

Financial Services Applications

A Demand for Uptime, Performance and Data Integrity

The term *financial services* covers a broad gamut of companies including – but not limited to – insurance companies, credit unions, consumer-finance companies, investment funds and stock exchanges. While these companies are disparate in their product offerings and customer bases, they all have one high-level purpose: to manage money.

The financial services industry is highly competitive, and while security may be the primary issue where customers need reassurance, the availability and performance of the network is what is driving the competitive landscape, and data consistency is paramount for transactional integrity. These three essential elements – availability, performance and data consistency – are crucial for financial applications, and exactly where ScaleArc can deliver significant advantages.

- **Improve Uptime**

ScaleArc enables 100% uptime for financial services applications. By instantly and transparently routing database traffic around downed servers – even across multiple data centers – ScaleArc shields apps from downtime and prevents application errors, keeping users logged in and productive. This unique approach is transparent to the application, which means that no application changes are required to take advantage of ScaleArc's ability to scale, optimize, or add resiliency to new or existing application and services.

Because developers do not need to touch applications to embrace the benefits of ScaleArc, development time and expenses are reduced, and time-to-market for new application roll-outs can be markedly decreased.

- **Improve Application Performance**

ScaleArc sits transparently between the financial services app and the database. Due to its unique place in the network, ScaleArc has the ability to provide an unparalleled, in-depth view into the app's behavior with its database stack and deliver the tools needed to take corrective measures to alleviate performance bottlenecks.

App performance bottlenecks, as related to databases, tend to fall into three main categories: poor query performance, lack of concurrent capacity to handle high user loads, and connection pooling / management issues. ScaleArc provides analytics tools to pinpoint when any of these are occurring, in real time. ScaleArc's live monitoring identifies how many database connections and queries the application is requesting and whether the database server/s are capable of handling the load.

- **Ensure Data Consistency**

Financial services applications are highly transactional, and data consistency is paramount for transactional integrity. ScaleArc ensures this consistency by relying on powerful failover capabilities. If a query dies in the middle of a transaction, ScaleArc automatically alerts the application to retry the action. By not committing writes on behalf of the database, ScaleArc protects transactional integrity during failover.

Additionally, by leveraging its surge queue, the ScaleArc software can hold incoming queries in queue while the new primary database takes over, dramatically reducing application errors that typically occur during database failover. As a result, SQL database failures become virtually unnoticeable in a ScaleArc deployment.

Use case - Migration of legacy databases in an uptime-critical environment

Nasdaq, creators of the world's first electronic stock market, undertook a project to migrate thousands of databases and applications from a legacy network to a new network infrastructure in six months, and to do it with zero downtime throughout the migration. Because there could be no maintenance window while stocks were trading, Prasad Parvathaneni, team lead for DBAs at Nasdaq, decided to move the application servers on the front end and the database servers on the back end separately.

To achieve this separation, Parvathaneni engaged ScaleArc specifically for its ability to easily create an abstraction layer between Nasdaq's apps and databases and allow for the migration of the infrastructure in phases. Additionally, apps connect to ScaleArc instead of directly to the database layer, shielding the apps from any outages or changes at the database tier.

ScaleArc is completely transparent to both the applications and the databases. The team was able to deploy ScaleArc with no code changes and completed migrating the legacy network to the new infrastructure in six months without delays or downtime.

“The checking of stock prices at the end of the trading day is a perfect candidate for caching. Using ScaleArc's caching capability, we were able to see a steep drop off in traffic directly hitting our database servers. The beauty is that we didn't have to make any code changes to benefit from this boost in application performance..”

– Prasad Parvathaneni
team lead for DBAs at Nasdaq



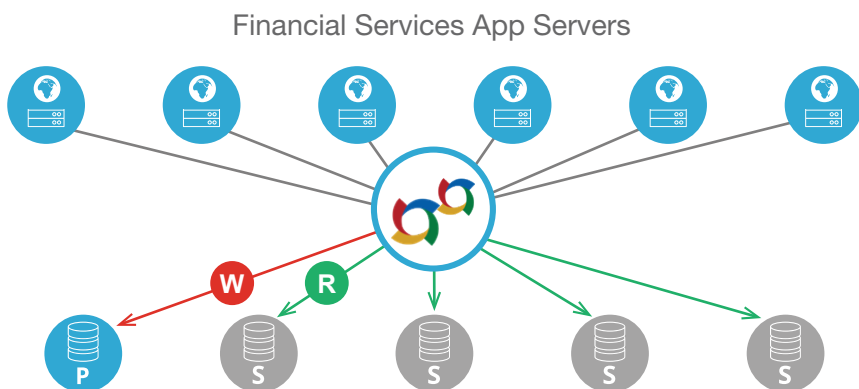
The Benefits of ScaleArc in Financial Services

ScaleArc's database load balancing software deploys transparently between the application and the SQL database infrastructure. ScaleArc leverages database replication and failover to enable continuous availability of the app. ScaleArc enables financial companies to:

- **Zero Downtime**
Operate at 100% uptime with automatic failover, delivering zero downtime for maintenance, upgrades, and security updates
- **Better Performance**
Increase performance through read/write split that turns idle secondary servers into active servers
- **Data Consistency**
Scale transactions across multiple servers to increase query volume capability and to deliver high capacity without compromising transactional integrity
- **Analytics and Troubleshooting**
Provide real-time actionable analytics for instant troubleshooting capabilities

“With ScaleArc, we can guarantee business continuity by taking our data recovery maturity to a whole new level. We've automated everything and reduced the failover testing process to a couple of hours. It's definitely added days back in my life.”

– data services director
financial services company



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ScaleArc enables consumer-grade apps for today's digital business – apps that are never down, are always fast, and scale anywhere. ScaleArc's database load balancing software helps organizations of all sizes eliminate application downtime from database outages or maintenance, improve application performance, and scale database capacity – all without writing a single line of code. As a result, ScaleArc customers increase revenue, reduce operational costs, and accelerate time to market. Learn more about ScaleArc and its customers and partners at www.ScaleArc.com.

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