



A Blueprint for SIP Modernization

Executive Summary

The SIPs are a critical part of the information network that gives people across the world access to trusted market data. But they can and should be improved to meet the needs of an evolving marketplace.

The implementation of recent proposed SEC rules that would address market data reforms has encountered delays and not resulted in concrete progress. The way forward at this point is not clear.

Nasdaq is issuing this policy roadmap in an attempt to find common ground with regulators, the industry, and exchanges and ensure the SIPs are prepared to meet future challenges.

Our recommendations:

- **Consolidate the SIPs into one tape.** Currently, the SIPs operate on an legacy three-tape system that hasn't changed since it has introduced in 1976. All tape policies and systems should be consolidated into one normalized system, making the entire price information system more efficient.
- **Distribute the consolidated SIP from multiple locations.** The SIPs' current locations, coupled with unprecedented improvements in processing speeds, have made geographic latency a noticeable factor. A unified SIP transmitting data from different locations would better facilitate its distribution to the industry, benefiting all stakeholders.
- **Solicit proposals for a single technology provider.** Many changes will be needed in the shift to a unified SIP. Having one qualified technology provider will make the transition easier, reducing the administrative burden, support, and overhead included with managing usage from multiple providers. To find the right firm, a request for proposal (RFP) should be issued to identify providers that can handle building, monitoring, and maintaining the unified SIP.
- **Solicit proposals for a single administrator.** The transition to a unified SIP should be accompanied by efforts to streamline SIP administration. To reduce perceived conflicts of interest, an RFP should go out to find a single, non-exchange (or other non-conflicted) provider that can implement one set of SIP policies, agreements, and reporting requirements.
- **Incentivize transparency and accountability from the new technology and administration providers.** The firms selected to provide administrative and technology functions for the SIP should operate on and be measured against clearly defined goals and metrics that reward transparency and accountability.
- **Align professional and non-professional definitions with global standards.** The fees SIP users pay today don't always align with their actual use cases. The SIPs should update their definitions of professional and non-professional users to more accurately reflect their data usage, which will be easier for the industry to administer and could lower costs for certain retail investors.
- **Revise the allocation formula.** The current formula that compensates exchanges for quote information doesn't always encourage healthy market behavior. It should be changed so that displayed quotes are better rewarded when they lead to an executed trade.

Background

The U.S. Securities Information Processors (SIPs) collect and distribute consolidated, real-time market data that investors can use to implement trading decisions. They have long been considered a trusted source of market data worldwide.

Over the past decade, the SIPs have become more technologically capable, with more resilience and higher capacity. Latency now sits at under 20 microseconds—worlds faster than in the past.

On top of that, the SIPs have become much more transparent. The plain language revenue allocation formula and plan participant revenue information have been published. And there are more publicly available metrics around latency and firms' data usage. The Operating Committee with the Advisors have been engaged in making progress on a number of SIP topics over the last several years, including odd lots, data policies, governance and technology.

These improvements notwithstanding, industry leaders and regulators have raised concerns about various issues related to the SIPs, including cost, latency, and administration.

To address some of these concerns, the SEC issued its Market Data Infrastructure Rule (MDIR) in 2020 to make changes to the SIPs, among other things. But this new framework is still years away from being implemented, and the way forward remains unclear.

In December 2022, the SEC proposed accelerating the incorporation of odd lots and the redefinition of round lots in the SIPs as a first step. The odd lot proposal in particular is a promising interim development with widespread support that will increase price transparency and help investors make better-informed trading decisions. We have long advocated for transparency.

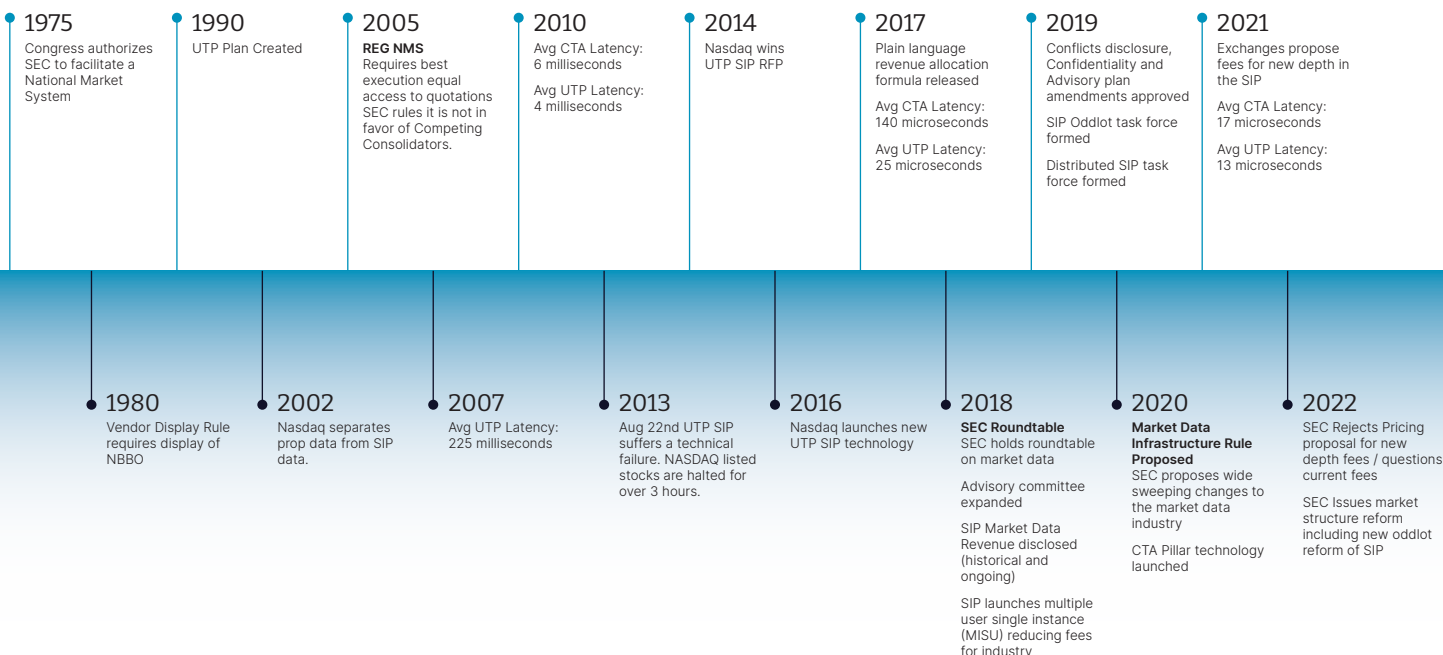
These developments are part of broader efforts to reform U.S. market structures that are subject to change and will take time to implement once settled. While these broader issues are debated, we believe that there are pragmatic, common-sense solutions with broad industry support that can be implemented now, without risk of significant unintended consequences in the longer-term. These recommendations are offered as a first step toward engaging with all stakeholders and starting a robust dialogue around the future of the SIP.

Recommendations

The SIPs were created more than 40 years ago to consolidate market data. Much has changed since then, thanks to technological innovations, competitive forces, and regulatory changes. While SIP technology has kept pace with the times, the regulatory structure can be updated to future-proof this important piece of the U.S. market system.

Nasdaq's recommendations are designed to achieve two primary goals: improve the efficiency of SIP data distribution and streamline SIP administration.

Important SIP Dates



Consolidate the SIPs into one tape.

Through a legacy construct, the SIPs currently distribute market information in the form of three tapes: NYSE-listed stocks (Tape A), regional-listed stocks (Tape B), and Nasdaq-listed stocks (Tape C). Tapes A and B are overseen by the Consolidated Tape Association (CTA), while Tape C is overseen by the UTP Plan.

While individual investors rarely see a difference in the distribution of the data between these multiple plans, this legacy construct could create several back-end inefficiencies—including different data formats, systems, and policies—that create administration and technological complexity impacting industry stakeholders. By combining the SIP Plans and the distribution into one system, it will reduce the complexities inherent in the legacy system. This does not mean moving to one datafeed as there is likely benefit in multiple datafeeds supporting user choice.

Areas for SIP alignment across tapes

- Audit scheduling
- Simultaneous Access
- Service Facilitation
- Administrative Usage
- Late Reporting
- Vendor Billing
- Multiple Datafeed Fees
- Non-Display Interpretation
- Policy and Agreements
- Forms and Processes

Efforts to reduce these inefficiencies began in 2019, before the MDIR passed. Nasdaq recommends that the SIP Operating Committees, in concert with industry advisors, continue building on this progress by combining the disparate policies, formats, and systems of different tape systems into one.

The Operating Committees and their advisors should continue their work on reviewing the administrative differences between tapes and make recommendations for a single set of policies, formats, and prices. They should then examine the implications of moving to one tape, paving the way for an implementation plan.

The transition to one tape plan will require time and resources in the short-term, but the benefits over the long-term are substantial. Consolidating tapes will remove duplicative costs and systems, reducing administration expenses and potentially lowering industry access costs.

Distribute the consolidated SIP from multiple locations.

The SIPs currently distribute data from two physical locations: Mahwah, NJ (Tapes A and B) and Carteret, NJ (Tape C). Meanwhile, the exchanges send data to the SIPs from three main locations: Mahwah, Carteret, and Secaucus, NJ.

Transmitting data among these three sites and outputting the single NBBO creates geographic latency. Data on average can take upwards of 700 microseconds to travel to and from Mahwah and Carteret.

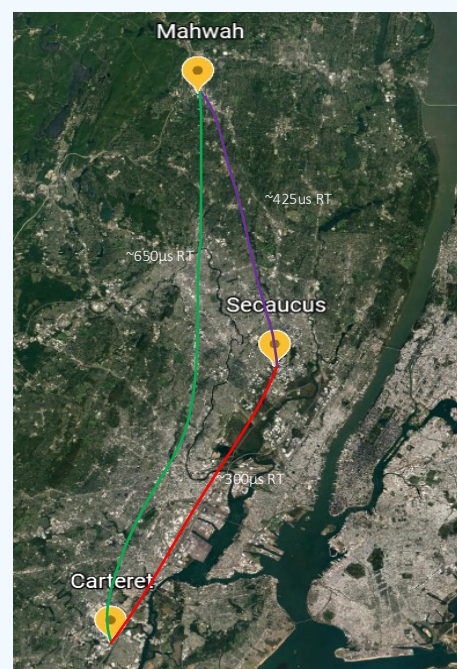
Historically, this geographic latency was not a concern because it was relatively small in comparison to processing times of the best-available technology being used by the SIPs. In 2007, for example, the Tape C latency for quotes and trades was approximately 225 milliseconds. But thanks to substantial internal technological investments, this number has fallen dramatically. The average latency for Tape C processing now sits at 0.017 milliseconds—a 99.99 percent decrease in latency since 2007. Latency on tapes A and B has also decreased significantly over the same time period.

Notwithstanding such improvements, Nasdaq believes that further latency reductions are achievable if we distribute a single, unified SIP from multiple locations. Once the SIP moves to a one-tape system, exchanges would share information with Secaucus, Mahwah, Carteret, and potentially other locations—such as Chicago, IL, to increase geographic diversity. Each location would then automatically compile the same data and distribute it directly.

This approach, which could be implemented in the near-term, would significantly cut down on latency resulting from geographic distance. Compiling the SIP in multiple locations could cut costs significantly for industry—especially if firms no longer need to maintain multiple locations.

U.S. equity market structure is built atop the foundation of a single, robust and effective National Best Bid and Offer (“NBBO”). The best way to preserve the NBBO while still addressing geographic latency is to have multiple geographic instances with a single processor. The single processor would be able to use

SIP average roundtrip latency times between locations



the same system of methodology, networking, hardware, and software at different locations to create a unified NBBO, preserving the best of what we have today.

This is in contrast to a competing consolidator regime, in which multiple processors with completely separate processes and technologies would find it inherently difficult, if not impossible, to coordinate while still maintaining a competitive environment. A competing consolidator regime would inevitably result in multiple NBBOs, undermining a key pillar of the current financial system.

Wherever possible, equity market structure reforms should be incremental, pragmatic and avoid undue risks, costs, and burdens. The distributed SIP builds upon a fundamental tenet of the current system—the robust NBBO—and adds multiple instances to solve the problem of geographic latency. This is exactly the type of incremental solution we need to move forward.

Solicit proposals for a single technology provider.

Unifying the SIPs into one tape and distributing that unified SIP from multiple locations with one technology processor will speed modernization efforts and lower implementation costs without sacrificing capacity or redundancies, benefiting all market participants.

Nasdaq recommends issuing a request for proposals from firms with the technical capabilities to build, monitor, and maintain the unified SIP's digital foundation, distribute SIP data, and protect the security of the system. To mitigate the risks of moving to a single provider, these proposals should also address how to build in new technological redundancies to protect the SIP's uptime.

Importantly, any technology provider—including exchanges—should be permitted to submit bids to provide this service. A competitive bidding process, overseen by the SIP Operating Committees and with meaningful input from industry advisors, will ensure the most qualified firm is ultimately selected.

Solicit proposals for a single administrator.

Consolidating the technology underpinning the SIP will require complementary efforts to improve how it is administered. The current structure features two administrators overseeing duplicative functions like administrator, legal, forms, policies, operations, billing, reporting, and auditing. Combining these responsibilities under a single administrator will increase efficiency and lower inherent industry costs.

Exchanges have some of the deepest administrative knowledge for market data products. Some have however, argued that exchanges have a conflict of interest in administering the SIPs. Nasdaq does not agree that a conflict of interest exists in the administration of its SIP, having implemented policies and procedures to wall off its SIP administrative work from the rest of its business. But removing all exchanges as direct administrators is in line with industry preferences and addresses any perceived conflicts. This does not prevent exchanges from joining joint ventures to operationally support the administration of consolidated data. We recommend that other firms with similar perceived conflicts should be excluded from consideration as the new administrator. This would include conflicts for firms that distribute or receive the SIP content. For example, those firms that receive SIP content should be excluded from consideration.

With this in mind, Nasdaq recommends issuing a request for proposals for a single, non-exchange administrator of the unified SIP. This administrator would be responsible for creating and implementing one set of policies, agreements, forms, systems and reporting requirements to govern the SIP.

A competitive bidding process, also overseen by the SIP Operating Committees and with meaningful input from industry advisors, will ensure the most qualified firm is selected. This firm should have a strong background in financial market data and understand the nuances of policies, pricing, and market data compliance.

Incentivize transparency and accountability from the new technology and administration providers.

Once new technology and administration providers have been selected, a system of goals and benchmarks should be implemented to support the continual improvement of the SIP.

Contracts with the providers should identify proactive service improvement opportunities concerning factors like latency, capacity, redundancy, delivery methods, and response times. They should also contain specific, measurable goals that demonstrate progress. For instance, targets could be set to reduce latency times to single-digit microseconds by 2025, as well as responding to client issues within an expected timeframe.

SIP stakeholders, including industry advisors, should have a role in determining which metrics providers should collect and share. For instance, shared metrics could include average response time, customer trends, and number of new requests for data. The performance against these metrics should also be publicly available.

As these changes are implemented, they should be accompanied by regular surveys of industry stakeholders to understand how well the SIP is working for them. Satisfaction can be measured both quantitatively and qualitatively, with opportunities for industry partners to share how they think the SIP can be improved. These surveys should be regular, ongoing, and transparent.

Finally, we recommend more accountability be introduced into the SIP processes ensuring that the policies are common sense and administrated across all participants in an equitable fashion. More frequent reviews from outside parties, transparent policies and processes as well as frequent external audits will drive consistency, transparency, and oversight.

Align professional and non-professional definitions with global standards.

Market data fees have long differed across various categories. However, some categories have become complex, creating an undue administrative burden. This is particularly true of the distinction between professional and non-professional users. In the current system, for example, a licensed trader would still be treated as a professional user if they were at home purchasing securities for their personal account because they are registered.

Nasdaq recommends updating the current definition of professional and non-professional users to better reflect the realities of both industry customers and retail investors.

This shift toward a more practical definition will ease the administrative burden on the financial services industry, potentially lower costs to retail investors, and ensure SIP fees are commensurate with use. It would also largely align the SIP's definitions of professional and non-professional users with a global standard, enhancing international interoperability and reducing the need for personal identifying information.

CURRENT DEFINITION	POTENTIAL NEW DEFINITION
All other persons who do not meet the definition of Non-Professional Subscriber.	A Professional is any person who carries out a regulated financial service, regulated financial activity, or provides a service to a third party or on its own account as part of regular business. ("Business Use"). A natural person that receives Information for such person's own account through a broker, either individually or in a fiduciary capacity, but not as part of a regular business, is not a Professional.
Any natural person who is NOT: (a) registered or qualified in any capacity with the SEC, the Commodities Futures Trading Commission, any state securities agency, any securities exchange or association or any commodities or futures contract market or association; (b) engaged as an "investment advisor" as that term is defined in Section 202(a)(11) of the Investment Advisors Act of 1940 (whether or not registered or qualified under that Act); or (c) employed by a bank or other organization exempt from registration under federal or state securities laws to perform functions that would require registration or qualification if such functions were performed for an organization not so exempt.	A Non-Professional is any person that is not a Professional. ("Personal Use")

Revise the allocation formula.

As initiatives to improve the infrastructure and administration of the SIPs get under way, they should be complemented by new efforts to promote visible liquidity in the equity market.

Exchanges receive revenue based on the value of the information they provide to the SIPs. That revenue is calculated using an allocation formula that relies on both executed trades and displayed quotes. This formula was implemented by the SEC to encourage and reward the public display of quotes.

But because of the current separation of incentives between quoting and trading in the allocation formula it could encourage the display of quotes that cannot be executed and trades that execute without publicly displayed quotes. This confuses investors and adds less value to the critical NBBO.

Nasdaq recommends that the SIPs' revenue allocation formula be modified to better align with market quality and transparency such as rewarding displayed quotes.

Quotes that are executed create actionable liquidity and add more information and value to the market in the form of price discovery and transparency. The revenue allocation formula should reflect this reality. This would support the SEC's goal of quotes being publicly displayed resulting in tighter spreads and incentivizing activities that support market health and benefit all investors.

Conclusion

This roadmap represents Nasdaq's recommendations for a pragmatic path forward, one that is achievable, efficient, and impactful. In communication with our clients, we believe these proposals create a positive step for the industry and we are hopeful that they serve as the beginning of a productive future for the SIPs.

The SIPs provide great value to markets and market participants, and the current gridlock on this issue is in no one's interest. We encourage industry dialogue around this topic, and we will be looking for opportunities to engage with interested stakeholders in the months ahead.

Once implemented, the efficacy of these common-sense changes at addressing concerns raised by the SEC and market participants in recent years can be evaluated to inform decisions about the need for further changes - including the need to proceed with the more radical and disruptive step of establishing a system of competing consolidators.

By working together, we will ensure the SIP continues to serve as a global source for quality, reliable market data creating even more value for retail investors.