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Introduction

Thank you for the opportunity to share our comments and provide information on a proposed direction we hope the Federal Reserve System (FRS) will take into consideration, as the task force looks at the next steps for Real Time Gross Settlement (RTGS) and faster payments.

We have organized our response into the following sections:

- Introduction to Public Comment Response
- Response to FRS Questions
- Response Summary
- Vments Overview

Our response represents our current interpretation and opinion of the proposed requirements and alternative options that the FRS is considering.

We look forward to participating in the Faster Payments Council, should we be selected to, and to continued discussions on the future of the US payments systems.

Please let us know if you would like additional information, or need clarification on any part of this document.

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Response to Federal Reserve Questions

1. Is RTGS the appropriate strategic foundation for interbank settlement of faster payments? Why or why not?

We believe RTGS is the appropriate strategic foundation. RTGS will be an improvement over other current Deferred Net Settlement (DNS) solutions which have inherent counterparty risks. As real time payments become the norm, the ability for RTGS between financial institutions (FIs) becomes more important, especially for small to medium size banks and credit unions, to reduce liquidity and counterparty risks. For incumbent banks and financial services to remain competitive, it will require the underlying stability and support of the FRS payment infrastructure to not only enable new, faster, lower cost, and lower risk payment services to their end customers, but to also provide the stability and credibility needed for a stable economy.

2. Should the Reserve Banks develop a 24x7x365 RTGS settlement service? Why or why not?

As a long term solution, we believe that a 24x7x365 RTGS service will be required; however, we do understand the operational and back-office impacts to the participating FIs. As an interim solution, we believe having multiple settlement windows throughout the day would help mitigate liquidity and counterparty risks.

In addition, a hybrid model could be introduced which allows for RTGS for certain transactions, keeping the current model in place for other transaction types.

Looking at a long term strategy, and in keeping with the IMF, we believe the FRS should also be considering a Central Bank Digital Currency (CBDC) in addition to traditional currency and systems. We believe it is very important for USD to remain the primary currency, and in keeping with other Central Banks which are either in the process of, or have plans to go to a CBDC, the FRS should look at this as a possible long-term strategy.

3. If the Reserve Banks develop a 24x7x365 RTGS settlement service,

a. Will there be sufficient demand for faster payments in the United States in the next ten years to support the development of a 24x7x365 RTGS settlement service?

We believe there will be sufficient demand. Small businesses continue to have issues with access to capital and credit. Faster payments, especially B2B will help to minimize the need for credit and will improve the cash flow for small to medium businesses (SMB). Customer expectations have been influenced by retailers who deliver products the same day, and that expectation has crossed over to payments. As we have seen with some companies (e.g. PayPal, Venmo, etc.), customers are expecting digital transactions to be easy and fast.

While customer's do not know, or even care about the bank to bank settlement of those faster or real time payments, in order for FIs to provide those services without increasing risks, FIs will need to have RTGS. In fact, we can envision a point in the future where regulators (e.g. FRS, OCC, and FDIC) will require FIs, especially small to medium size ones, to utilize RTGS to minimize their risks.

Along the same lines, we believe customers will have the same expectations for cross border payments, increasing the need for faster settlement between domestic and international banks. Utilizing a CBDC, we believe, will be the future of a global RTGS system.

What will be the sources of demand?

We believe it is not a “will be”, but rather “there is currently” a need for faster payments, and RTGS. In the case of SMBs, faster payments benefits cash flow; insurance companies can push critical payments to policyholders in times of crisis (e.g. money for a hotel room, to buy clothes, food, etc.). Healthcare professionals may choose to participate in plans which provide faster payments vs. the traditional model of waiting weeks.

And while the current system of memo posting accounts may work, we believe, people will be using those funds faster (as opposed to the funds remaining in the depository account for a period of time), increasing the risk for the receiving FI.

With the continued growth of cross border payments, the same issues mentioned above come into play, and the need for cross border RTGS where CBDC could be an effective, efficient, and safe mechanism vs. the traditional system.

What types of transactions are most likely to generate demand for faster payments?

We believe all transaction types (P2P, B2B, B2C, C2B, etc.) will generate demand. When the new “norm” is faster or real time payments in one sector (such as with Zelle and Venmo with P2P payments), we believe other segments will come to expect faster and real-time payments as well. In addition, the payment detail will become increasingly important, such as with B2B invoicing. The demand will not only be for faster, but also lower cost, lower risk, and more versatile payments.

Many companies are looking to solve the B2B cross border payment and invoicing issues (e.g. Western Union’s business platform). As fintechs come into the market, FIs will be, and are, faced with providing similar services for their current customers and to attract new customers.

With increased and faster cross border payments, a CBDC and more modern systems can address issues many countries are facing today.

b. What adjustments would the financial services industry and its customers be required to make to operate in a 24x7x365 settlement environment?

The changes to operate in a 24x7x365 environment would vary depending on the individual bank, whether they use a third party vendor, etc. In addition to enhancing front end systems for real time payment initiation, approval and inquiry, FIs may find that back-office systems (e.g. settlement and reconciliation tools) may need to be modernized to accommodate the settlement timing changes and the associated payment detail reconciliation. Service Level Agreements

(SLAs), contract, memorandums of understanding (MOUs), and other agreements may need to be updated. Regulatory compliance in line with the changes should also be anticipated.

Transitioning to multiple intraday settlement windows may provide an interim solution, minimize risks and allow time for a transition to RTGS.

As systems are modernized, it would allow for the introduction of alternative payment methods, using CBDC, where these payments also settle automatically and immediately between financial institutions.

Are these adjustments incremental or substantial?

We believe adjustments should be incremental, reducing risk and allowing for the full impact of each incremental adjustment to be realized and if necessary, fine tuned. For a fintech or small service provider to implement revolutionary systems, there is less systemic risk to the economy. FIs and central banks need to minimize risk and, ensure interoperability on a much greater scale.

As we see new payment types (e.g. CBDC) introduced, ensuring security and redundancy within the systems will be critical. In addition, new computing ability (quantum computing, artificial intelligence (AI)) will increase the bad actors ability to possibly penetrate today's security measures, possibly expediting the need to adopt CBDC and RTGS.

What would be the time frame required to make these adjustments?

As with other large scale projects, a phased approach of three to five years reduces expense and risk. Incremental changes towards a long term roadmap allows for smaller to medium sized banks to budget and determine back-office / operational changes which need to be made. Smaller banks can work through groups and/or through their core banking providers to implement faster and through lower shared costs if they initially leverage white labeled solutions.

We believe the long term approach should include a CBDC, including this in the overall roadmap would allow for planning, implementation and testing and would ensure the US remains competitive with other countries.

Are the costs of adjustment and potential disruption outweighed by the benefits of creating a 24x7x365 RTGS settlement service? Why or why not?

While we believe that the benefits of a 24x7x365 RTGS would justify the cost, and that potential disruptions could be sufficiently mitigated, we see an interim process of intra-day settlements to be a good short term step. As the transaction volume and dollar amounts of individual payments increases, we believe small to medium sized banks will have increased liquidity and risk issues and RTGS would be a key factor in mitigating those issues.

c. What is the ideal timeline for implementing a 24x7x365 RTGS settlement service?

With the stability and credibility of the payment systems being paramount, once a roadmap has been agreed upon, and the legal and compliance issues resolved, we believe a three to five year timeframe to implement changes in a phased approach to be beneficial. This would allow for banks and their third party software providers to make the required changes.

Would any potential timeline be too late from an industry adoption perspective?

We do not believe a reasonable three to five year timeline would be too late for industry adoption. It is important to meet the short and long term needs of the market, which requires planning. While fintechs are seen as nimble and fast to market, they also operate in a smaller and narrower environment, and in some cases with a much higher tolerance for risk.

With this in mind, we do believe understanding and incorporating future needs is important to industry adoption, and keeping in alignment with other Central Banks.

Would Federal Reserve action in faster payment settlement hasten or inhibit financial services industry adoption of faster payment services? Please explain.

We believe the FRS's actions will neither hasten nor inhibit adoption of faster payments. This will continue to be determined by the market. Rather, we believe the FRS's actions will allow for more FIs to participate in faster payments; to be able to better serve their customers; and to "level the playing field" for small to medium sized banks and credit unions with larger banks.

In contrast, when it comes to a CBDC, we believe FRS's actions can hasten industry adoption, and that it should be part of the short and long term strategy.

d. What adjustments (for example, accounting, operations, and agreements) would banks and bank customers be required to make under a seven-day accounting regime where Reserve Banks record and report end-of-day balances for each calendar day during which payment activity occurs, including weekends and holidays?

Accounting and reports should be simplified when switched to daily, and provide the same date and time for transacted, cleared, and settled, versus today's process where these can all be different.

Weekend and holiday operations may need to adjust for some departments, but some banks and financial services already operate 24x7x365 and have several department staff already working these full service days and hours except for branches which need not have to change their operating hours.

Agreements which specify settlement, funds availability, and other things which were specific to the current effective date being pushed to the next banking day, excluding weekend and holidays, may want to change to remain competitive in the rapidly changing landscape of real time value transfers.

What time frame would be required to implement these changes?

The time frame can vary for each participating banks and financial service depending upon their implementation timing and the extent to which they move to 24x7x365 and change their procedures, policies, and agreements accordingly.

Would banks want the option to defer receipt of such information for nonbusiness days to the next business day?

We believe banks would want this option, and see the flexibility as being important to adoption.

If necessary changes by banks represent a significant constraint to timely adoption of seven-day accounting for a 24x7x365 RTGS settlement service, are there alternative accounting or operational solutions that banks could implement?

Yes. They can queue up the processing of having received settlement messages or the totals of them to record in their core systems to catch up with the real time account balances that the platform keeps for them.

e. What incremental operational burden would banks face if a 24x7x365 RTGS settlement service were designed using accounts separate from banks' master accounts?

This would depend on how those separate accounts would be structured. For example:

- Would the balances in the separate accounts count towards reserve requirements?
- Would they be interest bearing?
- How would they be reported?

Depending upon the answers, would determine actions such as the need and frequency of having to transfer funds between the separate accounts and the master accounts.

How would the treatment of balances in separate reserve accounts (for example, ability to earn interest and satisfy reserve balance requirements) affect demand for faster payment settlement?

We believe the treatment of the balances in the separate accounts to be very important to adoption, especially for smaller to medium sized banks and credit unions.

f. Regarding auxiliary services or other service options:

i. Is a proxy database or directory that allows faster payment services to route end-user payments using the recipient's alias, such as e-mail address or phone number, rather than their bank routing and account information, needed for a 24x7x365 RTGS settlement service?

We do not believe a proxy database is required at the Central Bank, rather this may be better handled by the private sector, similar to bill payment networks (e.g. MasterCard RPPS). Each FI can institute their own proxy system (based upon an industry standard), store and maintain that database themselves. The Central Bank can facilitate those transactions based upon the token/proxy.

How should such a database be provided to best facilitate nationwide adoption?

This need not be a single database at the FRS, but rather a distributed database of end customer account identity, approval, and preference information that is kept and managed by the individual FIs based upon a developed industry standard.

Who should provide this service?

The network participating banks and financial services can each provide this service to their own end customers.

ii. Are fraud prevention services that provide tools to detect fraudulent transfers needed for a 24x7x365 RTGS settlement service?

We believe they are needed, the security of the system should be constantly evolving to be preventative and reactive.

Fraud prevention services which are able to monitor the network and the transaction data will be instrumental in combating fraudulent transactions and will secure the network.

How should such tools be provided?

We believe tools should be at the platform or system level to monitor all transactions as well as individual FI level. Aggregated data from across the platform, and for multiple days, will give a different view compared to what each individual FI may see.

Who should provide them?

We envision a combination of FRS in-house solutions and vendor provided solutions, which can be leveraged by all participants on the network.

iii. How important are these auxiliary services for adoption of faster payment settlement services by the financial services industry? How important are other service options such as transaction limits for risk management and offsetting mechanisms to conserve liquidity? Are there other auxiliary services or service options that are needed for the settlement service to be Adopted?

We believe all auxiliary services are important and will lead to faster adoption. Configurable transaction limits, flexible controls and real time configurable event triggers allowing for internal or third party development would be effective tools.

g. How critical is interoperability between RTGS services for faster payments to achieving ubiquity?

Interoperability will be extremely important. The FRS and FIs can leverage technology, such as open APIs to facilitate interoperability.

h. Could a 24x7x365 RTGS settlement service be used for purposes other than interbank settlement of retail faster payments? If so, for what other purposes could the service be used? Should its use be restricted and, if so how?

We believe it can be leveraged for other purposes. The platform should be flexible and adaptable to other requirements such as implementation of a CDIBC, international payments, and possibly the adaption of other digital assets (e.g. government-issued bonds).

i. Are there specific areas, such as liquidity management, interoperability, accounting processes, or payment routing, for which stakeholders believe the Board should establish joint Federal Reserve and industry teams to identify approaches for implementation of a 24x7x365 RTGS settlement service?

Yes, establishing teams on specific areas of implementing RTGS would be very useful, and may lead to further enhancements of the system, best practices, etc. being developed.

4. Should the Federal Reserve develop a liquidity management tool that would enable transfers between Federal Reserve accounts on a 24x7x365 basis to support services for real-time interbank settlement of faster payments, whether those services are provided by the private sector or the Reserve Banks? Why or why not?

We believe the FRS should develop a liquidity management tool, as described in the request for public comment document and discussed in the Town Hall meetings, and that it will allow for faster adoption. This tool should be able to transfer funds between the current and also new types of Federal Reserve accounts.

5. If the Reserve Banks develop a liquidity management tool,

a. What type of tool would be preferable and why?

- i. A tool that requires a bank to originate a transfer from one account to another**
- ii. A tool that allows an agent to originate a transfer on behalf of one or more banks**
- iii. A tool that allows an automatic transfer of balances (or “sweep”) based on pre- established thresholds and limits**
- iv. A combination of the above**
- v. An alternative approach**

We suggest, iv. A combination of the above. The more flexible and functional the tool is, will make it more useful to the FI.

b. Would a liquidity management tool need to be available 24x7x365, or alternatively, during certain defined hours on weekends and holidays? During what hours should a liquidity management tool be available?

We believe the tools should be available 24x7x365, to match the parameters of the RTGS.

c. Could a liquidity management tool be used for purposes other than to support real-time settlement of retail faster payments? If so, for what other purposes could the tool be used? Should its use be restricted and, if so, how?

Yes, it could enable real time issuance of credit to cover temporary low balances in addition to the transfer functions.

6. Should a 24x7x365 RTGS settlement service and liquidity management tool be developed in tandem or should the Federal Reserve pursue only one, or neither, of these initiatives? Why?

We believe it should be developed in tandem in order to be able to manage the separate (or joint) accounts that are used for the new service(s).

7. If the Federal Reserve pursues one or both of these actions, do they help achieve ubiquitous, nationwide access to safe and efficient faster payments in the long run? If so, which of the potential actions, or both, and in what ways?

Both actions help achieve the goals as stated plus enable other long term features and benefits of a more flexible platform, easily maintain and enhanced with future requirements.

8. What other approaches, not explicitly considered in this notice, might help achieve the broader goals of ubiquitous, nationwide access to faster payments in the United States?

We believe new technologies, such as blockchain, should be evaluated for consideration of a future state payments system, and for a CBDC for both domestic and international payments.

9. Beyond the provision of payment and settlement services, are there other actions, under its existing authority, the Federal Reserve should consider that might help its broader goals with respect to the U.S. payment system?

We are not aware of any additional actions the Federal Reserve, under its existing authority, should take.

Response Summary

We agree with the need for RTGS, faster payments, and with most of the requirements and options that the FRS has elaborated on in this request for comment document.

Fintechs and new technologies are changing consumers expectations of banks and financial services providers, and require new products and services to be developed.

Some central banks have started exploring the use of a digital currency, and in some cases, introducing their own Central Bank Digital Currencies (CBDCs), such as the European Central Bank, Bank of Japan's Project Stella, and the Bank of Canada's Project Jasper. This is a strategy which we believe in. Our company, Vments Inc., is working to implement centrally created and managed virtual fiat money (VFM), which is blockchain/distributed ledger based, but not cryptocurrency related. We believe a complete platform and ecosystem is needed to facilitate the use of a digital currency, which includes backward and forward compatibility, and enables real-time data transfers which can include the use of standard transaction formats (e.g. ACH, Wire, ISO20022, etc.) as well as other flexible self-describing formats (e.g. XML, Json, etc.). These smart and flexible transactions can also be tied to the CBDC used for settlement.

While the current systems work well, we believe there are disadvantages to the existing or planned centralized solutions. These solutions have a continuous need to reconcile separate records for the same transactions. Centralized designs limit uptime availability and failover, come with a higher cost of maintenance and higher cost of improvements that could otherwise be shared. Such designs limit the integration of disparate and incompatible interfaces. The centralized design approach is also less secure, as such systems are more prone to central points of attack.

We recommend a decentralized design approach be considered, leveraging the benefits of a private network distributed ledger (blockchain) comprising banks and financial services providers which can ensure consensus of immutable, auditable records of data that do not require reconciliation with each other and through which peer-to-peer value and data transfers can be transacted in real time 24x7x365. Typical blockchain systems have issues with mining and scalability, which is why we recommend a hybrid design approach, which is comprised of the following three layers:

- Blockchain layer
 - Each bank and financial service network participant has one or more scalable and fault-tolerant servers which are only accessible from the corresponding cloud layer servers.
 - Shared consensus ensures immutable records which do not include personal identity information nor traditional compromise prone account numbers and use pseudonymous ids not externally visible.
 - Enables end user parties to have access to see and transact from any of the accounts across banks and financial services with whom they have accounts. These linked accounts enable new and improved Anti-Money Laundering (AML) and fraud detection capabilities to detect suspicious activity linked to the same party.
- Cloud Layer
 - Each bank and financial service network participant has one or more scalable and fault-tolerant servers storing a full copy of just their end customer transaction data along with applicable KYC and other data specific to the end customer user access rights, preferences, identification and approval methods, proxies, controls, limits, and other information that supports enterprise level functionality for all end users.
 - These servers are only accessible from corresponding interface servers of the same bank or financial service network participant.
 - This is the layer where all business and processing logic is executed through open APIs using cloud database copies of the data and which validates against the already consensus validated blockchain layer copy of the data and then posts the new transactions to the blockchain layer.
- Interface Layer
 - This layer is the only externally/publicly accessible layer, and is used for access by internet, apps, and other integrated devices that each bank and financial service network participant controls access to, as they do today.
 - The interfaced products and services can perform real time peer-to-peer transactions that process through the cloud layer and validate and post to the blockchain layer.

In order to support interoperability, we suggest the use of open APIs that are available to all network participants to interface with their existing or new systems. We further suggest a configurable generic external API interface capability which the open APIs can embed access to

external systems that they want to integrate within the open APIs running within the ecosystem versus their being limited to having their external system interface to the new platform and ecosystem.

We believe a new platform which includes a digital currency will be a necessity in the future, and that further analysis by the FRS and it's industry workgroups be conducted. We would welcome the opportunity to participate in research into such a CBDC.

Vments™ Overview

Vments Enterprise Digital Banking Core Platform and Ecosystem uses a non-crypto hybrid blockchain solution, providing real-time peer to peer value and data transfers offered through a network of banks and financial services firms.

At the core of the platform is our patent pending virtual fiat money (VFM) and smart transactions, which leverages the benefits of a blockchain core with a secure cloud layer, providing scale and additional security. Our VFM is a digital asset representation of a local currency and is not related to a cryptocurrency. VFM can be issued and/or just controlled by a government based upon their fiat currency, and disbursed by FIs. Using a distributed network, VFM can be controlled, monitored, and managed by each stakeholder in the network. VFM represents “good funds” similar to bank checks and prepaid stored value accounts.

Vments platform can enable real-time settlement and faster payments which can embed standard formats (e.g. ACH, Swift, ISO20022, etc.) into its smart transactions settled using local VFM.

Open APIs enable customers of the participating network of banks and financial services to perform online and mobile peer to peer smart transactions, such as person to person, consumer to merchant, bill payments, etc.

Enterprise functional profiles of accounts, account owner(s), and users that can view, access, and/or administer profile information and device specific controls, limits, and preferences.

Banks and financial services can extend their existing online and mobile apps to transact “true digital cash” called CommunityVcash. CommunityVcredit is a credit equivalent.

Vments is not limited to those with bank accounts. Through alternative financial services, the network can level the playing field for the unbanked and underbanked so they are on par with those with bank accounts.

These are just some of the ways Vments provides a roadmap to transition from legacy systems to a modern platform. Our Clients and Partners will share in the benefit of the network effect and be able to address the rapidly changing competitive landscape head-on.

Let's work together on Banking Into the Future

Links: www.vments.com <https://youtu.be/V06Lu6KfLv4> <https://youtu.be/xff1YV3nz1k>