The Evolution of 24-Hour Equity Trading:

Infrastructure, Innovations, and Industry Support

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Table of Contents

3 Introduction

5 Growing Demand for U.S. Equities from Asia

7 Exchanges vs. Alternative Trading Systems (ATS)

9 The Rise of 24-Hour Equity Trading

11 DTCC's Role in Supporting Extended Trading Hours

12 The Critical Role of Securities Information Processors

13 Requirements for Establishing an Overnight Alternative Trading System (ATS)

15 The Role of Retail Brokerage Platforms in 24/5 Trading

16 Regulation Systems Compliance and Integrity (Reg SCI) in the Context of 24-Hour Trading

18 Conclusion

19 Fundamental Interactions and FIND: Powering 24/7 Direct Market Access (DMA) & Alternative Trading Systems

Introduction

The global financial landscape is in the midst of a profound shift, driven by accelerating demand for continuous, 24-hour equity trading. This evolution stems from the convergence of key factors, including globalized markets, rapid technological innovation, and an ever-expanding base of international investors seeking real-time access to U.S. equities outside traditional trading windows. To accommodate this new reality, trading venues are extending their operating hours, prompting vital enhancements in market infrastructure—from clearing and settlement processes to the essential role played by Securities Information Processors (SIPs).

Central to this transformation is the growing wave of Asian investors drawn to U.S. equities. Their desire to trade during local business hours is more than a mere convenience—it is a strategic response to global news cycles, economic releases, and corporate developments occurring well beyond the confines of standard U.S. trading sessions. Consequently, overnight trading has emerged as a critical bridge, empowering international participants to actively manage portfolios without delaying decisions until the next market open. Platforms that offer round-the-clock trading stand at the vanguard of this trend, bolstering liquidity, strengthening market efficiency, and catering to the evolving needs of both retail and institutional clients worldwide.

Introduction

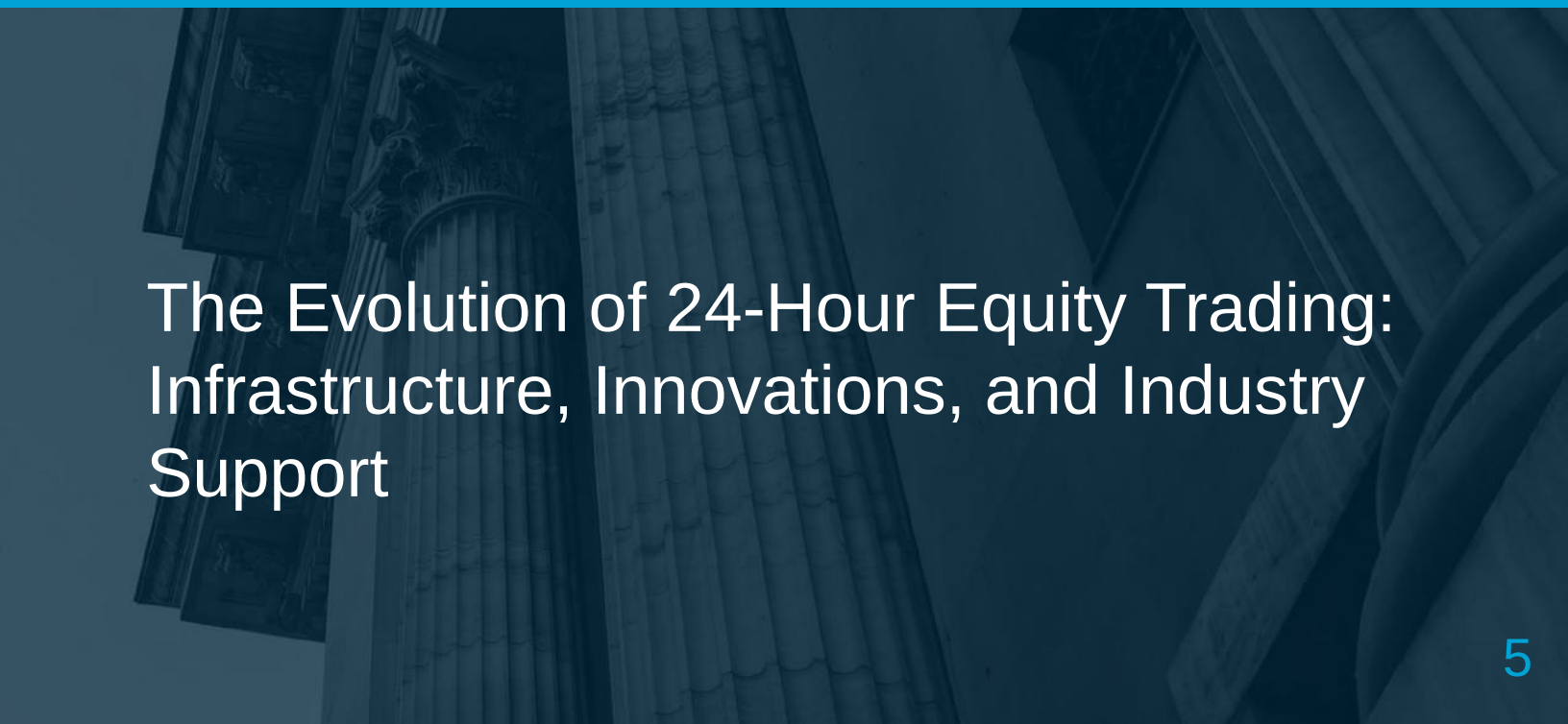
In parallel, the distinction between Exchanges and Alternative Trading Systems (ATSs) takes on fresh significance. While exchanges are bound by stringent regulatory requirements, direct interactions with the Depository Trust & Clearing Corporation (DTCC), and comprehensive SIP data needs, ATSs benefit from leaner frameworks and greater operational flexibility—particularly evident in overnight sessions. Yet as the 24-hour trading model solidifies and infrastructure catches up, exchanges may well expand their foothold in this realm.

Against this backdrop, institutions like DTCC and the SIPs must adapt to an always-on marketplace. Extended DTCC operating hours, continuous settlement solutions, and a shift toward 24-hour SIP coverage all exemplify the sweeping changes now underway. This white paper delves into these dynamics in depth, examining the regulatory framework, operational nuances, and technology imperatives that underpin the rise of 24-hour equity trading. By clarifying the factors that shape this new paradigm, it aims to provide market participants with a roadmap to thrive in an era defined by global, around-the-clock access to U.S. equities.

Growing Demand
for U.S. Equities from Asia

The demand for trading U.S. equities during Asian market hours is rapidly increasing, driven by investors from countries such as South Korea, India, Malaysia, Japan, and other parts of Asia. These markets have shown a strong appetite for American companies, particularly high-profile firms like Tesla, Meta, Amazon, and the broader "Magnificent Seven" tech giants, including Apple, Microsoft, Alphabet, NVIDIA, and others.

Asian investors are eager to trade these major U.S. stocks during their normal business hours to respond promptly to global news events, economic data releases, and corporate announcements that occur outside traditional U.S. trading times. This growing demand reflects the global nature of financial markets, where investment decisions are increasingly influenced by real-time information and the need for continuous access to liquidity.



The Evolution of 24-Hour Equity Trading: Infrastructure, Innovations, and Industry Support

Growing Demand
for U.S. Equities from Asia

Overnight trading sessions now serve as a critical bridge, allowing international investors to actively manage their portfolios without the delays associated with waiting for U.S. markets to open. Platforms offering 24-hour trading are positioned to capitalize on this trend by providing access to U.S. equities when demand from Asia is at its peak. This shift not only enhances market efficiency but also fosters greater participation from global retail and institutional investors, further reinforcing the importance of resilient, around-the-clock trading infrastructure.

“Asian investors are eager to trade major U.S. stocks during their normal business hours, reflecting the rising need for continuous, around-the-clock market access.”

Exchanges vs. Alternative Trading Systems (ATS): A Comparative Overview in the Context of 24-Hour Trading

As the financial markets evolve toward 24-hour trading to accommodate global demand, it's essential to understand the fundamental differences between Exchanges and Alternative Trading Systems (ATS), particularly regarding regulatory structures, operational requirements, and the role of key entities like the Depository Trust & Clearing Corporation (DTCC) and Securities Information Processors (SIPs).

Exchanges vs. Alternative Trading Systems (ATS): A Comparative Overview in the Context of 24-Hour Trading

Regulatory Framework

Exchanges are directly regulated by the SEC under the Self-Regulatory Organization (SRO) framework and must adhere to strict REG NMS rules. In contrast, ATSs operate under broker-dealer licenses regulated by FINRA and file ATS-N forms with the SEC, offering greater flexibility with fewer regulatory burdens.

Clearing and Settlement

Exchanges report trades directly to the DTCC and would require expanded DTCC operational hours to support 24-hour trading. ATSs, however, clear trades through intermediaries and do not directly interact with DTCC, allowing them to operate more flexibly overnight.

Market Data Requirements

Exchanges rely on SIP data feeds to maintain the National Best Bid and Offer (NBBO), making continuous SIP operations essential in 24-hour markets. ATSs, while also benefiting from SIPs, can operate with less dependency on real-time consolidated feeds.

Given these differences, the current overnight market is dominated by ATSs due to their operational flexibility and lower regulatory overhead. However, as infrastructure evolves and regulatory frameworks adapt, exchanges may increasingly expand their presence in the 24-hour trading ecosystem.

The Rise of 24-Hour Equity Trading

Several Alternative Trading Systems (ATS) trading platforms and exchanges have initiated or proposed extended trading hours to cater to the growing need for round-the-clock market access.

CBOE EDGX Exchange	CBOE Global Markets plans to introduce 24-hour, five-days-a-week (24x5) trading for U.S. equities on its CBOE EDGX Equities Exchange, subject to regulatory approval. This initiative aims to provide continuous trading from Sunday evening through Friday evening, excluding U.S. holidays.
NYSE ARCA	The New York Stock Exchange has announced plans to extend trading hours on its NYSE Arca Equities Exchange to 22 hours per day, operating from 1:30 a.m. to 11:30 p.m. Eastern Time on weekdays, pending regulatory approval.
Blue Ocean ATS	Launched in 2021, Blue Ocean ATS operates from 8:00 p.m. to 4:00 a.m. Eastern Time, bridging the gap between U.S. market close and Asian market open, thereby facilitating increased participation from international investors.
Interactive Brokers' EOS ATS	Operational since October 2022, EOS ATS offers trading from 8:00 p.m. to 3:50 a.m. Eastern Time, providing clients with extended access to U.S. equities markets.

The Rise of 24-Hour Equity Trading

Several Alternative Trading Systems (ATS) trading platforms and exchanges have initiated or proposed extended trading hours to cater to the growing need for round-the-clock market access:

Moon ATS and OTC Markets Overnight	Approved in November 2024, these platforms are live and operating from 8:00 p.m. to 4:00 a.m. Eastern Time.
24 Exchange	Expecting to operate from 4:00 a.m. to 7:00 p.m. Eastern Time, 24 Exchange is pending approval to extend its trading hours to offer overnight sessions, aiming to provide near-continuous market access.
Bruce ATS	Awaiting approval, Bruce ATS is expected to operate from 8:00 p.m. to 4:00 a.m. Eastern Time, contributing to the growing network of platforms facilitating overnight trading.

DTCC's Role in Supporting Extended Trading Hours

The Depository Trust & Clearing Corporation (DTCC) plays a pivotal role in the clearing and settlement of securities transactions. As trading hours extend, the DTCC is implementing several measures to support continuous market activity

Operational Adjustments

DTCC is adapting its operational processes to ensure seamless clearing and settlement during extended trading periods. This includes adjustments to trade capture, reporting, and settlement functions to align with the new trading hours.

Extended Settlement Processing

DTCC has announced plans to extend its hours of operation to accommodate longer trading sessions proposed by exchanges like NYSE ARCA, which intends to operate from 1:30 a.m. to 11:30 p.m. Eastern Time on weekdays.

The Critical Role of Securities Information Processors (SIPs)

Securities Information Processors (SIPs) are integral to the dissemination of real-time market data, consolidating quotes and trade information from various exchanges to provide the National Best Bid and Offer (NBBO). With the extension of trading hours, there is a pressing need for SIPs to operate during these additional hours to ensure transparency and market efficiency.

Transitioning SIPs to 24-hour operations involves a comprehensive approach, including technological upgrades, regulatory compliance, and industry collaboration.

A phased approach over a period of 12 to 18 months is expected, covering:

- **Assessment and Planning:** Analyzing current capabilities and identifying gaps.
- **Development and Testing:** Implementing technological enhancements for continuous data processing.
- **Regulatory Compliance:** Ensuring regulatory approvals for extended operations.
- **Deployment and Monitoring:** Gradually rolling out 24-hour capabilities with robust monitoring systems.

Investing in the Future of Market Data

This transformation will enhance market transparency, improve liquidity, and support the evolving landscape of global equity trading, ensuring robust, resilient, and responsive infrastructure.

Requirements for Establishing an Overnight Alternative Trading System (ATS)

For firms considering the development of an overnight ATS, several critical components must be addressed to ensure operational efficiency, regulatory compliance, and robust market engagement:

Retail and Proprietary Trading Support

The ATS should cater to both retail investors and proprietary trading firms, providing seamless access for U.S.-based and international clients, especially those in different time zones seeking continuous trading opportunities.

Technological Infrastructure

A resilient and scalable technology stack is essential. This includes advanced front-end trading platforms, high-speed order routing gateways, real-time market data distribution systems, and secure, low-latency connectivity to liquidity providers and market participants.

Market Maker Integration

Partnerships with market makers are vital to maintain liquidity, ensure tight bid-ask spreads, and support efficient price discovery. This requires mechanisms for continuous quoting and automated order management.

Requirements for Establishing an Overnight Alternative Trading System (ATS)

Regulatory Compliance

Firms must navigate a complex regulatory landscape, including registrations and filings with FINRA and the SEC. Compliance programs should encompass robust surveillance systems, reporting mechanisms, and adherence to all applicable trading and anti-fraud regulations.

Economic Model

The business model should be sustainable, with revenue streams derived from trading commissions, technology licensing, data analytics services, and market data sales. A focus on cost efficiency and competitive fee structures will be crucial for long-term viability.

The Role of Retail Brokerage Platforms in 24/5 Trading

In the evolving 24/5 trading landscape, retail brokerage customers have become a significant driving force behind trading volumes, particularly during extended hours. Platforms such as Robinhood, Webull, and Interactive Brokers have recognized this trend and expanded their offerings to accommodate the growing demand for round-the-clock trading access.

- **Robinhood**: Introduced extended trading hours, allowing investors to execute trades at their convenience.
- **Webull:** Expanded its 24-hour trading platform to include U.S. users, enabling them to trade U.S. stocks and ETFs during extended hours.
- **Interactive Brokers:** Offers extended trading hours, providing clients with the flexibility to trade across different time zones.

The increasing participation of retail investors during extended hours has led to a significant shift in trading dynamics. Retail brokerage platforms have reported substantial growth in after-hours trading volumes, indicating a strong demand for continuous market access.

This surge in retail participation underscores the importance of providing accessible and user-friendly trading platforms. As retail investors continue to seek opportunities beyond traditional market hours, brokerage firms are adapting by enhancing their technological infrastructure and services.

Regulation Systems Compliance and Integrity (Reg SCI) in the Context of 24-Hour Trading

Regulation Systems Compliance and Integrity (Reg SCI), established by the U.S. Securities and Exchange Commission (SEC), sets stringent standards to ensure the operational resiliency, capacity, security, and integrity of critical market systems. Both national securities exchanges and Alternative Trading Systems (ATSs) are required to comply with Reg SCI if they meet specific regulatory thresholds, particularly those handling significant trading volumes.

As markets move towards 24-hour trading, the principles of Reg SCI become even more vital. Continuous trading environments demand systems that can maintain capacity, redundancy, and disaster recovery capabilities around the clock. Exchanges such as NYSE, NASDAQ, and CBOE must establish and enforce robust policies to safeguard their technological infrastructure against system outages, performance degradation, and cybersecurity threats, even during non-traditional trading hours.

Regulation Systems Compliance and Integrity (Reg SCI) in the Context of 24-Hour Trading

While not all ATSs are subject to Reg SCI, those meeting the criteria for an "SCI ATS" must also adhere to these rigorous standards. This includes maintaining redundant systems, implementing comprehensive disaster recovery (DR) plans, and ensuring rapid recovery times—typically within four hours—following any disruption.

In the context of 24-hour markets, firms must continuously monitor and stress-test their systems to handle peak trading volumes and unexpected events without compromising performance. The focus on capacity planning, real-time monitoring, and incident response readiness ensures that both national exchanges and large ATSs can support the demands of an always-on trading environment. Ultimately, Reg SCI remains a foundational framework, reinforcing the resiliency and integrity of U.S. financial markets in an era of continuous trading.

Conclusion

The move toward 24-hour equity trading marks a significant evolution in the financial markets, driven by the need for greater accessibility and responsiveness to global economic events. Alternative trading venues have seen marked growth in trading volume, participation, and liquidity, underscored by an average of over 50 million shares traded nightly across all overnight venues. This expansion is further evidenced by more than 8,000 unique securities transacted across multiple ATS platforms, pushing total notional volume to exceed $250 billion annually. Both institutional and retail investors are increasingly taking advantage of these extended hours, highlighting the rapid adoption and growing importance of overnight trading.

Platforms that support seamless overnight trading are at the forefront of this transformation, providing the essential infrastructure to facilitate continuous market access. Concurrently, institutions such as the DTCC and SIPs are evolving to accommodate this new paradigm, ensuring the extended trading environment remains transparent, efficient, and secure.

As the industry continues to adapt, collaboration among exchanges, clearing organizations, and technology providers will be indispensable. Such cooperation is crucial not only for unlocking the full benefits of 24-hour equity trading but also for mitigating challenges associated with an always-on market. This collective effort will ultimately strengthen global market resilience and broaden participation, underscoring the future of equity trading as a continuously accessible, highly dynamic ecosystem.

Fundamental Interactions and FIND: Powering 24/7 Direct Market Access (DMA) & Alternative Trading Systems

Fundamental Interactions Inc. and its subsidiary, **Fundamental Interactions Neutron Direct LLC (FIND),** are uniquely positioned to support the development and deployment of 24-hour Alternative Trading System (ATS) technology. Their combined expertise in market center technology and broker-dealer services provides a comprehensive solution for institutions, broker-dealers, and other market participants looking to establish robust overnight trading operations.

Fundamental Interactions, a global leader in enterprise market center technology, offers low-latency, high-performance infrastructure that is scalable across multiple asset classes, including digital assets. Its technology is widely adopted by securities exchanges, ATSs, and cryptocurrency platforms worldwide, enabling seamless integration with market data feeds, order routing systems, and regulatory reporting tools. This infrastructure is critical for supporting the continuous operation required in a 24/7 trading environment, ensuring high availability, redundancy, and compliance with global regulatory standards.

Fundamental Interactions and FIND: Powering 24/7 Direct Market Access (DMA) & Alternative Trading Systems

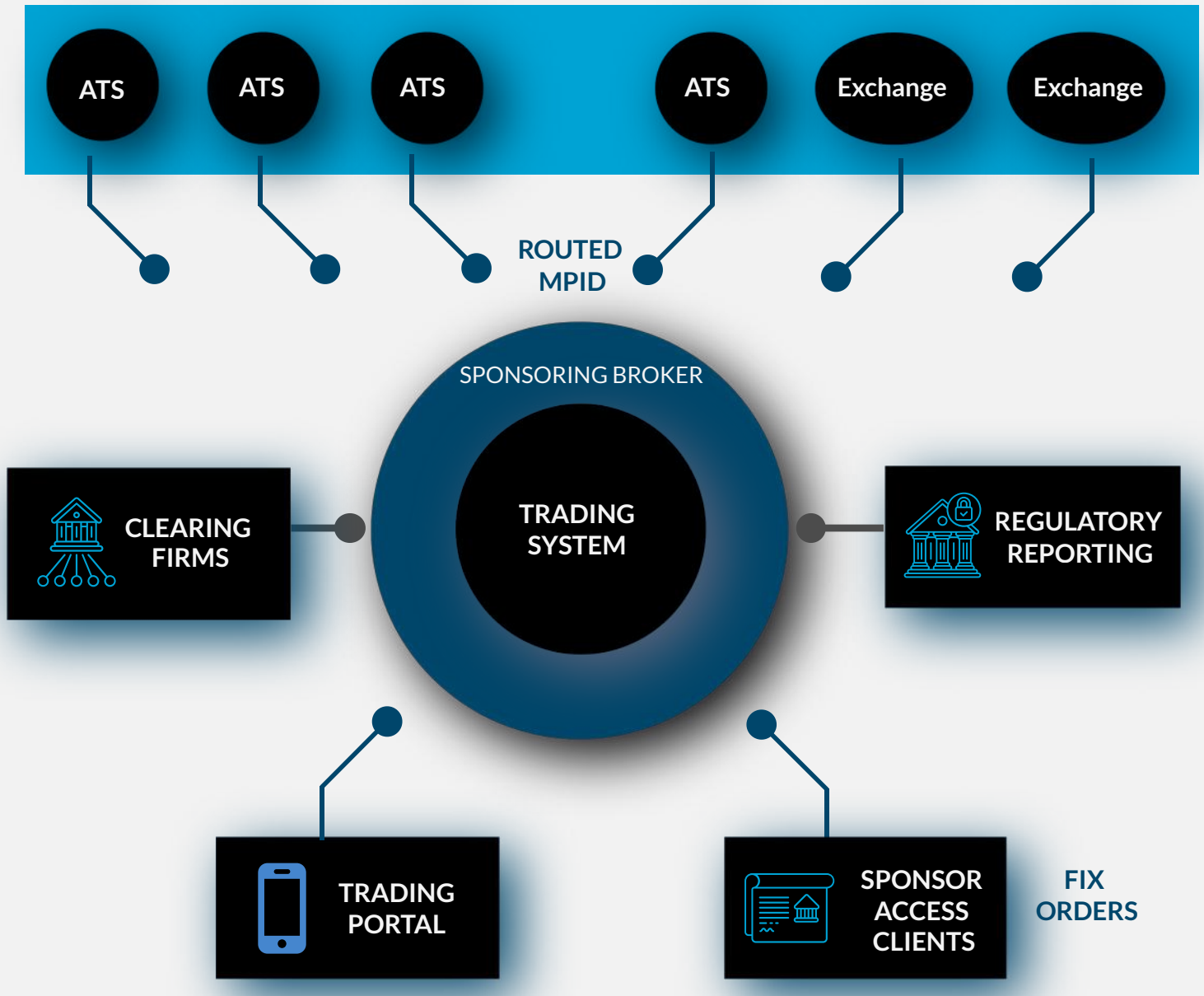
Complementing this, **FIND** provides a Software-as-a-Service (SaaS) model that allows broker-dealers, institutional trading firms, and other financial entities to leverage cutting-edge **Direct Market Access (DMA)** capabilities without the need for extensive in-house infrastructure. As a FINRA-registered broker-dealer, **FIND** offers real-time order routing, smart order management, and integration with multiple ATSs and market makers, optimizing liquidity access and execution quality.

The SaaS model offered by **FIND** reduces the barriers to entry for firms seeking to participate in 24-hour trading. By providing flexible, cost-effective solutions, **FIND** enables broker-dealers and institutions to quickly scale their operations, adapt to market demands, and maintain a competitive edge.

Together, **Fundamental Interactions** and **FIND** offer a powerful combination of technology and regulatory expertise, enabling the next generation of 24-hour ATSs. Their solutions support the full lifecycle of electronic trading—from order entry and routing to clearing, settlement, and compliance—making them ideal partners for firms looking to thrive in the evolving landscape of global equity markets,

Fundamental Interactions and FIND: Powering 24/7 Direct Market Access (DMA) & Alternative Trading Systems

Illustration of Market Structure



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