



# PRODUCT DEMONSTRATIONS

# 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 +
<p><b>Education</b></p> <p>Educating clients and internal businesses for organizational readiness</p> <ul style="list-style-type: none"> <li>• More than 30 clients and over eight internal businesses educated</li> <li>• Over 125 active participants internally</li> </ul>	<p><b>Exploration</b></p> <p>Exploring FinTechs to develop internal use cases for efficiency, security and resiliency</p> <ul style="list-style-type: none"> <li>• More than 50 FinTechs evaluated</li> <li>• Five internal use cases developed</li> </ul>	<p><b>Collaboration</b></p> <p>Exploring opportunities for client collaboration with FinTechs and industry peers and participate with Consortiums to drive standards</p> <ul style="list-style-type: none"> <li>• More than six client collaboration opportunities</li> <li>• Participate with four consortiums</li> </ul>
		<p><b>Transformation</b></p> <p>Short-term: efficiency, security and resiliency</p> <p>Long-term: organizational readiness for potential disruption; pro-active leadership in key markets, standards for next generation of financial markets infrastructure</p> <ul style="list-style-type: none"> <li>• Two internal use cases</li> <li>• Dedicated team across all businesses</li> <li>• Strategy to determine risks, opportunities, and timeframes in current and potentially new businesses</li> </ul>

# 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	✓
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## 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