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Business-friendly Solutions

# Treasury-as-a-Service

## The inevitable path into the future

**A bank's Treasury Management function has a straightforward agenda:** Receiving and disbursing funds and managing financial assets to maintain optimal liquidity. Underlying this requirement is the need to minimize financial, operational, and reputational risk. Treasury Management is a sophisticated and specialized function. Therefore, it is surprising to see many treasury departments continue to rely on legacy systems that are manually-intensive and unable to keep pace with changing customer needs and the regulatory environment. The irony is that digital transformation and cloud adoption are driving radical change in sales, marketing, Business Process Management, and human resources while the Treasury Management function lags inexplicably. There are many reasons Treasury Management will be forced to catch up quickly, especially with cloud-based Treasury-as-a-Service laying the path to a better future.

## Major trends reshaping Treasury Management

First, the pandemic has accelerated the pace of digital transformation and cloud adoption. The Treasury Management function can and should follow by quickly moving to cloud and achieving agility, scale, and access to innovation. This would also result in an almost immediate reduction in infrastructure and maintenance costs while allowing the bank to move from a Capex to a pay-as-you-go Opex model.

Second, by using Treasury-as-a-Service, the function would gain flexibility and stay abreast of new regulations being forced by the pandemic, new business vectors, and unpredictable political imperatives.

Forecasts point to a surge in the application market for treasury and risk management—today's US$4.5 billion market is expected to grow to US$7.1 billion by 2028; meanwhile, the global SaaS market is expected to grow from US$130.69 billion in 2021 to US$716.52 in 2028. The trend is clear: Sooner rather than later, banks will have to adopt technology and upgrade their Treasury Management systems.

## The cost of not keeping pace with change

Banks must pay heed to the trend and replace their legacy systems with digital alternatives. Those that do not, stand to experience:

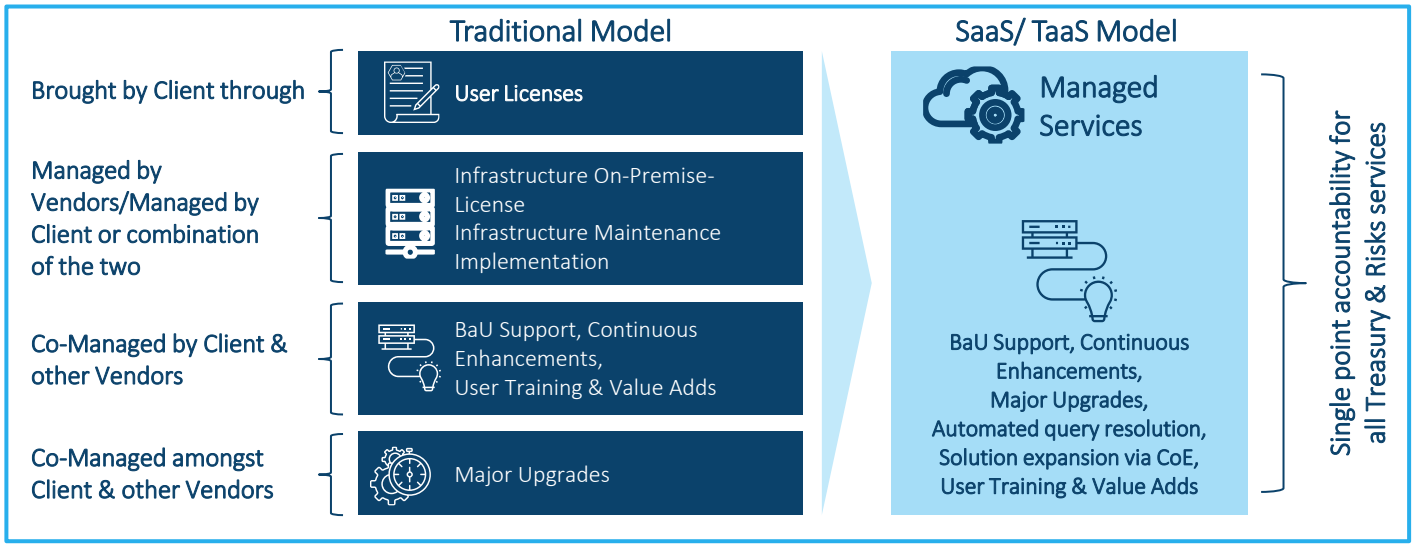
**Loss of revenue opportunities** due to their fragmented operating models, non-scalable and siloed systems, inability to innovate around services, lack of visibility into treasury position, absence of remote access to the treasury system, and deficiencies in front-office risk analysis. In addition, they risk reduced margins because of a lack of standardization and digitization

**Operational inefficiency** resulting from cumbersome on-premise legacy technology that cannot roll out new services quickly enough. Scaling the ability to roll out new services is an expensive proposition for banks dependent on on-premise technology. The only way to do it is by increasing the workforce, which is expensive and non-sustainable

**Inability to meet changing regulatory norms** compounded by the lack of timely reporting, lack of analysis and forecasting, low or no visibility into bank-wide position and risk, and the inefficient management of credit limits

# Treasury as a Service (TaaS) is the path to a bullet proof future

Automated Treasury-as-a-Service (TaaS) is the answer to overcoming these challenges. The benefits of moving to a cloud-based shared Treasury Management model far outweigh the benefits of a traditional on-premise treasury solution (see Figure 1 for a comparison between the two).




## Figure 1

Cloud-based TaaS provides banks with a vast array of tools to optimize liquidity while decreasing operational risk. The key business benefits include:

**Cost Reduction:** A SaaS solution for Treasury Management comes with an up-front cost lower than an on-premise solution. It does not need significant capital expenses for infrastructure and physical facilities

**Faster Time to Market:** Implementing on-premise solutions requires coordination and collaboration between the bank's business team, technology team, IT infrastructure team, and the product vendor. This results in longer implementation cycles. A TaaS solution is pre-configured and ready to use. It has shorter implementation cycles

**to-date Infrastructure and Software:** SaaS/ TaaS vendors ensure continuous evergreening of the platform and infrastructure. The continuous upgrades take the headache out of keeping pace with changing technology and allow the bank to deliver innovative products and services.

**Easy to Scale:** It is easier to add capacity in a TaaS solution through a "Subscription-based" model or a "Pay as you grow" model. The increase in operating expenses is more predictable and much smaller when compared to scaling an on-premise solution.

**Improved Customer Experience:** Cloud provides the platform for banks to offer a range of new digital services that customers demand, thus improving customer experience.

**Resilient Operations:** Cloud allows remote access, thus enabling treasury operations to reap the benefits of mobility and ubiquity.

The benefits are apparent, but banks have maintained a safe distance from cloud-based treasury solutions because of the fears associated with data breaches in a multi-tenant data center. Security concerns have slowed down the adoption of TaaS.

# Crossing the last frontier: Addressing security challenges

## Security in Multi-Tenant Architecture

Security in a cloud environment is a key concern for banks considering TaaS. Safeguarding data in any environment, including the cloud, should be prioritized. The approach to security should be uncompromising and holistic.

The measures that reduce or eliminate security risk can be classified into two board categories:

- Governance, Control, and Auditing centers on the segregation of duties. Clear roles and responsibilities must be defined to eliminate conflict of interest while ensuring no individual has the power or capabilities beyond those defined for the role
- Configuration, Design, and Change Management is central to building a trusted multi-tenant computing environment. This is implemented through three concepts:
  - Transitive Trust - A mechanism where a computing platform can only boot from a Core Root of Trust Measurement (CRTM), which may be a hardware chip, microcode, or encrypted firmware signed by a certified authority and assumed to be trustworthy
  - Platform attestation is a mechanism by which a computing platform proves to a third party it is trusted. The trust can be built based on behavior history (for example, does the peer system's request conform to patterns of expected computing behavior) or on defined properties of the computing platform (memory status, checksum validation, etc.).
    - In SaaS, each hosted application instance shares a single instance of object code. When an issue occurs, or the code corrupts in memory, potentially millions of clients can have access to the private data of other clients. This risk can be mitigated by developing SaaS solutions using Aspect Oriented Programming (AOP). AOP effectively removes or abstracts the security implementation, protecting the data from the core underlying service functionality. This approach allows each client to implement different security measures like encryption algorithm, cipher strength, authentication, and access mechanism while using the same object code
- Logical Security, Access Control and Encryption - A Cloud Service Provider typically uses encryption like AES, Blowfish, or other industry - standard algorithms for clients. If the provider is using the same algorithm for all the clients, there is a risk-if one client compromises the encryption protocol, it can be potentially compromised for all other clients. The possible ways to overcome this risk is by implementing:
  - Predicate Encryption allows segments of a data store to be encrypted and decrypted so individuals may have only access to their particular segments. The compromise of an individual segment does not necessarily mean that all other segments are also compromised
  - Homomorphic Encryption - This encryption allows ciphertext to be processed without decrypting data before processing. This reduces the opportunity to intercept decrypted data during processing by the malicious party

The overall risk for cloud-based TaaS can be reduced or eliminated by "Virtual Private Cloud," whereby the Cloud Service Provider offers a logically or physically segregated infrastructure at a premium. The premium price is still likely to be significantly lower than owning a legacy treasury system that is inefficient. These risk-mitigating approaches and implementation of security standards like SAS 70, ITIL, SOC, ISO, and SSAE 16 should address the security concerns of the banks and encourage them to adopt Treasury-as-a-Service.

TaaS is a fast and reliable means for the Treasury Management function to future-proof its operations. The solution goes well beyond functional simplification. It also introduces technologies such as automation to reduce the workload and cloud to deliver scale. In effect, the Treasury Management function can begin to provide strategic value to the business.

## Reference:

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