

AWS Transform

Transform any code pattern and crush tech debt
with AI-powered custom modernization agent

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Agenda

- Tech debt impact
- Challenges addressing tech debt
- AWS Transform custom
- Benefits
- How it works
- Demo
- Get started

Werner spent his last keynote on people, not services

December 2025, his final re:Invent keynote after fourteen years of them.

He opened by naming the question every engineer in the room had already asked themselves.

“Will AI make me obsolete? Absolutely not — if you evolve.” — Dr. Werner Vogels, CTO, Amazon

Asked the blunter version, “will AI take my job?”, his answer was “Maybe.” Some tasks automate. Some skills stop mattering.

Source: AWS re:Invent 2025 closing keynote, Dr. Werner Vogels, December 2025.



Every language he learned to code in is now obsolete

Assembler, COBOL, Pascal. Then compilers, structured programming, objects, services, cloud. Each shift made someone's hard-won expertise worthless and rewarded the people who went looking.

“Curiosity is critical. As developers, you always have to continuously learn, because everything changes all the time.”

■ Curiosity is the trait that survives the shift

■ Learning needs pressure, not comfort

■ Experiments are supposed to fail

■ Learning is social, and he meant it literally

- **The part that applies to this room:** he stood in front of a hall of tens of thousands and said the learning that sticks happens in smaller rooms, with people whose problems are not yours. That is what tonight is for, and the workshops at the end of this deck are the homework.

Source: AWS re:Invent 2025 closing keynote, December 2025.

Natural language is ambiguous, and now we code in it

Programming languages were precise, which is why we used them for fifty years. Natural language is not, and that is the gap AI-assisted coding opened back up.

“We've always communicated to machines through programming languages, because they were precise. In today's world of AI-assisted coding, we increasingly communicate with the machine in natural language, which is ambiguous.”

- Specs were discovered, not designed
- Spec-driven development, in Kiro
- Precision is much older than AI
- The same skill works on humans

Source: AWS re:Invent 2025 closing keynote, December 2025.



Four years of AWS Transform

SUGGESTION

2022–2023

Autocomplete that had read the AWS SDKs.

JUN 2022 CodeWhisperer preview at re:MARS — an "ML-powered coding companion"

APR 2023 CodeWhisperer GA — free for individuals, \$19 for Pro

One line at a time, accepted by hand.

ASSISTANT

2023–2024

A conversation, and the first unattended edits.

NOV 2023 Amazon Q preview; Q Code Transformation for Java 8/11 → 17

APR 2024 Amazon Q Developer GA — CodeWhisperer folded in, the name retired

First tool to change whole files itself.
End of support 30 Apr 2027.

AGENTIC · SERVICE

2024–2025

A project, then a portfolio, continuously.

DEC 2024 Preview as "Q Developer transformation capabilities" — VMware, mainframe, .NET

MAY 2025 Renamed AWS Transform; all three GA

DEC 2025 Transform custom GA; the .NET legacy tools close to new customers

Where a portfolio moves.
Still shipping through 2026.

AGENTIC · ENVIRONMENT

2025–now

Spec-driven development, where you actually work.

JUL 14 2025 Kiro preview — specs, hooks, steering. 100k developers in five days

NOV 17 2025 GA — property-based testing, checkpointing, Kiro CLI, team plans

2026 Powers, parallel agents, GovCloud; Web and Mobile surfaces

APR 2026 Named the successor to the Q Developer IDE plugins

Where a developer works.

THE PREMISE, CONTINUED

Who all recalls the times were you had to learn a language before you could start a project.

They're blocked by a COBOL estate where the last person who understood the batch window retired in 2019.

Technical debt: The invisible drag on enterprise innovation

20%

of IT budget

20% of IT budgets are spent managing technical debt instead of advancing new capabilities.

- Forrester Research, Inc.

23%

of developer time

Developers waste, on average, 23% of their time due to tech debt.

- Journal of Systems and Software

\$2.41T

Tech debt cost per year

In the US alone, tech debt costs \$2.41 trillion a year and would require \$1.52 trillion to fix.

- Accenture

“Left unchecked, technical debt will ensure that the only work that gets done is unplanned work.”

— Gene Kim, The Phoenix Project

Challenges addressing tech debt



Diverse transformation complexity

Organizations struggle to manage variety of transformation paths across different languages, frameworks, and runtimes, requiring specialized knowledge across multiple domains



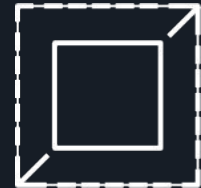
Manual execution burden and limited automation options

Organizations spend 20-30% of development resources on repeatable cross-codebase tasks executed manually, while existing automation tools require substantial upfront investment



Knowledge capture and transfer

Transformation expertise remains siloed within specific groups, leading to inconsistent implementations and duplicated effort across teams and projects



Scale and coordination

Managing large-scale transformations across hundreds of applications requires significant planning and coordination capabilities that most tools lack

INTRODUCING

AWS Transform custom

Transform any code pattern and
crush tech debt with AI-powered
custom modernization agent

GENERALLY AVAILABLE



Transform any code pattern, built-in or custom



Supports diverse scenarios from version
upgrades and runtime migrations to complex
language translations and architectural
changes



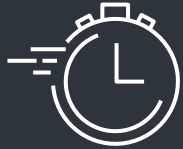
Continual learning and improvement



Scale transformations enterprise-wide



Benefits



SPEED

Reduce tech debt and accelerate enterprise modernization at scale

Automate diverse transformations that traditionally consume 20-30% of development resources, achieving up to 80% faster execution across hundreds of applications



ANY-TO-ANY

Support for diverse transformation use cases

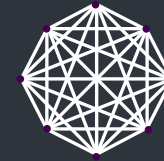
Agent learns your specific transformations through documentation and code samples, with 6 out-of-the-box transformation paths, such as Java, Python, Node.js, and AWS SDK updates



CONTINUAL LEARNING

Continual learning and improvement

Agent automatically captures feedback and continually improves over time, learning from every execution to enhance transformation accuracy and effectiveness



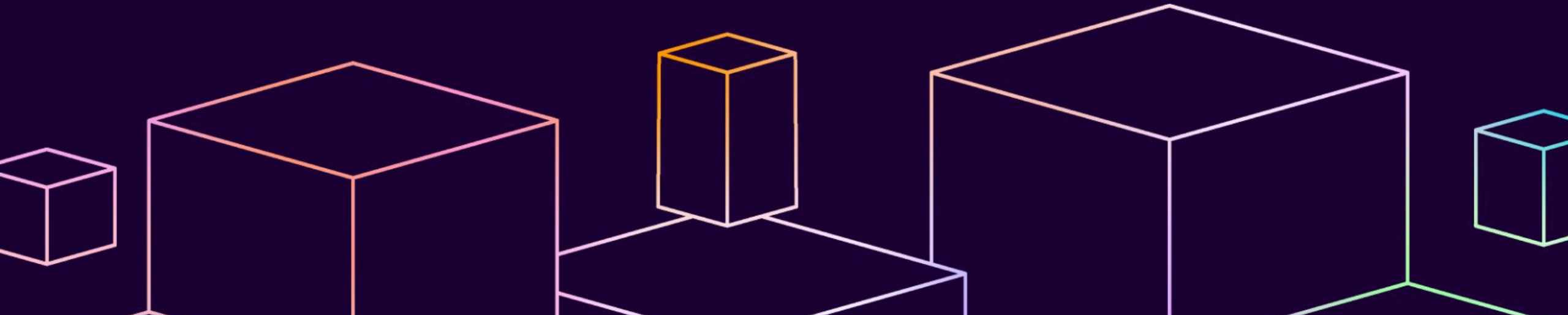
SCALE

Define once, transform everywhere

Capture organizational transformation knowledge and execute repeatable tasks across your entire organization, scaling best practices and reducing knowledge silos

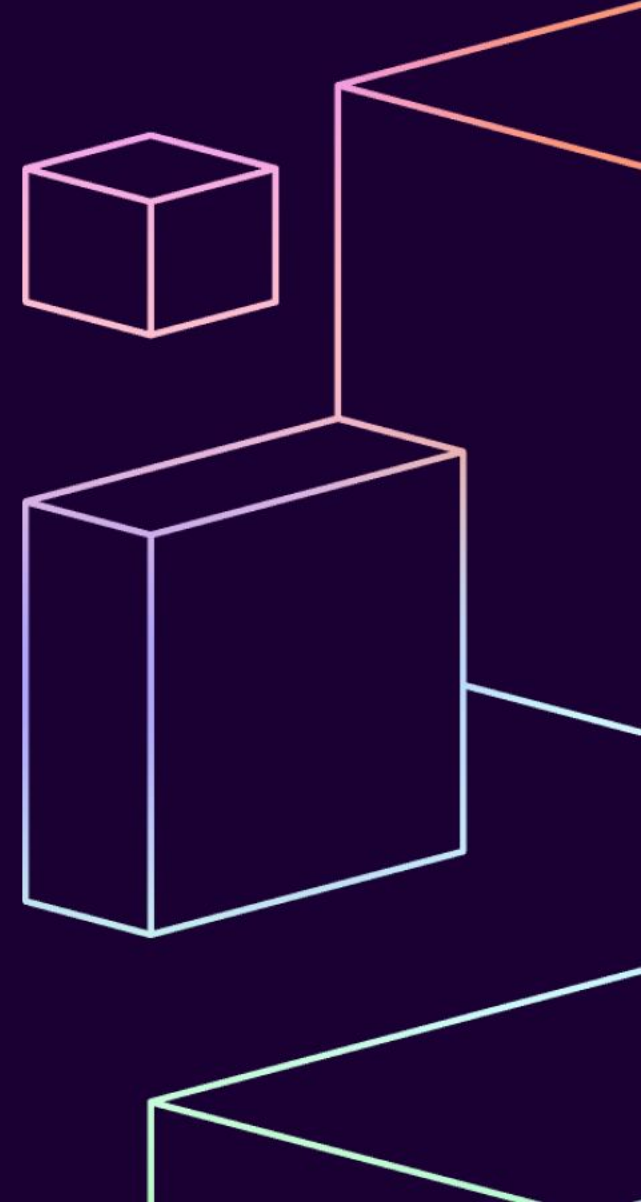
Common use cases

- Lambda runtimes end-of-life upgrades
- Version upgrades (Java/Python/Node)
- Runtime or API migrations (e.g. Java x86 to Graviton)
- Framework migrations (e.g. Angular to React or internal organization specific libraries)
- Language translations (e.g. Progress 4GL to Java or C to Rust)
- Architecture decomposition (e.g. Adobe ColdFusion to React front-end with Java back-end).
- Comprehensive codebase analysis (e.g. performs deep static analysis of codebases to generate hierarchical cross-referenced documentation)

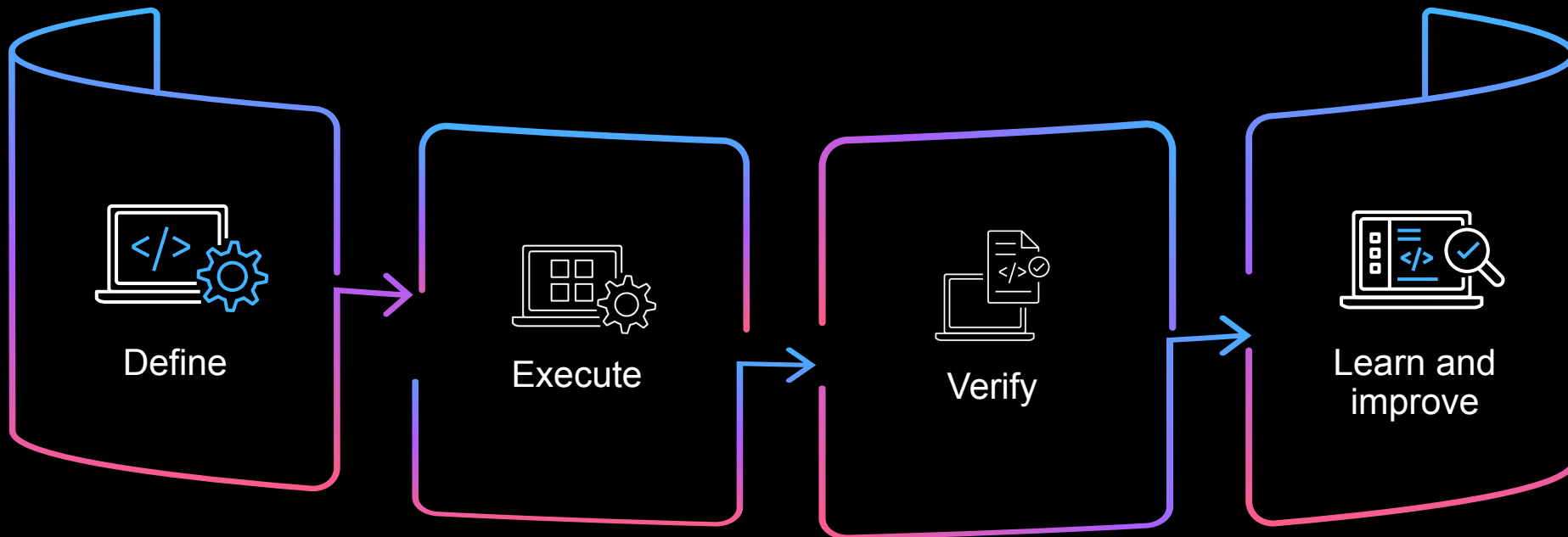


Out-of-the-box (OOB) transformations

1. Java runtime version upgrades
2. Python runtime version upgrades
3. Node.js runtime version upgrades
4. Java AWS SDK v1 to v2 version upgrades
5. Python AWS SDK version upgrades (Boto2 to Boto3)
6. Node.js AWS SDK v2 to v3 version upgrades
7. **Early access – Technical debt analysis and code base analysis, documentation generation*
8. **Early access – Java x86 to Graviton*

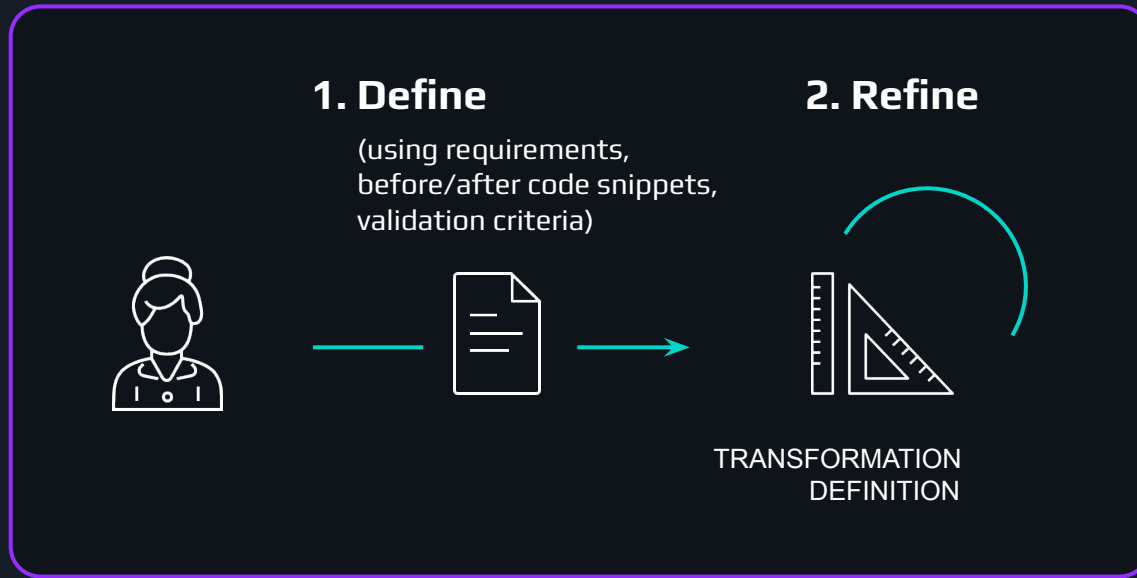


How the custom transformation agent works

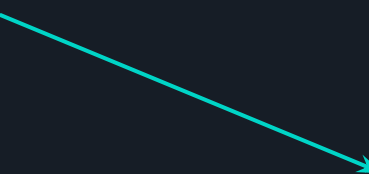
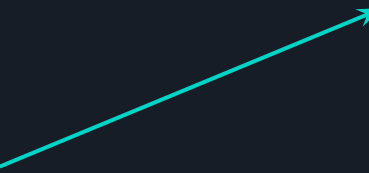


Process flow

CENTRALIZED TEAM (CT)



3. Test at scale



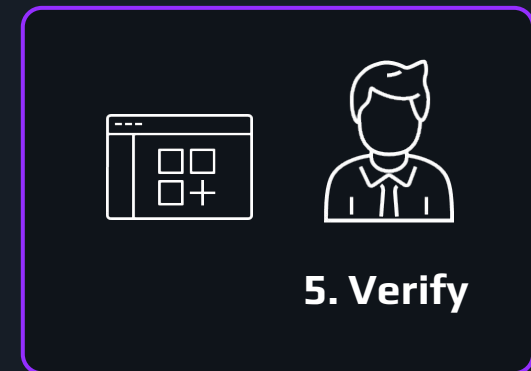
4. Apply at scale

push, through source control
pull, App Owner / dev executes in IDE/CLI

APP OWNER TEAM (AO)



APP OWNER TEAM (AO)



6. Continual learning



Cost

FREE

- Assessment
- VMware migration
- Windows and .NET
- Mainframe
- AWS-managed .NET transformations

METERED

\$0.035

per agent minute

- Custom transformation agent
- Continuous modernization

- **An agent minute is not a minute on the clock.** You are billed while the agent works, never while your machine builds. Several agents run in parallel, so billed minutes can exceed elapsed time.

Source: AWS Transform pricing, aws.amazon.com/transform/pricing. Verified September 2026.



Supported languages

COBOL
PL/I
JCL
BMS
C# / .NET
T-SQL

Java
Python
Node.js
Ruby
Angular
Vue.js
VBA

WRITE YOUR OWN

Progress 4GL
C
Rust
ColdFusion
RPG
...anything else

Demo



What it read. What it gave back.

IN

59,327

LINES OF COBOL

314

SOURCE FILES

180

DATA SOURCES

OUT

91

DATA PATHS TRACED

12

BUSINESS FUNCTIONS

40

TRACEABLE REQUIREMENTS

What it handed back

1

BUSINESS FUNCTION

10

USER STORIES

40

REQUIREMENTS

4

OPEN QUESTIONS

```
As a batch operations team, I want ... so that ...  
REQ-F-003    [Event-driven]    When ... the system shall ...  
OQ-003      ...    - Owner: deployment/modernization team
```

EARS notation. Every rule traced to its source lines. Straight into Kiro.

Kiro can build the platform. It cannot invent the product.

BUILDABLE FROM THESE 36 REQUIREMENTS

- ✓ **A CI/CD pipeline**
compile, link, artifact, publish listings
- ✓ **A deployment manifest**
every screen, program and transaction, one stack
- ✓ **A routing table**
seven CICS transaction IDs → seven routes
- ✓ **An authorisation model**
profile-based entitlement, group membership
- ✓ **A front-end inventory**
16 named screens to rebuild
- ✓ **An integration point**
one MQ-attached service

ABSENT — AND KIRO WILL HAPPILY GUESS

- ✗ **What a credit card does**
no limit, no authorisation, no statement cycle
- ✗ **What the screens contain**
16 maps named, not one field listed
- ✗ **What the data means**
- ✗ **Who may do what**
- ✗ **Four open questions**

Four clickable product tours

Browser only. Pick the one that matches the estate you walked in with.



E2E VMware Migration

`/share/r8v87w6q8miu`



Full-Stack

`/share/jcjmmjd3z8bh`



Refactoring mainframe

`/share/lgnwjfdatt1d`



Custom

`/share/jkmeg1phx8xo`

CALL TO ACTION

Transform Workshops



.NET Framework → Linux

`catalog.workshops.aws/transformdotnet`



VMware migrations

`catalog.workshops.aws/aws-transform-vmware`



Mainframe → microservices

`catalog.workshops.aws/mainframe-reimagine`



Custom transformations

`catalog.us-east-1.prod.workshops.aws`

QUESTIONS

What's the workload you can't kill?

Happy to dig into any of the four modalities, the cost model, or what it takes to stand these workshops up in your own account.

Thank you!

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