

# RBI Payment System Data Storage – System Audit Report (SAR)

As Per Notification Number

(RBI/2017–18/153, DPSS.CO.OD No. 2785/06.08.005/2017–2018)

Presented to:

**Razorpay Services Private Limited**

Report By: Panacea InfoSec Pvt. Ltd.

Report Date: 06/10/2023

**Panacea Infosec Private Limited**

**“Empaneled by CERT-In for providing Information Security Auditing Service”**

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## 1.Executive Summary

To the management of Razorpay Services Private Limited:

We have completed our engagement to assist Razorpay Services Private Limited herein referred as Razorpay Services Private Limited with evaluating and validating the compliance against data localization system audit guideline under “*RBI/2017-18/153, DPSS.CO.OD No. 2785/06.08.005/2017-2018*” notification. Our engagement was performed in accordance with our standard scope of work (SOW).

The engagement was focused on identifying the effectiveness of controls implemented at Razorpay Services Private Limited to ensure compliance as per RBI data localization requirements based on storage of payment system data at the time of our engagement.

Our detailed assessment reporting is followed in “*Assessor Workbook*”. The report has been prepared based upon information provided by Razorpay Services Private Limited during the assessment and interactions and assessment summary is based on covering entire transaction lifecycle and report writing is usage sampling of identified systems Razorpay Services Private Limited agrees to hold us harmless and indemnify us against any claims, damages, proceedings, charges or other liabilities resulting from, or arising out of, our representations here in the preparation of the report. Kindly refer the section 6.1 for detailed classification of payment data. We appreciate the co-operation and assistance provided to us during engagement.

The details of assessment and observations if any can be found below in Section 6.

Yours truly



Raghvendra Shukla  
PCI- QSA, ISO 27001 LA & LI, SWIFT Assessor  
Panacea Infosec Pvt. Ltd.  
Cert-In Empaneled  
Dated: 06/10/2023

## 2.About Panacea InfoSec

Panacea InfoSec is a PCI QSA, PCI QPA, PCI 3DS, PCI SSF, SWIFT Assessor and a CERT-IN empaneled company for providing information security auditing services, Panacea Infosec is fast emerging as a trusted name in Information Security, with a clientele including BFSI, IT & ITES, Retail, Ecommerce, Payment Gateways & Processors, Aviation, Hospitality, and other verticals, not only in India but in 41 countries worldwide. Panacea's team has audited more than 30 banks worldwide and is proud to be associated with prestigious names like Bank of Maharashtra, India Post Payments Bank, Standard Chartered Bank, National Bank of Kuwait, BENEFIT, Majid Al Futtaim, Equity Bank and Interswitch-Kenya.

Almost all PSB reward programs, such as State Bank Rewards, PNB Rewards, IOB Rewards and HDFC Infinia are certified by Panacea. Panacea is also the QSA & Security Consultant for big brands such as Genpact, Wipro, Aegis, Tech Mahindra, Mahinda Comviva, NIIT, Dnata, InterGlobe, PayU, MobiKwik, Domino's Pizza, YUM Restaurants, PVR, Jabong, VOX Cinemas etc. We understand the nature of business and the hurdles needed to develop a security conscience culture within an organization. Having built several security programs and matured organizations' security posture, Panacea InfoSec is one of the leading security consulting firms in the nation. Instead of being "just another vendor", Panacea InfoSec prides itself on establishing a long-term relationship with our customers by establishing trust and making sure we are only offering services that will enhance the security of our clients.

Our team is made up of highly skilled and technical leaders in security that can communicate to the business in a way that everyone understands. Our goal isn't to provide just a penetration test or a risk assessment, but to ensure that the company progresses in a maturity model towards successfully defending against attacks. Successful security programs are built with the idea that the entire organization promotes security.

Panacea InfoSec is vendor agnostic, we do not resell any software or hardware and will always recommend the best solution for the organization. In most cases, technology does not solve the systemic problems of a security program. Instead, it just requires a shift in prioritization. Technology should always be used as an enhancement to an already functioning security program, which may automate and increase the ability for improvement. Panacea InfoSec firmly believes that a security program can be run efficiently without massively large budgets. Panacea InfoSec staff and consultants have vast experience in providing a full range of information security services ranging from Payment Industry, PCI DSS/HIPAA/ISO 27001/SSAE/SOX etc. consulting, intrusion detection, incident handling, regulatory compliance, penetration testing and application assessments. Our professionals provide industry-leading expertise to help organizations meet their evolving information security needs.

Panacea InfoSec is well positioned to help organizations establish the correct strategies to arm themselves against the ever-growing and ever-present cyber threat.

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### 3.Assessment Objective and Criteria

Reserve Bank of India (RBI) has issued a notification regarding “Statement on Developmental and Regulatory Policies” dated 5th April 2018 which sets out various developmental and regulatory policy measures for strengthening regulation and supervision; broadening and deepening financial markets; improving currency management; promoting financial inclusion and literacy; and facilitating data management.

Further to the notification RBI released the circular: **“RBI/2017–18/153, DPSS.CO.OD No. 2785/06.08.005/2017–2018”** focusing payment system data storage, RBI mandated all Authorized Payment Systems / All Scheduled Commercial Banks including RRBs / Urban Co-operative Banks/State Co-operative Banks / District Central Co-operative Banks /Payment Banks / Small Finance Banks and Local Area Banks to store the entire data relating to payment systems operated by them in a system residing Indian law boundaries not later than October, 15th 2018. Payment system data should include the full end-to-end transaction details / information collected / carried / processed as part of the message / payment instruction wherein the foreign leg of the transaction, if any, the data can also be stored in the foreign country.

Razorpay Services Private Limited has appointed Panacea InfoSec Private Limited under **“RBI/2017–18/153, DPSS.CO.OD No.2785/06.08.005/2017–2018”** notification i.e. Indian Computer Emergency Response Team (Cert-In) empaneled auditors to submit System Audit Report (SAR) for completion of payment system data storage regulatory compliance.

Panacea InfoSec review was focused on identifying gaps in compliance based on payment system data storage enacted at the time of our review. The purpose of our validation activities was primarily to understand the payment system data localization control implementation at Razorpay Services Private Limited.

Our procedure included the observations of the operations, auditee interview information and system review without performing further application-based testing to evaluate the operating effectiveness.

## 4. Audit Review Methodology

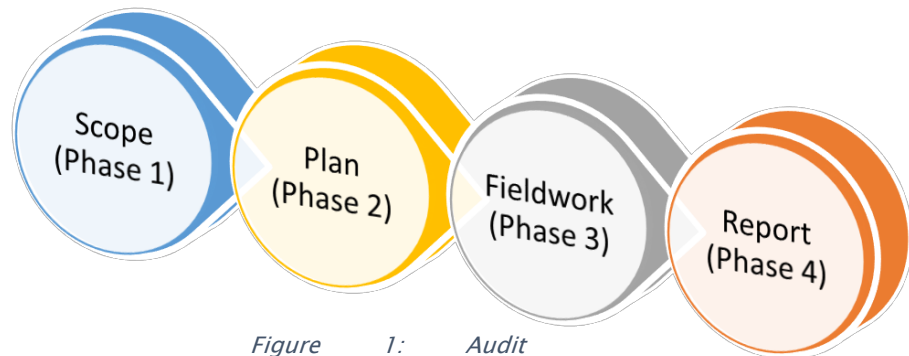


Figure 1: Audit Methodology

### 4.1. Phase 1: Scope

“RBI/2017–18/153, DPSS.CO.OD No. 2785/06.08.005/2017–2018” notification clarifies requirements for payment system data storage localization guidelines, defining the scope of assessment engagement involves in understanding how assessed entity’s operations align with the compliance requirements.

1. Data Classification
2. Data Access management
3. Data Storage

### 4.2. Phase 2: Plan

We utilize our in-house developed questionnaires and request assessed entity for the information as per the list mapping to the RBI payment system data localization requirements. The assessor post conversation customizes the audit review agenda/plan and deliver detailed document to prepare the assessed entity for fieldwork i.e. Phase 3.

Our assessment involved focus on processing, handling, transmission, and storage of data. Our main elements of the assessment were people, process, and technology. Listed below are some of the examples of people, process and technology Razorpay Services Private Limited.

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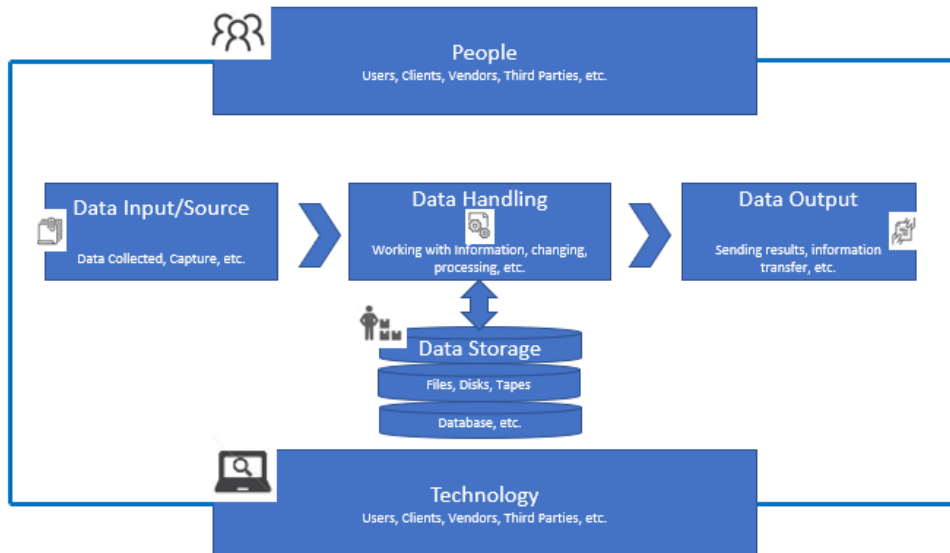
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People	Process	Technology
<ol style="list-style-type: none"> <li>1. Employees</li> <li>2. Various departments such as IT, Compliance, Operations etc.</li> <li>3. Information Security &amp; Compliance team</li> </ol>	<ol style="list-style-type: none"> <li>4. Operations</li> <li>5. Structured Operating Procedures (SOP)</li> <li>6. Communication</li> </ol>	<ol style="list-style-type: none"> <li>7. Tools and Applications</li> <li>8. Controls for Data Protection and Information Security</li> <li>9. Data Transmission Channel</li> </ol>

### 4.3. Phase 3: Fieldwork

This phase consists of onsite/remote onsite interviews, walkthrough of relevant business processes and testing. Findings and observations are awarded to the assessed entity post the onsite/remote onsite assessment.



### 4.4. Phase 4: Report

Final step of the assessment is to present the detailed assessment compliance report to the assessed entity's management.

## 5. Assessment Report

### 5.1 Contact Information

Client	
Company Name	Razorpay Services Private Limited
Company Address	Razorpay Services Private Limited, 6th Floor, Smartworks Marisoft C, Wing C, Kalyani Nagar, Wadgaon Sheri Rd, Annex, Pune, Maharashtra, 411014, India.
Company URL	<a href="http://www.izealiant.com">www.izealiant.com</a>
Company Contact Name	Shashank Karincheti
Designation	Senior Manager, Compliance
Contact Phone Number	+919424242241
Contact Email	<a href="mailto:shashank.karincheti@razorpay.com">shashank.karincheti@razorpay.com</a>
Assessor Company	
Company Name	Panacea InfoSec Private Limited
Company Address	3rd Floor Plot no. 226, Pocket A2, Sector 17, Dwarka, New Delhi -110075
Company Contact	011-49403170
Website	<a href="http://www.panaceainfosec.com">www.panaceainfosec.com</a>
Audit Team	
Assessor Name	Raghvendra Shukla Archana Yadav
Assessor Email	<a href="mailto:raghvendra@panaceainfosec.com">raghvendra@panaceainfosec.com</a> <a href="mailto:archana@panaceainfosec.com">archana@panaceainfosec.com</a>

### 5.2 Date and Timeframe of Assessment

Date of the Report	06/10/2023
Timeframe of Assessment	16/08/2023 - 06/10/2023
Dates spent for remote assessment	Remote assessment has been performed on 04/09/2023 and 05/09/2023 as per latest CERT-IN guidelines.



### 5.3 Razorpay Services Private Limited Business Description and Project Scope:

Parameters	Assessor's Response
<b>Business Overview</b>	<p>Razorpay Services Private Limited hereafter referred as "Razorpay services" for documentation is a payment technology company that provides 3D secure solution. Authentication using 3D secure Multi-factor authentication with 3DS ACS.</p> <p>Application stores cardholder data for authentication. In card-not-present transactions, application validate the cardholder using dynamic OTP. Hence cardholder data is required for sending and authenticating OTP.</p> <p>The audit has been conducted as per the audit clause mentioned in "RBI/2017-18/153, DPSS.CO.OD No. 2785/06.08.005/2017-2018" for reviewing the business operations and infrastructure for payment ecosystem handled by Razorpay Services Private Limited.</p>
<b>Description of scoped environment and its exposure to payment system data storage</b>	<p>Razorpay Services host the 3-D secure processing platform engine "ZealMac ACS (ZealMac2ACS)" as per following components.</p> <ul style="list-style-type: none"> <li>○ Component 1: ACS v1 - 1.0</li> <li>○ Component 2: ACS v2 - 2.2</li> </ul> <p>Razorpay Services performs the cardholder authentication process for the e-commerce/m-commerce card payment transactions on behalf of integrated issuers.</p> <ul style="list-style-type: none"> <li>○ ZealMac ACS (Component 1 - ACS v1) <ul style="list-style-type: none"> <li>❖ <u>Payment Authentication</u> <ul style="list-style-type: none"> <li>▪ End consumer initiates the payment transaction in lieu of the purchase across merchant platform (Web/Mobile)</li> <li>▪ Merchant further submits the cardholder authentication request via Merchant Plugin (ZealMac) module.</li> <li>▪ ZealMac connects to the payment brand directory server which further routes and connects with the ZealMac2 ACS platform on behalf of "Razorpay services" connected issuers.</li> </ul> </li> </ul> </li> </ul>

- Razorpay Services releases the dynamic password i.e. OTP with end customers and performs the payment authentication service calls (PAREq/PARes)
- ❖ Enrolment
  - Razorpay Services performs 3-D secure card enrolment verification services as part of ACS service for the integrated issuers (VEReq/VERes)
  - Razorpay Services by default enroll the cardholder whose cards are issued by “Razorpay Services” on behalf of issuers as part issuer processing.
    - Entity fetches the cardholder information from the inhouse issuance platform i.e. “ZealMac2”.
    - Entity doesn’t store the cardholder information across ACS platform i.e. “ZealMac ACS (ZealMac2 ACS)”.
- ZealMac ACS (Component 2 – ACS v2)
  - ❖ Payment Authentication
    - End consumer initiates the payment transaction in lieu of the purchase across merchant platform (Web/Mobile)
    - Merchant i.e. 3DS client further submits the cardholder authentication request via 3DS Requestor (3DSS).
    - 3DSS connects to the payment brand directory server which further routes and connects with the ZealMac ACS platform (AREq/ARes) on behalf of Razorpay Services connected issuers.
    - Razorpay Services releases the dynamic password i.e. OTP with end customers and performs the challenge service calls (CREq/CRes)
  - ❖ Enrolment
    - Entity by default enroll the cardholder whose cards are issued by Razorpay Services on behalf of issuers as part issuer processing.

Razorpay Services fetches the cardholder information from the inhouse issuance platform i.e. “ZealMac2ACS” Entity doesn’t store

	the cardholder information across ACS platform i.e. “ZealMac ACS (ZealMac2 ACS)”
<b>Locations Covered in scope</b>	<ul style="list-style-type: none"> <li>• <b>Corporate Office &amp; Operation Centre:</b> Razorpay Services Private Limited, 6th Floor, Smartworks Marisoft C, Wing C, Kalyani Nagar, Wadgaon Sheri Rd, Annex, Pune, Maharashtra, 411014, India.</li> <li>• <b>Production Site (DC):</b> NTT Global Data Centre and Cloud Infrastructure Pvt Ltd (Netmagic) Lighthall C-Wing, Hiranandani Business Park, Saki Vihar Road, Chandivali, Mumbai, Maharashtra, India, 400072.</li> <li>• <b>Disaster Recovery Site (DR):</b> NTT Global Data Centre and Cloud Infrastructure Pvt Ltd (Netmagic) 88/A Electronic City, Phase 1, Bangalore, India, 560 100</li> </ul>

#### 5.4 Auditee members

Sr. No.	Name	Role	Organisation
INT01	Sachin Pagare	Director, Product Development Engineering	Razorpay Services Private Limited
INT02	Sandeep Ghag	Lead, Compliance Engineer	Razorpay Services Private Limited
INT03	Ashish Kirpan	Manager, Product Development Engineering	Razorpay Services Private Limited
INT04	Rahul Futane	Senior System Engineer	Razorpay Services Private Limited
INT05	Mukesh Barkale	Product Development Engineer	Razorpay Services Private Limited

#### 5.5 Assessment Coverage

Line of Business	Department/Sub Function	Business Infra Location	Business Covered	Locations
<b>Payment Service Provider</b>	Operations	Razorpay Services Private Limited, 6th Floor, Smartworks Marisoft C, Wing C, Kalyani Nagar, Wadgaon Sheri Rd, Annex, Pune, Maharashtra, 411014, India.	Razorpay Services Private Limited, 6th Floor, Smartworks Marisoft C, Wing C, Kalyani Nagar, Wadgaon Sheri Rd, Annex, Pune, Maharashtra, 411014, India.	
	Hosted Infrastructure	<b>Production Site (DC):</b> NTT Global Data Centre and Cloud Infrastructure Pvt Ltd (Netmagic) Lighthall C-Wing, Hiranandani Business	<b>Production Site (DC):</b> NTT Global Data Centre and Cloud Infrastructure Pvt Ltd (Netmagic) Lighthall C-Wing, Hiranandani Business Park, Saki Vihar	

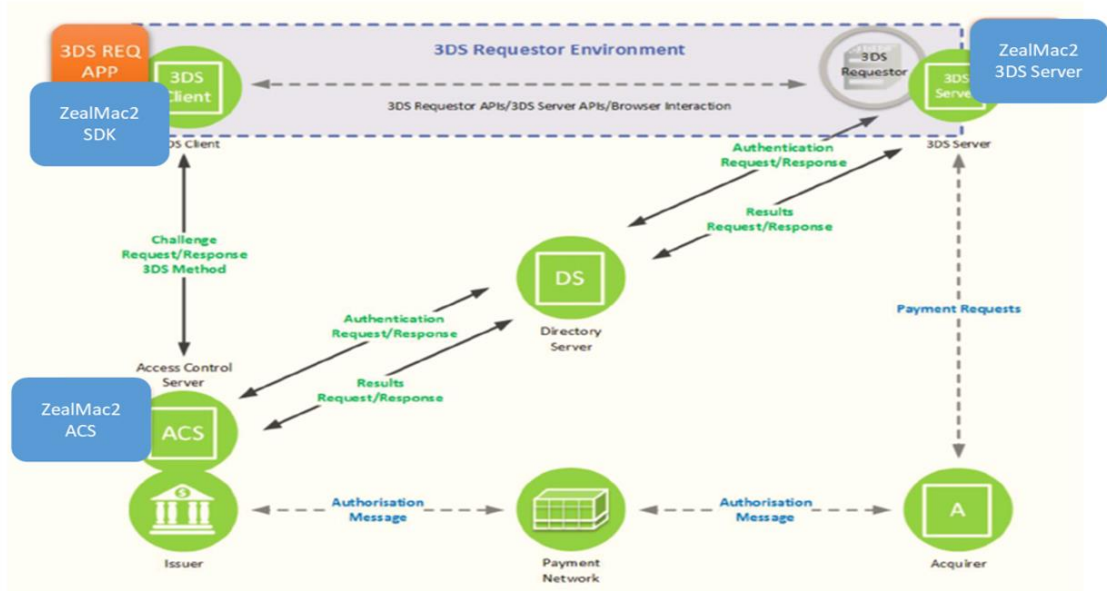
		Park, Saki Vihar Road, Chandivali, Mumbai, Maharashtra, India, 400072. <b>Disaster Recovery Site (DR):</b> NTT Global Data Centre and Cloud Infrastructure Pvt Ltd (Netmagic) 88/A Electronic City, Phase 1, Bangalore, India, 560 100.	Road, Chandivali, Mumbai, Maharashtra, India, 400072. <b>Disaster Recovery Site (DR):</b> NTT Global Data Centre and Cloud Infrastructure Pvt Ltd (Netmagic) 88/A Electronic City, Phase 1, Bangalore, India, 560 100.
	Information Security	Razorpay Services Private Limited, 6th Floor, Smartworks Marisoft C, Wing C, Kalyani Nagar, Wadgaon Sheri Rd, Annex, Pune, Maharashtra, 411014, India.	Razorpay Services Private Limited, 6th Floor, Smartworks Marisoft C, Wing C, Kalyani Nagar, Wadgaon Sheri Rd, Annex, Pune, Maharashtra, 411014, India.

## 5.6 Data Infrastructure Details

S. No.	Asset	Operating System	Location of the Asset	Hostnames/IP Address
1.	Database	MySQL 8.0.30	Mumbai, India	zealmac2acs_prod
2.	Server	CentOS Linux 7 (core)	Mumbai, India	ZMDC42

## 5.7 Payment Data Flow Architecture

### Data Flow Diagram

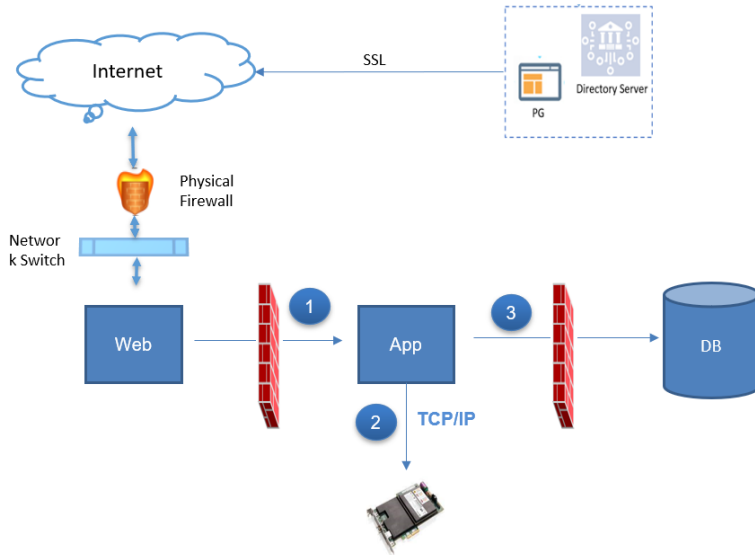


App flow diagram

Version 1.4

Approver Name: Sachin Pagare

Date: 06 Aug 2023



1. Request (containing card number) will be passed from Web to App
2. App will encrypt the Card Details using HSM
3. After Card is encrypted, Application will store it in the database.

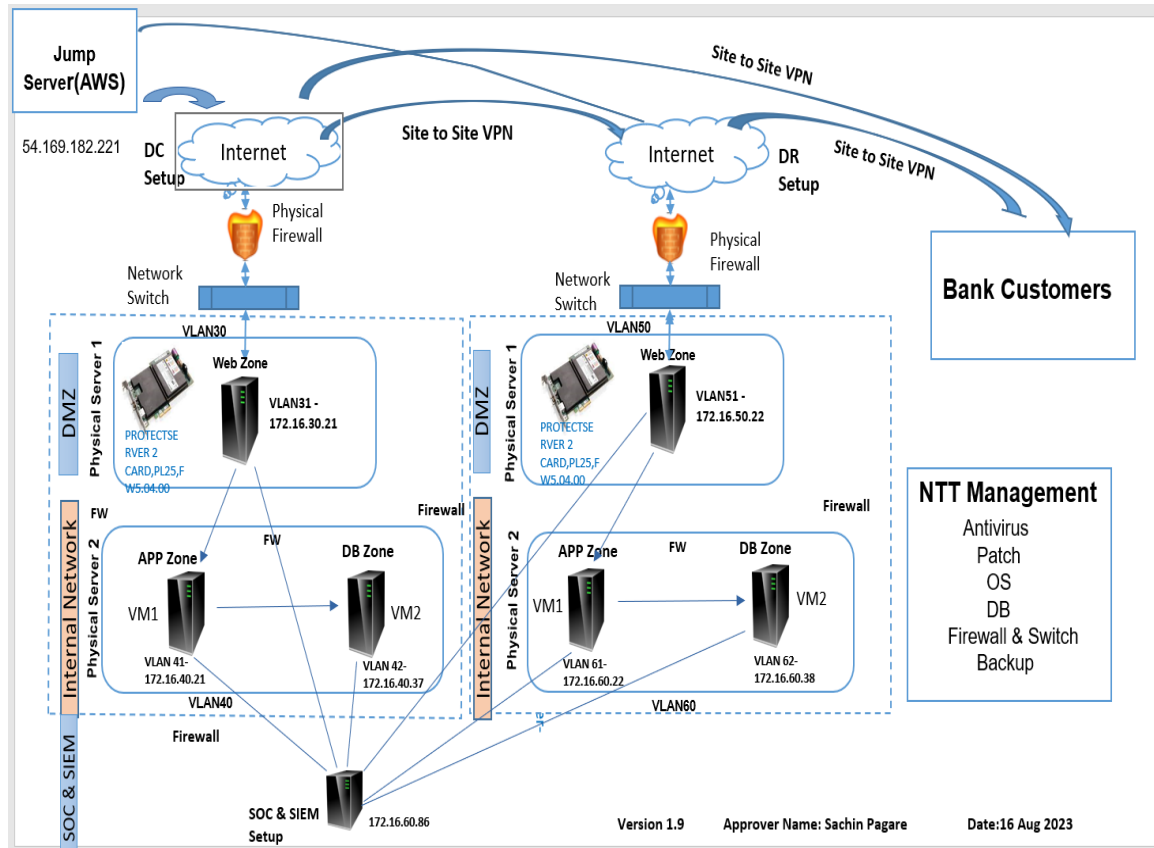
Card Number - Data Flow Diagram

Version 1.4

Approver Name: Sachin Pagare

Date: 06 Aug 2023

## Network Diagram



## 5.8 Service Providers and Other Third Parties' Details

The list mentioned below reflects service providers and other third parties with which the entity shares payment data as per transaction processing, analytics etc. which must comply with RBI data localization notification.

S. No	Company Name	Data sharing details	The purpose for sharing payment data (For example, third-party storage, transaction processing, etc.)	Status of Compliance (Third party vendors)
1.	Amazon Workspace	NA	For accessing Netmagic servers	Assessor observed that entity has taken cloud data hosting services from Amazon- amazon Web Services and the location for

				<p>data hosting for in-scope process is done at Mumbai, India region.</p> <p>Assessor further observed the data hosting and location document issued by Amazon, "AWS_India_Data_Localisation_Controls" dated July 2018. The assessor also observed that the AWS cloud services have been assessed and identified under MeitY (Ministry of Electronics &amp; Information Technology) for empanelment of cloud services offering of CSP (<a href="https://www.meity.gov.in/content/gi-cloud-meghraj">https://www.meity.gov.in/content/gi-cloud-meghraj</a>) and noted that the entity AWS follows RBI Data Localization guidelines as per the issued circular.</p>
2.	NTT Services Pvt Ltd	Data Storage as per NDA	Third Party Storage – Co-location Data Service	Assessor with the help of Razorpay Services performed an assessment to ascertain that data stored by NTT Services Pvt Ltd is being stored in India Mumbai, India region.

## 6. Assessor workbook – RBI Payment System Storage Parameters

S. No.	Function / Sub Function	Audit Criteria	Assessor Response
1.	Data Transmission Classification	Whether the entity shares the customer payment data with any service provider  The payment customer data can be comprised of Customer's name, customer's mobile number, residential address, email ID, gender, location details (entered by customer); device details such as App id, IMEI number, Card number, transaction related details – UPI ID, RRN, transaction id, time stamp, beneficiary UPI ID, beneficiary account number and beneficiary CBS name resolved by beneficiary's PSP (stored for subsequent transaction enablement) etc.	The assessor verified that entity shares the customer payment information to the vendors/service providers as explained in section 5.8 of this report. Razorpay Services Private Limited shares the payment data with vendors/service provider for below mentioned purpose:  <b>NTT Services Pvt Ltd</b> Transaction and audit logs are transmitted and stored in NTT Services Pvt Ltd for retention and analytics. Data reside in Data Centre in Mumbai, India.  <b>Amazon – Amazon Web Services, Mumbai, India region :</b>  The assessor observed that the Razorpay services has taken Aws workspace services from Amazon. The assessor noted that the entity has selected and hosted all data in Mumbai (India) region.
2.	Service Provider Data Storage	Whether the service provider stores the customer data as per as per the circular number RBI/2017-18/153,DPSS.CO.OD No.2785/06.08.005/2017-2018.	The assessor through various methods like Interview with INT02 of Razorpay Services Private Limited, Sample Transaction assessment and data storage components review confirmed that the following service providers store the customer data in India location as per the circular

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		<p>number “RBI/2017-18/153, DPSS.CO.OD No. 2785/06.08.005/2017-2018”</p> <ul style="list-style-type: none"> <li>• NTT Services Pvt Ltd</li> </ul> <p>Transaction and audit logs are transmitted and stored in NTT Services Pvt Ltd for retention and analytics. Data reside in Data Centre in Mumbai, India.</p> <ul style="list-style-type: none"> <li>• Amazon - Amazon Web Services, Mumbai, India region:</li> </ul> <p>The assessor observed that the Razorpay services has taken Aws workspace services from Amazon. The assessor noted that the entity has selected and hosted all data in Mumbai (India) region.</p> <p>The assessor further reviewed the data storage and hosting location document provided by Amazon, “AWS_India_Data_Localisation_Controls ”dated July 2018 and thus confirmed that AWS is also storing data in India as per the RBI circular, “RBI/2017-18/153, DPSS.CO.OD No.2785/06.08.005/2017-2018”.</p>
<p>3. Database Storage and Maintenance</p>	<p>Auditor should verify payments database storage in all applicable jurisdictions and the maintenance activities performed for these databases.</p> <p>Auditor should confirm, database maintenance activities being performed are satisfactory.</p>	<p>Assessor with the help of INT02 reviewed the MySQL database and confirmed that database is hosted in Mumbai DC5 location Rack no. 130, U-28 to 32, POD-2B, India. The same has been validated by reviewing network diagram.</p> <p>Assessor interviewed Razorpay Services Private Limited team and noted that they perform the following database maintenance activities for improving performance and database maintenance for database:</p> <p><b>Data Security:</b></p>

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		<p>The assessor verified that Razorpay Services Private Limited stored transaction and payment information in NTT Services hosted in Mumbai DC5 location Rack no. 130, U-28 to 32, POD-2B, India. Database in encrypted using AES 256 algorithm.</p> <p><b>Database Backup and Restoration:</b> Assessor confirms that all data is stored in NTT Services hosted in Mumbai DC5 location Rack no. 130, U-28 to 32, POD-2B, India.</p> <p>The assessor further with the help of INT02 reviewed MySQL database and noted that backup happens every day and data backups take place in Mumbai DC5 location Rack no. 130, U-28 to 32, POD-2B, India.</p> <p>Assessor further with the help of INT02 reviewed 'Database Restoration activity summary &amp; evidence' dated 24<sup>th</sup> May 2023 noted that entity performed data restoration activity on 24<sup>th</sup> May 2023.</p>
<p><b>4.</b></p>	<p>Transaction Processing</p>	<p>Auditor should perform checks to verify aspects of transaction processing is done in India and outside India.</p> <p>The assessor interviewed administrators reviewed various data flows, interviewed teams and reviewed the sample transaction logs dated 20<sup>th</sup> August 2023 on uatacs.izealiant.com and further verified that data stored in database which is component of Razorpay Services Private Limited at Mumbai DC5 location Rack no. 130, U-28 to 32, POD-2B, India. Hence, ensure that all in-scope operations are performed in India.</p> <p>The assessor further with the help of INT03 team reviewed network diagram "low_level_diagram 1.1.ppt" dated 16<sup>th</sup> August 2023" to confirm that all processing (in-scope of assessment) is done within India only. Hence, It is observed (as per provided information) that all in-scope operations are performed in India as mentioned below:</p> <p><b>a. Head office and Operations Centre:</b></p>

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	<p>Auditor should check for transaction processing happening outside India, purging process and policy is defined.</p>	<p>Razorpay Services Private Limited, 6th Floor, Smartworks Marissoft C, Wing C, Kalyani Nagar, Wadgaon Sheri Rd, Annex, Pune, Maharashtra, 411014, India.</p> <p>b. <b>Production Site (DC):</b> NTT Global Data Centre and Cloud Infrastructure Pvt Ltd (Netmagic) Lighthall C-Wing, Hiranandani Business Park, Saki Vihar Road, Chandivali, Mumbai, Maharashtra, India, 400072, Rack-130, U-28 to 32, POD-28.</p> <p>c. <b>Disaster Recovery Site (DR):</b> NTT Global Data Centre and Cloud Infrastructure Pvt Ltd (Netmagic) 88/A Electronic City, Phase 1, Bangalore, India, 560 100, SH-02, FR-087, 11U-15U.</p> <p>The assessor interviewed with Network, Business, Operation teams and reviewed transaction processing flows, various data flows to ensure that all in-scope operations are performed in India.</p> <p>The assessor further observed that transaction request data is managed, stored and processed by Razorpay Services Private Limited hosted infrastructure at NTT Services Mumbai DC5 location, Rack no. 130, U-28 to 32, POD-2B, India. Further, processing such as transaction authorization etc are done with the help of Payment processors or Acquirers and their data compliance status is mentioned in section 5.8 of</p>
<p>Auditor should perform conclusive checks of the defined purging policy for this transaction data and whether it is as per RBI guidelines i.e. 24 hours or end of business day as defined currently in RBI Data Localization FAQ and related evidences should be included in the report.</p>	<p>The assessor interviewed with Network, Business, Operation teams and reviewed transaction processing flows, various data flows to ensure that all in-scope operations are performed in India.</p> <p>The assessor further observed that transaction request data is managed, stored and processed by Razorpay Services Private Limited hosted infrastructure at NTT Services Mumbai DC5 location, Rack no. 130, U-28 to 32, POD-2B, India. Further, processing such as transaction authorization etc are done with the help of Payment processors or Acquirers and their data compliance status is mentioned in section 5.8 of</p>	

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		<p>this report. Hence, it is ensured that entity performs in-scope operations in India.</p>
<p>5. Activities subsequent to Payment Processing</p>	<p>Auditor should identify activities subsequent to payment processing like settlement processing being performed outside Indian Jurisdiction.</p>	<p>The assessor interviewed administrators reviewed various data flows, interviewed teams and reviewed the sample transaction logs dated 20<sup>th</sup> August 2023 on uatacs.izealiant.com and further verified that data stored in database which is component of Razorpay Services Private Limited at Mumbai DC5 location Rack no. 130, U-28 to 32, POD-2B, India. Hence, ensure that all in-scope operations are performed in India. The assessor further with the help of INT03 team reviewed network diagram "low_level_diagram 1.1.ppt" dated 16<sup>th</sup> August 2023" to confirm that all processing (in-scope of assessment) is done within India only.</p>
	<p>Auditor should check for these post payments processing activities, purging process and policy is defined.</p>	<p>The assessor interviewed administrators reviewed various data flows, interviewed teams and reviewed the sample transaction logs dated 20<sup>th</sup> August 2023 on uatacs.izealiant.com and further verified that data stored in database which is component of Razorpay Services Private Limited at Mumbai DC5 location Rack no. 130, U-28 to 32, POD-2B, India. Hence, ensure that all in-scope operations are performed in India. The assessor further with the help of INT03 team reviewed network diagram "low_level_diagram 1.1.ppt" dated 16<sup>th</sup> August 2023" to confirm that all processing (in-scope of assessment) is done within India only.</p>

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	<p>Auditor should perform conclusive checks of the defined purging policy for this data and whether it is done as per RBI guidelines i.e. on a near real time basis as defined currently in RBI Data Localization FAQ. Related evidence for the same should be included in the report.</p>	<p>Hence, It is observed (as per provided information) that all in-scope operations are performed in India as mentioned below:</p> <ol style="list-style-type: none"> <li>a. <b>Head office and Operations Centre:</b> Razorpay Services Private Limited, 6th Floor, Smartworks Marisoft C, Wing C, Kalyani Nagar, Wadgaon Sheri Rd, Annex, Pune, Maharashtra, 411014, India.</li> <li>b. <b>Production Site (DC):</b> NTT Global Data Centre and Cloud Infrastructure Pvt Ltd (Netmagic) Lighthouse C-Wing, Hiranandani Business Park, Saki Vihar Road, Chandivali, Mumbai, Maharashtra, India, 400072, Rack-130, U-28 to 32, POD-28.</li> <li>c. <b>Disaster Recovery Site (DR):</b> NTT Global Data Centre and Cloud Infrastructure Pvt Ltd (Netmagic) 88/A Electronic City, Phase 1, Bangalore, India, 560 100, SH-02, FR-087, 11U-15U.</li> </ol> <p>The assessor interviewed administrators reviewed various data flows, interviewed teams and reviewed the sample transaction logs dated 20<sup>th</sup> August 2023 on uatacs.izealiant.com and further verified that data stored in database which is component of Razorpay Services Private Limited at Mumbai DC5 location Rack no. 130, U-28 to 32, POD-2B, India. Hence, ensure that all in-scope operations are performed in India.</p> <p>The assessor further with the help of INT03 team reviewed network diagram "low_level_diagram 1.1.ppt" dated 16<sup>th</sup> August 2023" to confirm that all processing (in-scope of assessment) is done within India only. Hence, It is observed (as per provided information) that all in-scope operations are performed in India as mentioned below:</p> <ol style="list-style-type: none"> <li>a. <b>Head office and Operations Centre:</b> Razorpay Services Private Limited, 6th Floor, Smartworks Marisoft C, Wing C, Kalyani Nagar, Wadgaon Sheri Rd, Annex, Pune,</li> </ol>
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		<p>Maharashtra, 411014, India.</p> <p>b. <b>Production Site (DC):</b> NTT Global Data Centre and Cloud Infrastructure Pvt Ltd (Netmagic) Lighthouse C-Wing, Hiranandani Business Park, Saki Vihar Road, Chandivali, Mumbai, Maharashtra, India, 400072, Rack-130, U-28 to 32, POD-28.</p> <p>c. <b>Disaster Recovery Site (DR):</b> NTT Global Data Centre and Cloud Infrastructure Pvt Ltd (Netmagic) 88/A Electronic City, Phase 1, Bangalore, India, 560 100, SH-02, FR-087, 11U-15U.</p>
6.	<p>Cross Border Transactions</p> <p>Auditor should verify whether cross border transactions are happening/supported by the application.</p> <p>Verification of storage of payment data elements for both foreign component and domestic component should be performed, and related evidence should be included in the report.</p>	<p>Razorpay Services Private Limited is currently providing ZealMac2ACS services within India. Hence, entity is currently not involved in cross border transactions.</p> <p>Razorpay Services Private Limited is currently providing ZealMac2ACS services within India. Hence, entity is currently not involved in cross border transactions.</p>
	<p>In case if the application has cross border transaction capability for futuristic use, checks should be performed by the auditor to confirm the same with conclusive evidence in the report.</p>	<p>Razorpay Services Private Limited is currently providing ZealMac2ACS services within India. Hence, entity is currently not involved in cross border transactions.</p>

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7.	Data Backup & Restoration	<p>Auditor should verify back and restoration of the defined payment data against the defined back and restoration policy</p> <p>a. Defined Back up frequency and its compliance</p> <p>b. Defined Restoration frequency and its compliance</p>	<p><b>Database Backup and Restoration:</b></p> <p>Assessor confirms that all data is stored in NTT Services hosted in Mumbai DC5 location, India. The assessor further with the help of INT02 reviewed MYSQL database and noted that backup happens every day and data backups take place in Mumbai DC5 location, Rack no. 130, U-28 to 32, POD-2B, India.</p> <p>Assessor further with the help of INT02 reviewed 'Database Restoration activity summary &amp; evidence' dated 24<sup>th</sup> May 2023 noted that entity performed data restoration activity on 24<sup>th</sup> May 2023.</p> <p>Assessor also reviewed 'Data Retention and Disposal Policy-V1.5.doc' and data restoration is performed on regular basis within India.</p>
8.	Data Security	<p>Auditor should verify the security controls put in place to safeguard the transaction data for the applications against</p> <p>a. Standard data security controls like encryption, masking, database access monitoring, data leakage prevention etc.</p> <p>b. Applicable regulatory guidelines like RBI Guidelines, UIDAI Guidelines etc.</p>	<p><b>Data Security during Transmission:</b> -</p> <p>The assessor verified that Razorpay Services Private Limited accepts and transmits data over HTTPS channel protected with strong TLS version 1.3 over uatacs.izealiant.com. The same has been validated by checking the SSL certificate being used on application.</p> <p><b>Data Security during Rest:</b> -</p> <p>The assessor verified that Razorpay Services Private Limited stored transaction and payment information in NTT Services hosted in Mumbai DC5 location, India. Database in encrypted using AES 256 algorithm.</p> <p>Assessor confirmed that all data is stored in NTT services hosted in Mumbai DC5 location, Rack no. 130, U-28 to 32, POD-2B, India. There is no data is being stored outside India. The same has been validated by reviewing network diagram.</p>

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	<p>Auditor should verify whether any payment data is stored is stored or accessed outside India for data analytics/mining purposes. If yes relevant information on the same, controls around it to maintain compliance to the data localization circular. This should include scenarios where data sharing is done between the organization with any other organization like parent organization, sister organization, Sublet organization etc.</p>	<p>Assessor confirmed that all data is stored in NTT services hosted in Mumbai DC5 location, Rack no. 130, U-28 to 32, POD-2B, India. There is no data is being stored outside India. The same has been validated by reviewing network diagram.</p>
<p>9. Access Management</p>	<p>Auditor should check access management controls for all payments data against the defined policy. Also conclusive evidence should be checked and included in the report to show that the access management controls are satisfactory.</p>	<p>Assessor with the help of administrator reviewed user access matrix and noted that users are provided access to AWS Console, server, database, etc. on need-to-know basis.  Assessor further with the help of DevOps team reviewed AWS Console and checked users by following path 'Identity and Access Management (IAM)→ Access Management→ Users' and noted that users are provided access on need-to-know basis. Assessor further reviewed AWS Console, followed path 'Identity and Access Management (IAM)→ Access Management→ Account Settings' and noted following:  Minimum Password Length – 14  Password Complexity – Alphanumeric along with special characters  Password Expiry – 60 days  Password History – 24</p> <p>Assessor with the help of administrator reviewed Server and ran command '\$ sudo su' where it is noted that users are provided access on need-to-know basis. Assessor further ran command 'sudo ls -ls /etc/audit/'</p>

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		<p>followed by 'sudo cat /etc/audit/rules.d/audit.rule' and noted all kind of activities by users are logged.          Assessor also with the help of administrator reviewed database storing payment data and ran query 'mysql&gt; select host,user from mysql.user' where it is noted that access is provided on need-to-know basis only.          Assessor also noted that all access to database is through jump server only.</p> <p>Hence, it is ensured that access management controls are satisfactory.</p>
	<p>Auditor should check location of customer support for the application and what data is being accessed by them.</p>	<p>Assessor interviewed administrator and noted that there is no customer support team functional in the scoped environment of Razorpay Services Private Limited.</p>
	<p>In case of data is accessed from outside India for customer support activities, dispute resolution, chargeback or any other activities like data analytics, auditor should check access levels granted to the respective teams/individuals are in line with the defined policy/process and are satisfactory.</p>	<p>The assessor through various methods like Interview and assessment techniques noted that there are no service providers or teams within Razorpay Services Private Limited who access the payment data from outside India.</p>

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## 6.1 Indicative Checklist for Data Localization System Audit Report

- Payment Data

Data	Sr.	Data Elements	Data at Rest/ Processing	Jurisdiction	Data Brought back to India
Customer Data	1	Email	Data at Rest	India	NA
	2	Mobile Number	Data at Rest	India	NA
	3	Name	Data at Rest	India	NA
Transaction Data	4	Purchase Amount	Data at Rest	India	NA
	5	Purchase Currency	Data at Rest	India	NA
	6	ACS server txn Id	Data at Rest	India	NA
	7	3DS server txn id	Data at Rest	India	NA
	8	DS txn id	Data at Rest	India	NA
	9	Merchant Name	Data at Rest	India	NA
Payment Sensitive Data	10	Card Number	Data at Rest	India	NA
	11	Card Expiry	Processing	India	NA
Payments Credentials Data	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable

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- Non-Payments Data

Data	Data Elements	Data at Rest/ Processing	Jurisdiction	Data Brought back to
1	Transaction date	data at Rest	India	NA
2	Transaction status	data at Rest	India	NA

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