aws PARTNER Advanced Tier Services

MACTORES

Database and Application Modernization Approach

The Challenge: Did you know that over 60% of database migration projects fail?

Legacy applications & databases are slowing businesses down

76% of systems have complex application and database dependencies.

57% lack proper documentation or version control.

62% of modernization efforts fail due to incompatibilities & technical debt.

Impact of outdated systems

- Security vulnerabilities from obsolete software
- High operational costs from inefficient infrastructure
- Slow innovation due to legacy bottlenecks

The Challenge: Did you know that over 60% of database migration projects fail?

Top Reasons Why They Fail

The antiquated approach uses a high number of expensive consultants and/or FTE

That leads to a more significant number of human hours

Prone to human errors

Hampered in slow 6 Sigma processes

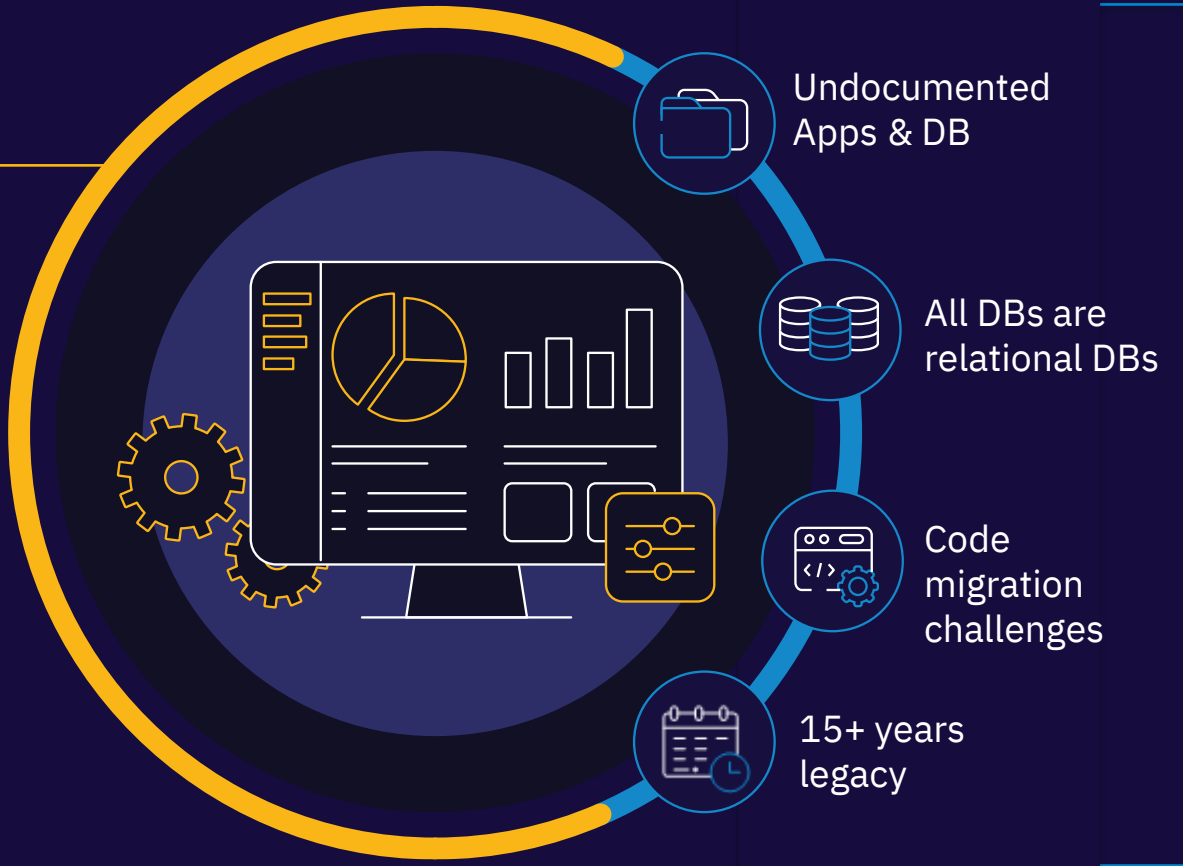
CHALLENGES SUMMARY

Application & Database **Migration Scenarios**

70%

of companies have complex App & DB Scenario

- One app → Multiple databases
- Multiple apps → Single database

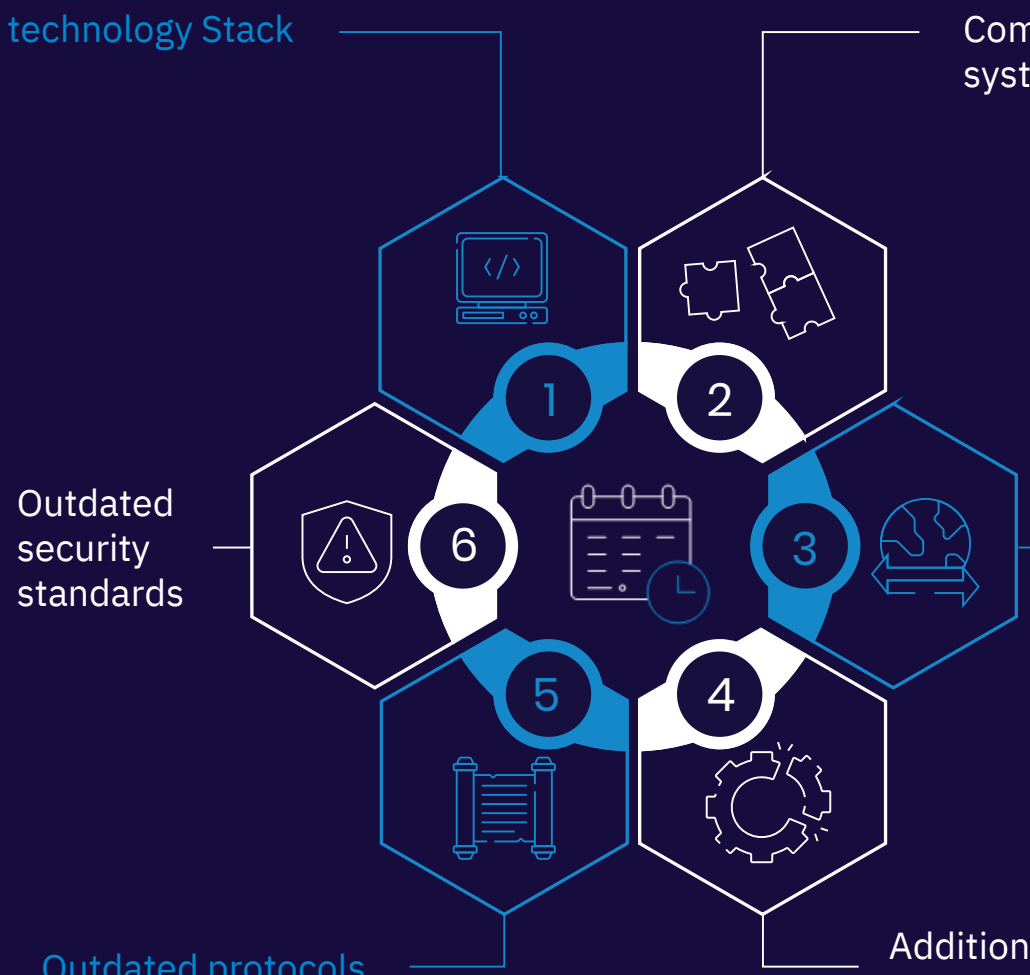


- Undocumented Apps & DB
- All DBs are relational DBs
- Code migration challenges
- 15+ years legacy

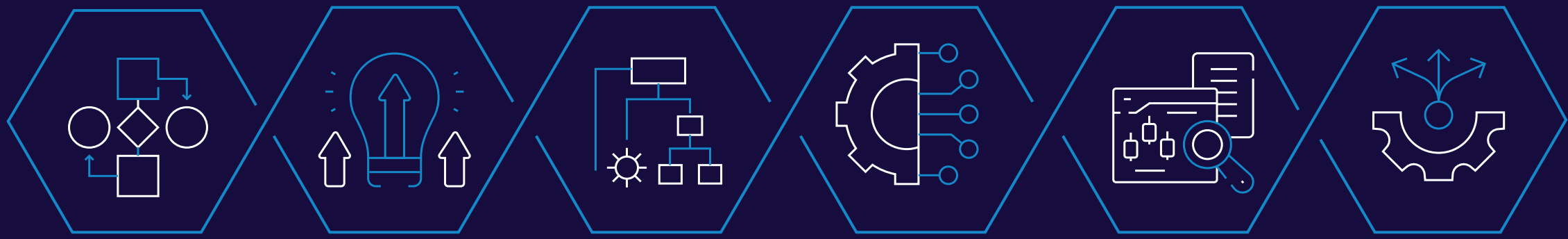
only 24%

have established application and database version control systems

Apps with **15+ Years of Legacy**



Most databases built are **Relational DBs**



Schema Rigidity

Schema Evolution

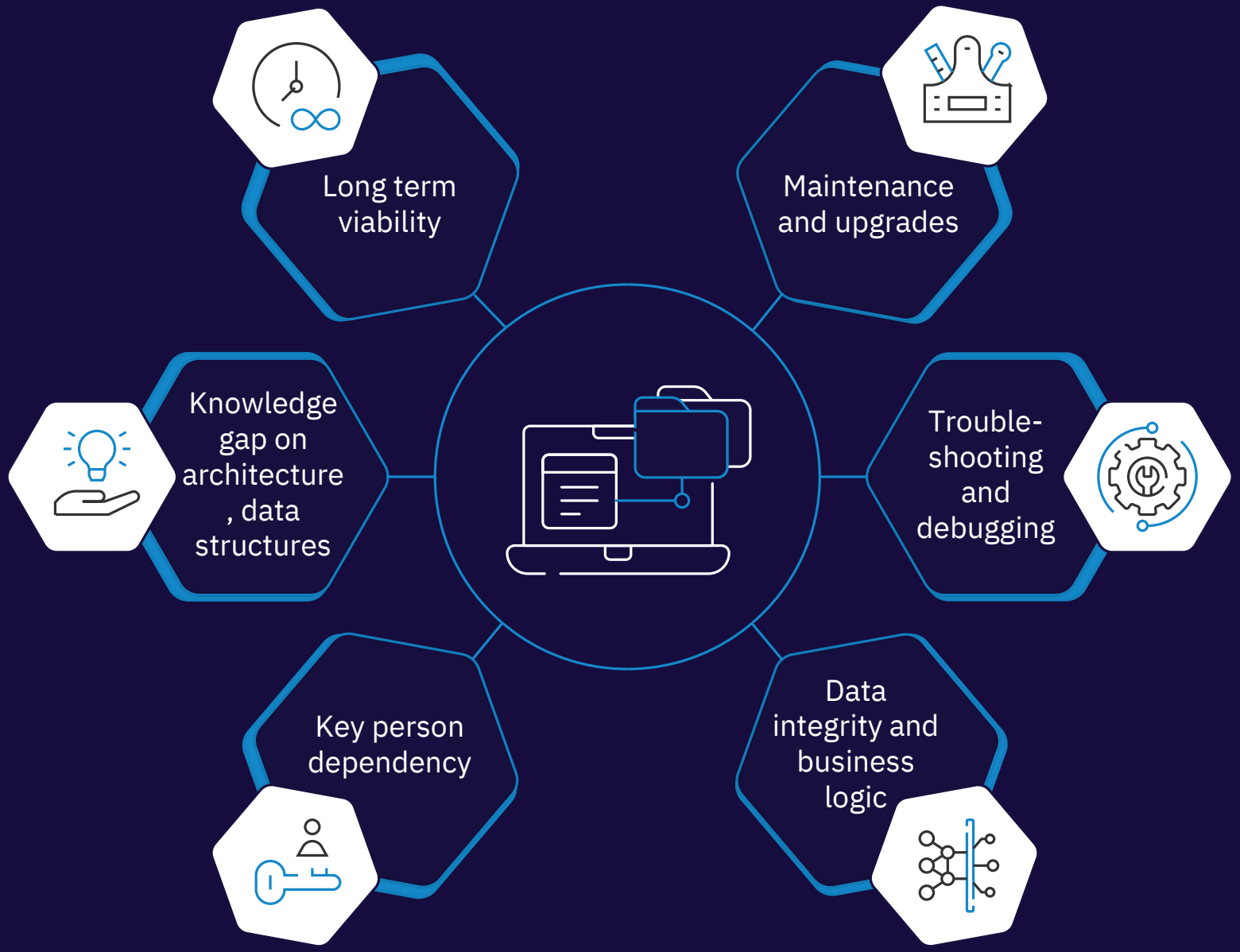
Integration with modern non relational Data Sources

Limited data variety

Scalability issues and performance tradeoffs

Lack of flexibility for NoSQL Use cases

Undocumented **Applications and Database**

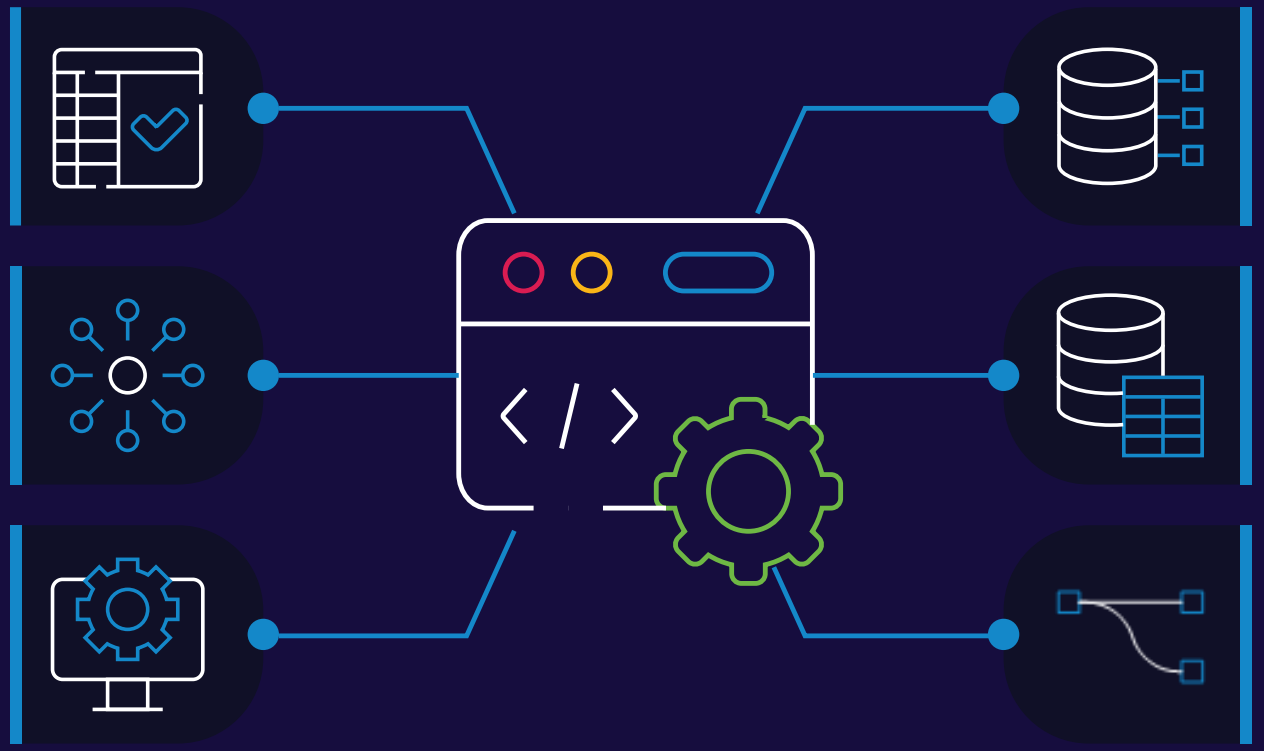


Application **Code Compatibility**

SQL Syntax and in-code Query Changes

Third-Party Libraries and Frameworks

Stored Procedures and Functions



Data Type Compatibility

Database Constraints and Keys

Object Mapping and ORMility

Downstream **Data Pipeline Compatibility**

Data Format and Compatibility

Dependencies on Database Features

API and Integration Changes

Performance Bottlenecks

Data Consistency and Integrity

ETL Pipeline Adjustments

MACTORES APPROACH

How We Solve the **Modernization Challenge**

Automated modernization accelerators eliminate manual effort & risk.

Industry-leading methodologies ensure seamless migration & scalability.

70%
Faster completion
than traditional modernization.

60–80%
Cost savings
by reducing human intervention.

100%
success rate
over 10+ years.

The Aedeon DB & Application **Modernization Accelerator**

Fully automated modernization process

- Assess → Design → Build → Test → Cutover

Optimized for cloud-native transformation

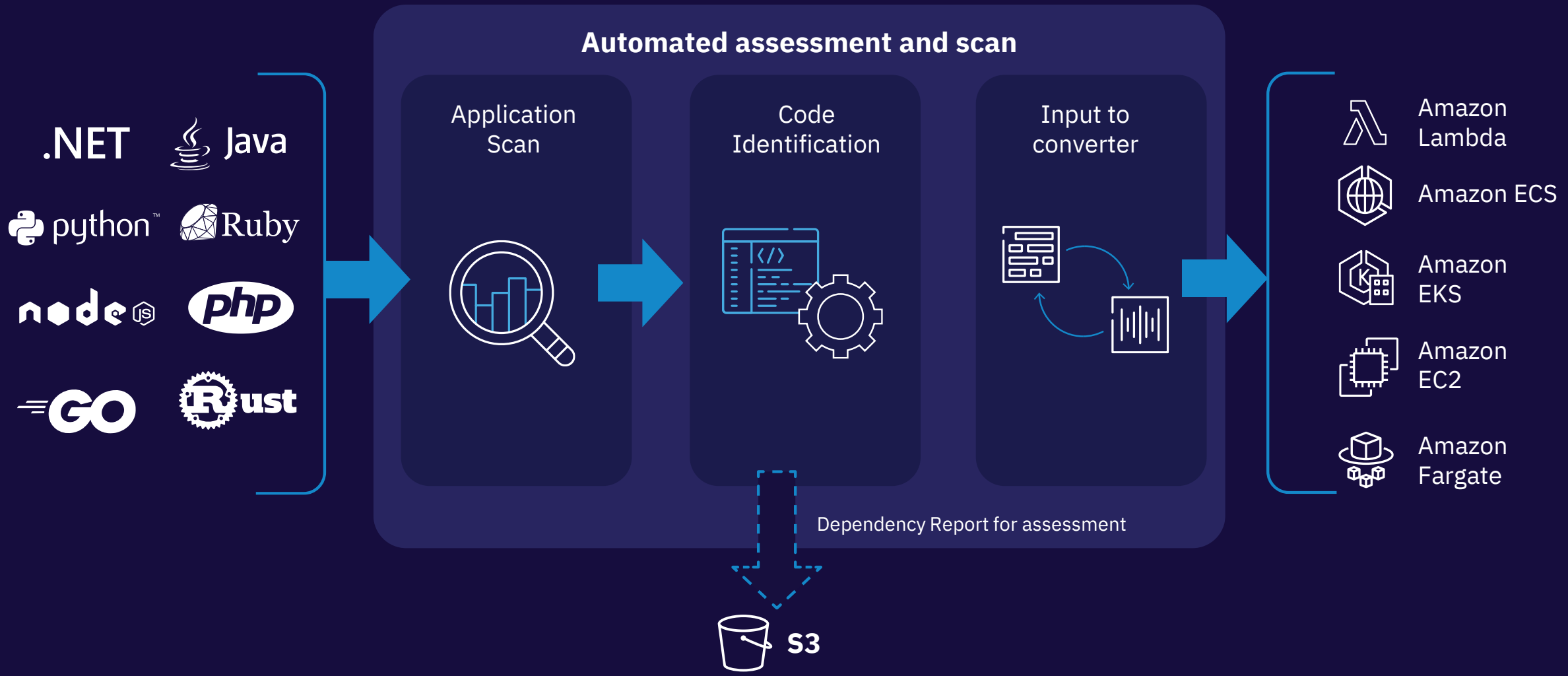
- Microservices, serverless, and containerized architectures.

Integrated toolset

- **CodeScanner** — Identifies app & DB dependencies
- **Schema Converter** — Automates schema & code modernization.
- **ETL & API Migration** — Ensures seamless data integration

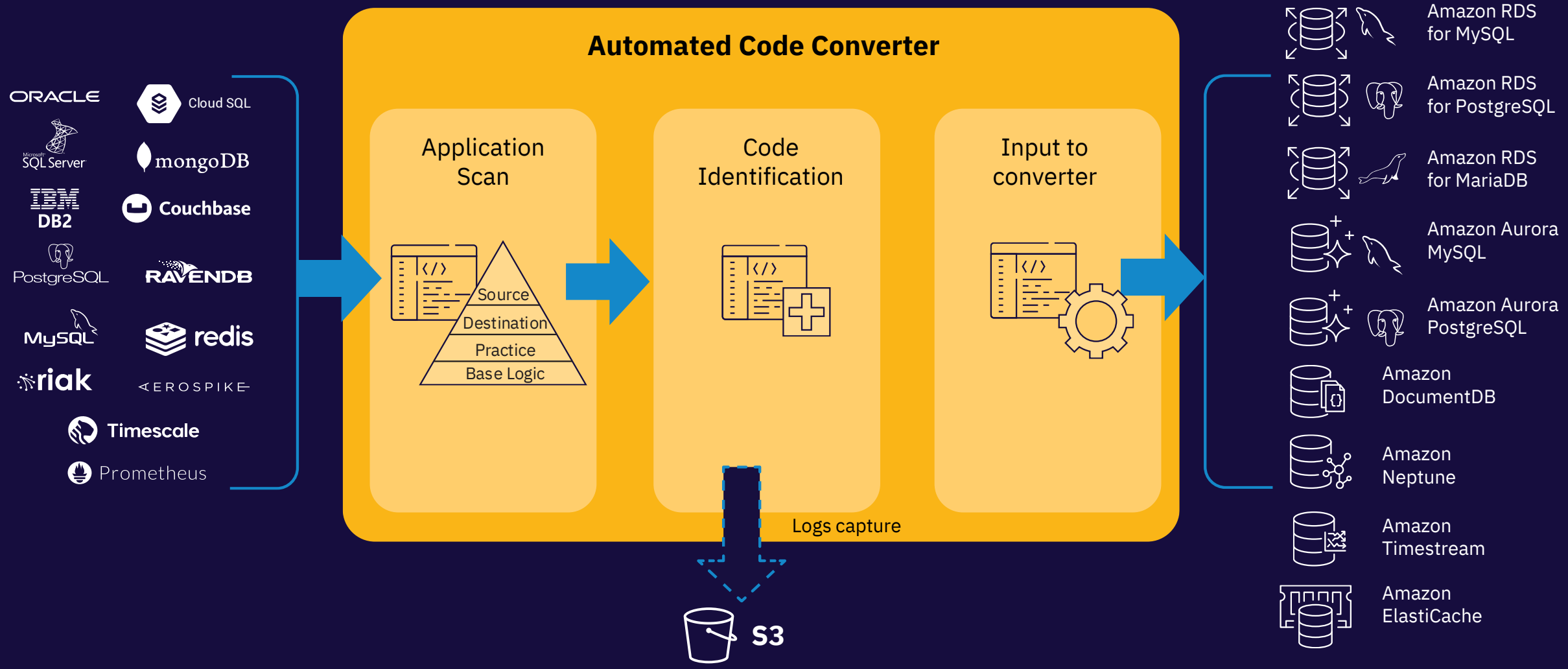
Application and Database

Application Migration Scenarios

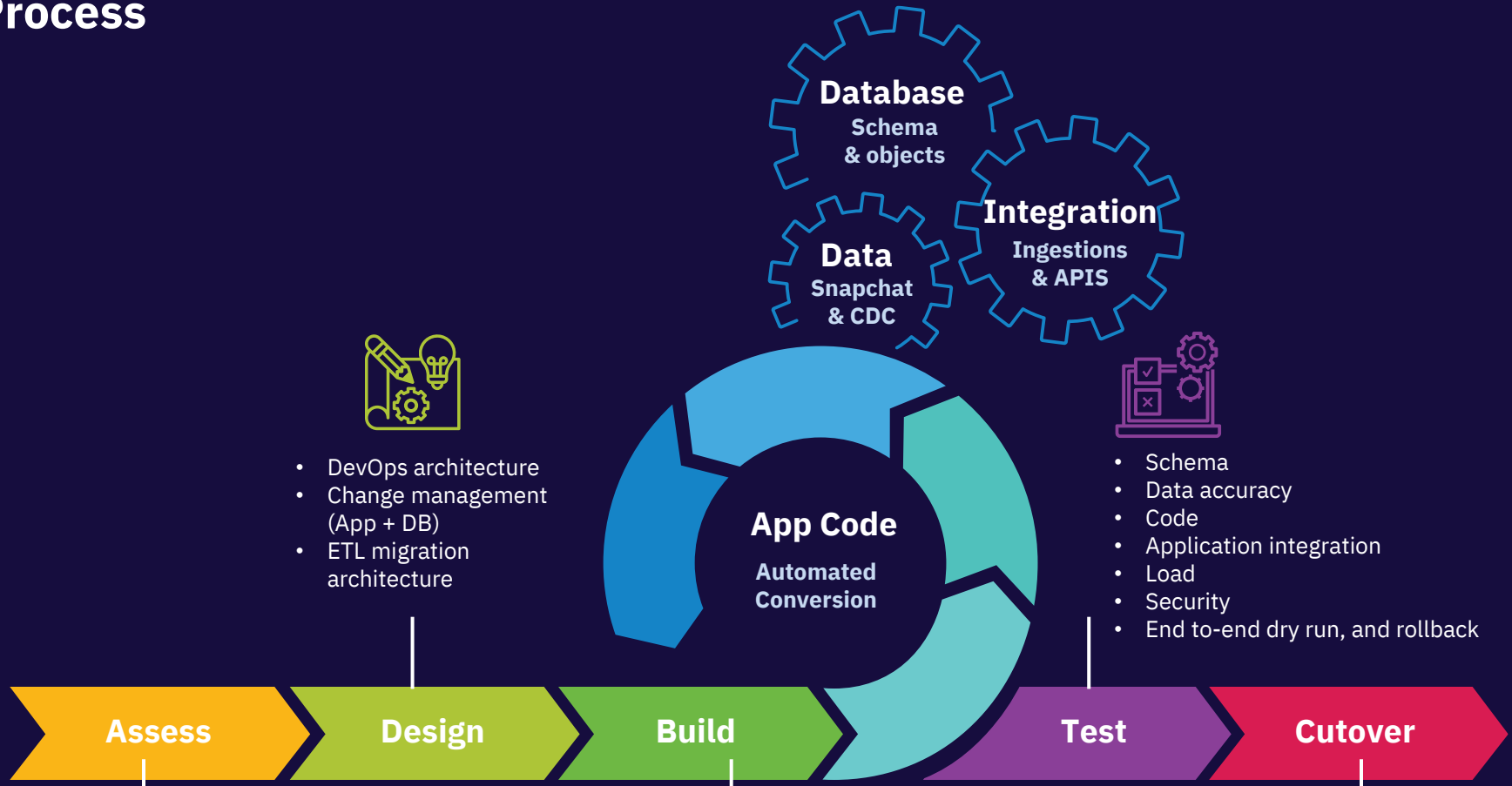


Application and Database

Database Migration Scenarios



Mactores Process



- DevOps architecture
- Change management (App + DB)
- ETL migration architecture

- Schema
- Data accuracy
- Code
- Application integration
- Load
- Security
- End to-end dry run, and rollback

- License Optimization and assessment
- Load Analysis
- Application code and dependency analysis
- Schema conversion analysis
- ETL analysis
- Security analysis

- Convert schema
- Migrate data
- Migrate objects
- Migrate data pipelines
- Unit test
- Application test
- Load test

Cutover plan and Roll back

Step 1

Assessment Phase

Application & Database Dependency Analysis

- CodeScanner Tool scans app & database connections, SQL queries, & dependencies.
- Graph-based visualization of app-to-DB relationships

License & Cost Optimization

- Evaluate Oracle, SQL Server, SAP, etc. licensing costs
- Generates cost-reduction reports for cloud migration
- Load & Infrastructure Analysis
- Assesses server workloads, scalability bottlenecks, and cloud migration readiness

Step 2

Design & Build

Application Modernization

- Refactors monolithic applications to microservices
- Updates code frameworks, dependencies, and APIs.

Automated Schema & Data Migration

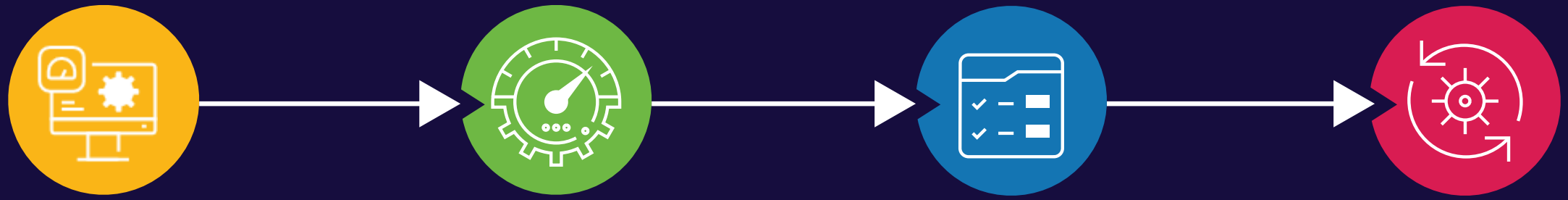
- Converts legacy database schemas to modern architectures
- Transforms ETL pipelines & API integrations for cloud-native environments

Security & Compliance Readiness

- Enforces cloud security standards
- Implements governance frameworks for data integrity

Step 3

Testing & Cutover



Functional testing

- Unit testing - App and database
- Integration Testing

Performance Testing & Optimization

- Identifies bottlenecks & optimizes application performance

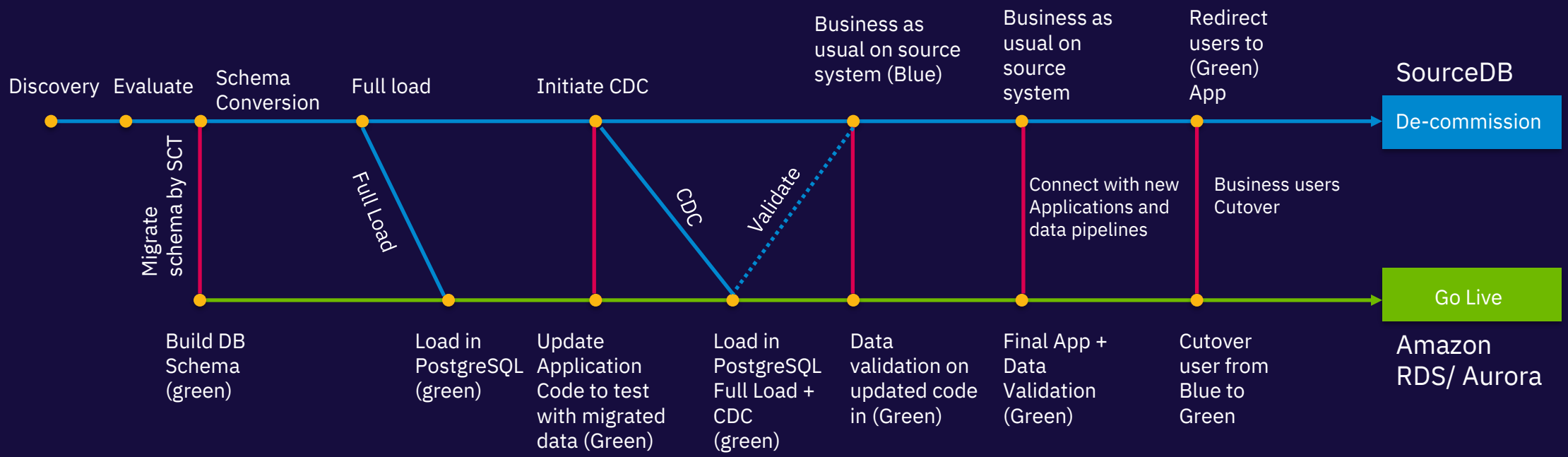
Change Data Capture (CDC) & Data Validation

- Ensures real-time consistency during modernization

Seamless Cutover & Go-Live

- Zero-downtime migration with rollback contingency plans

The Cutover
Strategy



CASE STUDY

Branded Payments Leader Retired Technical Debt

Blackhawk Network modernized its database infrastructure by migrating from Microsoft SQL Server to Amazon Aurora PostgreSQL, achieving significant performance and cost benefits.

BLACKHAWK NETWORK

Achieved

4x

improvement in overall system performance

60%

code optimization, enhancing maintainability and efficiency

$300k+

Reduction cost in licensing and enterprise support

$250k+

saved in resource effort costs through automation

±0

downtime during migration, ensuring business continuity

CASE STUDY

Cross-Industry Impact: Financial Technology

- Enhanced scalability to handle peak loads, such as a 3 to 5 million daily query volume during holiday seasons
- Improved system reliability and reduced operational efforts by 70% with serverless architecture
- Significant cost savings, enabling reinvestment into innovation and customer-focused initiatives

This modernization initiative not only addressed Blackhawk Network's technical debt but also positioned the company for future growth and agility in the competitive financial technology landscape

MACTORES

Thank you