ACTIAN

DATA SHEET

Actian NoSQL FastObjects .NET

High Performance Client-Server Database to Meet Your Needs

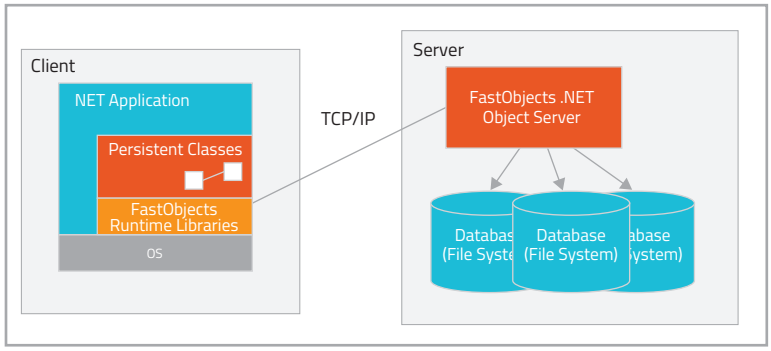
OVERVIEW

Actian NoSQL FastObjects .NET is a high performance, transactional database that is configurable to meet your deployment needs. If you require a scalable, multi-user database server, FastObjects .NET offers relevant options such as multi-processor support, encryption, replication, and fail-over/reconnect. If you require a truly embedded database, FastObjects .NET offers features specifically designed for mass deployment such as object/schema versioning and zero maintenance.

Architecture

Actian NoSQL FastObjects .NET consists of a core database server that provides the essential database functionality, and a set of client-side application libraries used by your application. With FastObjects .NET, the database schema and all database access code are generated directly from the object model. This allows for a direct utilization of objects and their relationships within the database, thereby eliminating any need for schema mapping code.

The FastObjects .NET Server listens for and maintains client connections over a collection of TCP/IP sockets. Designed for multi-tier applications, the Server manages all transactions running against the database by providing concurrency control through sophisticated object level locking. Objects are stored on the Server's local file system for fast, efficient storage. Internal Server caching is used to improve the runtime performance.



FastObject .net runtime architecture

Key Features

Transparent Persistence and State Management Through Code Enhancement

FastObjects .NET is a persistence framework that offers transparent persistence through post-compilation code enhancement; adding persistence functionality is non-intrusive to the application's object model offered by versant's C# Api, will work and save up to 40% in development and maintenance costs.

Concurrent Access

FastObjects .NET is designed for large-scale concurrent access to the databases controlled by the database Server, offering both optimistic or pessimistic locking strategies, both of which guarantee object consistency when working with multiple users or processes.

ADDITIONAL TECHNICAL INFORMATION

Language
C#

Managed C++

VB.NET

Any IL-capable language

Memory Footprint
12 MB minimum storage

Storage
Networked FastObjects Server

Local File System

Development Platforms
Microsoft .NET

Compilers
Visual Studio 2010

At least .NET Framework 4.0

Deployment OS
Windows 7, 8, 8.1, 10

Windows Server 2016

Windows Server 2012, 2012 R2

Windows Server 2008 R2

Windows Server 2012 R2

Full Object Orientation

FastObjects .NET fully supports the object oriented paradigm for interfaces, inheritance, polymorphism and encapsulation for objects and sets of objects. Applications benefit from this "objects end to end" model by being faster and easier to develop.

Efficient Direct Storage

An object's in-memory representation is transferred to the disk representation, with memory references converted to object identifiers that preserve the object's relationships. Any complicated and costly object-to-relational mapping (ORM) problems are eliminated.

Streamlined Management of Complex Data

For .NET applications, the FastObjects .NET intermediate language code enhancer automatically extracts all needed schema information from the declarations of your classes.

High Speed Navigation and Retrieval

Objects are stored with references so the application can quickly and efficiently retrieve and traverse the object graph.

Queries

The query engine automatically takes advantage of the indexes defined for the class, improving your application's performance.

Data Integrity

FastObjects .NET fully supports all traditional data integrity features such as transactions, logging, and locking.

Transparency and Zero Maintenance

FastObjects .NET is designed to be an embedded, self-contained system that is deployed without the need for end user interaction.

Schema Evolution

Objects in the database are automatically migrated to the new schema in subsequent application releases, protecting the developer from writing complicated update code when the application evolves.

Scalability

For large-scale web-based applications, FastObjects .NET employs a read-write "master" server relationship with any number of read-only "slave" servers to achieve a high performing, scalable architecture.

Replication and Failover

Highly available systems can be designed by using FastObjects .NET Replication features.

Data Encryption

FastObjects .NET will protect physical data from theft or unauthorized access through the optional encryption of the information stored in the database.

Communication Encryption

FastObjects .NET will protect the communications between your application and the database Server through optional SSL-based encryption.

ACTIAN™

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