CAPCO

STAY ON THE FRONT FOOT

WITH COLLATERAL MANAGEMENT IN 2020

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INTRODUCTION

The past decade has seen a raft of hard-hitting regulatory reforms that have changed the financial landscape almost immeasurably. Collateral and margin management has been no exception. The legislations introduced have focussed heavily on risk and transparency with a particular spotlight on improving financial resilience and reducing contagion risk.

Regulators have placed considerable emphasis on red flag indicators and mechanisms to manage periods of economic stress. This has placed further importance on areas such as liquidity, leverage, capital and a greater need for collateralization. Consequently, the impact and influence of effective front to back collateral management has been propelled firmly into the limelight.

Collateral management and optimization is now a science that is constantly developing. Financial firms today have started breaking down silos and are operating a collateral management ecosystem that is more sophisticated than ever before.

Assisted by cutting edge technology and business collaborations, financial firms have made progress and come a long way, but to attain a collateral nirvana much work still needs to be done. In order to stay compliant, competitive and be efficient, there are several key focus areas firms will need to pay close attention to, which we discuss below:

Focus areas	Current and upcoming challenges
Buy-side adjustments	• Many buy-side firms will likely be unfamiliar with the processes and obligations associated with the Initial Margin (IM) rules and may not have the level of resources or inhouse expertise that is available to sell-side firms that have already fallen into scope of the previous UMR phases • Buy-side institutions typically have limited experience in signing more bespoke legal documentation with custodians and the broader bilateral client base • The opening of multiple new custody accounts, management of triparty movements and associated daily messaging and reconciliations all represent a considerable undertaking and require coordination across trading desks, operations and technology • The calculation of the two-way IM obligation represents a significant challenge as firms will need to develop their own in-house validation models whilst incorporating industry methodology (such as SIMM) as part of their harmonization guidelines • Buy-side firms will be required to re-evaluate the way in which they manage collateral. In addition, tighter IM collateral eligibility criteria could lead to an increase in the securities finance transactions by the buy-side in order to source the securities that will be acceptable as collateral • UMR will trigger changes within the buy-side trade pricing models. The legal terms, funding charges and operational impact will need to be accounted for and embedded into the trade execution process
Technology	With ever increasing complexity in a constantly evolving market, firms must ask themselves the following questions: • Is our current technology fit for purpose and what needs to be done to bring it up to speed? • What is the cost and timescale associated with it, and does it create a build vs buy decision? • What emerging technology is out there that can be brought in to compliment and enrich the existing technology stack? For example, the inclusion of machine learning, robotics, blockchain and tokenization to modernize and support the settlement framework

INTRODUCTION (CONTINUED)

Focus areas	Current and upcoming challenges
Legal documentation	• Lack of straight through processing (STP) of CSA data from legal execution to operations, requiring manual keying of core CSA terms into collateral systems • Difficulty in reconciling CSA terms to operational setup, potentially leading to incorrect or non-existent margin calls and uncertainty around the treatment of collateral • Under BCBS-IOSCO guidelines[1], margin requirements for uncleared derivatives (UMR) came into effect from 1st September 2016 and only apply to trades executed after that date; as a result, firms may need to support pre and post-BCBS IOSCO CSAs for the same counterparty, should they wish not to migrate all trades under one CSA • As a result of Phases 5 & 6 under UMR[2], 1100+ new counterparties and 9,500+ new relationships are projected to fall into scope which will trigger a huge repapering exercise
Valuations & exposure calculation	• Difficulty in collating all data points required for accurate and timely exposure calculations, due to asynchrony of numerous legacy system feeds • Lack of effective governance around operating a 'mixed collateral environment', involving cleared and uncleared trade allocations and margin calculation • Inability to run multiple margin calculation cycles based on client portfolio composition • Adoption of new two-way IM exposure calculations for newly in scoped counterparties • Significant spike in two-way IM exposure calculations for existing in scope counter parties
Margin call processing	• Firms will need to manage further increases in margin call volumes, primarily driven by two-way IM requirements and removal of variation margin (VM) thresholds • Fragmented clearing volumes across broker entities and CCPs, exacerbated by Brexit, all of which require IM and VM (in multiple currencies), will contribute to the increased frequency and size of intra-day and end-of-day CCP margin calls • Increased call volumes may require significantly more FTEs to support the margin management function in the short term especially for substandard and unscalable manual processes • Increased STP rates through automation is essential in order to remain competitive, especially as margin call volumes continue to rise
Collateral optimization	• CSA collateral eligibility data is not yet fully embedded in all firms' collateral optimization strategies; further changes to eligibility schedules for cleared and non-cleared trades will represent an additional challenge • Increased intra-day funding requirements as a result of the continued trend towards central clearing. • Increased demand for new collateral sourcing capabilities, due to regulatory squeeze, commercial best practice and market liquidity challenges • The existence of collateral management silos across institutions restrict the ability to obtain a real-time holistic view of all inventory • Operations teams physically unable to process volume of substitution requests generated by front office teams and/or automated optimization algorithms • Ongoing limitations around the re-hypothecation of collateral will place even greater emphasis on effective collateral optimization techniques as previously re-usable collateral will now be 'locked up'

1. https://www.bis.org/bcbs/publ/d317.htm
2. https://www.isda.org/2018/09/26/joint-trades-final-stages-of-initial-margin-phase-in-comment-letter/

INTRODUCTION (CONTINUED)

<table>
<tr><th>Focus areas</th><th>Current and upcoming challenges</th></tr>
<tr><td>Collateral segregation</td><td>Recent regulations have pushed for greater transparency regarding the safekeeping of collateral. This has invariably created a surge in the number of accounts to be managed and therefore introduced greater complexity around collateral segregation
Segregated custody accounts are required to hold IM – operationally, this makes substitutions more challenging to support given the involvement of multiple parties
There are nuances to how customers assets should be protected; for example, DFA[3] in US allows ‘legally segregated but operationally commingled’ (LSOC) whereas EMIR[4] requires clients to be offered omnibus accounts or individual segregation options</td></tr>
<tr><td>Trade reconciliations & dispute resolutions</td><td>As a result of Phases 5 & 6 of UMR, a group of new counterparties will come into scope and this may result in:
Further Increases in the number of disputes anticipated due to mandatory two-way exchange of IM with counterparties less familiar with the practice
Resolution of disputes could take longer due to more variable factors and increased variety and complexity of IM calculation methodologies
Additional difficulties associated with existing dispute management mechanisms that are still largely manual
Lack of enhanced MI dashboards to proactively manage disputes; margin call disputes should be tracked and managed centrally, e.g. by age, amount, counterparty and history</td></tr>
<tr><td>Settlement processing & fails management</td><td>With Central Securities Depositories Regulation[5] (CSDR) now in play, firms must take a far more robust approach to managing settlement fails, in order to avoid financial penalties and mandatory buy-ins. This is particularly important because of the following:
The significant spike in margin call volumes will lead to increased settlement moves and proportionally more settlement fails
Additional fails generated by collateral optimization-driven substitution activity
Lack of real time visibility of fails (still T+1 in many cases)
Lack of automation within collateral settlement functions, particularly with respect to securities segregation</td></tr>
<tr><td>Reporting & record keeping</td><td>The Securities Financing Transactions Regulation[6] (SFTR) has created an additional operational overhead which requires a control focused and clearly established series of processes to be in place
The increase in margin call volumes will necessitate more comprehensive and robust record keeping across a broad range of services, due to an increased number of general ledger entries
Increased call volumes and greater market fragmentation will make the reconciliation of collateral movements and reporting of collateral balances more disjointed
The regulatory drive towards greater transparency places increasing focus and demands on collateral reporting obligations, particularly around trade exposures, collateral balances, client asset protection and margin disputes</td></tr>
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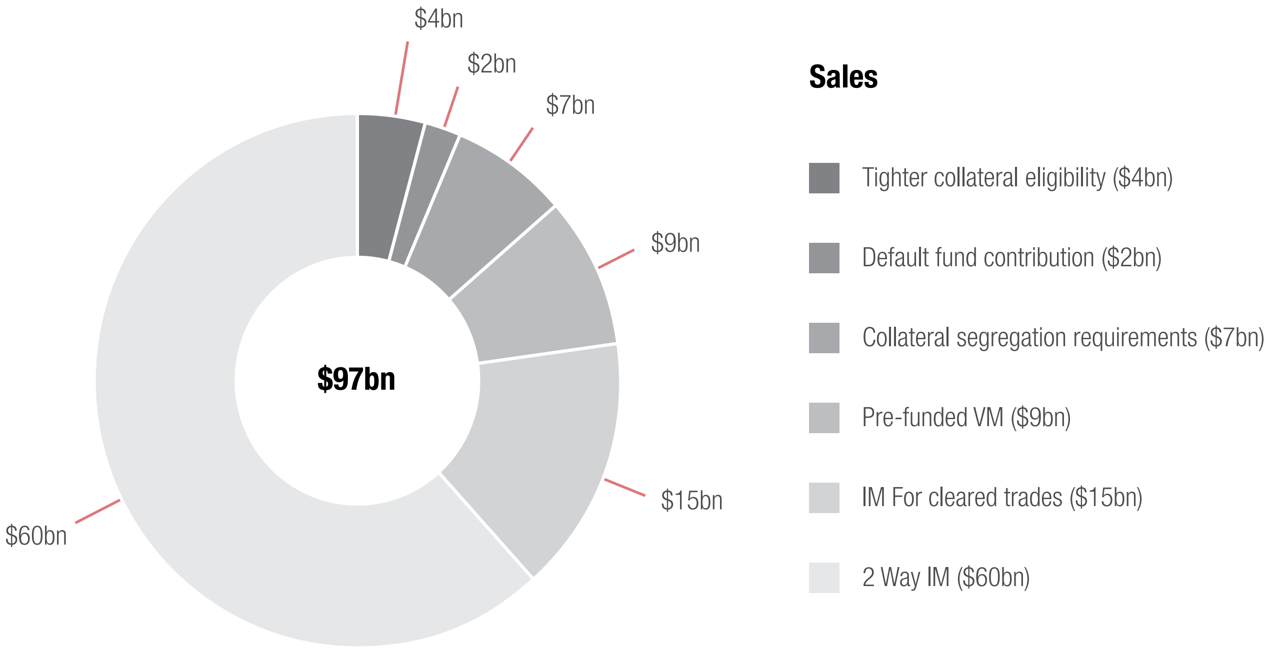
3. https://www.cftc.gov/sites/default/files/idc/groups/public/@lrfederalregister/documents/file/2012-1033a.pdf
4. https://www.esma.europa.eu/sites/default/files/library/2015/11/2015-1295_dp_on_review_of_article_26_of_rts_153-2013.pdf
5. https://www.esma.europa.eu/regulation/post-trading/settlement
6. https://ec.europa.eu/info/law/securities-financing-transactions-sftr-regulation-2015-2365_en

THE IMPACT OF MARKET DEVELOPMENTS ON COLLATERAL REQUIREMENTS

Reforms designed to encourage use of collateral to secure financial transactions have significantly increased demand for high quality collateral over the past few years. Key elements of these components encompass additional, more specific collateral for central clearing of standardized OTC derivatives and further, quite punitive margin requirements for uncleared OTC contracts.

However, with the ongoing push to central clearing and the further phases of UMR, we can realistically anticipate new IM requirements for both cleared and uncleared derivatives, ongoing restrictions around collateral eligibility and re-use, as well as additional capital and liquidity requirements generated by other regulations.

The diagram below shows the different factors that will generate additional collateral requirements across the markets. It estimates the total amount of collateral that will likely be required to satisfy those requirements.



FACTORS DRIVING COLLATERAL REQUIREMENTS

Two-way IM

As part of UMR phases 5 & 6, all remaining non-standardized OTC derivatives held by firms that are not centrally cleared will be subject to much more stringent margin requirements as part of a robust risk management framework. This will mandate the universal posting of two-way IM (among other stipulations). Here, we see a significant shift in traditional market practice with a correspondingly significant impact. Although some in-scope firms may end up being below the $50 million threshold, this may come under further challenge and therefore, there will still likely be a substantial increase in the collateral required to cover the initial margin exposure.

Capco estimates the continued increase in initial margin for non-centrally cleared trades will be around $60 billion. Additionally, any new bilateral trades will require two-way IM and will push up the overall requirement. This is in addition to the non-standard and more exotic derivatives that have remained bilateral and therefore are still subject to two-way IM today.

IM For cleared trades

As part of the mandatory clearing obligation, a significant percentage of standardized OTC derivatives are already cleared. We expect the total IM posted against cleared trades to increase because of newly executed trades that will be subject to clearing; non-mandatory cleared products that may become cleared; and non-mandatory products that may become voluntarily cleared. Capco estimates the increase in initial margin from centrally cleared trades will be approximately $15 billion.

Pre-funded VM

Due to a change in variation margin (VM) requirements, i.e. the removal of thresholds and mandatory VM exchange, having the ability to post VM at short notice will require market participants to hold a pre-funded amount of VM, available for immediate posting, once thresholds for UMR Phase 5 and 6 counterparties are removed. Whilst we expect these thresholds to be considerably lower than the Phase 1 and 2 counterparties, as a much larger number of relationships will become active, the aggregated impact is not entirely negligible. Capco estimates the increase in variation margin will be approximately $9 billion.

Collateral segregation requirements

The mandatory segregation of IM and exchanged during UMR phases 5 & 6 will have an impact on collateral availability since posted collateral will not be available for rehypothecation to satisfy collateral obligations elsewhere. Capco estimates the increase in locked up initial margin will be approximately $7 billion.

FACTORS DRIVING COLLATERAL REQUIREMENTS (CONTINUED)

Default fund contribution

In addition to initial margins, clearing members will need to contribute to the CCP default fund. Although much of the additional DF contributions have been met by clearing member firms already, there will still be increases due to the potential drive towards the clearing of mandatory and non-mandatory OTC trades, and therefore an increase in clearing volumes at each CCP. Capco estimates the increase in default fund contribution will be approximately $2 billion.

Tighter collateral eligibility

A narrowing of eligible collateral schedules, additional liquidity requirements and stricter haircuts may lead to an increase in demand for collateral. Collateral that was eligible under previous bilateral agreements, may now be ineligible to satisfy triparty, CCP and liquidity buffer obligations. Capco estimates the increase in high quality liquid assets (HQLA) will be approximately $4 billion as a result of these changes.

BREXIT WILL COMPOUND THE COLLATERAL SQUEEZE

For banks and financial services firms, the impacts of Brexit are manifold and one of the most critical amongst them is around collateral management and optimization. A relocation of business activity from London to various financial centers in Europe fragments what is presently a single market. This single point, in no uncertain terms, adds further complexity to collateral optimization, as the direct costs arising from market fragmentation, calls for a more mature collateral optimization solution.

Fragmentation and its impacts

Initial margin volume, which needs to be deposited as collateral by clearing members, tends to fall when the portfolios of their clients are large, as this gives opportunities for better risk netting and cross-margining effects at respective central counterparty clearing houses (CCPs).

A division or relocation of portfolio between CCPs implies higher initial margin, and in an economic sense, even though it isn't a cost, collateral still needs to be funded. A similar impact can also be seen on the default fund contributions by clearing members where it is expected to be high initially, till the time volumes increase and more participants become members of the clearing houses. As memberships increase, the share of each participant towards the default fund decreases.

This fragmentation, and its associated costs, may eventually manifest as a larger bid-offer spread, and hence collateral will not only impact back and middle officers, but also trading desks.

BREXIT WILL COMPOUND THE COLLATERAL SQUEEZE (CONTINUED)

Fragmentation of business across multiple CCPs is likely to result in greater costs and greater liquidity demands for market participants, which needs to be offset to some degree by enhanced collateral optimization techniques, such as having a global view of their asset pool and consider collateral costs before making trading decisions.

While non-cash collateral can be used to cover requirements, each CCP will have their own list of eligible securities with EU-based ones preferring Euro-denominated collateral. This will require clearing members to keep a constant check on their collateral pools, and ensure continuous calculations are done to meet the requirements in the most efficient way.

Additionally, Brexit may well further affect the value of UK denominated collateral such as pound sterling cash or gifts. Any decreases in their value means that counterparties would be required to post additional margin to cover the exposures.

The key challenges

Since counterparties and portfolios gets split between regions, the netting effects decrease, and margin requirements increase. When establishing optimization methodologies, firms are likely to face challenges in ensuring collateral is being utilized efficiently and in meeting funding obligations.

Once collateral obligations are known, firms may find they do not have enough eligible assets to fulfil them. Managers may have to get into additional markets and make investments they wouldn't typically have. If a CCP accepts EU treasuries and a firm majorly has corporate bonds in its portfolio, then the latter needs to find a market for making this exchange before being able to post.

As firms start getting involved with clearing houses in new European markets, they also need to be able to predict and replicate CCP figures before taking a position. Margin costs need to be blended into execution price, and trading desks will need to consider this as an additional factor before making business decisions.

Firms need to be able to adapt to multiple regulatory regimes. With ever-evolving regulations, banks should continue to pursue new revenue channels, but constantly review their cost management strategies also. Collateral optimization is one of those strategies that firms must get right to successfully navigate the uncertain regulatory (and Brexit) landscape.

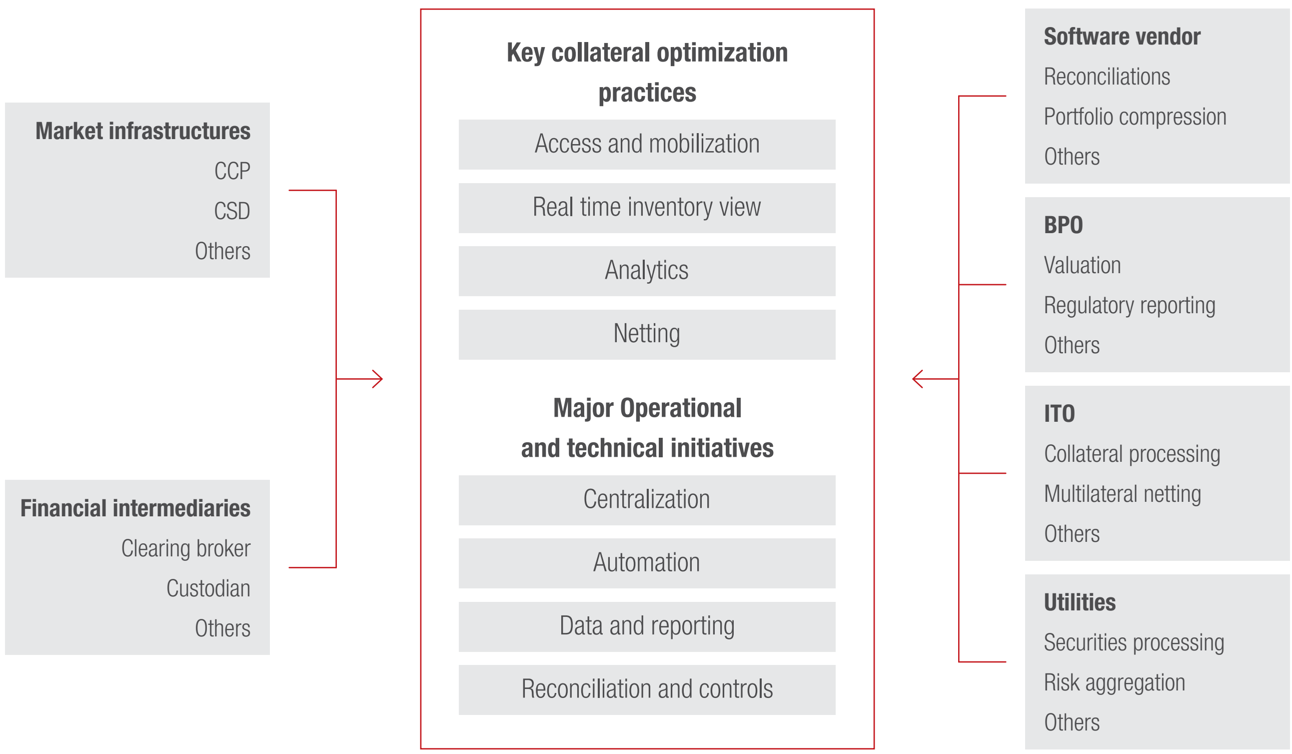
GOING FOR EFFECTIVE COLLATERAL MANAGEMENT? DON'T DO IT ALONE

Collateral scarcity is an industry wide problem. Financial institutions are looking to efficiently utilize the global collateral pool in its entirety. In this very different landscape, it is now recognized that market infrastructure institutions play a vital role in providing participants with visibility into the global pool. In fact, engaging with industry utilities and market infrastructure can very effectively help meet additional collateral needs.

Most notably in the area of market infrastructure, the major European ICSDs leveraged their international links (such as central banks, CCPs, financial intermediaries) to create global collateral hubs. These are designed to connect regional collateral pools, enabling these assets to be accessed and utilized by participants. The effective mobilization of otherwise idle securities is of the upmost importance.

With regulations exerting such a powerful impact on capital market participants, connectivity to industry utilities and market infrastructure can realistically be viewed as a viable response to future collateral management challenges. The raft of regulatory activity also means that standards relating to reference data, collateral pooling, reporting, settlement activities, and broader risk mitigation practices are all changing. Clearing houses, custodians, tri-party agents and CSDs / ICSDs look especially well-placed to deliver practical and efficient solutions to the resulting operational demands, with appropriate support from utilities, software vendors and service providers.

The diagram below provides a simplified model of a robust and relevant collateral management system.



WHAT NEXT?

For market participants, the collateral landscape is far from plain sailing. There is a constant push for commercial best practice and this needs to be carefully coupled with the unrelenting regulatory obligations particularly with CSDR, Brexit, SFTR, Basel III and UMR either in full flow or imminently on the horizon.

Whilst new industry partnerships and a greater level of automation may alleviate some of the stress, the growing volume of margin calls, an increased demand for high quality liquid assets (HQLA), greater market fragmentation and regulatory burdens will all crank up the pressure on fractured processes, inflexible systems and a lack of cohesion through the value chain.

Financial institutions must take action and realise that they cannot 'wing' their way through this challenge. Well planned actions must be carefully judged and individually tailored, to protect revenues, properly manage risk and remain competitive in an ever-evolving market. There are solutions, not least in the form of external services providers and collaborative partnerships, but these need to comprehensively assessed, while recognizing that there is no 'one size fits all' or a 'breakaway' approach that will suit the diverse needs of all the market participants.

As a matter of priority, institutions must ask themselves what is needed to remain competitive and relevant, by focusing on and conducting assessments across a number of key areas:

- **UMR Phase 5 & 6** – Are we, as the buy-side 'really' prepared for the wave of activity that the new margin rules will bring? Is the knowledge, resources and capability in place to deal with the seismic shift in complexity? Are we, as the sell-side 'really' comfortable that the spike in UMR volume will just be 'BAU' and absorbed within existing processes without breaking sweat?
- **Commercial strategy** – Are we trading the right products, and in the right volumes, to make commercial sense in a brave new world of collateral requirements?
- **Collateral availability** – Are we able to meet our collateral requirements in a compliant manner?
- **Key change drivers** – Do we have a clear picture not just of the legislative impact in principle, but also of the key change drivers that will ensue and their likely impact on our operational requirements and practices?
- **Collateral concentrations** – Do we have a full picture of our assets, know how to access them and how to make 'idle' collateral work?
- **Infrastructure connectivity** – Do we fully understand its relevance to our situation, its advantages and how best to access it?
- **As-is operational state** – Is our current collateral management set-up fully fit for our needs today and scalable to meet the evolving demands of tomorrow? Are we leveraging technology effectively?
- **Technology assessment** – How outdated is the current technology stack and where can emerging technologies complement existing front to back infrastructure by creating greater efficiency and /or broadening the overall service capability?

Going forward, it will not be sufficient to simply have collateral reserves. It is **collateral management expertise** that will make the difference between playing compliance catch-up and real competitive advantage. **Capco** can help you from conducting a simple health check to helping to define and implement a target operating model.

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ABOUT CAPCO

Capco is a global technology and management consultancy dedicated to the financial services industry. Our professionals combine innovative thinking with unrivalled industry knowledge to offer our clients consulting expertise, complex technology and package integration, transformation delivery, and managed services, to move their organizations forward.

Through our collaborative and efficient approach, we help our clients successfully innovate, increase revenue, manage risk and regulatory change, reduce costs, and enhance controls. We specialize primarily in banking, capital markets, wealth and asset management and insurance. We also have an energy consulting practice in the US. We serve our clients from offices in leading financial centers across the Americas, Europe, and Asia Pacific.

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