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NEXT-GEN CARD ISSUER PROCESSORS IN THE US: ZETA

Ready to Capture the Credit Card Opportunity?

25 September 2023

Zil Bareisis

A division of Oliver Wyman

This authorized reprint contains material excerpted from a recent Celent report titled 'Next-Gen Card Issuer Processors in the US'.

The full report is more than 150 pages long and is available to clients of Celent Research & Advisory Services via [Celent.com](https://www.celent.com)

The report was not sponsored by Zeta in any way and this reprint was prepared specifically for Zeta, but the analysis presented has not been changed from that presented in the full report.

For more information on the full report, please contact Celent at info@celent.com

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1

**INTRODUCTION AND
SELECTED KEY FINDINGS**

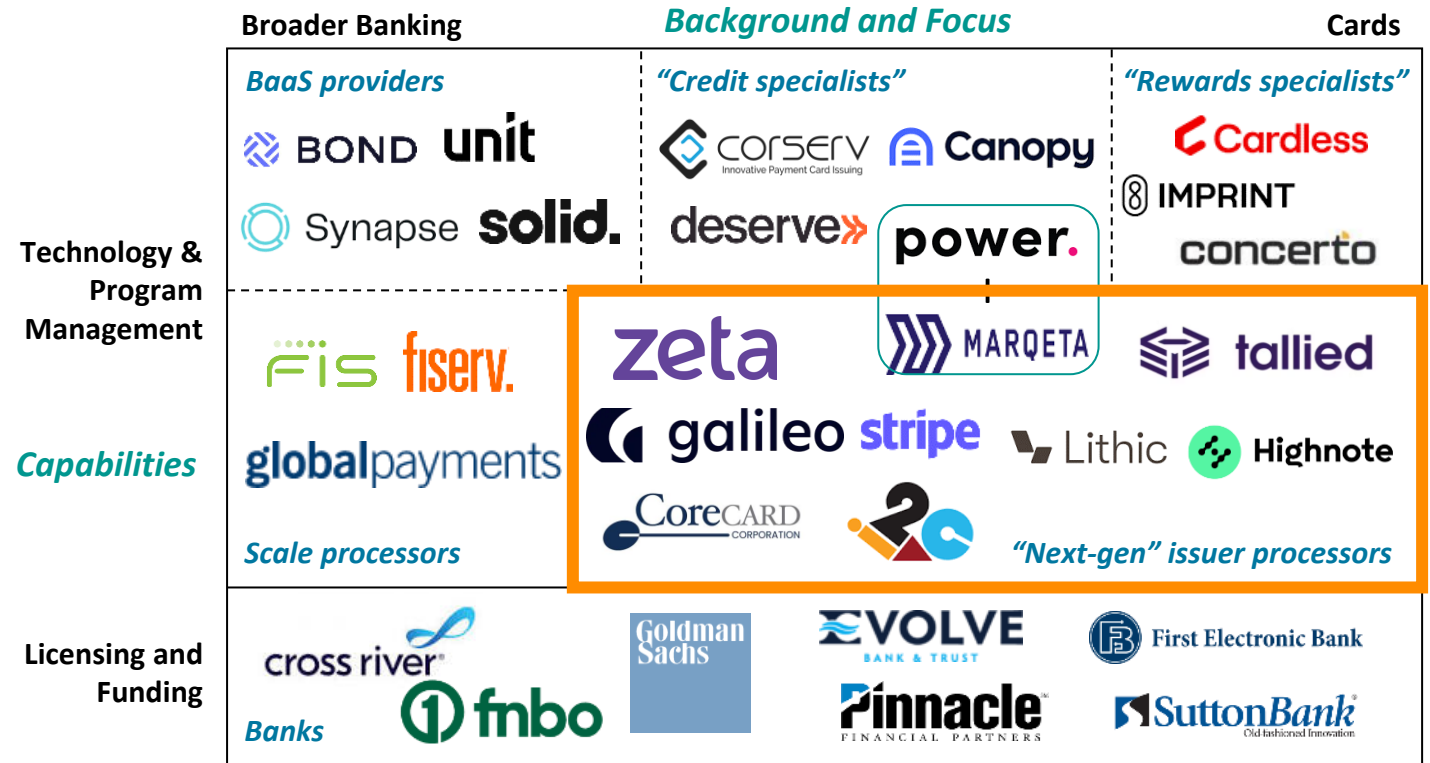


INTRODUCTION

- Celent’s recent study of the US market opportunity in Credit Card-as-a-Service (CCaaS) identified a busy landscape of providers offering or rapidly building the required capabilities.
 - [The Siren Song of Credit Card-as-a-Service: In Search of a Breakthrough Opportunity in the US Market](#)
- As a follow up, we wanted to zoom-in on the “next-gen” issuer processors* to deeper understand their priorities and capabilities around **credit processing in the US**.
- While the companies highlighted in the orange box on the right are sufficiently similar to be called “next-gen issuer processors,” there are important differences in their focus areas and capabilities. Therefore, the aim of this report was to **profile and objectively represent each participating company**, seeking to highlight the points of **differentiation**. It was **not** to evaluate, pass judgement, or “identify the winners.”

Credit Card-as-a-Service: The Landscape of Potential Providers

Not Exhaustive



Focus of this research

* We profiled the three scale processors in detail in another report published in June 2022: [Modernizing the US Card Processing Platforms: Stories of Digital Transformation](#)

RESEARCH APPROACH

- For our study, we wanted to include all nine companies shown in the orange box on the previous page.
 - Six of those agreed to participate, and their detailed profiles are featured in the full version of this report. The companies are listed alphabetically.



- Two companies were not prepared to participate in full, but agreed to brief us and to have a mini-profile included in the full report:



- We did not manage to get in-touch with  Lithic

- The participating companies received and completed a detailed Celent RFI (Request for Information), consisting of five sections:
 - **Introduction:** basic facts about the company and overall market presence
 - **Company and credit.** Progress, priorities, market perspective
 - **Credit processing platform capabilities.** Measuring against Celent’s Credit Card-as-a-Service (CCaaS) stack
 - **Implementation and commercials.**
 - **Competitive intelligence.** This last section asked for the company’s confidential views on its key competitors. This is not included in the report.
- In addition, we arranged briefing calls with each participating company to discuss their responses in more detail.
- As always, the companies had the opportunity to review their draft profiles for accuracy.

This extract from the full report only features the profile of **zeta**

SELECTED KEY FINDINGS

- Next-gen processors view credit in the US as a big and important opportunity, both with banks and non-banks. Today, processors pursue different go-to-market strategies. For example, **Zeta** is one of the companies focused mainly on serving banks, while some others are exclusively focused on non-banks. In three to five years, most expect to have a balanced portfolio serving both banks and non-banks.
 - In time, next-gen processors expect to capture a larger share of the banks' legacy portfolios.
 - Processors also see opportunities in Credit Card-as-a-Service (CCaaS) across multiple segments of non-banks, particularly with fintechs currently issuing debit/prepaid cards, business/ commercial cards, and vertical software vendors.
- **Zeta** is among the processors that have been set up to process credit from the outset and have highly capable platforms able to deal with complexities of revolving unsecured consumer credit cards.
- All platforms are delivered as Software-as-a-Service in the cloud, but the use of cloud varies. **Zeta** is a truly cloud-native platform, with private portable cloud-agnostic Platform-as-a-Service layer, enabling deployments across hyperscalers, such as AWS or Azure.
- Most processors take on some aspects of program management, although the definition of program management varies greatly within the industry. **Zeta's** current focus exclusively on banks means those capabilities are not required at the moment.
- Only one processor can offer its non-bank clients a credit facility. Others, including **Zeta**, focus on providing technology for underwriting and application processing – either themselves or via partners – but the credit decisions are made by the banks / credit providers.
- For cardholder digital engagement, **Zeta** is among the processors that can offer a white-labeled app/website to support customer engagement. Similarly, for customer servicing, disputes, and collections, most can offer agent-facing technology – and if required by the client, managed services, delivered either through their own people or via partners.
- All processors stress their flexibility in structuring the right commercial approach for clients. Typically, it includes a setup fee, a monthly platform fee, usage-based fees, and charges for value-added services.

- Many US banks that issue credit cards are happy with their existing arrangements, using either home-grown applications or outsourcing it to scale processors. However, for any bank that is considering a change, next-gen processors can provide an increasingly viable alternative. In the report, Celent called out **Zeta's** strong credit processing capabilities and the growing experience of working with banks and named it among the likeliest partner candidates for banks.

THE PROCESSORS VIEW CREDIT CARDS IN THE US AS A BIG AND IMPORTANT OPPORTUNITY

Nobody agreed with these statements


Credit is of little interest to us, and we are not actively pursuing credit opportunities at this time

We'll take on credit processing deals ad-hoc, but it's not a major focus

We've started elsewhere, but credit is becoming very important for us


We were set up to pursue credit, and credit processing is our main focus

Galileo is best known for its prepaid and debit capabilities, which account for 80% of the business today. Its first credit product was secured credit, and Galileo has set aside some credit aspirations to get installment loans up and running.




Founded in 2000

CoreCard is deeply steeped in credit. While the company now has debit and prepaid capabilities, credit makes up 85% of its portfolio. Unsecured revolving consumer credit is the biggest portfolio today, with business cards also growing rapidly.




Founded in 2001

One of the relative newcomers, Highnote began with prepaid/debit, but is responding to high customer demand for credit: it launched a charge card solution and is aggressively building out the unsecured revolving consumer credit capabilities.




Founded in 2020

Tallied, the most recent market entrant, is focused exclusively on credit, offering full program management. Commercial/SMB Programs are the primary focus, but it can do select consumer programs as well. Tallied has an explicit strategy NOT to support prepaid/debit.




*Incorporated Sep 2021
Started in 2022*

Offering a unified banking and payments platform, i2c began with prepaid/debit market focus; however, credit is now becoming a major focus and a key growth area, with over 50% of the credit portfolio coming from unsecured revolving consumer credit.



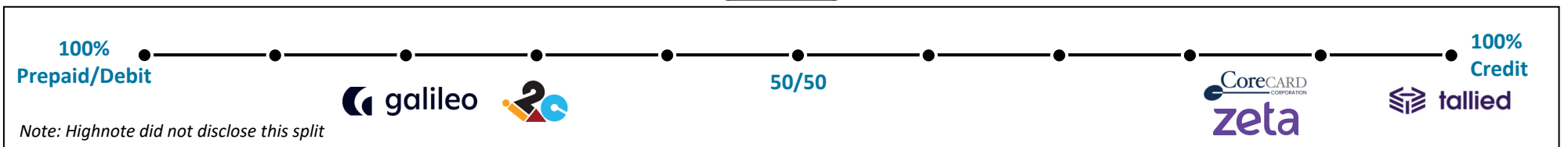
Founded in 2001

While Zeta Tachyon was designed to power any retail or commercial banking product, the company entered the US market with credit and is actively pursuing credit card processing opportunities in the US at top 100 issuers.

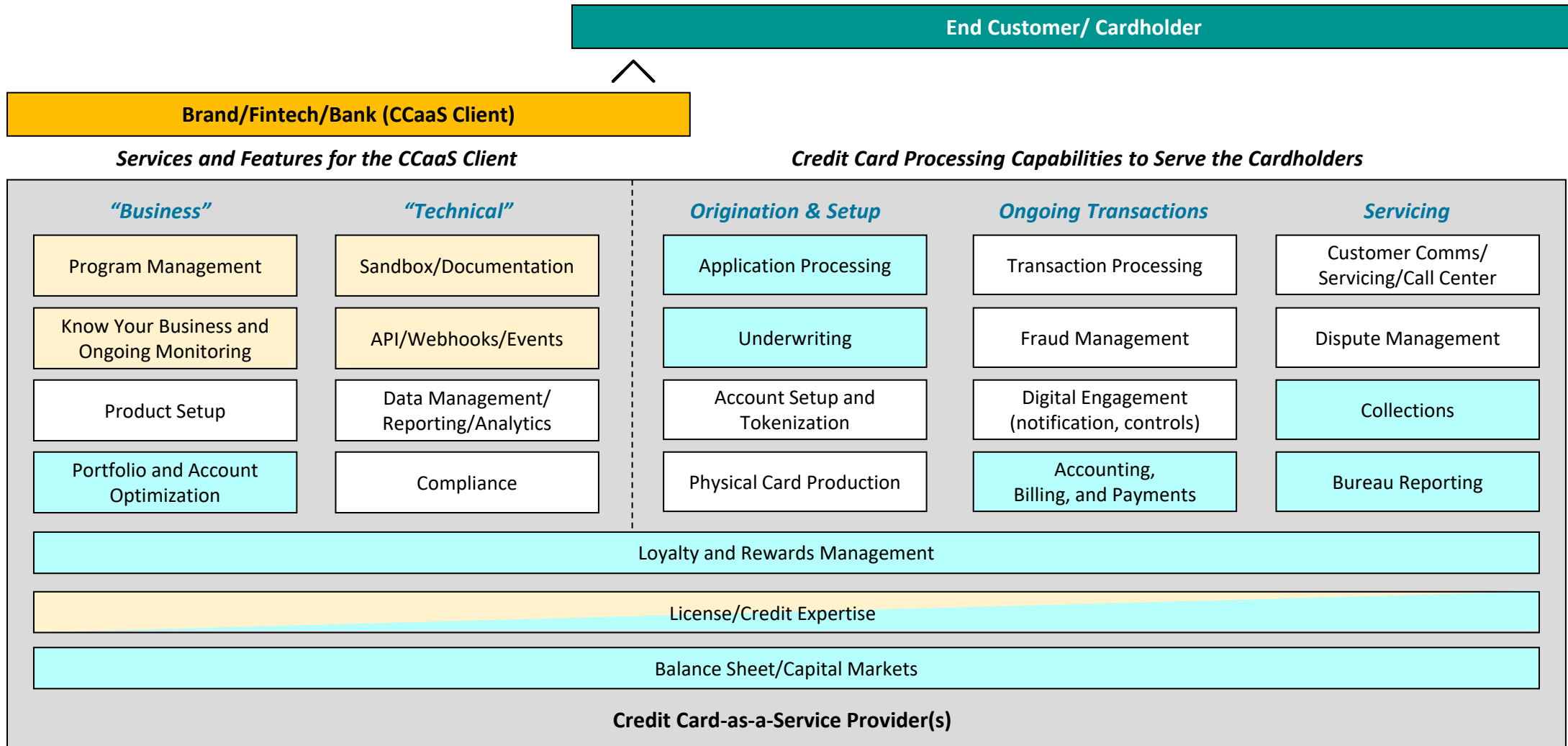


Founded in 2015

Current Business Mix: Prepaid/Debit vs Credit



THE FULL CREDIT CARD-AS-A-SERVICE CAPABILITIES STACK INCLUDES SPECIFIC FEATURES TO SUPPORT BOTH CREDIT PROCESSING AND AS-A-SERVICE DELIVERY



Any card processing
 Additional capabilities needed for credit card processing
 Additional capabilities needed for card-as-a-service

Note: More detailed definitions of each box are available in the Appendix

TO BETTER DIFFERENTIATE AMONG THE PROVIDERS, WE REGROUPED THE CAPABILITIES AND ADDED FURTHER QUESTIONS AROUND ARCHITECTURE AND COMMERCIALS

Architecture Highlights	Program Management and Setup	Credit and Origination	Credit Processing	UX and Services	Implementation and Commercials
<ul style="list-style-type: none"> • Cloud infrastructure • Integrations • Performance • Security • Other 	Program Management	License/Credit Expertise	Account Setup and Tokenization	Digital Engagement (notification, controls)	<ul style="list-style-type: none"> • Preferred implementation approach • Average time to 'live' • Pricing/SLA • Total cost of ownership
	Know Your Business and Ongoing Monitoring	Balance Sheet/Capital Markets	Physical Card Production	Customer Comms/ Servicing/Call Center	
	Compliance	Application Processing	Transaction Processing	Dispute Management	
	Product Setup	Underwriting	Fraud Management	Collections	
	Sandbox/Documentation		Accounting, Billing, and Payments		
	API/Webhooks/Events		Loyalty/Rewards Management		
	Data Management/ Reporting/Analytics		Bureau Reporting		
	Portfolio and Account Optimization				

Any card processing
 Additional capabilities needed for credit card processing
 Additional capabilities needed for card-as-a-service

Note: More detailed definitions of each box are available in the Appendix

THE PROFILE STRUCTURE AND CONTENTS

Section	Description
Introducing the company	Celent's summary of the overall profile, highlighting key aspects of the offering: the technology platform, program management, market presence and focus, and other relevant points
Company overview	Key facts about the company and its business mix today
Company and credit	Platform origins, focus and ability to support different credit programs, credit clients
Market opportunities and priorities	Company's perspectives on where the biggest market opportunities are and how it sees the business mix evolving over 3 to 5 years
Platform summary	Celent's one-page summary of the platform, highlighting the company's approach, key partners, stand-out features, and areas being addressed across five major areas: architecture highlights, program management and setup, origination and credit, credit processing, and UX and servicing
Architecture highlights	Company's responses to Celent's questions on deployment/cloud infrastructure, integrations, security, performance, and other points.
Platform components and capabilities	<p>Multiple pages describing key components and capabilities grouped into four areas, based on the company's responses to Celent RFI*.</p> <p>Each component is color-coded as follows:</p> <ul style="list-style-type: none"> Solid capability Some gaps Not offered <p>Stand-out features – in Celent's opinion – are marked with ★</p>
Implementation and commercials	RFI-based Q&A on implementation approaches, timing, pricing, and other topics

** Celent has not independently verified all statements*

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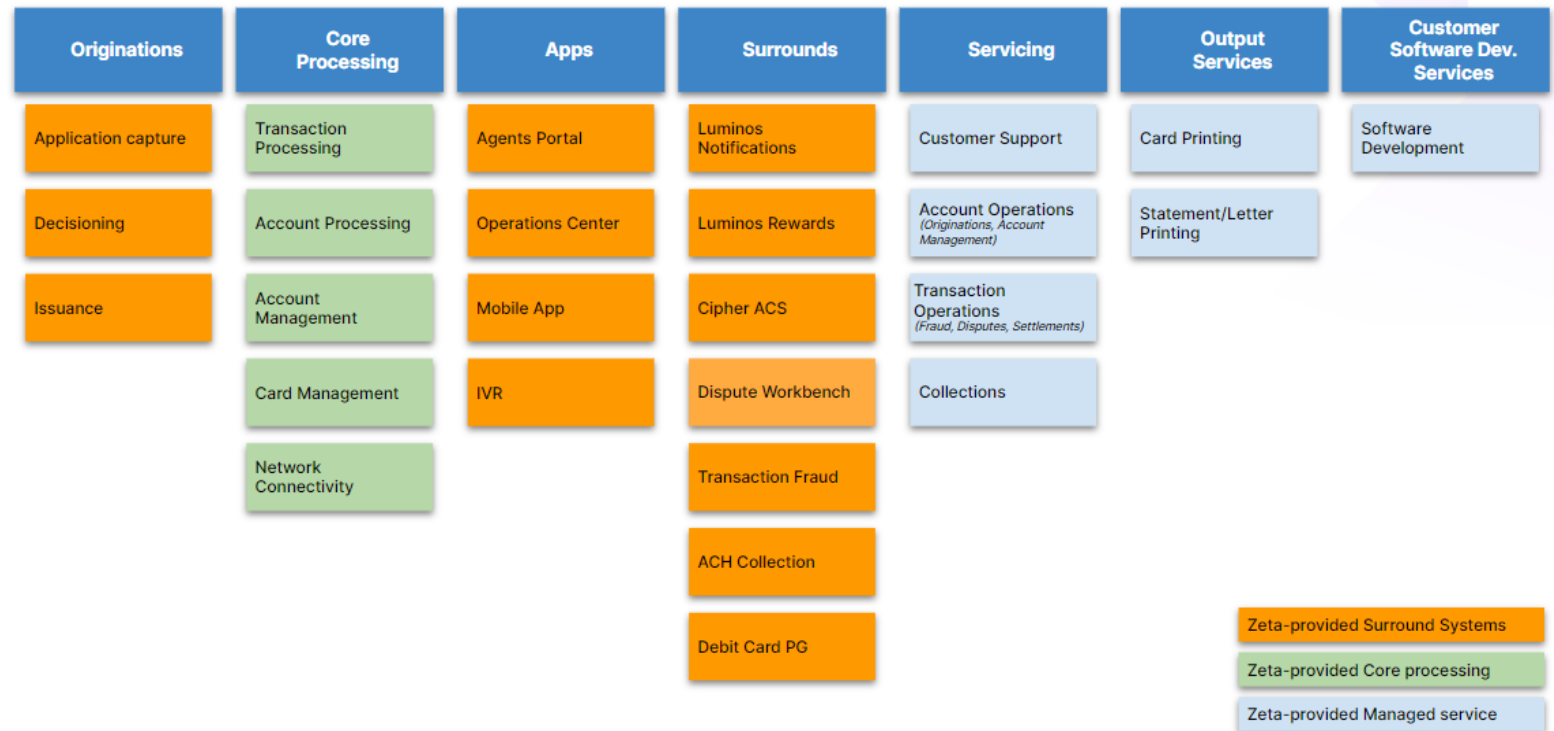
zeta



INTRODUCING ZETA







- Zeta was launched in 2015 and over the last few years developed Zeta Tachyon, a cloud-native, API-first, microservices-based, and hyper-personalizable platform, built ground-up using a modern architecture utilizing no legacy components.
- While Zeta Tachyon was designed to power any retail or commercial banking product, the company entered the US market with credit and is actively pursuing credit card processing opportunities in the US at top 100 issuers.
- Zeta evaluates non-bank deals to ensure that all such deals are aligned to its long-term strategy. In 3-5 years, the company expects to expand its coverage set further and begin actively targeting additional non-banks and additional issuers.
- Also, Zeta Tachyon provides comprehensive capabilities for issuers for application processing and state-of-the art credit decisioning platform (via partners), but no credit facility.
- Zeta partners for surround systems that are market-specific, e.g., fraud, and develops others in-house.
- In Celent's view, Zeta has many stand-out features described in detail in this profile, including Olympus, its private portable cloud, native embedded banking support via Virtual Bank Operators, hyper-personalization engine, approach to compliance, transaction processing, accounting and billing, loyalty/rewards, and digital customer engagement.

Zeta's Full Stack of Services



		Current portfolio mix: Banks vs non-banks and Credit vs prepaid & debit	<p>100% 80% 60% 40% 20% 0%</p> <p>■ Banks ■ Non-banks ■ Prepaid & Debit ■ Credit</p>
Website url	www.zeta.tech		
Issuing platform name	Zeta Tachyon	Total number of clients	9
Headquarters	US: San Francisco, CA Global: Dubai, UAE	Total number of cards issued	15 million+
Year founded	2015	Example non-bank clients	Large denovo fintech in the US
CEO and other key executives (founders, etc.)	CEO & CF: Bhavin Turkhia CTO & CF: Ramki Gaddipati President, NA: Gary Singh	Example bank clients	A bank that is one of the largest in India and among top 5 globally Top 20 US issuer with 6m+ cards
Employees	1,700+	Example BIN sponsors	One of the major BaaS sponsor banks in the US A large BaaS sponsor in India
Ownership	Privately held	Additional comments about the company's market presence and direction	Zeta Tachyon, the company's flagship processing platform, is built ground-up over the last eight years without a single line of legacy code to address all challenges that banks face today due to decades-old technology offered by their current processors.
Funding/market cap	Valuation of US\$1.5 billion (based on last funding round in July 2021)		
Key investors	Softbank Mastercard Sodexo		
Geographic reach (within the US, international)	US, India, Spain, UK, Italy, Philippines, Brazil, Vietnam (client base). Focused on the largest issuers in each market, not the tail end		
Revenue (or another metric to indicate size)	Revenue not disclosed. 15m+ cards issued, an additional 50 million contracted		
Approximate revenues from issuer processing (% of total)	100%		
Recent relevant acquisitions	None		

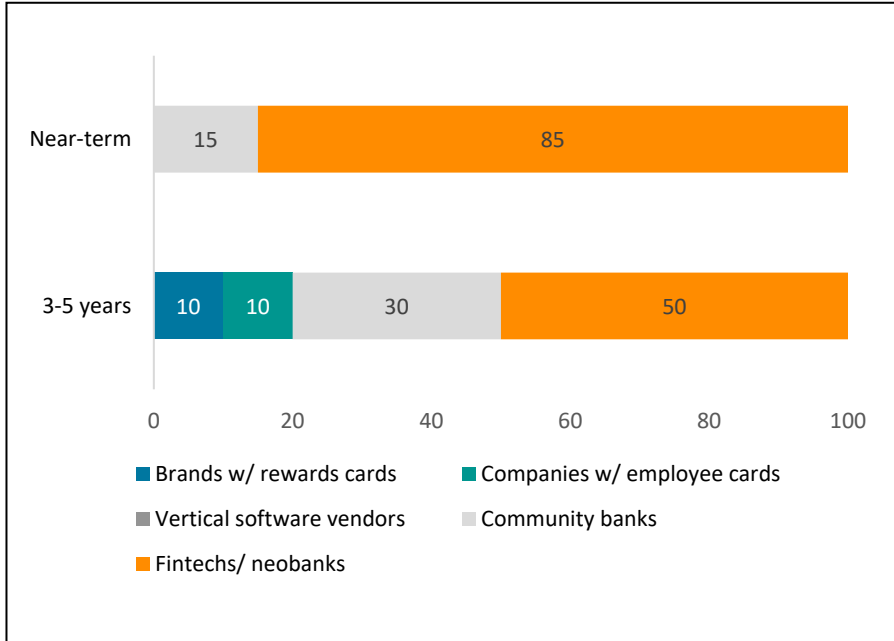
CXO & F = CXO & Founder
 CXO & CF = CXO & Co-founder
 Source: Zeta's responses to Celent RFI
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Attitudes to credit	<div style="display: flex; justify-content: space-around; text-align: center;"> <div style="width: 20%;"> <p>▼</p> <p>Credit is of little interest to us and we are not actively pursuing credit opportunities at this time</p> </div> <div style="width: 20%;"> <p>▼</p> <p>We'll take on credit processing deals ad-hoc, but it's not a major focus</p> </div> <div style="width: 20%;"> <p>▼</p> <p>We've started elsewhere, but credit is becoming very important for us</p> </div> <div style="width: 20%;"> <p>▼</p> <p>We were set up to pursue credit, and credit processing is our main focus</p> </div> </div> <p style="text-align: center;">While Zeta's processing stack supports various product types, it entered the US market with credit processing. Zeta is actively pursuing credit card processing opportunities in the US at top 35 issuers.</p>					
Ability to support different types of credit... 1 = little beyond credit card BIN processing 5 = can support the most complex scenarios at scale ... and focus/the biggest portfolio today	Unsecured Revolving Consumer Credit  5 X	Installments  5	Charge  5	Secured Credit  5	Business cards  5	Other (please specify) 
Number of credit clients	3					
Example credit clients	Top-5 global bank with 15m+ credit cards, an issuer with 6m+ credit cards, a denovo subprime Fintech					

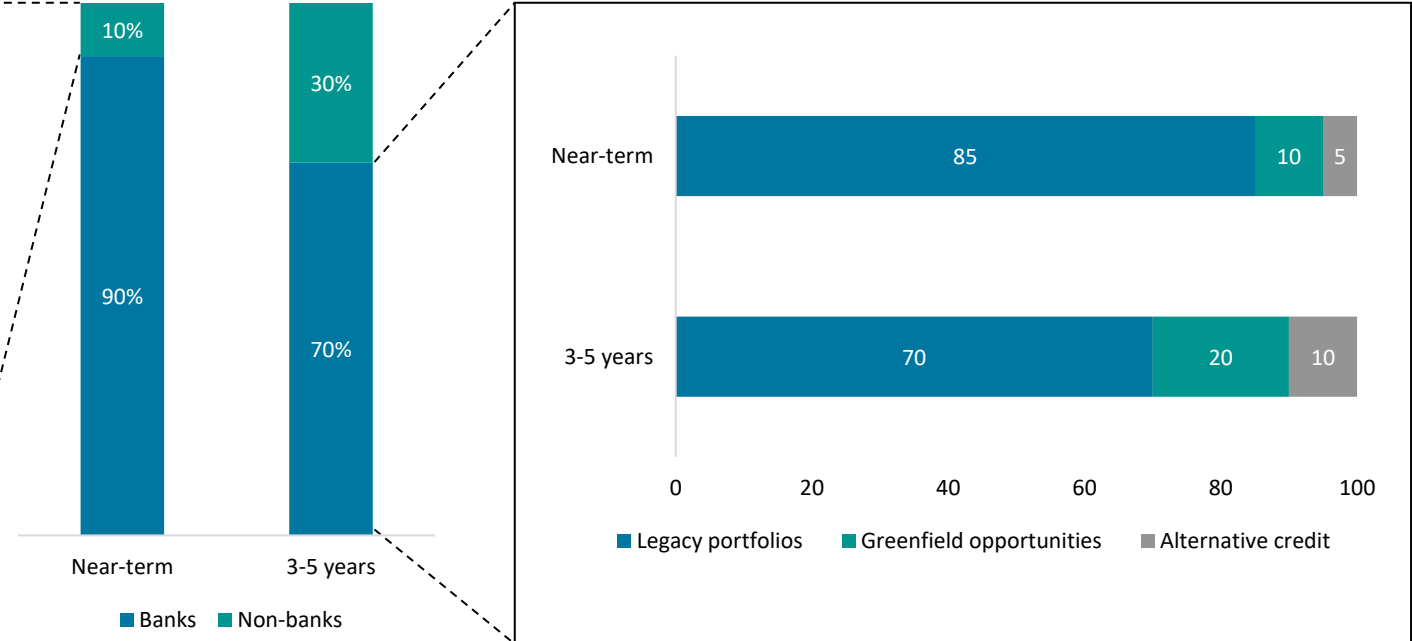
Source: Zeta's responses to Celent RFI

MARKET OPPORTUNITIES AND PRIORITIES FOR ZETA IN CREDIT

Priorities in CCaaS



Priorities with Established Banks



- Currently focused on supporting large and mid-size issuers in the US market.
- Will look to expand the offering to other parts of the market in the next few years.

Zeta’s current focus is the largest 100 card issuers in the US. They are strategically evaluating any non-bank deals to ensure that all such deals are aligned to its long-term strategy.

In 3-5 years, the company expects to expand its coverage set further and begin actively targeting additional non-banks and issuers.

- Zeta’s primary focus is assisting existing banks to migrate from legacy processors to its Next Gen Card Processing platform that enables banks to differentiate their existing card programs via true hyper-personalization and significantly improve efficiency with more self-service options.
- According to Zeta, its customers are typically looking to migrate their entire portfolios out of legacy processors.

Source: Zeta’s responses to Celent RFI

ZETA TACHYON PLATFORM SUMMARY

	Architecture Highlights	Program Management and Setup	Credit and Origination	Credit Processing	UX and Services
Zeta's approach	Truly cloud-native platform, with private portable cloud-agnostic Platform-as-a-Service layer, enabling deployments across hyperscalers (AWS, Azure)	Zeta is currently focused on offering solutions to large and mid-sized banks in the US. For its current target market, program management services are not needed as these clients typically manage their programs internally.	Complete support for credit card originations from defining application schemas to final decisioning on the application. No credit facility/ balance sheet	Fully-featured credit processing platform, including unsecured revolving credit capabilities with robust transaction switch.	Comprehensive customer communication platform with options around managed services delivery.
Key partnerships		Large BaaS sponsor bank in the US Two industry-leading system integrators and program managers	Two popular and modern loan origination systems Real-time integration with third party open banking data providers	Large consortium in the US providing card and statement printing services Transaction fraud platform	One of the largest servicers in the US providing collections and customer service
Stand-out features	Private portable cloud Olympus, native embedded banking support via Virtual Bank Operators, hyper-personalization engine	Approach to compliance		Transaction processing, accounting and billing, loyalty/rewards	Digital customer engagement
Areas being addressed/ road map	<p>Zeta's focus for the next 2–3 years is to further expand partnerships and to add systems to allow customers to choose between multiple pre-integrated partners.</p> <p>Zeta is also working on some near-time focus areas, which include:</p> <ul style="list-style-type: none"> – Enhanced regulatory compliance support for each target market: For example, to support clients in providing services to their government clients, Zeta is working closely with cloud service providers to ensure full FedRamp compliance. – Enhanced infrastructure resiliency to ensure that issuers are always at the forefront of all emerging and state-of-the-art resiliency paradigms. Accordingly, Zeta's road map includes cloud scale (multi-region, multi-zone, tenant-VBO) and multi-cloud deployments. – Expanded data access: In line with enabling issuers to work more closely and efficiently with their partners, the road map also includes an expanded data lake with full open data access. This will enable issuers to work more efficiently with partners that need data to power various features and comply with open data requirements. – Omnistack for all assets and liabilities: Zeta aims to introduce product coverage for an expanding set of assets and liabilities products on Zeta Tachyon that will enable banks in the US to bring next-gen capabilities to its customers and build operational synergies and meaningful economies of scale. 				

ZETA TACHYON: NEXT-GEN CREDIT PROCESSING

According to the company, Zeta Tachyon has reimagined and reinvented numerous aspects of processing ground-up. For example:

- A unique BaaS platform natively provided with Zeta Tachyon which allows banks to expand their embeddable banking services.
- Hyper-personalization engine which allows issuers to truly customize and personalize their card programs offering unique experiences to each customers beyond the current focus on APRs and rewards to differentiate.
- A unique next-gen entity model which ensures innovative card solutions across consumer, small business and commercial credit cards.
- Next-gen regulatory compliance, ensuring issuers have the capability to not only meet regulatory requirements of today, but manage the change regulatory landscape seamlessly.
- Web-based interfaces for product configurations, customer support, reporting, dispute management and more which make it easier for issuers to self-serve and bring efficiencies to managing credit card programs.



ZETA TACHYON: NEXT-GEN PROCESSING CAPABILITIES

- **Truly modern platform.** Entirely written ground up in the last eight years, leveraging cloud architecture principles and modern technology, not encumbered or handicapped by any legacy code, mainframes, legacy technology, or monolithic architecture.
- **Event-driven microservices architecture.** Comprises 15+ modules composed of a collection of 100s loosely-coupled microservices. Zeta Tachyon natively leverages event-driven and message queuing paradigms to achieve a clear separation of concerns, resiliency, data access, and allows for rapid innovation.
- **Single platform for cards, assets, and liabilities.** Can power any retail or commercial banking product, including credit, debit, and prepaid cards, DDA, term deposits, and loans.
- **APIs as first-class citizens.** Legacy platforms have in recent years been hollowing their platforms and wrapping them with API layers. Zeta Tachyon is built foundationally as an API-first, headless platform – everything is operable and accessible via APIs – allowing for the highest degree of customization and configurability.
- **Normalized entity model.** In legacy platforms, a card, account, and account holder can be a singular entity. Zeta Tachyon clearly distinguishes and manages the lifecycle of payment instruments, account holders, and accounts independently, enabling easier change management and flexibility to enforce policies at any level.
- **Natively ready for embedded banking.** Natively supports onboarding digital distribution partners such as co-brands and fintechs through a multi-level, multi-tenant construct that Zeta calls Virtual Bank Operators (VBOs), enabling issuers to participate in the embedded finance revolution.
- **Next-gen out-of-the-box digital experiences.** Zeta Tachyon comes pre-built with various next-gen digital experiences issuers can provide to their customers. Some examples include digital issuance, digital security, digital insights, and digital controls amongst others.
- **Web-based back office.** Zeta Tachyon provides modern web-based apps (or Back Office Centers), each designed specifically for an Issuer Persona, no archaic green screens.
- **Extensibility.** Provides multiple approaches to extending functionality and capability and integrates into any issuer surround system and both modern or legacy 3rd party systems.
- **Commercial and SMB issuing capabilities.** Allows issuers to orchestrate and manage complex multi-level business hierarchies, users, and accounts and seamlessly support open-loop and closed-loop transactions to build any commercial card product.
- **Cloud native.** Zeta Tachyon is underpinned by the banking tech industry's first private portable cloud, Olympus, responsible for common concerns such as multi-tenancy, observability, data access layers, ingress/egress gateways over HTTP, ISO, pub-sub, identity, access management, and more using MACH Alliance and CNCF principles.
- **Infinite scalability.** Tested for up to 15,000 transactions per second for transaction processing and core ledger operations, Zeta Tachyon is designed for horizontal scaling for all transactional and batch processing operations at all application and data layers.
- **Rich data and analytics.** By leveraging Zeta Tachyons APIs, event streams, data marts, and reporting dashboards, issuers always have granular, reliable, and real-time data about their customers and programs. Zeta Tachyon allows issuers to leverage pre-built data marts and to avail rich insights to drive targeted offers and adaptive strategies.

Source: Zeta's responses to Celent RFI

ZETA TACHYON: NEXT-GEN PROCESSING CAPABILITIES

Transaction Processing <ul style="list-style-type: none">• T-Policy Rules Engine• Co-operative Authorization• Custom Authentication• Multi-Network support• Proprietary Network, Schemes and Clearing House• Dynamic PIN / CVV• Multi-protocol Support• Auth Buffer• Shadow Core Authorization• Tachyon Wallet	Fee Pricing <ul style="list-style-type: none">• 5 Fee Types• Custom Event based Fees• Dynamic Fee Assessment Function• Account Overrides	Card Management System <ul style="list-style-type: none">• Dynamic Card Printing & Personalization	Next-Gen Architecture <ul style="list-style-type: none">• Omnistack Architecture• Polymorphic Design• Horizontal Scalability• CNCF Compliant• Cloud Service Provider Portability• Private Cloud Account Deployment Model• Bring your own Keys• Bring your own HSM• Zero Trust Architecture• Federated Authentication	BaaS Platform <ul style="list-style-type: none">• Virtual Bank Operators• VBO API Catalog• VBO Center• VBO Home
Interest Pricing <ul style="list-style-type: none">• Per Transaction Interest Terms• Interest Terms Selection by Posting Category• Dynamic inline Javascript execution for Transaction Interest Program Selection• Customizable Interest Program Categories• Customizable Interest Program Validity• Account Level Interest Programs• Customizable Interest Rate Tables	Account Processing <ul style="list-style-type: none">• Custom Interest Workers & Interest Policies• Multiple Customizable multi-level Chart of Accounts• Multiple Currency Support• Multiple Calendar Support• Three Clock Support• Configurable Credit Allocation Policies and Programs• Backdated Postings Module• Multi-period Multi-cycle support• Multi-phase EoD Processing• Customizable EoD Processing Workers• Customizable Status Types, Statuses and Status Transitions• Restricted Actions Matrix	Product Management <ul style="list-style-type: none">• Product Config with complete Gitops posture and pipeline• Product Center UI	Data Model Extensibility <ul style="list-style-type: none">• Customizable Object Schema• Object Attachments	Functional Capabilities <ul style="list-style-type: none">• Multi-level Account Holder Hierarchies• Pooled Accounts• Secured Accounts• Many-to-Many Account to Card Relationship• Dynamic Posting Categories
		APIs & Events <ul style="list-style-type: none">• Multiple API Catalogs with 100% API and Events Coverage• Batch File API Support		Surround System Integrations <ul style="list-style-type: none">• Real time and Batch Interfaces• Instant Issuance

Source: Zeta's responses to Celent RFI



ARCHITECTURE OF ZETA TACHYON PROCESSING: OVERVIEW

Foundation Modules

Zeta decomposed banking into its most fundamental components. Its Foundation Modules are polymorphic and can model any payment or banking product through configuration. These four modules form the heart of the Tachyon platform:

- Aries – Account holders and customer lifecycle management
- Aura – Asset/liability accounts and ledger lifecycle management
- Athena – Transaction lifecycle management
- Acropolis – Payment instruments / cards lifecycle management

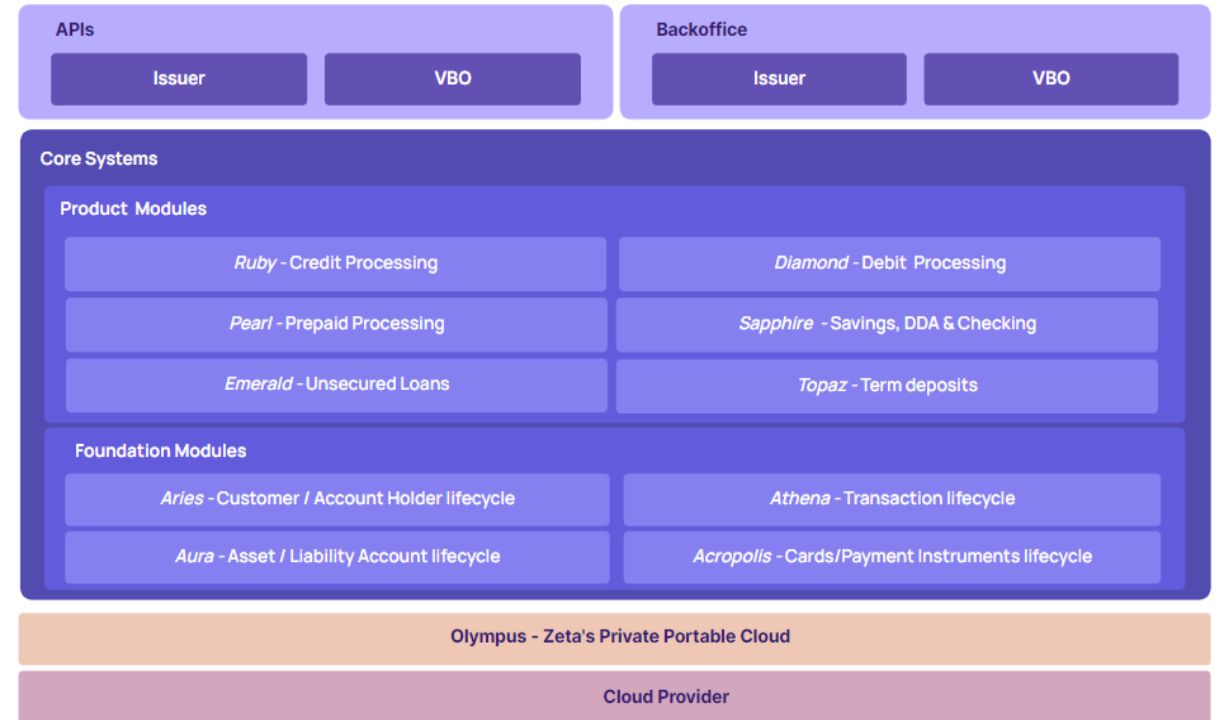
Product Modules provide configuration to the Foundation Modules and stitch together the eventual retail or commercial, asset, liability, or payment product experience for an issuer’s customers. Zeta’s issuer clients can choose from one or more of these modules.

- Ruby – Revolving credit, commercial credit, charge cards
- Topaz – Term deposits
- Pearl – Prepaid accounts
- Emerald – Unsecured installment loans
- Sapphire – Savings, DDA, and checking accounts
- Diamond – Debit

Olympus Private Portable Cloud

Olympus is Zeta’s private, portable, cloud-agnostic Platform-as-a-Service (PaaS) layer that is responsible for common concerns such as multi-tenancy, observability, data access layers, data ingress/egress gateways, identity and access management, and more.

Source: Zeta’s responses to Celent RFI
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The polymorphic design of the foundational modules ensures that the behavior of core modules is dynamically configurable through policies, programs, plugins, extensions, low code Javascript, specifications, and more. This ensures:

- Multi-product support: Asset, liability, retail, commercial products
- Creative product construction
- Configurable compliance
- Ability to personalize programs and products

ZETA TACHYON ARCHITECTURE HIGHLIGHTS: CLOUD INFRASTRUCTURE

Area	Responses
Cloud infrastructure	<ul style="list-style-type: none"> • Zeta Tachyon is a cloud-native – truly built for the cloud – platform that supports credit, debit, and prepaid on a single multi-tenant platform. It is also a cloud-agnostic platform that complies with CNCF principles and uses vendor-neutral architecture. • Zeta has also developed a comprehensive cloud orchestration Platform-as-a-Service (PaaS) layer called Olympus. It simplifies common concerns like multi-tenancy, logging, monitoring, tracing, data and event streaming, and more to enable banking and payments domain applications to use a standardized and governed interface by abstracting infrastructure concerns and provides a vendor-neutral infrastructure layer, making the Zeta Tachyon platform cloud agnostic. The various services within Olympus interact with corresponding services provided by the infrastructure vendor (e.g., AWS, Azure, or Google Cloud) to manage the various requirements such as storage, computer, networking, security, and more. • Olympus also includes an in-house monitoring system for Zeta Tachyon called the Olympus World Control Center (OWCC) which is used to monitor all Zeta’s infrastructure and applications. <div style="text-align: center;"> <pre> graph TD OA[Olympus Architecture] --> CW[Compute & Workflow] OA --> IG[Integration Gateways] OA --> DAA[Data Access Abstraction Layer] OA --> IAM[Identity and Access Management] OA --> TLM[Tenant Lifecycle Management] OA --> DM[Deployment Management] OA --> OBS[Observability] OA --> SM[Service Mesh] CW --> Atlantis CW --> Rhea CW --> Perseus IG --> Atropos IG --> Hades IG --> Heracles IG --> Proteus IG --> Morpheus DAA --> Callisto DAA --> Carpo DAA --> Europa DAA --> Ganymede DAA --> Io DAA --> Sinope IAM --> Cipher IAM --> Harpocrates TLM --> Elenchos TLM --> Hera DM --> Weave OBS --> OWCC OBS --> Watch SM --> OMS SM --> Sparta </pre> </div>



Source: Zeta’s responses to Celent RFI

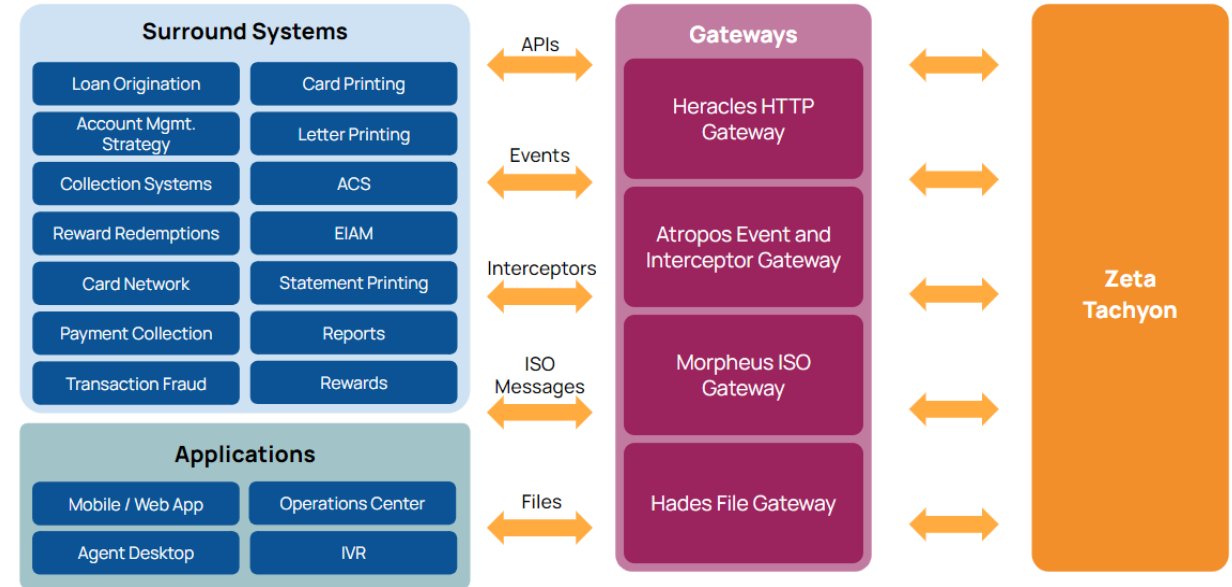


ZETA TACHYON ARCHITECTURE HIGHLIGHTS: INTEGRATIONS

Area: Integrations

Responses

- Zeta Tachyon provides multiple approaches to extending functionality and capability and integrates into both modern or legacy third party systems. It provides APIs, Events, and Live state interceptors across various protocols to enable connectivity and integration with third party or issuer surround systems.
 - **APIs:** As an API-first platform, Zeta has an extensive API library that can be used by issuers for integration.
 - **Events:** Zeta publishes multiple streams of real-time events organized into 100+ topics that can be subscribed to by third party systems wishing to be notified about practically any underlying state change or data flow on any of the microservices on the platform.
 - **ISO Gateway:** Enables connectivity with ISO applications such as switches, fraud systems, card networks, and others over ISO 8583 and ISO 20022.
 - **Batch file processing:** Zeta supports the processing of batch files to ingest data into the system or send data out from the system. Batch file-based integrations can be used for various purposes such as analytics, vendor integrations, card printers, statement printers, bureau integration, and more.
 - **Interceptors:** Zeta also supports the notion of interceptors, where an authorization can be delegated to the issuer for additional processing and approval of authorization. When an interceptor is invoked, the switch pauses the authorization process and sends the matching transaction in real-time to a webhook / HTTP endpoint provided and waits for an asynchronous callback to the platform to determine how the authorization should proceed.



- The platform also includes the capability to have an unlimited number of custom attributes via tags, attachments, and vectors that enable issuers to ingest any additional fields of information against any customer, account, or transaction. These can be fields that are updated in-band, out-of-band, or through batch file / ETL processes.
- In addition, as a single modular platform supporting debit, credit, prepaid, deposit, and loans for all banking uses, Zeta Tachyon is able to offer several further benefits to issuers for integrations with own as well as third party systems including:
 - Single integration with surround systems reusable across products
 - Data from one product can be used for decisions in another product
 - Ability to create complex bundles and creative combo-products, e.g., a credit line with revolving and installment capabilities
 - Single view of customer across all accounts



ZETA TACHYON ARCHITECTURE HIGHLIGHTS: PERFORMANCE AND SECURITY

Area	Responses
Performance	<ul style="list-style-type: none">• Tested for up to 15,000 TPS for transaction processing and core ledger operations. Zeta Tachyon is designed for horizontal scaling for all transactional and batch processing operations at all application and data layers.• Zeta Tachyon was recently tested by a large issuer in India for 8,900 TPS as part of the testing process for the launch of their new product in the market. Zeta has also demonstrated its scalability and performance capabilities in a public demo of 1 million authentications per second.
Security	<ul style="list-style-type: none">• Zeta Tachyon has adopted a security posture and principle that ensures that the platform is secured against threats. From a security perspective, the system is composed of<ul style="list-style-type: none">– Resources<ul style="list-style-type: none">- Data- Applications– Actors<ul style="list-style-type: none">- Humans- Internal Applications- External Applications• The platform's security is based on Zero Trust Architecture (ZTA). The fundamental pillars of ZTA adopted by the platform are:<ul style="list-style-type: none">– No actor inherently trusted– No network or application inherently trusted<ul style="list-style-type: none">- All communication is secured, regardless of network location– Access to resources granted on a per-session basis– Strong Identity and Access Management• <i>See the next page for more details on how Zeta Tachyon protects data</i>



ZETA TACHYON ARCHITECTURE HIGHLIGHTS: PROTECTION OF DATA

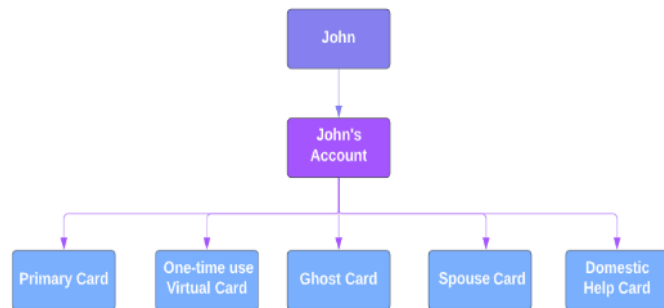
Area	Responses
Architectural principles and system design	<ul style="list-style-type: none"> • Leverage AWS RDS & Several Other Stores • Database Activity Monitoring (DAM) • Data encryption and tokenization in DBs • Encrypted backups • Continuous Snapshots • Multiple Availability Zones • TLS for all access • Data tier is different from application tier • Data access tier is different from Data storage tier
Data segregation	<ul style="list-style-type: none"> • Data is segregated across Zeta clients – with no sharing and 100% separation. • Can mutually evaluate deployments in a completely separate and client-managed Virtual Private Cloud (VPC) for additional segregation. • PCI and non-PCI zones are further segregated.
Data encryption	<ul style="list-style-type: none"> • Sensitive personal data like SPDI, PII, Primary Account Numbers (PAN) or card numbers are tokenized and encrypted while at rest and in motion.
Dynamic derivation	<ul style="list-style-type: none"> • Sensitive data like Dynamic CVV, PIN, and CVV are not stored. • Instead, the data is computed on the fly using data + salt + keys, making it breach-proof.
Access control	<ul style="list-style-type: none"> • Zeta Tachyon includes a comprehensive User Access Role Management (IAM) module called Cipher that allows for the creation of users with different privileges and roles. • This allows for: <ul style="list-style-type: none"> – Authentication – Establish user identity through credentials – Roles and Permissions Establishment – Access user auth profiles, which carries with it their roles and permissions – Authorization – Confirm that the corresponding authenticated profile is permitted to perform the desired action on the target resource
Audits and certifications	<ul style="list-style-type: none"> • Zeta Tachyon platform’s data security processes and practices are put to test regularly through external reviews. The platform is currently certified for PCI – DSS, PCI - 3DS, SOC 3, and ISO 27001. More details on platform’s certifications are provided at Zeta Trust Center.

Source: Zeta’s responses to Celent RFI

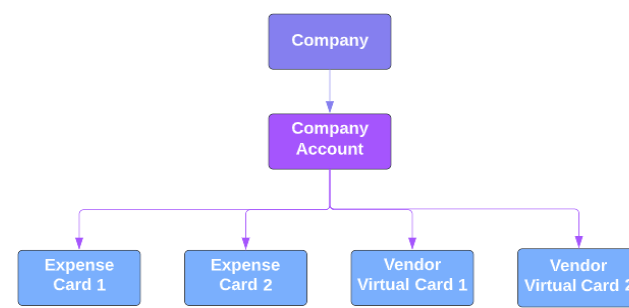


ZETA TACHYON ARCHITECTURE HIGHLIGHTS: MULTI-LEVEL CUSTOMER-ACCOUNT-CARD HIERARCHIES

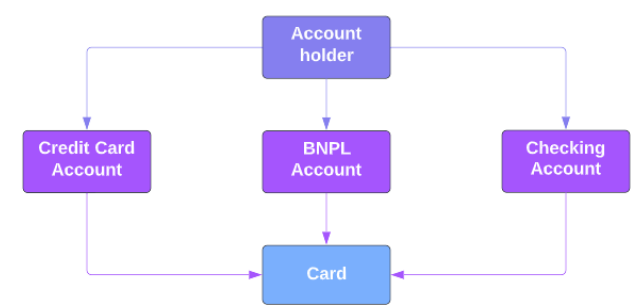
Area	Responses
Other: Multi-level customer-account-card hierarchies	<p>Zeta Tachyon supports many-to-many, multi-level configurable customer-card-account hierarchies that enable issuers to build innovative products. Many-many, multi-level relationships between account holders and accounts enable the construction of various unique creative products, including commercial expense programs, corporate hierarchies, family hierarchies, shared accounts, secured accounts, pooled accounts, and more.</p> <p>Many-many, multi-level relationships between accounts and cards enable the construction of various unique creative products, including commercial expense programs, corporate cards, family cards, multi-account cards, multi-card accounts, virtual cards, and more.</p> <p>Zeta Tachyon provides many innovative options to issuers to create account holder relationships. The following points enumerate these in more detail:</p> <p>Account Holder Relationships: Zeta Tachyon can store a complex hierarchy of multi-level, many-many, company-company, person-person, and company-person relationships which enable creative real-world use cases.</p> <p>Secured Accounts: Any child asset or liability account in Zeta Tachyon can be, in turn, “secured by” another parent asset or liability account. This means that the secured child account gets guaranteed access to a defined dynamic portion of the balance of the parent account.</p> <p>Pooled Accounts: Any child asset or liability account in Zeta Tachyon can be, in turn, “secured by” another parent asset or liability account called a pooled account. The pooled account can help implement concepts like control accounts.</p> <p>Multi-card accounts: A single account can have different cards, including cards from different networks linked to it. This enables personal and commercial use cases such as add-on cards, virtual cards, family cards, corporate cards, expense cards, and more. See Examples 1 and 2 below for more details on how it works for family and corporate expense cards.</p> <p>Multi-account cards: A single card can be linked to multiple accounts. This enables a single card to dip into a person’s or company’s credit account, loan account, or checking account in a single transaction. See Example 3.</p>



Example 1: Family cards



Example 2: Corporate expense cards



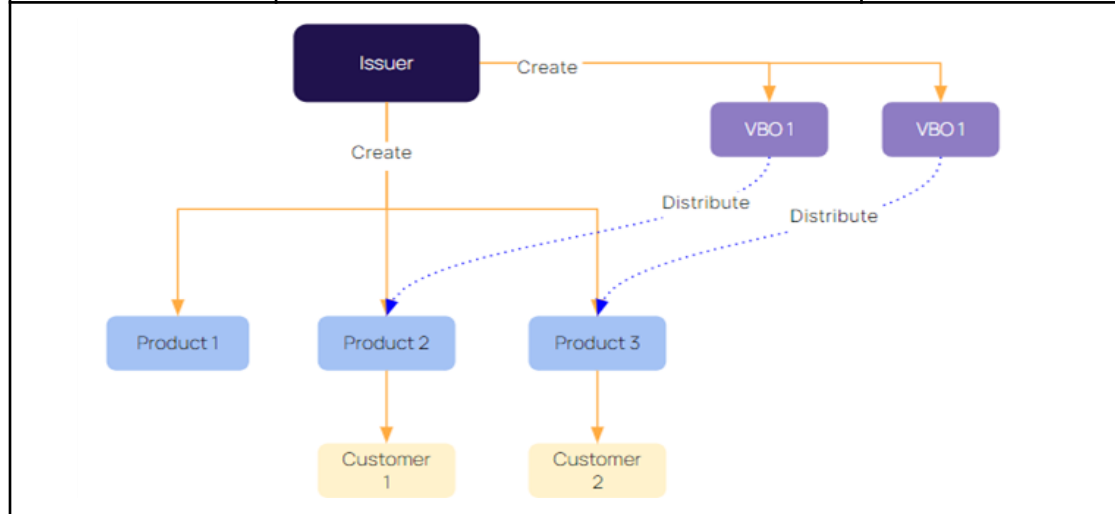
Example 3: Multi-card account

Source: Zeta’s responses to Celent RFI

ZETA TACHYON ARCHITECTURE HIGHLIGHTS: VIRTUAL BANK OPERATORS



Area	Responses		
Other: Virtual Bank Operators (VBO)	<p>Zeta Tachyon natively supports onboarding digital distribution partners such as co-brands and fintechs through a multi-level, multi-tenant construct called Virtual Bank Operators (VBOs) – enabling issuers to participate in the embedded banking revolution. Issuers can assign a pre-configured product to a VBO and enable the VBO to provision, distribute, and embed this product using Zeta’s VBO API Catalog within their apps and experiences. VBOs get access to APIs and their very own back office to manage applications, customers, accounts, transactions, funding, settlements and more, all within a well-defined sandbox configured by the issuer.</p>		
	<p>Each VBO can:</p> <ul style="list-style-type: none"> • Submit applications for a product • Provision customers • Manage customer lifecycle • Submit payments • Participate in co-operative authorization • Subscribe to events • Manage customer support • Build consumer mobile and web applications • Embed products • Download data and reports 	<p>Each VBO <i>cannot</i>:</p> <ul style="list-style-type: none"> • Change account holder compulsory fields • Create new products • Change product configuration • Bypass product limits 	<p>This VBO construct enables issuer’s fintech, co-brand, and agent banking partners to not just distribute the issuer’s products to their customer base, but also:</p> <ul style="list-style-type: none"> • Embed issuer products into their mobile and web apps using VBO APIs • Use the transaction simulator to build and test products • Use the support center to provide customer support to their customers • Provide unique experiences to their customers • Create unique card products



Example to explain Zeta’s VBO capability:

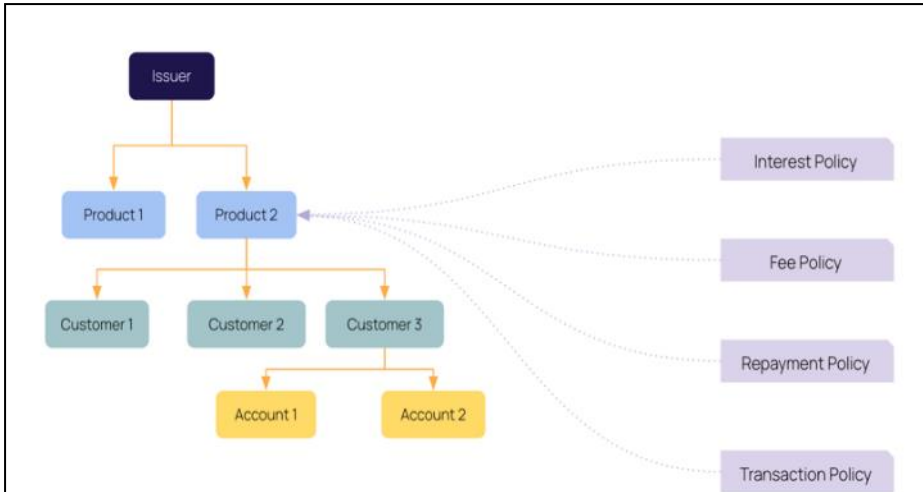
- Franco (a hypothetical retailer) aims to boost customer loyalty, increase in-store spending, and generate revenue by offering co-branded credit cards.
- Zeta Tachyon's VBO functionality helps Franco enhance its co-branded card offering.
- Working with its issuer, Franco can integrate the entire card application process into its mobile app and website, reducing drop-offs and improving conversion rates.
- Franco can embed the co-branded virtual card in its apps, offering features like card management and enriched transaction statements to engage customers.
- Customized interest rates, fees, and rewards can be tailored by Franco and the issuer based on customer behaviors, encouraging spending and loyalty.
- Zeta Tachyon’s Athena Switch allows Franco to directly submit transactions to the issuer, facilitating customized settlement arrangements.

Source: Zeta’s responses to Celent RFI



ZETA TACHYON ARCHITECTURE HIGHLIGHTS: HYPER-PERSONALIZATION ENGINE

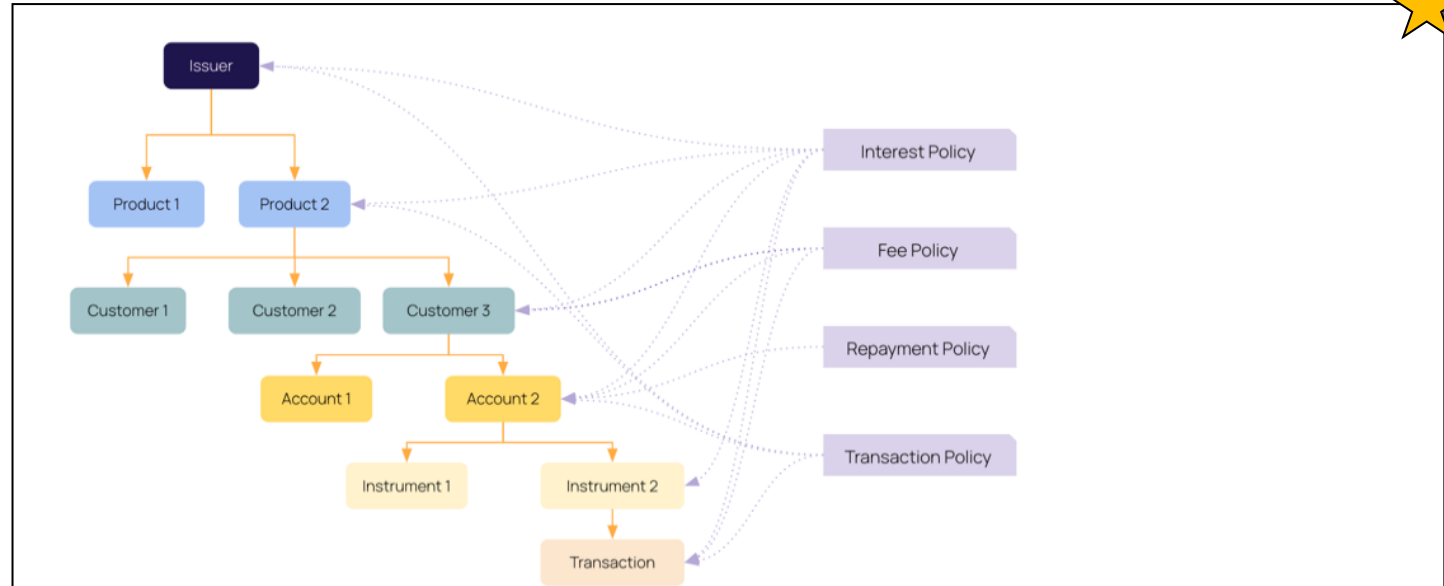
Legacy platforms



- Typically, legacy platforms are built on archaic data models that allow card program policies to be attached only to specific products (see diagram above).
- Therefore, if say a million customers are issued that card product, it means they will all have exactly the same product experience.
- But the world has changed. Most digital consumer platforms today – Netflix, Amazon, Instagram – are hyper-personalized, providing experiences that are customized and crafted programmatically in real-time for individuals to maximize engagement, usage, retention, and profitability.

Source: Zeta's responses to Celent RFI

vs. Zeta Tachyon



- Zeta Tachyon comes with a highly flexible and normalized entity model to represent issuers, distributions partners, or business units with the bank (or Virtual Bank Operators), accounts, account holders, payment instruments, BINs, transactions, and all the relevant entities that must be modeled as a precursor to building any payment product.
- Most policies on Zeta Tachyon can be attached to any level in the hierarchy, as illustrated in the diagram above, achieving a great degree of customization where every single transaction (if so desired) can be uniquely treated.
- Using Zeta's Hyper Personalization Engine, issuers can configure policies, including fee, interest, repayments, and rewards based on events, dynamic assessments, and more. For example:
 - Fees can be configured based on custom events, issuer-provided dynamic Javascript to compute the fee, or applying account-level override parameters.
 - Different interest terms (APR, validity) can be applied on a per-transaction level as opposed to just balance buckets, per transaction depending on the posting category, or based on a dynamic inline Javascript execution.



PROGRAM MANAGEMENT AND SETUP: PROGRAM MANAGEMENT

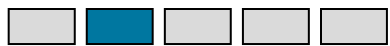
Component	Distinguishing Features or Key Gaps/Comments
Program Management	<ul style="list-style-type: none">• Zeta is currently focused on offering solutions to large and mid-sized banks in the US. For its current target market, program management services are not needed as these clients typically manage their programs internally.• However, Zeta can recommend and help non-banks onboard with sponsor banks.
Know Your Business & Ongoing Monitoring	<ul style="list-style-type: none">• For Zeta’s current target market (as above), Know Your Business (KYB) and ongoing monitoring are performed by the clients themselves or through their existing third party partners.• Zeta Tachyon does enable issuers to keep track of their customers. The platform includes the capability to have an unlimited number of custom attributes and tags that enable issuers to ingest any additional fields of information against any customer, account, or transaction. These can be fields that are updated in-band, out-of-band, or through batch file/ETL processes.• Issuers can use these custom attributes to create custom classification of accounts, customers, or transactions for ongoing monitoring and risk management purposes.



PROGRAM MANAGEMENT AND SETUP: COMPLIANCE (1/2)

Component	Distinguishing Features or Key Gaps/Comments
Compliance	<p>Zeta’s posture on compliance is not limited to regulatory compliance but includes four key areas:</p> <ul style="list-style-type: none"> • Regulatory compliance • Business compliance and risk management, including credit risk management (NPAs, charge-offs), dispute management, etc. • Digital risk management, including data integrity, system resilience, etc. • Customer privacy and data management <p>Zeta’s compliance management processes are driven by five key principles:</p> <ul style="list-style-type: none"> • Three Lines of Defense • Evolvability • Transparency • Automation, Self-Serve • Simplicity and Usability <p>In line with these principles, Zeta Tachyon comes with various back offices for each issuer persona to manage compliance risk across the four areas highlighted above.</p> <ul style="list-style-type: none"> • Risk Center – Provides issuers the ability to monitor and supervise their regulatory, business, and digital risk footprint • Trust Center – Provides issuer clients complete transparency into various security certification and audit reports of Zeta Tachyon • Audit Center – Provides issuers the ability to audit all actions undertaken on the system • Control Center – Provides issuers the capability to edit and manage configuration of various Zeta Tachyon modules, etc. • Product Center – Which issuers can leverage to set policies, rules, and program definitions across all card programs and product lines, etc. <p>Zeta also offers Compliance-as-a-Service for issuers that are looking for support to manage regulatory compliance for their card programs.</p>





PROGRAM MANAGEMENT AND SETUP: COMPLIANCE (2/2)

Component	Distinguishing Features or Key Gaps/Comments
Compliance	<p>Zeta’s compliance team is led by an industry veteran Chief Compliance Officer (CCO) who has more than 26+ years of experience in helping financial institutions meet their US federal regulatory compliance responsibilities:</p> <ul style="list-style-type: none">• The CCO is responsible for administration, governance, and compliance oversight at Zeta for the US market.• The CCO is supported by Regulatory Compliance Leads who provide compliance-related support to clients, including ensuring collaboration on new regulations.• A team of system engineers and analysts provide support to the CCO’s office for impact analysis of the regulations to the Zeta products and services, who then ensure the appropriate solution is developed to meet the requirements of laws and regulations.• Zeta also engages with domain experts and third party specialists who help determine the impact of new regulations (where needed) and provide independent assessment and audits of the Zeta Tachyon platform for compliance purposes. <p>Zeta’s compliance management process is showcased in this chart:</p> <pre>graph TD; A[Daily Horizon Scanning] --> B[Identification of change]; B --> C[Communication to Execs and BU reps]; C --> D[Analysis with input from BU reps]; D --> E[White paper detailing the regulatory change]; E --> F[White paper review by CEO and CTO]; F --> G[Feature Development]; F --> H[Configuration]; F --> I[No impact]; G --> G1[Solution Creation]; G --> G2[Product JIRA intake]; G --> G3[Feature Test]; G --> G4[Approval Test]; H --> H1[Solution Creation]; H --> H2[Product JIRA intake]; H --> H3[Feature Test];</pre>

Source: Zeta’s responses to Celent RFI



PROGRAM MANAGEMENT AND SETUP: PRODUCT SET UP AND SANDBOX/ DOCUMENTATION

Component	Distinguishing Features or Key Gaps/Comments
Product Setup	<ul style="list-style-type: none"> • All products on Zeta Tachyon are composed of policies that define various aspects of the product. Issuers can set up these policies to control the behavior of a product. Example policies include account, spend limit, minimum amount due, repayment, delinquency, fees, interest, and more. • These policies are reusable, versionable, and auditable and can be reused to compose products. Further, Zeta Tachyon provides two primary interfaces to assist in the creation of products: <ul style="list-style-type: none"> – A web-enabled front end called the Product Center, which provides an interface to set up products on the platform. It offers issuers complete control on every aspect of their card products spanning product policies, instrument definitions, etc. Issuers can create and view products and policies, clone products by copying configurations of existing products, and define and manage various policies listed above. – An extensive set of APIs that can be used by the bank for setup as well as maintenance of individual customer programs. • All product config in Zeta Tachyon uses modern GitOps change management principles and is stored as YAML/JSON/Javascript in a Git repository with abstracted change management APIs and web interfaces layered on top. This approach to product config and management provides collaborative editing, APIs, web interfaces, versioning, rollback, composition, reusability, audit trails, change review, manual governance, automated governance, automated testing, inline validation, and many more capabilities.
Sandbox/Documentation	<ul style="list-style-type: none"> • Zeta Tachyon includes separate development, UAT, and production environments, each of which is available to clients at all times. Graduation rules for products and configurations across environments are managed by a client-configurable CI/CD pipeline. The platform also includes APIs that can be used to create test suites that can be automatically run during any upgrades or product configurations. • Each component of Zeta Tachyon comes with various guides as relevant, such as Architecture Guide, User Guide, Admin Guide, and Developer Guide. • Zeta Tachyon also comes with at least 14 Integration Guides, covering various aspects of integration, from card printers to fraud engines, and from customer communications to collections and disputes. • Each of the above guides provides the relevant information in the form of C4 model architecture diagrams, functional architecture, terminology and glossary, relevant entity descriptions, and process flow diagrams



PROGRAM MANAGEMENT AND SETUP: API/ EVENTS AND PORTFOLIO OPTIMIZATION

Component	Distinguishing Features or Key Gaps/Comments
API/Webhooks/Events	<ul style="list-style-type: none">• 100% API and event coverage covering:<ul style="list-style-type: none">– Product Configuration and Updates– Application Data Capture– Application Processing– Customer, Account, Card, and Rewards Provisioning– Customer, Account, and Card Management– Transaction Processing– Co-operative Authorization– Transaction Management• 100% of any operation in the platform by any organization (Zeta, Issuer, Partner) against any resource is done via an API, enabling the creation of apps for internal and external users, extending the platform, and integrating any external systems with ease.• Every object-state transition and change results in an event that can be subscribed to enabling issuers to build real time data lakes, send real time notifications, and perform real time decisioning.
Portfolio and Account Optimization	<ul style="list-style-type: none">• Zeta Tachyon has inbuilt portfolio management and account optimization. It also comes pre-integrated with partners to provide one or more of the following:<ul style="list-style-type: none">– Product- and account-level line and APR assignment– Support for overlimit authorization through policies and co-operative authorization– Support for integration with strategy engines for line management– Configure disallowed actions based on account statuses such as Stop interest accrual, Block debits, Block credits, Stop issuance, Stop limit enhancement, Stop posting of fees, Stop cash withdrawal, etc.



PROGRAM MANAGEMENT AND SETUP: DATA MANAGEMENT/ REPORTING/ ANALYTICS

Component	Distinguishing Features or Key Gaps/Comments
Data Management/ Reporting/Analytics	<p>Predefined Credit Card Processing Data Extracts, 30-day file retention:</p> <ul style="list-style-type: none">• Zeta Tachyon provides predefined raw data extracts on a daily basis at an SFTP location provided by the issuer comprising the daily change data capture for various relevant entities and events and various reporting and integration use cases that issuers can use for:<ul style="list-style-type: none">– Data analytics by importing into their own data lake, or– Surround system integrations by performing data transformations and dispatching to relevant surround systems such as collection systems, etc. <p>Reports Center:</p> <ul style="list-style-type: none">• Zeta Tachyon comes with a web-based interface – Reports Center – that includes pre-configured data extracts tied to the various product modules subscribed to. Data extracts are available at issuer-configured scheduled intervals. <p>Zeus Live Event Firehose:</p> <ul style="list-style-type: none">• Access to raw real time events generated in Zeta Tachyon across various modules.• The issuer can use these events to build their own data warehouse, send customer notifications, or any other business purposes. <p>Custom Data Extracts, 30-day file retention:</p> <ul style="list-style-type: none">• Ability to provide specific data extracts requested by the issuers on an ad-hoc basis which may be required by the issuer. These extracts can be uploaded to the issuers’ SFTP location or any other identified location and viewable through the Reports Center.



CREDIT AND UNDERWRITING (1/2)

Component	Distinguishing Features or Key Gaps/Comments
License/Credit Expertise	<ul style="list-style-type: none"> • Zeta provides credit underwriting strategy and fraud strategy support as a service for clients who may be looking for such support. • Zeta also has existing integrations with BaaS BIN Sponsors who provide these services to the clients. The platform’s extensibility also ensures fast and seamless integration with a license/credit expertise provider.
Balance Sheet / Capital Markets	<ul style="list-style-type: none"> • Zeta’s current focus means that balance sheet / capital market services are not needed, as these clients typically manage their programs internally.
Application Processing	<p>Zeta Tachyon is pre-integrated with a complete application processing and loan origination system that comes natively out of the box. It includes comprehensive capabilities, no-code set-up, and modern UI to manage all aspects of the application processing and loan origination, including:</p> <ul style="list-style-type: none"> • Ability to define application schema, including support for custom fields, such as attachments etc. • Ability to define application flows and customize them to the needs of the issuer • Ability to provide integrations with open banking partners such as Finicity, Plaid, credit bureaus, and other third party systems to: <ul style="list-style-type: none"> – Fill applicant data automatically – Verify details – Enrich applications • Ability to process application approvals in real time • No-code lending setup including intuitive interfaces to create application statuses, lender views, and so-on • Native modern interfaces for various personas, including a borrower portal • Various developer tools including Rest APIs, webhooks, etc. to provide complete freedom to issuers to manage their origination process <p>Having said this, Zeta Tachyon can be integrated with an issuer’s existing acquisition and onboarding tool or any other tool of their choosing and fully supports such integrations. Zeta provides both RESTful APIs and file-based batch interfaces to enable integration with the account acquisition tool.</p>

Source: Zeta’s responses to Celent RFI



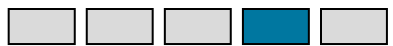
CREDIT AND UNDERWRITING (2/2)

Component	Distinguishing Features or Key Gaps/Comments
Underwriting	<p>Zeta offers a “state-of-art” underwriting engine, loan origination system, and line management capabilities. Zeta’s underwriting platform empowers card providers to fully automate underwriting and other lending decisions without the need for coding through the decision engine.</p> <p>Example platform capabilities include:</p> <ul style="list-style-type: none">• Decision strategies to execute customer-defined logic. There is virtually no limit to the kind of logic issuers can execute through the engine.• Decision strategies consist of modules that run different types of processes (e.g., eligibility rules, a scorecard, an integration, etc.) to allow flexibility in creating multi-step decision processes.• Modules contain rules that contain specific business logic and conditions, which can be as complex as the business logic requires.• The platform allows for the setup and management of data integrations that can request and receive information from virtually any external source, such as the issuer’s internal databases or alternative data providers.• The data structure of the platform is configurable in such a way that any data can be stored and processed within decisioning processes.



CREDIT PROCESSING: ACCOUNT SET UP AND CARD PRODUCTION

Component	Distinguishing Features or Key Gaps/ Comments
Account Set up and Tokenization	<ul style="list-style-type: none">• Instant issuance• Complete form factor coverage, including physical card, contact / contactless cards, dual interface EMV, private label non-EMV• Digital cards, including virtual, tokenized, and one-time-use cards• Ability to push tokenized cards to wallets like Apple Pay, Google Pay, Etc• Integration with card personalization vendors via APIs & SFTP for support for card personalization services and welcome kit dispatch and tracking
Physical Card Production	<ul style="list-style-type: none">• Pre-integrated partner for physical card production• Support for issuance of physical cards (EMV/ non-EMV)• API & file-based integration with card printers• Capability to integrate with one or more card printers and to manage card print routing based on SKUs which can be configured by the issuer.



CREDIT PROCESSING: TRANSACTION PROCESSING

Component	Distinguishing Features or Key Gaps/Comments
Transaction Processing	<p>Robust transaction switch with capabilities that includes:</p> <ul style="list-style-type: none"> • Pseudo ledgers: Support for shadow ledger copies of the main ledger, split by a dynamic dimension • Posting categories: Ability to define custom dynamic dimensions on ledger postings • T-Policy engine: Support for attribute, velocity, volume, balance, and JS rules at account/product level to approve or decline transactions • Virtual card rules: Ability to define rules for virtual cards to enable one-time use, merchant-locked, and BNPL use cases • Card controls: Ability to support comprehensive card controls across transaction types (ATM, POS etc), merchant block/allow lists, MCC block/ allow list, geo fencing, etc. • Co-operative authorization: Ability to delegate authorization to issuer systems external to Zeta or to third party systems and act on approve/decline advice received • Daisy-chain fraud engines: Ability to delegate fraud scoring and advice to one or more issuer fraud engines • Direct settlement: Support for custom direct settlement contracts • Multi-network support: Support for receipt of authorization requests over multiple networks in accordance with US regulations • Proprietary schemes: Support for proprietary closed loop schemes • Multi-account transactions: Ability to split a transaction across multiple accounts hosted on the same core • Multi-account, multi-core transactions: Ability to split a transaction across multiple accounts hosted on multiple cores • JIT Funding: Ability to pull funds into an account in real time from a source account to support transactions on the account • Pay-by-rewards: Support for pay-by-rewards wherein part of the transaction is paid for by real time conversion of rewards into cash • Account pooling: Ability to pool funds across multiple accounts to honor transaction requests • Dynamic CVV & PIN: Support for Dynamic CVV and PIN for transaction auth • 3DS ACS: Support for an integrated 3DS ACS that includes 2FA, step-up authentication, risk-based authentication, etc. • Multi-protocol support: Support for multiple protocols including HTTPS, ISO 8583, ISO 20022, file-based, event-based, etc. • Transaction fraud engine: Pre-integrated transaction fraud engine with support for sophisticated AI/ML rules for transaction fraud detection • Proprietary network and clearing house support: Supports issuer in plugging in their proprietary acquiring network directly to the Tachyon switch, bypassing card/payment networks and enabling direct settlement relationships with merchants • Integrated wallet engine: Support for creation of wallets and associated transactions • Integrated reward engine: Support for an event-driven rewards engine that can support sophisticated reward earn rules over a variety of events • Dispute management system: Support for integrated dispute management with the ability to raise chargeback requests for disputed transactions



Source: Zeta's responses to Celent RFI



CREDIT PROCESSING: FRAUD MANAGEMENT

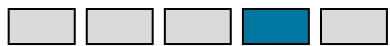
Component	Distinguishing Features or Key Gaps/Comments
Fraud Management	<ul style="list-style-type: none">• Optionally pre-bundled with the transaction fraud engine from a partner that supports rules-based and ML model-based fraud detection, including deep learning-based models.• Capability to configure fraud rules using transaction or customer attributes, ability to test these rules before pushing them into a test or live environment, manage rule versioning, and the ability to revert back to previous versions.• Capability to create and manage fraud cases via a web-based portal, including the ability to view case details, escalate transactions to the next level, mark transactions as fraudulent/non-fraudulent, and to maintain lists of black-listed cards/account holders.• API to allow issuers to configure a temporary bypass for a customer to allow a second attempt within a certain time without triggering fraud processing rules and declining the transaction.• Real time transaction monitoring and fraud detection using issuer-specific AI/ML fraud models.



CREDIT PROCESSING: ACCOUNTING AND PAYMENTS

Component	Distinguishing Features or Key Gaps/ Comments
Accounting, Billing, and Payments	<p>Accounting</p> <ul style="list-style-type: none"> • Zeta Tachyon provides an issuer with a configurable Chart of Accounts that covers assets, liabilities, income, and expenses. It supports the creation of multiple independent Charts of Accounts, each with a nested multilevel ledger structure to ensure comprehensive double-entry bookkeeping and organization of accounting data. • It supports multiple calendars, enabling the assignment of specific products to individual calendars. This feature is particularly useful for managing diverse financial products across various bank locations, both within the US and globally. It ensures accurate tracking of book dates and times, accommodating time zones such as EST, CST, PST, and international zones. • Transaction management is streamlined through automatic tagging based on configurable rules. For example, the issuer can effortlessly categorize all “ATM” transactions as “Cash” and those with specific MCC codes as "Grocery," enhancing efficiency in financial tracking. • Zeta Tachyon empowers the issuer with low/no-code credit allocation policies that can accommodate a wide array of credit allocation approaches. The issuer has the flexibility to prioritize directed credit, deferred interest programs, or sorting by APR, along with customization options for each transaction type within every product. • It supports multiple interest calculation methods, including Daily Balance Simple, Daily Balance Compound, and Average Daily Balance. Moreover, the issuer can implement Interest Rate Tables or custom interest calculation methods for precise interest management. • It supports different interest liquidation policies by posting category. This includes setting balance thresholds for interest application and defining a minimum chargeable interest amount. • Zeta Tachyon automates financial adjustments, ensuring real-time handling of tasks like MAD attribution, interest adjustments, fee adjustments, delinquency status adjustments, and ledger and posting category balance adjustments. This covers a wide range of credit and debit backdated postings, from repayments to dispute resolutions. • Support for 3 independent clocks: System clock, Book clock, and Value clock. <ul style="list-style-type: none"> – Separate book clock allows the flexibility to close the book/ run end of period processing independent of the actual system time – Separate value clock allows the flexibility to post back dated transactions for dispute adjustments, payment adjustments, rectification of errors etc <p>Payments</p> <ul style="list-style-type: none"> • Support payment collection through any channel, such as debit card, ACH, checks, direct debit, RTP, physical lockbox, branch. • Support partial and full holds and deferred hold releases to ensure that the credit occurs immediately, but the over-the-balance (OTB) limit change can be deferred to allow delayed clearance payment mechanisms, such as checks and ACH.





CREDIT PROCESSING: BUREAU REPORTING, LOYALTY/ REWARDS

Component	Distinguishing Features or Key Gaps/Comments
Bureau Reporting	Credit bureau report generation is treated as part of core reporting capabilities and, as such, Zeta’s processing platform supports reporting data to all three bureaus in Metro2 format.
Loyalty/Rewards Management	<p>Programmatic rewards engine that supports:</p> <ul style="list-style-type: none">• Multiple types of programs, such as cashback and points-based• Configurable earn rules using<ul style="list-style-type: none">– Event types: Debit, Credit, Withdrawal, Anniversary, Add-on card issued, Card activated, or any other event– Event attributes: MID, Transaction Date, Amount, MCC, or any other attribute• Program design elements, such as accelerated rewards, reward earn thresholds, campaign and promotion support, and milestones• Real time reward posting and access• Deposits to external destinations, e.g., Airmiles• Reward accounting and statements• Reward expiry definition <p>Multiple redemption options, such as:</p> <ul style="list-style-type: none">• Cashback to statement / instant cashback• Cashback to open / closed loop card• Cashback to prepaid debit card• Points to prepaid gift card• Points to cash• Support for integration with external redemption catalogs

Source: Zeta’s responses to Celent RFI



CARDHOLDER UX AND SERVICES: DIGITAL ENGAGEMENT

Component	Distinguishing Features or Key Gaps/Comments
Digital Engagement	<ul style="list-style-type: none"> • Instant Issuance • Digital Security: Dynamic CVV & PIN, 3DS 2.0 support for eCommerce transactions • Digital Art: rich digital card art with micro animations, ability to push card art on the fly, customizable by issuer, partner, company, or user • Digital Controls <ul style="list-style-type: none"> – Comprehensive set of card controls covering <ul style="list-style-type: none"> - Card block, card freeze/unfreeze - Transaction limits (velocity and value) by channel (POS, Online, ATM), type (Contact/Contactless, Domestic/International), MCC, Merchant - Turn on/off – International/Domestic, POS/Online/ATM - Block by / Allow by MCC, Specific Merchant - Location shield to restrict transactions to location, permitted time periods – Configurable scope of card controls at product, customer, account, payment instrument, or transaction – Robust policy engine that evaluates card control conditions using attributes, balance changes, transaction aggregates, and custom programmatic expressions • Digital insights with rich statements with real merchant names, automatic spend categorization, merchant logos, merchant store hours, store location, map, contact number, etc. • Ability to raise disputes against transactions from the rich statement • Digital card management for virtual cards and tokens • Integrated BNPL offering • Tokenization with one of the most comprehensive processor suites for tokenization as an ITSP and TRTSP. It allows for device tokenization, card on file tokenization, and token management APIs • In addition, Zeta can provide issuers with access to a software development team, enabling them to create modern and innovative experiences. Zeta’s 500+ managed service team has assisted a top-5 global bank in rebuilding its mobile payments and banking application, resulting in the highest-rated financial app in the App Store and Google Play Store in their home country and reaching over two million users within three months of launch.





CARDHOLDER UX AND SERVICES: CUSTOMER COMMS / CALL CENTER

Component	Distinguishing Features or Key Gaps/Comments
Customer Comms/Service/Call Center	<p>Customer Communications</p> <ul style="list-style-type: none"> • Luminos Notifications – Comprehensive real time or batch, alerts and notifications platform, supporting multiple channels (SMS, Email, Push notifications, Letters), multi-lingual predefined message templates, 2-way communication, dynamic variables, and more • Ability to use Zeta-provided delivery vendors or “Bring Your Own” delivery vendor. • Configure predefined templates against specific account, account holder, transaction, or card events in multiple languages with dynamic variables. • Ability to perform Javascript transformations on the dynamic variables prior to insertion in the message templates. • Ability to deliver the templated message to a custom webhook endpoint. This can be used by issuer to leverage Zeta’s Customer Communication Platform to create the message but use the issuer’s own systems to deliver it. • Capability to send custom events that can trigger the generation of notifications. • Capability to define multiple routes for message delivery over different channels (Push, Email, SMS) and prioritize delivery of messages across the defined routes. <p>Customer Service: Agent Portal</p> <ul style="list-style-type: none"> • Comprehensive portal with complete customer profile, associated accounts, instruments, and transaction history • Ability to see detailed information for each transaction • Ability to initiate actions on behalf of customers such as blocking a card, setting limits, turning off/on international transactions, raising disputes, etc. • Ability to add external third party system information in a separate tab within the Agent Portal. This can be used to combine data from other systems outside of credit processing, such as payments, fraud, etc. into a single agent portal view. <p>Customer Service Agents: Pre-integrated partners which provide 24x7 agents to manage customer servicing.</p> <p>IVR: Zeta Tachyon can provide a wealth of features to IVR systems that can allow customers to self-serve using an IVR. Examples of the illustrative features that can be enabled include Unaided transaction authentication, Balance fetch, Read last x transactions, PIN change, Freeze card, Block card, Report card as stolen, Manage card controls.</p>

Source: Zeta’s responses to Celent RFI



CARDHOLDER UX AND SERVICES: DISPUTE MANAGEMENT AND COLLECTIONS

Component	Distinguishing Features or Key Gaps/Comments
Dispute Management	<ul style="list-style-type: none">• Transaction Dispute Workbench: web-based portal available to the issuer's operations teams to manage the entire lifecycle of disputes including, for example, the ability to provide provisional credits for disputes and final dispute resolution or reversal.
Collections	<ul style="list-style-type: none">• Pre-integrated collections service provider partner for managing collections• Integration support for integration with collection engines• Delinquency reporting to collection engine• Attach "promise to pay" against account• Realtime repayment event stream• Manual re-aging

IMPLEMENTATION AND COMMERCIALS (1/3)

Question	Answer
<p>What is your preferred implementation approach?</p>	<ul style="list-style-type: none"> • Zeta’s end-to-end delivery process involves completely onboarding issuer onto the Zeta Tachyon platform from start to finish and is divided into four distinct phases: <ul style="list-style-type: none"> – Phase I: Program Discovery. Discover the configuration, integration, app development, and migration projects needed for overall program implementation. – Phase II: Implementation. The actual implementation including discovery, solutioning and delivery of each project identified in the Program Discovery phase. – Phase III: Hyper-Care. Closely knitted support immediately following implementation. – Phase IV: Steady State Operations. Business-as-usual operations. • The Implementation phase is the heart of the program delivery. It comprises various projects which are categorized into five distinct project categories. Each category can have various projects. Projects within a category and across categories may be executed in parallel. <ul style="list-style-type: none"> – Configuration projects. Configuring the Zeta Tachyon Credit products and pre-bundled surround systems, including cloud setup. Owned end-to-end by Zeta. – Integration projects. Integrating necessary surround systems (issuer systems or third party) with the relevant Zeta Tachyon modules. Each integration is deemed as an independent project. It may potentially involve different stakeholders and may start at various stages of Implementation. – App development projects. The development of end-user mobile/web experiences and development of back-office portals or apps for issuer’s servicing teams. Each such application development may be deemed as an independent project. – Migration projects (conversion). Migrating existing portfolios from the issuer legacy systems onto the Zeta Tachyon platform. – Training projects. Training the relevant issuer staff and trainers on the Zeta Tachyon platform. • When working with Zeta, issuers that are converting portfolios can choose one of two conversion approaches: <ul style="list-style-type: none"> – Big Bang: applications and data migrate in one iteration – Staggered approach: applications and data migrate in multiple iterations. Portfolio staggering can be based on account, account status, billing cycle, product, region • For large migrations, Zeta prefers a staggered approach to ensure a smooth overall transition of portfolios. The approach provides the flexibility to incorporate changes and improvements as the project moves forward, allowing to address any challenges or unforeseen issues effectively. This iterative and adaptable approach helps Zeta optimize the migration process and deliver the best possible outcome for clients. • Zeta’s Implementation and Migration team’s experience exceeds 100+ implementation and conversion projects across a diverse portfolio of 20+ issuers. Their extensive expertise in successfully executing such projects demonstrates their profound understanding of the intricacies involved. Zeta’s commitment to delivering exceptional service is also fortified by strategic partnerships with industry-leading system integrators who have undergone comprehensive training on the platform. These collaborations empower Zeta to offer issuer clients a wealth of resources, enabling capacity augmentation and ensuring a seamless integration and migration experience.

IMPLEMENTATION AND COMMERCIALS (2/3)

Question	Answer
Do you typically work with external parties (e.g., third party systems integrators) during implementation?	<ul style="list-style-type: none"> • Zeta has a strong internal Customer Success team and also works with several third party SI partners to implement Zeta Tachyon for clients. The SI partners go through a rigorous evaluation process before being selected to work on Zeta Tachyon. Their teams go through a training and certification process to ensure that all implementations are seamless.
What is the average time from contract signing to go live for a typical implementation?	<ul style="list-style-type: none"> • Implementation timelines can vary from 12 to 18 months depending on multiple factors, including: <ul style="list-style-type: none"> – Issuer system readiness – Number of systems to be configured and integrated – Number of applications to be developed (e.g., mobile app, website, etc.) – BIN certification
Do you have benchmarks for how your cost to implement compares with legacy providers?	<ul style="list-style-type: none"> • Zeta’s pricing structure follows a simplified per-active-account-per-month model, ensuring transparency with no hidden fees or extra charges. The company has sought to carefully position its pricing to be competitive within the market, taking into account the added value of several unique capabilities and features that sets them apart from other platforms. Some solutions and products bundled within Zeta’s offering issuers might otherwise have to purchase separately today if they use legacy for transaction processing. • While Zeta aims to be competitive in terms of pricing, it does not want to be seen as a discount provider. The company’s focus is on delivering exceptional value to clients through innovative offerings. Furthermore, as businesses expand and migrate their portfolios to Zeta’s platform, the company expects efficiency gains that will ultimately result in cost reductions for clients over time.

IMPLEMENTATION AND COMMERCIALS (3/3)

Question	Answer
Please describe your pricing model(s)	<ul style="list-style-type: none">• Zeta offers a pay-as-you-go billing model based on usage and active users, which scales elastically vs. large upfront or other complex cost models. Zeta’s simplified pricing is per-active-card-per-month fixed-fee for credit processing platform and most surround offerings.
How would you characterize your typical SLAs compared to traditional incumbent vendors?	<ul style="list-style-type: none">• Zeta’s typical SLAs are comparable to existing vendors, and issuers can expect industry-standard SLAs for cloud-native systems. Having said that, given the self-service capabilities of the platform, a significant number of configuration changes and policy and product updates can be managed by issuers themselves without involving the Zeta team.
Is your platform only offered as part of the processing service or available to buy as licensed software?	<ul style="list-style-type: none">• Zeta Tachyon is offered as a part of the processing services as a SaaS platform.
Do you have benchmarks for how your running costs compare with legacy providers?	<ul style="list-style-type: none">• To highlight the long-term value Zeta’s platform creates for issuer clients, the next page outlines 14 different experiences enabled by the solution for a typical retail credit card business, with a characterization of indicative revenue levers they could impact given the product or go-to-market construct.

ZETA TACHYON: THE LONG-TERM VALUE OF THE PLATFORM TO ISSUING CLIENTS



Experiences	Higher Spends and Balances	Improved Retention	Additional Revenue Oppty	Improved Customer Acquisition	Increase Distribution	Faster GTM
Consumer Cards						
Unique Family Hub experience	Y	Y		Y		
Personal Virtual Cards with Rules	Y	Y				
Enhanced Card Security	Y					
Powerful Card Controls						
Enriched Transactions		Y				
Hyper Personalized Fees		Y				
Hyper Personalized Interest	Y	Y				
Hyper Personalized Rewards	Y	Y				
Contextual & Integrated BNPL	Y					
Banking-as-a-Service Capability						
VBO Capability	Y	Y			Y	
Issuer Operations						
Self-service APIs						Y
Direct Merchant Connect		Y	Y			
Modern Product Setup & Management						Y
Real Time Data & Insights		Y	Y			

Selected Examples of Long-term Value

Increase retention and non-fee revenue; family cards can result in fee income of \$1 to \$5 per month¹

Partners have seen between 5% to 50%² increase in engagement by leveraging some of these advanced experiences. This can increase Top of Wallet share by 5% to 20%.

Enabling transactors to convert transactions into installment loans can increase interest-carrying balances by 3% to 5%³.

Typical BaaS providers would earn \$1 to \$2⁴ per card per month of revenue from fintechs/cobrand/distributors.

All sources provided by Zeta:

1. As charged by other neo-bank providers / financial institutions
2. Zeta Estimates
3. Zeta Estimates
4. Industry Estimates

Source: Zeta's responses to Celent RFI

3

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For more information, please contact info@celent.com or: Zil Bareisis zbareisis@celent.com

Americas

USA

99 High Street, 32nd Floor
Boston, MA 02110-2320

[+1.617.262.3120](tel:+16172623120)

USA

1166 Avenue of the Americas
New York, NY 10036

[+1.212.345.3960](tel:+12123453960)

USA

Four Embarcadero Center
Suite 1100
San Francisco, CA 94111

[+1.415.743.7960](tel:+14157437960)

Brazil

Rua Arquiteto Olavo Redig de Campos, 105
Edifício EZ Tower – Torre B – 26º andar
04711-904 – São Paulo/SP - Brasil

[+55 11 5501 1100](tel:+551155011100)

EMEA

United Kingdom

55 Baker Street
London W1U 8EW

[+44.20.7333.8333](tel:+442073338333)

Switzerland

Tessinerplatz 5
Zurich 8027

[+41.44.5533.333](tel:+41445533333)

Spain

Paseo de la Castellana 216, Pl. 13
28046 Madrid
Spain

+34 91 531 79 00

Asia-Pacific

Japan

Midtown Tower 16F
9-7-1, Akasaka
Minato-ku, Tokyo 107-6216

+81.3.6871 7008

Hong Kong

Unit 04, 9th Floor
Central Plaza
18 Harbour Road
Wanchai

[+852 2301 7500](tel:+85223017500)

Singapore

8 Marina View, Asia Square Tower 1, #09-07
Singapore 018960

+65 6510 9700

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