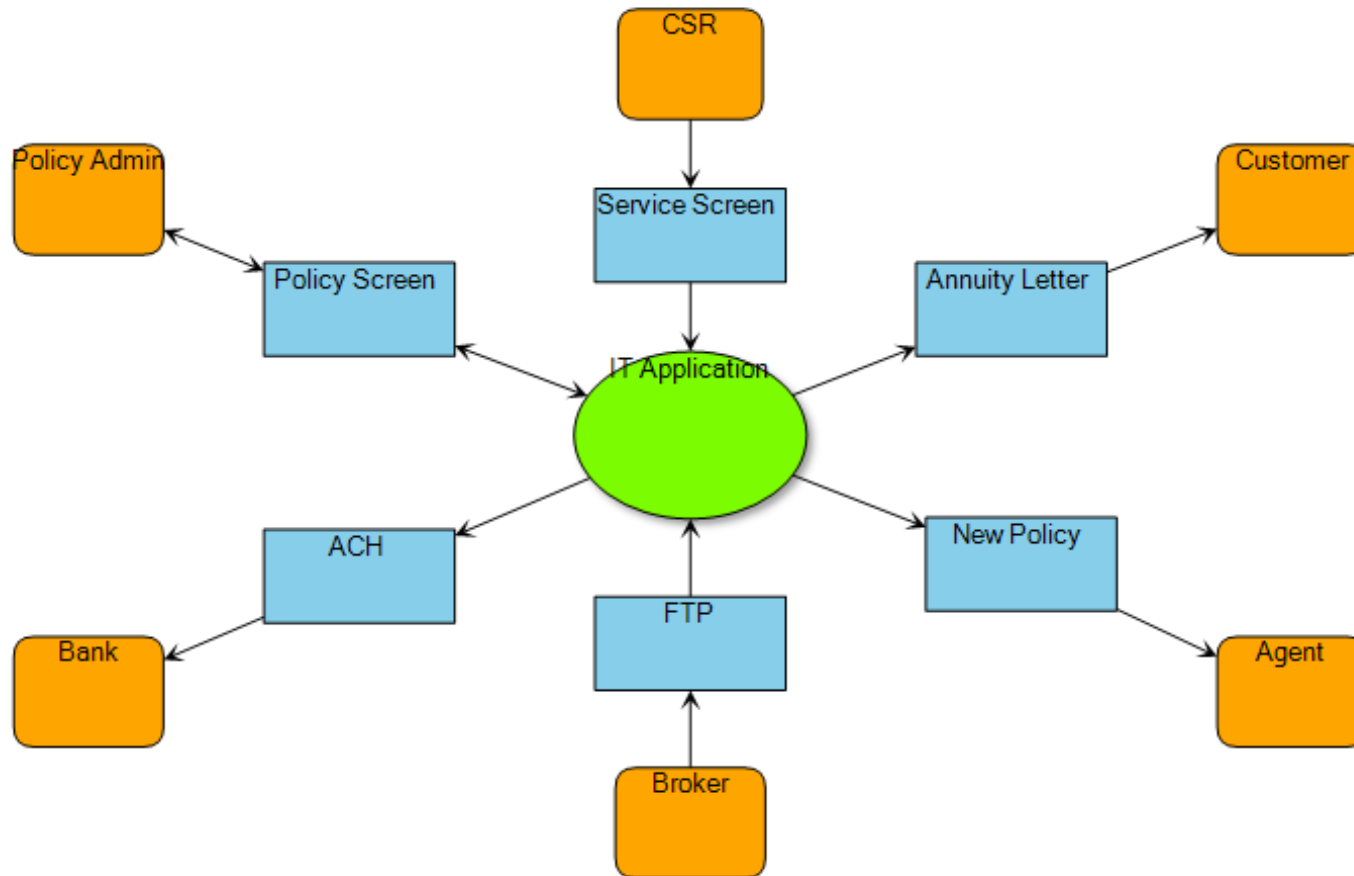- Backward slice is your best approach to validating processing of integration points.

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Business process provides meaning!!!

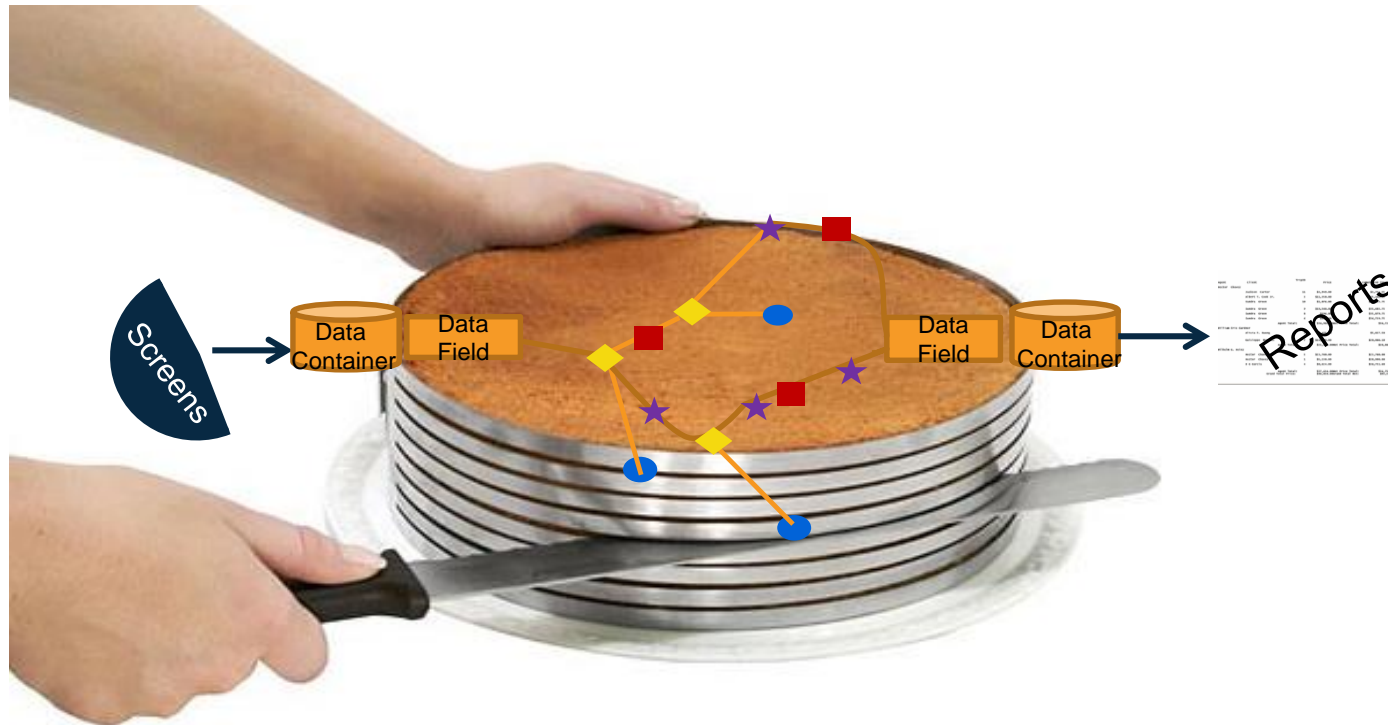Complete your session evaluations online at www.SHARE.org/Pittsburgh-Eval
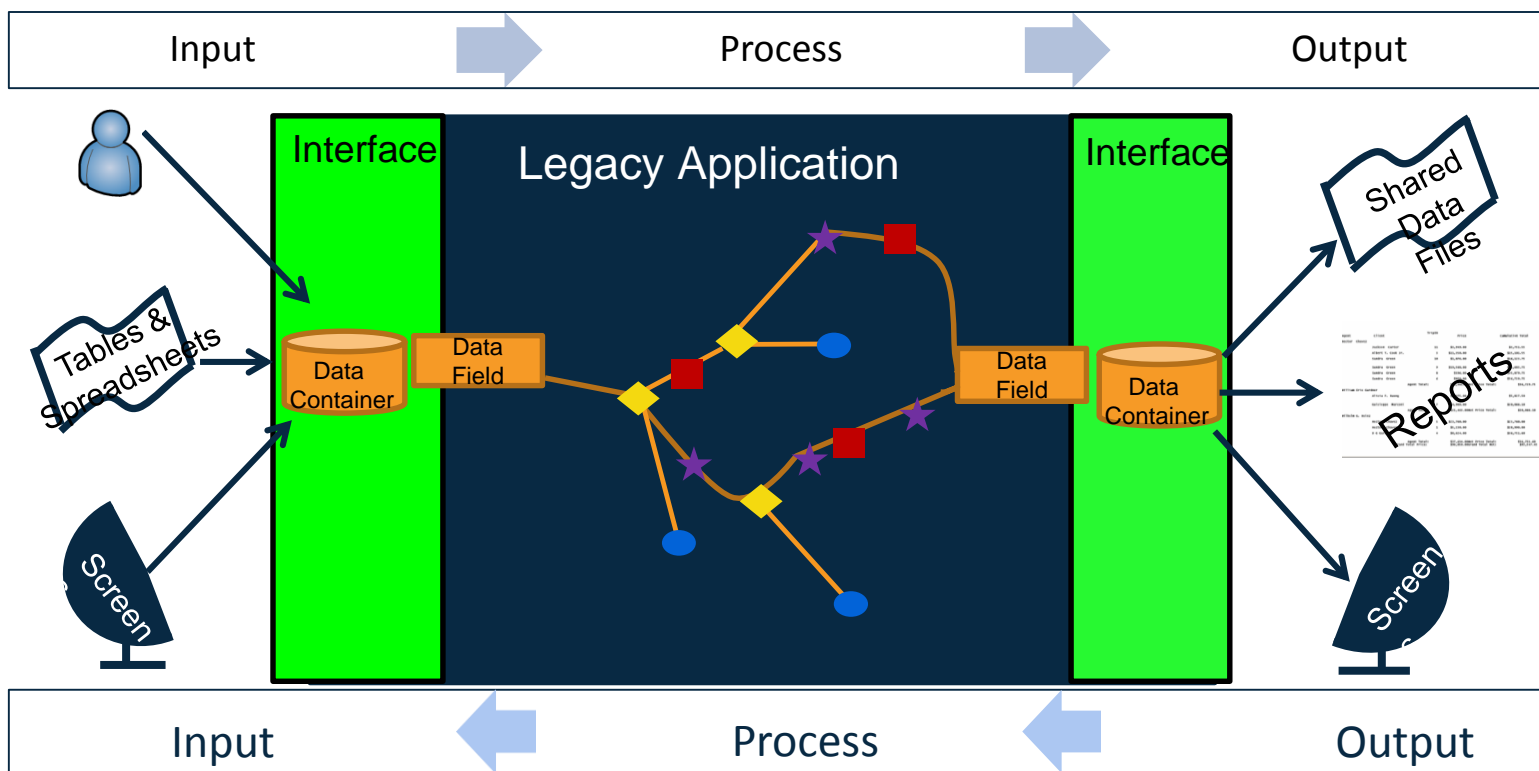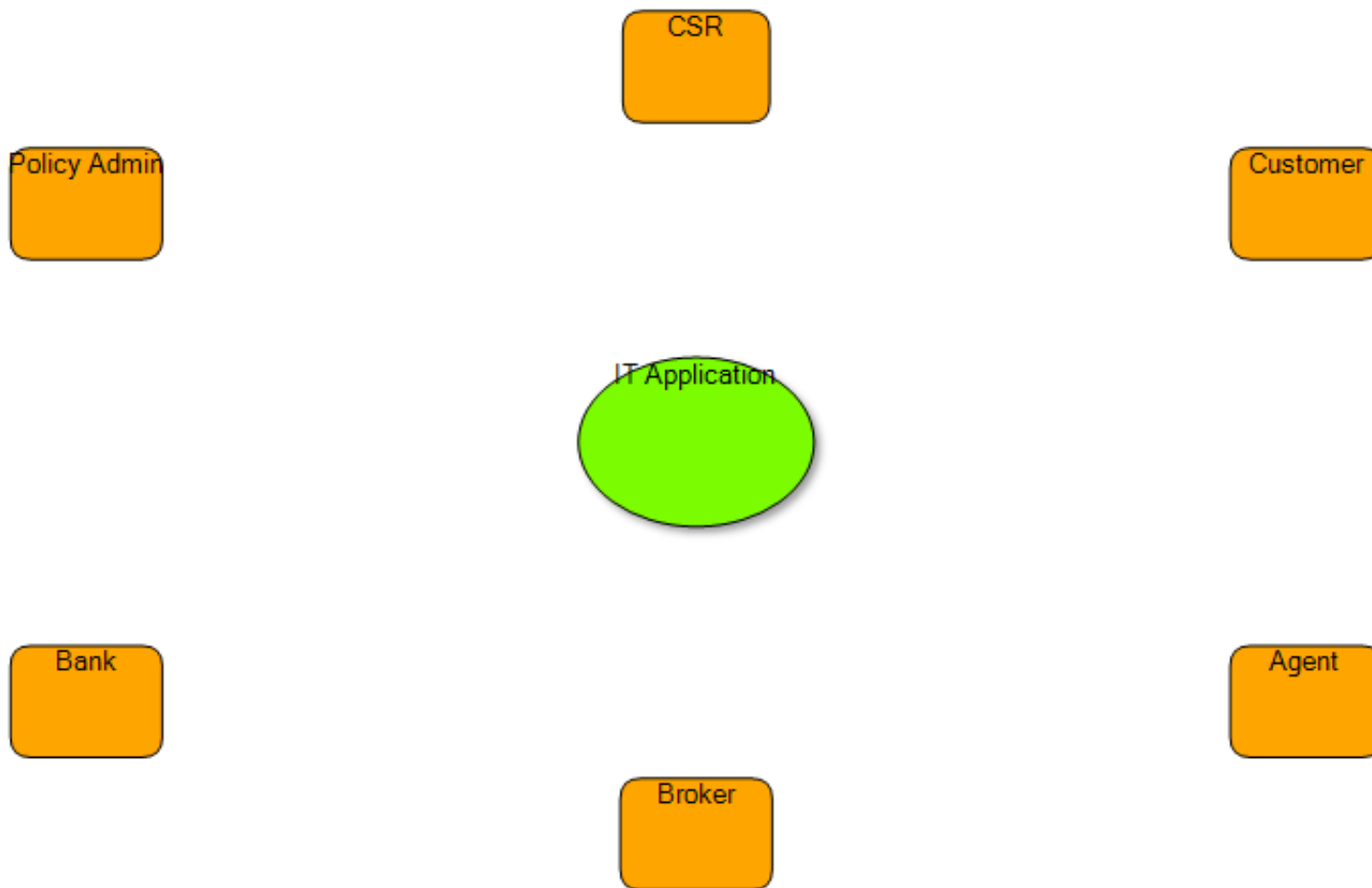
Business process provides meaning!!!

- Where do your users / systems connect?

Backward slice best approach to validating processing of Business Process output data.

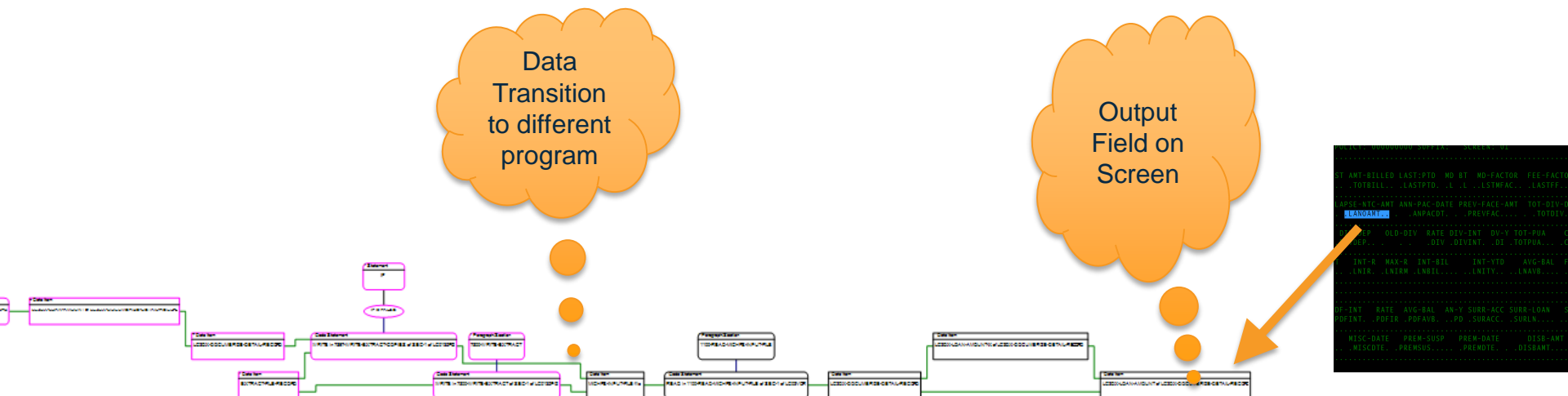Complete your session evaluations online at www.SHARE.org/Pittsburgh-Eval

What is a backward Slice?

- Start with the end point (Output Data)

- In the program that provides the output

- Find all direct contributing statements

- Identify data flowing through statements into output

- Continue data path analysis for contributing data

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Accurately identify Integration points in your Mainframe?

- Trace the integration point to validate the processing / service being provided

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Accurately identify Integration points in your Mainframe?

- Trace the integration point to validate the processing / service being provided

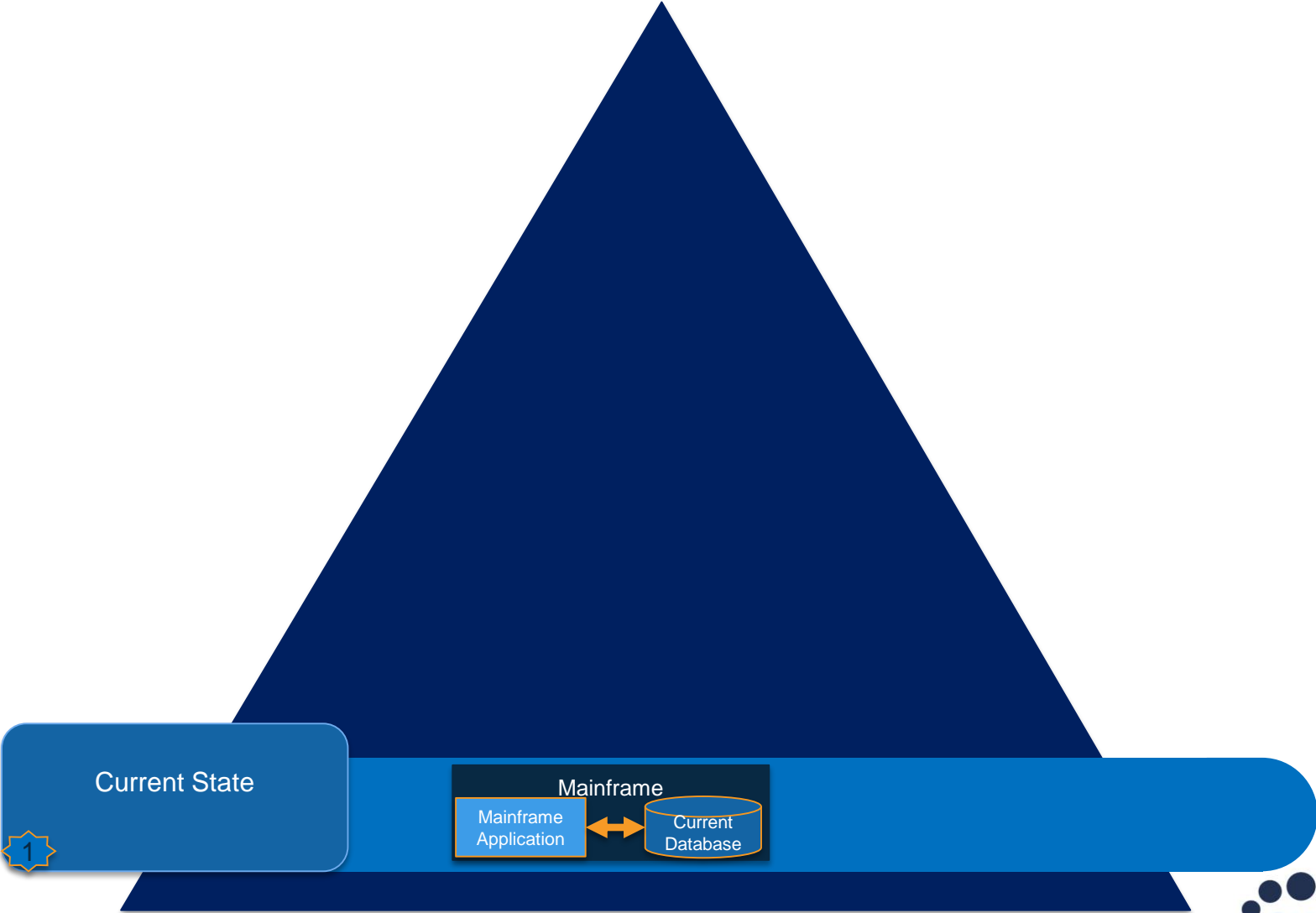Understand how results are calculated

Understand Decision Logic to verify when the process runs

Backward Analysis Slice

Direction of Data Flow

Integration as a first step to Modernization

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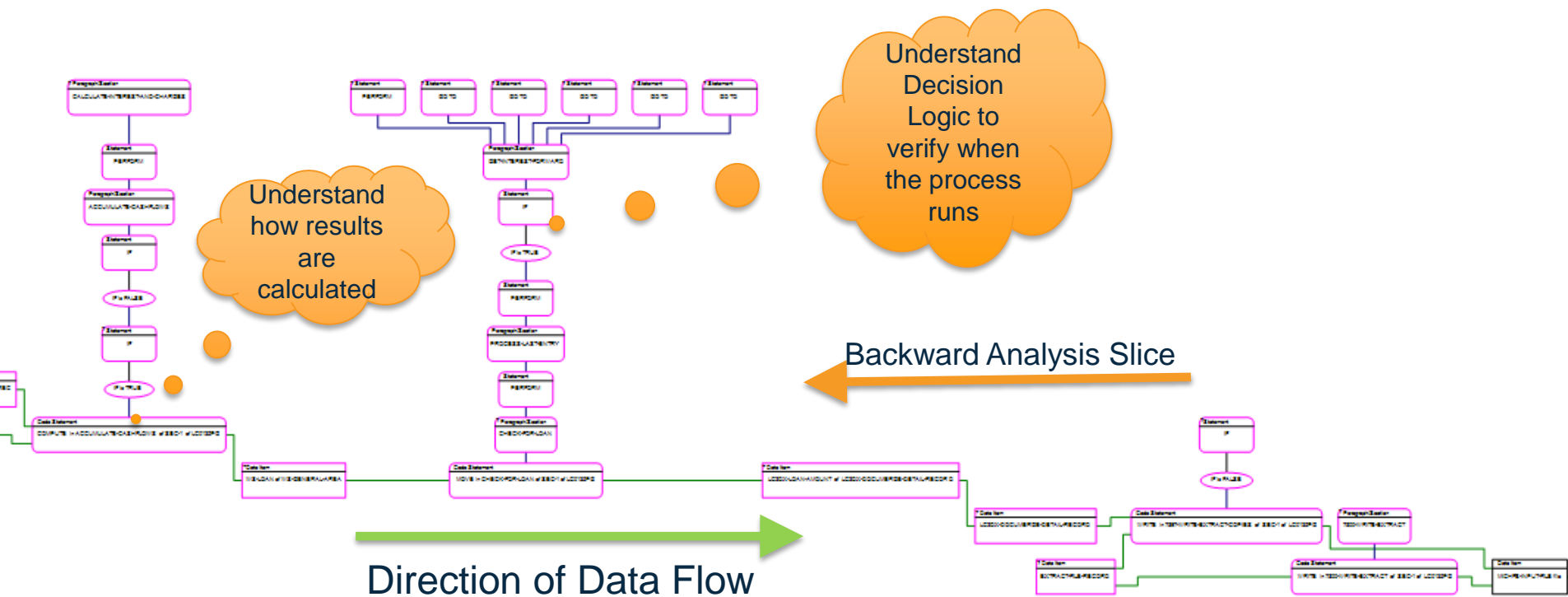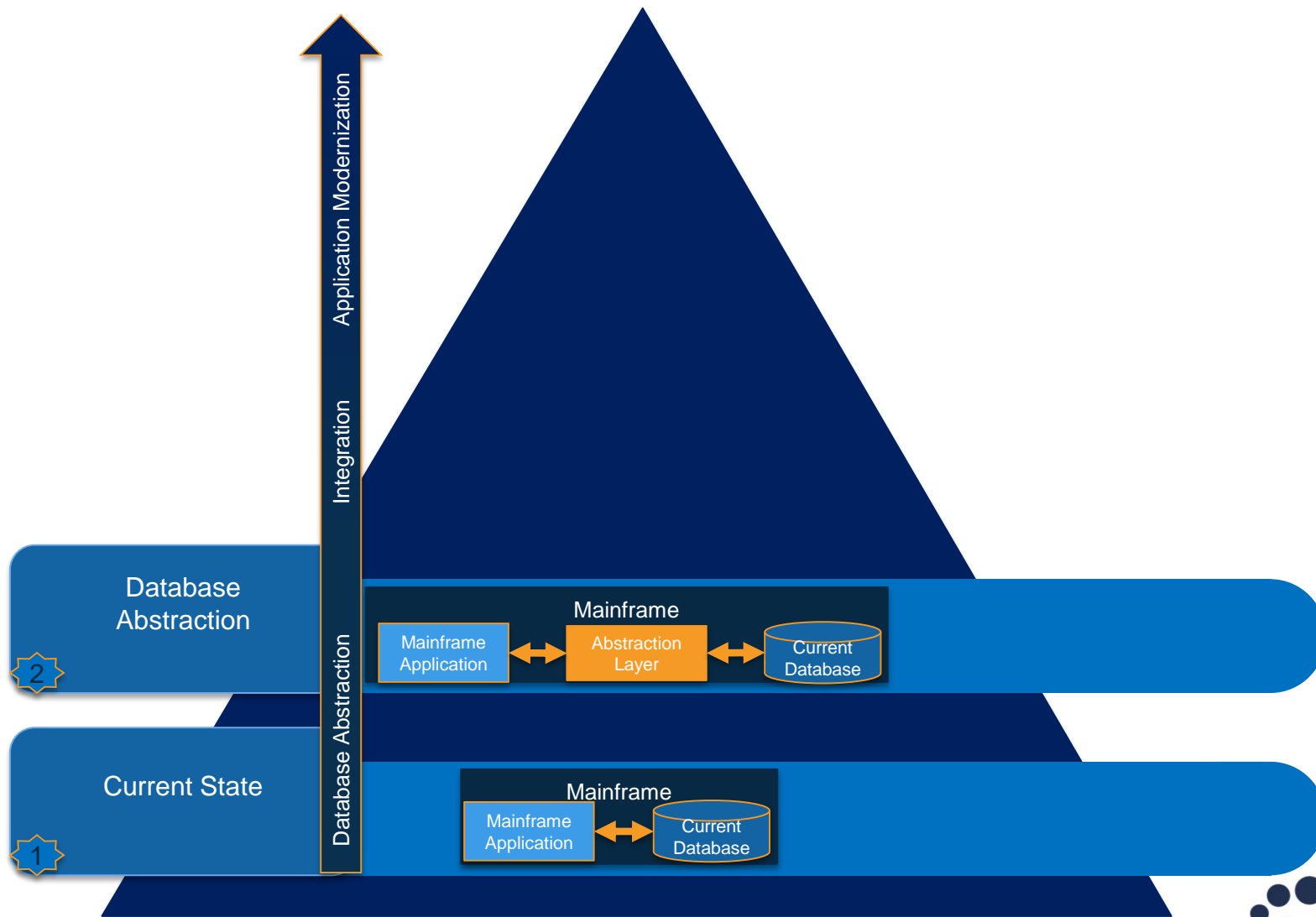
Integration as a first step to Modernization

- The integration provides an abstraction

- Opportunity to abstract data from application components

- Use data abstraction layer to move data or application functionality a piece at a time.
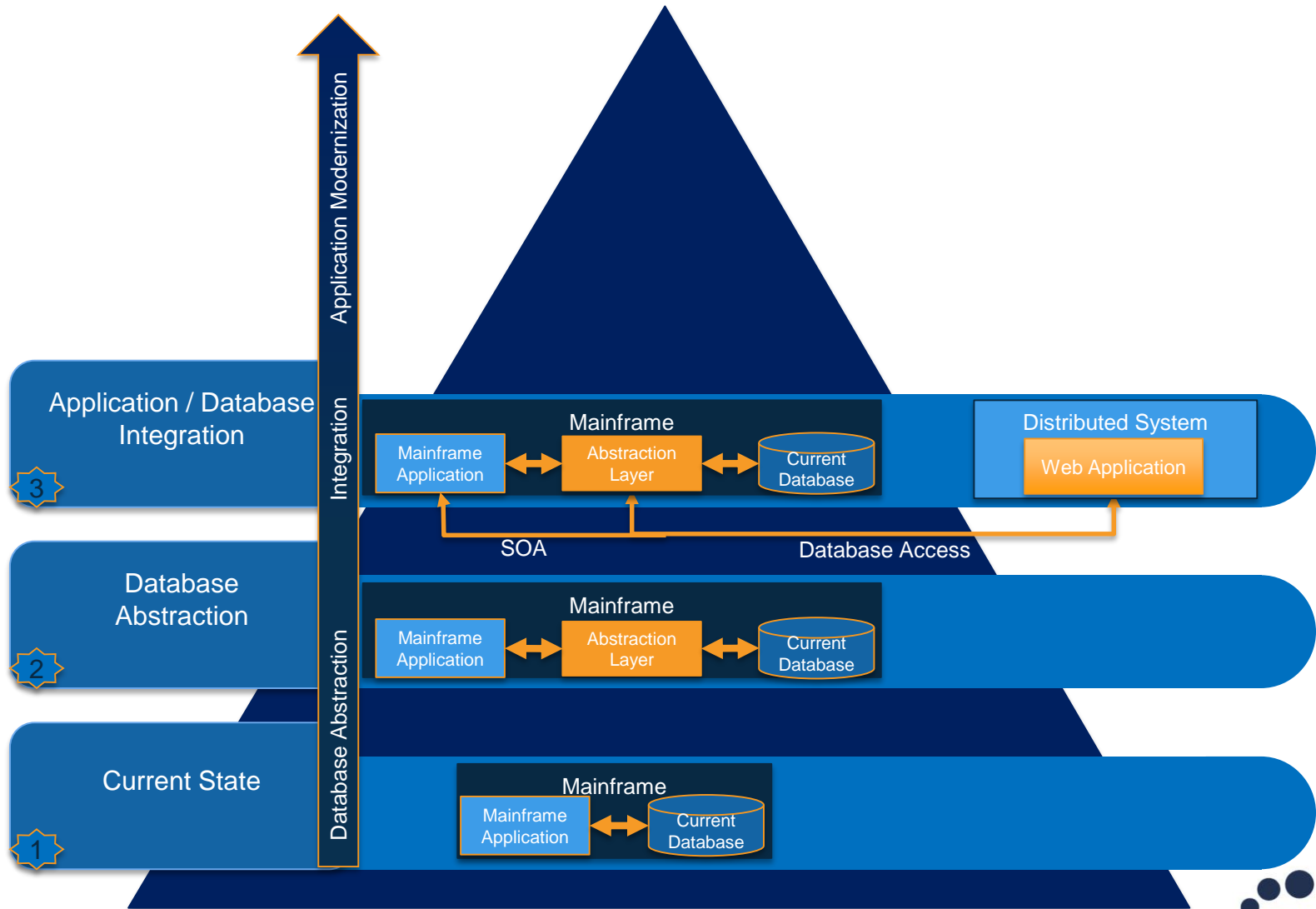
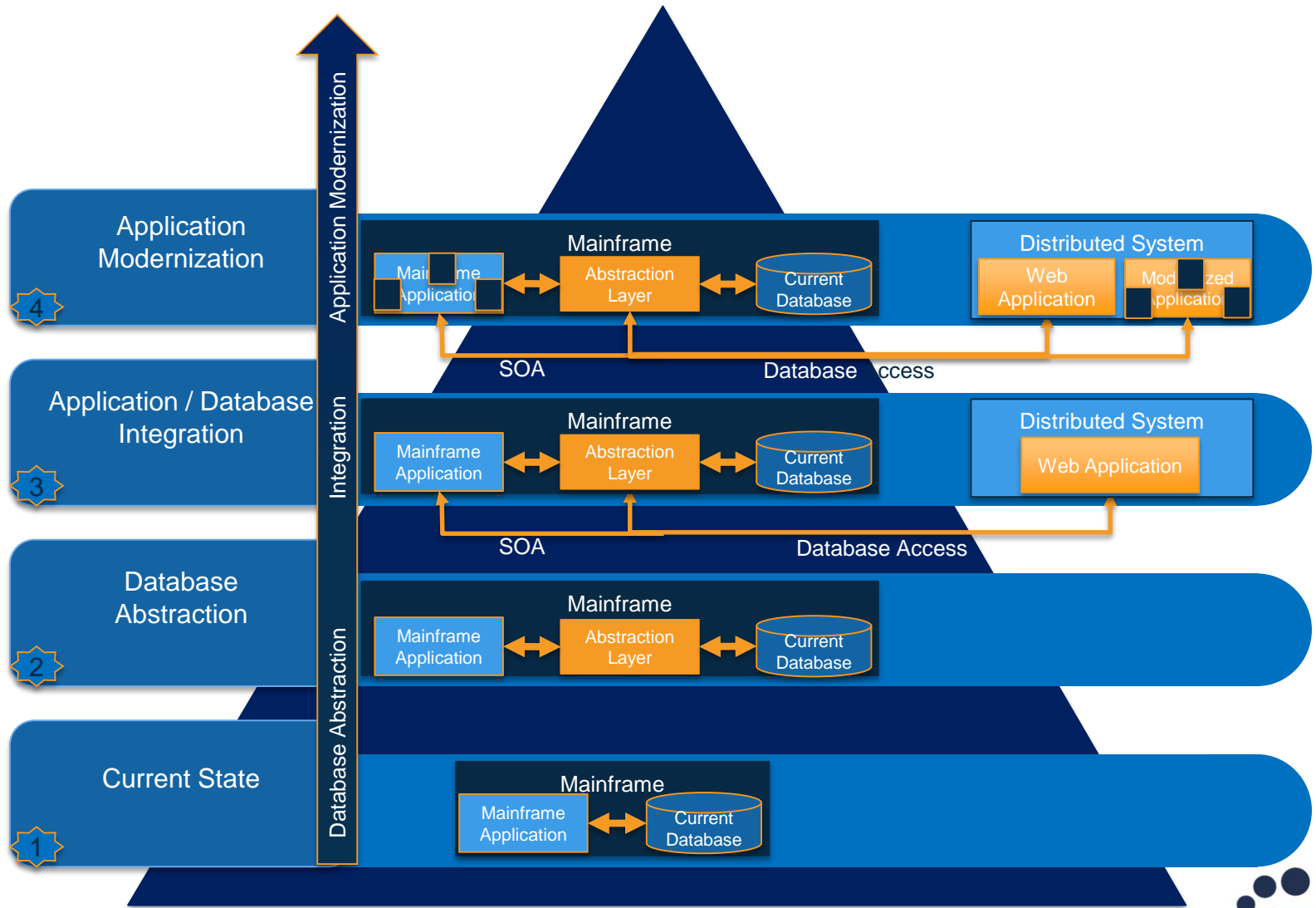Complete your session evaluations online at www.SHARE.org/Pittsburgh-Eval

Application Modernization Approach

Current State

1

Mainframe

Mainframe
Application

Current
Database

Application Modernization Approach

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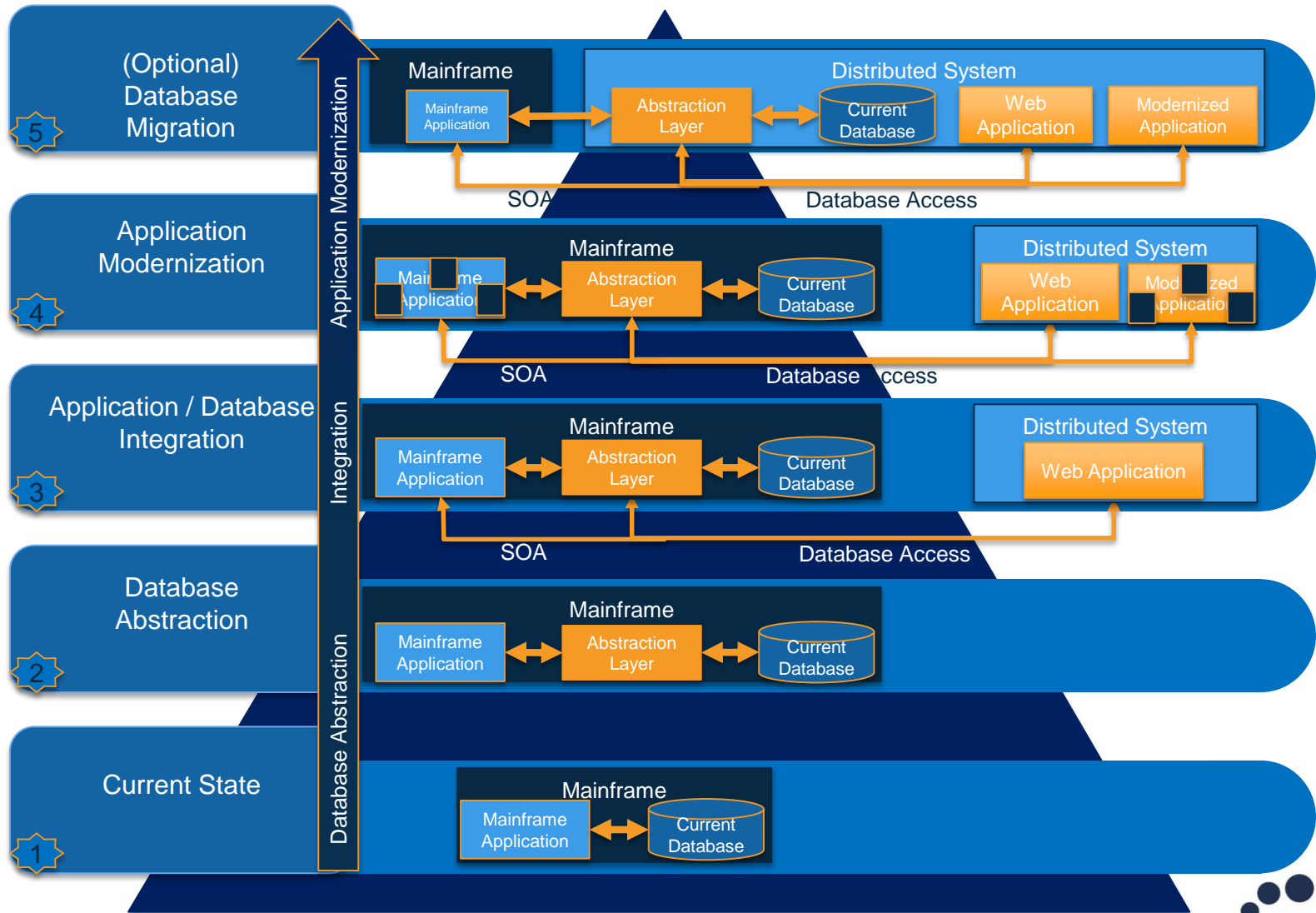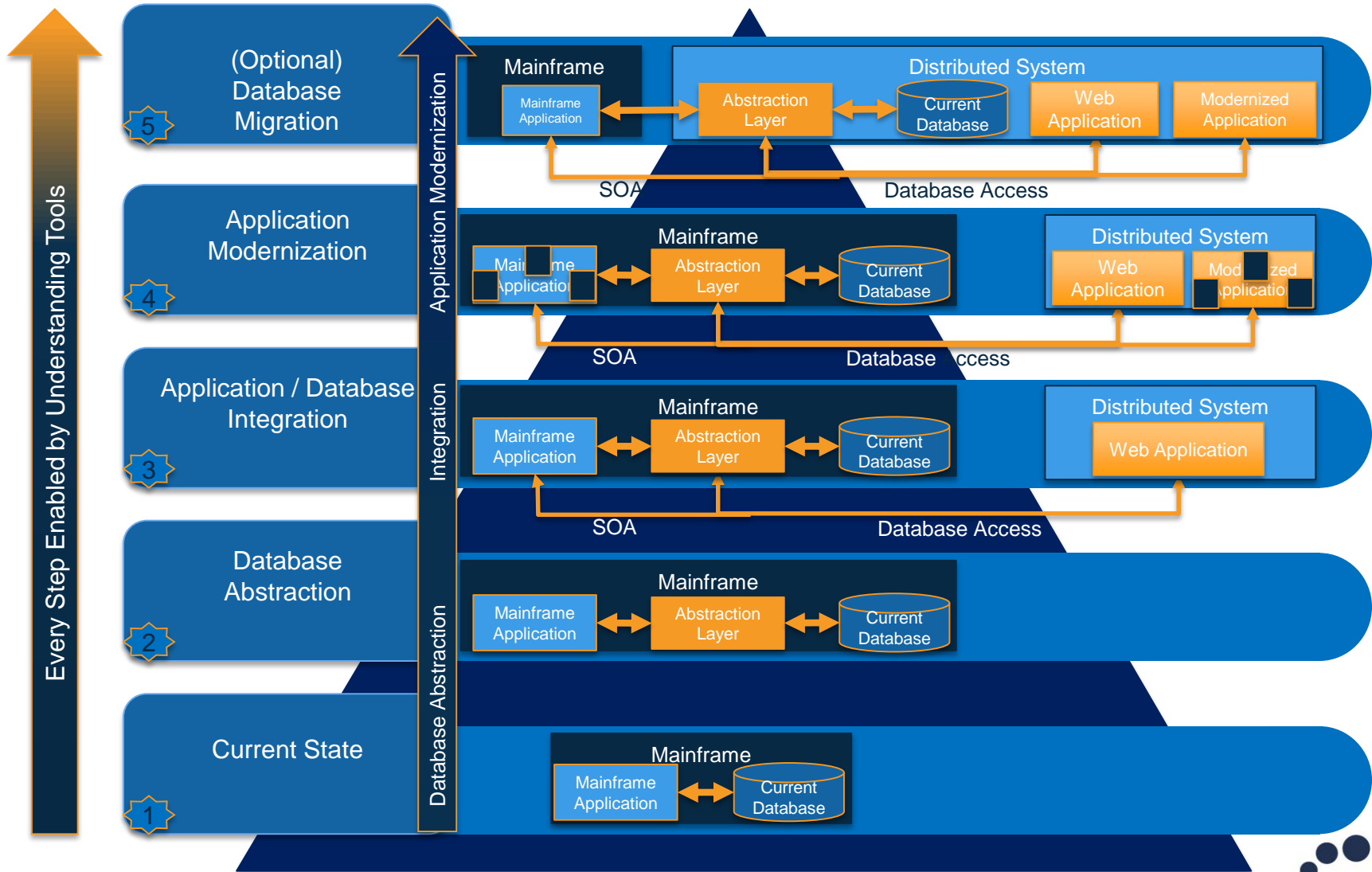
So What???

- Integration can make a BIG difference in Customer Experience

- Integration can == BIG cost savings

- Integration can make IT more Agile

Mainframe Integration – Make the "Right" Connections!!!

Thank You

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