

Migrate to a new database management solution for DB2® for z/OS® or IMS® for z/OS® quickly and easily with a best-practice-led migration methodology.

Explore how CA can help.

Having a migration methodology is critical for maximizing your ROI when converting from third-party and built-in platform database management utilities. CA Technologies methodology, and R&D-supported migration tools for CA Database Management for DB2 for z/OS and CA Database Management for IMS for z/OS, provides exactly what you need to execute your migration, quickly and easily. CA Technologies considers our migration process a key part of the overall solution and develops, enhances and supports it as part of our database management product solutions.

# Executive Summary

---

## Challenge

Migrating mainframe database management solutions to a new technology requires customers to transition seamlessly and effortlessly. Most customers have extremely complex implementations spanning a multitude of processes and require those systems to be responsive 24x7. Moving to a new solution requires a quick, easy and seamless approach to ensuring value immediately.

---

## Opportunity

CA Technologies has extensive experience in consolidating customer mainframe database environments across industry verticals and technical environments. Based on this experience, we've developed and incorporated a set of best practices into our migration methodology for DB2 and IMS. Part of these best practices is a recognized migration tool designed to reduce overall project effort. The use of this migration tool can result in an up to 90 percent or better conversion factor within the automation migration process.

In addition, the tool generates a set of detailed reports to assist in the validation stage. What separates this migration tool from others is that the migration tool addresses the automation of the validation stage. Improvements can be made to the customer data and then retested in a build process. Numerous builds can be executed; the process is cyclical thus reducing the overall validation effort.

---

## Benefits

Our solution helps you to address the challenges of risk mitigation in an on-demand, real-time world. Great technology is just a starting point. Tools, process and dedicated database management specialists are needed to accomplish a migration that meets and exceeds your expectations.

Our world-class team of DB2 and IMS specialists have the expertise to analyze your needs and challenges. They have a proven track record of successful migrations, expertise in database management solutions.

The CA Services organization can manage and execute the entire migration process for you or provide assistance on an advisory level—or a combination of either approaches at various stages of the project based on the customer needs. All of this helps us execute on our commitment to you: a plan for successful completion.

### Section 1:

## Moving to a New Solution

When reviewing your options for DB2 or IMS management software, there is a lot to consider. Upfront cost is only one of the elements. Looking into the future to determine how a new solution will save you time, money and effort is key to making the right decision.

Once you have decided to move to a new solution, there is always the concern about “how long will this take?” and “how much downtime will I incur?” along with inevitable review and clean out of old, antiquated processes that no longer serve your business needs.

With database management solutions for DB2 and IMS from CA, a fully integrated conversion tool is imbedded into the process, assuring a successful migration.

---

### Section 2:

## Migrating Quickly and Easily

Once you are ready for your project and have consulted initially with our trained professionals, you’ll want to know more about how it all works.

Prior to executing a migration, CA performs an assessment to identify the legacy solution environment and business requirements. The analysis identifies features and functions that are used, as well as any architectural differences. Determining how these features and requirements translate to the target solution before beginning the migration is crucial.

The migration program is tailored to meet the current solution and solicits details on items like batch jobsteps, PROCs, schedules, resources and other specifics about the database management solutions running in your shop today. CA considers its migration program a key part of the overall solution. The migration tool is developed, enhanced and supported by CA Technologies in a similar fashion to other CA products. Plus, as we convert customers, the migration tool is enhanced thus improving the overall migration efficiency.

Using the CA Technologies supported tools and methodologies, a controlled migration is achieved more quickly and in a more cost-efficient manner.

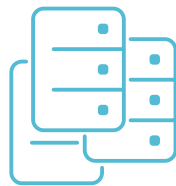
One of the time-saving features of the CA migration tool is reducing the need to manually track changes to the legacy environment. CA recommends that an extract of the legacy solution is done periodically to include any changes made to the legacy solution during the migration process. This process reduces the length of the freeze period before the final migration and cut over, thus reducing the overall migration time.

### Section 3:

## Introducing CA Conversion Service

CA Conversion Service is a full-suite, cloud-based service based on 30-plus years of CA best practices which cover the entire migration lifecycle, involving the replacement and migration of competitive database management tools to CA's industry leading capabilities. Available in three service tiers—full-service, assisted and self-service—spans beyond typical conversion to include five phases: requirements, data preparation, planning and design, conversion and build, test and validation, and finally, rollout.

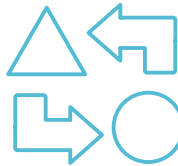
### Five phases of CA Conversion Service



**Data collection**



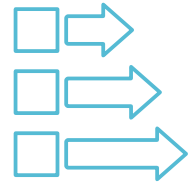
**Planning and Design**



**Conversion**



**Test and validation**



**Rollout and Deployment**

### Data collection and assessment

Data assessment, the first step in any technology migration or replacement, involves critical activities such as gathering and identifying the customer's data and information, and the business requirements of the successor solution. CA experts can guide you in thoroughly assessing and collecting:

- Source artifacts
- Custom data artifacts
- Environmental data artifacts
- Inactive artifacts

With help from CA experts or online guidance, the CA Conversion Service client will run reports or utilities to collect the data above. Once the client uploads all the relevant data via a data collection deliverable, this phase is considered complete.

## Planning and design

This phase identifies how your customer data is being generated and used, and how to clearly understand the business requirements in the target CA environment. The basic first step is to determine if any requirements in the target solution have architectural differences, and identify how to address them up front.

Another important aspect in this phase is to establish best practice and strategies of how the conversion and migration will actually take place. For example, for most midsize to large enterprises, a big-bang, enterprise-wide rollout would be too risky across all applications. Instead, CA experts or online guidance will help you map out business requirements and establish conversions rules. For example, a typical best-practice rollout would look like the five stages below, with the primary scope driven by business impact, number and type of users:

- Pilot project—start small, minimal impact to business, no impact to end users, spans less than two to four weeks
- Low-impact project—low impact to business, only touches non-critical apps, limited scope to IT users
- Medium impact—moderate impact to business, touches moderate number of end users including 50 percent of internal apps and few, non-critical, customer-facing applications
- High impact—high impact to business affecting high-visibility apps; touches a large number of end users and external customers
- Critical—high criticality to business with largest number of end users

A similar best practice or approach can be tailored by business requirements such as location, system grouping, application types or departmental rollouts.

Planning and design phase activities	Planning and design phase deliverables
<ul style="list-style-type: none"> <li>▪ Team formation</li> <li>▪ Migration requirements analysis</li> <li>▪ Solutions design requirements</li> <li>▪ Design approach selection, i.e., best practices and phases</li> <li>▪ Artifact inventory analysis</li> </ul>	<ul style="list-style-type: none"> <li>▪ Documented migration requirements, capabilities and migration use cases</li> <li>▪ Solution requirements document</li> <li>▪ Documented project plan for migration and solution deployment</li> </ul>

### Conversion and build phase

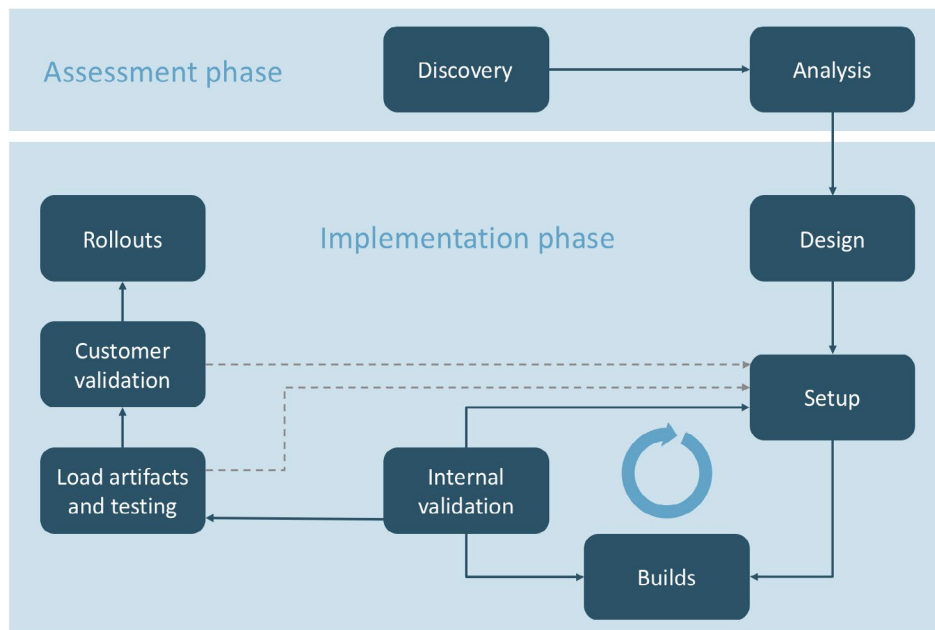
This is when the actual conversion takes place. Actual customer data is converted to the CA environment, leveraging the client data and JCL libraries and prior database management definitions.

The conversion build cycle will follow the best practices established in the design phase; starting first with the pilot data and applications and testing each before proceeding to the next set of applications or domains.

### Testing and validation

After conversion is completed, it's important to analyze and compare results of the loaded artifacts and data between the source and target CA environment. The number of validations and tests will depend on the complexity and organizational requirements. Many enterprises will have multiple levels of internal tests and validation before end-user rollout or readiness testing.

During customer validation cycles, the results of the comparisons are analyzed and adjustments can be made as necessary.



## Rollout and deployment

This phase follows the best-practice phases set up in the design, and go-lives are planned accordingly. The rollout is essentially a transition into full production upon conclusion of user-acceptance testing. In addition, CA Conversion Service and CA experts will also guide you through the following steps before proceeding to deployment.

- Prepare for rollout, including freezing any changes in source environment
- Take one last snapshot of the source environment
- Cease any source activity (live transactions in production or internal monitoring)

Next, it's time to go live into production. After that, the final step is to monitor performance and ensure everything is working. Post deployment, your organization can access the CA Conversion Service online assistant, receive guidance for post-mortem analysis and monitor for additional changes and improvements to fine-tune performance.

## CA Conversion Service tiers

CA Conversion Services is available in three service tiers:

**Full service.** CA experts or partners deploy the automated, cloud-based service and perform the entire migration for your organization. After the initial assessment and data capture are complete, disruptions and distractions to internal teams are kept to a minimum.

**Assisted.** In many cases, you'll want to manage certain phases yourself, such as deployment and test, and leave the more time-consuming and analytical steps of assessment, requirements and design to the CA team of experts. In other cases, your team might have a few personnel on hand to participate in the entire migration—this is a great model for training novice team members or simply conducting a knowledge transfer for similar migrations in the future.

**Self-service.** In this model, you take complete control of the entire migration lifecycle in self-service mode using the cloud-based CA Conversion Service. CA's team of experts can be available to provide guidance during the conversion process.

---

### Section 4:

## Rest Easy, With Lower Cost and Risk

For IT operations and financial leaders who want to significantly reduce the cost and risk of adopting CA Database Management for DB2 for z/OS or CA Database Management for IMS for z/OS, CA Conversion Service is the ideal, sustainable choice. Unlike competitive tools that address only one step, CA Conversion Service can save an estimated 25 percent or more of time and cost<sup>2</sup> across the entire migration—making it much easier to justify ROI of adopting CA solutions.



**Fastest time to realized value.** Often, the biggest factor in undertaking a full migration isn't money; it's time. With the cloud-based CA Conversion Service, organizations can not only reduce the upfront migration costs but more seamlessly and quickly realize the annual cost savings of the replacement solution. Plus, there are additional intangible benefits—like working with a single, focused vendor like CA to eliminate the effort and administrative burden of working with multiple providers.

**Lower risk and increase your rate of success.** With guided cloud service built on 30-plus years of industry best practices, CA Conversion Service delivers a consistent migration experience across departments, geographies and applications. Organizations can eliminate the disruption of database, application development and ops teams because CA Conversion Service manages the entire migration, enabling everyone to focus on their core functions of delivering new services and IT uptime.

### Choosing the CA Technologies Mission-Essential Advantage

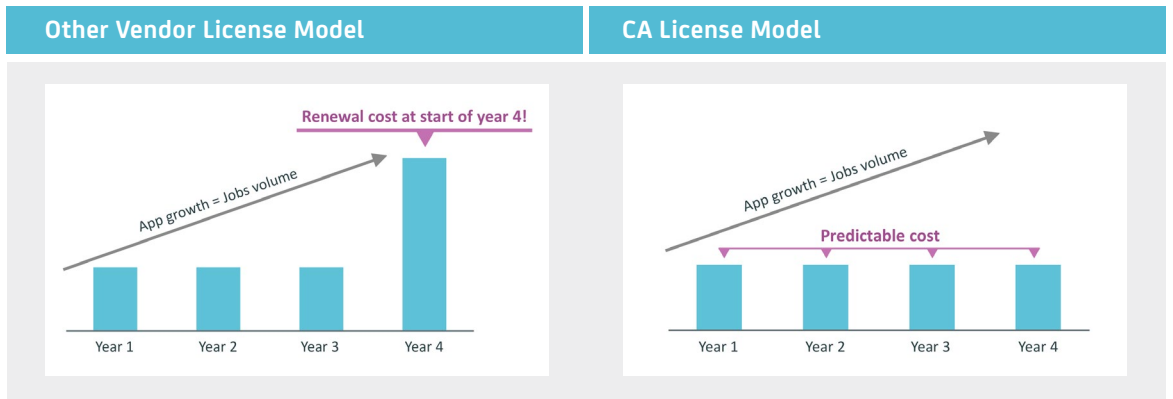
The mainframe you used to know has been replaced by something far more powerful. CA is innovating on software for the latest mainframe, the IBM z13™—the world's fastest commercial computer with massive pipes for handling data and 10 terabytes of memory. Going beyond the mainframe's heavy-duty transaction processing legacy, CA is investing in mainframe to make it the enterprise innovation backbone for all mission-essential workloads that span analytics, mobility, cloud and the Internet of Things. CA customers value our continued investment and relentless focus on customer engagement and value—

whether it's a 3:00 a.m. response to a support ticket or rapid delivery of a new capability after idea submission. We also remain deeply committed to customers' cost and vendor lifecycle management. Mainframe, while mission-essential to operations, is also perceived as the highest line item in the IT budget. Given such cost pressure, coupled with the superior value of CA solutions, hundreds of customers have replaced competitors' products with CA solutions. Through our structured rationalization program—Core Systems Consulting—CA experts make a compelling case to consolidate to fewer vendors and remove product redundancies. In fact, customers experienced an average \$1.4M opex savings after a multiproduct software rationalization and switch to CA products.<sup>6</sup>

Your peers tell us that even with comparable technical capabilities, what spurs them to work with CA is our transparency and predictability over the entire span of the relationship. Indeed, in our highly complex industry with different architecture and pricing models, an apples-to-apples vendor comparison can be daunting. Add to that new clauses, renewal constraints or vendor bundling, and your procurement department or CFO could be facing an unwanted and surprising increase in license costs and TCO.

When it comes to mainframe and database management solutions, CA offers a much more predictable cost model versus other vendors, who charge by job or task volume and tend to bundle additional options when it's time to renew—again locking your organization into a product as well as years of high license costs.

CA Technologies knows mainframe and workload automation. We're the number one ISV in mainframe software,<sup>3,4</sup> and deployed in 59 of the Fortune 100.<sup>5</sup>



So, if the economic case is so compelling, why aren't you making the switch to CA solutions in mainframe?

Find out the benefits your peers are realizing by making the mainframe part of their digital transformation strategies.

Learn more about CA mainframe rationalization and migration services. Visit [ca.com/mainframe](http://ca.com/mainframe).



Connect with CA Technologies at [ca.com](http://ca.com)



CA Technologies (NASDAQ: CA) creates software that fuels transformation for companies and enables them to seize the opportunities of the application economy. Software is at the heart of every business, in every industry. From planning to development to management and security, CA is working with companies worldwide to change the way we live, transact and communicate—across mobile, private and public cloud, distributed and mainframe environments. Learn more at [ca.com](http://ca.com).

1 Internal CA strategy and product management business case based on comparison of historical average FTE costs and capex cost spanning 400+ migrations and replacements versus cloud-based migration  
 2 Ibid  
 3 CA Technologies Global Market Analysis  
 4 Ibid  
 5 Information based on Fortune 500 published June, 2015, compared to CA mainframe customers that have licensed one CA product as of January 2016  
 6 CA Technologies Executive Brief, "[Optimizing Your Mainframe Investments to Unleash Value](#)," Mar 2016

Copyright © 2017 CA. All rights reserved. IBM, DB2, IMS, z/OS and z13 are trademarks of International Business Machines Corporation in the United States, other countries, or both. All other trademarks, trade names, service marks and logos referenced herein belong to their respective companies. This document is for your informational purposes only. CA assumes no responsibility for the accuracy or completeness of the information. To the extent permitted by applicable law, CA provides this document "as is" without warranty of any kind, including, without limitation, any implied warranties of merchantability, fitness for a particular purpose, or noninfringement. In no event will CA be liable for any loss or damage, direct or indirect, from the use of this document, including, without limitation, lost profits, business interruption, goodwill or lost data, even if CA is expressly advised in advance of the possibility of such damages. Some information in this publication is based upon CA's experiences with the referenced software product or service in a variety of development and customer environments. Past performance of the software product or service in such development and customer environments is not indicative of the future performance of such software product or service in identical, similar or different environments. CA does not warrant that the software product or service will operate as specifically set forth in this publication. CA will support the referenced product or service only in accordance with (i) the documentation and specifications provided with the referenced product or service, and (ii) CA's then-current maintenance and support policy for the referenced product or service.