

# Adabas Fastpath Benefits and Features

This section provides an overview of the benefits and features provided by Adabas Fastpath.

- Increased Throughput via Optimization
  - Application Transparency
  - Continuous Operation
  - Security
  - Support for Distributed Systems
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## Increased Throughput via Optimization

Adabas Fastpath provides optimization of repetitive direct access queries to data managed by Adabas, as well as optimization for sequential access to Adabas data using a read-ahead facility.

By increasing overall throughput, Adabas Fastpath can reduce

- Adabas CPU consumption
- application CPU consumption
- online response times
- batch elapsed times
- overall costs

Adabas Fastpath satisfies an Adabas query from within the application process to avoid the operating system overheads needed to send a query to and from the database. It also avoids database processing functions such as

- command queue processing
- format pool processing
- buffer pool scanning
- I/O (potentially)
- decompression

Because Adabas Fastpath optimizes a query in the client process, queries that previously required queuing (and other) overhead involved in database processing are now processed with no overhead.

In multiprocessing environments, this implies that the capacity for database query throughput is increased significantly, and to scale.

## Application Transparency

Adabas Fastpath provides optimization without the need to change the application systems. Because no reinvestment is needed, older systems that are difficult or impossible to maintain can also be optimized.

For example, if you are having performance problems with a system that has been running for some time and there is no budget (or relevant experience) to improve the system, you can use the Adabas Fastpath sampler to analyse which queries issued by the system can be optimized and then instruct Adabas Fastpath to perform the optimization. Adabas Fastpath implementation is that simple.

## Continuous Operation

The Adabas Fastpath software is used by

- the database;
- each client job; and
- the Adabas Fastpath buffer manager.

During production operation, it may be difficult to find time for software maintenance. To minimize the time required, Adabas Fastpath provides an automatic upgrade facility. After applying maintenance, you can direct Adabas Fastpath to dynamically load a new copy of its own code. Adabas Fastpath coordinates the process across the whole operating system.

Once the Adabas Fastpath buffer is started, it can be left active without intervention. Adabas Fastpath reacts automatically to database startup and shutdown.

You can instruct Adabas Fastpath to apply different optimization profiles according to the time of day. For example, your systems may generate significantly different work during the night-time hours. You can instruct Adabas Fastpath to operate accordingly, automatically.

## Security

Adabas Fastpath read-ahead optimization makes a series of sequential accesses more efficient for a single client. Because no data is shared between clients, data security is not an issue.

Fastpath direct access optimization retains the results of previous queries (from any client) and supplies the results to any client. In this case, data security is indeed relevant:

- When Adabas Fastpath is instructed to optimize a direct access query that is secured under Adabas Security, it issues an Adabas response code.
- If the Adabas SAF Security Interface is installed for a database, Adabas Fastpath verifies security permission at the file/user level.

## Support for Distributed Systems

Adabas Fastpath can be used to optimize Adabas databases whether they are local or remote to the client process while automatically maintaining the integrity of the data in the Adabas Fastpath buffer.

- Using Entire Net-Work
- Using Clusters

### Using Entire Net-Work

When the database is accessed over the network, calls are optimized in the client process before they are transported, thus bypassing the Entire Net-Work communication path as well as Adabas command processing.

Entire Net-Work makes the location of the database transparent to the Adabas Fastpath optimization process. There are no special installation requirements.

### Using Clusters

Adabas Fastpath works in conjunction with the Adabas System Coordinator to provide support for clustered Adabas servers and for clustered applications.

The maximum benefits from Adabas Fastpath are provided to all images of the Adabas server running under Adabas Cluster Services in an IBM parallel sysplex environment. The integrity of all Adabas Fastpath buffer data is ensured no matter where the data is updated.

Adabas Fastpath supports clustered applications that allow client session movement across or within systems.