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The Ingres NeXt Initiative

Modernizing your databases and applications will help your organization respond more quickly to market changes, keep up with the competition and support digital transformation. However, complex dependencies with other applications, data infrastructure, operating systems and hardware can make modernization risky. Replacing thousands of hours of custom-developed business logic is a long journey that is expensive and takes extensive planning to prevent disruption of mission-critical operations.

Ingres NeXt is a strategy to support your modernization journey with a phased approach to achieve incremental milestones. This helps Ingres database, Actian X, and OpenROAD database application development customers accelerate and de-risk modernization. Ingres NeXt provides migration utilities and the flexibility to modernize on your terms, staying on premises and/or making the journey to the cloud as it makes sense for your business. Our modernization approach minimizes risk, protects business logic, lowers costs, reduces time and effort, and decreases business disruption.

Benefits
- Tune and size your environment for changing business needs
- Leverage database and application investments
- Access Actian Data Platform services, including analytics and integration

Minimize Risks
- Obtain 100% cloud compatibility with on-premises deployment
- Preserve investments in existing business logic

Stay Current
- Run on the latest hardware and database release with current patches
- Modernize "Green Screen" applications for use with web and mobile platforms

Reduce Effort
- Let Actian take care of backup, security, patches, and upgrades
- Make database development and testing faster and easier

On-premises	• Linux, Windows, UNIX, and VMS support
Bring Your Own License (BYOL)	• Simplified Docker deployment with Kubernetes orchestration or virtual machine (VM) implementation • Same on-premises capabilities • Your choice of cloud service providers
Actian Database as a Service	• Co-managed/shared responsibility • Actian Data Platform services to connect, manage, and analyze data • Same on-premises capabilities • Cloud scalability, security, and elasticity • Your choice of cloud service providers

Figure 1. Ingres NeXt Journey – Your Way with Flexible Deployment

Database Modernization

The Ingres NeXt initiative provides your business with flexible options for infrastructure, software, and management of the Ingres database or Actian X running on Google Cloud, Microsoft Azure, and Amazon Web Services and continues flexible on-premises support as show in Figure 1.

On-going reliability with on-premises

Some enterprise workloads are sensitive to compliance requirements and are too complex or too expensive to move to the public cloud. Actian will continue to develop and fully support the Ingres database and Actian X on on-premises hardware, including modern platforms such as Linux and Windows, as well as traditional platforms whether virtualized or bare metal.

Bring Your Own License (BYOL)

The Actian customer hosts and manages BYOL deployments and has the flexibility to move existing licenses to the cloud or purchase additional ones. The Ingres database and Actian X are available as a Docker container to rapidly realize value from cloud scale and elasticity, while providing the portability to move data between cloud platforms and data centers.

The Ingres NeXt Initiative includes Kubernetes management and Helm Charts for easy and consistent deployment. Docker/Kubernetes/Helm Charts simplify Ingres database or Actian X deployment and provide a high degree of portability between public cloud platforms and your private cloud and virtualized environments.

Actian Database as a Service

Actian database as a service is a co-managed service that provides access to the Ingres database or Actian X in the cloud without requiring the procurement and setup of physical hardware, the installation of software, or database configuration. This option offers the same capabilities, enterprise-grade functionality, and reliability of on-premises and BYOL deployments. Actian database as a service provides the added benefit of freeing the DBA to focus on higher-value tasks since Actian takes care of backups, security, patches, and upgrades for you. With its ability to quickly spin up new databases in the cloud, Actian database as a service is ideal to use in a sandbox for development and testing.

Actian database as a service customers benefit from managing idle time out and scheduling to optimize uptime and cost. Furthermore, Actian database as a service is one of many services available on the Actian Data Platform that you can take advantage of, including real-time analytics and integration.

Application Modernization

OpenROAD database application development is a rapid application development tool powered by a 4GL programming language. OpenROAD provides a suite of development tools, with a built-in integrated development environment (IDE) and a source code repository.

OpenROAD lets you rapidly develop and deploy mission-critical, n-tier business applications on Windows, Linux and Unix connecting to databases such as Ingres database, Microsoft SQL Server, Oracle, Zen Edge Data Management, Actian X, and more via ODBC/JDBC.

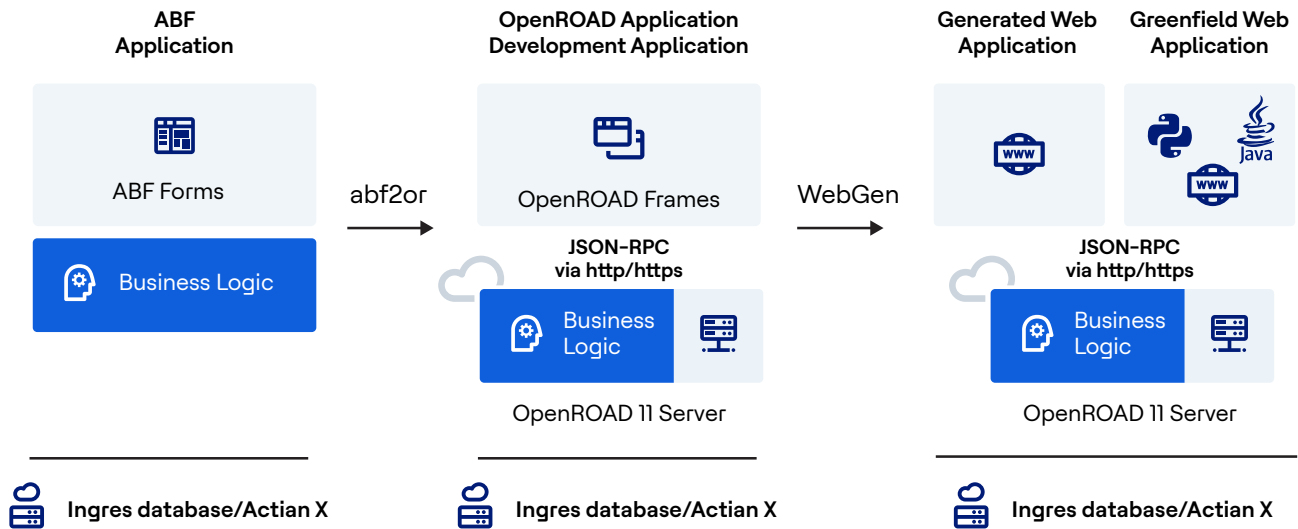OpenROAD delivers flexible application modernization as shown in Figure 2.

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Figure 2. Database-centered application development with OpenROAD

ABF and Forms-Based Applications	• Modernize ABF applications to OpenROAD frames using the abf2or migration utility • Extend converted applications to mobile and web applications
OpenROAD and Workbench IDE	• Migrate partitioned ABF applications to OpenROAD frames
OpenROAD Server	• Deploy applications securely in the OpenROAD Server • Retain and use application business logic
OpenROAD Server as a Service (Coming Soon)	• Expose application business logic in the cloud for easy access through a fully-managed service • Publish and maintain currency of locally developed applications securely in the cloud

Figure 3. Flexible Options to Modernize Your OpenROAD Applications

De-Risk Application Modernization

Digital transformation can be expensive and risky, especially when you are trying to protect existing investments while leveraging them in new ways to add value to your business without costly and lengthy rewrites. OpenROAD migration tools and utilities will give you a choice around what you modernize and where you deploy, at your own pace, without introducing risk.

Migrate ABF and Forms-Based Apps to OpenROAD

OpenROAD includes migration tools that allow you to modernize "green screen" Ingres database or Actian X ABF applications into OpenROAD, mobile, and browser-based applications by converting them into OpenROAD frames, as shown in Figure 3.

Modernize Existing OpenROAD Applications

You can transform encapsulated OpenROAD applications to browser-based equivalents without the cost, resource, effort, and risk associated with rewriting or replacing code. Developers can then extend these applications for web and mobile deployment, using HTML5 and JavaScript. Furthermore, OpenROAD supports modernized applications running alongside unconverted ones.
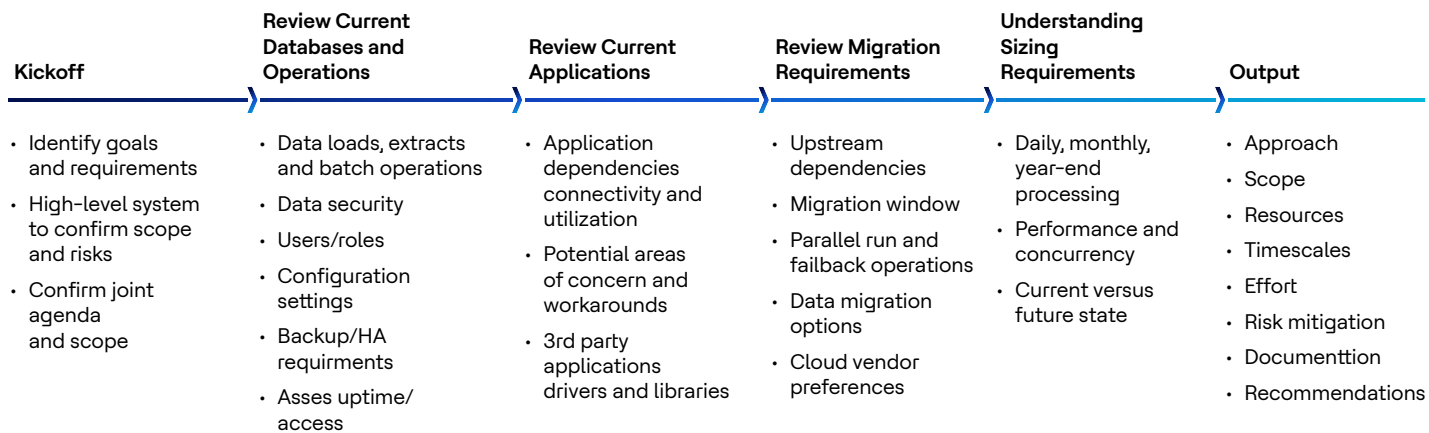
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Kickoff	Review Current Databases and Operations	Review Current Applications	Review Migration Requirements	Understanding Sizing Requirements	Output
• Identify goals and requirements • High-level system to confirm scope and risks • Confirm joint agenda and scope	• Data loads, extracts and batch operations • Data security • Users/roles • Configuration settings • Backup/HA requirments • Asses uptime/access	• Application dependencies connectivity and utilization • Potential areas of concern and workarounds • 3rd party applications drivers and libraries	• Upstream dependencies • Migration window • Parallel run and failback operations • Data migration options • Cloud vendor preferences	• Daily, monthly, year-end processing • Performance and concurrency • Current versus future state	• Approach • Scope • Resources • Timescales • Effort • Risk mitigation • Documenttion • Recommendations

Figure 4. Ingres NeXt Readiness Assessment

Preserve and Deploy Core Business Logic Using the OpenROAD Server

The OpenROAD Server provides a secure source code repository, equips you to build and deploy robust business logic, and supports n-tiered OpenROAD applications that are easily shared with popular programming environments and languages such as .NET, Java, and many others.

This flexibility to reuse existing business logic avoids costly rewrites of business logic and allows you to deploy existing application business logic using the OpenROAD Server. Web applications written in HTML5/JavaScript can connect to the OpenROAD Server via JSON-RPC + COM with no additional libraries, plug-ins, or add-ons.

Deploy OpenROAD Server as a Service (planned)

As a cloud-managed service, you will no longer need to maintain software and hardware and manage the OpenROAD Server. The OpenROAD Server can host existing business logic locally to cloud-based applications. This service will remain synchronized with locally developed application code when publishing application business logic to the OpenROAD Server running in the cloud

With the reliability and scalability of the cloud and its access from anywhere, developers can confidently extend existing business logic to users. OpenROAD Server as a Service adds the ability to better manage costs based on actual user consumption for compute, memory, and storage and is a great option for testing, demonstration, and development projects that require quick turnaround.

Ingres NeXt Readiness Assessment

The Actian Professional Services team, together with strategic partners, are available to collaborate with you to assess, scope and advise you on your journey to the cloud. Our Ingres NeXt Readiness Assessment, as show in Figure 4, is designed to help you reduce risk, save time and money, leverage best practices, and plan the best steps for success.

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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