aVeriSource

Modernization Use Cases

Let's Get Started

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Transform

Persona(s)

Modernization Architect, Data Architect, Tech Lead, Developer

Use Case Name

AI-Powered Accelerated Rewrite™

Use Case Description

Leverage AI-modeling to transform legacy source code to modern target language and re-deployment to any mainframe, distributed, container, or cloud environment.

Transform COBOL or RPG code directly to Java or C# using AI-modeling and AveriSource Transform. AveriSource Transform provide full conversion of your legacy code to either Java or C#. It also generates up to 95% of application or microservices code needed for project completion—including ongoing development, integration, testing, and deployment preferences. Accelerate testing of transformed code and use built-in testing frameworks and test data.

Next Step

Utilize popular tools such as AWS' CodeWhisperer, Github's Copilot, or Google's Duet AI to complete the code transformation project. Deploy modernized, OO code without vendor lock-in to desired target environment on mainframe, distributed, or cloud.

Platform Reports Used

- Entities
- ADL Models
- Screens - Angular

Analyze

Persona(s)

Business Analyst, Developer

Use Case Name

Application Analysis & Business Rules Extraction

Use Case Description

Visualize, examine, and understand all application componentry, functionality, connections, business processes, data sources, dependencies and relationships. Identify, isolate, and extract complex business rules—supporting multiple modernization patterns, including application maintenance, re-architecture and accelerated rewrite.

Analyze the complete application portfolio. Extract complex business processes for application reuse or re-architecture. Leverage application intelligence to target new modernization patterns and architectures.

- Extract complex business rules
- Use gathered application information to re-engineer your application
- Shows various symbols or identifiers found within the program source code
- Visualize control flow inside a program
- Show all files listed within expanded source files
- Document control flows
- Create a data dictionary
- View and analyze dead code

Next Step

Target extracted business rules for deployment to containerized microservices for deployment across multiple environments including the mainframe, cloud, and Kubernetes.

Platform Reports Used

- Data Dictionary
- Flowcharts
- Code Expansion
- Statement Collector
- Comment Analysis
- Variable Impact
- Method Impact
- Screens Translations
- Rule Chaining
- Variable Tracing
- Sequence Diagram
- Dead Code Analysis

Analyze

Persona(s)

Business Analyst, Developer

Use Case Name

Reduce Technical Debt & Improve Code Quality

Use Case Description

Accelerate application development and modernization by improving the quality of your legacy codebase. Identify and eliminate unused or dead code to optimize maintenance, application performance, and code transformation.

Reduce technical debt within the existing legacy application codebase by identifying and eliminating unused source code. Optimize ongoing application development and maintenance activities, and stage programs for future modernization projects, including business rules extraction.

- Find similar and redundant program files
- Analyze code blocks to identify redundant and infrequently used code throughout the application
- Understand the impact of change to a program or set of programs within the application
- Map the complete execution flow of a program
- Analyze unused and infrequently used code using the Dead Code report

Next Step

Target extracted business rules for deployment as containerized microservices for deployment across multiple environments, including the mainframe, cloud, and Kubernetes.

Platform Reports Used

- File Comparison
- Block Comparison
- Code Anomalies
- Dead Code
- Flowcharts
- Business Rules

Discover

Persona(s)

Business Analyst, Developer

Use Case Name

Business Process Identification & Prioritization

Use Case Description

Know where to start the modernization effort, which techniques to use, and how to prioritize along the way. Visualize, validate, and map the impact of code change across the entire application landscape, including key program variables, relationships, dependencies, data lineage, and more.

Leverage process identification and map entry points to one or more business processes, functions, or activities within your legacy codebase. Examine key metrics within generated reports alongside subject matter expertise to establish process identification ratings and prioritize development work. Through insight and knowledge gained, set needed priorities and determine which modernization techniques are best suited for each business process and application.

Next Step

Focus modernization work on identified and prioritized business processes. Structure work and resources aligned to process identification mapping and position programs for deeper analysis and modernization using AveriSource Analyze.

Platform Reports Used

Process Identification

Discover

Analyze

Persona(s)

Developer, QA Engineer

Use Case Name

Application Maintenance & Optimization

Use Case Description

Maintain and optimize legacy code to support continued operations, future rewrite or re-engineering modernization strategy.
Visualize how application components are connected to each entry point and with each other.

- Examine dependencies between components for selected entry points
- Captures each STEP, procedures or programs invoked in each STEP, datasets, dataset attributes, like length, type, logical, and physical dataset names linked to data operations
- Locate the structure or layout of a dataset
- Identify all programs referenced by a data source, as well as all data sources references by a program

Take into account all connections when fixing defects so nothing is missed. Unit test all connected components once defects are fixed. Take into account all dependencies when fixing defects so nothing is missed. Unit test all dependencies once defect is fixed. Take into account input/outputs for enhancing batch processes. Determine where variable translations will have the greatest impact. Take into account which data sources are used by the program when fixing a defect. Unit test to validate defect based on data sources.

Next Step

For applications aligned to a maintenance-only strategy, leverage AveriSource Discover's built-in reports and guidance to assess needed application change, optimization and testing. For applications aligned to future re-engineering and rewrite, identify key areas of focus within the application codebase for deeper analysis and modernization. Leverage AveriSource Analyze to expand application analysis and target business rules for extraction.

Platform Reports Used

- Connections
- Data Source Usage
- External Source Details
- Data Source Structures Map
- Data Operations
- Dependencies

Discover

Persona(s)

Project Manager, Solutions Architect, Tech Lead, Business Analyst

Use Case Name

Application Modernization Assessment & Roadmap Planning

Use Case Description

All modernization planning should start with an assessment of the legacy application environment. AveriSource Discover provides insights into the application architecture, identifying data access patterns and data source types. AveriSource Discover also provides access to Connections, Complexity, and the Data Dictionary which deliver in-depth detail and support accurate project estimation.

Partners and customers utilize application assessments to determine all requisite skillsets for legacy application modernization. AveriSource Discover is used to estimate project and task durations for all phases across an end-to-end modernization journey.

Next Step

As you dive deeper into the legacy application codebase and modernization project, AveriSource Discover provides Process Identification for component mapping to business function, rationalization and prioritization of activities.

Platform Reports Used

Data Operations, Data Source Files Map, Data Structures, Complexity, Connections, Clusters, in addition to Inventory Missing Files for platform utilities and third-party products

Discover

Analyze

Persona(s)

Business Analyst, Tech Lead, Project Manager

Use Case Name

Accelerated Onboarding & Knowledge Transfer; Application Management Services Takeover

Use Case Description

Document your complete legacy estate for modernization planning, assessment, application maintenance and future skills development. Gain greater understanding of your current application portfolio and enable faster onboarding and decision making for project and resource planning, skills recruitment and development and time estimation.

Enable faster onboarding, knowledge transfer and gain deeper insights into your legacy systems by documenting the complete application codebase. Detail and describe mainframe and midrange application code using key insights, data points, and documentation gathered from AveriSource Scan. Evaluate codebase size and complexity, application artifacts, language(s) and count, technology platforms, architecture and many other factors. Use the intuitive AveriSource Platform dashboard, alongside built-in guidance and reporting, to easily identify key considerations and known risk factors within your legacy code environment. Take advantage of AveriSource Discover to explore Job Flows, Program Flows, Data Operations and Complexity metrics. Map business processes to Entry Points. Utilize AveriSource Analyze to view Flowcharts and Business Rules, which enable more detailed documentation of each program within the application. Access code quality assessment reports to capture quality metrics needed for baselining. Leverage the application knowledge gained to replace lost SME expertise, develop new skills and onboard new talent.

Next Step

Review application inventory, documentation and key findings to assess modernization project effort and complexity. Explore AveriSource Platform-generated documentation to assess needed skillsets, resources, and priorities for future modernization planning, analysis, and transformation. Utilize knowledge gained to target needed talent and recapture lost subject matter expertise.

Platform Reports Used

Accelerated Onboarding

1. Discover:
    a. Clusters
    b. Dependencies
    c. Connections
    d. File Statistics
    e. Process Identification
    f. Complexity Analysis
    g. Data Dictionary
    h. App Overview
    i. Data Operations
    j. Data Source Usage
    k. Data Source Structures

Knowledge Transfer / Dynamic Learning

1. Analyze:
    a. Code & File Comparisons
    b. Code Anomalies
    c. Dead Code
    d. Flowcharts
    e. Statement Collector
    f. Variable & Method Impact
    g. Screens
    h. Business Rules
    i. Sequence Diagram
    j. Variable Tracing

Discover

Persona(s)

Business Analyst

Use Case Name

M&A — Due Diligence & Planning

Use Case Description

Measure market opportunity and mitigate IT integration risk across all vertical markets and with complete insight and understanding of legacy application assets.

- Direct and manage an IT strategy aligned to your business goals and acquisition objectives
- Create leverage within the transaction through added insights into the target acquisition's IT estate
- Identify and classify the legacy application estate including platforms, languages, and data sources with the highest levels of confidence and accuracy
- Identify what matters and what's missing and leverage intuitive dashboards and visual reporting to gather needed application artifacts and code
- Assess and manage risk by documenting the legacy application architecture, flow and functionality across the entire codebase
- Evaluate application complexity, quality and risk while building the right migration and modernization plan aligned to your M&A strategy
- Prepare mainframe and mid-range applications for modernization—in place on in the cloud

Guide your acquisition strategy by gathering knowledge and understanding of target IT assets. Align your acquisition objectives and priorities to your desired IT estate. Eliminate the cost, time, and risk of IT modernization while creating transaction leverage through deeper understanding of key application assets. Target legacy application assets for complete analysis, inventory, discovery, and documentation. Assess and manage risk by evaluating codebase complexity, quality, obsolescence, security, use of open-source libraries and third-party technology. Classify application componentry, costs and modernization effort through intuitive, UX-driven dashboards, guidance and reporting. Manage application maintenance and infrastructure costs with greater insights into core dependencies. Meet ongoing IT audit and compliance requirements with auto-generated documentation. Identify existing application architecture limitations and re-engineer for new environments, including containerized microservices, Kubernetes, and the cloud. Plan your modernization roadmap within one integrated platform—on the mainframe or in the cloud.

Next Step

For post-IT due diligence of existing applications aligned to a maintenance-only strategy, leverage AveriSource Discover's built-in reports and guidance to assess needed application change, optimization, documentation, and testing. For applications aligned to future re-engineering, re-architecture and rewrite, identify key areas of focus within the application codebase for deeper analysis, architecture planning and modernization. Leverage AveriSource Analyze to deepen application analysis and target business rules for extraction. Use AveriSource Transform for accelerated application rewrite to Java or C#.

Platform Reports Used

- All AveriSource Inventory and AveriSource Discover reports
- Application Overview
- Complexity Analysis
- Clusters
- Connections
- Dependencies Program Overview
- Data Operations
- Data Source Usage
- External Source Details
- Data Source Files Map
- Data Source Structures Map

Inventory

Discover

Persona(s)

Business Analyst, Tech Lead, Project Manager

Use Case Name

Software Stack Consolidation & Replacement

Use Case Description

Identify proprietary utilities and third-party products suitable for legacy application modernization, migration, or replacement. Determine where vendor specific products can be prioritized for vendor consolidation, cost reduction, or operational efficiency.

Deliver immediate analysis and insights to support targeted vendor consolidation initiatives or modernization planning projects for platform specific utility or third-party product replacement.

Next Step

Use AveriSource Discover for application modernization assessment or application maintenance and analysis supporting proprietary, open source, or third-party product replacement.

Platform Reports Used

- Inventory and Missing Files Report
- Discover Report(s)

Discover

Analyze

Persona(s)

Project Manager, Business Analyst

Use Case Name

Application Architecture Mapping

Use Case Description

Inspect, map and define the legacy application architecture for modernization planning and level of effort estimation.

- Collect a snapshot of all application files and key characteristics
- Capture control flow for each entry point
- Categorize application components based on complexity
- Show all entry points and lines of code, number of connections and dependencies
- Show how different application components are connected to each entry point and with each other
- Show dependencies between different components
- Visualize incoming and outgoing references for a program
- Understand all CRUD operations in an application and identify data source types
- Examine data source and layout detail including procedures, programs, datasets, and dataset attributes. Explore dataset mappings by application program, as well as the dataset layout

Select a modernization plan based on the legacy application inventory, architecture, and complexity.
Estimate the level of effort, skills, and resources required for that strategy.

- Identify application components that need to be added, removed or migrated based on business function priority
- Prioritize application components based on key statistics such as percentage of dead code and data operations
- Determine which programs and subprograms comprise the application
- Estimate timeline and resources needed to modernize specific application components
- Determine which application entry points have the most source code, business logic, CRUD, and complexity
- Identify the most referenced application components
- Perform a functional impact analysis and understand the effect of application change on a select business process or activity
- Document program depth, dependencies and use of data sources
- Determine the location of variable translations and their impact
- Locate all programs referenced by a data source, data sources referenced by a program, and related data operations

Next Step

Leverage AveriSource Discover's built-in reports and guidance to assess risk, complexity, and effort. Identify key areas of focus within the application codebase for deeper analysis and documentation. Leverage AveriSource Analyze to expand application analysis and target business rules for extraction.

Platform Reports Used

- All AveriSource Inventory and AveriSource Discover Reports
- Application Overview
- Complexity Analysis
- Clusters
- Connections
- Dependencies
- Program Overview
- Data Operations
- Data Source Usage
- External Source Details
- Data Source Files Map
- Data Source Structures Map

Scan

Persona(s)

Business Analyst, Tech Lead, Project Manager

Use Case Name

Modernization Planning

Use Case Description

Begin modernization planning by collecting key application data points, including codebase size, programming language, missing files, referenced files, and unreferenced files as other application artifacts.

Quickly deliver a high level view of your application codebase, key characteristics, code complexity, and platforms to support your modernization plan. Identify risk factors for legacy languages, including COBOL, RPG, JCL, and Assembler, as well as needed skillsets, technologies, tools, and resources.

Next Step

Review initial code analysis and risk factors within AveriSource Platform reports. Utilize AveriSource Inventory to conduct a full codebase analysis and technology assessment.

Platform Reports Used

- AveriSource Scan Report
- Inventory Report

Inventory

Persona(s)

Business Analyst, Tech Lead

Use Case Name

Application Rationalization & Cost Reduction

Use Case Description

Optimize the legacy application estate through new insights into the existing codebase. Identify and eliminate inefficiencies by thoroughly documenting the legacy environment, gathering and classifying key componentry, and identifying areas for optimization and efficiency gains.

Inspect, cleanse, and prepare your legacy application codebase for deeper analysis and decision-making. Collect and classify all application artifacts—present, missing, and unknown. Leverage new insights and application knowledge to consolidate the tech stack, reduce legacy language dependency, and optimize maintenance activities. Better assess project timelines, as well as resource and cost requirements based on codebase size, completeness, languages types, and level of complexity.

Next Step

Prepare for deeper application analysis prior to using AveriSource Discover. Prime optimized codebase for more granular discovery and analysis through efficient project design and structure, assessment reporting, and modernization hygiene best practices.

Platform Reports Used

Summary, Missing Files, Unreferenced Files, in addition to Inventory and Scan Reports

Scan your codebase environment to assess risk and complexity as the first step in your modernization journey.

Get Started for Free

Inventory, Discover, Analyze, & Transform your entire legacy estate with the full suite of AveriSource packages.

Request Demo

See how hundreds of companies like yours have gone from code chaos to clarity using the AveriSource Platform.

View Case Studies

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Modernization Use Cases

Visit Our Website

Start Over