Solution sheet

EXL Code Harbor

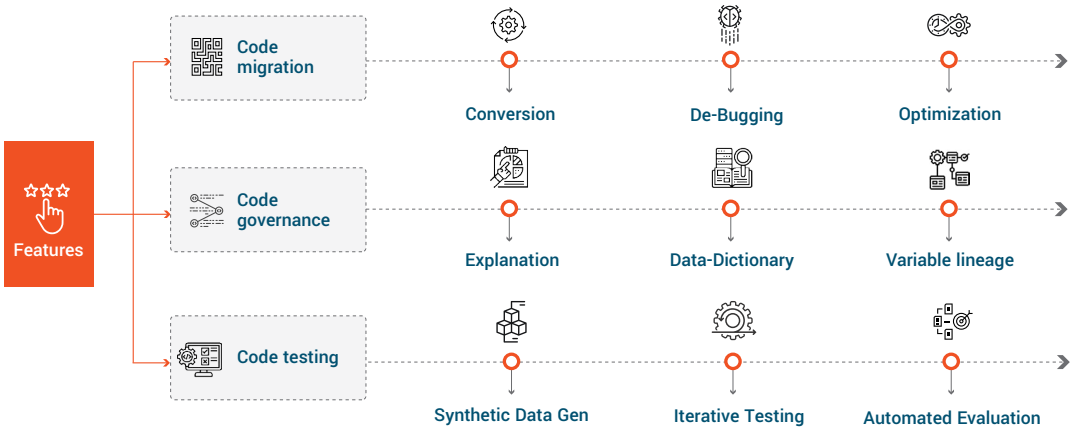
Modernize your code base
and accelerate code migration with GenAI

What is Code Harbor?

EXL Code Harbor is a GenAI-enabled tool that accelerates the migration of legacy codebases to novel and open-source languages, as well as enhances data and code governance. It addresses the manual effort involved in writing and optimizing code to transform the process, resulting in accelerated delivery, reduced costs, and higher accuracy.

Code Harbor: Overview

EXL's Generative AI powered Code Harbor tool helps in exploration, migration and testing of the codes



Impact

Speed

3-4x
Faster digital & cloud transformation

60%+
Faster process documentation, identifying variable mapping

Optimization

20%+
Reduction in code compute time

Observability

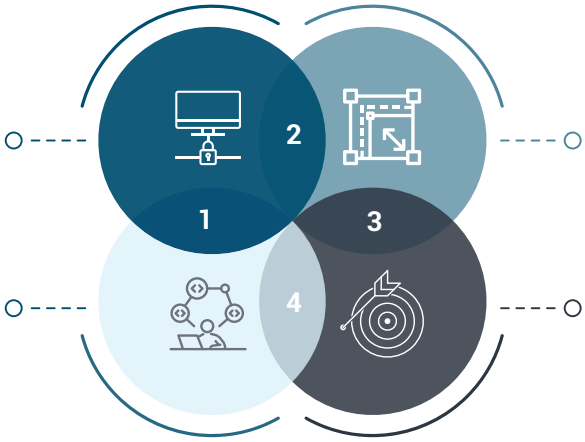
Generative AI has tremendous potential for increasing coding efficiency. However, organizations often face significant challenges in its implementation:

Security

Many companies are not comfortable with letting their code or data leave the enterprise environment. So, one has to be competent to use open source models, without compromising on the quality of output.

IP considerations

Foundational models trained on coding data with permissive licenses avoid IP infringement.



Scalability

GenAI models often have limited prompt lengths. Most coding projects operate at a larger scale.

Inaccuracies and hallucinations

The output from Generative AI can sometimes be inaccurate. So, one has to find methods to measure and avoid these hallucinations.

EXL Code Harbor addresses these challenges using an extensive and reliable methodology.

The key steps of the process include:

Diagnosis: Performing a thorough analysis of the codebase to understand the complexity, maintainability, and difficulty level.

Data lineage: A pictorial logical view showing the flow of the logic from one table or variable over to another.

Migration: Chunking the code, simplifying it, migrating it to any language of choice, and then recompositing the code to get the full logic back.

Debugging: Generative AI can be used to check the output to improve code quality and resolve syntactical and logical bugs.

Synthetic data generation: The solution can generate relevant testing data from the context of the code.

Testing: Creating test-and-plan scenarios and generating the test scripts to sufficiently test the code.

Efficiency: Eliminating redundant code and enabling performance optimization.

Documentation: Creating comprehensive documentation to explain the coding process.

Benefits and case studies of our experience in the domain:

EXL is supporting a top UK bank in migrating their extract, transform, load codebase from SAS to Python. This will help the institution avoid making a tactical migration to SAS Viya and accelerating the adoption of Python.

Benefits: 35-50% reduction in time than manual code migration. Effort includes complete testing and number matching.

EXL performed a due diligence exercise for a data engineering and visualization project for a client. Instead of just looking at a representative report, EXL downloaded the client's entire system codebase and used GenAI to give a thorough assessment of the project's scope and effort estimate.

Benefits: Accurate scoping, speed to market and scalability of the solution through project delivery.

A leading global banking client migrated their data to the cloud. EXL helped with the migration of their regulatory risk reporting models using Code Harbor.

Benefits: High accuracy in matching numbers for the regulatory reports.

EXL used the Code Harbor solution to optimize BigQuery code across syntax, logic, and code explainability for a global financial institution. Additionally, EXL utilized the automatic testing module to generate synthetic data for iterative testing and code improvements.

Benefits: 25% reduction in code compute time and memory usage,
10% reduction in query plans

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To find out more, contact us

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