Modernizing your Ingres database and application infrastructure is imperative so that your organization can respond more quickly to market changes, keep up with the competition and support digital transformation. However, modernization is risky since Ingres and the applications it supports may have complex dependencies with other applications and data sources as well as underlying operating systems and hardware. Replacing thousands of hours of custom-developed business logic is a long journey. In addition, rewriting applications is expensive and takes a lot of planning to prevent disruption of mission-critical databases and applications.

Ingres NeXt is a strategy to support your modernization journey with a phased approach to achieve incremental milestones. It is designed to help Ingres and OpenROAD customers accelerate and de-risk database and application modernization. Ingres NeXt provides migration utilities and the flexibility to modernize your way, staying on premises and/or making the journey to the cloud as and when 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**

**Accelerate Cost Savings**
- Leverage IT investments in database and applications
- Use less expensive storage
- Avoid legacy hardware and OS maintenance and support costs
- Avoid the cost of overprovisioning resources

**Minimize Risks**
- Obtain 100% compatibility with on-premises deployment
- Preserve investments in existing business logic
- Use the same database, integration, and skills across hybrid deployments

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

**Reduce Effort**
- Let Actian take care of backup, deployment, and monitoring
- Use Actian-managed services to free DBAs for higher-level tasks

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**Ingres Modernization**

The Ingres NeXt Initiative provides your business with flexible options for infrastructure, software, and management of Ingres running on Google Cloud Platform, Microsoft Azure, or Amazon Web Service and continues strong on-premises support as show in Figure 1.

**Figure 1: Ingres Migration Your Way with Four Flexible Options**
On Premises

Some enterprise workloads are sensitive to compliance requirements and are too complex or too expensive to move to the public cloud. Ingres will continue to be developed and fully supported on existing infrastructure, including popular platforms such as Linux and Windows as well as legacy UNIX and VMS platforms whether virtualized or bare metal.

Bring Your Own License (BYOL)

BYOL deployments are hosted and managed by the Actian customer who can move existing licenses to the Cloud or purchase additional ones. Ingres 11.2 is now available as a Docker container to enable users to rapidly realize value from the scale and elasticity offered by cloud environments, while also providing the portability to move data between cloud providers or back to data center environments.

Over time, the Ingres NeXt Initiative will further enhance cloud capabilities to include Kubernetes management and Helm Charts for ease of deployment. By taking this Docker/Kubernetes/Helm Chart approach, you will greatly simplify the deployment of Ingres and gain a high degree of portability not just between public cloud platforms but for use in your private cloud and virtualized environments.

Platform as a Service

Ingres will be part of the Avalanche Data Platform, allowing customers to use their Ingres unlimited license agreements (ULAs) while taking advantage of an Actian hosted and managed service. Avalanche Data Platform provides free entitlement to other Avalanche products such as Avalanche Warehouse that gives users the ability to perform operational analytics using the industry’s fastest data warehouse. This allows live transactional data to be used for near real-time analytics and reporting.

The Avalanche Data Platform also provides access to built-in data integration via Avalanche Connect. Customers will no longer need to manage backups, patches, or upgrades and will be able to realize these and other cost savings in their cloud of choice.

Furthermore, customers will benefit from cloud elasticity for workloads that can grow and shrink dynamically as business needs change. This feature is particularly beneficial for environments that require varying amounts of storage and compute over time.

Database as a Service

Database as a Service provides the very same benefits for your Ingres deployments as Platform as a Service. This service allows users to purchase new entitlements through Actian.

Application Modernization

OpenROAD is a database-centric, object-oriented, 4GL rapid application development (RAD) tool that lets you develop and deploy mission-critical, n-tier business applications on Windows, Linux and Unix connecting to databases such as Ingres, Microsoft SQL Server, Oracle, Actian Zen, Actian X, and more via ODBC/JDBC.

The Ingres NeXt Initiative provides four options to modernize your application infrastructure using OpenROAD as shown in Figure 2.
ABF and Forms-Based Apps

OpenROAD migration tools allow you to modernize “green screen” Ingres Applications-By-Forms (ABF) and form-based applications by converting them into OpenROAD frames as shown in Figure 3. Modernized applications support cloud and on-premises databases.

OpenROAD Fat Client

OpenROAD thick-client applications can be transformed to browser-based equivalents without the cost, resource, effort, or 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 incremental application migration where modernized applications can run alongside unconverted applications.

OpenROAD Server

OpenROAD supports encapsulating and deploying existing business logic within the OpenROAD Server. Reuse of existing business logic avoids rewriting decades of business logic from scratch. A client, such as an HTML page with JavaScript, can connect to the OpenROAD Server via JSON-RPC with no additional libraries or plugins/add-ons.

OpenROAD as a Service

OpenROAD as a Service delivers an Actian hosted and managed OpenROAD Server. Business logic is exposed as a web service that is available to web-deployed applications.
Figure 3: Actian OpenROAD 11.2 Data Centric Application Presentation Modernization