FINTALK REPORT

IT Insights for the Financial Services Industry

WINTER 2014

SCALE NEW HEIGHTS

TOP FIVE TECHNOLOGY TRENDS INFLUENCING THE FINANCIAL SERVICES INDUSTRY

Page 2

CDW PEOPLE WHO GET IT

FINTALK REPORT
IT Insights for the Financial Services Industry

Embracing the New Age of the Customer

There has perhaps never been a stronger focus on the customer than now. Financial services organizations — banks, credit unions and capital markets firms — are rapidly ramping up to serve their clients with IT that facilitates swifter, safer and more seamless transactions, and optimizes their experience across all channels. Striving to achieve this "customer-first" mentality requires a fundamental shift in the way you leverage today's IT advancements to your strategic advantage.

The financial institutions with whom we collaborate are always searching for new ways to address their customers' needs, wherever and whenever — at the facility location, from the comfort of home and even on the go. The ubiquity of mobile devices has sparked the age of the savvy, empowered consumer — and it's here to stay. How can you successfully vie for customer mind and wallet share as the competition grows fiercer? What's the best way to satisfy client demands across the board, yet still deliver highly personalized service? How can you ensure that you're complying within the confines of new regulatory mandates while managing risk and balancing the need for speed and profitability?

This issue of *FinTalk Report* brings you real-world advice from your peers, experts and technology leaders who have creatively addressed these challenges. You'll learn about the latest IT trends, innovations and disruptive technologies that financial organizations like yours are leveraging to sharpen their competitive edge, counter the latest cyberthreats, intelligently connect with their customers and position themselves for the future.

As you look to the year ahead, you can count on CDW Financial Services as the strategic technology partner who will help you achieve your business and IT priorities with a customer-first mindset.

Ben Weiss
Director, Financial Services

ONLINE RESOURCES

Optimize the Omnichannel
Anywhere-anytime banking is here. Learn how to update your IT configuration to meet growing customer demands.
CDW.com/omnichannelbanking

Raise the Bar on HPC
See how cutting-edge high performance computing solutions accelerate trading, risk analysis and financial services apps.
CDW.com/hpcwhitepaper

Keep Current and Relevant
Stay up to date on industry news and views by visiting our blog at **CDW.com/FinTalk**

Want the Latest Trends and Resources?
Sign up for our monthly *Financial IT Trend Spotting* e-newsletter at
CDW.com/FINtrendspotting

CONTENTS

VIEW FROM THE TOP

It's no longer business as usual. From disruptive technologies and innovation, to big data and the mobile banking evolution, to the convergence of compliance and cybercrime, the financial services industry is quickly morphing and growing ever more competitive. Our "FIN Watch" feature identifies the trends that are reshaping the marketplace, now and into the future.

1 ONGOING INNOVATION DRIVES SUCCESS

Financial institutions are realizing that innovation is critical for long-term success. Many organizations are taking action and have begun implementing innovation initiatives. JP Morgan and Bank of America have both established innovation programs to provide customer-centric products and services delivered via more user-friendly channels. Branches are being reimagined with smaller footprints, mobile tellers, video collaboration and unique café or art gallery-inspired interiors. The human touch is being delivered, but in unique ways via digital channels. However, PwC believes that many financial institutions experience lackluster results because "roughly 80% of financial institutions rely excessively on incremental innovation – those that focus on better, faster, cheaper." The key to successful growth is an ongoing approach that will lead to breakthrough innovation and sustainable results.

86% of CEOs in banking and capital markets institutions think technology will transform their businesses.

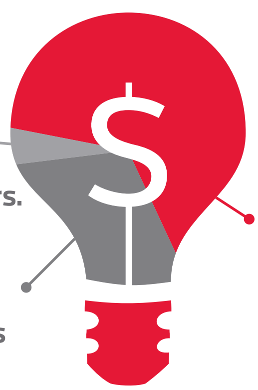
Source: "Key Findings in the Banking and Capital Markets Industry," Fit for the Future 17th Annual Global CEO Survey, PwC , February 2014

Innovation will be the single most important factor driving sustainable top- and bottom-line growth in banking over the next five years.

87% of bank executives consider innovation to be somewhat or very important.

Only 11% believe they are very prepared.

Source: "Retail Banking 2020: Evolution or Revolution?" PwC



4% of credit unions identified themselves as technology innovators.

23% classified themselves as early adopters.

50% are fast followers.

Source: 2013 Technology Priorities Survey, Callahan & Associates

DISRUPTION TRANSFORMS THE MARKETPLACE 2

Disruptive technologies are transforming the financial services industry. Organizations are revolutionizing conventional models of finance by tapping the power of technology and smartphones to change the way tech-savvy consumers and businesses are managing their finances – for example, startups like Simple that provide online banking with minimal fees by offering customers tools to budget, save and spend. There's the free Check app that makes mobile bill pay easy; and Mint, which integrates all your financial accounts into one online location to streamline financial management. Robo-advisors like Wealthfront are providing online investment management using unique algorithms. Traditional financial institutions are stepping up to the challenge presented by these disrupters by buying or partnering with startups, and their investment in financial technology (FinTech) is growing. In fact, global investment in FinTech is expected to grow to $6–$8 billion by 2018, according to Accenture. Keeping up with the competition isn't the only reason to invest in cutting-edge technology; it can help manage regulatory, digital and security challenges with the added benefit of cost savings.

3 CYBERSECURITY AND COMPLIANCE CONVERGE TO WIN THE CYBERWAR

Cyberattacks are on the rise, and the financial industry is bracing itself for the war against cybercriminals. Financial services organizations are adding the role of chief information security officer to the C-suite, since data security is now one of the corporate board's top concerns. Financial regulatory watchdogs are also stepping up scrutiny of institutions' cybersecurity efforts. FINRA is conducting assessments of member firms' approaches to managing cybersecurity threats. It's time to lock down your security.

53% of bank managers say frequency of cyberattacks is on the rise.

57% of bank managers say sophistication of cyberattacks is on the rise.

Source: CDW "In Cybersecurity We Trust?" Report, August 8, 2014

SEC Chair White has emphasized a "COMPELLIING NEED FOR STRONGER PARTNERSHIPS BETWEEN THE GOVERNMENT AND THE PRIVATE SECTOR" to address cyberthreats. Regulatory watchdogs are getting serious:

The SEC has released a Risk Alert indicating that examinations of 50 broker-dealers and registered investment advisors will focus on areas related to cybersecurity.

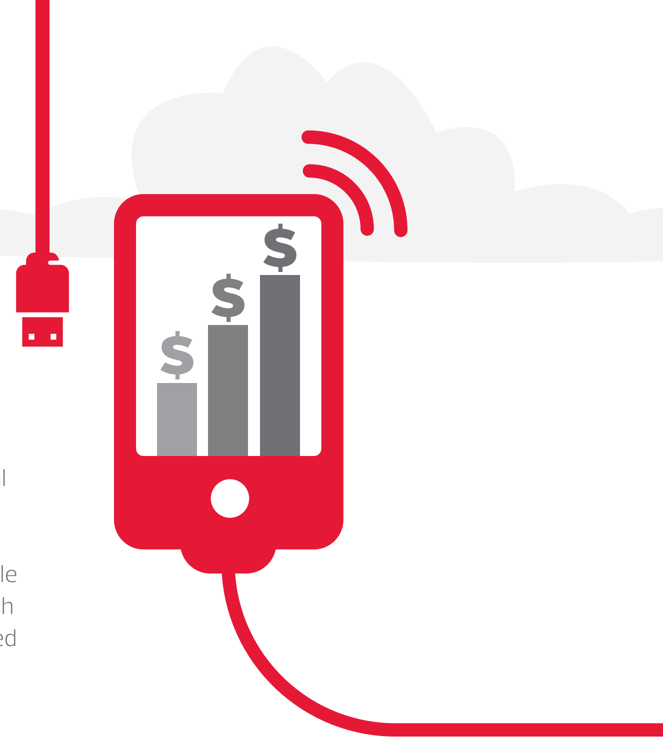
The Securities Industry and Financial Markets Association (SIFMA) has called for a cyberwar council to battle terrorist attacks that could trigger financial panic.

Credit unions, whose top priorities for 2014 are security and compliance, were put on the alert when the Federal Financial Institutions Examination Council announced that regulators are focusing on how the institutions manage cyber risks.

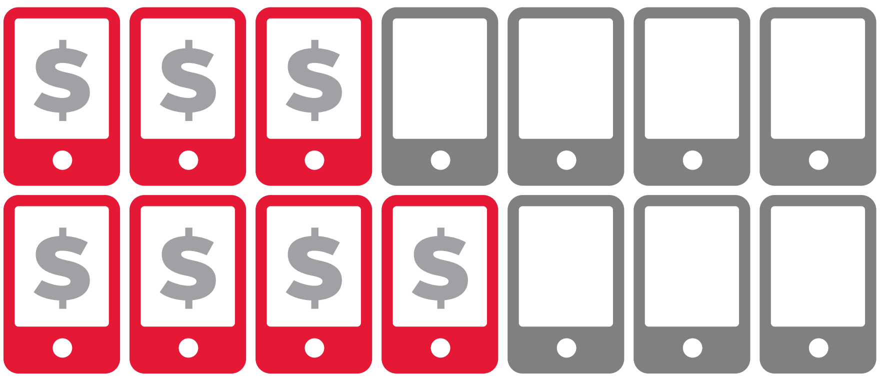
49% of banks experienced a cybersecurity attack in the past 12 months, but just 5% of customers are aware.

Source: CDW "In Cybersecurity We Trust?" Report, August 8, 2014

4 MOBILE MATTERS, BUT IT NEEDS A RECHARGE



Mobile banking usage continues to grow, with the majority of consumers tapping its on-the-go capabilities to check account balances (93%), transfer money between their accounts (57%) and increasingly to deposit checks (38%). Based on a recent survey of global banking and credit union customers/members, IDC advises financial institutions to continuously innovate the conveniences offered by mobile banking to prevent adoption rates of mobile banking by consumers from weakening. Monitise (a leader in providing technology platforms for banking, paying and buying with mobile devices) advises cutting the mobile channel loose from online banking, beginning with moving away from online banking-centric credentials and enrollment to a streamlined mobile experience.



51%

of smartphone owners have used mobile banking in the past 12 months, up from 48%.

Source: "Consumers and Mobile Financial Services," Board of Governors of the Federal Reserve Bank, March 2014

THE POWER OF DATA GROWS WITH CUSTOMER FOCUS 5

Credit unions, banks and capital markets firms are increasingly tapping the power of Big Data. Analyzing customer behavior and experience is one of the most valued aspects of this technology. "Using analytics to develop a better understanding of what customers think, want and are prepared to pay a premium for is crucial," notes PwC in its recent survey of banking and capital markets CEOs. Benefits also include improved cost performance and business operations.

44%

of technology decision makers at financial services organizations say predicting customer behavior is the biggest factor driving interest in Big Data analysis.

67%

are interested in using advanced analytics to improve business operations.

Source: Analytics, BI and Information Management Survey, *InformationWeek*, 2014

BUILDING THE BANK OF THE FUTURE

With the rapid growth and adoption of online and mobile banking channels, customers can now perform many of their banking tasks from anywhere, at any time. This shift from physical to digital banking means the role of the branch must also change – migrating from a transaction center to an answer center, where customers can receive rich financial advice and guidance. Building the "bank of the future" may seem like a daunting task, but it can be accomplished by starting with the following five pillars of effective branch transformation.

By James Gordon,
Senior Vice President of Information Technology, Needham Bank

About Needham Bank

Massachusetts-based Needham Bank began as a small community bank in 1892 and today has grown to become a diversified $1.5 billion bank, due in part to mergers with The Medfield Cooperative Bank in 1965 and with Dedham Cooperative Bank in 2007. From the earliest days, its reputation was built on personalized service and deep community involvement – a commitment that remains unchanged as it continues to thrive in a changing world of technology.

1. *Think virtually.*

The road to the bank of the future is paved with smart technology investments. At Needham, we began this journey nearly six years ago with a heavy investment in virtualization technology. Virtualization in the back office and at teller stations has enabled us to sustain steady growth without incurring exponential IT costs. From eliminating branch servers to implementing high-speed lines, virtualization technologies reduce costs and result in a more productive branch. Keeping pace with technology upgrades is also more efficient in a virtualized environment. For example, a search engine can be upgraded to the latest version once on the virtualized network and passed onto multiple virtualized desktops in a matter of just a few mouse clicks.

2. *Adopt a mobile mindset.*

Banks must also adjust their service offerings to accommodate their customers' mobile mindsets. Just think of how mobile remote deposit capture and the ability to open accounts online have dramatically impacted banking preferences. Products and services must be designed from a "mobile first" perspective. That means determining how they work on a mobile device, and then evaluating how they perform on a typical PC. Also, consider how customers' mobile expectations will impact future interactions. At Needham, we've implemented secure repositories that allow for immediate and secure file sharing of critical documents, eliminating the need for loan officers or customers to be at the physical branch to share or review loan documentation.

3. *Reimagine the branch.*

It's time for banks to rethink both the physical branch footprint and its role in customers' lives. The bank of the future may have smaller branches, but those branches will have a bigger impact, focusing less on transactional services and more on providing financial counsel. This may mean educating customers on the latest mobile apps or online banking capabilities – how they work, and even how to install apps on their mobile devices.

The advent of new technologies that enable better space utilization means branches may be smaller, but no less powerful. No longer needed is the 10x10-foot server room, which traditionally took up a third of the usable space in a branch. We've found that virtualization and switch technology allows us to keep the data center in the data center. This has greatly reduced our cooling footprint and costs, as well as cut our energy and server expenditures. The net result is more space and a branch that costs less to operate.

4. *Keep customers in sight.*

It's critical to embrace the present, and be ready for the future – but also be cognizant of the past. Banks should not be so hyper-focused on the latest technologies or marketing to the next generation that they lose sight of their current customer base. Determine your banks' unique vision of the future, based on your operational goals, customer base and what will drive business growth. Banks can take a page out of many major retailers' books when it comes to determining what works – and doesn't – for their individual customer bases.

5. *Communicate the vision.*

Finally, whatever you decide your vision of the future will be, it's imperative to communicate that vision to your employees. There may be transitional issues internally as you migrate your branches to new technologies or rethink how the branch will operate or interact with customers. This also means CIOs and the IT department must not only "talk the talk" but also "walk the walk."

The IT staff must have an intimate knowledge of how the technology works and how it affects employees' day-to-day lives. Remember that even the most seemingly benign things can make a big difference in employee productivity and branch efficiency. For example, Needham recently upgraded its print driver fleet to a universal driver. While this change decreased our CPU requirements, it also slightly increased print time. Communicating this change to employees, as well as the overall benefit, was a must.

Disruptive technologies are changing the way customers interact with their banks, and the industry must react accordingly. Fortunately, by embracing the latest financial IT solutions, banks can effectively transform their branches – building a bank that will serve their customers well into the future.

> *"The bank of the future may have smaller branches, but they will have a bigger impact."*
>
> **James Gordon,**
> Senior Vice President of Information Technology, Needham Bank

CAPITAL MARKETS:

GETTING AN EDGE ON THE COMPETITION

Q&A WITH TIM HAGWELL
EXECUTIVE ACCOUNT MANAGER
CDW FINANCIAL SERVICES

We sat down with Tim Hagwell, CDW Financial Services Executive Account Manager, to discuss the fast-paced world of capital markets. He shared his thoughts on the latest trends and technologies in the industry and how some capital markets firms are using IT to their competitive advantage.

Q: What trends are you seeing in the financial services industry?

A: From a low latency perspective, the market demand has definitely slowed. While lower latency is still desired, we're talking differences of nanoseconds. Still, the hardware advantages are continuing to drive forward. New companies are constantly developing unique solutions to solve universal problems. In capital markets, firms traditionally had to develop their own solutions to these problems, but now they need to think smarter, not harder. It makes more sense to leverage expertise from companies that have already solved these issues and tweak rather than wasting cycles reinventing the wheel.

We're also seeing a greater focus on intelligence and strategy, software and analytics. Capital markets firms are asking, "How do I capture information and be more effective with the software code I'm writing versus the hardware platform?" If you don't have the software, it doesn't matter how good the hardware is. Storage is also very important. "How can a firm cost-effectively store the excessive amount of data needed for analysis and also for compliance, which requires data to be available for seven years?" "Is tape still the best option for us, or should we look at a cloud provider or an offsite solution?" I hear these and similar questions from my customers every day.

Q: What are some of the hot technologies capital markets firms are using now?

A: Several innovative technology developments are emerging. For example, in addition to constantly tweaking software code, FPGAs (field-programmable gate arrays) are very hot right now. Some firms are taking things to the next level by designing applications on the network card or switch to reduce overall latency.

IBM Power8 is also becoming an interesting alternative to Intel servers. Power8 offers a unique architecture that can provide higher clock speeds and faster throughput. IBM is focusing specific resources for financial services to help design custom solutions. Conversely, Intel Haswell is due to be released this fall, which will create the need for redesigned server platforms for the x86 OEMs.

Additionally, there's a lot of interest in consumer gaming hardware and systems as firms look for every advantage they can find. Custom-built liquid-cooled chassis have become a popular way to manage the heat generated as a result of the increased demand on processors.

But remember, it isn't just about the technology. Customizing the firmware and factory BIO settings to optimize system performance has become a must in order to compete.

Q: What's the best way for a capital markets firm to sharpen its technology edge?

A: Capital markets firms that leverage technology as a "weapon" against the competition are always on the lookout for new technologies that will give them an edge. They're constantly exploring fresh and unique ways they can apply, customize and fine-tune technology platforms to optimize performance.

The best way for a capital markets firm to gain an edge is to get products early and fast. Clients need to quickly evaluate whether or not something is going to be an effective solution for their needs. They need to get the product, switch, server, station, etc., put their applications on it, and run it through rigorous trials in their labs.

We're always introducing IT manufacturers to our clients to present new solutions and to plot their technology requirements. For critical core pieces of their design, we set up quarterly roadmaps to make sure that we're not making a business decision to order a technology that's going to be replaced in 30 or 60 days. Capital markets firms are under immense pressure to perform, and when they need a product they need it fast.

Q: What final advice can you share?

A: Since the key to success is customization, there is no one-size-fits-all rule. It really comes down to the way each firm is approaching the market.

There are solutions that can provide incredible density and translate into a huge cost savings by eliminating the number of racks a firm needs to acquire from its colocation facilities and partners. On the flip side, that may not be the best solution for a customer that wants to repurpose servers and equipment. As the business needs change, the applications change.

Understanding each capital markets customer and its needs is critical. A solution that's specifically designed for high performance and low latency to attack the market as fast as possible might be completely different from a solution that meets the IT needs of a high-performing environment that will be running analytics. Solving unique challenges on a case-by-case basis is the best way to ensure success.

To learn more about innovative technologies that can help your firm, visit CDW.com/capitalmarkets.

86%

of capital markets CEOs think that technology will transform their businesses.

Source: "Key Findings in the Banking and Capital Markets Industry," 17th Annual Global CEO Survey, PwC, February 2014

3 KEY WAYS CDW FINANCIAL SERVICES CAN HELP OUR CAPITAL MARKETS CUSTOMERS

1. AWARENESS.
We maintain strong strategic partnerships with the industry's leading technology companies. We have the inside track on what that new innovation is and when it's coming, so we can rapidly bring it to our customers.

2. ENGINEERING.
CDW Financial Services leverages our strategic partnerships and internal engineering expertise to take the extra steps needed to ensure the equipment is optimized for top performance. Small changes often yield huge results.

3. DELIVERY.
To give our customers a leg up, we help streamline processes — from product awareness to fulfillment — in the most cost- and time-efficient way possible. Time is money. The faster we deliver, the faster they see results.

Financial Advisors:

POWER UP FOR SUCCESS

BY EMBRACING TECHNOLOGY

Financial advisors are facing a highly competitive marketplace, and it's growing fiercer by the day. In fact, 71 percent of registered investment advisors (RIAs) surveyed by Schwab believe there will be stiffer competition for new assets five years from now. Robo-advisors like Wealthfront are using unique algorithms to disrupt the online investment management industry. The complexity of cyberattacks and compliance regulations is multiplying. Mobile technology has empowered clients by enabling them to easily access and manage their finances, wherever they are.

34% of investors surveyed said they would switch their advisors if they were not using technology to enhance their services.

8 in 10 advisors say they would like to increase their use of technology.

Source: 2013 Fidelity® Insights on Advice Studies. Investors May 16–29, 2013; Advisors August 8–21, 2013

FINANCIAL **INSIGHTS**

Make security a priority

Cyberattacks have become a critical regulatory concern, with both the Securities and Exchange Commission (SEC) and Financial Industry Regulatory Authority (FINRA) making them a top priority. The SEC announced the examination of more than 50 registered broker-dealers and investment advisors on cybersecurity preparedness, sending a powerful message to the financial community.

Assessing your current state of security with an expert is imperative. Then, creating a security policy and procedure (no more passwords on sticky notes) and deploying the right technology to protect your back- and front-office technology will deepen your clients' trust while preventing costly regulatory fines.

Move up with mobility

Mobility has empowered consumers to take control of every aspect of their lives 24/7 via a smartphone, tablet or other portable device. A TIAA-CREF survey found that most Millennials prefer to use technology-based communications with financial advisors. Yet financial advisors are just beginning to incorporate mobility and digital technology into their practices. According to a Boston Consulting Group study, "Early movers that best balance traditional, relationship-led wealth management with intuitive, simple-to-use digital products and services will gain an unparalleled competitive advantage over the next few years."

66.7% of financial advisors use a tablet device.

86.1% said **0%–25%** of their advisory work is performed on a mobile device.

74.8% said mobile device use is for client contact from their smartphone via email, text or phone call.

Source: "Survey Results Draw a Picture of Tech-Savvy Advisers," 2014 Technology Usage and Satisfaction Survey, *Investment News*, July 23, 2014

Consider the cloud, consult an expert

Cloud computing, video collaboration, e-signatures and Big Data analytics tools are some of the hottest technologies transforming the financial advice industry. Deploying these solutions enables more efficient practices and more powerful analysis of the marketplace and client needs. Although 77 percent of financial advisors surveyed by Fidelity are making an effort to increase their use of technology in their practices, 95 percent see challenges in integrating or utilizing it. Finding a trusted IT expert with deep knowledge of technology and vendors can help you quickly identify the right solution to maximize business opportunities.

32% of advisors use cloud-based applications.

35% of advisors are interested in pursuing cloud-based applications.

Source: 2013 Fidelity® Insights on Advice Studies. Investors May 16–29, 2013; Advisors August 8–21, 2013

Ready or not, technology has changed client expectations. Addressing market dynamics with the right IT solutions can help grow your business and create new opportunities for expanding profitability.

airwatch
mobile device management

MOBILITY: Managing Devices for Financial Institutions

We recently spoke with AirWatch chairman and co-founder **Alan Dabbiere** to get his take on mobility challenges and adoption in the financial industry today.

What would you say are the top mobility management challenges facing financial institutions?

A top challenge is the pace of mobile innovation, combined with industry regulations that financial entities must adhere to. Think about it – there's a new mobile operating system coming out every 15 days. This is great for end users, but it has IT struggling to ensure every new device and OS works within the compliance framework.

In addition, the consumerization of IT within the financial world poses an issue. Everyone wants the latest device. But it may not be ideal for a regulated environment. One example: Back when voice activation came out, an employee got a new phone with this capability – and someone was able to take his locked phone when he left the room, pick it up, use voice activation and write an email to trade 10,000 shares of stock in a customer account. That's a problem.

How is growth in consumer mobile banking affecting management complexity?

We're certainly finding that automation in banking is critical as mobile technologies are driving greater efficiencies and consumer expectations are getting higher. Not many people visit branches to wait in line anymore. So as more kiosks are used and branch features pushed to customer mobile devices, this poses an increased security risk for the financial entity.

Mobile apps, in effect, are "out in the world." This means organizations now have a larger security surface area to account for, including entry points to network connections, and must tighten protocols. But it's a balancing act. As soon as banks make access, control, identity management or authentication too cumbersome, they compromise the user experience and either alienate customers or force customers and employees to find their own less secure workarounds.

It comes down to this: You can't have security or usability; you must have security **and** usability.

How can AirWatch help financial organizations address these challenges to achieve improved mobility management?

Today's institutions want to focus on managing the data, the applications and the content – not the device, which is hard to manage and can't be trusted. To help achieve this, AirWatch offers an integrated platform with flexible deployment options that include mobile device management, containerization of workspace for non-managed devices, global content management and the ability to secure apps. This gives organizations greater flexibility in how they deploy mobility and the policies they create, which is crucial given that most financial entities are global and that privacy and security differ around the world. And it helps them address both internal-user and customer-facing mobility needs.

FINANCIAL NETWORKS: Modern Security for Sophisticated Threats

We sat down with Palo Alto's Director of Industry Initiatives, **Isabelle Dumont**, to discuss today's greatest IT security threats for financial institutions and how Palo Alto can help address them.

What are the biggest security threats you see for the financial industry?

I'm seeing a couple of things at the forefront right now. First, malware — both the sheer volume created and the increased sophistication of it. Modern cybercriminals are well organized, patient and have the financial means to utilize any tool. They can take time researching their targets and malware can be present for months before a financial institution detects it.

Second is the complexity of managing the patchwork of security encryption solutions present today. Security products were first developed as the Internet emerged, but many new additions are evolving as web applications and social media tools grow. Because these separate security tools can be on employee laptops, on the network or on mobile devices, it's hard to get a clear picture as to where further security investment is needed and where weaknesses exist — and if a breach occurs, to collect data from various systems.

How can Palo Alto's security platform help financial institutions protect their networks and face these challenges?

Our security functions are designed to work together seamlessly, and at a level capable of blocking a significant number of known and unknown threats — so you have one tool that orchestrates all security functions, compared to having to deploy five or 10.

The core of our solution is the next-generation firewall, which decodes lines at the point of security enforcement and is capable of knowing what's on the network at all times. In addition, we offer a detection prevention solution for known threats — all files go in line to detect malicious traffic, which is then sent into a cloud infrastructure to validate if it's actually malicious and, based on that, creates protection within 30 minutes and redistributes that to all the endpoints. In the end, we help financial institutions eliminate silos and help foster greater peace of mind in knowing they have an increased level of protection.

What advice do you give financial institutions looking to implement a new security solution or upgrade their current solution?

I would say:

1. **Look for a solution that doesn't force you to compromise network performance for security.** Many security tools are inline in the network, and every time you add one you have the potential to decrease network performance.
2. **Apply due diligence in reviewing the topics and applications allowed on the network.** Employees go on Facebook and watch videos, so companies must keep a close eye on what's being brought into the network.
3. **Look to network segmentation.** One of the best protections is to make sure that the financial services, credit card transaction and trading systems information, and so on, is clearly isolated from more common applications and verified — even the code access to the Internet. It's a great way to prevent threats from moving laterally from one system to another.