INFINITIUM

Securing Payment & Beyond

IMS 2.0

3-D Secure 2.0 with **Biometric Authentication**

Authentication made Seamless

INFINITIUM

IMS2.0

IMS 2.0 is a comprehensive authentication platform, putting together some of the best-in-class technologies, to provide a robust environment that meets our clients' needs today: that is to secure the digital space while growing the remote commerce market.

Over the last decade, the number of connected consumer devices has grown exponentially. Over the last three years, more of these connected devices come with biometric verification capabilities.

IMS 2.0 is developed based on EMVCo's 3-D Secure 2.0 Protocol Specification, geared up for frictionless experience with Risk-Based Authentication, and ready for seamless consumer experience with biometric authentication whenever step-up verification is required of the consumer.

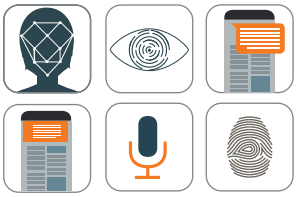
FRICTIONLESS PAYMENT EXPERIENCE

With the millennials, we are moving into the age of IoT. Our clients are challenged with the need to provide convenience to the consumer as well as the need to verify the consumer's identity in real-time in the midst of a Card-Not-Present (CNP) transaction. To achieve this, banks require efficient data analysis to make informed decision about a transaction on whether it can be deemed safe to go frictionless.

IMS 2.0 provides the flexibilities to incorporate various sources of data analytics, bringing the best values to our clients. With IMS 2.0 real-time analytics, each client-bank would be able to adjust its risk level threshold that will determine if a transaction may:

a) Go frictionless when the transaction is within the normal behavior or pattern,
b) Require "step-up" verification when the transaction appears suspicious, for e.g. a new device.

BIOMETRIC AUTHENTICATION



While it is anticipated that the majority of the transactions could go frictionless, occasional step-up verifications would still be required. Most commonly used step-up authentication method has been a One-Time-Passcode (OTP) delivered via SMS to the consumer's registered mobile phone.

To enhances the step-up experience, Infinitium introduces biometric authentication to reduce the number of keystrokes or clicks needed to complete the authentication process, and in a way that is intuitive to the consumer. This translates to greater security and better consumer experience in the payment process, delivering better success rates at the point of making payment online.

EASY TO IMPLEMENT

Verified by VISA · mastercard ID Check · JCB J/Secure · American Express SafeKey · UnionPay 银联 · PCI Security Standards Council · EMVCo

The rate of technology changes has been increasing, and so is the rate of its adoption. Banks are finding it increasingly hard to keep up with these changes if solutions are implemented on-premise.

IMS2.0 is a SaaS platform with all infrastructure components such as hardware, software applications and databases are ready for deployment of major 3-D Secure programs such as AmericanExpress SafeKey, JCB JSecure, MasterCard ID Check and SecureCode, Verified by Visa, etc...with minimal time to market.

Our datacenters in India, Indonesia, Malaysia and Singapore are fully complied with PCI requirement and Visa's Security Requirement eliminating the needs for the banks to invest heavily in a separate system for remote commerce payment.

SINGLE PLATFORM FOR 3DS 1.0 AND 3DS 2.0

All major 3-D Secure programs will be going through a phase of transition where both 3DS 1.0 and 2.0 will co-exist for a period of time before 3DS 1.0 could be decommissioned. Different card schemes would potentially have different timetables on the sunset of 3DS 1.0, and it will largely depend on the rate of adoption of 3DS 2.0. IMS 2.0 handles both versions of the protocols on the same platform, making it easier for our client-banks to access information on a single consumer across the two very different transaction types of 3DS 1.0 and 2.0.

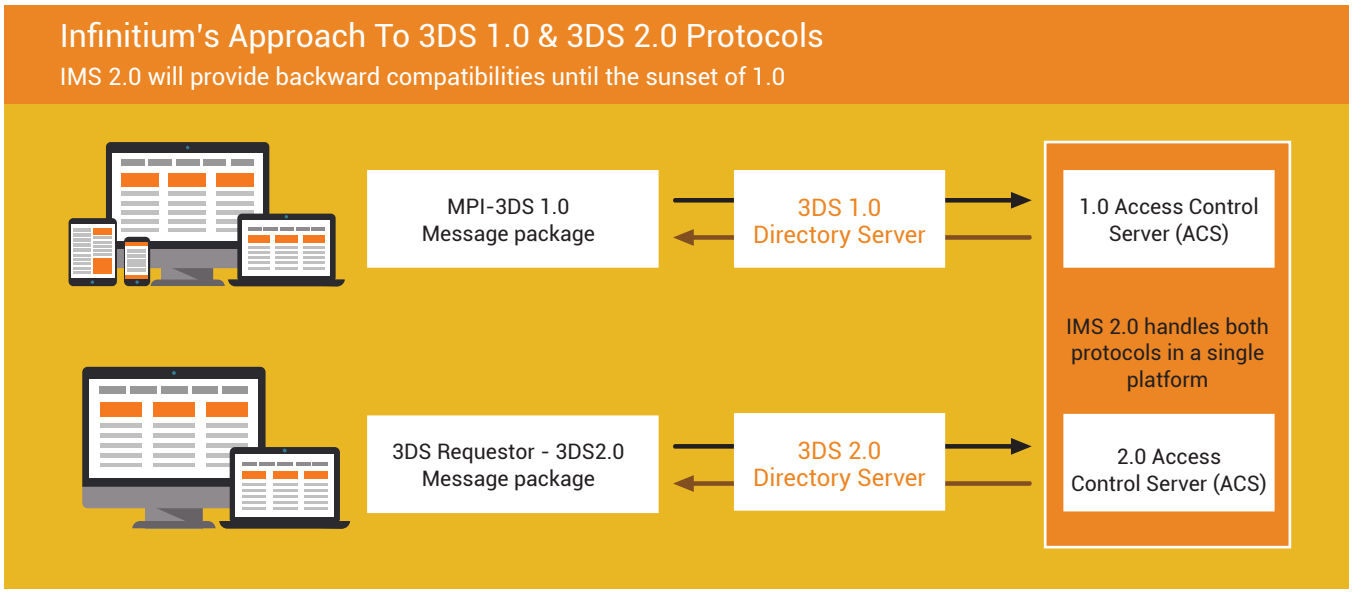


Figure 1: Co-existence of 3DS 1.0 and 2.0 infrastructure

IMS AUTHENTICATOR

Introducing IMS Authenticator, the mobile application that is associated with IMS 2.0. Fundamentally, IMS Authenticator aim to replace the SMS as the channel for OTP delivery, reducing the operating cost of 3DS authentication for the client-banks.

Besides OTP-delivery, the app also comes with other biometric authentication capabilities, such as Fingerprint, Iris Scan, Facial Recognition and Voice Recognition.

Through this mobile app, the banks can provide more non-authentication value-add services such as QR Code payment, HCE mobile contactless, Instant Installment Payment, Instant Redemption, etc… to their customers, deepening the relationship between the banks and their customers.

Figure 2: Biometric authentication capabilities

3-DOMAIN SECURE 2.0

At the Acquirer Domain, equivalent to the Merchant Plug-In (MPI) in 3DS 1.0, we have under the 3DS 2.0 protocol specification the 3DS Requestor Environment which comprises of a Client-Server environment. Merchants will make Authentication Requests (AReq) via the 3DS Requestor Environment.

Since the proliferation of mobile smartphones, more consumers are making purchases directly through the mobile apps distributed by the merchants. A 3DS Client component that can either be a browser or a mobile app embedded within a 3DS SDK.

At the Issuer Domain, the Access Control Server (ACS) holds the cardholders' profiles. As compared to its predecessor, 3DS 2.0 messages carry far richer information about the consumer, the consumer device, the merchant where the transaction is taking place, and past relationship details between the consumer and the merchant. These information helps the issuing banks make informed decision.

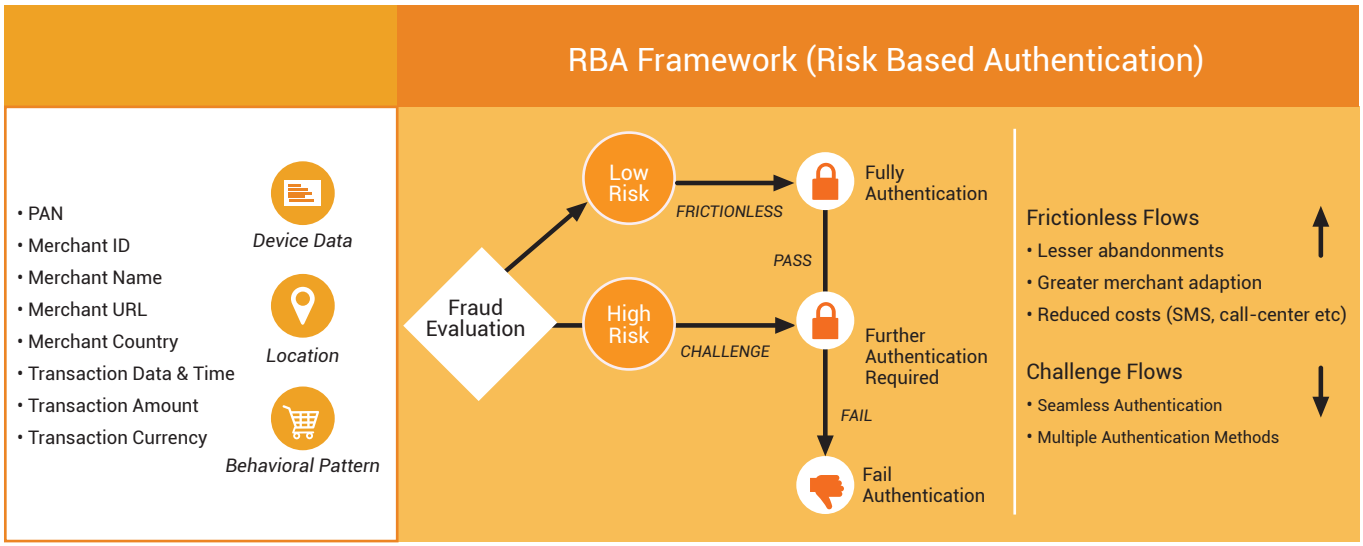


Figure 2: Decision flow of Risk-Based Authentication in a typical 3-D Secure 2.0 transaction

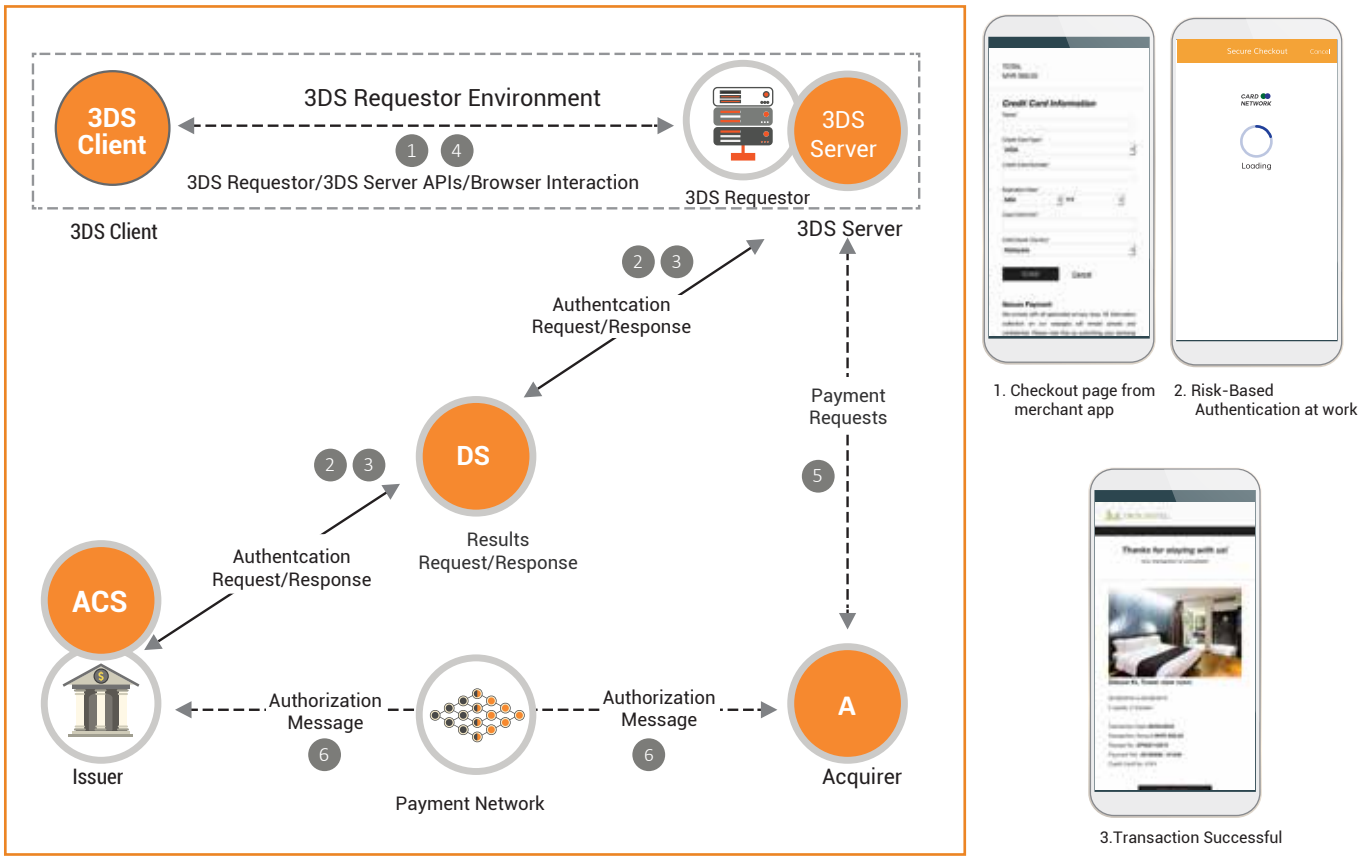


Figure 3: Frictionless flow (left) and screen flow on mobile phone (right)

By running these data through our data-analysis engine, a risk score will be returned. If the returned score is lower than the pre-determined threshold set by our clients, the transaction can be frictionless. If the score returned is higher than the pre-determined threshold, this particular transaction will have to be further verified through a challenge-response process with the consumer. This is often known as "step-up authentication" or "the challenge flow".

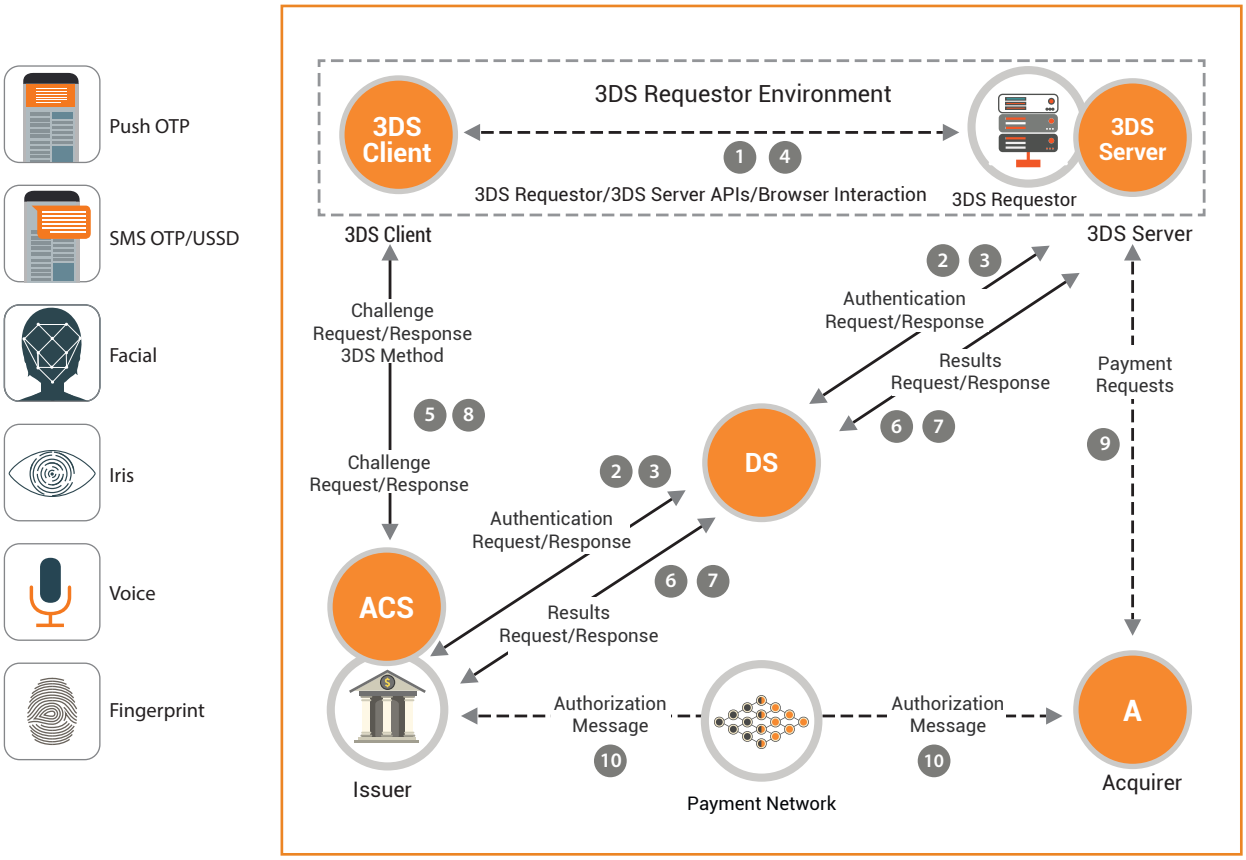


Figure 4: Challenge flow (right) and the example of authentication method (left).

COMPREHENSIVE RESEARCH AND REPORTING CAPABILITIES

One of the important functionalities that banks will need is transaction research. IMS 2.0 comes with a set of comprehensive transaction research capabilities that empowers the client-banks to respond quickly to the consumers. Key features include:

- Single screen to list both 3DS 1.0 and 2.0 transactions with comprehensive filtering options - date & time, protocol versions, authentication method used, etc….
- Drill down on specific 1.0 or 2.0 data items
- Exportable to .csv files for further analysis, except for full PAN (PCI compliant)

IMS 2.0 also comes with a comprehensive set of reports. These reports are particularly useful for performance enhancements in relation to authentication success rates. Key reports are:

- Authentication attempts and success rates
- Statistical reports of transaction volume vs. risk scores, for fine-tuning of frictionless vs. challenge parameters.

FULL COMPLIANCE, FULL SERVICE, HIGH AVAILABILITY AND SCALABILITY

Infinitum operates 4 datacenters in India, Indonesia, Malaysia and Singapore, all of which are PCI DSS Level 1 certified. Infinitium also provides 24x7 monitoring service, on key data elements for all of our clients on the hosted service platform. In case of critical event, alerts will be sent to our support engineers to ensure timely response.

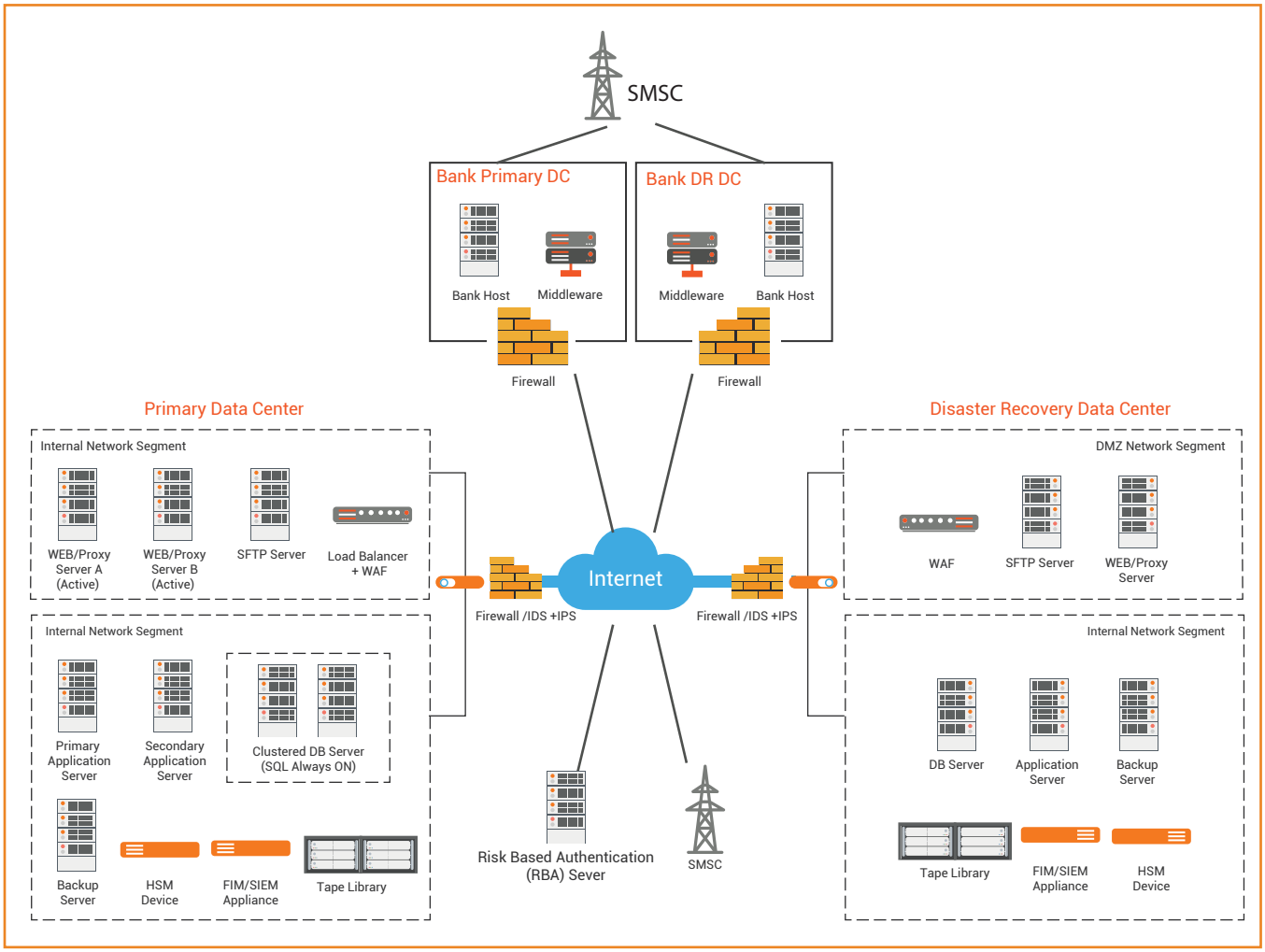


Figure 5: IMS 2.0 High Availability Architecture

IMS 2.0 is architected to support High Availability. Having a high service level that will help the banks improve their customers' experience, reduce the loading on their call centres, ultimately increase their operational efficiency and a reduction of cost.

IMS 2.0 is also highly scalable. This will help our clients adapt to anticipated short-term spike* in volume during the events of promotional campaigns. Most banks running their own systems do not have the flexibility and are most likely to make permanent investment to cater to these temporary needs.

** Typically, Infinitium needs to be informed 2 weeks prior to the date of intended scale-up and its duration. Terms & Conditions apply*