



PegaWorld

JUNE 7-9 | LAS VEGAS

[PEGAWORLD.COM](https://pegaworld.com)

AI-led mainframe modernization

Accelerating cloud transformation with Pega and AWS





IBM System/360

IBM

```
JOB S00000
SCPMAD ==> S00000:000
***
STEP EXEC00
ADD INE000 - SREQ:00.00000000
BCQ
DD0 SYSOUT0 - SREQ0010"00000000
DD0 SYSOUT0 - SREQ000
DD0 SYSOUT0 - SREQ000
DD @P000000 @0 C000000
** @00000000000000 @0 @000000 P00000.P00
00
COMMAND ==> █
```



IBM

```
JOB SGR0001
SCHM000 ==> SGR0001:188

STEP EXECDE
ICO EXEOUT - STEP:188.DCEE80C0B
BCO SYSOUT - SYSOUT
BCO SYSOUTF - DCEE80C18:DCEE80C0B
BCF SYSOUT - SYSOUT
BFD SYSOUTF - SYSOUT
BGO GPEAE00C - BYTALE0006

+6 SGRPRE8080CCE6EE.EE DCEE80B
BD

COMMAND ==> █
```



IBM

```
JOB SGR0001
SCHM000 ==> SGR0001:188

STEP EXEC00E
ITC0 IHE00T - STEP:188.DCE000C00
BC0 -SYSOUT - SYSOUT
BC0 SYSOUT - DCE00018:DCE000C05
BCF SYSOUT - SYSOUT
BFB SYSOUT - SYSOUT
B60 6PPE00C - BYTALE0006

+6 SCPRE000C000000:EE:DCE00000
BO
COMMAND ==> ||
```

AI-led mainframe modernization

Acceleration cloud transformation with Pega and AWS



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AWS



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Architect, Mainframe

AWS



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Sr. Product Marketing Manager

Pega

The mainframe modernization imperative



Cost savings

Lower runtime costs
Unified toolchain procurement
Flexible pay-as-you-go pricing



Agility

Integrated modernization toolchains
Support for modern architectures
Modern DevOps & SysOps practices



Innovation

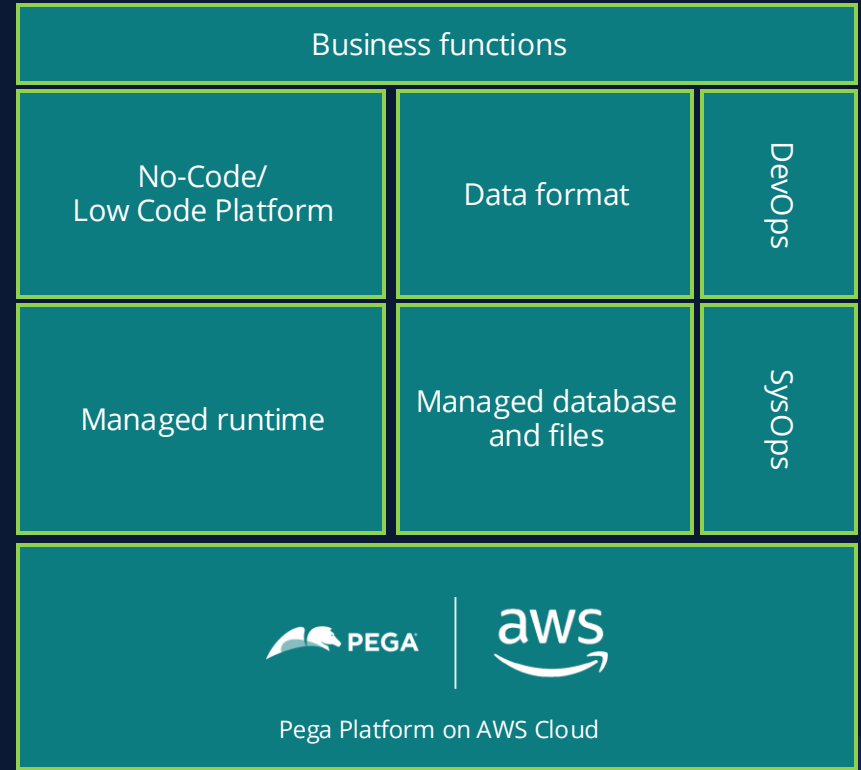
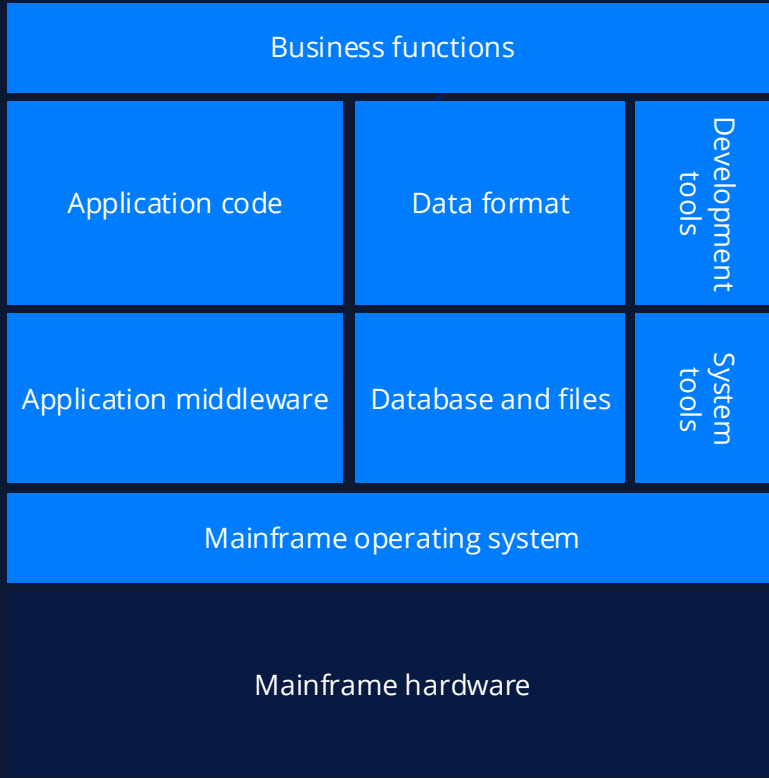
Unlock AI/ML
Leverage cloud-native Big Data and analytics
Access to 200+ AWS services and partner ecosystem



Resilience

Automated runtime health monitoring
Centralized security and compliance
High availability and elasticity

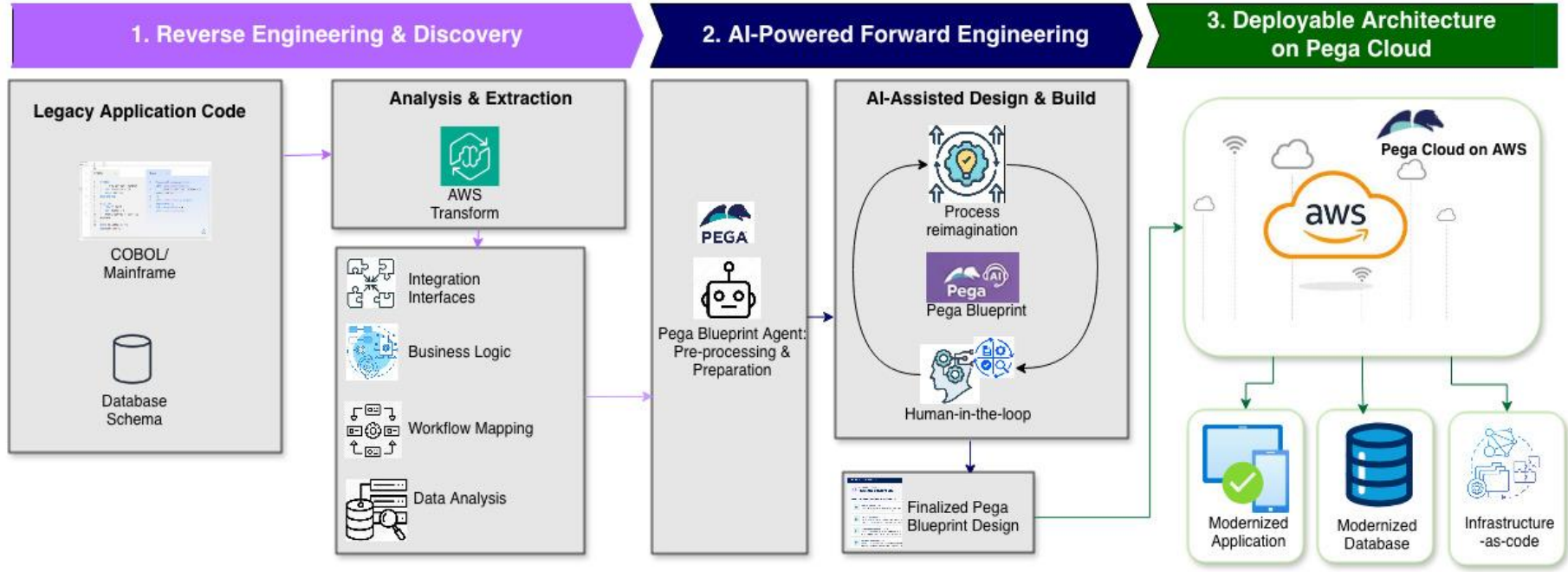
Reimagine pattern



The 3-Phase Modernization Methodology

Reimagined Approach for Modernization to Pega Cloud

Pega's Legacy Transformation Method

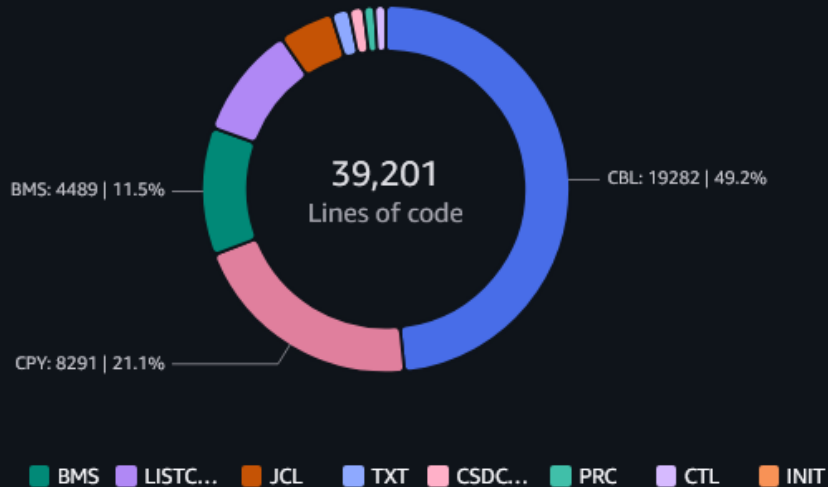


Code analysis

Identify risks, dependencies & complexity

Code analysis for mainframe IBM and z/OS application

Classify code and identify missing assets.



Dependency Mapping & Risk Detection

Complexity-Driven Planning

Validation & Quality Assurance

Data Analysis

Data Lineage:

Maps program-to-data connections and operation types — enabling impact analysis and cross-component dependency mapping.

Data Dictionary:

Centralizes data definitions and structures across components — enabling consistent data understanding for modernization.

View data analysis results

Completed

Understand data and source code relationships when modernizing to AWS. It provides the file and table level data source visibility and the dependency r

All data analysis results are stored in 53 buckets:



[2/transform-output/9222e0f2-71da-4dec-94a3-71f23f4368c1/1/data_analysis/12](#)

Data lineage

Data dictionary

Data lineage is the process of tracking the flow of data over time, providing a clear understanding of where the data originated, how it has changed, and

Total data sources

View interactions between data sets, DB2 and programs.

100

Programs that use data source

View interactions between programs and data so

32

Data sets referenced by JCL

[View data analysis results](#) → [Data dictionary COBOL data structure](#)

97

COBOL data structure (58)

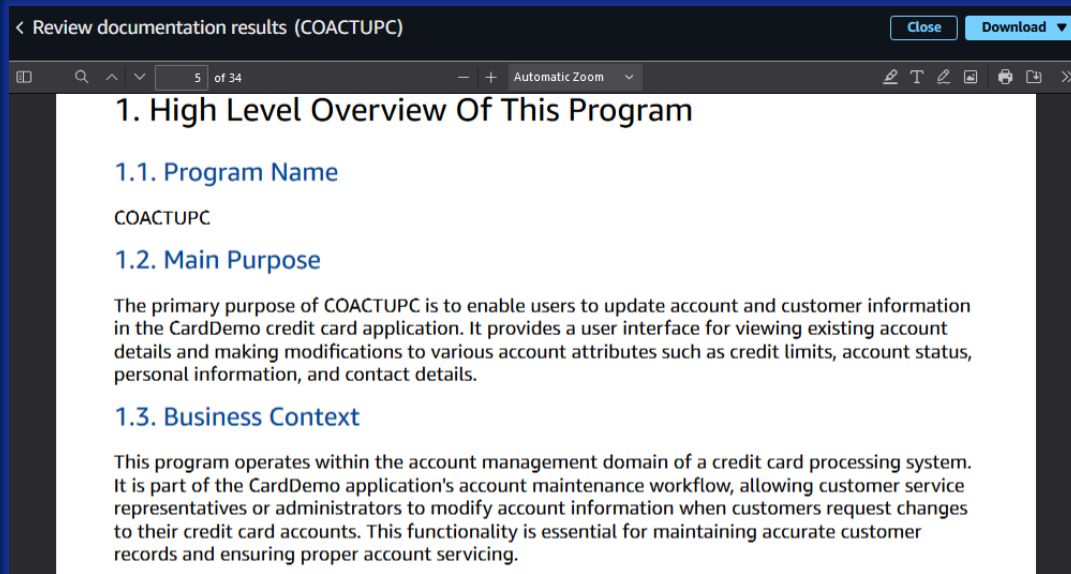
View COBOL field and data structure metadata information

Q. Find resources

	Source name	Field name	Field type	Logical group	Mainframe data typ	Generic data ty	Level	Data length
○	▼ CUSTREC	-	-	-	-	-	-	-
⊙	-	CUSTOMER-RECORD	RECORD	CUSTOMER-RECORD	N/A	GROUP	1	500
⊙	-	CUST-ID	FIELD	CUSTOMER-RECORD	9099	NUMERIC	5	9
⊙	-	CUST-FIRST-NAME	FIELD	CUSTOMER-RECORD	XI25	ALPHANUMERIC	5	25
⊙	-	CUST-MIDDLE-NAME	FIELD	CUSTOMER-RECORD	XI25	ALPHANUMERIC	5	25
⊙	-	CUST-LAST-NAME	FIELD	CUSTOMER-RECORD	XI25	ALPHANUMERIC	5	25
⊙	-	CUST-ADDR-LINE-1	FIELD	CUSTOMER-RECORD	XI50	ALPHANUMERIC	5	50
⊙	-	CUST-ADDR-LINE-2	FIELD	CUSTOMER-RECORD	XI50	ALPHANUMERIC	5	50
⊙	-	CUST-ADDR-LINE-3	FIELD	CUSTOMER-RECORD	XI50	ALPHANUMERIC	5	50
⊙	-	CUST-ADDR-STATE-CD	FIELD	CUSTOMER-RECORD	XI03	ALPHANUMERIC	5	2
⊙	-	CUST-ADDR-COUNTRY...	FIELD	CUSTOMER-RECORD	XI03	ALPHANUMERIC	9	3
⊙	-	CUST-ADDR-ZIP	FIELD	CUSTOMER-RECORD	XI10	ALPHANUMERIC	9	10
⊙	-	CUST-PHONE-NUM-1	FIELD	CUSTOMER-RECORD	XI15	ALPHANUMERIC	5	15
⊙	-	CUST-PHONE-NUM-2	FIELD	CUSTOMER-RECORD	XI15	ALPHANUMERIC	5	15
⊙	-	CUST-SSN	FIELD	CUSTOMER-RECORD	9099	NUMERIC	5	9
⊙	-	CUST-CONF-FEDER...	FIELD	CUSTOMER-RECORD	XI06	ALPHANUMERIC	6	06

Document Generation

Legacy code → technical documentation



The screenshot shows a web browser window titled "Review documentation results (COACTUPC)". The browser's address bar shows "5 of 34" and "Automatic Zoom". The main content area displays the following text:

1. High Level Overview Of This Program

1.1. Program Name

COACTUPC

1.2. Main Purpose

The primary purpose of COACTUPC is to enable users to update account and customer information in the CardDemo credit card application. It provides a user interface for viewing existing account details and making modifications to various account attributes such as credit limits, account status, personal information, and contact details.

1.3. Business Context

This program operates within the account management domain of a credit card processing system. It is part of the CardDemo application's account maintenance workflow, allowing customer service representatives or administrators to modify account information when customers request changes to their credit card accounts. This functionality is essential for maintaining accurate customer records and ensuring proper account servicing.

Knowledge capture

Integrated knowledge base

Legacy expertise transfer

Business Logic Extraction

Identify workflows & convert code into rules

The screenshot displays a software interface with two main panels. The top panel, titled "Extracted business logic", shows a tree view of business specifications for a mainframe. The bottom panel, titled "View documentation results", shows a table of documentation results and a detailed view of a specific result.

Extracted business logic

Browse business specifications for mainframe.

Find items

Name	Status	Type
ApplicationLevelBusinessSpecifications	Done	Business overview
AccountManagement	Done	Business functions
CardManagement	Done	Business functions
FinancialOperations	Done	Business functions
ReferenceDataManagement	Done	Business functions
ReportingandAnalytics	Done	Business functions
SystemAdministration	Done	Business functions
TransactionProcess		
COMBTRAN		
CT00(COTRNO		
COADM01		
COMEN01		
COSGN001		
COTRNO0		
COTRNO1		

View documentation results

Documentation results (20)

Review the PDF versions of the documentation results and download them in XML or PDF format as needed.

Type	Lines of code	Effective lines	PDF viewer
BMS	1000	890	-
BINARY	1700	1,435	-
COB	120	110	-
CPY	300	295	-
JCL	2,000	1,950	-
JCL	300	298	View pdf
JCL	300	152	View pdf
JCL	200	234	View pdf
JCL	1,200	1,045	View pdf

Ask Q

What are common errors encountered during the execution of 'CARDDEMO' program?

The CARDDEMO application implements comprehensive error handling through multiple layers: 1. Input Validation - Validates field lengths, data types, and required fields. Checks for numeric values, valid dates, and proper formats. Sets error flags and displays validation messages to users. 2. Database Error Handling - Checks SQLCODE after database operations. Handles specific scenarios like no records found, deadlocks, and referential integrity violations. Uses DSNTIAC utility to format detailed DB2 error messages. 3. CICS Error Handling - Uses CICS HANDLE ABEND for catching unexpected errors. Checks response codes after CICS commands. Allows graceful termination and recovery options. 4. Error Communication and Recovery: 1. Error Display - Shows error messages in red on the screen. Highlights erroneous fields. Displays both error and informational messages. Positions cursor to error fields. 2. Recovery Actions - Allows users to correct and re-submit invalid inputs. Implements transaction rollback for database errors. Provides graceful termination options. Maintains state information for recovery. Enables users to return to previous screens or main menu. 3. Error Logging - Uses dedicated error queues for logging. Captures detailed error information including location, codes, and messages. Stores errors in structured format for analysis. Enables other systems to process and report on logged errors[3].

Check the documentation result detail

Ask a question

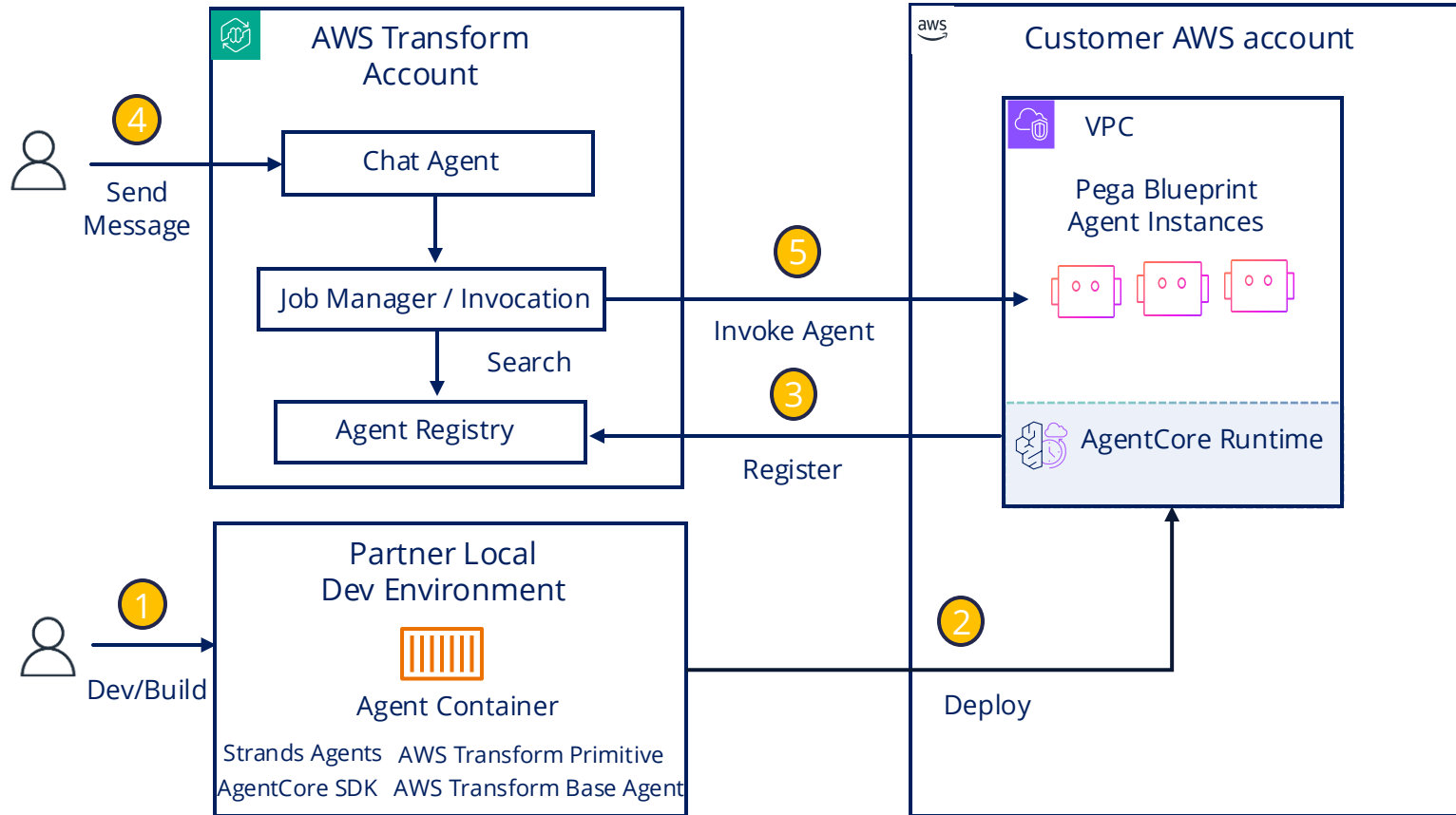
Use of this server is subject to the AWS Responsible AI Policy.

Reveal complete application workflows

Enable domain decomposition

Rules in code → plain-language processes

AWS Transform Composability Architecture



Solution Demo



Industry specific use cases

Any mainframe app with embedded business rules and process flow can be a right candidate, use these as guidelines to start

Banking & Financial Services

- Loan origination, credit assessment & fulfilment
- Loan servicing & product lifecycle management
- Account management — onboarding, changes, offboarding

Insurance

- Policy changes, endorsements & renewal management
- Claims FNOL, adjudication & settlement orchestration
- Underwriting — submission intake, appetite & risk decisioning

Communications & Telecom

- Order management — validation, decomposition & orchestration
- Enterprise trouble-to-resolve & fault management
- Billing dispute management & adjustments

Healthcare & Health Plans

- Prior authorisation — intake, clinical review & determination
- Member grievances, clinical appeals & IDR management
- Provider credentialing, contracting & network management

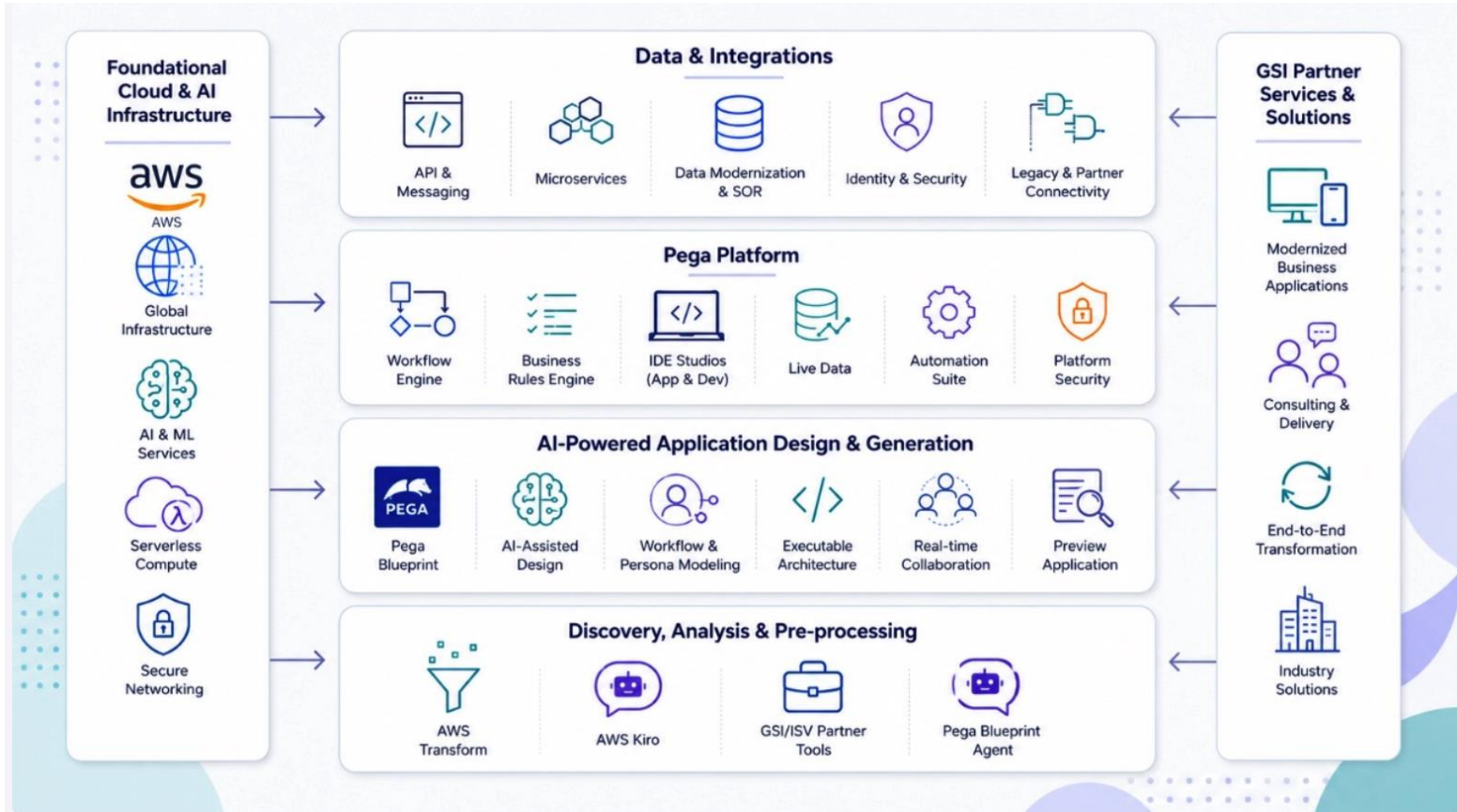
Government

- Citizen service delivery — case intake, tracking & resolution
- Benefits eligibility determination & administration
- Grants management — application, review, approval & monitoring

Manufacturing

- Engineering change orchestration & approval workflows
- Warranty claims processing, recovery & recall management
- Supplier onboarding, performance mgmt & risk assessment

Anatomy of the AI-Driven App Modernization Platform



Experience-Based Acceleration

Overall Approach



Executive Alignment

- Business drivers and goals
- Target organizational capability
- Stakeholder mapping



Acceleration

- Cross-functional collaboration and problem solving
- New processes, automation, and efficiency
- Hands-on learning

EBA



EBA Readiness

- Alignment to strategy and scope
- Gaps to achieve target outcomes
- Roadmap execution plan



Transform-at Scale

- Validate outcomes with target metrics
- Adopt EBA mechanism for sustained momentum

Key Considerations

Timeline: 4-6 weeks

Workstreams: Determined by scope

Prerequisites: Exec sponsorship, EBA Readiness and Technical foundations

Customer Participants: SMEs/technical experts to drive pre-work and EBA activities

AWS-Pega Experts: Provide EBA planning guidance, support for EBA readiness and technical oversight

EBA Artifacts:

- AWS-Pega Mainframe EBA FCD
- AWS-Pega Mainframe EBA checklist - detailed EBA activities



Shifting from *mainframe-based claims* to digital, AI-ready architecture

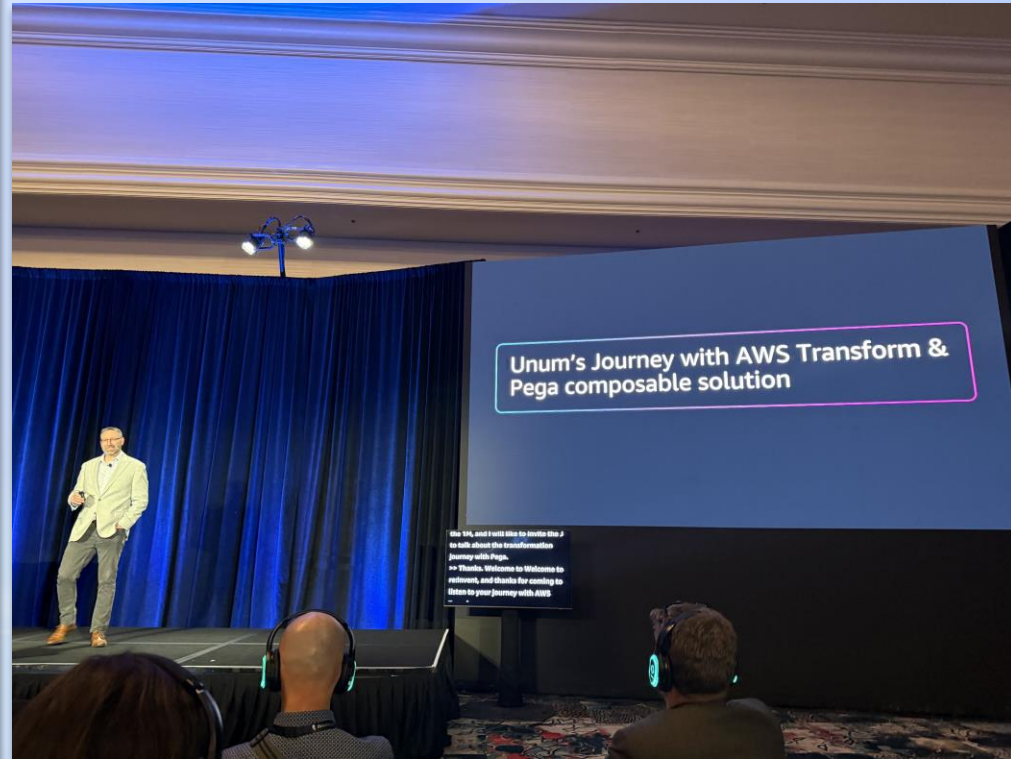
Disability claims, 1.5M lines of COBOL

Predicted return:

- ✓ Eliminate **7K hours** of manual work per year.
- ✓ Rationalize 7 different employee portals to **one unified claims processing workstation**.
- ✓ **Accelerate response** to disability claims.

"We had a vendor come in and give us a similar quote to do what we're doing now in 7 years and \$25M... {with Pega}, we went from **COBOL to a working cloud application in 3 months**"

- Jay Moody, AVP, Pega Platform Engineering





< Dashboard

Pega + Blueprint™

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Credit Card Management System



Define workflow details for: **Account Management**

AI Assistant

Ask me about your Workflows...
or get started with a suggestion

Case Lifecycle Case Data Model Business Rules Reports

This case type encompasses the complete workflow for managing credit card accounts, including the process for viewing info, updating, and maintaining account details. It ensures that all necessary steps are performed in the correct order, contributing to effective financial management.

Primary Stages



Alternate Stages



Your message

Back

CODE.
VIBE.
DEPLOY.



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