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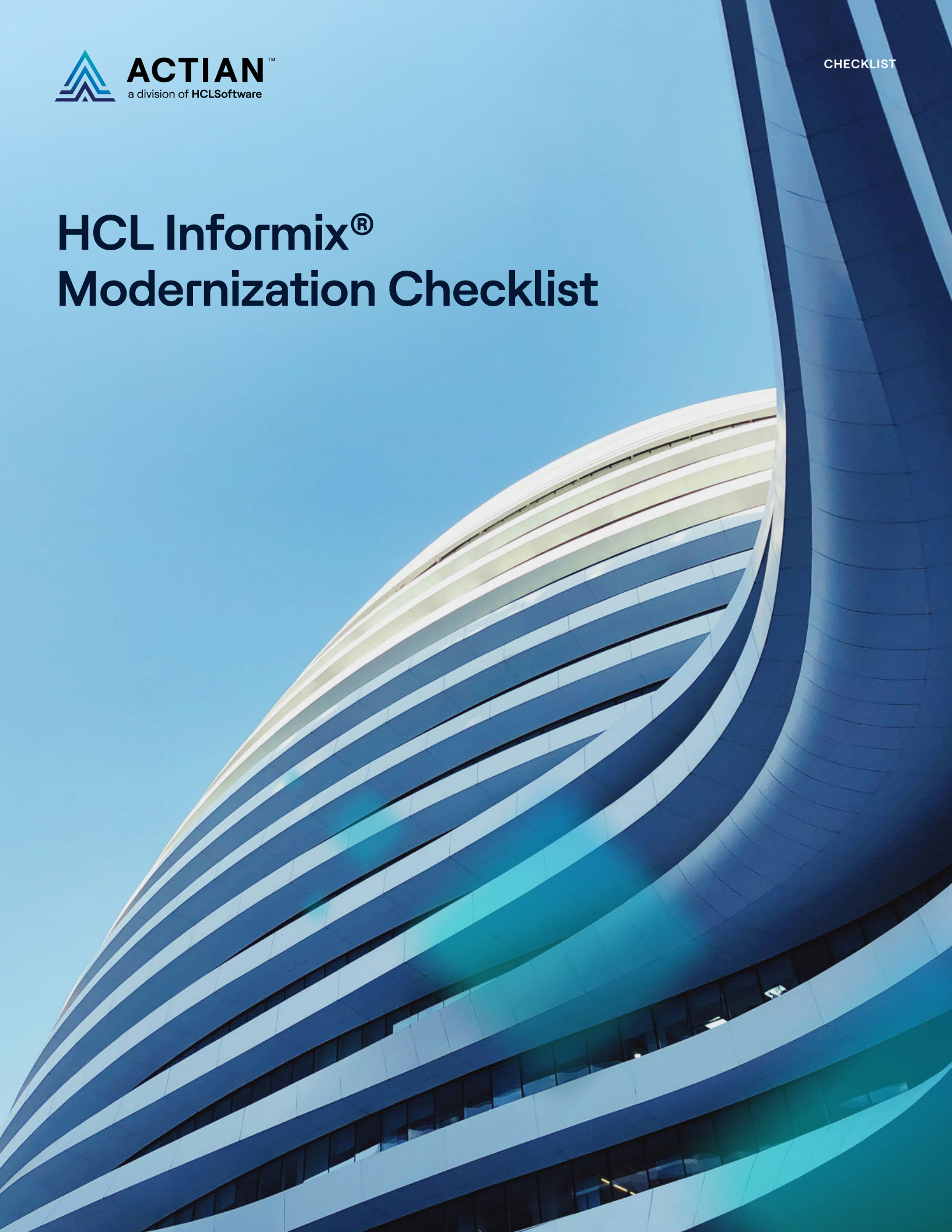
CHECKLIST

HCL Informix® Modernization Checklist



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This checklist guides you through a comprehensive analysis of your organizational goals, evaluates the performance of your existing IBM Informix® database, and outlines a step-by-step framework to modernize and optimize your HCL Informix database to better serve your organization's evolving needs.

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Start building your business strategy

☐ Establish your application modernization objectives

The initial step in any application migration and modernization project is to clearly define the business problems you are trying to solve and optimize your project planning to best serve those needs. For example, you may be facing challenges with:

- ☐ **Security and compliance:** Malicious actors continually adapt their strategies and use increasingly sophisticated methods. Therefore, regular updates to your security protocols are essential, especially if your database hasn't been patched recently or if you've encountered a security incident. In addition, it is critical that your business meets the compliance requirements for the latest security and encryption standards. The latest HCL Informix versions implement both the latest encryption standards and security technology.

- ☐ **Performance bottlenecks and scalability issues:** Your organization might experience frustration due to slow application response times or slow-running queries or reports. You may also face scalability issues due to ever-growing demands on the database, like complex queries and data volume. Newer versions of HCL Informix are optimized for performance and scalability.

- ☐ **Web and modern APIs:** Cumbersome user interfaces, along with a lack of connectivity and integration with other data, systems, and third-party solutions, can limit your organization's effectiveness. For instance, green screen applications may not resonate with a younger workforce accustomed to no-code and low-code applications. Additionally, the inability to integrate with modern technologies through APIs could signal the need for an update. HCL Informix simplifies integration, enabling you to connect your data and integrate your application ecosystem.

- ☐ **Technological obsolescence:** Eliminate technologies and operating systems that no longer serve a business need. If you are running hardware and operating systems that are unsupported, you may want to seriously consider upgrading both hardware and software to future-proof your data platform environment. HCL Informix is supported on all modern hardware platforms and operating systems.

- ☐ **Cost inefficiencies:** Analyze how much you spend supporting your applications and compare this to industry benchmarks to see if there are opportunities to optimize expenses on IT maintenance, compute (CPUs), or storage.

By defining these parameters, you can set clear objectives for your modernization project. This will guide your decision-making process and help select the right strategies and technologies for a successful transformation.

☐ Envision the end result

Understanding the problem is crucial, but it's equally important to develop a solution. Start by envisioning an ideal scenario. For instance, consider a future where applications are designed to:

- ☐ Never experience a security incident.
- ☐ Respond in real-time, without interruption.
- ☐ Dynamically scale to meet user demand.
- ☐ Automatically update with zero downtime.
- ☐ Seamlessly connect with other applications and tools within your data ecosystem.
- ☐ Have a no-code/low-code user interface.

In addition to desired application criteria, it is a good idea to include ideal outcomes for your modernization project like:

- ☐ Project delivered on time and on budget.
- ☐ Project delivered with complete database operationality.

While it may not be possible to attain every part of your vision, it's critical to know what you're working toward to better focus your team's efforts.

☐ Track progress with key performance indicators (KPIs)

With your vision in place, create metrics to measure progress. Identify two or three KPIs for each part of your vision. You can use these KPIs to update leadership on your progress so they know you're advancing toward your goals. Some example KPIs might look like:

Goal	KPI	
Real-time responses	**Query response time** Tracks the time it takes between ending a query request and receiving a complete response.	**Error rate** Tracks the number of errors encountered before and after the modernization project.
Scale to meet user demand	**Concurrency** The number of users or applications that can simultaneously access the database without performance degradation.	**Resource utilization** Monitoring CPU, memory, and storage usage helps identify potential bottlenecks and capacity issues as the database scales.
Update applications with zero downtime	**Availability** This is the percentage of time the system is operational and accessible. For a zero downtime goal, aim for 100% availability.	**Failure rate** The frequency that failures occur within a given time frame. A lower failure rate suggests a more reliable system.
Zero security incidents	**Number of security incidents** Tracks the total number of confirmed security incidents over a period of time. Aim for zero security incidents.	**Time to respond (TTR)** Measures the time it takes to identify a security breach. A shorter TTR indicates more effective monitoring systems.
100% connectivity with other applications	**API consumption rate** The volume of API calls made over a certain period. A high consumption rate can indicate a popular and well-integrated API.	**API success rate** This metric tracks the percentage of API calls that are successfully executed without errors. It's a direct indicator of API reliability and can be calculated by dividing the number of successful calls by the total number of calls made.
Deliver the modernization project on time and on budget	**Budget adherence** Measures if the modernization project stays within the financial confines allocated.	**Timeline compliance** Tracks whether the project milestones are being met on schedule.
Complete business continuity	**Data completeness** Ensures all required data is successfully transferred from the source to the target system without data loss or corruption.	**Data accuracy** Verifies that the data migrated is accurate and consistent with the source data.

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☐ Identify the capabilities you want to incorporate into your applications

Features you may want to integrate include:

- ☐ **Cloud computing:** Migrating legacy systems to private or public cloud environments can provide increased scalability, flexibility, and potential cost savings by eliminating on-premises infrastructure maintenance.
- ☐ **Third-party solutions and microservices:** Complement your applications with third-party solutions and microservices to support authentication and authorization, APIs, monitoring and logging, backup and recovery, and more.
- ☐ **Orchestration and automation:** These technologies help manage complex operations and workflows, making the systems more efficient.
- ☐ **DevOps practices:** Implementing modern DevOps practices can improve the agility of development and operations, leading to faster time to market.
- ☐ **APIs:** APIs enable better integration with third-party technologies, allowing you to streamline operations, enhance user experiences, and innovate more rapidly.

You should look to constantly improve applications with new tools, automation, and security protocol that drive business productivity and outcomes.

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Evaluate your existing Informix database environment

To ensure your new HCL Informix instance meets your future requirements, start by conducting a thorough audit of your existing database environment. This will help you understand what currently meets your application needs and identify areas for improvement. Make sure to check and take note of the following:

☐ Existing hardware details including networking

- ☐ Identify your system make, model, and operating system (OS) to ensure they will remain supported through the duration of your application lifecycle.
- ☐ Observe your CPUs/cores, memory, and disk storage to determine if they will continue to meet your future business requirements.
- ☐ Confirm your network type, speed, and bandwidth meet your existing and future needs (LAN, WAN, VPN, etc).

☐ HCL Informix instance configuration

- ☐ Ensure that all of your connection types are working correctly, securely, and according to your needs.
- ☐ Check your instance data disk footprint including dbspaces, chunks, and number of databases.
- ☐ Confirm server administration techniques used to optimize performance and record them. Examples include fragmentation/partitioning, data replication (HDR/SDS/RSS), enterprise replication, test environments, and data compression.

☐ Products, tools, and capabilities used with IBM Informix

Make sure to inventory all the products, tools, and connectors used within your IBM Informix environment. That includes:

- ☐ Data integration products (Actian DataConnect, REST APIs).
- ☐ Warehousing, analytics, and BI tools (Informix Warehouse Accelerator (IWA), Actian Data Platform, Power BI, Tableau, Looker).
- ☐ Application development products (4GL, ISQL, VoltMX, Querix Lycia, 4js Genero).
- ☐ Monitoring and security (InformixHQ, Datadog, Commvault, etc.).
- ☐ OpenSource products integrated into Informix application environments (OpenSSL, JDBC Driver, Embedded SQL for C (ESQL/C), PHP, Ruby on Rails, Hibernate, etc.).

☐ Database and operating system configuration

- ☐ Review query performance, index efficiency, and data maintenance.
  - ☐ Ensure you have a standard set of queries that can be used to benchmark performance before and after the upgrade.
- ☐ Inspect security settings and evaluate if they meet the requirements of your business and industry (encryption, labeling (table and row-level), access control, keystore management).
- ☐ Review OS settings, including page file configuration if running Windows or Unix.

☐ Backup and disaster recovery

- ☐ Identify and document your disaster recovery plan and test the recovery process to ensure it works as expected.
- ☐ Verify your instance backup method (ex: On-Bar), storage environment, and frequency align with business continuity requirements.
- ☐ Document any third-party back-up solutions used with your database instance (Veritas etc.).
- ☐ Ensure your secondary servers meet your data replication and disk overflow requirements.
- ☐ Set up a cadence to regularly review requirements to ensure they continue to meet your organization's needs.

If using 4GL, do you:

- ☐ Use the C-Compiler, RDS version, or both?
- ☐ Have access to the entire source code?
- ☐ Have restrictions in making changes to code?
- ☐ Know if there are dependencies in the source code to external modules for which there is no source code?
- ☐ Use it with the Simple Object Access Protocol (SOAP) application interface? New versions of 4GL do not support it and a workaround strategy should be devised.

☐ Client applications

- ☐ Gather details of other clients used with IBM Informix, such as Visual Basic, .NET, Java, PHP, Python, C/C++, or any other.
- ☐ Take note of the number of clients and where the client applications run.

☐ Resource capacity

- ☐ Evaluate your database server to determine whether it can handle current and future workloads CPU, memory, disk space).
- ☐ Evaluate the impact of the modernization project on resource capacity (savings due to compression, multi-threading, concurrency, IWA, etc.).

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Kick off your modernization project

Start your modernization effort by taking these essential steps:

☐ Map your data and IT infrastructure

Do you host servers on-premises, use a cloud service provider, or run in a hybrid environment? What databases do you use? What are your security and governance practices? Take note of anything else you think may be important to share. Work with your IT department if you're unsure about anything.

☐ Evaluate your deployment method

You are probably familiar with the different types of deployment architectures: On-premises servers, public cloud (virtual machines and/or containers), or a hybrid environment. There are positives and negatives associated with each. Cloud environments offer more scalability, services, and connectivity while on-prem environments can be more cost-effective and secure. Work with your IT team to understand which application deployment mechanism is best for each type of application. Check out the eBook "**Modernize Your Business Critical Applications with HCL Informix**" to learn each.

☐ Identify and align your stakeholders

Reach out to key stakeholders on the business and developer sides of your organization to ensure buy-in for your modernization strategy. Early engagement and support will lead to a smoother, faster adoption process.

☐ Map skill gaps on your team

Take note of which programming languages and techniques your development team is familiar with. If your team needs to up-level their skills, see which courses can help close the skill gaps.

If you don't have the HCL Informix skills required, **Actian Professional Services and partners can help fill the gap.**

☐ Get your project approved

Get buy-in from your business and technical stakeholders and document their assumptions about value. You may be asked about the competitive landscape as well as alternative approaches.

☐ Modernize your first application

Larger projects often require a proof of concept (POC) before approval and deployment. A POC can prepare your team for production and identify any technical gaps. This process may involve iterating on previous prototypes before you move into testing specific workflows. In any modernization project, your application architecture choices are highly dependent on the problems you're trying to solve. Your developers and subject matter experts should be involved to ensure you have access to the right data to test and evaluate your assumptions. Also make sure that your IT teams are involved to raise any red flags and that your end-users are on hand to evaluate any usability concerns.

☐ Test, test, test

It's critical to incorporate **robust** and **repeatable** functional and stress testing of the final production application in a dedicated environment before the database and application are put into production.

Robust so that surprises in production are reduced, and **repeatable** so that if a problem arises, it can be reproduced, which will speed up turnaround.

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Learn, optimize, and innovate

☐ Start small, then expand

Build a foundation for success by assessing low-complexity projects to modernize first. This way you can learn best practices and make process improvements along the way.

☐ Evaluate your approach and iterate

Measure the success of your project based on the goals and metrics you previously established. If you find you're not meeting your goal, you should investigate, adjust your approach, and test again. Remember, modernization is a journey.

☐ Stay connected and continue your journey

You may start with one focused project and uncover new problems or use cases you want to address. We highly recommend you connect with the Actian services team for expert advice and best practices.

Upgrade to HCL Informix in just a few easy steps and receive support from Actian's modernization experts, who have more than 95% customer satisfaction.

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If you're off maintenance with IBM Informix, you risk potential data and revenue loss. Many companies risk non-compliance, data breaches, and technological obsolescence to save money on upgrade and services costs. However, data breaches, limited scalability, and data residency non-compliance can wipe out any savings.

You can efficiently modernize your aging IBM Informix applications with HCL Informix (or IBM Informix) instead of paying millions of dollars in services and training costs to rip and replace your off-support database with an entirely new application environment.

HCL Informix enables applications development teams with:

- Multi-model functionality based on IBM Informix Advanced Enterprise Edition
- Per-core licensing
- Cloud-native deployments at no additional cost

Get Connected >

About Actian

Actian makes data easy. We deliver cloud, hybrid cloud, and on-premises data solutions that simplify how people connect, manage, and analyze data. We transform business by enabling customers to make confident, data-driven decisions that accelerate their organization's growth. Our data platform integrates seamlessly, performs reliably, and delivers at industry-leading speeds. Learn more about Actian, a division of HCLSoftware: **www.actian.com**.

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