

Establishing a Virtual Office: Future-proofing Operations for the New Beginnings

Abstract

As automation, intelligence, agile and cloud become mainstream in today's Business 4.0™ world, the service delivery model in BFSI has undergone ample changes in the form of netbanking, online purchase, e-lobby, online policy aggregators, self-service via mobile app, website, kiosks and so on. With the increasing enterprise mobility and application virtualization, we are seeing even the sales teams work and integrate via calls and messengers.

However, BFSI Organisations are also continuing with branch office operations for requests and issues that require in-person assistance. The physical footprint entails maintaining workspaces, working staff, support service staff and so on, leading BFSI Organisations to incur heavy rental and overhead expenses.

Brick-and-mortar operations are also difficult to sustain in times of crisis such as the COVID-19 pandemic. The concept and implementation of the virtual office model presents a unique solution to mitigate the challenges associated with the physical office model in the BFSI sector, while enabling a seamless and delightful customer experience.

This paper discusses how the virtual office model will drive modernization and uninterrupted business

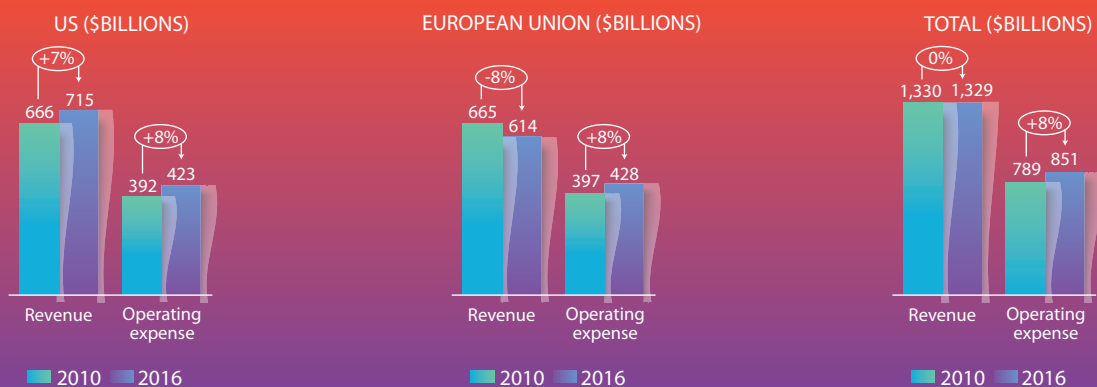
continuity in the BFSI sector, along with its implementation best practices and business benefits. In line with the Business 4.0 levers, the virtual office model discussed here can be implemented leveraging the existing infrastructure landscape, thereby accelerating deployment and minimizing upfront capital expenditure.

Towards a lean tech-driven business model in BFSI

The biggest tangible assets of any BFSI organization in terms of its day to day operations are its office space, staff and on-premise machinery such as desktops, kiosks, printers and other equipment. However, in the world of Business 4.0, owning or renting fixed assets such as huge buildings for delivery of services is increasingly losing relevance. Take organizations like Airbnb and Uber which are one of the biggest service providers in their respective industries without inventory-driven business models. Unsurprisingly, for the BFSI sector, its biggest assets are also becoming biggest liabilities as spreading operations means increasing the number of branches/offices, buying buildings, deploying manpower and machines.

Another important challenge is the absence of human touch in digital channels such as websites and mobile apps.

A recent BCG study (see Figure 1) revealed that banks’ costs have been rising faster than the revenues since 2010 and the trend is unlikely to change over the coming years.



Sources: S&P Global Market Intelligence; BCG Banking Pools; BCG analysis.
 Note: Percentages and numbers were rounded to the nearest whole number.

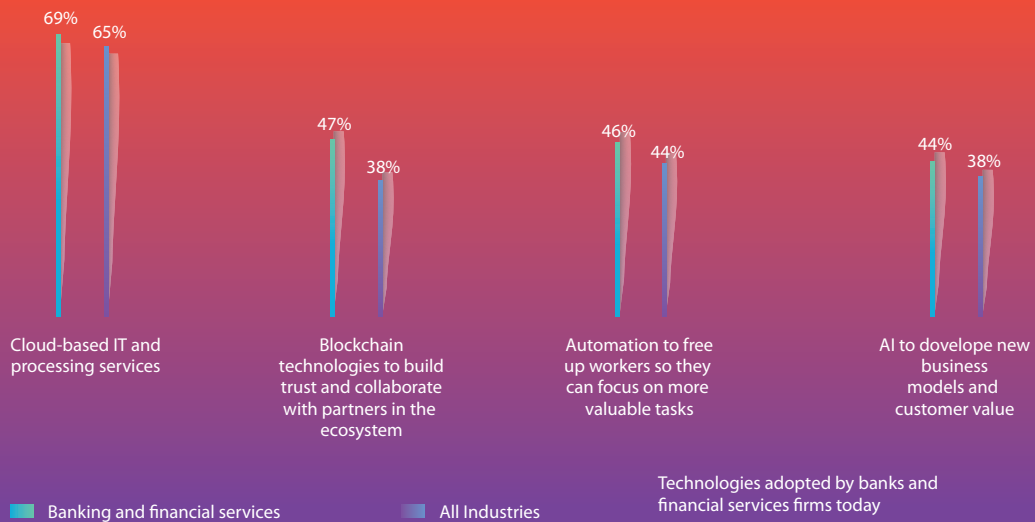
Courtesy: BCG¹

Figure 1: Banks cost rates have been rising at a faster rate than revenues

[1] BCG, Four Ways Banks Can Radically Reduce Costs, June 2018 (accessed Sep 2020), <https://www.bcg.com/publications/2018/four-ways-banks-can-radically-reduce-costs.aspx>

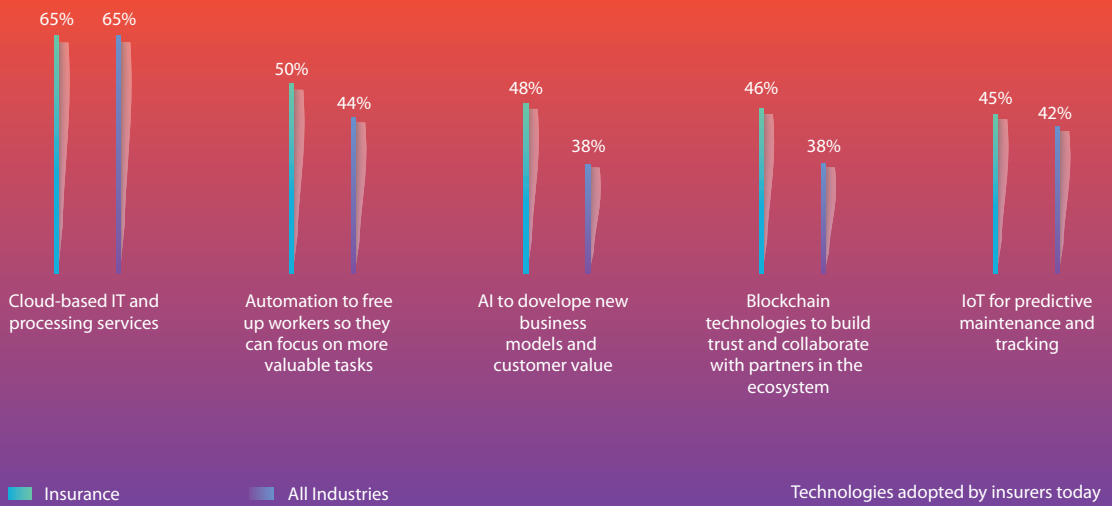


Thankfully, the BFSI industry has taken note and is shedding its inertia to change. The sector is increasingly adopting digital technologies such as AI, IoT, blockchain, cloud and automation to increase process efficiencies, optimize costs, and reduce reliance on physical in-branch operations. A recent TCS research reveals how the banking and financial services firms (see Figure 2) and insurance players (see Figure 3) are ahead or at par with other industries with respect to adoption of digital technologies.



Courtesy: TCS study²

Figure 2: Technologies adopted by banks and financial firms today



Courtesy: TCS study³

Figure 3: Technologies adopted by insurers today

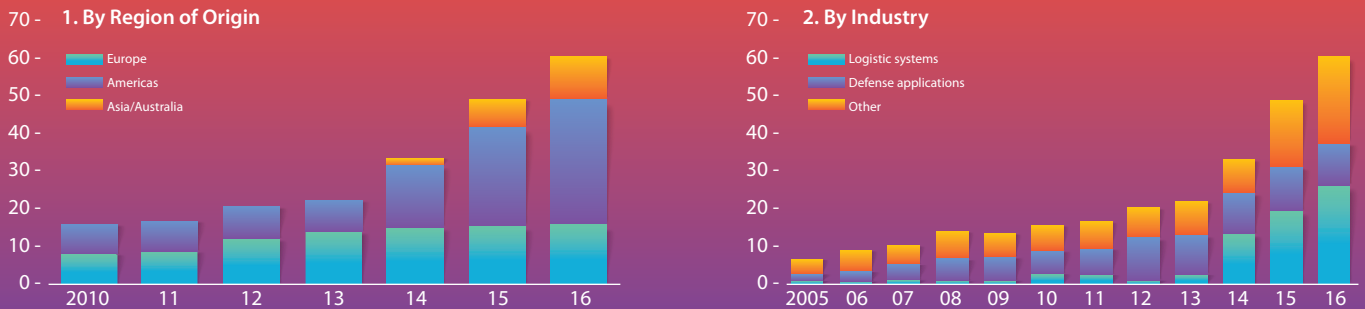
[2] TCS, Adopting a New Outlook to Risk for Higher Payouts, 2019 (accessed Sep 2020), https://www.business4.tcs.com/content/dam/tcs_b4/pdf/TCS-Business-4.0-Study-Banking-Financial-Services-Report.pdf

[3] TCS, Adopting a New Outlook to Risk for Higher Payouts, 2019 (accessed Sep 2020), https://www.business4.tcs.com/content/dam/tcs_b4/pdf/TCS-Business-4.0-Study-Banking-Financial-Services-Report.pdf



The increasing adoption of technologies in the workplace is also driving higher sales of robots (see Figure 4) across various regions of the world for professional services.

(Thousands of units)



Sources: International Federation of Robotics; and IMF staff calculations.
Note: Data on service robots is only available by origin regions for Asia/Australia, Americas, and Europe.

Courtesy: IMF⁴

Figure 4: Increasing sales of Robots

From the emerging industry and technology trends, it is clear that the time is now ripe for the BFSI industry to adopt a virtual office model where digital technologies play a key role in ensuring business continuity and driving future growth. Implementing the virtual office model requires organizations to consider a few assumptions, such as:

1. Request via all channels should land to the virtual office agent.
2. End-to-end business processes are defined and no manipulation is involved.
3. End-to-end integration and data sharing within the organization is allowed based on roles. For instance, in case of a disaster, a customer may need to visit an alternate branch/office rather than the home/nearest branch.

Implementing a virtual office model: Three key components

The virtual office space model and its implementation is based on the machine first delivery model (MFDM™) and Business 4.0 levers. MFDM drives the principle of assisting humans with the help of machines and software while Business 4.0 drives mass personalization, creating value using existing and new components while embracing the risk using

[4] IMF, Challenges to Steady Growth, Oct 2018 (accessed Sep 2020), <https://www.imf.org/en/Publications/WEO/Issues/2018/09/24/world-economic-outlook-october-2018>



technology pillars of cloud, automation, agile and intelligent. The model contains the below components:

1. First touch point Interaction in a personalized manner (e.g. language or visual)
2. Understand the request
3. Take appropriate path and decisions (with human intervention wherever required)
4. Provide a solution/ path ahead
5. Capture feedback for future interactions

The three key modules of the Virtual Office model include Front End, Back End, and Security Module (Figure 5). Let's explore the three in detail.

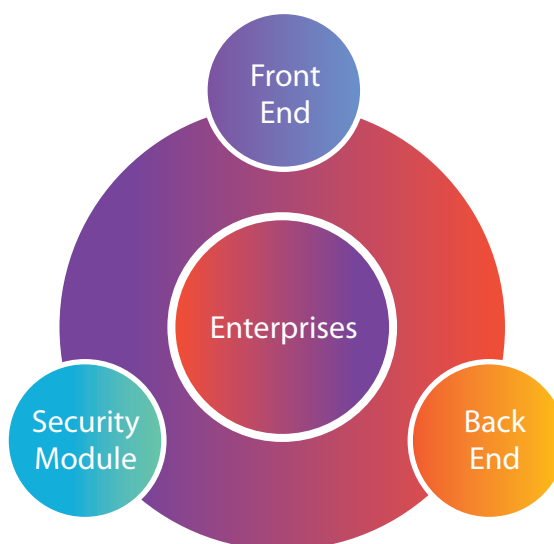


Figure 5: Components of Virtual Office Model

Front End

To explain the concept, consider a user journey of approaching with a request/complaint as illustrated in Figure 6.

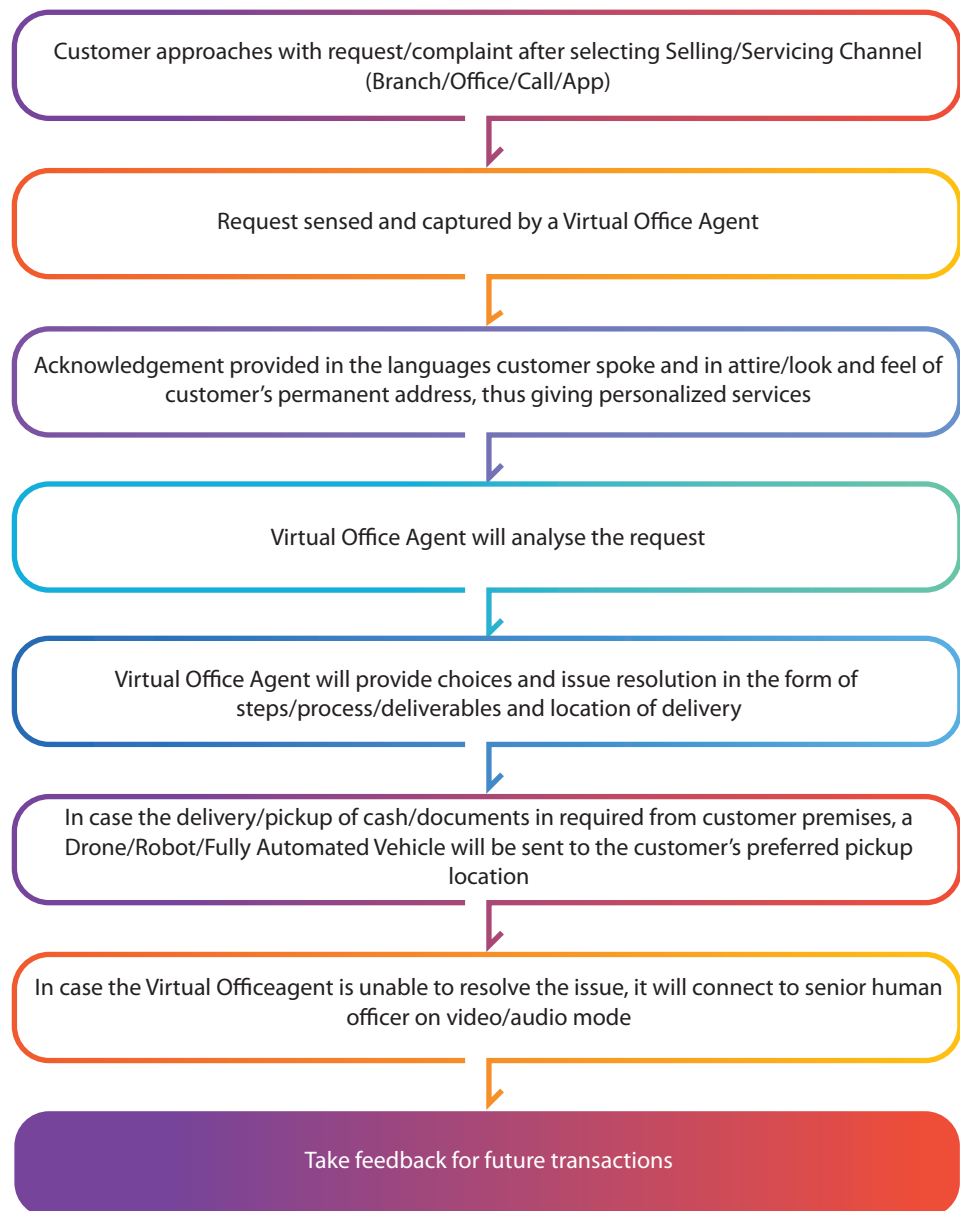


Figure 6: Front End Request Capture to Delivery

The virtual office model will automate all the above steps end to end (except where manual approval, redirect is required). At a high level, the technologies that drive the above front-end process in the virtual office model include:

1. Face Recognition – To identify and verify the customer's identity.
2. Voice Recognition – To identify the customer's language.
3. Speech to Text (STT) – For logging request in the form of written record by converting voice request in to text.
4. Text to Speech (TTS) – For explaining the information extracted by the virtual agent to the customer by converting it to speech.
5. Virtual office agent via monitor/screen with/without robotics.

6. Natural Language Processing (NLP) – For analyzing vocal/written inputs.
7. Machine Learning (ML) – To train the system for similar requests for which the system was not trained earlier.
8. Artificial Intelligence (AI) – For taking decisions on existing and new requests.
9. Internet of Things (IOT) – For capturing data via sensors and creating a complete end-to-end ecosystem for virtual office.
10. Video/audio telephony via VoIP.
11. Integration via cloud, blockchain and big data.
12. Back office operations will be handled via VPN and secured access to core and non-core system.
13. Collaboration tools such as messenger, mailbox and document management system.

Back End

This module deals with the staff access, collaboration, process flow and service delivery. In continuance with the above scenario, let us see how the request flows to human associate from virtual agent and gets resolved (illustrated in Figure 7). Our assumption here is that in the scenario all human associates are not physically present at the branch office.

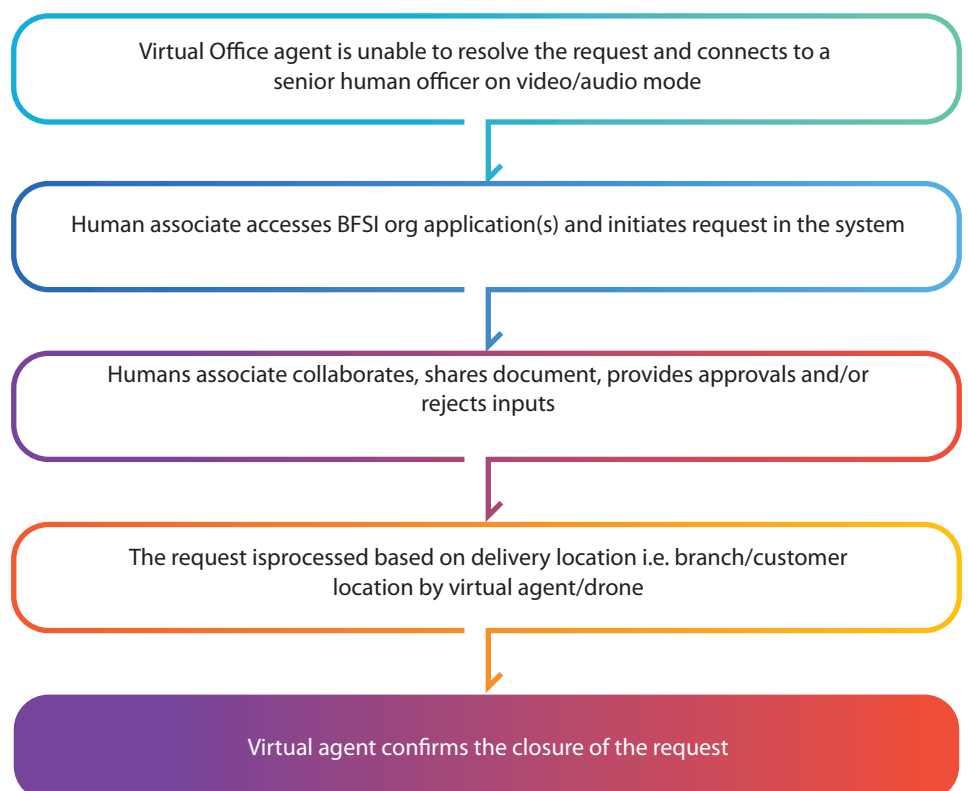


Figure 7: Back End Request Capture to Delivery

The above solution implementation includes:

1. Providing logistics in the form of mobile/laptop/desktop with endpoint connectivity (broadband/data card/mobile data).
2. Connectivity via VPN/Tunnel and VDI-based access to BFSI organization's applications.
3. Authentication by Face Recognition/Fingerprint/Hardware Token/Software Token or Multi Factor.
4. STT and TTS technologies
5. Collaboration tools including Messenger with VoIP call, video calls, screen sharing, etc.
6. Document Management System for document sharing, storing, retrieval, etc.
7. Document scanning and capture via camera of laptop/mobile device.
8. End-to-end integration and workflow.
9. Digital signature (for specific human associates).
10. Online and Offline activity tracking of activity on devices.
11. Information Rights Management (IRM) including prevention of taking screenshots.
12. Call audio leak prevention by using headphones for all calls. System can detect if headphones are not connected and the call will not be established.
13. Automatic screen locking based on time and face recognition.

Security Module

In addition to the already mentioned security solutions, the Security component of the virtual office model will comprise security of hard copy documents, cash (pickup and delivery), data at rest and data in motion. The solution implementation (see Figure 8) of the Security module includes:

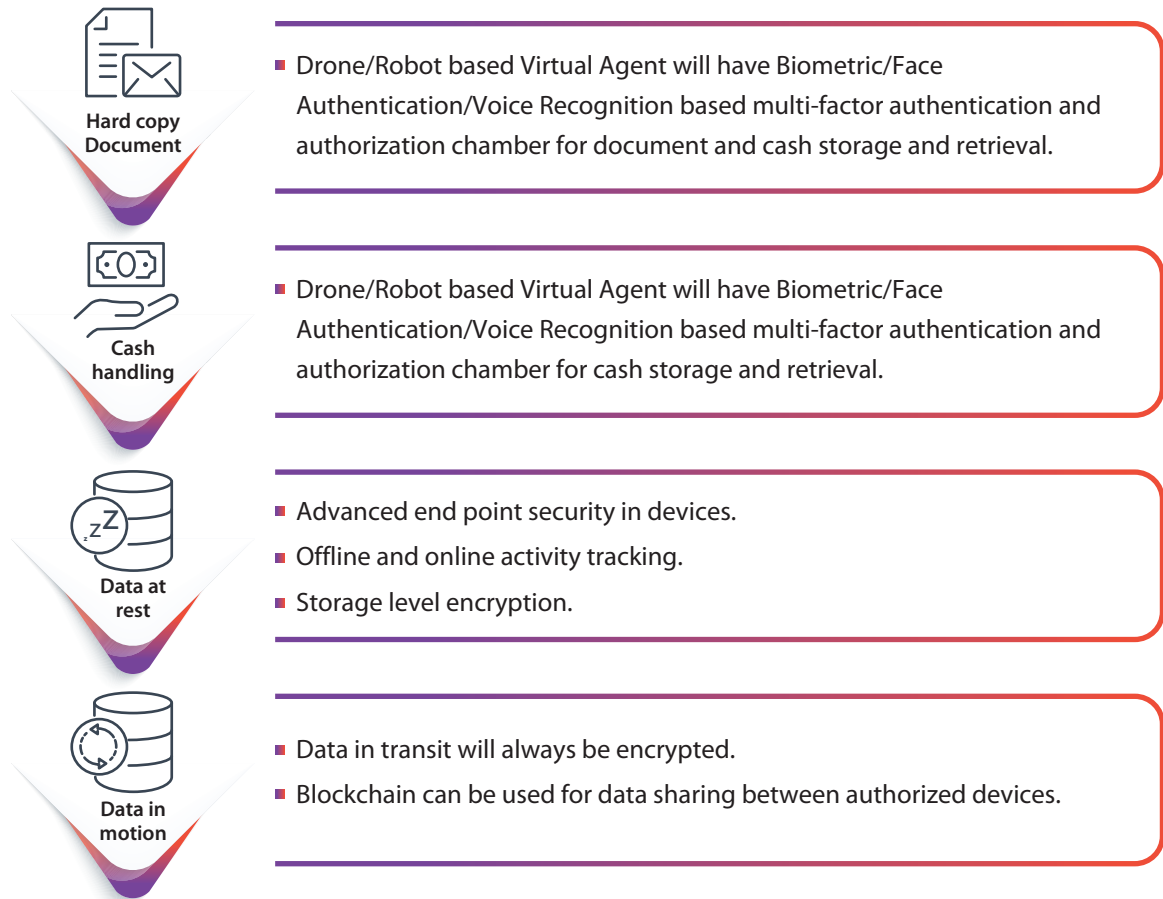


Figure 8: Security Module

A new operational model designed for the new reality

The virtual office business model enables zero human touch processing at the first point of contact, making the model apt for the new reality where business continuity with zero downtime are key imperatives.

The fully digitized model drives mass personalization of services by customizing the request fulfillment process to customers' preferred language and location. The system can sense these customer preferences and alert the virtual agent to change its appearance and attire to ensure the customers feels a sense of familiarity and human comfort in dealing with the agents.

By deploying virtual office agents at the front end and integrating the virtual office model across the front, mid and back office teams, organizations can realize significant operational cost savings and higher ROI, simultaneously extending the existing public dealing hours of branch operations to 24x7x365. They can also utilize their manpower for more analytical and decision-making tasks in various business processes and

even offer flexi-hours or work from anywhere (WFA) policies, thus driving better employee satisfaction and productivity. The machine first delivery leverages virtual agents to augment the capabilities of the human agents, giving rise to a digital hybrid workforce – a critical operations requirement in the new reality. For end customers, a virtual office model ensures round the clock 24x7 service delivery even in crisis situations such as the COVID-19 pandemic, making for a hassle-free, seamless and user-friendly experience.

Besides BFSI, the virtual office model can be easily extended across other industries based on applicable use case and business processes. In today's volatile, uncertain, complex and ambiguous (VUCA) world, as organizations across the globe strive to build operational resiliency, agility and adaptability, implementing a virtual office model can be a key success enabler. Its multiple benefits across key dimensions such as operational cost reduction, high degree of process repeatability with zero manual error and conversion of operations from location and shift dependent to location-independent and 24x7 service delivery hold immense future-proofing potential.

As a best practice, we recommend that organizations start small on their journey to virtualizing office spaces, create pilot solutions and run simulations for ROI calculation.

About The Author

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Alok Sood is an Enterprise Architect – Presales and Solutions at TCS for BFSI clientele in India. He has over 12 years of experience in IT Industry and has worked across various areas such as business analysis, project management, technical architect, presales and solutions. He has worked with multiple international and domestic clients across domains such as telecom, food and beverage and public services.

Alok is a B.Tech (Electronics and Communication Engineering) from Uttar Pradesh Technical University and holds an M.B.A. (Marketing) from ICFAI Business School (IBS). He is also having multiple certifications from Oracle, Redhat, Microsoft, Automation Anywhere, AWS etc. and is a certified Assistant Lecturer via UGC NET certification. He is also an active article writer and keeps publishing articles on LinkedIn and blogs on latest technologies such as A.I. and Robotics.

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