



The True Cost of Manual Rewrites

Know before you go: the economics of application modernization

The hidden costs of rewriting from scratch — and the predictable alternative

Why traditional software projects derail

Before you take on a manual rewrite, understand the risks. The data on enterprise rewrites is sobering:

70%

of manual software rewrites fail outright

4×

more costly than an automated migration

\$6–23

per line of code written, depending on scale

And the silent killer: projects are routinely derailed by feature creep and constantly changing requirements.

Organizations drastically overestimate coding speed

Most of software engineering isn't coding.

The real lifecycle includes requirements, specifications, bug fixing, testing and documentation. Factor all of it in, and even elite engineers move slowly.

5–9.25

Function Points per developer per month — the pace once every task is accounted for.

THE INEVITABLE COST OF DEFECTS

You are going to ship a lot of bugs

When developers write new code from scratch, human error guarantees a massive influx of defects.

10–50

new bugs per 1,000 lines of code (KLOC)

2,000–5,000

bugs to find, fix and test in a 100,000-LOC project

Design errors

30–60% of all defects · 8.5 hrs average to fix

Coding errors

25–40% of all defects · 3 hrs average to fix

Many of these bugs won't surface until after the product is in production.

From flawed estimates to a fixed-cost baseline

Traditional estimation leans on flawed methods. ByteInsight replaces the guesswork with measured fact.

THE OLD WAY

COCOMO

Model-based estimates that age poorly.

SLOC

Objective, but blind to code complexity.

Function Points

Manual planning that can't be automated.

THE BYTEINSIGHT WAY

A free static code-analysis tool that measures, not guesses.

- ✓ Scans root folders to inventory all source code.
- ✓ Analyzes exact ELOC and the full technology footprint.
- ✓ Delivers an accurate, fixed-cost baseline before kickoff.
- ✓ Extracts metadata only — code never leaves your environment.

THE SUPERIOR ALTERNATIVE

AI-assisted modernization: speed and quality

Automated code conversion gives you the best of both worlds — 80% less cost and 4× faster than a manual rewrite.

LOGIC PRESERVATION

Reuse existing, already-debugged business functionality.

ZERO NEW DEFECTS

Logic is systematically translated — no new bugs in core rules.

NO USER DISRUPTION

A familiar UI removes the need for massive end-user retraining.

BEYOND A 1:1 PORT

Re-architected for cloud-native

Modernization isn't just translating code — it's an architectural upgrade to a proper three-tier, cloud-enabled design.

Presentation Tier

User interface — modern web (Blazor), responsive and cloud-delivered.

Logic Tier

Business rules — faithfully preserved and cleanly separated.

Data Tier

Database storage — modern, managed (e.g. Azure SQL).

HOW WE GET THERE

VELO · Architect Agent

Dynamically proposes the optimal modern architecture, including Blazor and Azure SQL strategies.



ABOUT GAPVELOCITY AI

Fast, predictable, secure AI modernization

The AI-powered application modernization business unit of Growth Acceleration Partners (GAP).

30+

Years of modernization expertise

Billions

Of lines of code migrated

600+

GAP engineers behind delivery

Agentic AI Platform, Microsoft-aligned, end to end

We blend deterministic AI for zero-hallucination transformation with generative AI to accelerate testing and optimization. As a Microsoft Solutions Partner, apps deploy natively to Azure, .NET and Entra ID — and 600+ GAP engineers take AI-generated code across the finish line into production.

BEGIN YOUR MODERNIZATION JOURNEY

Stop managing legacy risk. Start powering growth.

Whichever method you use, the bottom line of a manual rewrite is the same: everything takes longer than you estimate, and you'll write more bugs than you expect.



Request a [ByteInsight assessment](#)

Run our free code-analysis tool on your legacy app to understand your true scope.



Book a free codebase analysis call

Review your ByteInsight report with our modernization experts.



[Talk to an engineer](#)

See how our fixed-cost, fixed-schedule approach guarantees predictability.



Predictable cost. Predictable
schedule. Production-ready.



Run ByteInsight free and get a fixed-cost baseline for your legacy application.