BNY MELLON

Innovation Center Experience

INVESTED IN INNOVATION

Pittsburgh Innovation Center

August 24, 2016

Agenda

10:45 AM – 10:50 AM	**WELCOME** **Todd Gibbons**, Chief Financial Officer
10:50 AM – 11:00 AM	**BUSINESS STRATEGY** **Brian Shea**, Chief Executive Officer, Investment Services
11:00 AM – 11:15 AM	**TECHNOLOGY STRATEGY AND DIGITAL TRANSFORMATION** **Suresh Kumar**, Chief Information Officer
11:15 AM – 11:30 AM	**INNOVATION CENTER AND USER EXPERIENCE LAB TOUR** **Jen Wagner**, Head of Pittsburgh Innovation Center **Haley Daniels**, Analyst, Pittsburgh Innovation Center **Jess Manuel**, Analyst, Pittsburgh Innovation Center
11:30 AM – 12:00 PM	**LUNCH**

Agenda (cont'd)

12:00 PM – 1:00 PM

NEXEN ECOSYSTEM SOLUTIONS DEMONSTRATIONS OVERVIEW

NEXEN Ecosystem Foundation Introduction
Lucille Mayer, Chief Information Officer, Client Experience Delivery

NEXEN Ecosystem Building Blocks

- **NEXEN Gateway**
  Neil DiCicco, Technology Product Manager, NEXEN Gateway
- **NEXEN Digital Pulse - Big Data Analytics and Insights**
  Gerald Verrilli, Big Data Architect
- **NEXEN Application Programing Interface (API) Store**
  Matt Joseph, Head of Jersey City Innovation Center
- **NEXEN BNY Mellon eXtreme Platform (BXP) / Cloud Technology**
  John Wetherill, Principal Architect, Silicon Valley Innovation Center

NEXEN Ecosystem Business Solutions and Collaboration

- **NEXEN Ecosystem - Business Solutions**
  Mike Keslar, Head of Investment Services Technology
- **NEXEN Ecosystem - Collaboration**
  John Lehner, Chief Executive Officer, BNY Mellon Technology Solutions

1:00 PM – 1:20 PM

Q&A

Agenda (cont'd)

1:20 PM – 2:35 PM

NEXEN ECOSYSTEM SOLUTIONS DEMONSTRATIONS

BUSINESS SOLUTIONS – TOWN HALL

Enterprise Risk Integration (ERI)
Dean Stephen, Chief Enterprise Risk Officer

Client Onboarding

Amy Harkins, Head of Enterprise Client Onboarding

Digital Pulse – Trade Capture Analytics

Carol "Lynn" Sibley, Operations Manager, Trade Capture
Tim Kuntz , Principal Architect, Global Custody and Cash Services

COLLABORATION – TRAINING ROOM

App Store (Heckyl)

Jennifer Cole, Head of Business Creation, Client Technology Solutions

Distributed Ledger

Matt Thornton, Head of Corporate Strategy and Corporate Development
Saket Sharma, Head of Treasury Services Technology

BDS 360

Andrea Pfenning, Chief Operating Officer, Broker-Dealer Services
Sarthak Pattanaik, Head of Broker-Dealer Services Technology

RESEARCH AND DEVELOPMENT – BACKYARD

Node-RED Business Productivity

Sasi Rayankula, Global Head of Engineering for Operational Excellence Group
Meghan Judge, Johns Hopkins University Technology Analyst and Intern

Robotic Process Automation (RPA)
Mark Shivers, Co-Head of Robotic Process Automation

2:35 PM – 3:00 PM

Q&A AND CLOSING REMARKS – CHRIS KEIM ROOM

Valerie Haertel, Global Head of Investor Relations

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Innovation Center Experience

INVESTED IN INNOVATION

Pittsburgh Innovation Center

August 24, 2016

Cautionary Statement

A number of statements in our presentations, the accompanying slides and the responses to your questions are “forward-looking statements.” Words such as “estimate”, “forecast”, “project”, “anticipate”, “target”, “expect”, “intend”, “continue”, “seek”, “believe”, “plan”, “goal”, “could”, “should”, “may”, “will”, “strategy”, “opportunities”, “trends” and words of similar meaning signify forward-looking statements. These statements relate to, among other things, The Bank of New York Mellon Corporation’s (the “Corporation”) expectations regarding the business improvement process and our technology, innovation and platform and statements regarding the Corporation's initiatives with respect to innovative technologies. These forward-looking statements are based on assumptions that involve risks and uncertainties and that are subject to change based on various important factors (some of which are beyond the Corporation’s control).

Actual outcomes may differ materially from those expressed or implied as a result of the factors described under “Forward-Looking Statements” and “Risk Factors” in the Corporation’s Annual Report on Form 10-K for the year ended December 31, 2015 (the “2015 Annual Report”) and our Form 10-Q for the period ended June 30, 2016, and in other filings of the Corporation with the Securities and Exchange Commission (the “SEC”). Such forward-looking statements speak only as of August 24, 2016, and the Corporation undertakes no obligation to update any forward-looking statement to reflect events or circumstances after that date or to reflect the occurrence of unanticipated events.

Non-GAAP Measures: In this presentation we may discuss some non-GAAP adjusted measures in detailing the Corporation’s performance. We believe these measures are useful to the investment community in analyzing the financial results and trends of ongoing operations. We believe they facilitate comparisons with prior periods and reflect the principal basis on which our management monitors financial performance. Additional disclosures relating to non-GAAP adjusted measures are contained in the Corporation’s reports filed with the SEC, including the 2015 Annual Report available at www.bnymellon.com/investorrelations.

NOTE: All financial data for the Corporation throughout the presentation is as of 6/30/16 unless otherwise noted.

Welcome – Investor Relations Innovation Center Experience

Todd Gibbons

Chief Financial Officer

August 24, 2016

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Agenda

10:45 AM – 11:15 AM — **Executive Remarks**

- **Welcome** – Todd Gibbons
- **Business Strategy** – Brian Shea
- **Technology Strategy and Digital Transformation** – Suresh Kumar

11:15 AM – 11:30 AM — **Innovation Center and User Experience Lab Tour**

11:30 AM – 12:00 PM — **Lunch**

12:00 PM – 1:00 PM — **NEXEN Ecosystem Solutions Overview**

- **NEXEN Ecosystem Foundation Introduction** – Lucille Mayer
  - **Gateway** – Neil DiCicco
  - **Digital Pulse** – Gerald Verrilli
  - **Application Programming Interface (API) Store** – Matt Joseph
  - **BNY Mellon eXtreme Platform (BXP) / Cloud Technology** – John Wetherill
- **NEXEN Ecosystem - Business Solutions** – Mike Keslar
- **NEXEN Ecosystem - Collaboration** – John Lehner

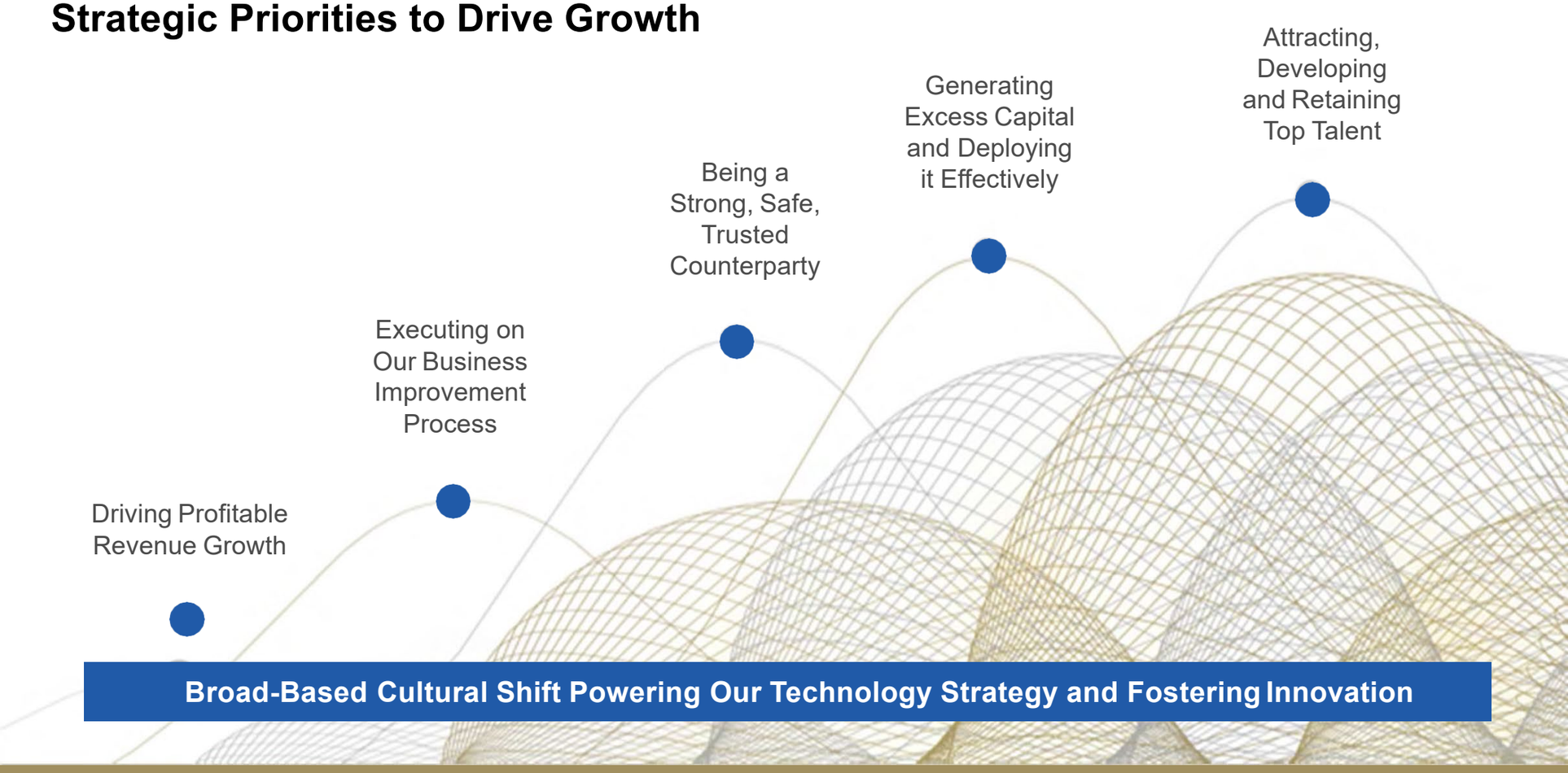
1:00 PM – 1:20 PM — **Q&A**

1:20 PM – 2:35 PM — **NEXEN Ecosystem Solutions Demonstrations**

- Business Solutions (Town Hall Area)
- Collaboration (Training Room)
- Research and Development (Backyard)

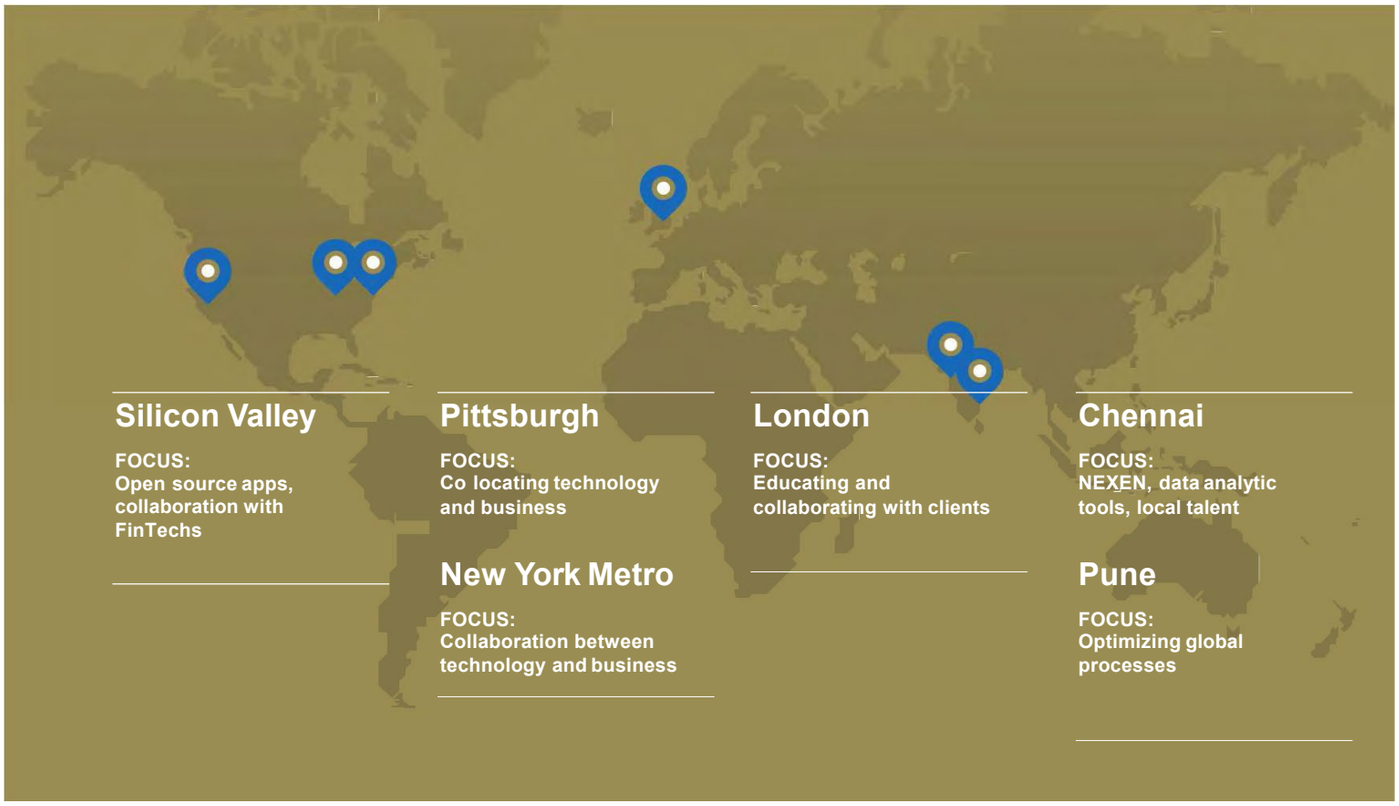
2:35 PM – 3:00 PM — **Q&A Session and Closing Remarks**

Strategic Priorities to Drive Growth



Broad-Based Cultural Shift Powering Our Technology Strategy and Fostering Innovation

Global Innovation Centers Drive Collaboration and Agility



- Attracting and retaining top IT talent, emerging technology expertise
- Enabling collaboration with clients and third-parties
- Enabling more agile innovation
- Developing and integrating new solutions and services

Business Improvement Process
Driving Productivity Gains and Greater Efficiency

Productivity and Efficiency Gains Funding

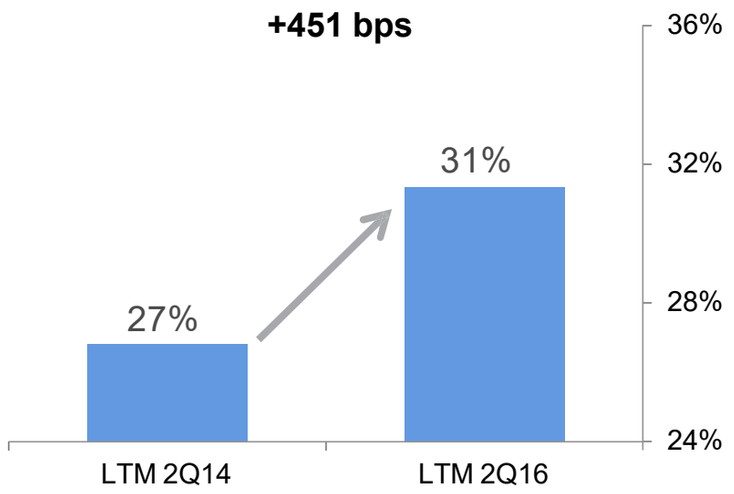
- Technology platform for the future
- Strategic platform investments

- Strategic growth initiatives

- Incremental regulatory compliance costs
  - Resolution and recovery planning
  - Bank assessment expenses
  - Total Loss Absorbing Capacity (TLAC) alignment

- Enhanced client experience
- Reduced risk and greater resiliency
- Improved returns for shareholders

Operating Margin[1]



… Delivering Significant Operating Margin Improvement

[1] Operating margin is non-GAAP and excludes net income attributable to noncontrolling interests of consolidated investment management funds, amortization of intangible assets, M&I, litigation and restructuring charges, a charge (recovery) related to investment management funds, net of incentives and the impairment charge related to a recent court decision if applicable. Additional disclosure regarding non-GAAP measures is available in the Corporation's reports filed with the SEC, available at www.bnymellon.com/investorrelations. See Appendix for details.

Business Strategy
Leveraging the Power of BNY Mellon

Brian Shea

Chief Executive Officer, Investment Services

August 24, 2016

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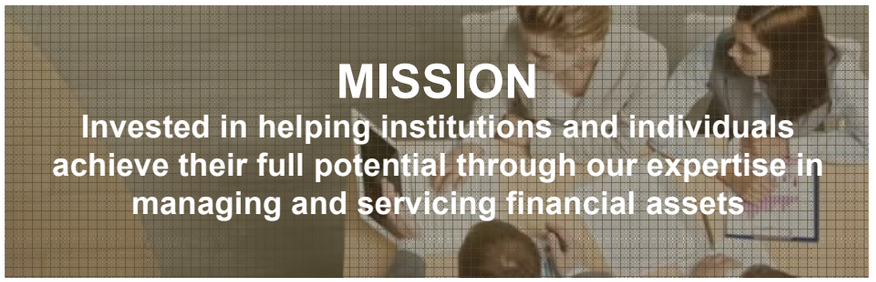
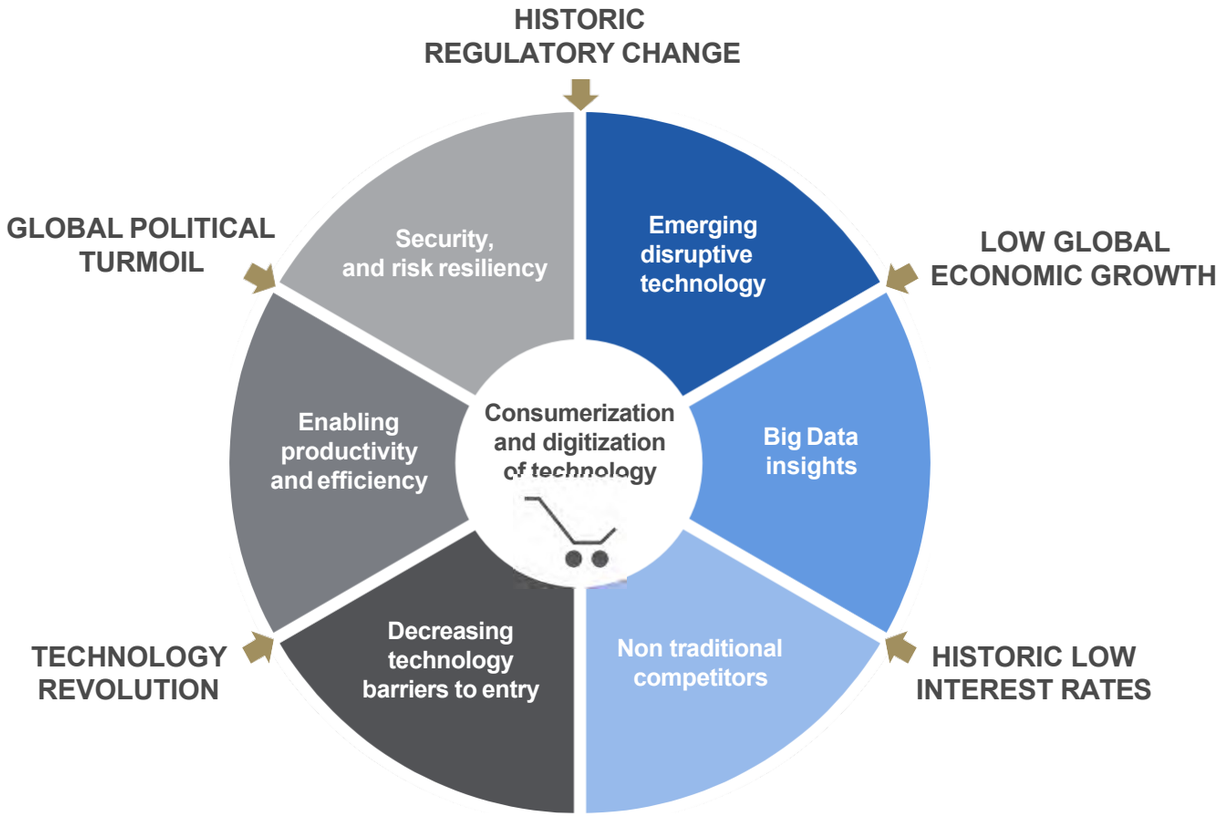
BNY Mellon - The Investments Company for the World



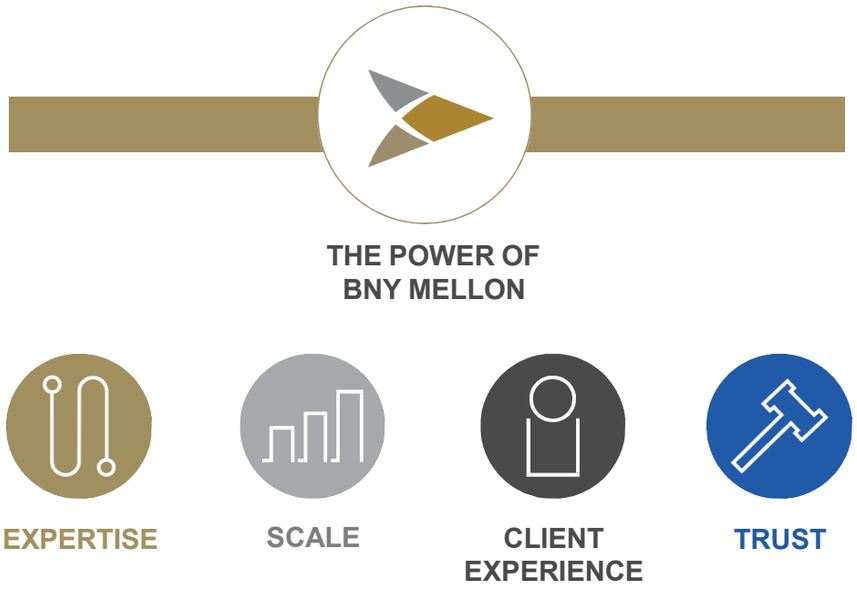
Investment Services Goals

- Highest value provider of investment services globally
- Industry service quality and productivity leader
- Investment industry technology leader

Global Drivers of Change for Financial Institutions



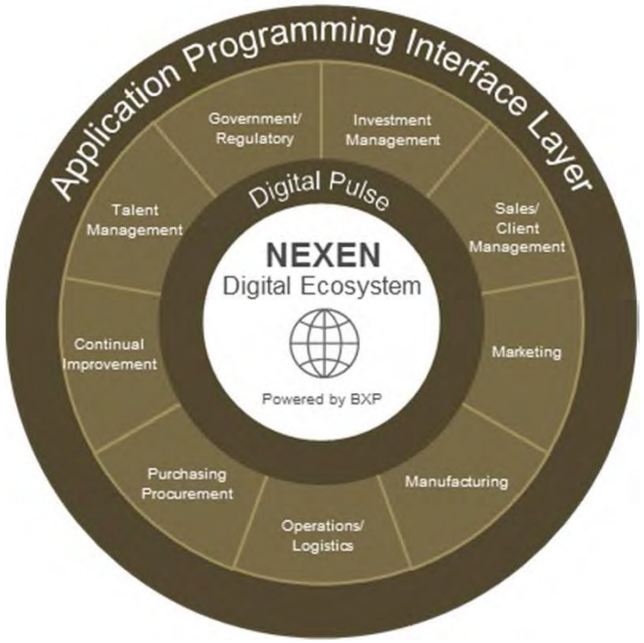
BNY Mellon Competitive Advantage



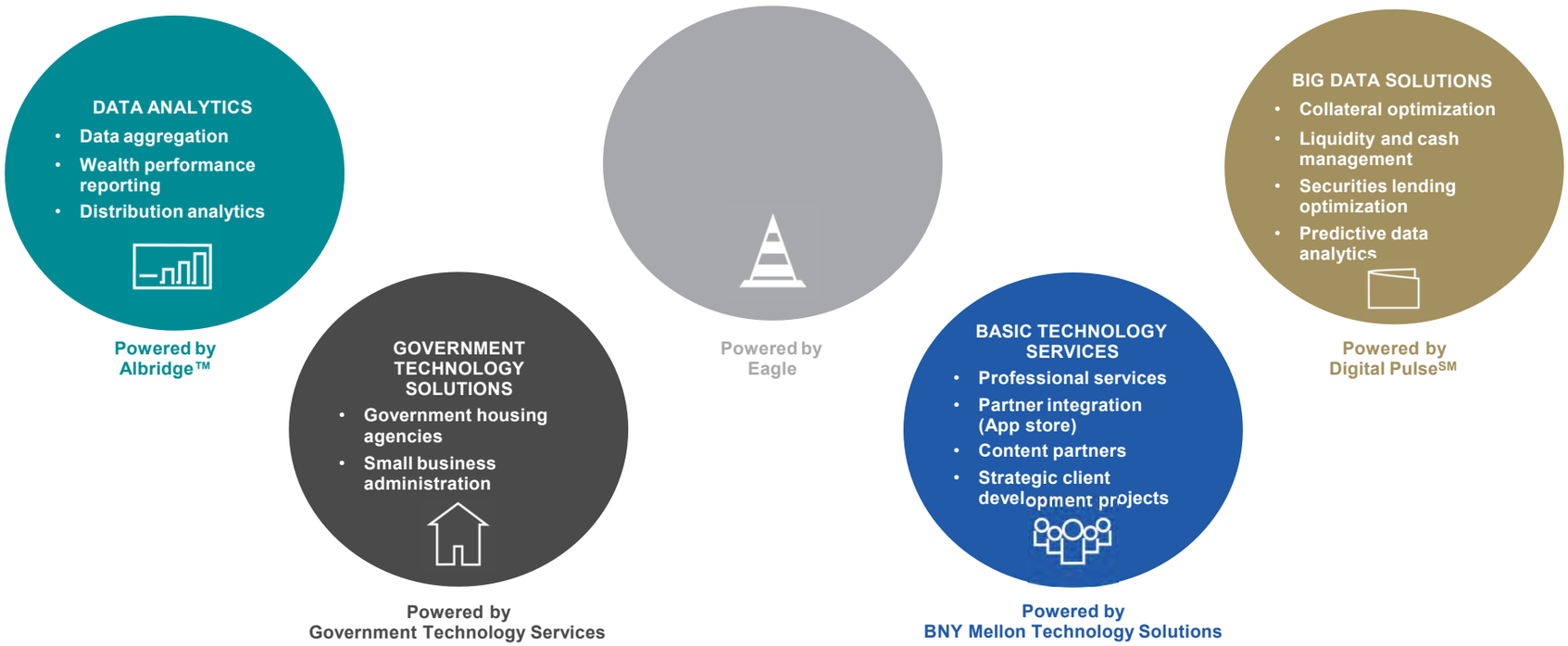
Invested in delivering an enhanced client experience

- **Strategic platform investments driving:**
  - **Extended variable cost solutions across entire investment lifecycle for BNY Mellon and clients**
  - **Accelerated profitable revenue growth from efficiency and delivery of value-added solutions**
- **NEXEN℠ digital ecosystem to deliver all BNY Mellon solutions**

One Firm, One Platform
Aligning Business and Technology Strategy to Deliver for Clients



BNY Mellon Technology Solutions - Driving Growth



Technology Strategy and Digital Transformation

Suresh Kumar

Chief Information Officer

August 24, 2016

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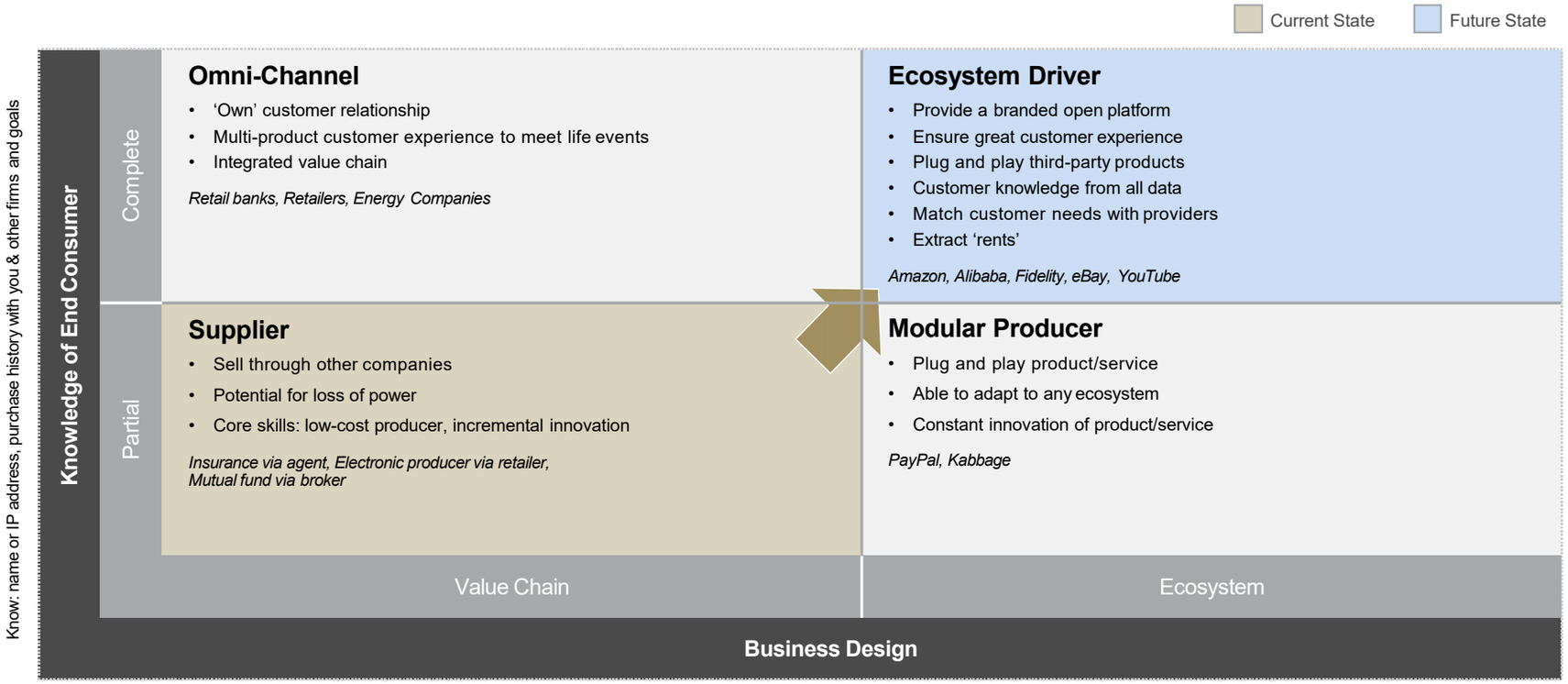
“Platform of the Future”- Why a Platform / Ecosystem?



Source: MIT Sloan Management – Center for Information Systems Research (CISR)

Benefits of the NEXEN Ecosystem

Clients, Employees and Shareholders

OUTCOME	CHARACTERISTIC	DESCRIPTION
	Consistent Access and Experience **User / Developer Communities**	• Cohesive user interface and platform experience across users and devices • Interaction among BNY Mellon, platform and consumers / developers • Faster client onboarding • Developer, product, and support communities for hybrid platforms and open source software
	Reusable Components **Open Platforms**	• Cost reduction by eliminating duplicate business processes, interoperable business services • Organic growth by building once and re-using for many clients, driving economies of scale • Improved time-to-market • Standard, accessible electronic services via APIs that empower clients
	Third-Party Contributors **Organic Platform Growth**	• Third-party providers and developers developing new and innovative solutions on the platform, expanding offerings far beyond core competencies • Easier client transitions to new service lines, and common data sources lead to platform growth • Increased market share due to network effect and lock-in

Sources: *Leading Digital: Turning Technology Into Business Transformation*, 2014, G Westerman, D Bonnet, A McAfee; *Strategic Decisions for Multisided Platforms*, 2014, A Hagiu, *Multi-Sided Platforms*, 2015, A Hagiu, J Wright; *Platform Economy: Technology-driven business model innovation from the outside in*, 2016, Accenture

NEXEN Creates a Powerful Digital Ecosystem Advantage

Currently 12,000+ NEXEN Gateway Users from 950+ Clients

Create a Digital Platform with a Powerful Ecosystem

Build the Foundation

- Single-entry gateway
- Common infrastructure and shared components (e.g. API Store, App store, Digital Pulse)
- 320 applications currently on our private cloud platform (BNY Mellon eXtreme Platform – BXP)

Provide Consistent, Efficient and Easy Client Experience

Transition Clients

- Ushering in a new digital transformation; culture and retraining
- Breaking down legacy systems into reusable services
- Consolidating platforms
- Continuous improvement through performance and usage monitoring

Leverage Third-Party Solutions

Provide New Solutions

- Stocking API store (62 APIs complete/ 500+ APIs in Lab)
- Currently connected with FinTechs and delivering services
- Exploring 40+ FinTechs to populate App store

Deliver Business Insights Through Innovative Solutions

Generate New Revenue Streams

- Collaborating with clients to develop solutions that better meet their needs with our data tools and FinTech services
- Building and standardizing NEXEN data

Innovation Center and User Experience Lab Tour

NEXEN Ecosystem Foundation Introduction

Lucille Mayer

Chief Information Officer, Client Experience Delivery

August 24, 2016

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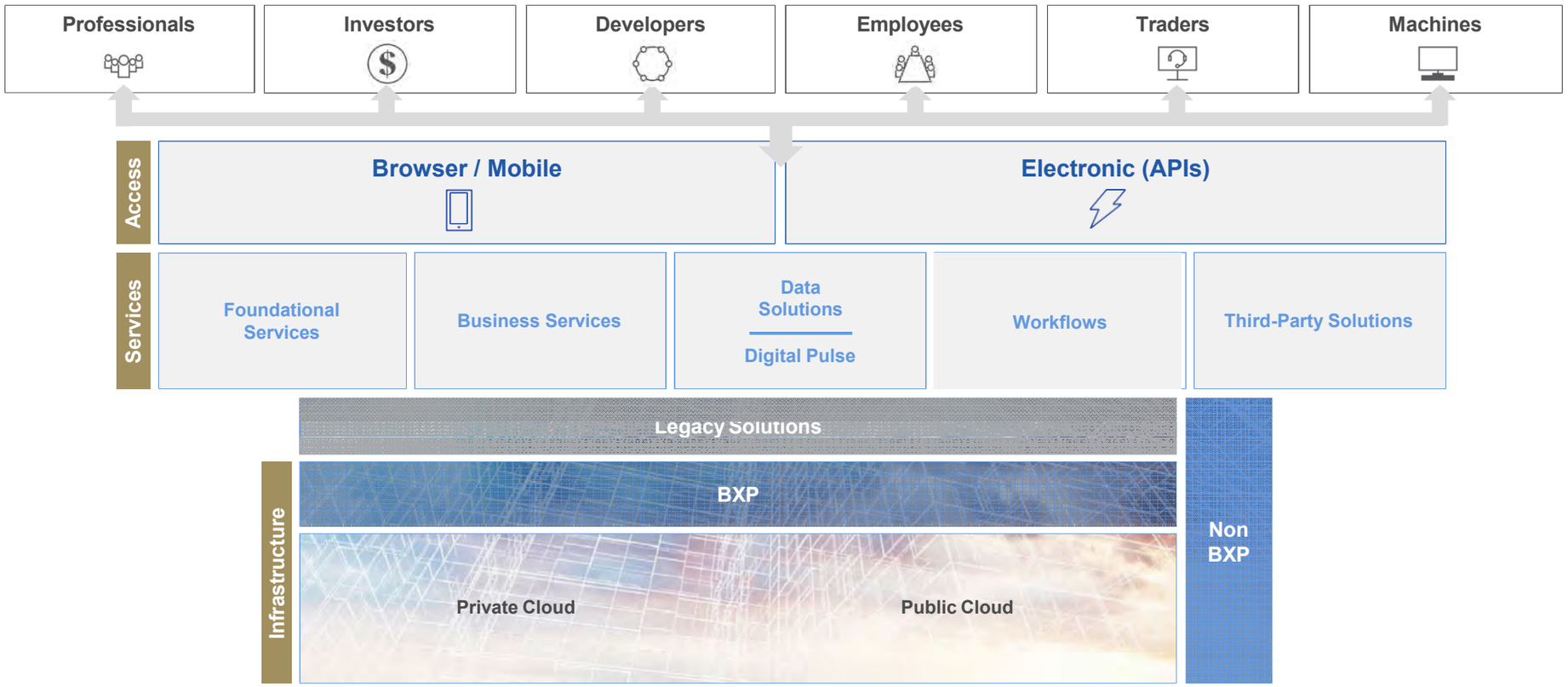
The NEXEN Benefits to be Demonstrated Today

BENEFITS	PRESENTATIONS	DEMONSTRATIONS
	NEXEN Ecosystem: Foundation Introduction	• Gateway • Digital Pulse • Application Programming Interface (API) Store • BNY Mellon eXtreme Platform (BXP) / Cloud Technology
	Building Innovative Business Solutions Using NEXEN	• Enterprise Risk Integration • Client Onboarding • Trade Capture Analytics
	Leveraging NEXEN Building Blocks to Create Revenue – Generating Solutions	• App Store (Heckyl) • Distributed Ledger • BDS 360 (Broker-Dealer Services)
		• Node-RED Business Productivity • Robotic Process Automation

Servicing Multiple Needs Through Common Components



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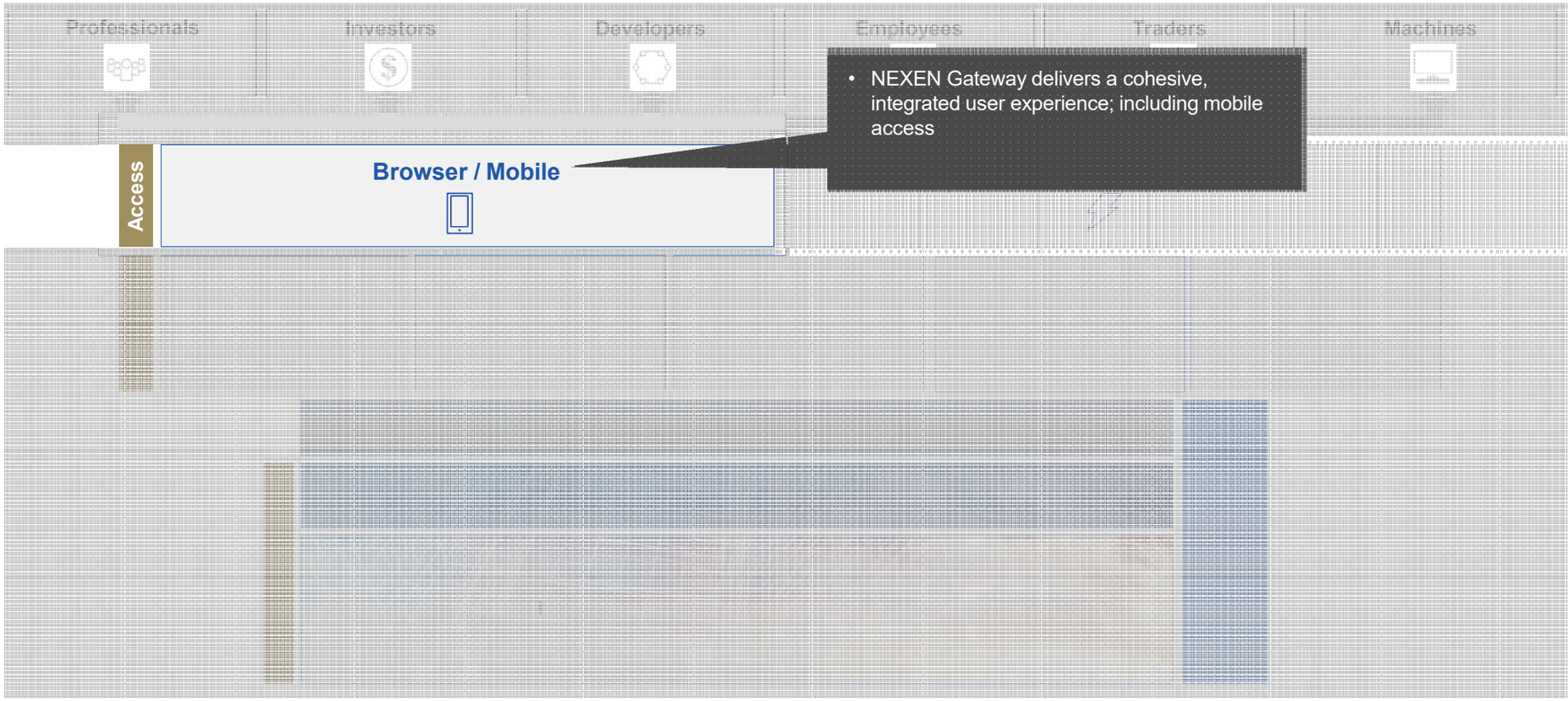

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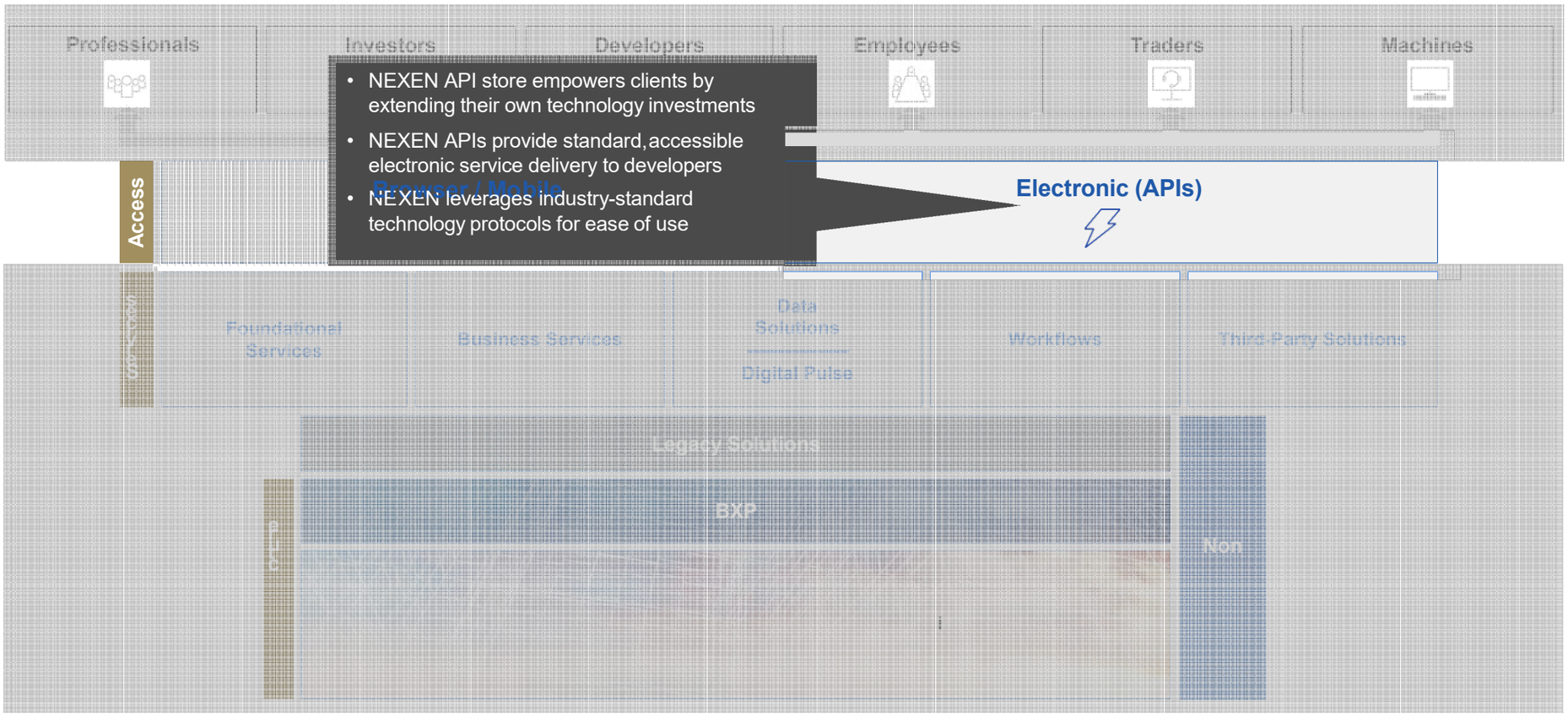

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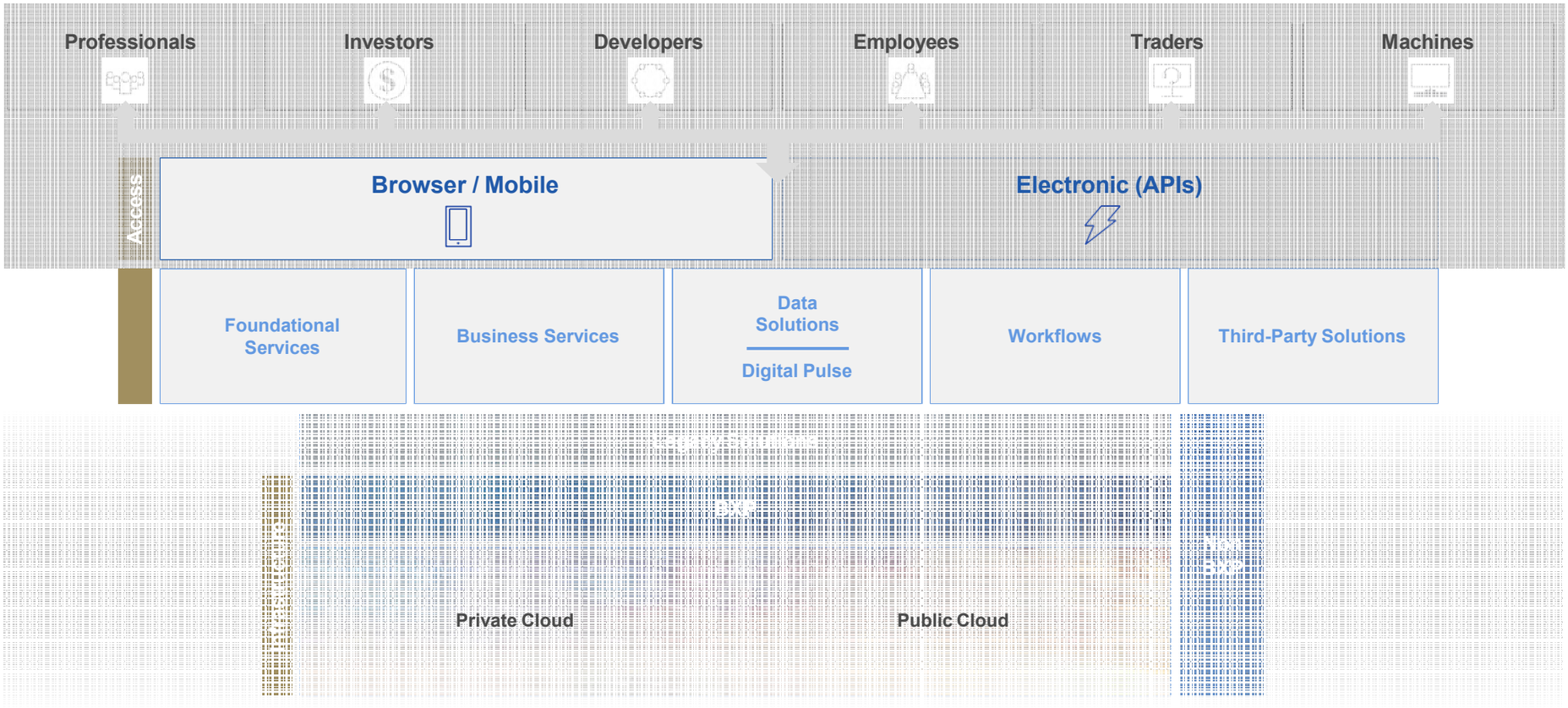

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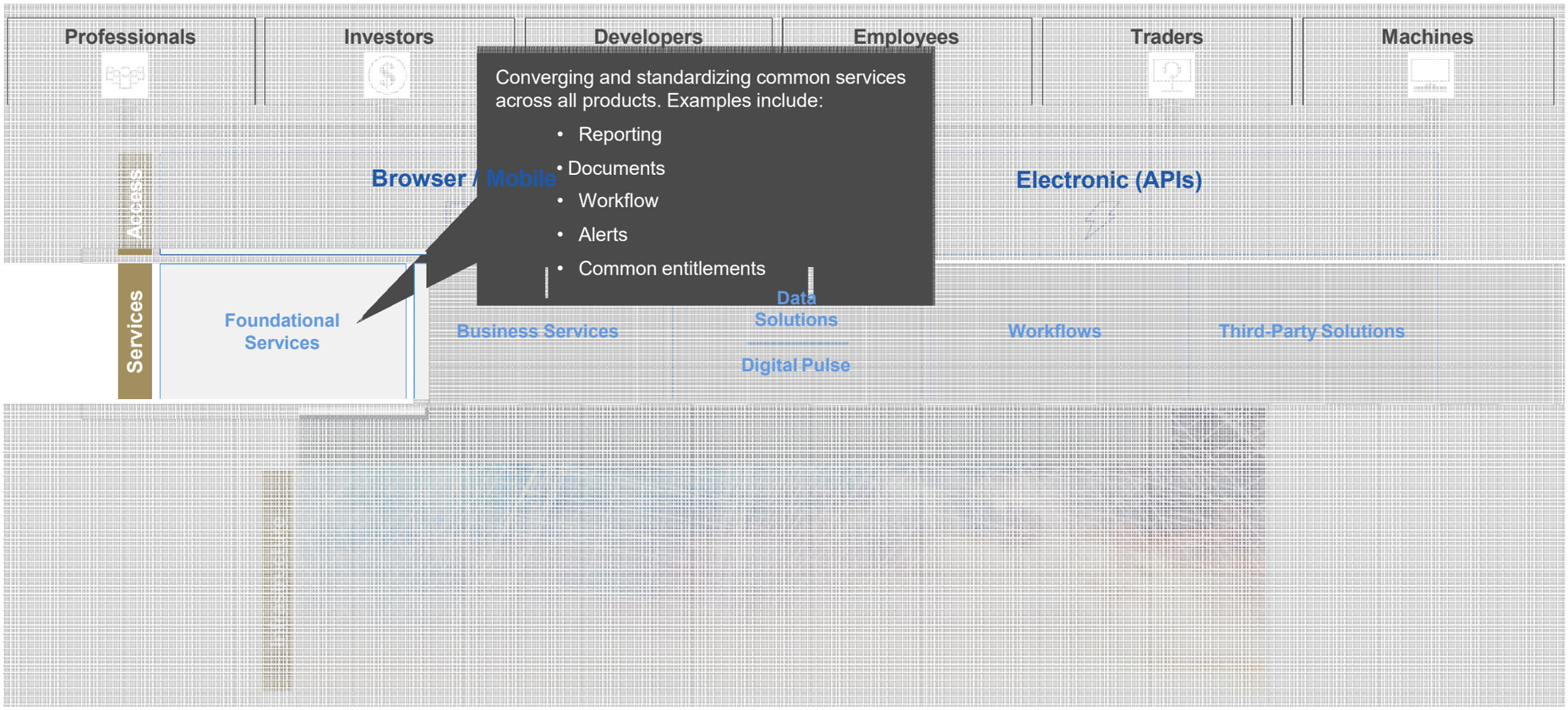

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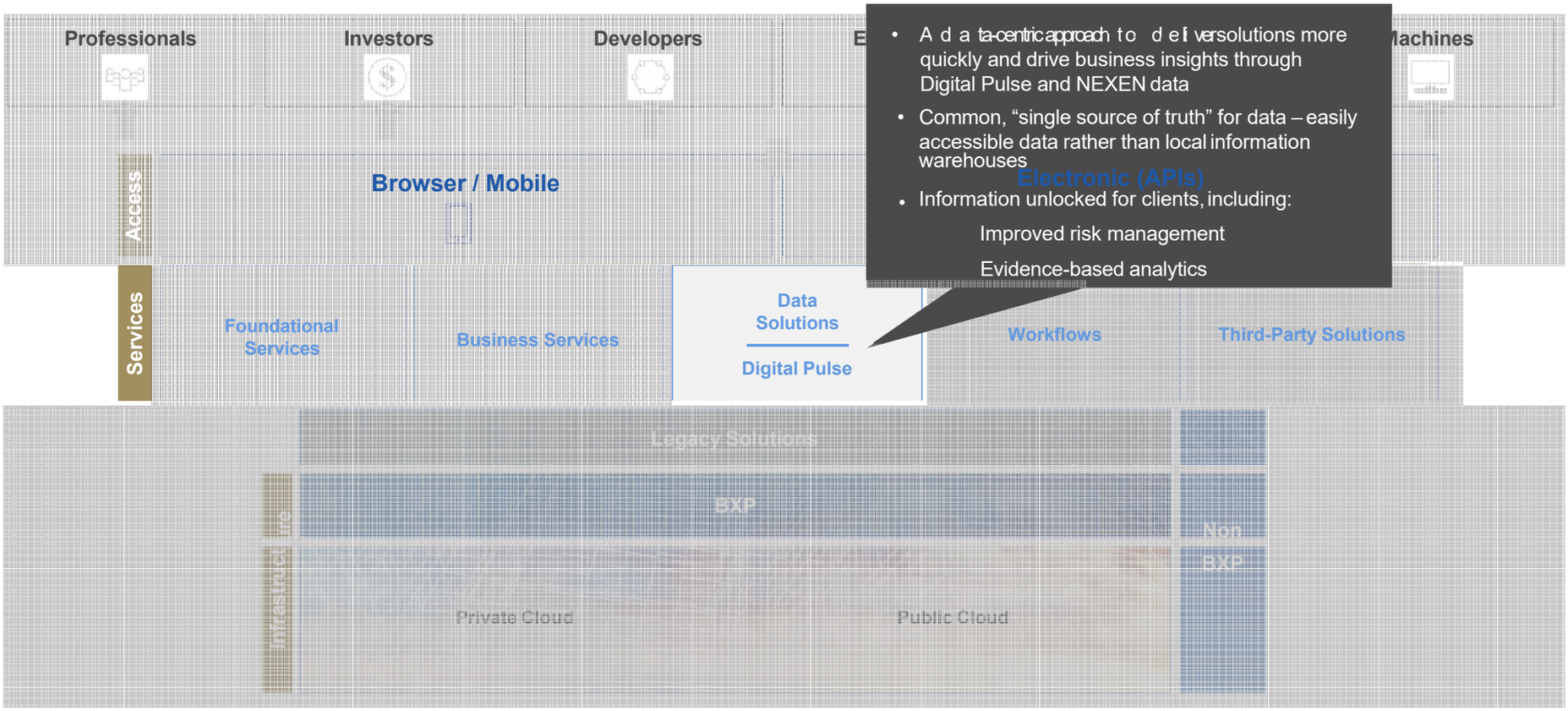

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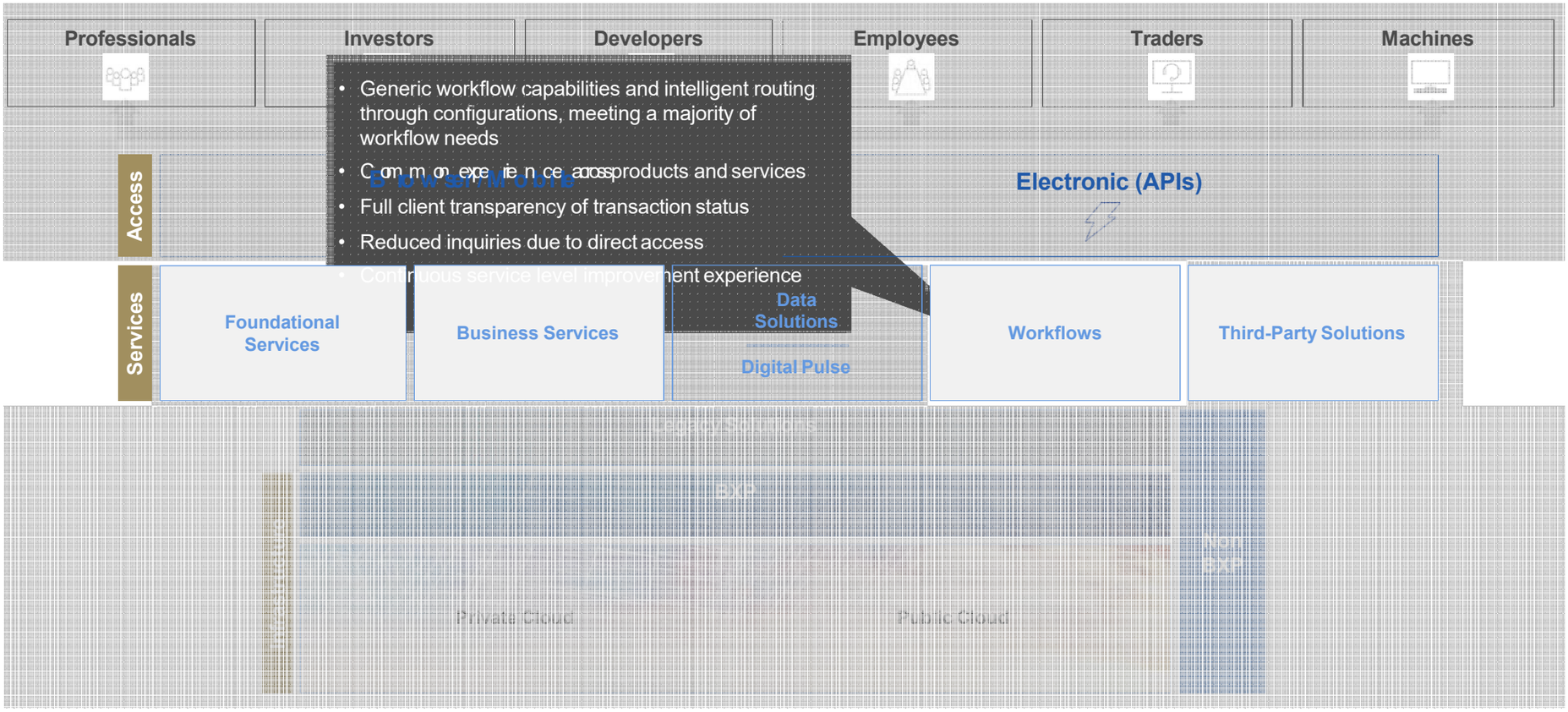

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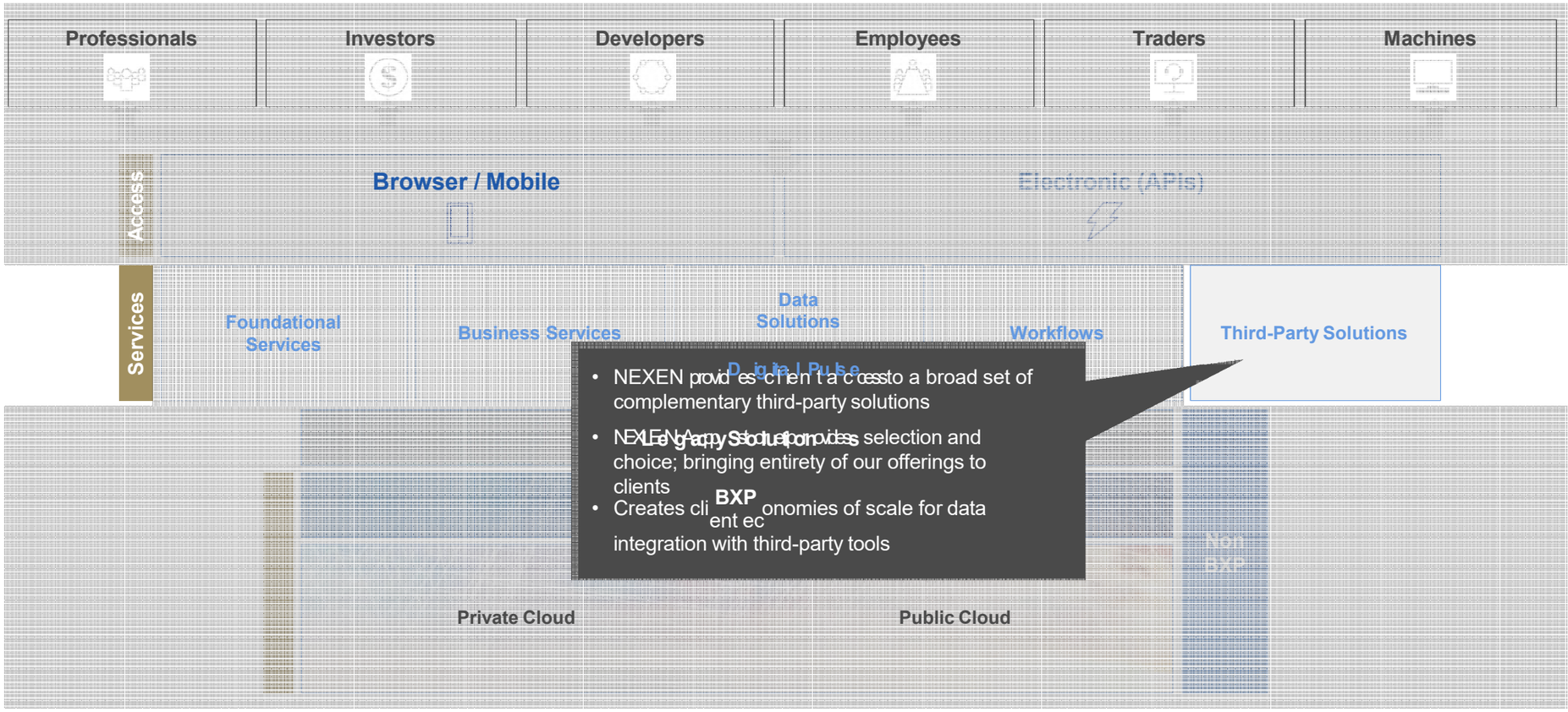
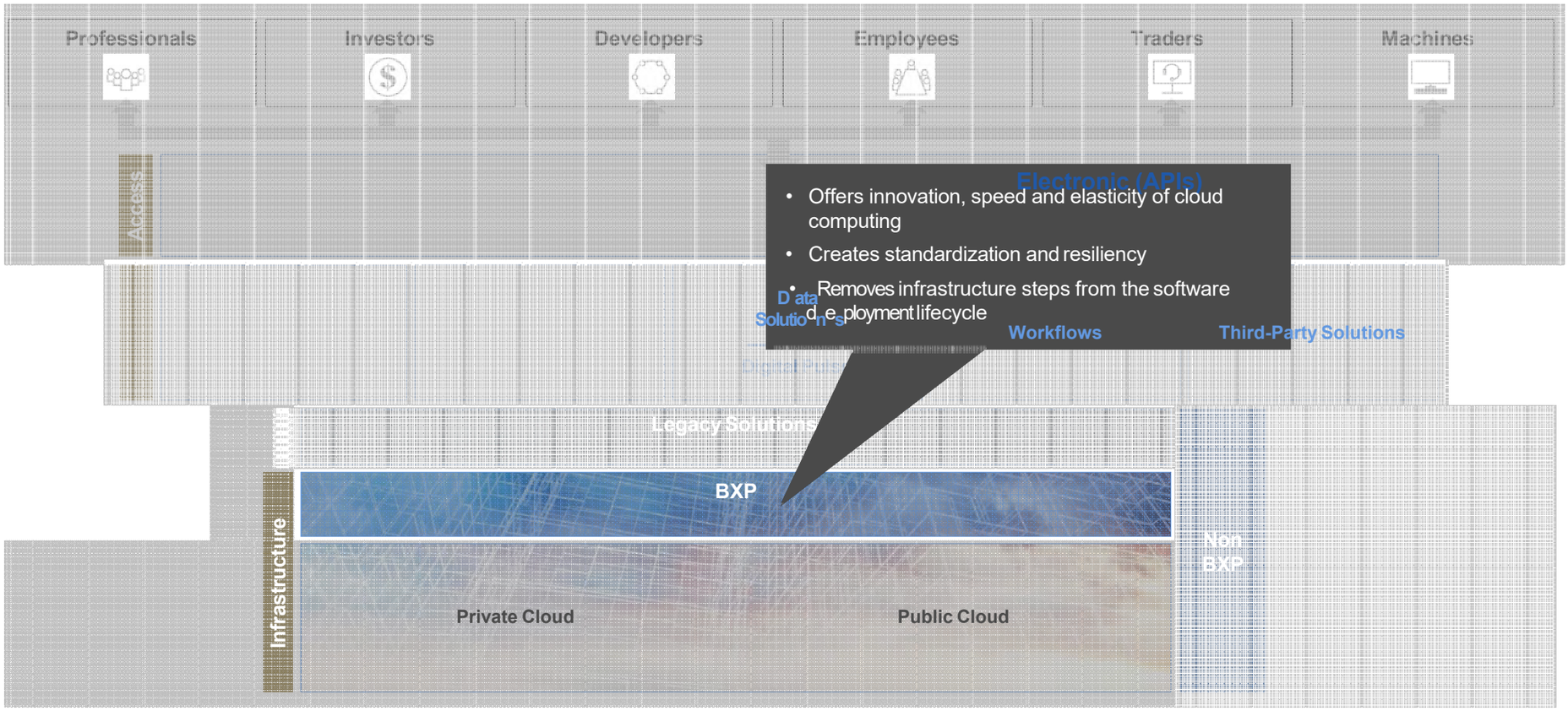
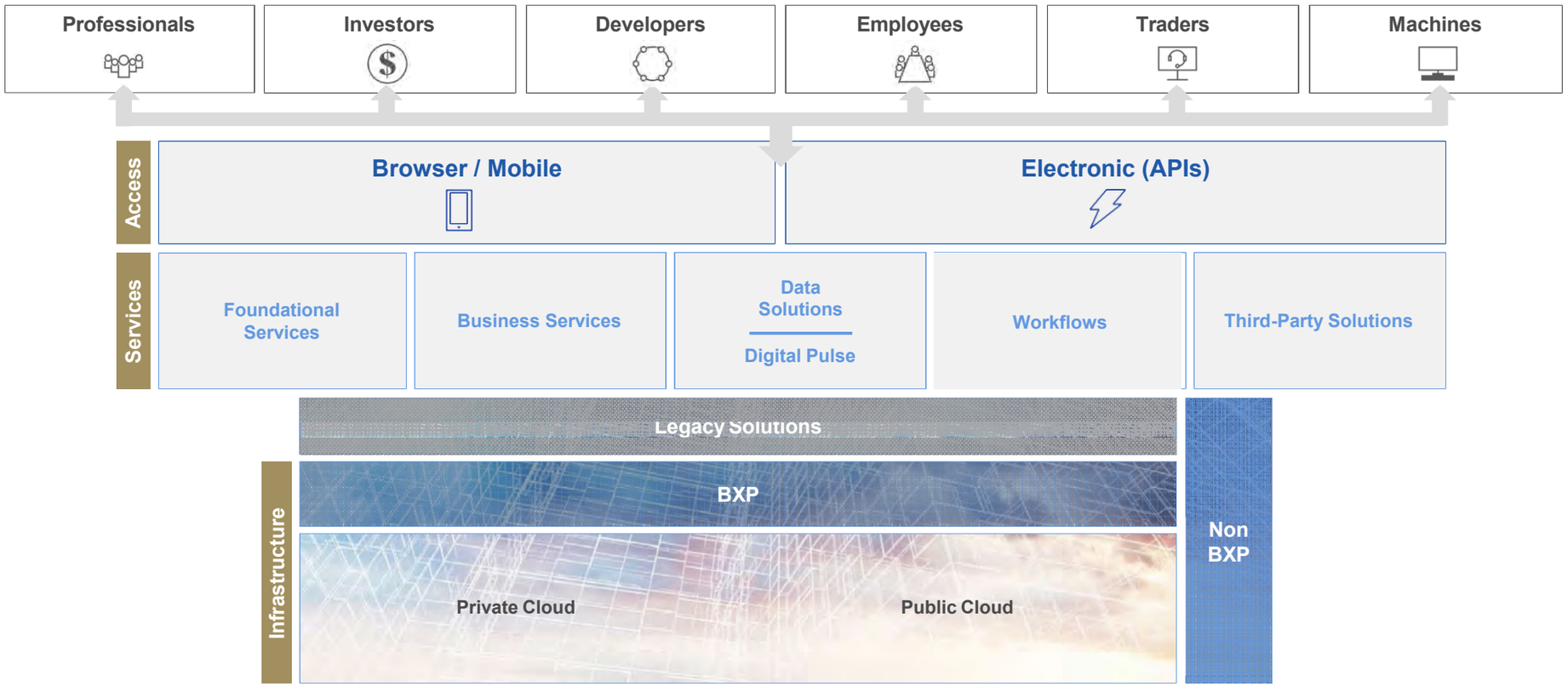
Servicing Multiple Needs Through Common Components



Servicing Multiple Needs Through Common Components



Servicing Multiple Needs Through Common Components



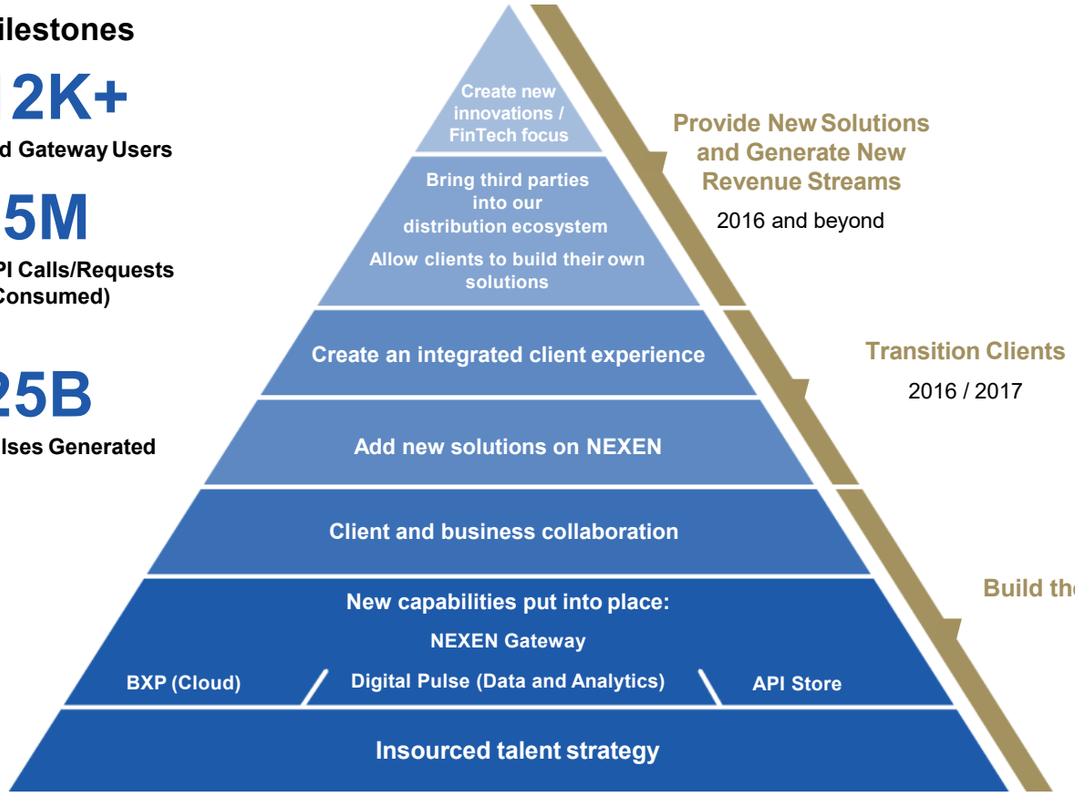
Our NEXEN Gateway to a Transformed Client Experience

Milestones

12K+
Entitled Gateway Users

5M
Total API Calls/Requests (Consumed)

25B
Total Pulses Generated



Provide New Solutions and Generate New Revenue Streams
2016 and beyond

Transition Clients
2016 / 2017

Build the Foundation
2015

Key Benefits to Clients

- Deliver one digital ecosystem experience
- Provide faster speed to market for existing and new applications
- Enable greater ease of use
- Increase productivity
- Achieve cost savings

NEXEN Gateway –
Single Portal to Access BNY Mellon Services

Neil DiCicco

Technology Product Manager

August 24, 2016

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NEXEN Gateway

BUSINESS LEADER

Neil DiCicco
NEXEN Gateway
Product Manager

TECHNOLOGIST

Michael Pettenato
NEXEN Gateway
Development Manager

BUSINESS CHALLENGE TO SOLVE

- Clients access BNY Mellon's solutions via different portals, organized by line of business, resulting in inefficiency, inconsistent service levels and redundant functionality

TECHNOLOGY SOLUTION

- Developed a single portal to access BNY Mellon solutions delivering a consistent client experience regardless of product, service or region

NEXEN BUILDING BLOCK COMPONENT(S)

- BXP; API Store; Digital Pulse; Gateway

BENEFITS

Efficiency	√
Cost Savings	√
Resiliency	√
Risk Reduction	√
Revenue Generation Opportunity	√

Client

- Delivers BNY Mellon services, third-party and client solutions in a single, integrated portal rather than a wide array of systems
- Consistent client experience regardless of product, service or region
- Business solutions, capabilities and data across all access devices (mobile)
- Client reporting consistency across lines of business

BNY Mellon

- Increased efficiency enables relationship managers to spend more time providing value-added insights
- Scalable solutions leveraged across lines of business reduces redundancy, lowers costs and improves cross business collaboration
- Increased developer productivity; deliver solutions faster
- Changes the development culture to be agile

NEXEN Digital Pulse – Big Data Analytics and Insights

Gerald Verrilli

Big Data Architect

August 24, 2016

BNY MELLON

Digital Pulse – Big Data Analytics and Insights

TECHNOLOGIST

Gerald Verrilli
Big Data Architect

BUSINESS CHALLENGE TO SOLVE

- Establish a centralized production platform to capture, store, analyze and drive actionable insights on large amounts of data from disparate business data sources

TECHNOLOGY SOLUTION

- Developed a cost-effective, real-time Big Data analytics and visualization solution that is reusable across a multitude of business cases
- Enables rapid collection of new data streams with standardized capture APIs and provides self-service analytics for businessteams

NEXEN BUILDING BLOCK COMPONENT(S)

- BXP; API store; Digital Pulse; Gateway

BENEFITS

Efficiency	√
Cost Savings	√
Resiliency	√
Risk Reduction	√
Revenue Generation Opportunity	√

Client

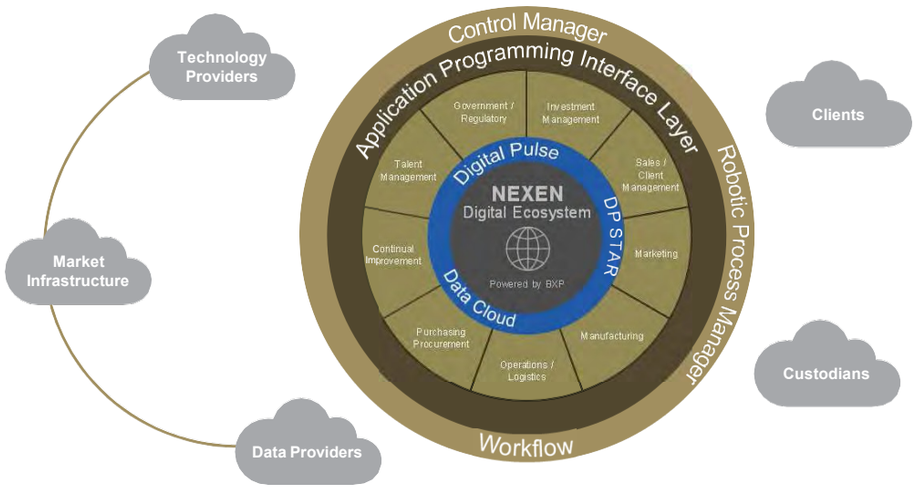
- Provides insights that create value and improve decision-making
- Single source of the truth
- Allows massive amounts of information to be organized and visualized in a consistent manner
- Creates metrics targeted to improve client service quality and behavior

BNY Mellon

- Drives process improvement, waste elimination, and unit cost reduction
- Supports evidence-based management culture
  - Enables monitoring and measurement to increase performance improvement opportunities

NEXEN Digital Ecosystem

A Foundation for Clients and the Industry to Build Upon



Digital Pulse

Digital Pulse is the component of the NEXEN ecosystem that has digitized BNY Mellon enabling us to “work smarter” and deliver analytical capabilities across a vast range of themes and businesses to drive measureable improvements

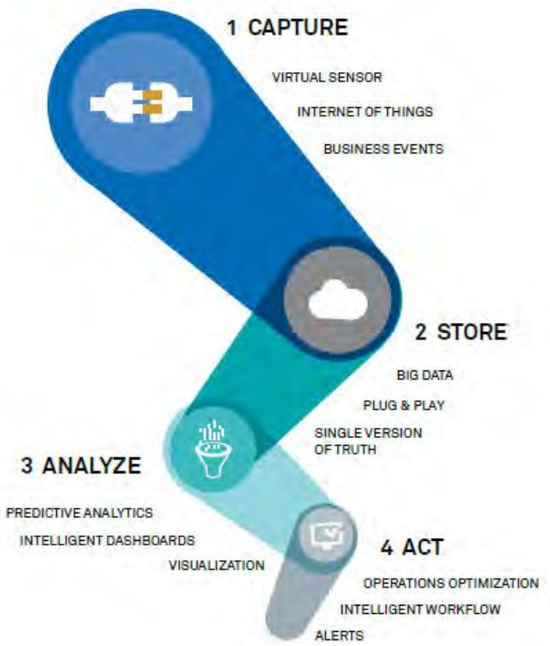
At its core, Digital Pulse is our internally-developed, real-time Big Data analytics and visualization platform

Enables business leaders to discover and deliver actionable insights that improve business performance through evidence-based management

NEXEN Digital Pulse - An Evidence-Based Ecosystem

Transforming Our Business and Culture

Digital Pulse is comprised of four core pillars that combined deliver a data immersive experience



	Value to BNY Mellon
Capture Collecting event-based data	• **Consistency** of data publishing across various platforms, technologies and processing environments • **Simple, fast** data ingestion
Store Big Data repository	• **Scalability** at a lower cost to the enterprise • **Single Source of Truth** • Quicker **adaptability** to the changing technology landscapes
Analyze Consistent, meaningful analytics	• Makes analytics **accessible** • Common **reusable** analytics across businesses for defined themes • Increases **transparency** and awareness • **Identifies waste** and opportunities
Act Delivering actionable insights	• **Empowers** employees with real-time insight • Provides easy to understand **visualizations** on complex data • **Actionable insights** to improve processes and business

Driving Outcomes

- Improving Client Experience
- Maximizing Client and Product Profitability
- Resource Effectiveness and Productivity
- Straight-Through Processing
- Service Level Improvement
- Process Optimization
- Resource Planning and Deployment
- Real-Time Risk Monitoring
- Proactive Threat Mitigation
- Talent Analytics
- Facilities Cost Optimization
- Value Creation for Clients
- Business Continuity
- Process Automation
- Business Monitoring
- Workforce Strategy and Optimization
- Practice Management
- Information Security Insights

NEXEN Digital Pulse Delivers Transparency Through Data Analytics and Insights

FAST DATA CAPTURE

Standardized payload structures and wide range of interface protocols facilitate data capture from disparate sources

Capture data from 106 business processes

Onboarding another 105 applications

EFFICIENT DATA ORGANIZATION

Rapid data ingestion is coupled with a high performance database to provide a centralized, cost effective solution

Collecting >1.4 billion events/month

Providing data insights for over 25 billion pulses

SELF SERVICE DATA ANALYTICS AND INSIGHTS

Non technical end user interactive dashboards support visualization, aggregation, drill down, and download

3,700 active users

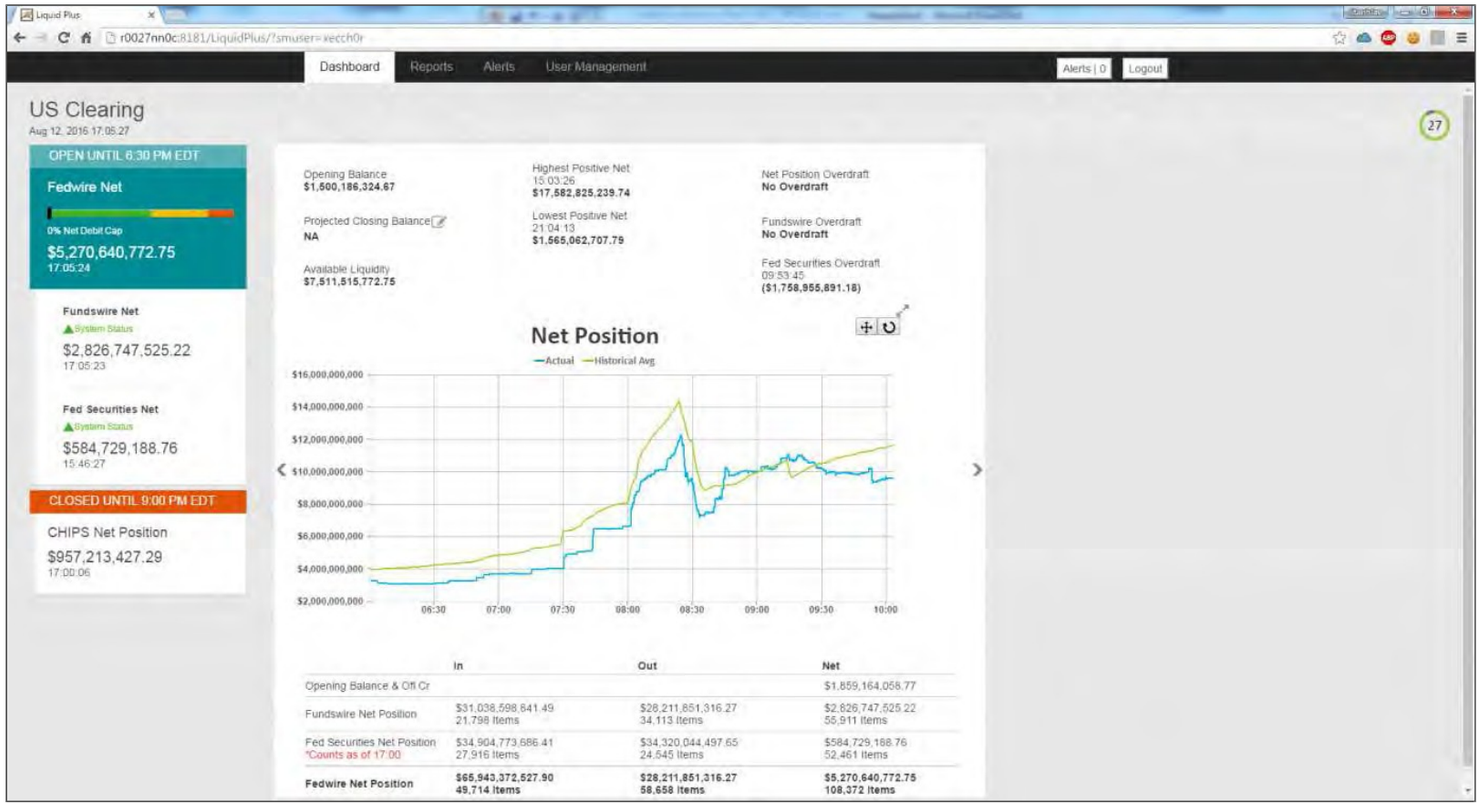
Deliver 768 visualizations and analytics

BUSINESS THEMES CAPTURE AND EXTENSION

Metadata layer and reusable dashboard components enable common business themes to be extended across the enterprise

Represent 35 different business areas as well as enterprise-wide insights

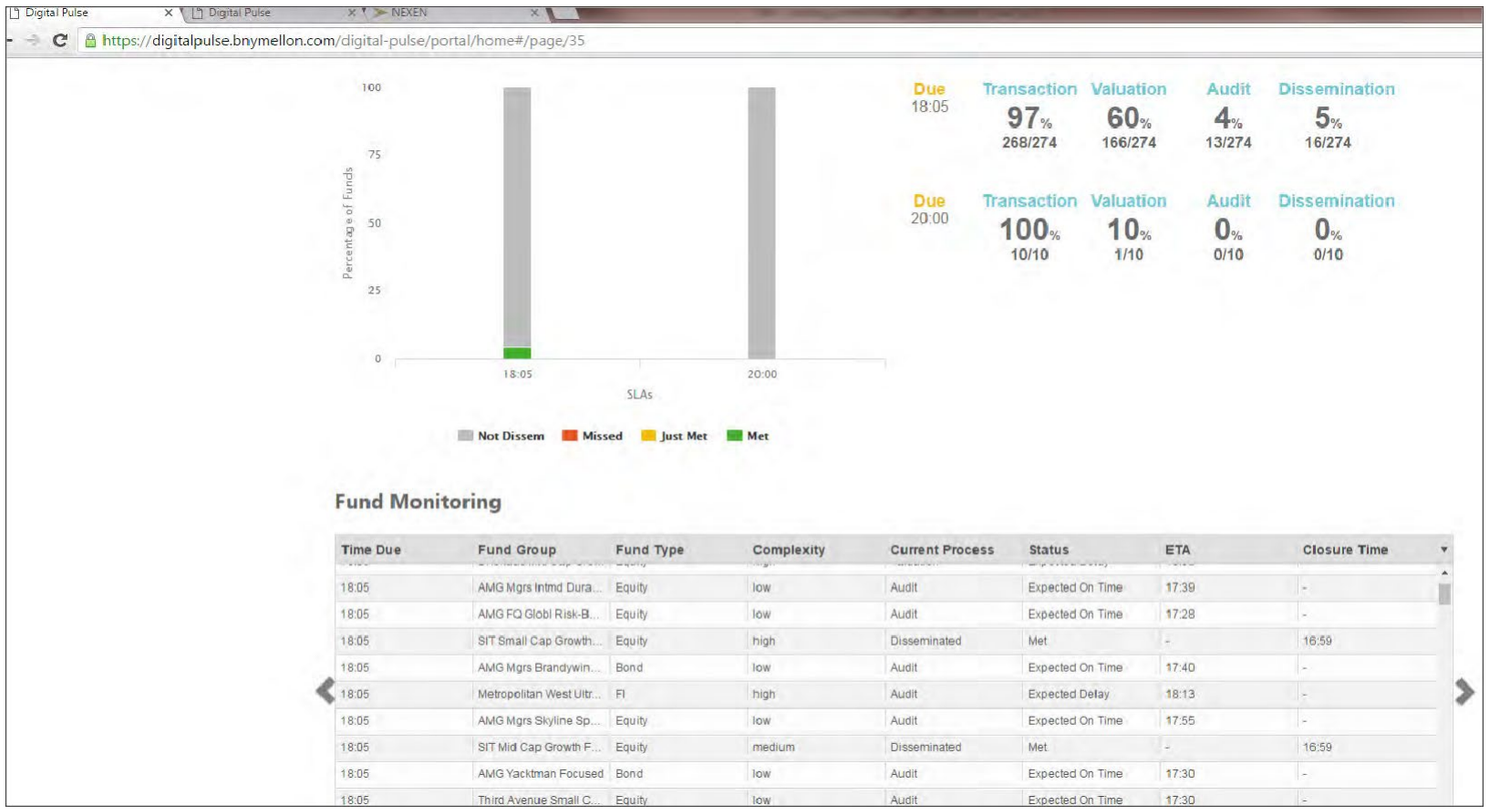
Digital Pulse, Unlocking the Value – Business Example



Liquidity Plus

Real-time liquidity monitoring of Fed Wire, Clearing House Funds, and Fed Securities payments versus market deadlines

Digital Pulse, Unlocking the Value – Business Example



Fund Accounting Valuations

Real-time tracking of daily NAV production activities against client deadlines with projected completion times based on historical trends

NEXEN – Application Programming Interface (API) Store

Matt Joseph

Head of Jersey City Innovation Center

August 24, 2016

BNY MELLON

Application Programming Interface (API) Store

TECHNOLOGIST

Matt Joseph
Head of Jersey City Innovation Center

BUSINESS CHALLENGE TO SOLVE

- Provide data and functionality to clients that was manually intensive, requiring lengthy customized set-up and numerous touch points

TECHNOLOGY SOLUTION

- Developed APIs that provide access and simplicity for integrating and processing data between client and BNY Mellon

NEXEN BUILDING BLOCK COMPONENT(S)

- BXP; API store

BENEFITS

Efficiency	√
Cost Savings	√
Resiliency	√
Risk Reduction	√
Revenue Generation Opportunity	√

Client

- Utilizes industry standards and open source solutions making it easier for clients to extend their technology investments
- Invokes BNY Mellon services directly, improves the speed to access our solutions as well as developer productivity
- Enables the creation of new solutions that combine data and functionality – App store, third-party solutions and FinTech APIs

BNY Mellon

- Transforms business operations to be more agile, flexible and dynamic in the new digital economy
- Creates operational efficiencies by making services interoperable
- Increases speed-to-market, accelerates innovation, enables monetization of data and functionality

NEXEN – BNY Mellon eXtreme Platform (BXP) / Cloud Technology

John Wetherill

Principal Architect, Silicon Valley Innovation Center

August 24, 2016

BNY MELLON

BNY Mellon eXtreme Platform (BXP) – Cloud Technology

TECHNOLOGIST

John Wetherill
Principal Architect, Silicon Valley Innovation Center

BUSINESS CHALLENGE TO SOLVE

- Reduce manual software installations, application-specific maintenance complexities and specialized skills to increase efficiencies and reduce overall costs and risk

TECHNOLOGY SOLUTION

- Created environment that enables consistent application and data portability of software solutions through “containerization” and efficient use of available resources

NEXEN BUILDING BLOCK COMPONENT(S)

- BXP; API store; App store; Digital Pulse; Gateway

BENEFITS

Efficiency	√
Cost Savings	√
Resiliency	√
Risk Reduction	√
Revenue Generation Opportunity	

Client

- Reduces costs and risks
- Increases resiliency
- Reduces time spent on maintenance
- Onboards clients faster
- Improves client experience

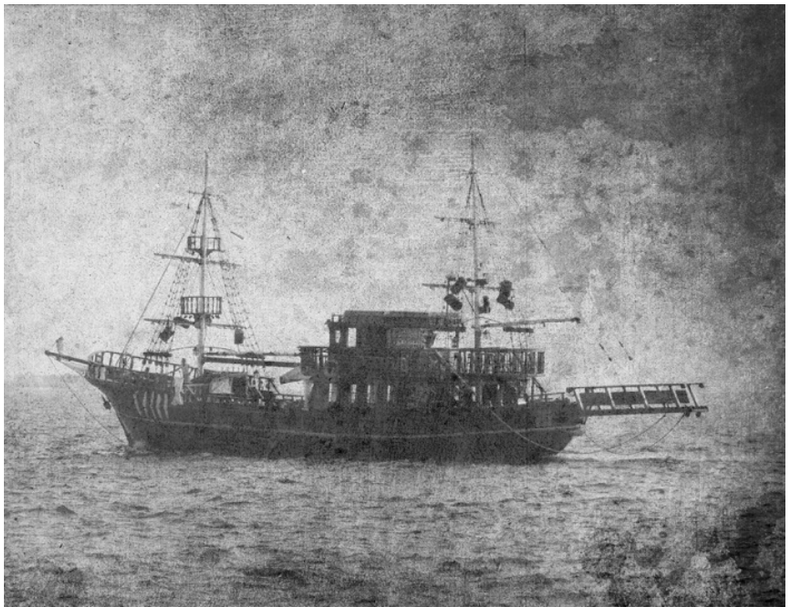
BNY Mellon

- Supports public / private cloud, pay-on-demand
- Delivers software faster
- Enables higher productivity
- Enables investment in and delivery of value-added solutions to clients

BXP Cloud Technology Powering Investments

- Hosts BNY Mellon business applications
- Hybrid cloud strategy supports private and public cloud
- Significantly improved software delivery times from months to hours to provision application stacks
- 300+ Apps deployed
- Thousands of deployments, billions of transactions per month

Containers Revolutionized Global Commerce

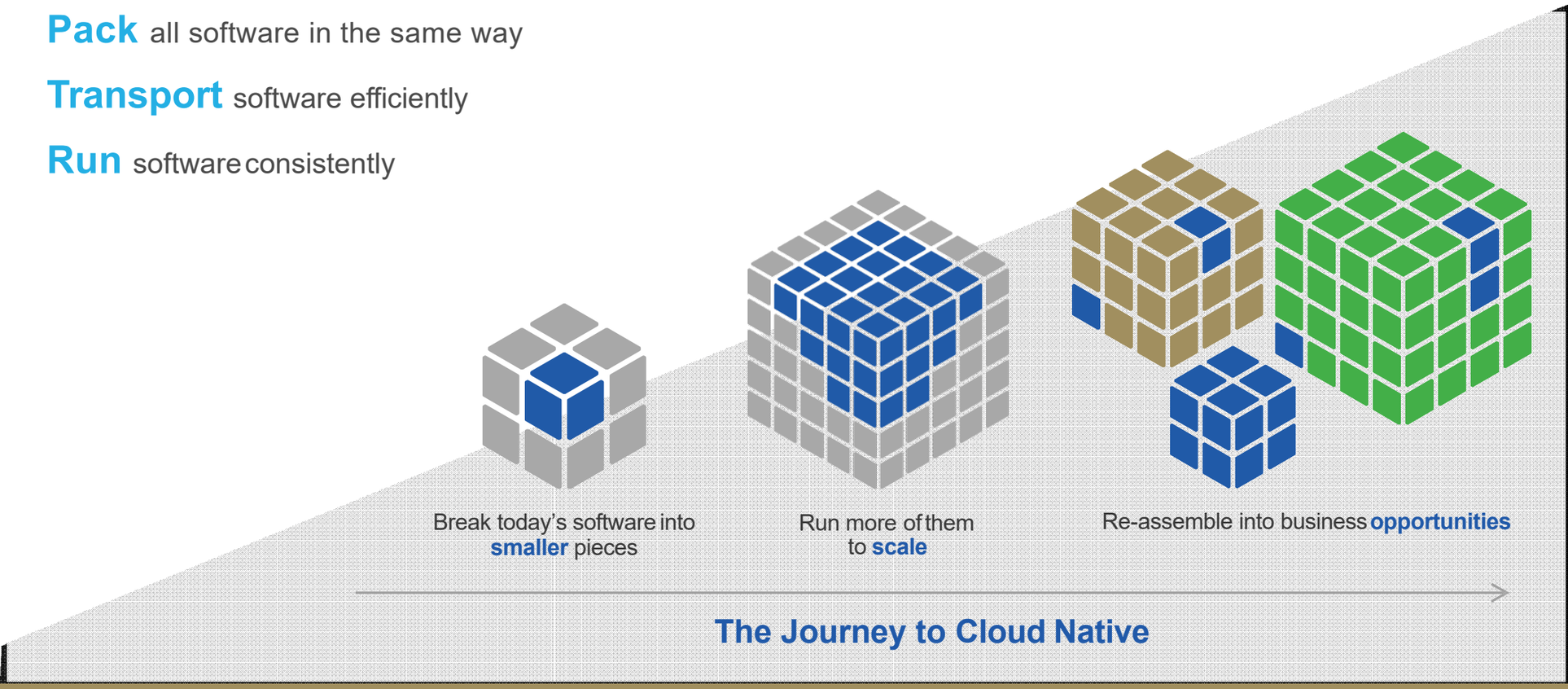


We Now Have Containers for Code

Pack all software in the same way

Transport software efficiently

Run software consistently



NEXEN Ecosystem – Business Solutions

Mike Keslar

Head of Investment Services Technology

August 24, 2016

BNY MELLON

Building Business Solutions Differently

From How we Build Solutions to How we Work Together, we are Eliminating Redundancies, Increasing Developer Productivity and Improving the Client Experience

NEXEN Components	• Leveraging NEXEN's reusable building blocks to drive lower development costs and faster speed to market
Service Ownership	• Transforming application teams into client-focused service organizations measured on service quality
Agility	• Adopting Agile / Lean development principles and increasing business engagement
Enterprise Services	• Transitioning from business unit solutions to enterprise services that optimize processes across the firm
Resiliency	• Leveraging new approaches to resiliency to ensure that platforms are highly available

Today You Will See Various Demonstrations of How We Are Building Business Solutions Differently, Including…

Demonstration	Business Benefit	Gateway	API Store	App Store	Workflow	Digital Pulse	BXP
Enterprise Risk Integration	• Improved ability to manage risk • Increased visibility and transparency into risk exposures		•			•	•
Enterprise Client Onboarding	• Improved and consistent client experience • Improved time to revenue recognition		•				•
Trade Capture Analytics	• Improved straight through processing rates • Lower transaction costs		•				•
Sentiment Application	• Integrating social and conventional media analytics into investment portfolios						•
Distributed Ledger for Broker-Dealer Services (BDS)	• Improved resiliency – potential alternative if primary system is down		• *				• *

* Future

NEXEN Ecosystem – Collaboration

John Lehner

Chief Executive Officer, BNY Mellon Technology Solutions

August 24, 2016

BNY MELLON

BNY Mellon Technology Solutions Vision

Capitalize on our Technology Expertise and Assets to Achieve Our Goal of Being the Investments Technology Solutions Leader

Rationale

- Greater demand for integrated front and back office
- Need for agile, flexible, scalable IT infrastructure
- Increased focus and investment in data management and analytics
- Stronger focus on managing risk at the enterprise-level

Approach

- Extend our variable cost business model across the investment life cycle
- Unlock value of technology assets and change the value perception of technology from a cost to a revenue driver
- Offer a continuum of deployment options (Saas, PaaS, full outsourcing)
- Leverage NEXEN collaboration solutions, leveraging data and third-party applications
- Build FinTech portfolio through internal development, partnerships, and equity investments

Factors Positioning BNY Mellon for Success

- Clients trust BNY Mellon
- Strong domain knowledge
- Proven track record

Benefits

- Diversify BNY Mellon revenue streams
- Create stronger strategic client relationships
- Improve our technology return on investment

Combining Size and Scale with Data-Centric Solutions

- Our technology and service is comprehensive, flexible, scalable and global
- Integrated middle office platform offering that draws upon our innovative data, operational and technology expertise to service today's multi-layered outsourcing arrangements
- Ability to combine back office functions with middle office servicing across multiple books of business via a single platform

Why Clients are Choosing Us

Lessons learned from other recent large client deals

Data-Centric Solutions

1. Manage data complexity
2. Higher quality and consistency supporting front office and client data challenges
3. Flexibility in addressing changing data requirements

Commercial Impact

1. More efficient than previous operating models
2. Faster time to value and lower risk deployments
3. Best-in-class technology enables competitive price point

Business Benefits

1. Provides a solution that addresses complexity and commodity requirements
2. Reusable and scalable components delivered in client-specific configurations
3. Variable cost structure

PRODUCT DEMONSTRATIONS

BNY MELLON

Enterprise Risk Integration (ERI)

BUSINESS LEADER

Dean Stephan
Chief Enterprise Risk Officer

TECHNOLOGIST

Alex Jovanovich
ERI Program Manager

BUSINESS CHALLENGE TO SOLVE

- Increase global transparency to risk exposures by improving risk management tools and analytics to drive faster decision making and provide flexible and more comprehensive reporting capabilities

TECHNOLOGY SOLUTION

- Created a dynamic risk management system and reporting capability to provide a transparent global view across risk categories and by client, BNY Mellon legal entities, country, direct and indirect collateral exposure and positions and line of business

NEXEN BUILDING BLOCK COMPONENT(S)

- BXP; API store; Gateway

BENEFITS

Efficiency	√
Cost Savings	√
Resiliency	√
Risk Reduction	√
Revenue Generation Opportunity	√

Client

- Greater credit exposure detail and enhanced reporting capabilities improves responsiveness to clients while generating confidence in BNY Mellon's risk assessment, management and reporting capabilities

BNY Mellon

- Efficient, effective, complete and timely risk assessment and decision-making
- Increased visibility and transparency of risk exposures
- Faster assimilation of data to quickly determine risk exposure without manual intervention

Client Onboarding

BUSINESS LEADER

Amy Harkins
Head of Enterprise Client Onboarding

TECHNOLOGIST

Mark Green
Investment Services Technology Management

BUSINESS CHALLENGE TO SOLVE

- Required automated workflow within cash and custody account opening
- Clients required transparency, timeliness, and standardization during account opening
- Clients requested automated workflow tool to reduce wait time and internal manual touch points, which caused delays – also a competitive peer challenge

TECHNOLOGY SOLUTION

- Developed single portal to access all BNY Mellon solutions, delivering a unified client experience across the enterprise
- Reduced data duplication
- Enabled rapid collection of standardized data and automated routine processes

NEXEN BUILDING BLOCK COMPONENT(S)

- BXP; API store; Digital Pulse; Gateway

BENEFITS

Efficiency	√
Cost Savings	√
Resiliency	
Risk Reduction	√
Revenue Generation Opportunity	

Client

- Enables direct client access to action data with increased speed to task completion
- Operational simplification and enhanced accuracy
- Faster client onboarding with a uniform and cohesive client experience for all solutions delivered
- Clients with unique compliance provisioning request flexible authorization set-up and ability to attach additional documentation

BNY Mellon

- Creates efficiencies by making services interoperable
- Drives process improvement and waste elimination
- Reduces operational risk due to manual errors
- Manages and secures accessible data for regulatory reporting
- Accelerates billable services – increased time-to-revenue

Digital Pulse – Trade Capture Analytics

BUSINESS LEADER

Lynn Sibley
Operations Manager
Trade Capture

TECHNOLOGIST

Tim Kuntz
Principal Architect
Global Custody and Cash Services

BUSINESS CHALLENGE TO SOLVE

- Easy access to data to enable intelligent business insights and identify areas for process improvement

TECHNOLOGY SOLUTION

- Utilized Big Data platform and various tool sets to develop multi-dimensional data visualizations, aggregations and granular drilldowns

NEXEN BUILDING BLOCK COMPONENT(S)

- BXP; API store; Digital Pulse

BENEFITS

Efficiency	√
Cost Savings	√
Resiliency	
Risk Reduction	√
Revenue Generation Opportunity	√

Client

- Provides insights that create value and improve decision making
- Single source of the truth
- Allows massive amounts of information to be organized and visualized in a consistent manner

BNY Mellon

- Drives process improvement, waste elimination, and unit cost reduction
- Supports evidence-based management culture
  - Enables monitoring and measurement to increase performance improvement opportunities

App Store (Heckyl)

BUSINESS LEADER

Jennifer Cole
Head of Business Creation,
Client Technology Solutions

BUSINESS CHALLENGE TO SOLVE

- Vetting, integrating and subscribing to new products available from FinTechs and vendors external to BNY Mellon is costly for organizations because of the vast number of solutions and the ever-changing landscape

TECHNOLOGY SOLUTION

- BNY Mellon evaluates and curates leading solutions from third-party providers and integrates client data, third-party solutions, and enhancements to create new value-add products for clients
- Providing access to all of BNY Mellon and new solutions in one place – the App store

NEXEN BUILDING BLOCK COMPONENT(S)

- BXP; API store; App store; Digital Pulse; Gateway

BENEFITS

Efficiency	√
Cost Savings	√
Resiliency	√
Risk Reduction	√
Revenue Generation Opportunity	√

Client

- BNY Mellon evaluates and curates third-party solutions and builds necessary APIs to integrate with FinTechs and vendors as needed
- Invokes BNY Mellon's services directly, improving speed to access our solutions
- Enables the creation of new solutions that combine data and functionality
- BNY Mellon handles the following for clients to eliminate the need for duplicative resources at each client: price negotiation, vetting of product, building of the APIs, making accessible through the App store

BNY Mellon

- Transforms business operations to be more agile, flexible and dynamic in the new digital economy
- Creates operational efficiencies by making services interoperable
- Increases speed-to-market, accelerates innovation, enables monetization of data and functionality and offers new solutions not currently available

Blockchain Overview

Blockchain Could be Disruptive Medium to Long-Term While Bringing Significant Improvements in Security and Efficiency to the Financial Industry Short-Term

KEY CONSIDERATIONS

- Permissioned ledger with an intermediary is better suited for financial transactions
- Regulatory, accounting and legal frameworks needs to evolve. Fiat currencies not going away
- Technology is still evolving. Standards will drive adoption and interoperability

KEY TAKEAWAYS

- Fundamental business process redesign is required to reap the benefits of blockchain
- Effectively representing cash in-ledger is first step towards any financial use cases
- Internal use cases are a good start but Network Effect will be the key to harness the benefits of distributed ledger

BNY MELLON INITIATIVES

2015 2016 Q2 | TODAY | 2016 Q3 +

Education

Educating clients and internal businesses for organizational readiness

- More than 30 clients and over eight internal businesses educated
- Over 125 active participants internally

Exploration

Exploring FinTechs to develop internal use cases for efficiency, security and resiliency

- More than 50 FinTechs evaluated
- Five internal use cases developed

Collaboration

Exploring opportunities for client collaboration with FinTechs and industry peers and participate with Consortiums to drive standards

- More than six client collaboration opportunities
- Participate with four consortiums

Transformation

Short-term: efficiency, security and resiliency

Long-term: organizational readiness for potential disruption; pro-active leadership in key markets, standards for next generation of financial markets infrastructure

- Two internal use cases
- Dedicated team across all businesses
- Strategy to determine risks, opportunities, and timeframes in current and potentially new businesses

Distributed Ledger (BDS 360)

BUSINESS LEADER

Andrea Pfenning
Chief Operating Officer
Broker-Dealer Services

TECHNOLOGIST

Sarthak Pattanaik
Head of Broker-Dealer Services
Technology

BUSINESS CHALLENGE TO SOLVE

- Develop resilient solution to survive tail events such as loss of data-centers, multi-state power outages and other business disruptions, enhancing system resiliency and recoverability

TECHNOLOGY SOLUTION

- Utilized distributed ledger architecture to provide redundancy and market monitoring, enabling transparent data integrity and real-time market risk assessment

NEXEN BUILDING BLOCK COMPONENT(S)

- BXP*; API store*; Gateway*

* Future

BENEFITS

Efficiency	√
Cost Savings	√
Resiliency	√
Risk Reduction	√
Revenue Generation Opportunity	

Client

- Operational simplification – reconciliation of activities between clearance and repo platforms that typically occur at the end of the day are now performed on a real-time basis (every 10 minutes)
- Improved client experience – allowing real time decisions when there are "breaks" rather than waiting for end-of-day reconciliation

BNY Mellon

- Self-sufficient environment with high level of productivity/efficiency
- Risk management improvement through single "source of truth", away from primary system, enabling security source and full transaction history
- "Version of truth" can be shared with clients real-time
- Operational intelligence to analyze system inefficiencies
- Enhanced recovery in the event of primary data center outage

Node-RED Business Productivity

BUSINESS LEADER

Sasi Rayankula
Global Head of Engineering
Operational Excellence Group

TECHNOLOGIST

Meghan Judge
Technology Intern
Johns Hopkins University

BUSINESS CHALLENGE TO SOLVE

- Empower non-technical clients to build visual custom apps on a self-serve basis

TECHNOLOGY SOLUTION

- Extend Node-RED prototyping platform by building a set of reusable components for APIs

NEXEN BUILDING BLOCK COMPONENT(S)

- BXP; API store; Digital Pulse; Gateway

BENEFITS

Efficiency	√
Cost Savings	√
Resiliency	√
Risk Reduction	√
Revenue Generation Opportunity	

Client

- Allows clients to configure reusable components of APIs to develop workflows that solve business challenges
- Enables non-technical clients to create custom apps to meet their needs with limited technologist involvement

BNY Mellon

- Self-sufficient environment with high level of productivity/efficiency
- Tracks APIs utilized by clients
- Manages and secures accessible data

Robotic Process Automation (RPA)

BUSINESS LEADER

Mark Shivers
Co-Head of Robotic Process Automation

BUSINESS CHALLENGE TO SOLVE

- Business subject matter experts spend time manually processing transactions that have clear business rules and potentially require interaction with multiple systems or applications
- Enable business subject matter experts to apply their industry knowledge and spend more time on value-added delivery of services rather than manual, routine and repetitive tasks

TECHNOLOGY SOLUTION

- Replace mundane standardized processes completed by valuable subject matter experts with cloud-based, robotics-enabled, virtual workforce ("bots")
- Automate routine processes such as Account Closures, ICSD Trade Entry Input, and US Settlements Repairs
- Changes global workforce from operations processors to exception handlers and client service delivery agents

NEXEN BUILDING BLOCK COMPONENT(S)

- BXP; API store

BENEFITS

Efficiency	√
Cost Savings	√
Resiliency	√
Risk Reduction	√
Revenue Generation Opportunity	√

Clients and BNY Mellon

- Clients and BNY Mellon both benefit from "Better, Faster & Cheaper" processing as outlined in the below case studies:
  - **Better** accuracy in account closure request processing – 100% accuracy in account closure validations across 5 systems with an 88% improvement in processing time
  - **Faster** processing in ICSD Trade Entry, which realized 60% improvement in trade entry turnaround time, after a project that took only 4 weeks to implement
  - **Cheaper** processing of unsettled trade resolution resulting in a reduction in FTEs required for processing high-volume, rules-based research and repair

APPENDIX

BNY Mellon is the corporate brand of The Bank of New York Mellon Corporation and may be used as a generic term to reference the corporation as a whole and/or its various subsidiaries generally. Products and services may be provided under various brand names in various countries by duly authorized and regulated subsidiaries, affiliates, and joint ventures of The Bank of New York Mellon Corporation. Not all products and services are offered in all countries. BNY Mellon will not be responsible for updating any information contained within this material and opinions and information contained herein are subject to change without notice. BNY Mellon assumes no direct or consequential liability for any errors in or reliance upon this material. This material may not be reproduced or disseminated in any form without the express prior written permission of BNY Mellon.
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BNY MELLON

Pre-Tax Operating Margin – Non-GAAP

($MM)	2Q14 LTM	
Income before income taxes - GAAP	$3,467	$4,236
Less: Net income (loss) attributable to noncontrolling interests of consolidated investment management funds	(62)	3
Add: Amortization of intangible assets	313	246
M&I, litigation and restructuring charges	128	53
Charge (recovery) related to investment management funds, net of incentives	104	
Impairment charge related to a court decision regarding Sentinel		170
Income before income taxes, as adjusted – Non-GAAP[1]	$3,950	$4,708
Fee and other revenue – GAAP	$11,656	$11,972
Income (loss) from consolidated investment management funds – GAAP	150	(2)
Net interest revenue – GAAP	2,980	3,052
Less: Net income (loss) attributable to noncontrolling interest of consolidated investment management funds	(62)	3
Total revenue, as adjusted – Non-GAAP[1]	$14,724	$15,025
Pre-tax operating margin[2]	**23.4%**	**28.2%**
Pre-tax operating margin – Non-GAAP[1,2]	**26.8%**	**31.3%**

[1] Non-GAAP excludes net income (loss) attributable to noncontrolling interests of consolidated investment management funds, amortization of intangible assets, M&I, litigation and restructuring charges (recoveries), charge (recovery) related to investment management funds, net of incentives and the impairment charge related to a recent court decision, if applicable.
[2] Income before taxes divided by total revenue.

PRESENTER BIOGRAPHIES

BNY MELLON

Executive Biographies

THOMAS P. (TODD) GIBBONS

Vice Chairman and Chief Financial Officer

BNY Mellon

Todd Gibbons is a Vice Chairman and the Chief Financial Officer, responsible for the controller, treasury, investor relations, strategic planning, corporate development and tax functions, as well as its leasing businesses.

Previously, Todd was Chief Risk Officer, overseeing credit, operational and market risk management for nearly a decade. Under his leadership, The Bank of New York dramatically enhanced its risk profile in the years leading up to the merger with Mellon Financial in 2007. He served as CFO of The Bank of New York for almost a year before the merger.

Todd first joined The Bank of New York in 1986 and held top management positions in the capital markets business, including head of global treasury, with responsibility for asset and liability management, funding, money market trading, swaps and derivative products.

He is a member of BNY Mellon's Executive Committee and chairman of the company's Benefits Investment Committee. Todd serves on the board of managers of ConvergEx Holdings and board of directors of PHH Corporation. He is also on the advisory board of Wake Forest University's Business School and the board of the Summit Area YMCA.

Todd holds a BS in Business Administration from Wake Forest University and an MBA from Pace University.

Executive Biographies

BRIAN T. SHEA

Vice Chairman and Chief Executive Officer, Investment Services

BNY Mellon

Brian Shea is a Vice Chairman and is Chief Executive Officer of Investment Services, which comprises the following businesses: Alternative Investment Services, Asset Servicing, Corporate Trust, Depositary Receipts, Broker-Dealer Services and Pershing. He also oversees Client Service Delivery and Client Technology Solutions. Previously, he was chairman and CEO of Pershing, a BNY Mellon company, providing leadership for all Pershing affiliates globally.

Brian is a member of the BNY Mellon Executive Committee. He serves on the Board of Directors of the DTCC and has previously served on the Board of Directors of the Insured Retirement Institute; the Board of Governors of the NASD (now the Financial Industry Regulatory Authority); the NASD Dispute Resolution Board, as chairman of the National Adjudicatory Council of the NASD; and the NASD Membership Committee as chairman. He also served on the NASD Variable Annuity Utility Task Force, the NASD Mutual Fund Breakpoint Task Force, the NASD Mutual Fund Omnibus Processing Task Force, the NASD Member Admission Review Committee and the NASD District 10 (New York) Committee.

Additionally, Brian served as chairman of the SIA Membership Committee (now SIFMA) and served on the SIA New York District Committee. He is a two-time recipient of the chairman's award for distinguished service to the SIA.

Brian serves on the Board of Trustees of St. John's University, and on the Board of St. John's University's Institute for Catholic Schools. He is a member of the Board of the Tomorrow's Hope Foundation, chairman of the Bishop's Advisory Committee for Catholic Education in the diocese of Rockville Centre, and serves on the Archdiocese of New York Archbishop's Committee for Charity.

Brian holds a BS in Business Management from St. John's University and an MBA from Pace University. He also completed the Securities Industry Institute program, sponsored by SIFMA, at the Wharton School of the University of Pennsylvania.

Executive Biographies

SURESH KUMAR

Senior Executive Vice President and Chief Information Officer

BNY Mellon

Suresh Kumar is Senior Executive Vice President and Chief Information Officer, where he is steering the Client Technology Solutions organization to become the industry leader in delivering innovative technology solutions that enable our clients and employees to succeed.

Suresh serves on BNY Mellon's Executive Committee as well as the company's Operating Committee. He is also the CEO of iNautix Technologies, a BNY Mellon Company that provides offshore development services.

Before assuming his current role, Suresh was Chief Information Officer for BNY Mellon's Financial Markets & Treasury Services group and Pershing LLC. Prior to his appointment as CIO for Pershing, he served in that role with CSFBdirect and DLJdirect. As part of the team at DLJdirect, Suresh was instrumental in the company's success in establishing a global presence in Japan, Hong Kong, United Kingdom and Dubai, and pioneering the delivery of online brokerage services via the Prodigy Network, America Online and ultimately the World Wide Web.

Suresh is a member of the board of Symphony Communication Services LLC, a secure communication and workflow technology company. He also serves as an advisory board member at Pace University's Seidenberg School. Suresh has previously served as a member of the HP FSI Advisory Board, Technology Advisory Committee of the DTCC and Technology Management Committee of SIFMA. Suresh is also former chairman of the Financial Industry Regulatory Authority Technology Advisory Committee.

Suresh earned a Bachelor of Technology degree from the Indian Institute of Technology at Madras, an MBA from the Indian Institute of Management at Ahmedabad and a MS in Computer Science from the New York Institute of Technology. Suresh was named "CIO of the Year" in 2006 by the New Jersey Technology Council and was named to CIO Insight magazine's annual list of "Top 100 CIOs" in 2007. Suresh was also named to Computerworld's "Premier 100 IT Leaders" for 2012 and was selected as the 2015 Innovation Value Institute Leader in IT Value by the IVI. In 2016, CIO magazine inducted Suresh into the CIO Hall of Fame.

Today's Presenters

NEIL DICICCO is a Technology Product Manager, responsible for digital transformation and delivering new client-centric solutions. His responsibilities include creating the vision and necessary strategies to build data-driven, structured, easy to use products that enhance client productivity while driving business growth. Neil presents at industry events to promote these products and mobilize global technology partners. Prior to this role, Neil served as VP of Digital Marketing for Pershing, a BNY Mellon company, where he was responsible for the strategic development and execution of digital marketing initiatives across Pershing's broad online network. Neil's expertise in marketing, design, and technology was crafted in the business-to-business financial services publishing industry where he held various marketing and design positions for firms such as Thomson Financial, SourceMedia, and Summit Media. Neil graduated magna cum laude with a BFA from CUNY, Brooklyn College.

MATT JOSEPH is the Head of the Jersey City Innovation Center, and his responsibilities include areas such as innovation projects, workplace design, client engagement, industry partnerships, ongoing talks with startups and FinTechs, and NEXEN strategy. Prior to the Innovation Center, Matt held a role on the Enterprise Business Architecture team, after graduating from the CTS Leadership Development Program (now TLP). He worked on a variety of strategic projects, including the AIS business architecture analysis, Digital Pulse onboarding, EDS (Enterprise Data Service), and BXP migration.

MIKE KESLAR is Chief Information Officer for Investment Services and Vice Chair of BNY Mellon Pennsylvania. In his CIO role, he provides technology leadership for the Investment Services business sector including Asset Servicing, Broker-Dealer Services, Corporate Trust, Depositary Receipts, and the Markets Group. In addition, Mike supports technology for Treasury Services and Business Partners including Risk, Finance and Human Resources. In his Vice Chair role, he works with BNY Mellon Pennsylvania management to provide local leadership and to cultivate technology relationships throughout the Pittsburgh region. Mike began his employment with Mellon in 1983 in the Wholesale Banking business. He has a BA from Saint Vincent College, where he studied Economics and Math, and holds an MBA from the University of Pittsburgh's Katz School of Business.

Today's Presenters

JOHN LEHNER is Chief Executive Officer of BNY Mellon Technology Solutions, Chairman of Eagle Investment Systems, and President of BNY Mellon New England. John is also a member of the BNY Mellon Operating Committee. As CEO of BNY Mellon Technology Solutions, John focuses on enhancing the BNY Mellon brand as an investments industry technology leader, getting greater leverage from existing BNY Mellon technology assets, and adding new technology offerings – all in support of accelerating BNY Mellon's ability to deliver market-leading client technology solutions across the investment lifecycle. As Chairman of Eagle, he helps shape the vision and set the strategy to execute Eagle's mission to help the world grow assets efficiently. As President of BNY Mellon New England, he works to strengthen BNY Mellon's regional client relationships, acts as spokesperson, and represents the company within the community and in the many local philanthropic causes BNY Mellon supports. Institutional Investor magazine included John in its 2015 Tech 50 awards. He holds a BA in Asian Studies from Seton Hall University.

LUCILLE MAYER is the Chief Information Officer of Client Experience Delivery, which is responsible for all client touch points and the development, testing and delivery of client solutions that include portals, mobile, web services/open architecture, file delivery and help desk. The CSD team works collaboratively with the business units, product lines and clients to develop a truly integrated, comprehensive service experience that allows clients to address all of their investment requirements and gain access to the broad resources that BNY Mellon has to offer. Lucille is also the Global Head of BNY Mellon's Innovation Centers and a member of the BNY Mellon Operating Committee. In 2013, Lucille formed the "Women in Technology" Business Resource Group that focuses on helping women at BNY Mellon manage their careers and generate exposure for their contributions. She is a member of BNY Mellon's Information Technology Executive Committee, and was named to Computerworld's "Premier 100 IT Leaders" list for 2013.
Lucille holds a BA in Computer Science, magna cum laude, from the State University of New York.

GERRY VERRILLI is the Big Data Architect at BNY Mellon, where he serves as the Technology Manager of the Enterprise Reconciliation Utility and Architecture Head of Global Custody and Cash Services. Gerry's areas of concentration include definition of architecture roadmaps and blueprints that drive alignment of strategic initiatives with overall business and enterprise technology goals, platform transformation and rationalization, and introduction of innovative technologies. Prior to joining BNY Mellon, Gerald's career included positions as Account Systems Engineer for IBM, Technology Group Manager for JP Morgan Chase and Chief Architect for Citi Securities and Fund Services Technology. Gerald holds a Bachelor of Arts degree in Mathematics from Binghamton University and a Master of Science degree in Computer Science from NYU Polytechnic Institute.

Today's Presenters

JOHN WETHERILL is Principal Architect at BNY Mellon's Innovation Center in Palo Alto. John spent much of his career designing and building software at a handful of startups, at Sun Microsystems, NeXT Inc., and in the smart grid and energy space. John is a prolific speaker at cloud and technology conferences, focusing on cloud technologies, including PaaS, microservices, containerization and continuous delivery. At the Silicon Valley Innovation Center, John is helping drive the adoption of cloud and related technologies across the bank. John holds technology-related United States Patents related to his work on user-experience and two factor authentication. He holds a Bachelor of Science degree in Computing Science from the University of Alberta in Canada.

Product Demonstrators & Tour Leaders

JENNIFER COLE
Head of Business Creation, Client Technology Solutions
App Store (Heckyl)

HALEY DANIELS
Analyst
Innovation Center and User Experience Lab Tour

AMY HARKINS
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