

# Query Recording and Playback

Realistic Performance and Load Testing for Ingres, Actian X and Vector

## Action QRP enables:

- Replay of actual production workloads
- Realistic volume testing
- Concurrency and performance testing of major and minor changes
- Comparison of pre- and post-change performance
- Increase/decrease playback pace

## Action QRP requires:

- Test platform capable of hosting a production database copy
- Playback platform to simulate client/server or cloud environment
- Windows/Linux platform for pre-processing trace files

One of the main concerns of Ingres, Actian X and Vector customers whose systems need to undergo a significant change, such as a major version upgrade, OS/cloud migration, a major software release, increased usage, etc, is **how to test the database under realistic conditions.**

Most organizations can perform functional testing, batch testing and limited performance testing. However, performing full-scale volume tests that mimic the real production system is time consuming and costly to get right. There is always a level of risk hanging over the final 'go live' moment.



## Query Recording and Playback

Query Recording and Playback (QRP) helps eliminate the risk of change through realistic stress and volume testing using **actual** production workloads and workflow.



Based on experience gained from many successful upgrade projects, we have built QRP to record the production database workload on a normal day, and then play those queries back on a test system whenever you want.

The QRP toolset provides the ability to validate performance and stability of any change. Using query recordings taken inside the database server, playback runs as many user sessions as needed to replay queries at the same pace and in the same sequence as they happened in production.

Whether you intend to upgrade your databases, migrate to a new platform or increase the number of end users on a system (for example through platform consolidation), you need QRP to prove that your planned configuration has the capacity to cope with the intended load and that concurrent usage does not introduce unforeseen issues for system resources, locking, stability or performance.



QRP enables the direct comparison of server resource utilization, query response times and query results (row counts and errors) across pre- and post-change environments. Playback can also be run at varying paces to simulate increased workloads or to accommodate less powerful test platforms.

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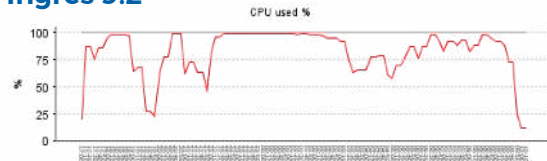
## What Are the Stages of Performance Testing?

- Query Recording** is available as part of the standard Vector, Ingres and Actian X DBMS installation.
- Preprocessing** is performed on the output from the Query Recording phase to prepare the data for playback.
- Playback** will replay recordings of the workloads in real-time or alternately playback time can be increased or decreased as required. Each database request will be submitted in a valid sequence that replicates the actual production environment, including full transaction processing, simultaneous request submission and erroneous syntax entries.

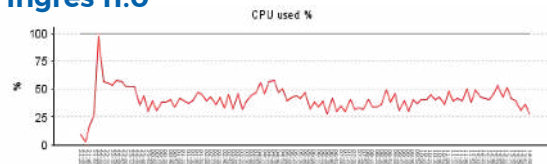
## Action Performance Testing Service

Action can offer a full testing service to help eliminate the risk of change. This would include the implementation of the QRP toolset, management of production recording sessions, pre-processing and all work necessary to conduct the required tests. The service would conclude with a comprehensive report describing the QRP project and the results of the testing.

Ingres 9.2

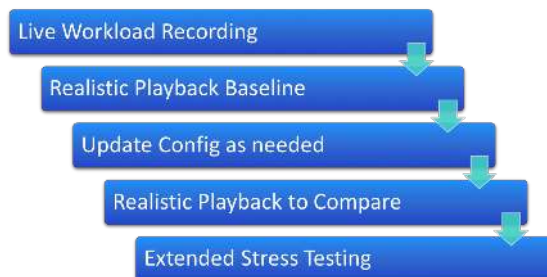


Ingres 11.0



## Typical Project

A performance testing project typically takes the form of multiple recording sessions followed by comparative playbacks against old and new configurations and then extended stress testing of the new system. Playback records query results and performance that can be used for analysis.



For more information, please contact [Services@actian.com](mailto:Services@actian.com)



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