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# FINRA CAT Connectivity:

Enhanced Disaster Recovery and SIFMA Test 2021

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March 9, 2021

# Agenda

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- AWS PrivateLink Update
- Enhanced Disaster Recovery Overview
- 2021 SIFMA Test
- Upcoming Key Dates
- Q&A

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# AWS PrivateLink (CloudFormation)

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# AWS PrivateLink (CloudFormation) Update

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- ▶ **FINRA CAT Help Desk will be distributing new AWS CloudFormation packages on March 15, 2021 which are effective April 1, 2021**
  - Current PrivateLink installs and endpoints not impacted and will NOT break on April 1, 2021
  - New AWS PrivateLink onboarding from April 1 should use new package
  - AWS warning about Lambda CF Template will be addressed in the new FINRA CAT package
  - FINRA CAT is investigating an upgrade path that will eliminate the AWS warnings

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# Enhanced Disaster Recovery (EDR)

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# Enhanced Disaster Recovery Goals

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- ▶ **Addresses Reg SCI requirement for geographic diversity greater than 200 Miles**
- ▶ **Enables the recovery of the system from an event that would fully disable the entire US East-1 region**
- ▶ **FINRA CAT's current DR posture comprises of a Multi-AZ setup with at least three availability zones across dozens of data centers**
  - Configuration setup is a highly available DR posture
  - FINRA CAT maintains a highly resilient environment even without Multi-region DR setup

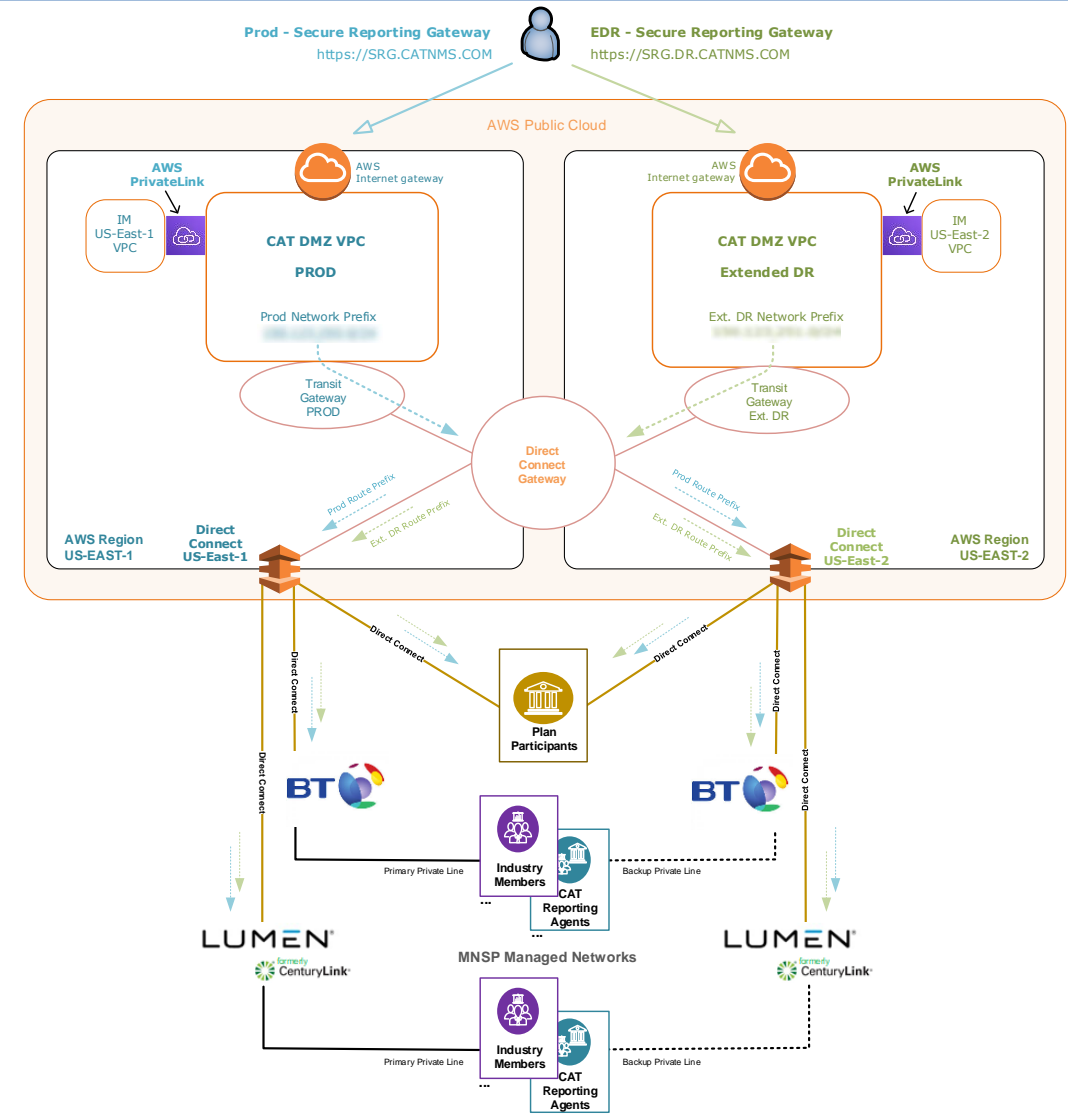
# Enhanced DR Architecture Highlights

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- ▶ **Focuses on services and offerings instead of custom solutions**
  - S3 – Cross Region Replication
  - RDS – Aurora Global
  - KMS – Multi-Region Keys
- ▶ **Infuses resiliency through architecture and services**
- ▶ **Ensures data security, encryption, and durability**
- ▶ **Takes advantage of AWS advances in multi-region aware services as more become available**
- ▶ **Supports Industry wide test conducted in conjunction with SIFMA to ensure operational resiliency**

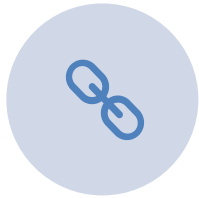
# Enhanced Disaster Recovery Architecture

- ▶ Redundant connectivity options are available through MNSPs in the AWS US East-2, Ohio Region





# Industry Member Connectivity Information



Industry Members using MNSP connections may establish redundant connections into an MNSP's East-2 region location for Ext. DR. (**optional redundancy available**)



Industry Members using PrivateLink will require a VPC presence in the US East-2 region.



The Industry Member Connectivity Supplement was updated to include requirements in support of Extended DR. Including updated domain names for CAT applications

Industry Members are responsible for the facilitation of redundant connectivity into the US East-2 Ohio region by April 2021.

Connectivity options available in the East-1 region are also available in the East-2 with logistical independence.

- **Industry Members**

- Secure Reporting Gateway – SRG will remain available over the Internet in a DR event by April 2021.
- Private Line – BT Radianz / Lumen will support connections into Ohio by Feb 2021
- Private Link – Provisioned by Industry Members in the Ohio Region by May 2021

# Enhanced DR Testing – FINRA CAT

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- ▶ **FINRA CAT will conduct an internal DR failover test on May 14, 2021**
  - Internal test will validate failover processes, procedures and recovery times
  - During this failover test between May 14, 2021 (8pm EST) → May 16, 2021 (2pm EST) the primary East-1 region access will be disabled for all environments
    - All Industry Member submissions and portal access will be disabled during this testing period

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# 2021 SIFMA Test

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# SIFMA Test Overview

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- ▶ **SIFMA functions as an industry coordinating body for its members and regulatory entities**
- ▶ **FINRA CAT participates in the SIFMA coordinated Disaster Recovery test annually**
  - **2020** DR test focused on submission capability to the FINRA CAT Industry Test environment in the US East-1 region
  - **2021** focuses on FINRA CAT's ability to recover from an AWS region wide failure

# Disaster (Failure) Scenarios

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- ▶ **Application Failover** - FINRA CAT applications become unavailable in US East-1 region though US East-1 region-based connectivity remains operational and FINRA CAT automatically routes to application access in the US East-2 region.\*
- ▶ **Network Failover** – Network access through US East-1 becomes unavailable while applications continue to be operational. FINRA CAT may choose to allow traffic from US East-2 region connections.\*
- ▶ **Application and Network Failover** - Both FINRA CAT applications and connectivity based in the US East-1 region become unavailable and unreachable. FINRA CAT has made an announcement that they will fail application operations over to the US East-2 region. CAT Reporters and Regulatory users should take the steps to validate both network and application access to the US East-2 region.

2021 SIFMA Test Scenario

*\*Note: CAT Reporters and Regulatory users should take the steps to validate application and network access to the US East-2 region.*

# CAT Reporter Expectations

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- ▶ **Industry Members should ensure connectivity (in accordance with their DR posture) to FINRA CAT in support of SIFMA Test simulation**
- ▶ **Selected Industry Members are expected to participate in the SIFMA Industry Test**
  - Selected IMs notified by May 2021
  - Pre-test September 25, 2021
  - DR test October 23, 2021

# Disaster Recovery Disclaimer

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- ▶ **Many failover scenarios are possible with regards to the availability of Plan Participant and Industry Member based systems and infrastructure**
  - Following scenarios are meant to provide high level guidance on the recovery processes for FINRA CAT applications and network access over the AWS Direct Connect and Managed Network Service Provider's (MNSP) networks.
  - The information included here should serve as high level guidance when considering how to prepare for and respond to a disaster recovery scenario that requires a failover of FINRA CAT's multi-regional infrastructure in the AWS cloud.
  - Following scenarios assume that Plan Participants and Industry Members have established and maintain redundant connections and configurations necessary to support and exercise multi-region disaster recovery operations between the AWS US East-1 and US East-2 regions. This includes the need for Industry Members to assess their disaster recovery posture and establish multi-region failover capabilities that meet these guidelines.
  - Managed Network Service Providers (MNSP's) have established and maintain multi-region connectivity that support these multi-region disaster recovery requirements. Industry Members are encouraged to engage MNSP's to leverage the multi-region redundancy built into MNSP networks in cases when this aligns with their organizations disaster recovery strategy.

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# Upcoming Key Dates



# Upcoming Key Dates for EDR

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## Full Industry Test (CAT Reporters: Industry Members and Plan Participants)

- FINRA CAT EDR Environment available for connectivity testing: **May 17, 2021**
- Coordinated with SIFMA - Industry Pre-Test: **September 25, 2021**
- Coordinated with SIFMA - Industry Test: **October 23, 2021**
- FINRA CAT Plans to use the Production Mirror (CT-PM) DR Environment in US East-2
- CAT Reporters will be expected to transmit data to FINRA CAT Production Mirror (CT-PM) in accordance with test simulation (application and network failure to US East-1)
  - FINRA CAT will disable all access to the US East-1 Environment prior to and during the DR test

# How to Ask a Question during Today's Call

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- **For participants using computer audio:**
  - Click the “Raise Hand” button at the bottom of the participant’s window.
  - A visual prompt will indicate that your line has been unmuted.
- **For participants using phone audio:**
  - Enter \*9 on your phone keypad.
  - An audio prompt will indicate that your line has been unmuted.

# FINRA CAT Helpdesk

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Questions may be directed to the FINRA CAT Helpdesk at 888-696-3348 or [help@finracat.com](mailto:help@finracat.com)