

# GDF | ACI FMA WEBINAR

The Development of Scenarios from the  
GDF Global Cryptoasset Standards for  
ELAC

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The better the world works.



# Today's speakers



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# Agenda

- 1 Intro and background on the Global Cryptoasset Standards (GCS)
- 2 History and Purpose of Working Group with ACI FMA
- 3 Intro to ELAC and utility of Standards on ELAC
- 4 Scenario development process and examples of scenarios
- 5 Implementation of scenarios into ELAC
- 6 Key next steps to engage market

# Intro and background on the Global Cryptoasset Standards (GCS)

## Overview

The Global Cryptoasset Standards (GCS) present a unified framework of best practices to enhance the integrity and efficiency of the Cryptoasset Market. These guidelines aim to foster a fair, transparent, and competitive environment for diverse Market Participants. Global Digital Finance (GDF) oversees the maintenance of these standards.

## Applicability

GCS is applicable to **all Cryptoasset Market Participants that engage in the Cryptoasset Market**, including sell-side and buy-side entities, liquidity providers, operators of Cryptoasset Trading Venues, and other centralized entities providing brokerage, execution, and settlement services

## Leading Principles defined in GCS

The Global Cryptoasset Standards contain 6 leading principles....		...which are separated into 65 detailed principles...	
1	Ethics	3 Principles	
2	Governance	6 Principles	
3	Execution	11 Principles	
4	Information Sharing	6 Principles	
5	Risk Management and Compliance	25 Principles	
6	Confirmation and Settlements Process	14 Principles	

In certain instances, the principles align with the FX Global Code as they are relevant and suitable for the Cryptoasset context. In other instances, GDF has made significant changes to the principles or introduced new ones to address specific risks in Cryptoasset Markets.

# History and Purpose of the Working Group



## Working Group Launch

*GDF, the leading open innovation community of digital finance, and ACI Financial Markets Association (ACI FMA), a global trade association, **launched the Joint Standards Stewardship Working Group (WG) aimed at promoting and stewarding the GCS last year***



## Collaboration with EY and Kaiko

*Over the last 6 months, **the Working Group has collaborated with EY and Kaiko to develop more than 20 scenarios** across GCS principles to leverage on the ACI FMA's platform ELAC (a tool designed to equip crypto market participants with industry best practices)*



## ELAC Scenarios Development

*These scenarios - now live on ELAC - enable professionals to **develop a practical understanding of the GCS**, and fostering its consistent application to their roles and daily operations whilst engaging in market simulation exercises*



## Introduction to the ELAC Tool

# Given the similarities with the FX Global Code, we utilised our lessons learned to draft design principles for the development of “illustrative scenarios”....

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1. An illustrative scenario is **comprised of a “Scenario” (statement of facts), application of principles and a “determination”** (whether the application of the principles, or lack of, demonstrate good vs bad practice)
2. A given scenario should **address multiple detailed principles either from the same “leading principle” or multiple “leading principle”** themes e.g. a scenario could cover both execution and risk management and compliance
3. A combination of scenarios **should address all the detailed principles within a leading principle theme** e.g. considering the X scenarios within Execution will cover the 11 detailed principles (#10 to #20)
4. Scenarios should be designed considering **a variety of cryptoassets market conditions** (e.g., price, volume, liquidity of cryptoassets) and can be updated over time to reflect evolving market dynamics
5. Scenarios should consider **all types of Target Audience**:
  - A. Market Participant: Buy Side, Sell Side, Central Bank and Custodian
  - B. Parts of the bank: Front Office, Middle Office (incl. Compliance), Back Office and General Management
  - C. Capacity of role: Principal vs Agent
6. A combination of scenarios are designed as an indicative example to illustrate the application of all the detailed principles but **doesn't represent an exhaustive list of situations that can arise for market participants**
7. Illustrative scenarios **form the basis of questions** with multiple choice answers and feedback
8. **Reliable market data is leveraged**, where applicable, to ensure that scenarios are practical, transparent, and an actual reflection of how institutions operate

....to answer three main questions that can promote understanding of the market participants during daily business operations

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## Design Principles

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7. Illustrative scenarios **form the basis of questions** with multiple choice answers and feedback

3 main questions are being answered through the example scenarios to help us understand and navigate through the applicability of the principles:

1. What are the **stylised real-life situations and scenarios** where crypto standards can apply
2. How it can impact the **market participants across buy side and sell side** of the trade execution
3. What are the **good or bad practice and behaviour** demonstrated by the characters in the scenario?

# Over the past six working group sessions, we have drafted 24 Scenarios covering 31 detailed principles

## Working Groups Overview





### Working Group, Scenarios and Detailed Principles<sup>1</sup>



Pre WG	5 Scenarios covering 10 detailed principles across several of the leading principles
WG 1	4 Scenarios covering 8 detailed principles under the "Execution" leading principle
WG 2	3 Scenarios covering 4 detailed principles under the "Ethics", "Governance", "Execution" and "Information Sharing" leading principles
WG 3	3 Scenarios covering 4 detailed principles under the "Governance", "Execution" and "Risk Management and Compliance" leading principles
WG 4	3 scenarios covering 3 detailed principles across the "Risk and Compliance" and "Confirmation and Settlement" leading principles
WG 5	3 scenarios covering 4 detailed principles across the "Risk and Compliance" and "Execution" leading principles
WG 6	3 scenarios covering 7 detailed principles across several of the leading principles

## Coverage of detailed principles

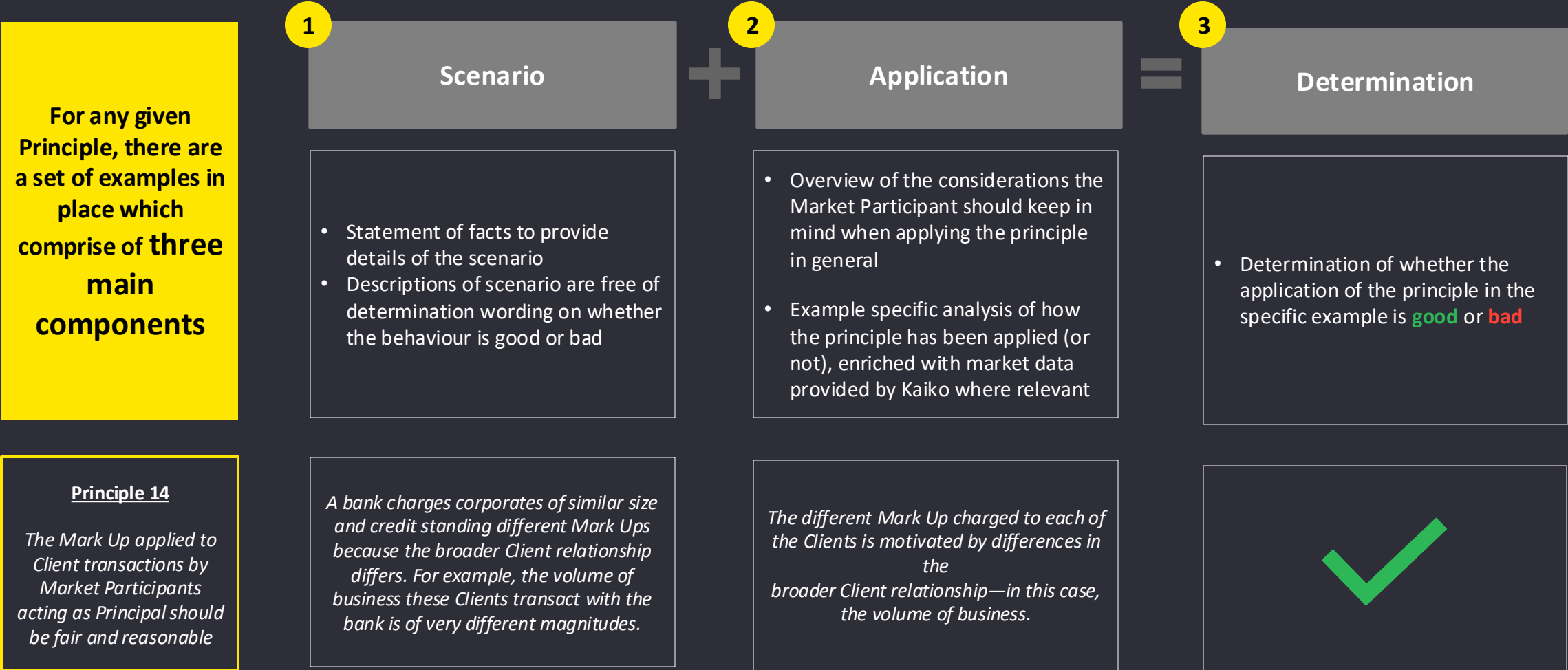
Leading principles	Detailed principles covered through scenarios	Coverage
Ethics	Principle 1, 2, 3	3/3 (100%)
Governance	Principles 4, 7, 8, 9	4/6 (67%)
Execution	Principles 10, 11, 12, 13, 14, 15, 16, 17, 19, 20	10/11 (91%)
Information Sharing	Principle 21, 25, 26, 29	4/6 (67%)
Risk Management and Compliance	Principle 30, 34, 35, 36, 42, 44, 46	7/25 (28%)
Confirmation and Settlement	Principle 53, 59, 62	3/14 (21%)
Total		31/65 (48%)

We will present three illustrative scenarios that showcase the development process, enhanced by Kaiko’s data inputs, where applicable

Scenarios		"Ethics"	"Governance"	"Execution"	"Risk and Compliance"
		Principle 2	Principle 4	Principle 11,12	Principle 35
Scenario 1	<p>"Oops..."</p> <p>"A Cryptoasset custody service provider hasn't adequately secure private keys, lack transparency in client disclosure and lacks the highest professional standards"</p>				
Scenario 2	<p>Client's Interest</p> <p>"TechTradeBrokers's order handling amid bid-ask divergence and market volatility"</p>				
Scenario 3	<p>"100 Thousand"</p> <p>"RapidTrader's Market Risk Management during Cryptocurrency Price Discrepancies"</p>				

Key:  Bad Practice  Good Practice

# The FX Global Code structures its examples around 3 main components; the goal was to replicate the similar structure for GDF Crypto examples



# Scenario 1: An example to demonstrate “Bad practice” by a Cryptoasset custody service provider violating Principle 2 and Principle 4

Applicable Principles	<ul style="list-style-type: none"><li>• <b>Principle 2 (Ethics):</b> Market Participants should strive for the highest professional standards.</li><li>• <b>Principle 4 (Governance):</b> The body, or individual(s), that is ultimately responsible for the Market Participant’s Cryptoasset business strategy and financial soundness should put in place adequate and effective structures and mechanisms to provide for appropriate oversight, supervision, and controls with regard to the Market Participant’s Cryptoasset Market activity.</li></ul>
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**Scenario: “A Cryptoasset custody service provider hasn’t adequately secure private keys, lack transparency in client disclosure and lacks the highest professional standards”**

Type of Practice	Good	Target Audience	Buy Side	Sell Side	FMI	Custodian	Principal
	Bad		FO	MO	BO	GM	Agent

**Context:** AmerBank is now a leading cryptoasset custody service provider, providing a range of custody services including secure storage for Bitcoin, Ethereum, and other assets. It provides services to hedge funds, exchanges, and institutional investors.

**Scenario and Activities:** AmerBank claims to operate with high degree of security against cyber threats to secure private keys and to have appropriate systems in place to safeguard client funds.

However, a few months ago, a sophisticated phishing attack targets the IT department of AmerBank. Edward, from their back office, clicked a malicious link, giving access to AmerBank’s internal network and hot wallet server. This resulted in the theft of approximately \$150 million worth of various cryptocurrencies, which were transferred to wallets controlled by the attackers using the compromised keys. Upon investigation, the incident was attributed to inadequate security for hot wallets due to the absence of multilayer controls (e.g., multi-signature authorisation) and advanced monitoring tools to detect potential breaches.

Simultaneously, there was no insurance coverage for the crypto assets held by AmerBank, which became evident during the investigation when Clients discovered their funds were not protected against theft, or operational failures. The firm had never disclosed what proportion of Client’s assets were protected under insurance.

**Outcome:** Absence of appropriate operational and technical controls in alignment with international standards, improper key management practice and misrepresentation of insurance coverage resulted in financial & reputational damage for AmerBank and its Clients.

Question	Feedback for each option
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**Question 1:** Which of these activities are considered violation of the guidelines of the GDF Global Cryptoasset Standards?

A	AmerBank haven’t implemented the necessary operational and technological controls to safeguard Client keys.	Correct: Custody service providers must implement controls and processes to support robust private key management and security practices.
B	AmerBank haven’t demonstrated transparency about risk management processes (i.e., reporting the insurance coverage for the cryptocurrencies).	Correct: Transparency and adequate disclosure are key to demonstrate appropriate governance and reasonably protects Client’s interests.
C	Edward failed to uphold the highest standards of ethics and conduct by not exercising professional judgment when clicking on the malicious link.	Correct: AmerBank should ensure that all staff members strive for the highest professional standards and provide requisite training and experience to discharge their professional duties.

# Scenario 2: An example to demonstrate “Good practice” exercising Principles 11 and 12

**Applicable Principles**

- **Principle 11:** Market Participants should handle orders fairly and with transparency in line with the capacities in which they act
- **Principle 12:** Market Participants should handle orders fairly, with transparency, and in a manner consistent with the specific considerations relevant to different order types. Market Participants should be aware that different order types may have specific considerations for execution.

Scenario: “TechTradeBrokers’s order handling amid bid-ask divergence and market volatility”

Type of Practice	Good	Target Audience	Buy Side	Sell Side	FMI	Custodian	Principal
	Bad		FO	MO	BO	GM	Agent

**Context:** On April 19th, 2025, TechTradeBrokers faced significant bid-ask spread divergence for ETH-USD across the five largest exchanges. While the average spread was 0.08 ETH, some platforms had spreads below 0.01 ETH, and others exceeded 0.30 ETH. With higher liquidity on the bid side compared to the ask, TechTradeBrokers focused on minimizing slippage while prioritizing client interests.

**Scenario and Activities:** During this market environment, Moose, a trader at TechTradeBrokers, focused on executing orders in a manner that reflected the firm’s role as an agent and the unique characteristics of each order type:

- Market orders were directed to venues with sufficient liquidity using smart order routing, taking into account both market depth and bid-ask spread, especially to handle large order trades. This approach minimized slippage ensuring fair execution;
- TechTradeBrokers segmented venues by average liquidity levels within specific % bands of mid-price (e.g., 0.1%, 1%) to match order size with depth;
- For Stop-Loss orders, TechTradeBrokers ensured clients were aware of the terms of stop-loss orders and potential slippage during volatile conditions;
- The firm also provided clear, upfront disclosures about how market volatility might affect order execution and Moose maintained strict price-time priority for all trades, ensuring transparent and unbiased execution.

**Outcome:** Moose’s careful handling of orders during market divergence ensured fair execution and minimal slippage. By considering both spreads and liquidity, Moose upheld best practices ensuring firm-maintained transparency and upheld client trust. Moose’s approach not only reinforced TechTradeBroker’s commitment to best execution practices but also enhanced client confidence in the brokerage's ability to navigate volatile market.

**Question**

**Feedback for each option**

**Question 1:** Which of the following actions by TechTradeBrokers demonstrate good practice? (Select all that apply)

A

Executing market orders promptly, considering real-time liquidity data, and providing warnings about potential slippage.

Correct: Market participants should ensure fair handling based on the specific order type and real-time conditions, ensuring clients make informed decisions.

B

Maintaining a clear separation between client order flow and internal interests, ensuring strict price-time priority across all trades.

Correct: Market participants should demonstrate fair handling in alignment to its role as an agent, maintaining transparency.

C

Using smart order routing to select venues with both tight spreads and sufficient liquidity, ensuring optimal execution conditions for each order.

Correct: Market participants should demonstrate principles of best execution by considering the liquidity and market depth whilst handling client order.

D

Prioritizing trading venues with the tightest spreads, regardless of liquidity, to ensure the fastest execution for clients.

Incorrect: Tight spreads do not guarantee optimal execution, as liquidity depth plays a critical role in preventing slippage and achieving the best price, especially for larger orders.

# Scenario 3: An example to demonstrate “Good practice” exercising Principle 35

Applicable Principles

- Principle 35:** Market Participants should have independent processes in place to mark-to-market trading positions to measure the size of their profit and loss and the market risk arising from trading positions.

## Scenario: “RapidTrader’s Market Risk Management During Cryptocurrency Price Discrepancies”

Type of Practice	Good	Target Audience	Buy Side	Sell Side	FMI	Custodian	Principal
	Bad		FO	MO	BO	GM	Agent

**Context:** RapidTrader has substantial holdings in Bitcoin and faced significant challenges due to the price discrepancies on different trading exchanges on December 5th, 2024. On this day, Bitcoin reached \$100k for the first time, but the difference between the highest and lowest point-in-time market prices (e.g., 10 am EST) across the top 10 largest exchanges trading BTC-USD consistently reached \$500, causing the spreads to widen up to \$1000 over short intervals.

**Scenario and Activities:** As a result of these discrepancies, RapidTrader faced valuation uncertainty and market risk/settlement risk as they struggled to determine the fair value of their holdings and potential delay in executing the trades. To manage this, they have taken the following measures:

- Robust mark-to-market pricing sources: Ralph, their senior trader, relied on Coinbase, the most liquid exchange for BTC-USD, to source its principal market price for Bitcoin. This helped in obtaining a more accurate and reliable valuation;
- Independent price verification: RapidTrader’s risk management team regularly checked and verified the prices and marked-to-market valuations, independently of front office team, to ensure accuracy and consistency;
- Monitoring systems: RapidTrader’s development team implemented smart order routing engines that monitored multiple exchanges simultaneously in real time to ensure optimal pricing and liquidity.

**Outcome:** RapidTrader successfully navigated the volatile market conditions by employing strong market risk management practices. The company's reliance on the most liquid exchange for pricing and its independent verification processes helped mitigate the impact of price discrepancies and maintain investor confidence.

## Question

*Question 1: Which of the following actions by RapidTrader demonstrate good practice? (Select all that apply)*

- A

Relying on the least liquid exchange for BTC-USD pricing.
- B

Overlooking discrepancies in market prices.
- C

Implementing independent price verification.
- D

Deploying systems that allow monitoring multiple exchanges in real time.

## Feedback for each option

*Short summary with feedback against each option*

**Incorrect:** Liquidity is crucial for accurate pricing, and market participants should rely on the most liquid venue which can serve as the principal market for the asset to source the market price.

**Incorrect:** Given the high volatility of cryptocurrencies, price discrepancies can be observed across trading venues, even for the most liquid assets. Hence it is critical for the market participants to use proper valuation techniques and appropriate risk management tools to detect any spread anomalies.

**Correct:** Independent price verification ensures that the prices and marked-to-market valuations are accurate and consistent. It helps in maintaining transparency and reliability in financial reporting, reducing the risk of errors and biases from the front office.

**Correct:** Systems, such as smart order routing engines, help monitor multiple exchanges simultaneously in real time, ensuring optimal pricing and liquidity. This technology enables RapidTrader to respond swiftly to market fluctuations and discrepancies, thereby mitigating the risk.



## Implementation of scenarios in the ELAC tool

# Key Next Steps to Engage the Market

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- ▶ Engage market participants (including buy and sell side firms) to promote the utility of the GCS for their firms, and where there is appetite provide a sandbox environment for firms to test their attestation and certification processes,
- ▶ Engage public sector (including regulators and policymakers) on the value of the GCS to complement their efforts building out digital asset regulatory frameworks in their respective jurisdictions, demonstrating how the GCS can serve as an additional educational to support market best practice awareness and compliance in these markets, and
- ▶ Ensure the standards remain a living document, evolving alongside the regulatory landscape and institutional market needs.

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