Embrace the change

Charting a course to the future of FinTech

LUMEN®
The Platform for Amazing Things℠

Technology aimed at the financial services industry; FinTech, is hot.

Venture capitalists poured enormous amounts of money into a wide variety of new companies in recent years. Mobile apps, large-scale data analytics, extreme personalization, and a host of other innovations in the field are changing the way financial services are developed, packaged, and delivered to consumers and institutions alike.

Yet, in some ways fintech is merely a buzzword for something that's been going on for years: the use of technology to streamline, automate and accelerate processes and business channels in the various sectors of the financial services industry, from retail banking to currency trading to the massive capital flows of large investment houses. Many established companies – including large publicly owned firms – built their businesses helping finance firms engage their customers or analyze reams of data in new ways.

As often happens, venture capital investors (VCs for short) are chasing a sector already established by pioneering companies. VCs can over-saturate a segment, producing a parade of companies that could be niche players or "me too" copycats. The pioneers are now interwoven into their customers' businesses. Yet, the sheer volume of these newer entrants can impact the market for the established players and the customer base's expectations.

The established fintech players grew up in a different IT environment. While many startups today are “born in the cloud,” these more mature firms often operate a large national or international data center infrastructure.

Depending on the business model, some even built proprietary networks to carry the data they supply. In many cases, this approach enabled many customizations for individual customers and highly integrated software code.

In today’s changing IT world, what started out as advantages can also weigh as burdens. Despite their success, the established fintech firms must adapt to this changing environment. The mass influx of new entrants can create new pricing pressures, change customer expectations, and account dynamics. A niche player can gain a toehold in a functional area the established player has a hard time addressing because of the limits of their IT strategy.

If it were easy to create these changes, of course, the established players would already have done so. This eBook outlines some of the unique challenges to making changes these successful companies face and proposes some strategies for moving forward.

Changing FinTech landscape

The established players built proprietary, monolithic offerings for the various segments of financial services such as retail banking, payments processing, capital management and insurance. While their success is impressive, their approach is out of step with modern IT practices.

These applications were often hand coded. Their architectures assumed dedicated resources versus the flexible virtualized resources of the cloud. They scaled their own infrastructure as their success grew. This included building out their own captive data centers across the nation and often around the world to put resources close to customer in the globe's financial centers such as London and Hong Kong. In some cases, they built their own networks to carry the streams of real-time data traders rely on.

Over time, they may have embraced the cloud for their internal needs. But the complexity of re-architecting their products and services to take advantage of the cloud was too disruptive for a business that operates 24/7 and has links into the real-time operations of their customers. The hand-coded applications would require rearchitecting to make use of containers, micro-services architecture, and other aspects of the cloud. Their customers, as well, cannot tolerate the disruptions that would be necessary for this migration.

The barriers to entry have fallen so dramatically that more competitors are constantly being formed.

None of those factors have changed, yet the landscape under their feet is shifting. The torrent of money funding fintech startups is creating new competitors that are "born in the cloud," avoiding legacy IT approaches all together. The barriers to entry have fallen so dramatically that more competitors are constantly being formed.

All this is happening just within the fintech industry. In the financial services marketplace itself, consolidation has been underway for some time and will continue. So, while the number of competitors rises, the number of customers will fall. Pricing pressures will build, and account influence could erode as fewer customers get more exposed to these new entrants.

The business case for greater flexibility and modernizing architectures is clear. Yet, the transition is arguably complicated by success.

Complications

FinTech pioneers were so successful their customers cannot tolerate disruptions in their services because of a fear of disruptions in their own businesses. This tension creates numerous barriers to adapting to the current landscape.

While new competitors can take advantage of micro-services architecture to create their applications and services, the pioneers are saddled with monolithic approaches. Their applications might not lend themselves to micro-services without significant re-architecting. Even a straightforward “lift and shift” migration to a cloud hosting environment is at best problematic because of potential disruptions. In many cases, these applications and services are integrated into other applications such as data analytics used by financial industry customers. The IT environment they use grew over time and likely relies on different providers, different clouds and it was all made to work together with changes accumulating over time. Customers want everything available when and where they need, completely agnostic of the systems it runs on. They don’t want to change things because of their suppliers’ business need.

Moving from an in-house data center that was specifically located to be near a financial center to a hyperscale data center across the nation also introduces latency into services that previously had very little. This could cause timing problems for complicated trading algorithms, for instance. That could be addressed by customers adjusting their own systems, but that means imposing costs on customers.

The sheer amount of data involved also complicates the transition. Customers have tons of data already invested in these services and collect a lot more each day. Preserving the integrity of that data through a transition is only one issue. Much of this data is active data, used regularly by bankers, traders and even consumers. By moving it into a hyperscale cloud, the fintech player will encounter egress charges when that data is used. That creates a no-win situation of either passing new costs on to customers or absorbing them into an established P&L and lowering profit margins.

FinTech players face an uncomfortable paradox. To continue serving their customers into the future, they need to rearchitect their services. Yet, customers will balk at any disruption. At best, fintech pioneers are trapped in a state of constant partial migration. They can merely chip away at a huge problem because only marginal, low-impact steps are available to them.

There is a better way.

The hybrid environment

Given the serious constraints detailed above, breaking out of the cycle of constant partial migration starts with a platform mindset. By constructing a platform – assembling and integrating various technologies from the right providers – fintech players can build a bridge to the future without disrupting the present.

Other industries have faced similar decisions. On their faces, fintech and the streaming media business seem quite different. Under the hood, they look similar in architecture. Both are highly distributed in nature. Both are data intensive with multiple applications handling different aspects of the customer interaction. They are both latency sensitive putting a premium on network efficiency and the geographic staging of assets close to customers.

The streaming industry could have built all this themselves, but they didn't. They assembled a platform they control, using a set of partners who provide the best-of-breed components.

For FinTech, the platform requirements include:

- **Cost reduction:** Capex costs need to be reduced by shrinking the internal data center footprint. The network costs from shipping data around needs to be reduced.
- **Increased flexibility:** Internal data centers and other resources need to be considered part of the platform initially to alleviate disruptions as new resources (such as cloud-native applications) are being built. While the long-term plan is to replace those resources, they can act as backups during the transition. New resources need to be extensible as the business evolves.
- **Preserve customer service:** Customers should perceive no degradation in service during the transition. Period. They should also enjoy the benefits of your more flexible platform approach as their own needs evolve.

The right strategy is to shift to a hybrid environment that preserves the centrality of internal resources as long as you need them, but combines those resources with one or more cloud providers, edge resources and a robust network. This hybrid approach enables a “best execution venue” strategy for applications and workloads.

Replication services can automate putting your resources wherever you need them across a robust network that can tie everything together.

For instance, many internal data centers are located close to financial centers such as New York City or Tokyo. Edge cloud can provide a way to keep applications close to customers while reducing internal IT costs. At the outset, bare metal servers can provide the hardware to run monolithic applications while they are being rearchitected for the future. Once those new applications and workloads are ready to roll out, replication services can automate putting your resources wherever you need them across a robust network that can tie everything together.

This hybrid approach can enable incremental changes to roll out as they are ready. Customers will not feel that too much is changing at once. Capex costs can transition to opex costs. Using the edge for hosting and delivering services while also processing data there can optimize the use of any cloud resources for analytics by only sending the data to the cloud that’s necessary. That edge processing model also controls the cost of data transport to the cloud over the network.

This broader platform provides the flexibility to develop new services in the best execution venue, while staging transitions away from in-house data centers in a logical, non-disruptive fashion.

Conclusion

The finance industry has changed dramatically in recent decades. It will continue to do so. The fintech players who helped drive those changes for their customers need to adapt so they can continue serving their customers.

Yet, they face a paradox. They are so vital to their customers’ success that their customers cannot tolerate changes in the experience of their services. Yet, to continue in that role, they need to make changes in the way they deliver those services.

The platform mindset provides a way to understand the path forward. Companies in other industries faced similar transitions. Lumen itself took its various technologies in recent years and integrated them into a platform composed of adaptive networking, edge cloud, connected security and collaboration services. This has enabled a platform and ecosystem approach to the business where the platform provides a core capability that can be supplemented with best of breed technologies from an ecosystem of partners.

For the fintech industry, the platform mindset enables a best-execution-venue IT strategy for delivering their services now and into the future.

About Lumen

Lumen is guided by our belief that humanity is at its best when technology advances the way we live and work. With approximately 450,000 route fiber miles and serving customers in more than 60 countries, we deliver the fastest, most secure platform for applications and data to help financial institutions, businesses, government, and communities deliver amazing experiences.

Learn more about the Lumen network, edge cloud, security, communication and collaboration solutions and our purpose to further human progress through technology at:

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