Flight Booking Platform
PRD v3.0

Verteil-powered direct-booking, flight retail and servicing platform

Status	Draft for Review / Governing Baseline Proposal
Date	2026-03-09
Owner	Product / Architecture / Program Office
Supersedes	PRD v2.0 redirect-led baseline and prior product model references

Governing change: this PRD replaces the old redirect-first product framing with a direct-booking, payment-owning, support-owning operating model.

Source basis: Product Model v3.0, PRD v2.0, parity and feature research, support ticketing notes, Verteil corporate and commercial materials, and scope/approval register artifacts.

1. Executive Summary

PRD v3.0 defines the product as a **Verteil-powered, direct-booking, flight retail and servicing platform** with platform-owned checkout, payment orchestration, booking lifecycle continuity, credit governance, unified support, and role-based operations for **Consumers, Agents, and Admin/Ops teams**.

This document replaces the older redirect-first baseline. The governing user journey is no longer *Search → Compare → Redirect*. It is now:

Discover → Search → Compare → Validate / Reprice → Capture traveler details → Collect payment or reserve credit → Book → Confirm / Ticket → Manage booking → Service / Support → Reconcile

PRD v3.0 establishes:

- the authoritative product model for current scope
- the current-vs-later scope partition
- detailed feature requirements by domain
- portal responsibilities by role
- payment, settlement, credit, and reporting requirements
- direct-booking support and servicing requirements
- parity-grade search and merchandising expectations
- non-functional requirements, release gates, and open decisions

The product is **flight-first**, **Verteil-first**, and **operations-aware**. It is not an affiliate-only meta-search engine and it is not a redirect-led business model.

2. Document Intent and Use

2.1 Purpose

This PRD is intended to align Product, Engineering, QA, Design, Operations, Finance, Support, Partnerships, and Security on a single governing definition of the product.

2.2 How to use this PRD

This document should be used as the primary baseline for:

- implementation planning
- UI/UX scope definition
- backend domain modeling

- integration sequencing
- QA test planning
- delivery phasing
- UAT and go-live readiness
- cross-functional approval and change control

2.3 Document philosophy

This PRD is intentionally detailed because the product is no longer a simple discovery layer. It owns transactional, operational, support, and finance-sensitive flows.

2.4 Scope precedence

If older artifacts conflict with this document, **PRD v3.0 takes precedence** for current planning.

3. Product Definition

3.1 Canonical product statement

The Flight Booking Platform is a **Verteil-powered direct flight booking and servicing platform** with:

- on-platform checkout
- payment gateway orchestration
- booking and ticket lifecycle continuity
- agent credit workflows
- markup, promotion, and discount governance
- unified support ticketing
- auditability, reporting, and finance traceability

3.2 Product classification

The product shall be treated as:

- a flight retail platform
- a direct-booking orchestration platform
- a B2C + B2B/B2B2C travel commerce system
- an agent-enabled airline retailing platform
- an operations-heavy booking and servicing product

The product shall **not** be framed as:

- an affiliate-only meta-search engine
- a pure redirect comparison site

- a content-only travel discovery site
- an airline inventory owner
- a standalone OTA/GDS replacement

3.3 Product purpose

To provide a unified platform for flight search, booking, payment, booking management, servicing, support, and travel-seller operations without pushing users or agents into fragmented external flows.

4. Why v3 Exists

4.1 Problem with the old baseline

Earlier documents still encoded:

- redirect-led booking completion
- no direct booking or payment ownership
- affiliate/ad-led monetization as the main model
- servicing and support as limited or deferred

That baseline is no longer compatible with the clarified product direction.

4.2 What changed

The governing business and product model now includes:

- direct booking through platform-controlled UX
- payment collection inside the platform
- Verteil-backed lifecycle support for booking and servicing
- agent and sub-agent operations
- credit, discount, and reconciliation logic
- support case ownership by the platform
- promotions and commercial governance in current scope

4.3 Why this is a major version change

This shift changes:

- business model
- operational ownership
- liability and settlement exposure
- persona model
- portal requirements

- data model boundaries
- KPI design
- support and finance obligations

5. Product Principles

1. **Booking continuity over redirect fragmentation**
2. **Operational traceability over opaque workflows**
3. **Commercial governance over ad hoc pricing behavior**
4. **Role clarity over blended permissions**
5. **Supportability over feature-only thinking**
6. **Flight-first depth over shallow multi-vertical sprawl**
7. **Extensibility later without making future capabilities current dependencies**
8. **Trust and transparency over aggressive merchandising**
9. **Supplier-aware activation over fake universality**
10. **Financial visibility over hidden settlement behavior**

6. Goals, Non-Goals, and Success Outcomes

6.1 Product goals

The platform should:

- enable direct flight booking with platform-owned checkout
- support both traveler and travel-seller distribution models
- provide consistent booking management after payment
- support governed agent credit and pricing controls
- provide unified support across booking, payment, and credit workflows
- deliver market-parity search and comparison UX
- maintain finance-grade reporting and reconciliation visibility
- remain extensible to more providers later

6.2 Current non-goals

The platform is not trying in this version to:

- become a multi-vertical travel super-app
- depend on AI for baseline product operation
- launch multiple providers on day one

- provide universal live chat as a mandatory MVP feature
- build consumer-native mobile apps in the initial release
- cover hotels/cars as core scope

6.3 Strategic outcomes

The intended outcomes are:

- higher search-to-booking conversion than redirect-led experiences
- stronger customer trust via owned checkout and support continuity
- controlled B2B economics through credit and markup governance
- better finance and operational visibility than a pure referral model
- a credible path toward broader supplier coverage later

7. Scope Model

7.1 Current scope now

Current scope includes:

- Verteil integration for search, book, retrieve, modify, cancel, refund, and reschedule
- Consumer, Agent, and Admin/Ops role model
- booking management
- payment gateway integration
- credit management
- markup logic
- discount management, including corporate / co-operate discounts
- SSO and MFA/2FA
- reports
- CDC / webhooks
- notifications
- audit logs
- profile management
- caching and performance controls
- logs, analytics, bug reporting
- provider/service management
- airline/flight visibility/configuration where supported
- currency management and localization preferences
- external knowledge-base content surfaces

- promotions, SEO, and ads management
- unified support ticketing
- charter/custom flight inventory as a governed module
- parity-grade search and merchandising

7.2 Later by default

The following are deferred by default:

- multiple providers beyond the initial Verteil-led supply path
- AI capabilities

7.3 Not valid exclusions anymore

The following are **not** accepted as default exclusions:

- direct booking
- payment processing
- booking servicing
- SSO
- promotions
- corporate discounts
- support operations

7.4 Supplier-dependent / gated scope

Some in-scope capabilities may still be:

- supplier-dependent
- market-dependent
- commercially gated
- ops-gated
- approval-gated

This applies especially to:

- private and corporate fares
- payment modes by market
- held booking or pay-later paths
- ancillary availability
- change/refund depth
- charter/custom inventory
- notification channels by region

8. Personas and Stakeholders

8.1 External personas

P1. Consumer / Traveler

Needs to search, compare, pay, book, manage bookings, and receive support without leaving the platform.

P2. Agent / Travel Seller

Needs organization-aware booking, customer handling, pricing control within allowed boundaries, credit usage, reporting, and support.

P3. Agent Sub-User

Needs limited scoped access for search, booking, customer handling, ticket/support access, and reporting according to agent organization permissions.

8.2 Internal personas

P4. Super Admin / Platform Operator

Manages platform-wide settings, providers, security, promotions, booking oversight, and governance.

P5. Finance / Reconciliation Team

Tracks payment state, settlement state, credit exposure, refunds, and financial exceptions.

P6. Support / Operations Team

Handles booking issues, payment issues, refund/change cases, incidents, supplier coordination, and escalations.

P7. Commercial / Partnerships Team

Owns supplier onboarding, commercial rules, corporate pricing boundaries, and promotional configuration.

P8. Security / Compliance Team

Owns SSO, MFA policy, audit review, incident controls, and sensitive path protection.

9. Jobs To Be Done

9.1 Consumer JTBD
- Help me find viable flight options quickly.
- Help me understand total price, baggage, restrictions, and implications before I pay.
- Let me book without unnecessary redirects.
- Let me see my booking and payment status after checkout.

• Let me get help if something goes wrong.

9.2 Agent JTBD

• Let me search and book efficiently for travelers.
• Let me manage my team and organization activity.
• Let me operate within approved credit and discount rules.
• Let me export booking and financial reports.
• Let me raise support or finance cases tied to a booking.

9.3 Admin JTBD

• Let me control providers, pricing, discounts, credits, and promotions centrally.
• Let me monitor booking and payment health.
• Let me reconstruct what happened through logs and audits.
• Let me approve sensitive actions without ambiguity.

10. Target Market

10.1 Primary market

Travel agents, consolidators, sub-agents, and reseller businesses that need:

• searchable airline inventory
• agent-focused booking tools
• organization and sub-user control
• credit-led purchasing support
• markup and discount governance
• exportable operational and financial reports

10.2 Secondary market

Consumers who need:

• strong search and comparison UX
• transparent pricing
• on-platform payment
• post-booking continuity
• support continuity

10.3 Internal market

Platform operations, finance, support, and commercial teams requiring:

• dashboards and reports

- approvals and audit trails
- issue reconstruction
- payment and credit visibility
- supplier governance

11. Business and Commercial Model

11.1 Core commercial model

The platform operates as a **direct-booking transaction platform**.

11.2 Consumer payment model

- The end user pays the platform through an integrated payment gateway.
- The platform records payment intent, authorization, capture, failure, refund, reversal, and booking outcome states.
- Payment state must be linked to booking state and visible to finance and support.

11.3 Agent credit model

- Agents maintain a platform credit balance or approved credit arrangement.
- Credit top-up, approval, reservation, consumption, release, adjustment, and visibility are core platform concerns.
- Credit events must be auditable and visible to finance.

11.4 Settlement model

Depending on supplier/commercial arrangements, settlement may use:

- BSP / airline-linked settlement routes
- credit-based platform settlement
- direct payment rails supported by supplier flows
- pay-later constructs where contractually and operationally permitted

11.5 Revenue model

Revenue may include:

- markup on bookings
- service fees
- negotiated pricing margin where allowed
- commercial program economics
- approved promotional / boosted placement revenue

11.6 Revenue model exclusions

The following are no longer the central governing model:

- redirect-led affiliate monetization
- click-out attribution as the primary revenue path
- ads as the main business model

12. Supply and Platform Ownership Model

12.1 Initial provider strategy

The product launches with **Verteil as the primary supply and servicing backbone**.

12.2 Later provider strategy

The platform architecture must remain extensible for additional providers, but multi-provider rollout is not current-baseline scope.

12.3 What Verteil is expected to support

Where enabled by supplier/source conditions, the product assumes Verteil-backed support for:

- shopping/search
- booking and ticketing
- ancillaries
- payment-linked workflows
- cancellation and refund workflows
- itinerary modifications and penalty/fare difference handling
- post-ticket servicing
- agent/sub-agent oriented workflows
- pricing / rule engine support
- reporting-oriented back-office flows

12.4 What the platform owns

The platform owns:

- product UX
- search presentation and merchandising
- portal access and role controls
- consumer and agent identity
- payment gateway integration
- platform-side credits and finance controls

- support case management
- promotions, SEO, and content surfaces
- reporting, audit, and operations views

13. Experience Model

13.1 Experience layers

The platform has three main experience layers:

1. Consumer web experience
2. Agent workspace
3. Super Admin / internal ops experience

13.2 Experience principles

The experience should be:

- transparent
- low-friction
- role-aware
- localization-aware
- secure
- supportable
- auditable
- promotion-capable without breaking trust

13.3 Table-stakes parity expectations

The base product must include:

- one-way / round-trip / multi-city search
- passenger and cabin selection
- airport autocomplete and nearby-airport assistance
- flexible date / calendar pricing support
- filters and sorting
- fare breakdown and baggage visibility
- booking management after checkout
- notifications and alerts
- profile/history/saved-trip continuity where relevant
- centralized payment and booking confirmation visibility

14. Core User Journeys

14.1 Consumer journey

Discover → Search → Compare → Inspect details → Select offer → Reprice / validate → Enter traveler details → Pay → Book → Confirm / ticket → Manage booking → Service / support if needed

14.2 Agent journey

Login → Search for traveler → Compare → Apply governed commercial configuration → Validate fare/pricing → Book under credit/payment rules → Manage booking → Export / report → Raise support or finance case if needed

14.3 Admin journey

Configure platform → Manage users/agents/providers → Govern pricing, discounts, credits, and promotions → Monitor health and incidents → Review reports and audits → Resolve escalations

14.4 Support journey

Ticket created → Linked to booking/payment/credit record → Categorized and prioritized → Internal/external threaded communication → Resolution / escalation → Closure with audit trail

15. Capability Domains

15.1 Search and discovery

Includes:

- one-way, round-trip, multi-city, and open-jaw where supported
- passenger mix and cabin selection
- airport/city autocomplete
- nearby-airport assistance
- flexible dates / calendar support
- route and destination discovery surfaces
- progressive result loading
- localization and currency-aware search context

15.2 Results, comparison, and merchandising
Includes:

- side-by-side comparison
- total price visibility

- fare breakdown

- baggage/fare-rule visibility where available

- branded fares where available

- filters for stops, airline, timings, duration, layovers, airports, price range

- sorting by price, duration, departure, arrival, and best value

- promotion-aware merchandising

- corporate / discount eligibility indicators where applicable

15.3 Offer validation and repricing

Includes:

- pre-book validation

- currency/payment-aware repricing where required

- mismatch detection

- user-facing changed-offer handling

- availability-change recovery flows

15.4 Checkout and payment orchestration

Includes:

- traveler and contact capture

- fare acceptance and policy confirmation

- payment gateway initiation

- payment authorization and capture tracking

- booking creation only after successful payment conditions or approved credit rules

- failure, retry, and recovery flows

- transactional notifications

15.5 Booking, order, and ticket lifecycle

Includes:

- book
- retrieve
- modify
- cancel
- refund request / visibility
- reschedule/change
- booking confirmation and ticket status
- order timeline/history

- passenger data updates where supported
- post-ticket ancillary addition where supported

15.6 Commercial controls

Includes:

- markup logic for consumer and agent contexts
- pricing rules
- discount management
- coupon / promo code support
- corporate / negotiated pricing support
- approval boundaries
- commercial rule audit trail

15.7 Credit and financial governance

Includes:

- credit top-up requests
- approval / rejection
- reservation against booking attempts
- consumption on successful booking
- release on failure/cancel paths
- adjustments and corrections
- finance-facing reconciliation and exposure tracking

15.8 Provider, airline, and service management

Includes:

- provider enable / disable
- supplier configuration and credentials governance
- airline visibility/configuration where supported
- source/channel activation rules
- health status by provider/source

15.9 User, agent, and organization management

Includes:

- local auth
- agent organization model
- agent sub-user model
- RBAC and portal segmentation

- profile management
- traveler data support
- account status governance
- SSO support
- MFA / 2FA support

15.10 Notifications and communications

Includes:

- transactional emails
- booking notifications
- payment success/failure notifications
- refund/change/cancellation notifications
- support ticket update notifications
- notification preference management
- SMS / WhatsApp / push where approved later

15.11 Support and case management

Includes:

- ticket creation by user, agent, and admin/support
- categories for booking, payment, refund, change, credit, account, and technical issue
- priorities and SLA handling
- threaded communication
- internal notes
- attachments
- linkage to booking/order/payment/credit records
- audit trail of support actions

15.12 Reports, audit, and reconciliation

Includes:

- booking reports
- sales reports
- agent/date-wise exports
- payment and settlement visibility
- refund/change visibility
- credit ledger reporting
- promotion performance reporting

- operational KPI reporting
- immutable audit logs
- health dashboards and incident visibility

15.13 Promotions, ads, and growth surfaces

Includes:

- boosted airlines
- boosted routes
- boosted offers
- ads/promo placements within approved surfaces
- campaign configuration
- prioritization and labeling rules
- performance reporting

15.14 SEO, content, and knowledge surfaces

Includes:

- route pages
- city / destination pages
- travel content / blog / static pages
- schema markup and sitemap
- external knowledge base for visa / travel prerequisites / guidance content
- publication controls

15.15 Security, compliance, and operational controls

Includes:

- SSO integration
- MFA / 2FA policies
- role-sensitive auth controls
- audit log integrity
- sensitive admin action controls
- secrets/config governance
- incident visibility
- payment/security posture alignment

15.16 Performance and caching

Includes:

- Redis / CDN strategy

- cache invalidation/freshness policies
- search session performance handling
- supplier timeout resilience
- health monitoring
- logging, analytics, and bug reporting

15.17 Charter / custom / rented flight inventory

This remains **current scope as a governed optional module**, not a universal default inventory assumption. It must be modeled as:

- supplier-dependent
- commercially gated
- ops-reviewed
- separately surfaced from standard scheduled inventory where necessary
- subject to dedicated quotation, confirmation, servicing, and support rules

16. Portal Model

16.1 Super Admin portal

Must support:

- user management
- markup management
- credit approval flows
- booking management
- provider/service management
- airline/flight visibility/configuration
- localization and currency configuration
- discount configuration
- notification management
- security management
- external KB configuration
- health monitoring
- payment gateway configuration
- promotions and ads management
- report exports
- audit access

16.2 Agent portal

Must support:

- sub-user management
- markup management within allowed scope
- credit requests and visibility
- booking management
- reports and exports
- localization and currency preferences
- discount request/configuration within allowed scope
- notification preferences
- profile management
- support case creation and tracking

16.3 User portal

Must support:

- user profile
- booking management
- saved preferences
- localization and currency preferences
- notification preferences
- support case creation and tracking
- booking history and continuity features

17. Functional Requirements

*Format note: Each FR is treated as **MVP/current-scope** unless explicitly marked as conditional or later.*

FR-01 — Flight Search Session Management

Objective: Enable fast, flexible search initiation and progressive result retrieval.

Actors: Consumer, Agent, Agent Sub-User **Must support:**

- one-way, round-trip, multi-city
- passenger mix and cabin selection
- origin/destination autocomplete using city and airport entities
- nearby-airport assistance
- flexible dates / calendar context

- currency and locale context
- search session creation with expiry
- progressive retrieval/polling model

Validation rules:

- valid airport/city identifiers only
- adult >= 1
- infants <= adults
- return date >= departure date
- supported passenger count caps configurable by policy

Acceptance criteria:

- all declared search modes work end-to-end
- invalid combinations are blocked with explicit error messages
- progressive results support partial loading before completion timeout

FR-02 — Fare Aggregation, Normalization, and Deduplication

Objective: Convert supplier responses into a canonical internal offer model.

Must support:

- Verteil-first search execution
- canonical itinerary/segment/fare representation
- multi-offer handling
- duplicate cluster resolution
- timeout-tolerant partial result return
- supplier error isolation

Acceptance criteria:

- no malformed offer is rendered
- partial supplier failure does not collapse the full search experience
- duplicate itineraries preserve price/source distinctions where commercially relevant

FR-03 — Search Results, Filters, Sorting, and Comparison

Objective: Provide parity-grade comparison UX.

Must support:

- results list with side-by-side option comparison
- filters for price, stops, airline, timings, duration, layovers, airports
- sorting by price, duration, departure, arrival, best value
- total price display

- base fare / tax / fee breakdown

- baggage visibility where available

- fare-rule visibility where available

- clear source/provider labeling

Acceptance criteria:

- filter state is stable and reversible

- all displayed prices include currency and total payable amount

- empty states are deterministic and recoverable

FR-04 — Offer Validation and Repricing

Objective: Prevent stale or misleading offers from reaching checkout.

Must support:

- pre-book validation

- repricing when required by source conditions

- availability mismatch handling

- price-change disclosure

- user decision flow for accepted changed price or declined booking

Acceptance criteria:

- price/availability changes are surfaced clearly before booking commitment

- changed offers never silently proceed without user confirmation

FR-05 — Traveler, Contact, and Booking Input Capture

Objective: Capture complete, valid bookable traveler data.

Must support:

- adult/child/infant traveler capture

- contact details capture

- identity/travel-document fields where required by route/source

- saved traveler support by role and permission

- validation for mandatory fields and traveler-type rules

- fare-rule/policy acknowledgement

Acceptance criteria:

- the platform blocks incomplete or invalid bookable payloads

- traveler data can be reviewed before final commit

FR-06 — Consumer Checkout Flow

Objective: Enable on-platform direct booking for consumers.

Must support:

- review step before payment
- payment initiation through gateway
- payment pending / success / failure handling
- booking request execution after eligible payment state
- confirmation state with booking reference visibility
- post-payment recovery if booking creation fails
- clear separation of payment failure vs booking failure vs partial success

Acceptance criteria:

- user never sees ambiguous terminal states
- booking outcome and payment outcome remain linked and visible

FR-07 — Agent Booking Flow

Objective: Support organization-aware travel-seller booking under commercial controls.

Must support:

- customer-on-behalf booking
- sub-user activity tracking
- booking under credit or approved payment rules
- price construction under allowed markup/discount policies
- organization-level booking visibility
- role-sensitive traveler/profile persistence

Acceptance criteria:

- agent users cannot exceed their pricing/credit permissions
- all bookings are attributable to organization and acting user

FR-08 — Payment Orchestration and State Management

Objective: Maintain auditable end-to-end payment state.

Must support:

- payment intent creation
- authorization and capture tracking
- failure and retry handling
- refund and reversal state linkage
- settlement state visibility

- reconciliation identifiers linking payment to booking/order/credit

Acceptance criteria:

- finance and support can reconstruct payment state from audit/history
- payment status changes emit usable downstream events

FR-09 — Booking Creation, Confirmation, and Ticket Visibility

Objective: Provide reliable booking continuity after checkout.

Must support:

- booking creation against validated offer
- booking confirmation state
- ticket issuance visibility where available
- booking/order timeline
- customer-facing reference visibility
- agent-facing reference and organization context

Acceptance criteria:

- post-book confirmation states are visible in portal and notifications
- booking timeline records major milestones

FR-10 — Booking Retrieval and Management

Objective: Let users and agents access booking continuity after purchase.

Must support:

- retrieve/view booking
- traveler and contact visibility
- ticket status visibility
- history/timeline view
- role-based access control for who can view what
- booking search within portal based on role permissions

Acceptance criteria:

- each role sees only its permitted booking set
- key booking milestones are available without contacting support

FR-11 — Modify / Reschedule / Cancel / Refund Flows

Objective: Support post-booking servicing as a first-class product concern.

Must support:

- modify booking where supported

- reschedule/change requests and flows
- cancellation requests and flows
- refund request / refund visibility
- penalty and fare-difference display where available
- servicing status tracking
- constraint disclosure when source capability is limited

Acceptance criteria:

- unsupported servicing actions fail with clear reason and next step
- supported actions create traceable cases/events

FR-12 — Ancillary Handling

Objective: Support ancillary awareness and additions where available.

Must support:

- ancillary display at shopping or servicing stages where provided
- post-ticket ancillary addition where supported
- ancillary-related payment linkage
- ancillary visibility in booking timeline

Acceptance criteria:

- ancillary availability is never implied when source data does not support it
- ancillary charges remain auditable

FR-13 — Markup and Pricing Rules

Objective: Support governed price construction without hidden logic.

Must support:

- supplier/base fare + taxes/fees + markup + discount effect composition
- consumer vs agent rule separation
- rule scope by role, organization, channel, route, or fare class where approved
- effective-date control
- reversible audited changes

Acceptance criteria:

- all pricing rule changes are attributable to actor/time/version
- unauthorized users cannot alter active commercial rules

FR-14 — Discount, Coupon, and Corporate Pricing

Objective: Support modern commercial discounting without policy ambiguity.

Must support:

- coupon / promo code discounts
- platform promotions
- corporate / co-operate discounts
- negotiated/private fare eligibility indicators where supported
- agent-requested discount workflows
- admin-approved discount controls

Acceptance criteria:

- discounts are role-governed and auditable
- conflicting rules resolve through deterministic precedence

FR-15 — Credit Ledger and Financial Governance

Objective: Treat credit as a governed financial domain, not a loose balance number.

Must support:

- credit top-up requests
- approval/rejection
- reservation against booking attempt
- consumption upon booking success
- release on eligible failure/cancel paths
- manual adjustment and correction
- organization and actor-level ledger visibility
- exposure reporting

Acceptance criteria:

- every credit movement produces a ledger event
- reserved vs available vs consumed balances are distinguishable

FR-16 — Provider, Airline, and Service Activation Management

Objective: Provide controlled supplier and channel governance.

Must support:

- provider enable/disable
- credential/config lifecycle
- health status visibility by provider/source
- source/channel activation rules
- airline visibility/configuration where supported
- future extensibility without breaking current contracts

Acceptance criteria:

- admin can disable problematic sources without redeploying product code
- provider state changes are audited

FR-17 — Admin Portal and Operational Control Center

Objective: Provide a complete internal control plane.

Must support:

- dashboards
- booking oversight
- payment gateway configuration
- provider and commercial management
- discount and promotion management
- user and agent management
- report exports
- audit access
- incident and health visibility

Acceptance criteria:

- sensitive actions require proper role/approval boundaries
- dashboards expose current operational health and backlog exceptions

FR-18 — Agent Workspace and Sub-User Management

Objective: Support B2B/B2B2C operations without creating admin-level power leakage.

Must support:

- sub-user creation and role assignment inside allowed boundaries
- booking activity visibility by sub-user
- allowed markup and discount handling
- credit request workflows
- organization report access
- support case access within org scope

Acceptance criteria:

- agent scope never crosses organization boundary
- sub-user permissions are inheritable but revocable

FR-19 — User Profile, Preferences, and Saved Data

Objective: Reduce repeat friction while keeping role-aware data ownership.

Must support:

- profile management
- traveler profile / saved traveler where allowed
- notification preferences
- localization/currency preferences
- saved searches / saved trips / history where enabled
- booking history continuity

Acceptance criteria:

- users can update preferences without affecting unrelated accounts
- saved data follows access and deletion policy

FR-20 — Notifications and Communications

Objective: Ensure important state changes are communicated.

Must support:

- booking confirmation notifications
- payment success/failure notifications
- refund/change/cancellation notifications
- support ticket updates
- notification preference management
- email as baseline channel
- later channel extensibility for SMS / WhatsApp / push

Acceptance criteria:

- all critical transactional flows emit a user-visible communication event
- promotional messages respect opt-in / preference settings

FR-21 — Unified Support Ticketing

Objective: Provide a single support system for Consumers, Agents, and Admin/Support Ops.

Must support:

- ticket creation by user, agent, and admin/support
- categories: booking, payment, refund, cancellation, change, credit, account/access, technical issue, dispute
- statuses: open, in progress, waiting for customer, waiting for supplier, resolved, closed
- priority + SLA
- threaded conversation
- attachments

- internal vs external notes
- role-based visibility
- ticket linkage to booking/order/payment/refund/credit entities
- audit trail of support actions

Acceptance criteria:

- support ticketing is available in current scope and not deferred
- support history is reconstructible from linked entities and thread history
- live chat remains optional and later, not a dependency for MVP

FR-22 — Reports, Audit, and Reconciliation

Objective: Make operations and finance measurable.

Must support:

- booking reports
- payment reports
- sales reports
- refund/change reports
- agent reports
- credit/ledger reports
- provider performance reports
- support SLA/volume reports
- audit/event logs
- exportability for admin and agent roles where allowed

Acceptance criteria:

- each core business domain has at least one auditable report surface
- exports are permission-aware and traceable

FR-23 — Identity, RBAC, SSO, and MFA

Objective: Enforce role-sensitive identity and access controls.

Must support:

- local auth
- SSO integration
- role-based access control
- agent organization segmentation
- MFA / 2FA support
- sensitive admin path protection

- access auditability

Acceptance criteria:

- admin-sensitive paths require stronger auth posture than standard user journeys
- role resolution is deterministic and testable

FR-24 — CDC, Webhooks, and Operational Eventing

Objective: Keep booking, payment, and servicing state synchronized across internal systems.

Must support:

- booking state events
- payment state events
- refund/change/cancel events
- downstream webhook publishing or ingestion where needed
- idempotent event handling
- event auditability
- replay/recovery strategy for failed deliveries

Acceptance criteria:

- critical business state transitions are evented
- duplicate deliveries do not produce double-processing

FR-25 — Promotions, Boosted Inventory, and Ads Governance

Objective: Support current-scope growth surfaces without degrading trust.

Must support:

- boosted airlines, routes, and offers
- approved promo/ad placements
- labeling rules
- prioritization rules
- admin campaign controls
- performance reporting
- suppression / review rules to avoid misleading surfaces

Acceptance criteria:

- paid or boosted surfaces are visibly identifiable where required
- merchandising never suppresses mandatory price/trust disclosures

FR-26 — SEO, Content, and External Knowledge Base

Objective: Provide discoverability and self-service information surfaces.

Must support:

- route pages
- destination/city pages
- content hub/blog/static pages
- structured metadata/schema
- sitemap support
- admin content governance
- external KB content for visa/travel prerequisites/guidance

Acceptance criteria:

- content publication is admin-governed
- KB and SEO surfaces do not interfere with transactional correctness

FR-27 — Currency, Localization, and Preference Management

Objective: Support regional usability without requiring full multilingual rollout.

Must support:

- currency preference
- locale preference
- role-sensitive defaults
- admin configuration for supported currencies and localizations
- consistent currency use across search, checkout, booking, and reports

Acceptance criteria:

- price display and settlement views avoid ambiguous currency mixing
- unsupported locales fail gracefully to configured defaults

FR-28 — Charter / Custom Flight Inventory Module

Objective: Represent non-scheduled inventory without contaminating standard-flow assumptions.

Must support:

- separate surfacing from scheduled inventory where appropriate
- quotation / confirmation / servicing / support rules specific to charter inventory
- commercial gating and approval controls
- ops review path before activation

Acceptance criteria:

- charter/custom inventory activation is explicit, governed, and auditable
- standard-flight UX is not degraded when charter module is disabled

18. Business Rules and Policy Requirements

18.1 Role boundaries

- Consumers may access only self-owned bookings and support cases.
- Agents may access organization-scoped bookings, support cases, and reports.
- Agent sub-users inherit org scope but only within assigned permissions.
- Super Admin has platform-wide visibility subject to security policy.
- Finance and Support may receive scoped operational visibility based on function.

18.2 Rule precedence

When multiple pricing or discount rules apply, the system shall resolve conflicts using documented precedence:

1. hard validation/supplier constraints
2. approved corporate/private fare rules
3. approved organization-level rules
4. platform-wide discount/promotion rules
5. default markup/service fee logic

18.3 Auditability

The following actions require audit logging:

- provider activation/deactivation
- pricing rule changes
- discount rule changes
- credit approvals and adjustments
- payment state overrides or manual interventions
- booking servicing actions
- support ticket state changes
- access/role changes
- security setting changes

18.4 Support ownership

Because the platform owns booking, payment, and credit workflows, support ticketing is mandatory in current scope. Chat may be added later, but ticketing is not optional.

19. Data Model Boundaries

19.1 Core logical entities

The product assumes the following core aggregates:

- User
- AgentOrganization
- AgentSubUser
- Role / Permission
- Profile
- Traveler
- SearchSession
- Offer / Itinerary / Fare
- Booking / Order
- Ticket / BookingStatusTimeline
- PaymentTransaction
- RefundCase / ChangeCase
- CreditAccount / CreditLedgerEntry
- DiscountRule / PromotionRule / CorporatePricingRule
- Provider / Airline / ServiceChannel
- NotificationPreference / NotificationEvent
- SupportTicket / SupportMessage / SupportAttachment
- AuditLog
- HealthSnapshot / Incident
- ExternalKBArticle / ContentPage

19.2 State-bearing entities

The following must be stateful and historically traceable:

- SearchSession
- Booking / Order
- PaymentTransaction
- CreditLedgerEntry
- RefundCase / ChangeCase
- SupportTicket
- Provider health state

19.3 Minimum timeline expectations

At minimum, the system shall keep event/timeline visibility for:

- booking lifecycle
- payment lifecycle
- support lifecycle
- credit lifecycle
- admin-sensitive configuration changes

20. Integration Requirements

20.1 Verteil integration

The product shall integrate with Verteil-backed capabilities for:

- search
- book
- retrieve
- modify
- cancel
- refund
- reschedule/change
- ancillary availability where supported

20.2 Payment integration

The platform shall integrate with one or more payment gateways for:

- payment initiation
- authorization
- capture
- failure handling
- refund initiation or state sync where applicable

20.3 Notification integration

The platform shall support:

- email as current mandatory baseline
- later optional integration with SMS / WhatsApp / push channels

20.4 Identity integration

The platform shall support:

- local auth

- SSO integration

- MFA / 2FA mechanisms

20.5 Analytics and observability integration

The platform shall expose and/or emit:

- application logs

- health metrics

- analytics events

- bug/incident tracking hooks

- webhook/event integrations for operational sync

21. Reporting and KPI Model

21.1 KPI philosophy

The KPI model shall reflect **owned transaction outcomes**, not redirect metrics as the primary governing layer.

21.2 Proposed business KPI families

- search-to-booking conversion

- payment success rate

- booking/ticket issuance success rate

- offer reprice/mismatch rate

- refund/change turnaround visibility

- support SLA and resolution quality

- credit utilization and exception rate

- finance reconciliation accuracy

- promotion effectiveness without trust degradation

- platform uptime and supplier health

21.3 Proposed technical KPI targets

These are proposed initial targets for implementation planning and should be validated during delivery planning:

- page load: ≤ 3.0s p75 LCP on mid-tier mobile

- API response (non-search): ≤ 500ms p95

- search time-to-first-results: ≤ 800ms p95

- search time-to-stable-results: ≤ 2.5s p95

- uptime: ≥ 99.9% monthly

21.4 Proposed operational dashboards

Dashboards should support:

- booking health
- payment health
- refund/change backlog
- credit exposure
- support volume and SLA
- supplier health
- promotion performance
- audit and incident visibility

22. Non-Functional Requirements

22.1 Performance

- non-search API p95 ≤ 500ms
- search first chunk p95 ≤ 800ms
- search hard cutoff p95 ≤ 2.5s
- page load ≤ 3.0s p75 LCP on mobile

22.2 Capacity / concurrency

Proposed planning baseline:

- burst search session creation support
- concurrent active search sessions in the low five figures
- route-budgeted supplier fanout controls
- stateless API scale-out support behind CDN / load balancer

22.3 Reliability

- uptime ≥ 99.9%
- supplier failure isolation
- retry for idempotent search flows only
- idempotent webhook/event processing
- circuit-breaker behavior for failing upstreams
- graceful degradation when upstream capability is partially unavailable

22.4 Security

- OWASP-aligned review before go-live
- TLS in transit
- encrypted storage/backups
- RBAC for all privileged surfaces
- MFA mandatory for sensitive admin paths
- secrets/config governance
- audit logging for sensitive actions

22.5 Compliance

- privacy-aware data handling
- deletion/anonymization workflow for applicable personal data requests
- payment-security posture aligned with selected payment architecture
- role-sensitive access to financial/support data
- retention policy defined before go-live

22.6 Observability

The system shall emit structured logs and metrics for:

- search latency and errors
- supplier latency and timeout rates
- booking state changes
- payment state changes
- support SLA breaches
- credit movements
- provider health
- incident and exception tracking

22.7 Supportability

The product shall be operable by internal support teams without database-only reconstruction as a default mechanism.

23. Risks, Assumptions, and Constraints

23.1 Product risks

- supplier-dependent servicing depth may vary
- payment and credit flows increase liability and operational load

- promotions can degrade trust if poorly labeled

- corporate/private fare logic may become commercially complex

- charter inventory may require non-standard flows

- regional channel differences may complicate auth and notifications

23.2 Design constraints

- the product must remain operable with Verteil-first supply

- the system must preserve a clean extension path for later providers

- AI must not be a hard dependency for baseline operation

- support and finance traceability must exist from day one of direct booking operations

23.3 Implementation assumptions

- a selected payment gateway will be approved for current markets

- Verteil-backed lifecycle capabilities will be activated per contract and source support

- role model and approval logic will be finalized before build freeze

- reporting/export requirements will be reviewed by finance and operations before UAT

24. Delivery Phasing

24.1 Phase 1 / Current release baseline

Phase 1 should deliver:

- direct booking baseline with Verteil-first supply

- search and comparison parity

- consumer checkout

- agent booking under governed rules

- booking management

- support ticketing

- payment and credit traceability

- Admin / Agent / User portals

- notifications, reports, audit, and core SEO/content surfaces

24.2 Later-by-default phase

Later scope should focus on:

- multiple providers beyond Verteil

- AI capability layers

24.3 Feature activation via gates

Some current-scope modules may launch disabled or partially enabled until:

- commercial approvals exist
- supplier support is confirmed
- ops playbooks are ready
- finance and support sign-off is complete

Examples:

- corporate/private fares
- pay-later paths
- charter inventory
- some servicing actions
- non-email notification channels

25. Release Readiness and UAT Gates

25.1 Go-live gates

Before go-live, the following must be complete:

- in-scope features implemented and tested
- payment and booking state linkage verified
- booking management visible in portal
- support ticketing operational
- admin controls and audit logs operational
- provider credentials configured for live route set
- documentation delivered
- rollback approach rehearsed

25.2 UAT conditions

UAT is complete only when:

- each role can execute its critical journey
- transaction states are not ambiguous
- support can reconstruct real incidents
- finance can inspect booking-linked financial movement
- commercial controls behave deterministically
- parity-grade search UX is functional on supported browsers/devices

25.3 Operational handover requirements

The delivery team must provide:

- role matrix
- support workflow guide
- payment and booking state map
- credit lifecycle guide
- incident/health dashboard guide
- data export/report guide

26. Open Decisions Requiring Formal Approval

1. **Merchant-of-record and settlement design**

Final operating model for consumer payments, supplier settlement, and financial liability handling.

2. **Payment methods by market**

Which payment methods are in MVP versus later by region.

3. **Credit policy**

Top-up, approval, reservation, release, and exposure thresholds.

4. **Corporate/private fare activation**

Which markets, providers, and user groups may access them.

5. **Servicing depth at launch**

Which modify/cancel/refund/reschedule flows are fully self-service versus routed through support.

6. **Notification channel mix**

Email only at launch or approved inclusion of SMS / WhatsApp / push.

7. **SSO activation timing**

Mandatory at launch for some roles or phased after MVP.

8. **Charter/custom inventory activation**

Whether module ships dark/launched later or partially enabled.

9. **Support operating model**

SLA, staffing hours, escalation policy, and supplier coordination playbook.

10. **Data retention policy**

Final durations for search, bookings, audit logs, support artifacts, and financial records.

27. Source Basis

This PRD v3 is synthesized from:

- Product Model v3.0
- PRD v2.0 and older redirect-era scope documents
- parity and feature research documents
- support ticketing decision notes
- Verteil corporate and commercial materials
- scope and approval register materials

It intentionally resolves legacy contradictions by treating the direct-booking product model as authoritative.

28. Final Governing Statement

PRD v3.0 defines the Flight Booking Platform as a Verteil-powered, direct-booking, flight retail and servicing platform for Consumers, Agents, and Admin/Ops teams, with platform-owned checkout, payment, booking lifecycle continuity, markup/discount/credit governance, SSO and security controls, promotions, support ticketing, reporting, auditability, and flight-platform table-stakes required for market parity; only Multiple Providers and AI capabilities are deferred by default.