Migrating Honda America's IBM i (AS/400) Applications in Brazil to Public Cloud Without Rewriting Code

The Infinite i Rehosting Approach: Method, Performance, Alternatives, and Long-Term Support

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Abstract

Honda America's Brazilian operations, in common with much of the automotive sector, depend on IBM i (AS/400) applications written in RPG and COBOL for functions such as manufacturing support, parts distribution, dealer management, and finance. These systems embody decades of refined business logic, yet the platform imposes proprietary hardware cycles, a contracting skills market, and isolation from the public cloud estates in which enterprises now standardize. This paper examines the strategic options available for such a portfolio and details one of them—rehosting with Infinite i, a compiler and runtime environment that recompiles unaltered RPG, COBOL, CL, and DDS source to native x86 object code and replicates the DB2/400 database on an industry-standard relational engine—enabling execution on AWS, Microsoft Azure, or Google Cloud Platform without code rewrite. The paper describes the migration methodology, sets realistic performance expectations in the target environment, addresses Brazilian data residency under the LGPD, and explains how the application portfolio is developed and supported after migration.

Keywords: *IBM i, AS/400, RPG, COBOL, application rehosting, Infinite i, lift-and-shift, AWS, Azure, Google Cloud, LGPD, legacy modernisation*

1. Introduction

The IBM i platform remains entrenched in automotive manufacturing, distribution, and captive finance, where applications written in RPG and COBOL have run reliably for decades. For an organization such as Honda America operating in Brazil, these systems typically support plant logistics, parts and warranty processing, dealer networks, and financial operations. Their stability is not in question; their strategic position is. Proprietary Power hardware must be refreshed on the vendor's cycle, the population of RPG and IBM i COBOL specialists is ageing faster than it is being replaced, and corporate IT strategies increasingly mandate consolidation onto hyperscale public cloud.

The conventional assumption is that escaping proprietary hardware requires rewriting the applications—a multi-year, high-risk undertaking that discards working business logic. This paper examines a different proposition: that the existing source code can be preserved exactly as written and moved to commodity cloud infrastructure through recompilation. Section 2 surveys the full option space so that this approach can be evaluated in context; Sections 3 and 4 detail the Infinite i environment and the performance characteristics of the target platform; Section 5 addresses how the portfolio is supported and evolved after migration.

2. The Option Space for an IBM i Portfolio

Industry practice commonly frames legacy disposition through variants of the "R" taxonomy: retain, rehost, replatform, refactor, and replace [9]. Applied to an IBM i estate, five realistic courses of action emerge.

Retain on premises. Continuing on owned Power hardware defers risk but accepts ongoing hardware refresh capital, datacentre cost, and deepening skills exposure. It is a decision to decide later, at a price.

Rehost to Power-as-a-service. Offerings such as IBM Power Virtual Server or Skytap move the same OS/400 environment onto rented Power infrastructure in IBM Cloud or Azure facilities [10]. This

eliminates hardware ownership but preserves dependence on the proprietary stack, its pricing, and its skills market; it also typically sits outside the hyperscale cloud in which the wider enterprise estate is consolidating.

Rehost to x86 via recompilation (the subject of this paper). Tools such as Infinite i recompile the unchanged source to native x86 object code and reproduce the operating environment and database on Linux allowing deployment on AWS, Azure, or GCP [1, 3, 4]. Business logic, screens, and data structures are preserved; the proprietary hardware dependency is removed.

Refactor or rewrite. Re-engineering to Java, .NET, or cloud-native services produces the most modern result but at the highest cost and risk: multi-year timelines, full regression of decades of embedded rules, and dual-running costs throughout. Industry experience suggests rewrites are best applied selectively, after a stabilizing rehost, rather than as the migration vehicle itself [9].

Replace with packaged software. Where commercial products genuinely cover the function (for example, standard ERP modules), replacement may be preferable—but automotive IBM i estates typically encode plant- and market-specific processes that packages fit poorly without heavy customisation.

These options are not mutually exclusive. A pragmatic strategy for a portfolio of Honda America's likely scale is rehosting as the foundation—removing the platform risk quickly and cheaply—followed by selective refactoring or replacement of individual applications from within the cloud, on business rather than infrastructure timelines.

3. How Infinite i Works

3.1 Native Recompilation, Not Emulation

Infinite i is a suite of compilers, utilities, and operating system services developed by Infinite Corporation, a firm specialising in AS/400 migration since the platform's early years [1, 2]. Its compilers accept RPG (including RPG/400 and ILE RPG), COBOL, CL, and DDS source exactly as written for the AS/400 and compile it to native object code for x86 Linux [3]. This distinguishes the approach from instruction-level emulation: the migrated applications execute as first-class binaries on the target processor, with no interpretive layer between the program and the hardware.

3.2 The Runtime Environment

Application code assumes the services of OS/400: job and subsystem management, work queues, spool files, message queues, data areas, and the command interface. The Infinite i runtime supplies functional equivalents of these services on Linux, so that CL programs, batch job streams, and operational procedures behave as they did on the source system [1, 3]. 5250 display files defined in DDS are preserved; screens may be presented in their original form or rendered as web-based graphical interfaces through Infinite Cloud, the company's GUI modernization layer, without altering program logic [1].

3.3 The Database Layer

Infinite i provides a complete functional replication of DB2/400 semantics—physical and logical files, multi-member files, record-level access, journalling behavior. Application data access code is unchanged, while the data becomes reachable through standard SQL, ODBC/JDBC, JT Open, APIs and Sockets.

3.4 Migration Methodology

A migration proceeds in five stages: inventory and analysis of the source library structure; automated transfer and recompilation of source members, with exceptions reported and resolved; data migration from DB2/400 into the target Infinite DB that replicates DB2/400 functionality using Infinite's transfer utilities; parallel testing, in which the migrated system runs against production-derived data and outputs are compared with the source system; and cutover. Because the source code is not modified, testing concentrates on environmental equivalence rather than functional re-verification. Representative

engagements are completed in approximately 45 to 60 days, with duration governed chiefly by portfolio size and test scope [3]. Infinite Corporation reports more than 100,000 installations across 56 countries, including public-sector migrations such as the United States Department of Justice [1, 5].

4. The Target Environment and Expected Performance

4.1 Deployment in Brazil

All three major hyperscalers operate São Paulo regions—AWS (sa-east-1), Microsoft Azure (Brazil South), and Google Cloud (southamerica-east1)—permitting the migrated estate to remain on Brazilian soil [6, 7, 8]. In-country deployment keeps latency low for plants, distribution centres, and dealer networks, and simplifies compliance with the Lei Geral de Proteção de Dados (LGPD), Brazil's general data protection law, by avoiding routine cross-border transfer of personal data [11]. Infinite i itself is cloud-agnostic and is available through the AWS and Azure marketplaces [3, 4]; the choice among the three clouds is therefore governed by Honda America's broader enterprise agreements rather than by the migration technology.

4.2 Performance Expectations

Honest framing matters here: rehosting performance is workload-dependent, and prospective clients should insist on a benchmark of their own workloads rather than generic claims. That said, the structural factors favor the target environment. Because Infinite i compiles to native object code, there is no emulation penalty; programs execute at the full speed of modern x86 processors, whose single-thread performance and memory bandwidth compare favorably with the older Power hardware much of the installed base still runs. Cloud block storage delivers tens of thousands of IOPS per volume on demand, which typically benefits the batch workloads—nightly settlement, MRP runs, parts explosion—that dominate IBM i schedules. Interactive 5250 response in practice is governed by network latency to the region, which in-country deployment keeps in the low milliseconds.

Two characteristics of the cloud change the performance conversation entirely. First, capacity is elastic: a batch window that strains a fixed Power footprint can be addressed by scaling the database tier or compute vertically for the window and back down afterwards, paying for hours rather than hardware. Second, environments are disposable: full-scale performance test environments can be created from snapshots for the duration of a test and deleted afterwards. The recommended practice is a structured proof of concept in which Infinite migrates a representative application and the client measures throughput of its own heaviest batch jobs and response of its busiest interactive transactions against agreed acceptance thresholds before committing the portfolio.

5. Supporting and Evolving the Code After Migration

Rehosting changes where the code runs, not who can maintain it. The RPG and COBOL source remains the source: development continues in the same languages, and Infinite i recompiles new versions exactly as the AS/400 did. Existing RPG staff remain productive without retraining, while operations transfer to mainstream Linux, and cloud administration skills that are abundant in the Brazilian market—directly addressing the scarcest skill in the current model, the OS/400 system operator.

The migrated estate also becomes tractable to modern engineering practice. Source can be managed in Git, recompilation incorporated into CI/CD pipelines, and environments provisioned as code, none of which is natural on the source platform. Data held in the Infinite DB is directly consumable by enterprise integration, reporting, and machine-learning tooling. Where modernization is desired, it can proceed incrementally: screens re-faced through Infinite Cloud, individual functions exposed as APIs from the database tier, and selected applications refactored or replaced over time—each decision taken on business merit, with the rehosted system as a stable fallback rather than a burning platform.

Commercial support follows a conventional model: Infinite Corporation licenses and supports the compilers and runtime and the infrastructure by the chosen cloud provider under its enterprise

agreement—replacing dependence on a single proprietary stack with substitutable, market-standard components.

6. Conclusion

For Honda America's Brazilian IBM i estate, the realistic choices are to keep paying for proprietary hardware (on premises or rented), to undertake a costly rewrite, or to move the existing code—unchanged—onto commodity cloud infrastructure. Infinite i makes the third option practical: native recompilation of RPG, COBOL, CL, and DDS; a faithful runtime and the Infinite DB, a DB2/400-equivalent database; deployment in the São Paulo regions of AWS, Azure, or GCP consistent with LGPD obligations; and a support model based on abundant mainstream skills. Performance should be proven, not promised: the recommended next step is a scoped proof of concept migrating one representative application, with Honda America's own batch and interactive workloads measured against agreed thresholds, followed by a phased portfolio migration of approximately sixty days.

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All online sources accessed June 2026. This paper is provided for discussion purposes. Workload performance should be validated through a proof of concept; regulatory interpretations should be confirmed with qualified Brazilian counsel.