

NOVEMBER

2020



2020 & BEYOND

Our view on the US Broker-Dealer industry, as we deal with COVID-19 and sustained higher volatility.

SAASSY!

The relevance and benefits of System & Organizational Controls (SOC) in a fast-growing SaaS environment.

SWAP MEET

The timing and ramifications of the June 2019 SEC rule adoption for Security Based Swaps (SBSs).

REGTECH

VISION



CURRENT THEMES AND A LOOK INTO THE FUTURE, FROM DASH REGULATORY TECHNOLOGIES, THE GOLD STANDARD SOLUTION FOR US REGULATORY CAPITAL COMPLIANCE.



2020 & BEYOND - OUR VIEW ON THE US BROKER-DEALER INDUSTRY

Venu Palaparthy Head of DASH Regulatory Technologies

Madhur Sarda Director, DASH Regulatory Technologies



For the financial services industry, the overall impact of COVID-19 has been mixed. On the one hand, the pandemic has impacted consumer spending in key sectors such as hospitality and leisure, while also pushing up unemployment substantively since February lows. On the other hand, higher trading revenues due to market volatility have boosted capital markets businesses, while central bank activities and government support of businesses and individuals have so far limited damage to bank balance sheets

and prevented the contagion we saw during the global financial crisis in 2008.

Overall, the pandemic has been both a challenge and an opportunity for the US broker dealer industry. The industry is pivoting quickly to adapt to the challenges placed by a fragmented and work-from-anywhere workforce, by accelerating digitization, automation and SaaS adoption.

Other fundamental factors such as US elections and evolving regulatory regimes

will shape our industry significantly in the near to long term.

Since 1987, DASH Regulatory Technologies has been the provider of an industry leading 'gold standard' solution for the US broker dealer's regulatory reporting needs, helping our clients comply with net capital requirements mandated by FINRA and SEC. Even during this crisis, we continue to strongly support our clients. We have also been innovating continually by launching our cloud solution, DASH 360R and developing new products for the future.

We highlight the evolution of a few ongoing themes, relevant to our clients in 2020 and beyond:

Security Based Swaps (SBS)

Finalized in June 2019, this is the most significant regulatory capital ruleset to emerge from SEC as part of its Dodd-Frank implementation process. The SBS rules have wide-ranging implications to the broker-dealer community, especially those broker-dealers who are either dealing or are simply trading security-based swaps.

DASH Regulatory Technologies has already initiated development of the swap-specific haircut optimization in accordance with the amended 15c3-1 rules. The new module will be deployed during the second quarter of 2021, well in time for the October 6, 2021 compliance date.

Market Volatility & Intraday Model

2020 saw record volatility and volumes in the first half of the year. Overlapping with the

broader economic shut-down, firms moved quickly to adapt to the unprecedented scenario by altering and executing their BCP plans.

The key challenge for broker-dealer FINOPs was to adequately maintain ample liquidity and continuously monitor intraday fluctuations in regulatory capital. DASH RegTech made further refinements during the second quarter so that the intraday RBH and RBM solutions that you have grown to rely on remained dependable, precise and accurate.

SaaS adoption & Benefits of SOC Reporting

US broker-dealers have continued to face robust review and scrutiny from both auditors and regulators. Investing in new technologies such as SaaS adoption, emphasizing strong controls around data quality as well as soundness of the calculations has become the centerpiece of a thoughtful reporting solution.

This has increased the importance of establishing a mature, holistic and well-controlled process with end-to-end automation and certified SOC controls.

In order to address these needs for our clients and enabling a 'Work From Anywhere' workforce, DASH 360R has streamlined automation and performance optimization in concert with AWS infrastructure. DASH 360R is also on-track for SOC1 Type 2 certification by the year-end.

In 2021, DASH 360R will feature high-end analytics and new functionality geared to enhance and simplify the overall broker-dealer regulatory reporting experience.



SOC REPORTING: RELEVANCE & BENEFITS IN THE GROWING SAAS MARKET

Madhur Sarda

Director, DASH Regulatory Technologies

The SaaS Market

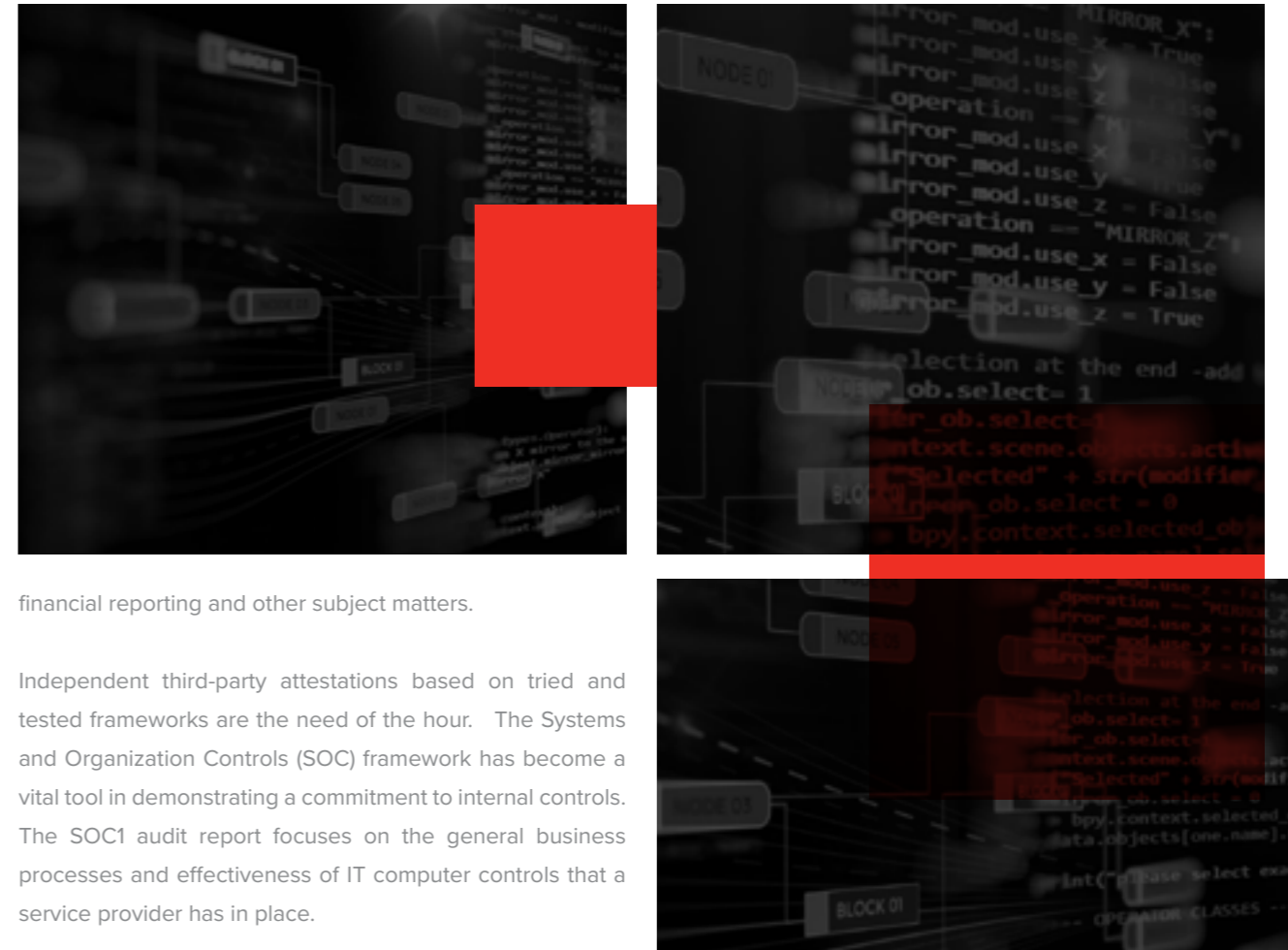
Over the past few years, the rise in Software as a Service (SaaS) adoption among companies has been rapid. With the 'Work-from-Anywhere' trend likely to become a lasting change, the SaaS market is poised to grow even faster than was initially projected. It is widely expected that SaaS will remain the largest market segment within the public cloud services market, which is forecast to grow to \$278 billion next year according to a recent Gartner study.

SaaS companies are providing a wide variety of outsourced

services to organizations in a variety of industries. SaaS providers that process sensitive data like financial transactions, must address concerns about privacy and security. That brings with it the need to have strong security protocols and a robust compliance framework.

SOC1 Report and its Relevance

With a greater focus on internal control by regulators, boards of directors, and others charged with governance, there has been an increase in demand for attestation reports for



financial reporting and other subject matters.

Independent third-party attestations based on tried and tested frameworks are the need of the hour. The Systems and Organization Controls (SOC) framework has become a vital tool in demonstrating a commitment to internal controls. The SOC1 audit report focuses on the general business processes and effectiveness of IT computer controls that a service provider has in place.

The SOC1 report comes in two types: The SOC 1 Type 1 report provides an opinion on the design effectiveness of the controls at a point in time. The SOC1 Type 2 report provides a higher level of assurance as it provides an opinion on both the design and operating effectiveness of the controls in place over a period of time.

Benefits of a SOC report

In the regulatory reporting world, both internal stakeholders (FINOPS and Controllers) and external stakeholders (auditors and regulators) demand trust and transparency.

SOC reporting offers a cohesive, repeatable reporting process where companies can assess once and report out to many stakeholders. It also reduces compliance costs and time spent on audits and filling out vendor questionnaires, including meeting contractual obligations and marketplace concerns through flexible, customized reporting.

At financial institutions large and small, SOC reports

allow user entities to obtain an objective evaluation of the effectiveness of controls that address compliance, operations, and financial reporting of a service organization. In conclusion, SOC provides a broad range of assurance reporting services to address trust and transparency issues, such as risk management. With both financial and nonfinancial reporting options available, organizations can ensure they apply the right set of controls and communicate vital information to stakeholders.

DASH Regulatory Technologies has always been strongly committed to providing the best in class computational tools for regulatory reporting. Following the development of DASH 360R, which is the SaaS version of the industry leading LDB Suite, DASH made a commitment early on to have all the modules SOC certified. We expect that all our current regulatory modules on DASH 360R will be SOC 1 Type 2 certified by 2020 end. Of course, DASH 360R relies on AWS, whose SOC 3 report on Security, Availability and Confidentiality can be accessed [here](#).



VOLATILITY SKEW VERSUS SMILE



Nikita Kapshuk

Manager, DASH
Regulatory Technologies

Amid historical financial market volatility experienced in Q1 and Q2 2020, DASH Regulatory Technologies undertook measures to enhance the volatility models underlying our intraday calculations for options. As a result of these efforts, the intraday module affords our valued clients a choice between dynamic (Figure 'a') and static (Figure 'b') choice theoretical option valuation models.

Since 2012, DASH Regulatory Technologies has been providing intraday capabilities for its Risk Based Haircut (RBH) and Risk Based Margin (RBM) modules. The centerpiece of the intraday calculation is our proprietary theoretical pricing model, that stresses equity options and future options in accordance with the OCC methodology.

We have refined our calculations to incorporate weekly options series in addition to monthlies for SPX, VIX, RUT and DJX indexes. We also have put in place continuous testing using a dynamic model portfolio, which ensures that our models are working as intended even during times of tremendous intraday volatility to cover market, operational and third party risks.

Volatility Smile

Figure (a)



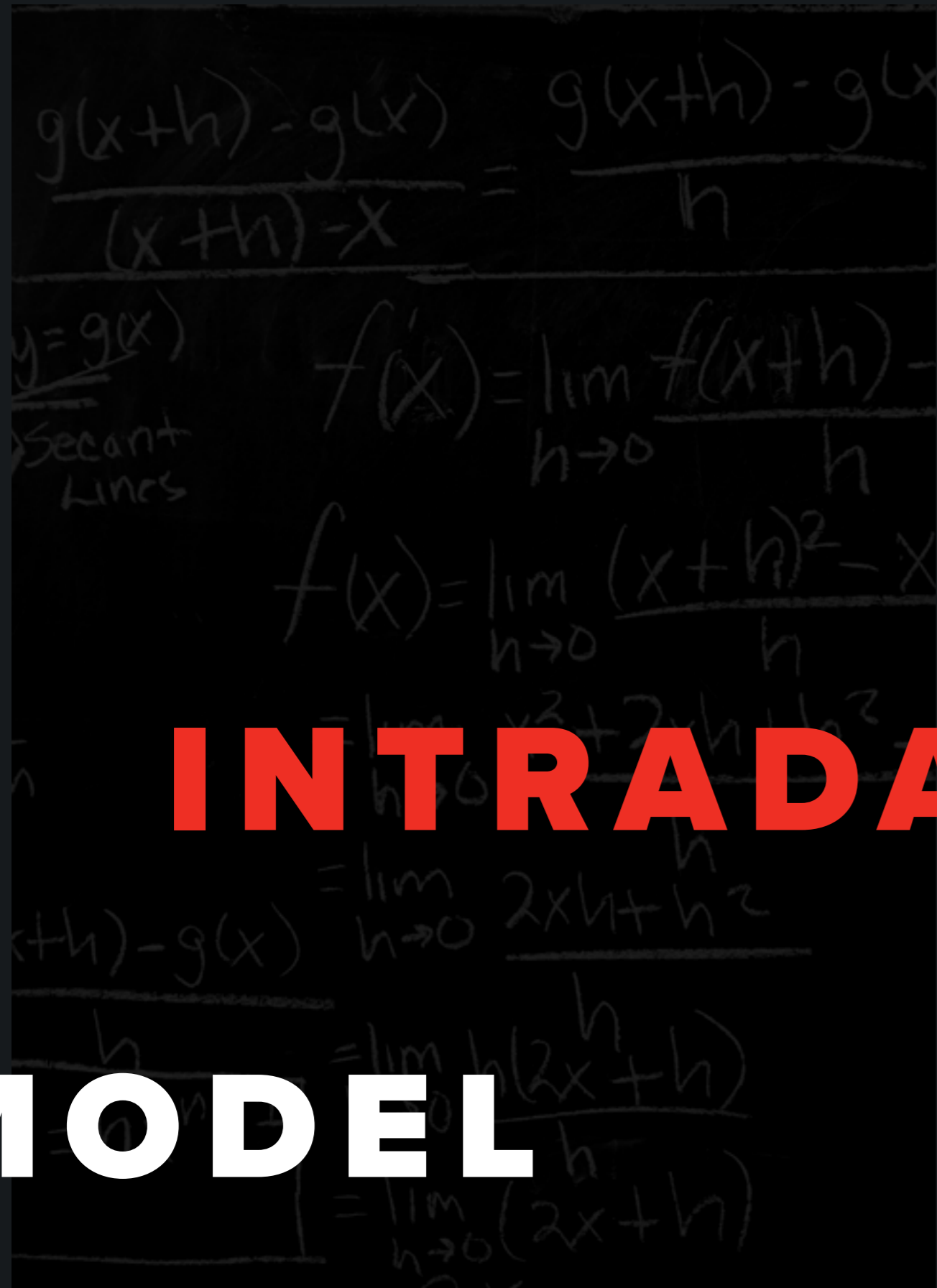
Volatility Skew

Figure (b)



INTRADAY

MODEL





The SEC set **August 6, 2021** as the date for firms to begin counting their SBS dealing activity, which will determine whether the firm is deemed a SBS Dealer (SBSD). The SEC also set **October 6, 2021** as the compliance date.

Several rules applicable to SBS entities take effect on this date including:

- Capital and margin requirements for non-bank SBS entities,
- Segregation requirements,
- Requirements regarding recordkeeping and reporting, as well as,
- Risk mitigation requirements.

DASH RegTech initiated development of a new SBS haircut add-on to complement its current haircut modules soon after the rules were adopted.

The system will take into account any swaps and SBSs in the position file and optimize the haircut calculation in

accordance with the standardized matrix proposed under Exchange Act Rule 15c3-1 (as amended).

DASH RegTech will apply hedging relief where rules permit netting Credit Default Swaps (CDS) that reference the same entity and credit event trigger and if they are in adjacent maturity bands.

For CDS Index Swaps, the system will recognize relief based on netting for swaps on same index, while also considering basis spread and time between maturity of hedging legs.

For Interest Rate Swaps (IRS), the system will seek to find hedges versus government securities per (A) or non-convertible corporate debt per (F). For all other SBSs, the system will compute charges in accordance with the appropriate 15c3-1 paragraph.

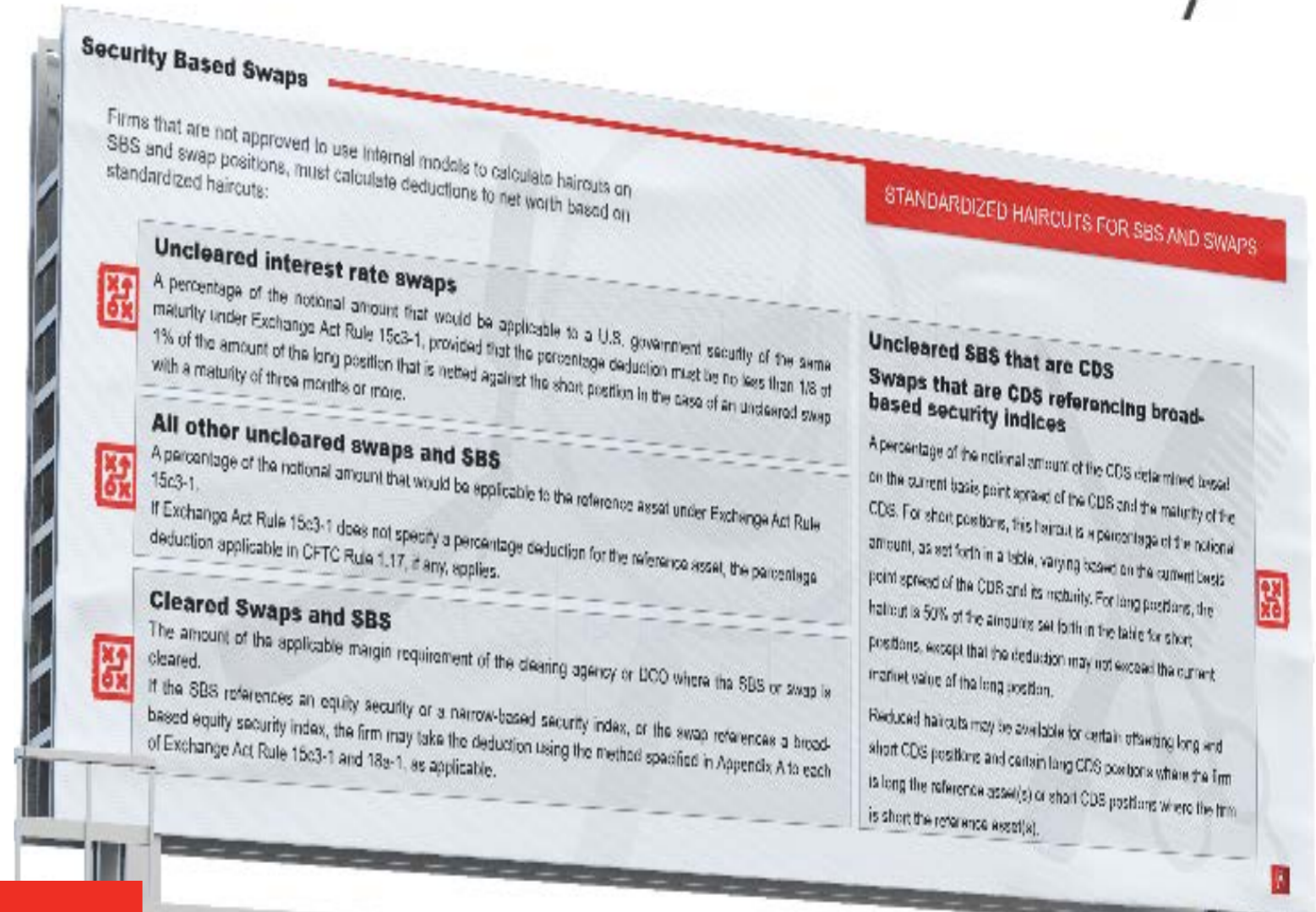
The DASH RegTech SBS add-on will be ready for client beta-testing during the first quarter of 2020 with a production version available both for our on-prem and DASH 360R clients well ahead of the October 6, 2020 compliance date.

Michael Gresham
 Head of Client Relations,
 DASH Regulatory Technologies

Nikita Kapshuk
 Manager,
 DASH Regulatory Technologies

On June 21, 2019, SEC adopted its **Security Based Swap (SBS)** rules laying out capital, margin and segregation requirements for broker-dealers that engage in SBSs.

RULES RULES RULES
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SBS SWAP

RULES



INNOVATION WHAT TO EXPECT FROM DASH THIS YEAR

CME SPAN

Traditionally, broker-dealer practitioners have computed haircut and margin calculations on OCC and CME products independent of each other. A recent use case brought to light the significance of combining these two computational methodologies, which has the potential to further optimizing our computations of capital charges.

At DASH, we are researching our methodology in our sandbox environment and expect to release the SPAN margin calculation

as an add-on to our already comprehensive haircut product suite, while not compromising on the accuracy of our existing solution.

With the SPAN margin calculator RBH add-on, our clients will just need to input a unified position file spanning OCC and CME futures products, to arrive at haircut and margin calculations in one calculation instance.

Swapnil Devaraneni, DASH Regulatory Technologies



FOCUS GENERATOR

Since 1975, when SEC amended its net capital rule (15c3-1) establishing uniform capital standards, the associated form - Financial and Operational Combined Uniform Single (FOCUS) report, has been a barometer for determining safety and soundness of a broker-dealer. This has been especially true during stressed times, when management, regulators, auditors, counterparties and creditors alike, look at the net capital calculations to assure themselves that the broker-dealer has sufficient liquid resources on hand and in assessing the broker-dealer's overall financial or operational health.

Beginning 1987, DASH's RBH module has played a central role in feeding into this important report by providing haircut calculations, which discount the broker-dealer's positions in each security, accounting for market, liquidity and operational risks. DASH's Sissy module has also helped FINOPs generate the Supplemental Inventory Schedule to

the FOCUS report for over a decade.

As the next evolutionary step in automating the FOCUS process, DASH Regulatory Technologies is proud to announce development of a custom, automated FOCUS reporting tool, integrating the current highly robust suite of 15c3-1 calculations with additional user-inputs, to generate a FOCUS report in the prescribed eFOCUS format.

Using the DASH FOCUS Generator, the FINOP will have the added ability to conduct a highly automated, yet exhaustive review process prior to final submission. Housed within the DASH's 360R cloud platform, the FOCUS Generator will incorporate 'DASH RegTech's 'gold-standard' data quality process as well as a robust control framework, sharing the same SOC certified infrastructure of the RBH module.

Madhur Sarda Director DASH Regulatory Technologies

DASH Regulatory Technologies

The gold standard solution for US regulatory capital compliance.



DASH 360R & WORM

WORM (Write Once Read Many) is the compliance standard under SEC 17a-3 and SEC 17a-4, commonly referred to as SEC books and records rules.

Electronic storage technology that meets SEC's requirements for non-erasable and non-rewritable is WORM compliant if it meets the conditions set forth in 17a-4(f) for the required length of time.

Users of DASH 360R will soon have the option of turning on WORM compliance for their inputs and outputs, alleviating the need for transfers of data to a separate WORM device. This also ensures all associated indices are in the same place as the data.

Our WORM compliance solution leverages DASH 360R's proprietary controls in conjunction with AWS's WORM compliant storage. The combination of these best in class methodologies ensures:

- **Logical Security**
Only authorized users can access information.
- **Secure Data Handling**
Encrypted storage and transmission.
- **Data Integrity**
Accurate recording process and check sums to validate data.
- **Data Redundancy**
Ensures data continuity
- **Lifecycle Policy**
User configurable options for automatically moving data from immediate access to deep storage and compliance with retention period requirements.

Our simple-to-use cloud interface will simplify record retention while solving the complexity of the IT efforts needed to achieve this.

Phase I development will allow for storage of user-

specified regulatory reports in a WORM compliant manner that prevents editing, overwriting, renaming or erasing the reports, once they are copied to storage. Data thus stored on the cloud can only be unlocked by a unique key and can be downloaded for future use without altering the source, thereby achieving regulatory compliance.

Make record retention easier and simpler with the cyber resilient and WORM-compliant framework of 360R.

Securities and Exchange Commission

SEC Rule 17 CFR § 240.17a4(f)

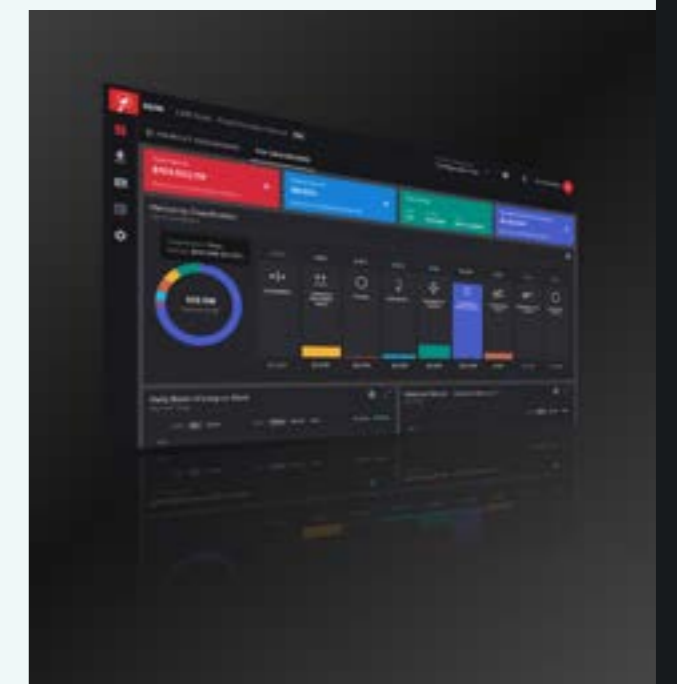
Financial Industry Regulatory Authority

FINRA Rule 4511(c)

Commodity Futures Trading Commission

CFTC Rule 17 CFR§ 1.31(c)-(d)

Jyothi Myneni Manager, DASH Regulatory Technologies



DASH Regulatory Technologies

The gold standard solution for US regulatory capital compliance.





Regulatory Solutions

SEC	15c3-1	RBH	Risk Based Haircut / Calculates capital charges for listed derivative securities, equities, and qualified stock securities per Appendix A of the SEC Net Capital Rule.
SEC	15c3-1	IRBH	Intraday / An integrated service package designed to monitor your required, moment-to-moment capital requirements.
SEC	15c3-1	COMA	Computation Maker / CoMa is an optional workflow module for the Risk Based Haircut (RBH) product that seamlessly creates input data files. This saves important resources thereby enhancing workflow. CoMa creates the necessary files to optimize the universe of potential baskets inside the Basket Weaver.
SEC	15c3-1	FIH	Fixed Income Haircut / FIH computes and optimizes capital charges for debt securities as defined in SEC rule 15c3-1 paragraphs (A) - (J). FIH also performs calculations for TBAs and Customer / Firm Falls.
SEC	15c3-1	RRR	Repo / Reverse Repo System / RRR computes repo and reverse-repo deficits and deductions, as well as charges related to counter-party concentration, excess collateral and excess aggregate repurchase deficits.
SEC	15c3-1	SBL	Stock Loan / Stock Borrow System / Compatible with the "Agent Lending Disclosure Initiative", this solution reads in DTCC Cash and Non-Cash "Agent" Files, as well as user-provided borrow and loan data, to calculate capital charges and provide comprehensive reports to assist reconciliation and credit monitoring.
SEC	15c3-3	SALLIE	Security Allocation Information Engine / SALLIE assists Broker-Dealers comply with the "Customer Protection Rule" as defined in SEC Rule 15c3-3 and provides the user with control over the security allocation matrix utilized in the "reserve" formula.
SEC	15c3-5	FRR	Financial Reporting Responsibility / FRR assists clients with a subset of SEC's Rule 17a-5 (Rules for Financial Reporting) and generates a report including time stamps, detailing the landscape before and after calculations. The reports include details of any changes to "user controls" during the time horizon in question.

THE GOLD STANDARD

Solution for US regulatory capital compliance

INDUSTRY LEADING SEC / FINRA / BESPOKE REGULATORY CAPITAL COMPLIANCE SOLUTIONS

Regulatory Solutions

FINRA	4210	BBM	Risk Based Margin / RBM calculates risk based margin / customer portfolio margin (CPM) as defined by SEC releases in accordance with FINRA guidance.
FINRA	4210	IRBM	Intraday / An integrated service package designed to monitor your required, moment-to-moment capital requirements.
FINRA	4210	OMO	Option Margin Optimizer System / OMO calculates customer margin charges according to FINRA Rule 4210. This advanced system will calculate charges for: <ul style="list-style-type: none"> Common Stock Single Stock Futures Convertible Stocks and Bonds OTC Options Equity Broad / Narrow Based Indices and Currencies
FINRA	4210	DTM	Day Trader Margin System / DTM calculates day trader margin charges. Using "time-and-tick" methodology, the system is designed for FINRA Rule 4210 or Portfolio Margin accounts identified as "pattern day-traders". DTM is designed for both common stock and options.
FINRA	4524	SISSY	Supplemental Inventory Schedule System / SISSY renames and aggregates gross market value (long and short) per category. It does so based on the position files submitted to FB, RBH, and / or user-defined position files. SISSY produces corresponding Supplemental Inventory Schedule reports.

SOLUTIONS



THE GOLD STANDARD SOLUTION FOR US REGULATORY COMPLIANCE

REGTECH

FOR MORE INFORMATION REGARDING OUR PRODUCTS OR SERVICES, PLEASE CONTACT US AT:
SALES@DASHREGTECH.COM

About us

DASH Regulatory Technologies delivers the gold standard solution for US regulatory capital compliance. Our highly experienced group of industry experts deliver an elegant, precise, enterprise-wide solution to manage risk with innovative software solutions.

With a comprehensive suite of out-of-the-box tools, custom solutions and consultancy, DASH Regulatory Technologies provides everything required to satisfy the complex reporting requirements surrounding regulatory capital and compliance for the US broker-dealer industry.