

Are you serious about the success of your software?

Are you developing software that needs to share or exchange data? Will this data exchange occur between smartphones running your app, or between your software components that reside on the same machine or across a network?

If so, distributing your application's data is vital to the success of your software product.

Development challenges exist but, if the correct decisions are made early, they are not insurmountable.

By incorporating the correct distributed data flow mechanisms, your software can be efficiently developed into a sustainable and revenue generating product.

Introduction

Exchanging data efficiently is of paramount importance when developing distributed software. The data must stream seamlessly between components and be marshalled as needed for disparate platforms.

The solution must offer low latency for increased data throughput, provide an intuitive and flexible interface to conform to your software, and provide appropriate data communication models / schemes (publish / subscribe, queues, transactional, load balancing, etc.) to transmit and receive data.

In order for software to be successful these issues must be addressed. The data processing, that is unique to your application, depends on the successful exchange of distributed data streams.

Problem Definition

Network programming, when designed and implemented from the beginning, is deceptively easy.

Ultimately, a corporation will need to spend a significant amount of time and resources developing the data distribution functionality to achieve an acceptable level of software maturity.

Most important, if the data distribution functionality is developed without broad foresight, then an implementation is susceptible to flaws related to scalability and adapting to future changes in design, requirements, and technology.

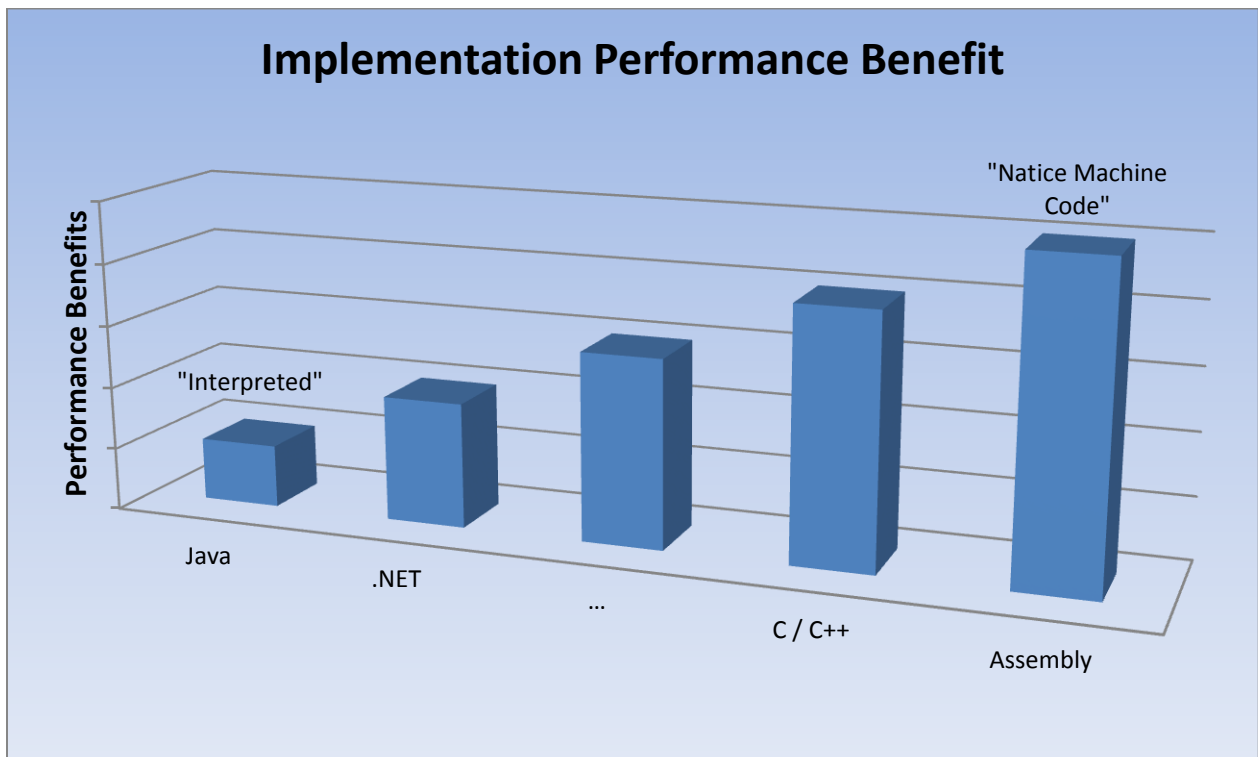
A corporation can become vulnerable when addressing the overhead incurred by these cyclical issues.

High-Level Solution

Most of the existing messaging libraries are implemented using Java, .NET, or C / C++. These solutions offer a wide range of features and benefits which provide software applications with the ability to exchange data. Each solution has their advantages and disadvantages which need to be understood in order to incorporate their functionality successfully.

The Java and .NET libraries offer low learning curves but incur reduced performance because, at execution time, they do not exclusively provide native machine code for the host platform to execute.

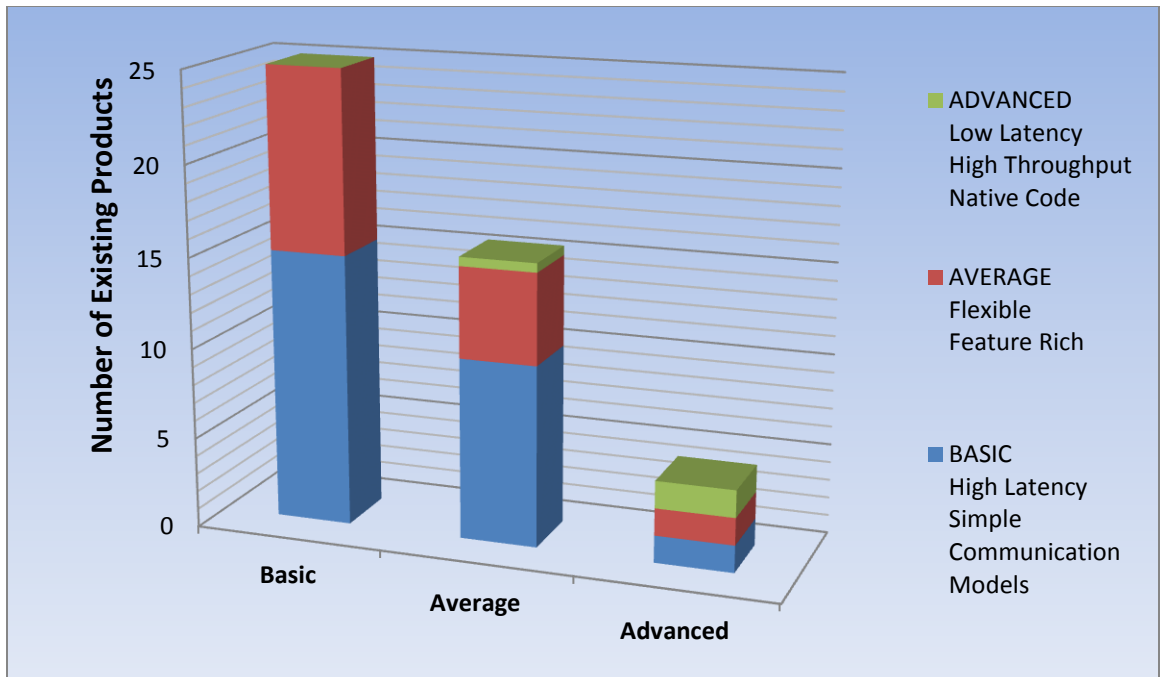
The C / C++ implementations can impose a slightly higher learning curve but will grant superlative performance because they can be compiled to native machine language.



Most solutions provide the basic communication models to exchange data including, publish / subscribe, queues, load balancing, and transactions, etc. These features are the required building blocks of a distributed application.

To provide a more advanced solution, one of the challenges is to expose the implementations of these features in a manner which allows the user to easily incorporate them into their code base. When these features are offered in an intuitive software library package, then it will result in a flexible and adaptable solution for the customer.

In addition, if these features are capable of running natively, then the result is a responsive, high throughput and low-latency application.



Many of the existing prominent libraries only offer the basic communication functionalities. Some of these libraries offer slightly more benefits and features. And just a few of the remaining libraries offer advanced features to facilitate the exchange of data.

Solution Details

To simplify the exchange of data, Integrands Data Exchange offers an advanced solution that provides a comprehensive set of features. These features include the basic data communication models as well as advanced features that enable high-performance distributed applications to communicate quickly, reliably, and securely across different operating system platforms.

It is available for the C / C++ and Java development environments which target the Linux, Windows, and Android platforms.

It provides an intuitive and flexible interface which insulates developers from the complexities of network programming.

Data Communication Models

- Publish-Subscribe (Topics)
- Point-to-Point (Queues)
- Load Balancing
- Singleton
- One-to-One, Many-to-One, Peer-to-Peer, Client-Server
- Request / Reply
- Synchronous data flow
- Transactions
- Filtering
- Wildcard and Hierarchies
- In-Order Delivery
- Priority Based, Message Types Search, FIFO

Rich Feature Set

- Low Latency
- High Data Throughput
- Native Code
- Message Security (authentication, encryption, integrity)
- Message Peek
- Quality of Service
- Network Metrics
- Persist Messages
- Guaranteed Delivery
- Fault Tolerance
- Cross Platform (automatic data conversion across heterogeneous platforms)
- Shared Memory

Integrands Data Exchange - Technologically Advanced

- Currently supports popular Linux, Windows, and Android operating systems.
- Available libraries for C / C++ and JNI / Java development environments.
- Offers ultra-low latency for increased data throughput.
- Offers a simplified, robust, and flexible interface for a reduced development learning curve.
- No intermediary brokers

Business Benefits

Integrands provides a solution for companies developing distributed software. It provides the communication functionality that developers need to efficiently distribute data among instances of their application.

Software applications built with Integrands Data Exchange will benefit from a robust set of features that offers design flexibility and facilitates implementation. By incorporating this library into your application, it will shorten the development schedule by reducing the time and resources devoted to completing the development tasks. Ultimately, it will bring your application to the marketplace sooner.

Also, Integrands Data Exchange offers configurations that are selected by the customer. Often customers are compelled to purchase 100% of a product when only 5% of the features are actually used. Integrands has the added benefit where the customer can tailor the product to their specific needs.

Developing with Integrands Data Exchange

- Allows for rapid application development.
- Exchange and manage data across heterogeneous platforms.
- Offers a scalable, responsive and comprehensive set of features.
- Affords you a complete message oriented communication package that would be non-trivial to develop in-house.
- Extensible, ready for your software's future enhancements.

Why Choose Integrands Data Exchange?

- Simplifies the development of distributed and / or cross-platform software applications.
- Insulates developers from the complexities of network programming.
- For developers who are dissatisfied with the complexities of developing message oriented middle-ware in-house.
- For developers who are dissatisfied with competing products where only a portion of a monolithic set of features are used at full price.
- Integrands provides a modularized and competitively priced message oriented middle-ware whose feature set can be selected by the customer.

Summary

Integrands Data Exchange simplifies the development of distributed and / or cross-platform software applications. It provides an intuitive and flexible interface, with a comprehensive set of features for distributed data flow, and offers low latency for increased data throughput.

Developing the distributed data exchange functionality from the ground up deceptively easy. If a corporation assumes the task of developing the distributed data exchange functionality of their software, then they will have to devote a significant amount time and resources to complete the task. Also, if implemented without anticipating future changes in design and requirements, then the implementation will continually need to be altered, updated and qualified. Because of this, a corporation can unwittingly create burdensome development and maintenance issues.

Integrands Data Exchange is a well-designed and effective software library which will reduce the development time spent to bring an application to the marketplace.

Action

Please call to schedule a free in-house consultation to determine how Integrands can help simplify your data distribution challenge.

Become an Integrands Beta Site

Be one of the first to try Integrands software and be an invaluable contributor to the final product.