Prosynergy Consulting Limited 滙智諮詢有限公司
+852 2584 6147 | cs@prosgy.com
Room 1522, 15/F, Nexxus Building, 41 Connaught Road Central, Central, Hong Kong
www.prosgy.com

Re: Consultation Paper on the Proposed Regulatory Requirements for Virtual Asset Trading Platform Operators licensed by the SFC

Executive Summary

Following the release of the SFC's consultation paper on the proposed regulatory requirements for VATP operators, Prosynergy Consulting Limited has prepared a response mainly on VA derivatives (futures). After discussions with our clients and other market stakeholders, one should note that the nature and risks of VA futures are essentially similar to that of traditional futures, although there may be some features (for example perpetuals i.e. future contracts without a calendar expiry end date) which are native to VA futures, those features do not elevate the risks of VA futures above those associated with traditional futures.

We propose that licensed platform operators be allowed to provide trading services in VA derivatives and be regulated by similar rules applicable to the traditional futures market in accordance with the "same product, same risks, same rules" principle. In our response below, we provided an overview of the current VA futures market as well as suggestions on appropriate measures to address regulatory concerns in hopes of aiding the SFC in formulating guidelines on the offering of VA derivatives by licensed platform operators in Hong Kong.

Our Response

Question 7: If licensed platform operators could provide trading services in VA derivatives, what type of business model would you propose to adopt? What type of VA derivatives would you propose to offer for trading? What types of investors would be targeted?

Overview of Current VA market

1. It is understood that VA derivative products in the VA market include (i) VA futures, (ii) VA options, and (iii) various VA structured products.
2. Initially we would propose to allow the trading of VA futures on licensed platform operators in Hong Kong first for the following reasons:
    - VA futures act as the backbone for the VA market ecosystem (including other VA derivative products):
        - VA spot exchanges hedge their settlement of spot transactions with VA futures

- Most VA futures are cash settled. This reduces the amount of inventory VA exchanges/market makers have to keep for delivery purposes. This (i) decreases the chances for liquidity issues, (ii) reduces price slippage and gaps during trading, and (iii) results in easier facilitation of the periodic settlement of funding fees (which will be a cash payment); and

- Institutions rely on VA futures for hedging and market making purposes:
  - VA exchanges with spot markets rely on VA futures to hedge their on-ramp/off-ramp settlement obligations; and
  - Market makers rely on liquid and leveraged VA futures to remain delta neutral.
- VA futures with cash settlement and leverage have better liquidity than the spot market.
- It is understood that in the current VA market, VA perpetual futures is the most traded financial instrument for VA market participants and it is proposed that such product should be made available.

3. We would also propose to allow licensed platform operators to offer VA options and VA structured products. However, this can come at a later stage when the market for VA futures has been established and stabilized.
4. The following is an overview of various features of existing virtual asset futures exchanges (VAFE) and their business models.

Product types

5. VAFEs offer two main types of futures products: (i) perpetual futures and (ii) calendar futures. Perpetual futures are futures that do not expire (similar to spot) while calendar futures are futures with expiration dates.
6. Perpetual futures are designed to constantly trade at a price equal or very similar to the spot market. As discussed below, the funding rate serves as the mechanism to converge the price of futures with the spot market.
7. Calendar futures are less liquid than perpetual futures as calendar futures are only used when traders wish to execute a sophisticated trading strategy/structure structured products where they will need to target a specific expiration date for future positions. Otherwise, most traders would prefer to hedge their portfolios or trade with perpetual futures since there is no expiration. With perpetuals, traders do not have to waste costs on rolling contracts.

<u>Nature of perpetual futures</u>

8. Calendar futures work in a similar manner to traditional futures products and thus we will not go into the details on its nature. Perpetual futures are "native" to the VA market (but risks associated with perpetuals is no different from those associated with traditional futures) and they allow traders to have exposure to the price movements of the underlying virtual asset without having to take actual physical possession/delivery. This feature brings several benefits, including:
    (i) Traders can hedge their open positions in the spot market through perpetual futures; and
    (ii) Risks relating to settlement failure or delay in delivery experienced by spot exchanges due to lack of available physical tokens are reduced.

Pricing of Perpetual futures

9. There are three relevant price references with regards to VA futures:
    (i) The underlying spot price – this refers to the spot price of the underlying token of a particular perpetual futures (e.g. spot price of BTC would be the underlying spot price of BTC perpetual futures);
    (ii) The mark price - this is usually derived by taking the weighted average of the underlying spot price across various exchanges (e.g. mark price of BTC futures on a particular VAFE will be determined by taking the weighted average of the spot prices of BTC on Binance, Coinbase, Kraken etc.); and
    (iii) The trading price – this refers to the price of perpetual futures traded on a VAFE, mostly determined by market forces (buy and sell pressure).
10. The trading price is kept as close to the mark price as possible through the funding rate which is paid directly between long futures and short futures holders (payment is effected every hour or every eight hours which is set by each exchange). Whilst exchanges adopt slight variations/calibrations in the formula used for calculating the funding rate, it is generally calculated based on the difference between the trading price of perpetual futures and the mark price. The more the trading price deviates from the mark price, the more costly the funding fee is – to the point that it is uneconomical for a person to maintain a futures position versus the underlying spot (hence this forces price convergence of perpetual futures and spot). If the trading price is higher than the mark price, long positions pay a funding fee to short positions, and vice versa. This mechanism helps prevent the trading price from deviating too far from the underlying spot price.

The role of VAFEs

11. The main role of VAFEs is to provide a platform for traders to buy and sell VA futures. Their responsibilities include, but limited to, the following:
    (i) Sets rules and mechanisms related to the funding rate (e.g. the formula and frequency of funding fee payment) and effect payment of the funding fees;
    (ii) Set leverage mechanisms (e.g. margin levels and collateral);
    (iii) Set trading rules and risk management related procedures;
    (iv) Set liquidation/settlement mechanisms;
    (v) Cash settle the PnL of traders when they exit their positions;
    (vi) Find market makers to ensure there is sufficient liquidity on the exchange; and
    (vii) Monitor market makers to ensure their market makers are close to market neutral
        - Since market makers are responsible for maintaining liquidity on VA exchanges, they should avoid taking on large directional positions which will increase their risk of getting liquidated/losing inventory needed to market make; and
        - This is a safeguard to maintain adequate liquidity on VA exchanges to ensure smooth price movements.

Leverage

12. Leverage is an important component in the VA futures market. Allowing traders to control a larger position with a smaller amount of capital means that traders can be more efficient in their capital used for hedging purposes and there will be higher liquidity on VAFEs. In the current market, leverage offered to traders is determined by individual VAFEs and is dependent on how comfortable VAFEs are with such offerings given their liquidation mechanisms and risk controls.

Margin

13. Current VAFEs allow traders to post various virtual assets (e.g. BTC, ETH, DOT, ADA etc.) in addition to stablecoins as collateral/margin for their trades. As with traditional futures, margin trading comprises of initial and maintenance margin. The former represents the minimum value that one must pay to open a leveraged position whereas the latter is the minimum amount of collateral that one must hold to keep trading positions open. As a general rule, the larger the total position, the higher the required margin.
14. It is noted that while stablecoins and large cap virtual assets that are relatively stable in value such as BTC and ETH are valued in full when taken as collateral, it is market practice to discount the value of more volatile virtual assets when accepting them as collateral.

Liquidation

15. Traditional stock brokers may allow balances in client margin accounts to go below zero after margin calls are made (depending on their respective risk management policies) then proceed to work out a repayment plan with their clients after eventual liquidation (clients may lose more than the amount they deposit).
16. For VAFEs, it is understood that even with leverage, traders will not lose more than the collateral they deposit. This is possible due to a liquidation buffer set by VAFEs to prevent account balances from falling below zero if leverage is granted to traders. See below for an example of the liquidation buffer (please note that the figures used in the example are fictional):
    - A liquidation buffer is set so that traders will get liquidated when they lose 95% of their posted collateral, creating a 5% liquidation buffer to ensure that by the time the liquidation trade gets executed, the account balance has not gone below zero.
    - As part of the liquidation buffer mechanism, as soon as a trader enters into a futures position, VAFEs will calculate the liquidation price (taking into account the buffer) and inform the trader. As the trading price of the relevant futures contract hits the liquidation price, VAFEs will liquidate the trader's position automatically.
    - Even if the liquidation trade does not go through in time and the actual amount lost is greater than 100% of the posted collateral, traders will not be required to top up their account to cover the outstanding loss. The outstanding balance will be covered by an insurance fund maintained by VAFEs (see below).
    - It should be noted that it is rare for a liquidation trade to not go through in time. Gap downs or gap ups may be one of the few reasons that could cause such rare event. However, as long as VAFEs remain sufficiently liquid, the chances of gap downs or gap ups should be low and the liquidation buffer mechanism should operate effectively.

Insurance Fund

17. In rare cases where price gaps appear in the market resulting in liquidations happening above/below the pre-determined liquidation price, there is a chance that the account balance of traders may fall below zero. It is usual practice for VAFEs to set up an insurance fund to cover such outstanding balances. In a nutshell, insurance funds are safety nets that prevent the balance of losing traders from

dropping below zero while ensuring that winning traders get their profits. We understand that the funding for the insurance fund may come from a few different sources:

(i) VAFEs set aside some part of their capital to act as the insurance fund at the beginning when such products are made available on the exchanges; and

(ii) A portion of platform fees (e.g. trading fees and liquidation fees) will go into this insurance fund. We understand that the normal practice for VAFEs is to set aside 5% to 10% of their revenue for this insurance fund.

Our suggestions

Perspective of VA futures

18. The nature of VA futures is similar to that of traditional futures. VA futures are comparable to futures products (such as HSI futures) commonly traded on traditional futures exchanges, the only difference is the underlying.
19. Advantages of futures like HSI futures include cost effectiveness and low transaction costs and their advantages are not limited to traditional futures products, they apply to VA futures as well, for example:
    - Same as his futures, VA futures will also facilitate hedging activities in a cost-effect manner.
    - Moreover, just like HSI futures, perpetual futures also have the benefit of lowering transaction costs as perpetual futures holders do not have to pay transaction fees needed to roll their contracts.
20. Further the risks of trading VA perpetuals are essentially similar to that of VA spot and the inherent safeguards that they provide lend support to the proposition that licensed platform operators should be allowed to offer such product:
    - The pricing of VA futures tracks and converges to underlying spot prices through funding fees
    - Cash settled nature of VA perpetuals allows traders to have exposure to price movements of VA without having to worry about taking physical settlement
    - Perpetual futures are more suited for short term trading and hedging purposes while spot is more suited for “buy and hold” strategies. Some traders only wish to have short term exposure to price movements in the VA markets instead of long term “buy and hold”. Limiting

investors to the spot market only will place an additional burden on licensed platform operators to fulfil settlement and physical delivery obligations

- As perpetual futures are more liquid than spot markets, there is less risk of gap ups or gap downs

With investors having access VAs through licensed platform operators, they should be allowed the means to hedge their spot positions through futures, especially when markets are volatile.

21. Thus, given VA futures is essentially a futures contract with VA underlying, it is suggested that licensed platform operators should be allowed to offer trading in VA futures and the rules that regulate VAFEs should be similar to traditional futures regulations.

Target Investors

22. At the time when this paper is written, although there are only 2 licensed platform operators in Hong Kong (both are only allowed to offer spot VA to professional investors), most of the investors interested in trading VA futures do already have some trading experience in VA futures, albeit through exchanges not licensed/regulated in Hong Kong.
23. It is suggested that VA perpetual futures should be made available to investors and the regulator may also consider introducing the trading of VA futures in phases, limiting to professional investors only initially, then as the market matures, gradually opening up to retail investors.

Futures Listing Requirements

24. We note that the SFC has already designed the general token admission criteria and the eligible large-cap VA test (if VA is to be made available to retail) for spot token listing, we would propose using the same criteria/tests for the listing of VA futures so that the markets (spot and futures) match.

Corporate Structure of Licensed Platform Operators

25. If licensed platform operators are allowed to provide trading services in VA derivatives, we foresee that the following question will arise – whether licensed platform operators should be allowed to provide trading services in spot VA and VA derivatives under the same legal entity or should an associated entity be established for the purposes of offering VA derivatives trading services.
26. We propose that licensed platform operators should be allowed to offer trading of both spot VA and VA derivatives under the same legal entity for the purposes of (i) settlement (i.e. portfolio margin, see below) and (ii) ease of account funding by traders.

Portfolio Margin

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27. We would propose that the SFC should require all licensed platform operators to upgrade/configure their settlement/trading/collateral-calculation systems to incorporate portfolio margin mechanisms. This allows for better capital efficiency.
28. The concept of portfolio margin is not new and is commonly used in traditional brokerages that offer stock and futures trading (please refer to this piece by the Chicago Board Options Exchange for more details: https://www.cboe.com/us/options/portfolio_margining_rules/). We propose utilising the same concept for licensed VA platform operators.
29. Portfolio margining is a "risk-based" pricing model used to determine margin requirements by calculating the largest potential loss of all positions in a trader's entire portfolio of assets.
    - The most valuable feature of portfolio margining to traders is the netting mechanism where gains/losses or margin/collateral requirements for different asset classes (e.g. BTC spot and futures) reference the same underlying asset (both referencing BTC spot).
    - Take a trader who wishes to hedge their BTC spot position with BTC perpetual futures as an example:
        - Without portfolio margining, margin/collateral requirements will be calculated separately. Moreover, the gains/losses from the BTC spot position and BTC perpetual futures will not be netted/offset against each other even though one is a hedge for the other. The trader is required to post more collateral than needed to satisfy the initial margin and the maintenance margin required for maintaining both positions (spot and futures) will be double counted, resulting in capital inefficiency.
        - Since the positions in BTC spot and BTC perpetual futures will be in opposite directions (as BTC perpetual is being used as a hedge), the risk of the entire portfolio is reduced. With portfolio margining, the gains/losses can be netted from both positions. Hence the amount of collateral/margin required to be posted for initial margin and maintenance margin will not be double counted.
30. Since portfolio margin may be a complex concept for some investors, we would suggest introducing an "opt-in" feature where eligible investors (professional investors or any other standard determined by licensed platform operators) will have to opt-in to portfolio margin by making an application. If investors do not opt-in, margin will be calculated in the usual way in the futures market – each position will be margined separately.
31. We believe that the addition of portfolio margin will make Hong Kong licensed platform operators a more competitive in the global VA space and will aid in attracting more capital to Hong Kong whilst also being an effective risk management measure.

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Pricing of Futures

32. As mentioned above, the trading price of perpetual futures references the mark price (average price of spot across different exchanges). It is suggested that such mark price should be calculated by taking the average of the spot price of all licensed platform operators in major financial centres.

Funding Rate

33. Since the funding rate is used to forcibly reconcile the trading price of perpetual futures to the underlying spot price, the actual rate for VAFEs during each funding period will depend on price action/market forces on each independent VAFE.
34. Licensed platform operators should ensure that their formula used for calculating the funding rate should adequately reconcile any gaps between the price of perpetual futures and spot.
35. In addition, the time at which funding rate is calculated across licensed platform operators should be unified. In the current market, the time at which funding rate is collected is determined by each individual VAFEs and it may differ across different VAFEs (VAFEs usually effect transfer of the funding fee every hour or every eight hours). It is suggested that a set time should be implemented for licensed platform operators to effect payment of the funding rate.

Account Funding, Leverage, and Collateral

36. We understand that for current licensed platform operators, platform users are only allowed to fund their accounts with fiat currency. Given that we are proposing to allow licensed platform operators to offer VA spot and VA perpetual futures under the same legal entity, it is proposed the same funding method (account funding with fiat currency) can be maintained.
37. As mentioned above that leverage is an important aspect of futures trading and given that it is a feature of VAFEs that traders will not lose more than the amount they deposit, it is proposed that leverage/financial accommodation be allowed for investors.
    - This is consistent with the "same business, same risks, same rules" principle as margin/financial accommodation is also allowed in traditional futures trading.
    - To enhance risk management of such products, licensed platform operators should:
        - Set stringent liquidation mechanisms and implement the liquidation buffer to ensure that the maximum loss investors will suffer is the amount they deposited;
        - Set risk controls and conduct regular stress tests on the licensed platform operator itself to ensure that it can sustain the amount of leverage/financial accommodation afforded to platform users;

- Limit margin trading/financial accommodation to professional investors only at the outset, then extend that feature to retail investors when the market matures;
- Create investor education materials to inform investors of the risks and rules of using margin/financial accommodation, how margin requirements are calculated, and how use of margin will affect their positions when markets are volatile;
- Require investors pass risk tolerance assessments and knowledge tests before being allowed to access margin trading/financial accommodation features; and
- Set appropriate leverage limits for individual investors based on their risk tolerance and level of sophistication (e.g. knowledge of margin trading).

38. For collaterals, we should allow traders to post both the corresponding spot tokens in their spot portfolio (e.g. if a trader has 1 BTC in their spot portfolio, the trader should be allowed to use that BTC as collateral for BTC futures trading since the BTC is fully funded) and fiat as collateral for futures trading. Further, initial margin models and parameters should be risk-based and margin requirements should be sufficient to cover its potential future exposures to participants.

Margin Calls and Liquidations

39. Licensed platform operators should follow the current market practice of setting a liquidation buffer (actual percentage of liquidation buffer to be determined). This is to ensure that traders will not lose more than the amount they deposit.
40. We acknowledge that currently margin calls are not common amongst VAFEs and auto-liquidation is instead adopted (i.e. the forced closing of leveraged position as described in the example in paragraph 17 above). We suggest that as with traditional futures exchanges, licensed platform operators should also have a margin call mechanism in place to remind traders that their positions are close to being liquidated.

Investor Education and Transparency

41. To promote/kick start this new VA product, licensed platform operators should create bespoke “investor education webpages” that describe and explain each feature of such VA future products offered by their platform.
42. Licensed platform operators should be transparent about features such as their liquidation mechanism or margin requirements in addition to price discovery and funding rates. We would further add that regular stress testing should be carried out by the platform operation to limit liquidity risks, especially in times when markets display high volatility.

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Responsible Officers

43. We would like to draw to the SFC's attention the small talent pool in Hong Kong eligible for the role of Responsible Officer (RO) of licensed platform operators as it is very hard to find individuals who possess the required experiences – both (i) Type 7 (providing automated trading services) business and (ii) VA exchange business.
44. It is foreseeable that if licensed platform operators are allowed to offer trading in VA derivatives, ROs of licensed platform operators will have to possess experience in (i) Type 7 (providing automated trading services), (ii) VA spot exchange business, and (iii) VA futures exchange business. There may be a lack of talent available who may fulfil all these requirements
45. SFC should consider relaxing its requirements with respect to RO experiences whereby RO candidates should be allowed to compensate for lack of Type 7 regulated activity experience with experience in senior roles at crypto exchanges (spot and/or futures).
46. This will enlarge the talent pool eligible to act as RO candidates, incentivising crypto exchanges to come to Hong Kong to apply for a licence.