



accessium

NETRA

Access Intelligence for ISP, Telco & Broadband Networks

Subscriber | Policy | NAT | Billing | Analytics | Resilience

VERSION 2026

PRODUCT OVERVIEW

Unified Access Intelligence Platform

NETRA consolidates subscriber identity, policy enforcement, traffic intelligence, NAT orchestration, billing logic, and analytics into a single continuous decision architecture designed for ISP and telecom environments. This unified approach eliminates fragmented systems and provides operators with comprehensive visibility and control across their entire network infrastructure.

Built on carrier-grade foundations, NETRA delivers deterministic performance for broadband networks while maintaining the flexibility to adapt to evolving business requirements. The platform integrates seamlessly with existing network infrastructure, providing a cohesive operational framework that spans from subscriber authentication through revenue realization.

Carrier-Grade AAA

Enterprise authentication, authorization, and accounting with real-time session management

Multi-ISP Orchestration

Intelligent routing and load balancing across multiple upstream providers

CGNAT & Address Intelligence

Comprehensive NAT management with IPv4/IPv6 dual stack support

Revenue & Charging Framework

Integrated billing engine supporting prepaid, postpaid, and hybrid models

High Availability by Design

Active-active clustering with stateful session synchronization

Carrier-Grade Identity & AAA Engine

NETRA's integrated AAA engine provides comprehensive subscriber identity management with real-time authentication, authorization, and accounting capabilities. The system maintains continuous session awareness, enabling dynamic policy adjustments and precise usage tracking across all network access points.

The platform correlates subscriber identities across multiple dimensions, ensuring consistent policy application regardless of access method or location. Real-time session accounting provides granular visibility into network usage patterns, while dynamic re-authorization capabilities enable instant policy updates without service interruption.

Integrated AAA Engine

RADIUS and DIAMETER protocol support with carrier-grade performance and scalability

Attribute-Based Policy Assignment

Dynamic policy selection based on subscriber attributes, location, and service tier

Real-Time Session Accounting

Continuous usage monitoring with millisecond-precision accounting records

Dynamic Re-Authorization (CoA)

Instant policy updates and service modifications without session disruption

Subscriber Identity Correlation

Unified identity management across multiple access technologies and devices

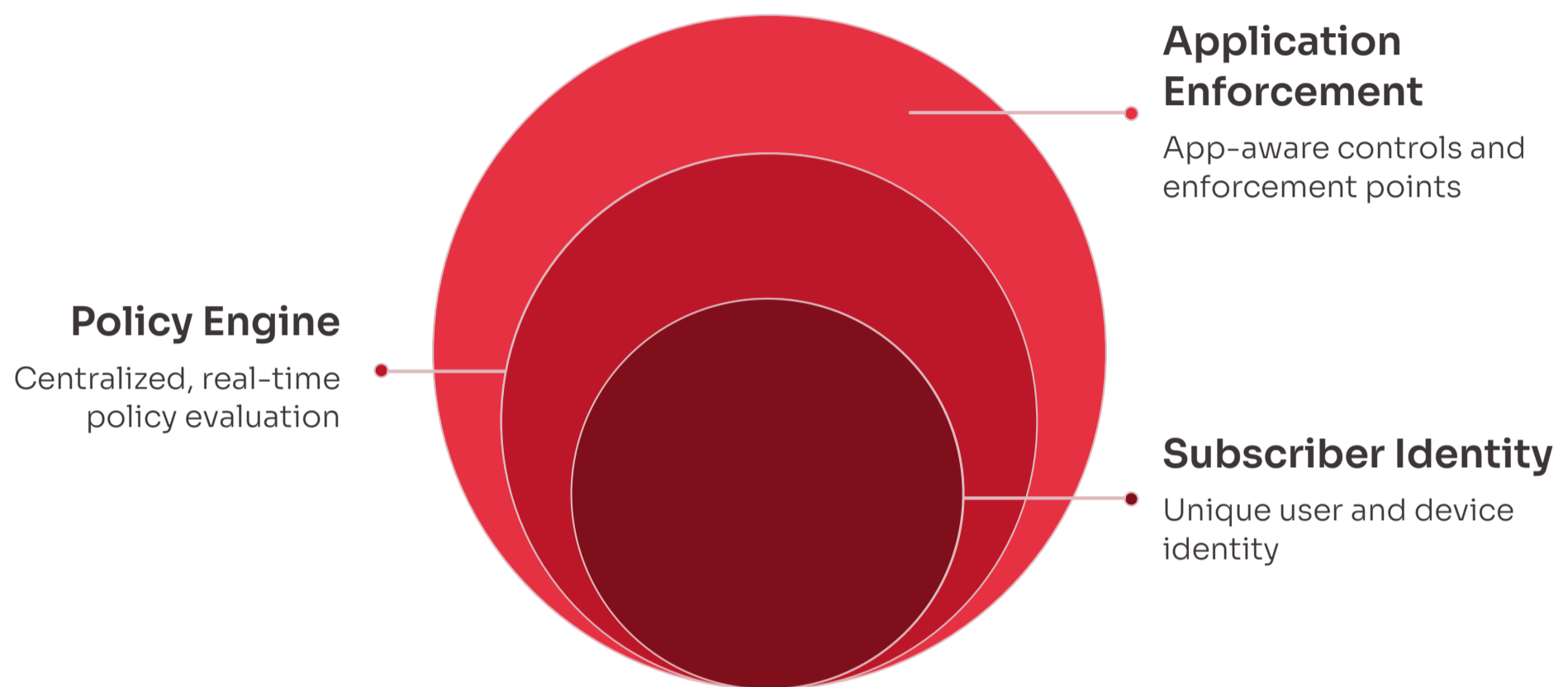
Accounting-Grade Logs

Comprehensive audit trails with tamper-proof logging for compliance and billing

Policy & Application Intelligence

NETRA's centralized policy engine delivers identity-based enforcement with application-aware control capabilities. The system evaluates multiple policy dimensions simultaneously, resolving conflicts through intelligent priority logic while maintaining consistent enforcement across the entire network infrastructure.

Application-aware control enables operators to implement sophisticated traffic management strategies based on service type, subscriber tier, and network conditions. Usage-based policy triggers automatically adjust service parameters in response to consumption patterns, ensuring optimal resource utilization while maintaining quality of experience.



Live session enforcement ensures that policy changes take effect immediately, without requiring subscriber reconnection or service interruption. The platform maintains complete visibility into active sessions, enabling operators to implement dynamic adjustments in response to network conditions or business requirements.

01

Centralized Policy Engine

Single point of policy definition with distributed enforcement across network elements

02

Identity-Based Enforcement

Policy application tied to subscriber identity rather than network location

03

Application-Aware Control

Deep packet inspection with protocol recognition for granular traffic management

04

Usage-Based Policy Triggers

Automatic policy adjustments based on consumption thresholds and patterns

05

Conflict Resolution Logic

Intelligent priority handling when multiple policies apply to single subscriber

06

Live Session Enforcement

Real-time policy updates without service disruption or session termination

Adaptive Bandwidth Management

NETRA implements sophisticated bandwidth management through tiered subscriber profiles that support both committed and burstable rate configurations. The platform enables operators to define flexible service plans that balance guaranteed performance with opportunistic capacity utilization, maximizing network efficiency while maintaining quality commitments.

Shared and dedicated quota models provide operational flexibility, allowing operators to implement hybrid plans that combine fixed allocations with pooled resources. Peak and off-peak rules enable time-based rate adjustments, optimizing network utilization across daily usage cycles while providing subscribers with value-differentiated service options.

Bandwidth Control Features

- Tiered Subscriber Profiles
- Committed & Burstable Rates
- Shared / Dedicated Quotas
- Hybrid Plans

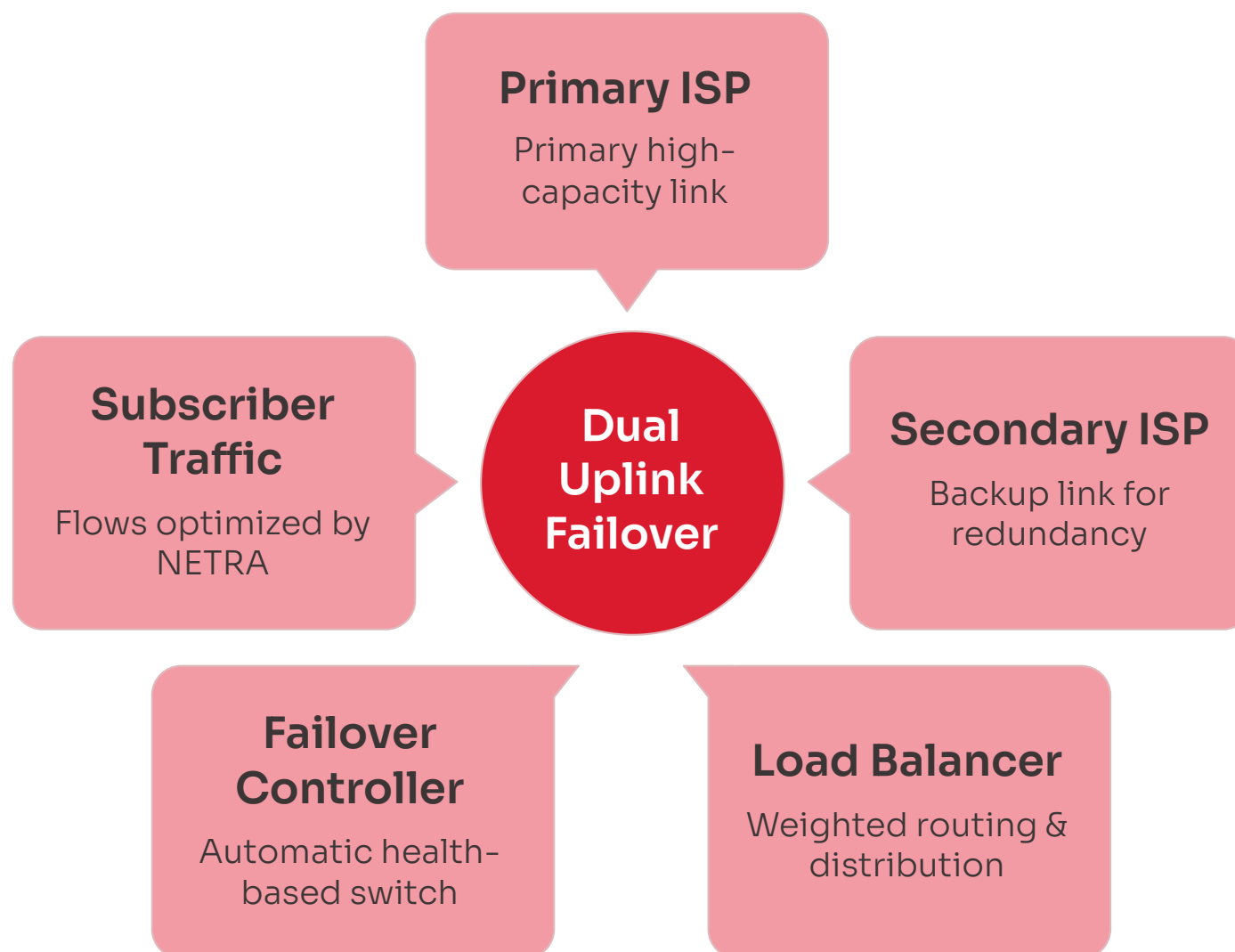
Enforcement Capabilities

- Peak / Off-Peak Rules
- Fair Usage Enforcement
- Per-Subscriber Shaping
- Dynamic Rate Adjustment









Fair usage enforcement ensures equitable resource distribution during congestion events, while per-subscriber shaping maintains individual service level agreements. The system continuously monitors network conditions and subscriber behavior, automatically adjusting bandwidth allocation to maintain optimal performance across the entire subscriber base.

Network Orchestration & NAT Intelligence

NETRA's network orchestration capabilities provide comprehensive multi-ISP load balancing with weighted routing algorithms that optimize traffic distribution based on link quality, cost, and capacity. The platform maintains continuous awareness of upstream provider status, automatically adjusting routing decisions to ensure optimal performance and reliability.

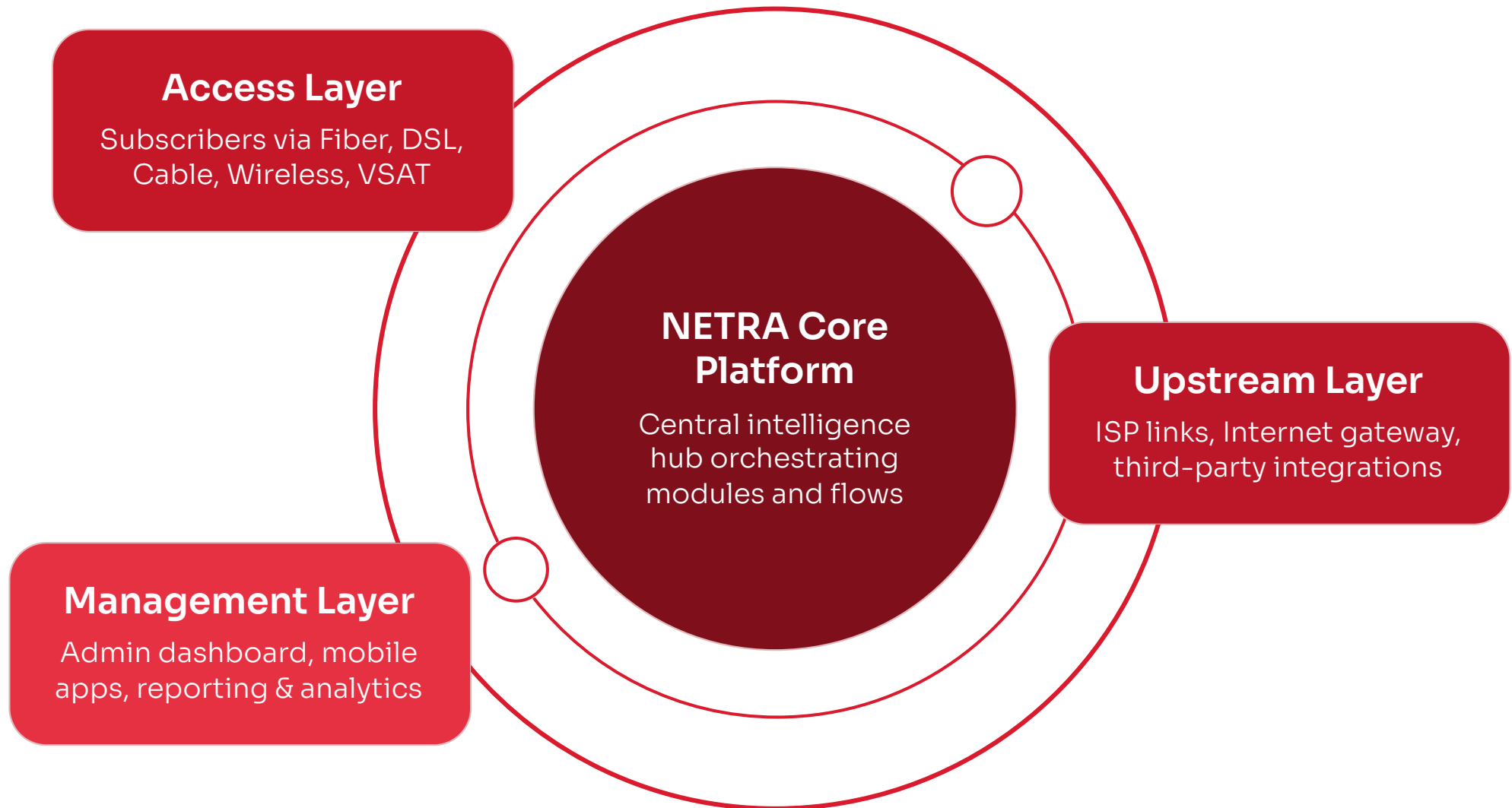


Smart NAT capabilities encompass source NAT, CGNAT, and comprehensive IP pool management, enabling efficient IPv4 address utilization while supporting seamless IPv6 transition. The broadband session gateway provides unified session management across multiple access technologies, maintaining consistent subscriber experience regardless of connection method.

 Multi-ISP Load Balancing Intelligent traffic distribution across multiple upstream providers	 Weighted Routing Cost and performance-based routing decisions	 Smart NAT Comprehensive NAT orchestration with session tracking	 Source NAT Outbound address translation with port management
 CGNAT Carrier-grade NAT with logging and compliance support	 IPv4 / IPv6 Dual Stack Seamless transition support with protocol translation	 IP Pool Management Dynamic address allocation and utilization tracking	 Broadband Session Gateway Unified session management across access technologies

NETRA Network Flow Architecture

NETRA by Accsium provides a complete end-to-end network management solution, seamlessly integrating subscriber access, authentication, policy enforcement, and billing in a unified platform.



Key Architecture Benefits:

- Unified platform eliminates integration complexity
- Single point of control for all network operations
- Seamless data flow from subscriber to internet and back
- Real-time policy enforcement at every layer
- Integrated billing and analytics for complete visibility

Revenue & Charging Intelligence

NETRA's integrated billing framework supports both prepaid and postpaid models with comprehensive usage-based charging capabilities. The pulse rating engine provides flexible charging granularity, enabling operators to implement sophisticated pricing strategies that align with business objectives while maintaining transparent subscriber billing.

Plan management capabilities encompass the complete service lifecycle, from initial subscription through upgrades, downgrades, and renewals. Top-up support enables real-time balance adjustments for prepaid subscribers, while automated tax and discount handling ensures accurate invoice generation across diverse regulatory environments.

Revenue reconciliation features provide continuous validation of charging accuracy, comparing usage records against billing outputs to identify discrepancies and ensure financial integrity. Invoice automation streamlines billing operations, generating subscriber statements on configurable schedules while maintaining detailed audit trails for compliance and dispute resolution.



Prepaid & Postpaid Billing

Flexible charging models with real-time balance management



Usage-Based Charging

Granular consumption tracking with pulse rating engine



Plan Management

Complete lifecycle support for service subscriptions



Invoice Automation

Scheduled statement generation with audit trails

Operational & Business Intelligence

NETRA delivers comprehensive analytics through real-time dashboards that provide immediate visibility into network performance, subscriber behavior, and business metrics. The platform aggregates data from multiple sources, presenting unified views that enable rapid decision-making and proactive issue resolution.

Subscriber usage analytics reveal consumption patterns across time, location, and service type, enabling operators to optimize network capacity planning and identify revenue opportunities. Application traffic distribution analysis provides insights into service utilization, supporting informed decisions about network investment and service development priorities.

Analytics Capabilities

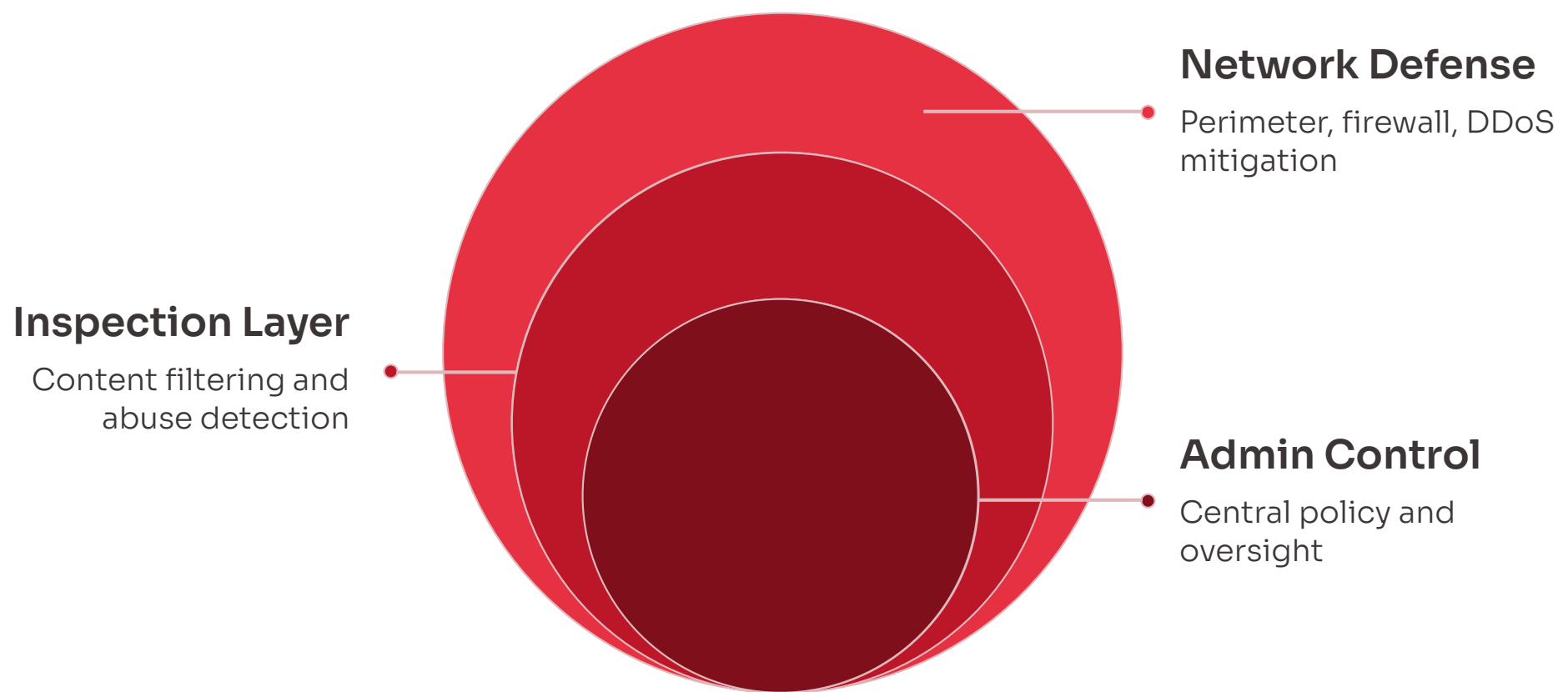
- Real-Time Dashboards with customizable widgets and drill-down capabilities
- Subscriber Usage Analytics tracking consumption patterns and trends
- Application Traffic Distribution showing service utilization by protocol
- MIS & BI Reports providing executive-level business intelligence
- CSV / PDF Export for external analysis and archival

Integration Features

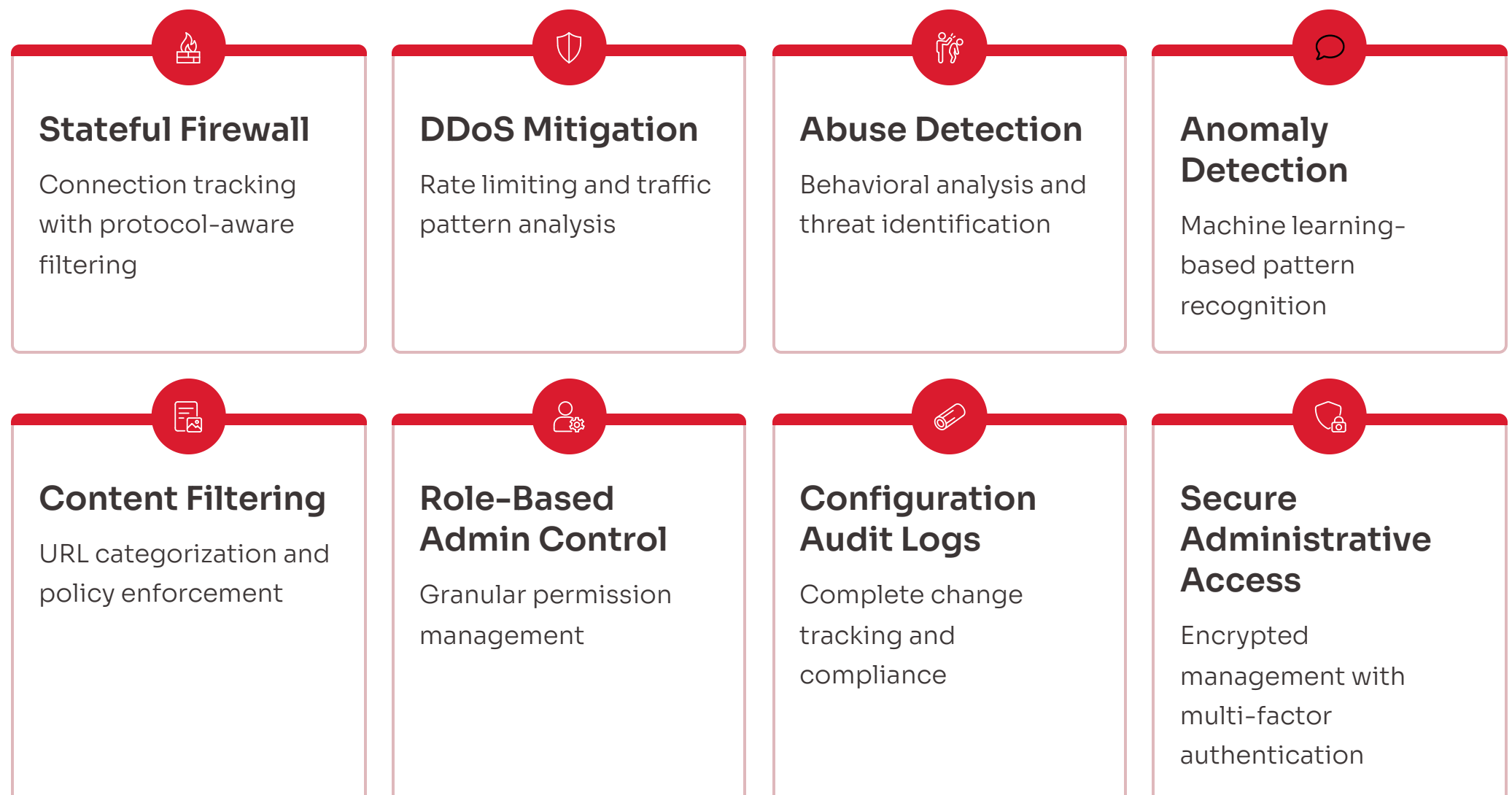
- Scheduled Reports with automated delivery
- SNMP Monitoring for network management systems
- Syslog Integration for centralized logging
- API Access for custom integrations

Security-Integrated Enforcement

NETRA incorporates comprehensive security capabilities directly into the access control framework, providing stateful firewall protection with DDoS mitigation and abuse detection. The platform continuously monitors traffic patterns, identifying anomalies that may indicate security threats or policy violations.



Content filtering capabilities enable operators to implement regulatory compliance requirements and corporate acceptable use policies. Role-based administrative control ensures that operational staff have appropriate access levels, while configuration audit logs maintain complete records of system changes for security analysis and compliance verification.



Built for Deterministic Broadband Networks

NETRA delivers unified subscriber control, policy enforcement, NAT orchestration, billing intelligence, analytics, and resilience in a single carrier-grade platform. The system provides deterministic performance for broadband networks while maintaining the flexibility to adapt to evolving business requirements and technological advances.

By consolidating multiple network functions into a cohesive architecture, NETRA eliminates operational complexity while providing comprehensive visibility and control. The platform's carrier-grade design ensures reliable performance at scale, supporting the demanding requirements of modern ISP and telecom environments.

Subscriber Lifecycle Management

Complete journey from onboarding through service delivery and billing

Operational Excellence

Unified platform reducing complexity and operational overhead

1

2

3

4

High Availability Architecture

Active-active clustering with stateful session synchronization

Future-Ready Design

Scalable architecture supporting network growth and evolution

Key Features

Access Management

- Inbuilt RADIUS server (802.1x, 802.16e compatible)
- PAP/CHAP/EAP-TTLS support
- Multi-protocol authentication
- Oracle/MySQL/PostgreSQL database support
- Web-based PPOE, DHCP, hotspot login
- Voucher/coupon-based authentication
- SMS/Email OTP two-step verification
- Social media-based login
- MAC binding and device management

Subscriber & User Management

- Complete lifecycle management
- Prepaid & postpaid packages
- User account wallet & F-Frame configuration
- Auto renewal with anniversary billing
- Registration & topup packages
- Advanced reporting system
- single/multiple device support
- Change ownership on both package level & user level

Package Management

- Prepaid & Postpaid packages
- Create | Activate | Suspend | Renew packages
- Registration & Renewal & Topup packages
- Advanced Reporting System
- Auto Renewal System
- Advance Postpaid including Anniversary Billing
- FAP/FUP based packages

Coupon Management

- Branding & customizable coupon templates
- Create packaging zone wise coupons

Bandwidth Management

- Committed and burstable bandwidth
- Individual & shared bandwidth quota
- Bandwidth scheduling & fair usage policy
- Priority-based QoS & connection ratio
- Bandwidth capping using firewall rules
- Time-based traffic shaping

Policy & Application Intelligence

- Centralized policy enforcement
- Application-aware traffic control
- DPI-based application filtering
- Identity-based policy application
- Dynamic policy adjustment

System Management

- Multi-functionality dashboard
- Quick configuration options
- Comprehensive admin usage logs
- Syslog configuration
- DHCP, DNS, PPOE Client & Server
- SmartNAT
- SNAT management
- Diagnostic tools
- Console & Secure Access (SSH)
- Demographic field option
- Basic firewall facility
- Swift user migration facility
- Data backup and restore options
- Factory reset
- Network management options
- Network packet capture option for admin
- Deployment modes - Access Gateway | AAA | Standalone
- Rich look & feel of Admin GUI
- Multi-lingual GUI option
- Frequently used options
- Comprehensive field option
- Easy control & configuration options

Administration

- Role-based multi-level administration
- Console & Admin GUI (ACL)
- Change password options
- Multi-functionality dashboard facility
- Ease of Admin interface
- Quick configuration options

Reporting

- Admin GUI usage log - Audit Reports
- Reports in HTML/Printable/Graphical/PDF
- MIS & BI Reports
- Realtime Pin Reports
- Diagnostic and System Health Check Tools
- Report can be sent via Email

Alert Management

- Email-based customizable alerts
- Event-based templates
- Schedule alerts for renewal/expiry
- Bandwidth switch alerts
- SMS gateway integration
- WhatsApp integration
- Complete log of sent messages

Log Management

- NetForensics Suite | IDPR Log
- Logs in CSV/Excel/Printable
- WebTrace Analytics | HTTP Usage Log
- Syslog Server Integration

High Availability

- Offers high availability - Active-Passive Mode
- Detect failure & redirect traffic to secondary server
- Avoids data loss and downtime

Third Party Integrations

- CRM integrations
- Ticketing system integration
- API based integration
- OTT integration

NAT & IP Management

- SmartNAT with CGNAT support
- SNAT management
- IPv4 and IPv6 support
- L2TP VPN tunneling
- Carrier-grade NAT
- Network packet capture

Internet Billing

- Prepaid & postpaid billing
- Usage-based charging
- Pulse rating engine
- Multi-service invoice templates
- Tax, ancillary & discount facility
- Payment gateway integration
- Peak & off-peak billing
- Data billing
- Currency conversion facility
- Pulse based billing
- FAP/FUP based packages
- Customized multi-service invoice template
- Allow billing grace period
- Tax & OTT invoice
- Cancel invoice
- Compose invoice
- Prevent billing for deactivated or suspended users
- Send PDF invoice over email

Payment Gateway

- Integrated with major secured payment gateways
- Facilitate online payment receivables
- Enable to integrate with any payment gateway
- Integration with 24online payment tracking

Franchise Management

- Create single or multiple franchise in network
- Create single or multiple franchise operators
- Franchise based - Package | Vouchers | Invoice | Reports
- Franchise based payment tracking

Web Filtering

- 45+ default web categories
- Block domains and ports
- HTTPS protocol support
- Block malware & adult sites
- Custom denied messages
- Safe search enforcement

Captive Portal

- Customizable login pages
- Device-based optimization
- BYOD support
- User self-registration
- Video AD scheduling - HTTP traffic while browsing
- Video-Ad at the time of login/logout
- All video types fully supported
- SSL-based secured portal
- QR-based authentication
- Create customizable/sizeable login pages - HTTP enabled
- Device-based login pages - Mobile/Laptop
- Promotions and branding options
- SSID/DHCP option based captive portal
- Centralized captive portal
- Time-based captive portal
- NAS Wise captive portal
- MAC FLASH After logout

NETRA Solution Architecture

NETRA provides a unified platform architecture that integrates BSS/AAA and Access Gateway functionalities in a single box. The solution supports various network topologies and seamlessly integrates with third-party systems through industry-standard APIs and protocols.

Access Layer

User devices and edge access points

Integration Layer

Third-party systems and OSS/BSS connectors



NETRA Core

BSS, AAA, and Access Gateway in one

Network Protocols

IP, Diameter, RADIUS, and signaling

Key Benefits:

- Support for various network topologies
- Integrated BSS/AAA and Access Gateway in a single box
- Industry-standard APIs for ease of integration with third-party systems

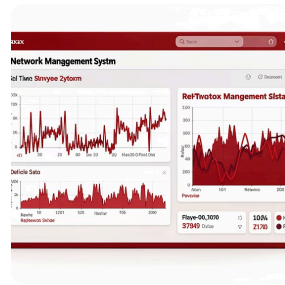
Advanced Modules & Features

NETRA offers a suite of advanced modules and features designed to enhance operational efficiency, improve customer satisfaction, and drive business growth for ISPs and Telcos.



Advance Ticketing Module

NETRA's advanced ticketing system empowers ISPs and Telcos to deliver faster, more efficient customer support. It streamlines issue tracking, automates ticket assignment, and provides real-time updates, ensuring timely resolution of customer queries. With integrated reporting and smart workflows, it enhances service quality, reduces response times, and improves overall customer satisfaction.



Network Management System

NETRA offers a comprehensive Network Management System (NMS) designed for ISPs and Telcos to efficiently monitor, administer, and optimize network performance. It enables real-time visibility, proactive fault detection, seamless administration and enhanced customer experience.

Key capabilities:

- Real-time device monitoring and status tracking
- Proactive fault detection and alerting
- Performance metrics and analytics
- Device configuration management
- Network topology visualization
- Bandwidth utilization monitoring
- Uptime and downtime tracking
- Multi-vendor device support



AI-Driven Business Insights

NETRA's AI-driven Business Insights empower ISPs and Telcos to convert raw data into intuitive charts using natural language. By tracking data usage over time and across customers, ISPs and Telcos can optimize resources and identify new revenue opportunities.

Features:

- Natural language query interface
- Automated chart generation from CSV data
- Top user analysis by download/upload bytes
- Time-series data visualization
- Custom report generation
- Data-driven decision making
- Revenue optimization insights
- Resource utilization analytics



LACP (Link Aggregation Control Protocol)

LACP provides several key benefits for network infrastructure:

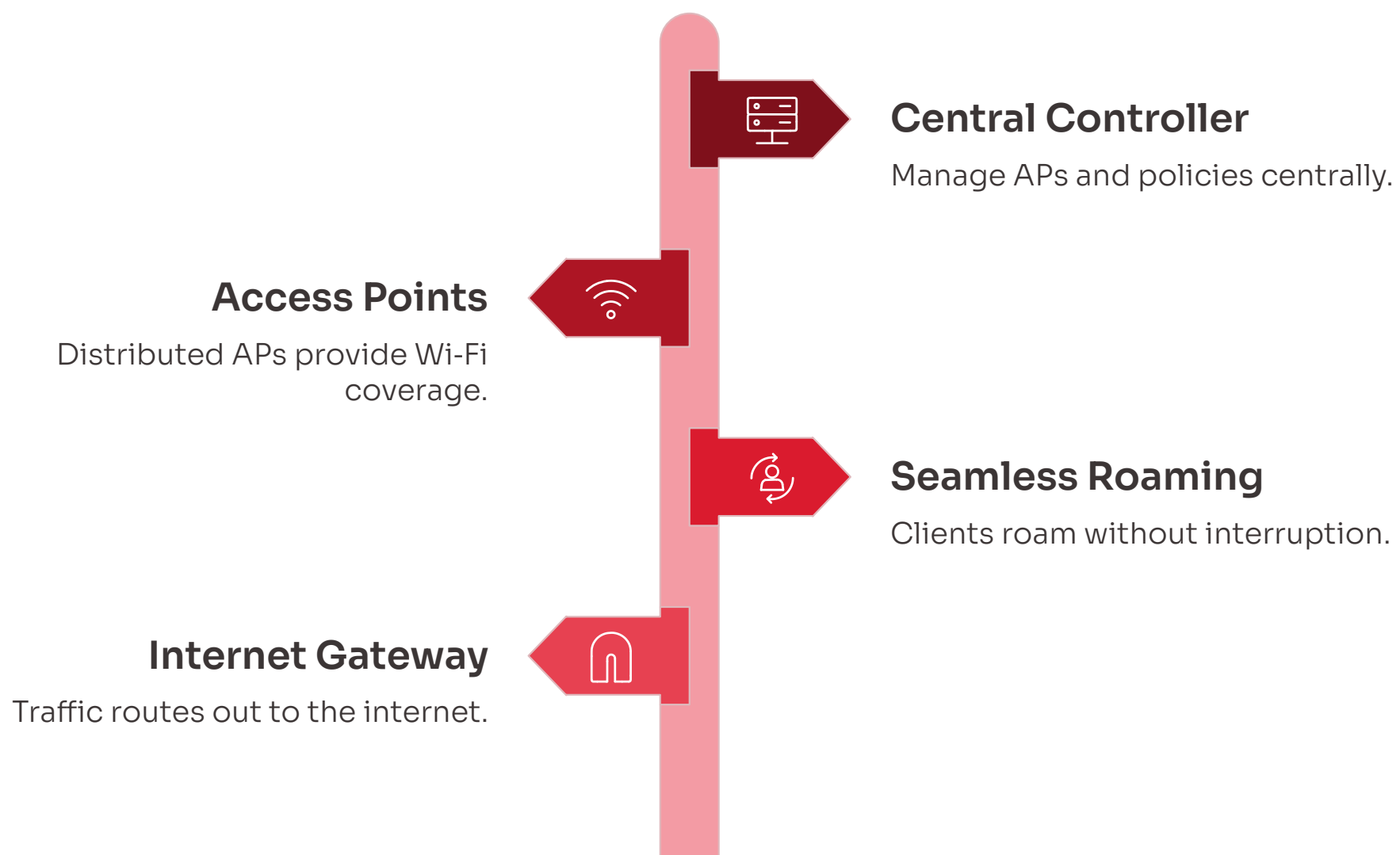
- Higher Bandwidth: Aggregates multiple links to achieve greater throughput
- Improved Reliability: Reduces downtime with automatic failover mechanisms
- Optimized Utilization: Ensures balanced traffic distribution to avoid congestion
- Cost-Effective Scalability: Expands capacity by adding affordable links instead of upgrading a single high-cost link
- Business Continuity: Ensures uninterrupted network services for critical applications
- Future-Ready: Prepares the network for growing traffic demands without major redesign

Centralized Management Solutions

NETRA Centralized Wi-Fi Controller

Centralized management solution for seamless Wi-Fi network operations across multiple access points.

- Centralized management of access points
- Seamless roaming for all connected users
- Centralized dashboard for all access points
- Role-based access control



NETRA Orchestrator Dashboard

NETRA Orchestrator works like a central manager that brings all internet services together under one roof. It helps service providers control, monitor, and automate tasks such as monitoring of NAS, centralized Captive Portal Customisation, and centralized patch management on a single platform.

By reducing manual work and errors, it ensures smooth communication between different systems, improves reliability, and speeds up service delivery. In simple terms, it connects the dots, keeps everything organized, and makes managing internet services easier, faster, and smarter.

KEY BENEFITS OF TR-069

Remote Device Management

Enables service providers to configure, monitor, and troubleshoot devices without on-site visits

Zero-Touch Provisioning

Allows automatic setup of customer-premises equipment (CPE) with minimal user intervention

Reduced Operational Costs

Cuts down field visits and manual configurations by enabling centralized management

Firmware & Software Upgrades

Supports remote and scheduled updates, ensuring devices run the latest versions

Improved Customer Experience

Faster issue resolution and proactive monitoring reduce downtime and complaints

Standardized Protocol

Vendor-neutral framework ensures interoperability across different devices and manufacturers

Scalability

Efficiently manages a large number of devices across networks

Enhanced Service Delivery

Enables deployment of new services quickly through remote configuration

Performance Monitoring

Provides real-time diagnostics and reporting for network and device health

Third-Party Integrations

NETRA RADIUS is well integrated with major 3rd party BRAS/BNG/DPI/Access Gateway as well as 3rd party Wi-Fi Access Point/Wireless controller.

BRAS/BNG/Access Gateway

JUNIPER

HUAWEI

NOKIA

CISCO

ERICSSON

MIKROTIK

Wi-Fi Access Point/Wireless Controller

MIST

ARUBA NETWORKS

RUCKUS WIRELESS

CISCO MERAKI

CAMBIUM NETWORKS

UBIQUITI

RUIJIE

PMS Integration

IDS NEXT

MICROS

SHAWMAN

WINIMS

AMADEUS

PROTEL

OPERA PMS

JUNIPER PMS

HOTELOGIX

SMS Gateway Integrations

GUPSHUP

MOBIUS

INFOBIP

BULKSMS

HSTSMS

VALUEFIRST

Payment Gateway Integrations

ATOM

SECUREPAY

ICICI BANK

PAYPAL

HDFC BANK

M-PESA

TECHPROCESS

WEBPAY

3rd Party BSS/AD/LDAP/Azure Integration

ZTE

WHALE CLOUD

TECNOTREE

ACTIVE DIRECTORY

AZURE

CRM & Mobile Applications

CRM is a basic need of all organizations for customer details and workflow management. NETRA is powered with integrated CRM and trouble ticketing solutions, seamlessly designed and developed for ISPs, considering business requirements and processes.

CRM Overview

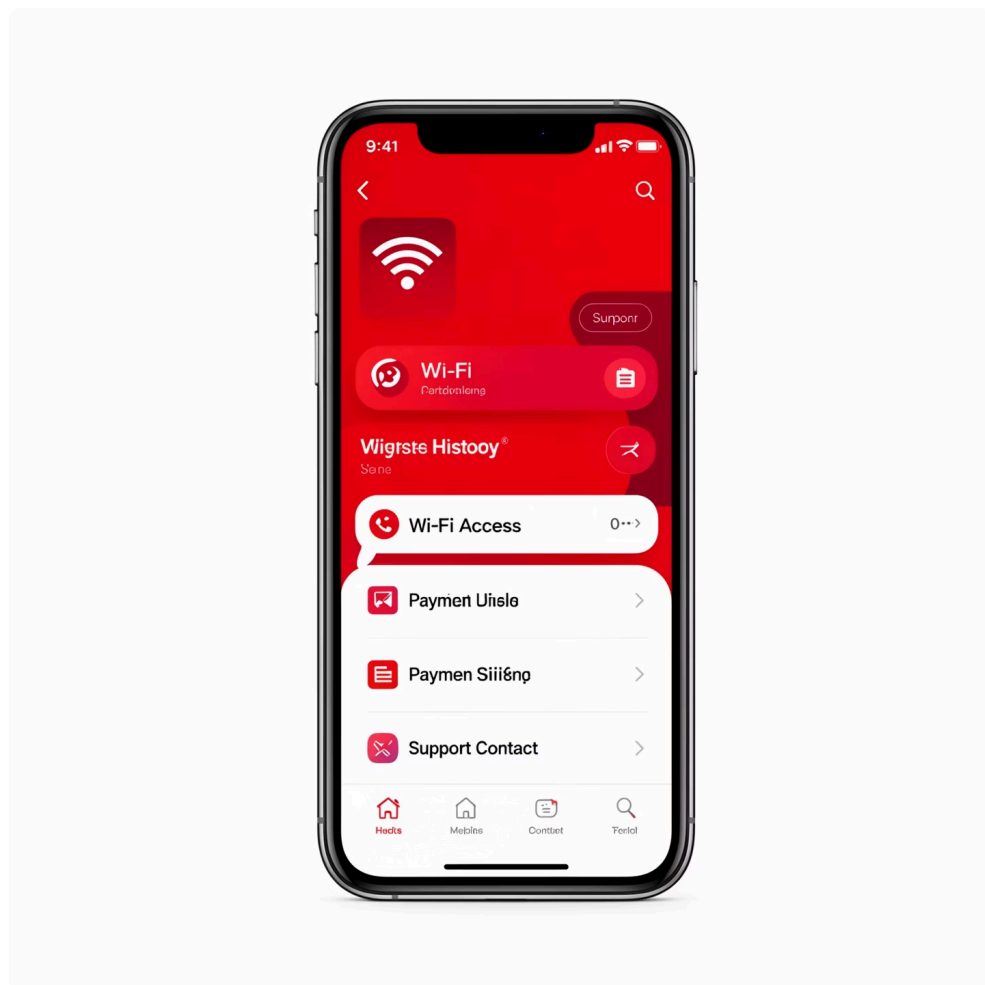
In the multi-vendor environment, NETRA offers a comprehensive ISP solution which includes Service Management System (SMS) and CRM solutions on the same platform. This reduces time, effort, and cost while providing a bundle of tailored features.

Key CRM Features:

- 360-degree view of user/subscriber
- Unified view of user/subscriber data, including personal details, service history, and usage patterns
- Access to transaction history, payment status, and billing details
- Real-time lead tracking and reporting with actionable insights
- Integration with email and SMS for instant communication and follow-ups
- Centralized ticket logging and tracking for streamlined support
- Comprehensive analytics on ticket volume, resolution time, and satisfaction
- Lead generation to service installation
- Customer management to business workflow
- Ticket generation for incident reporting and new requests
- Comprehensive reporting for business analysis

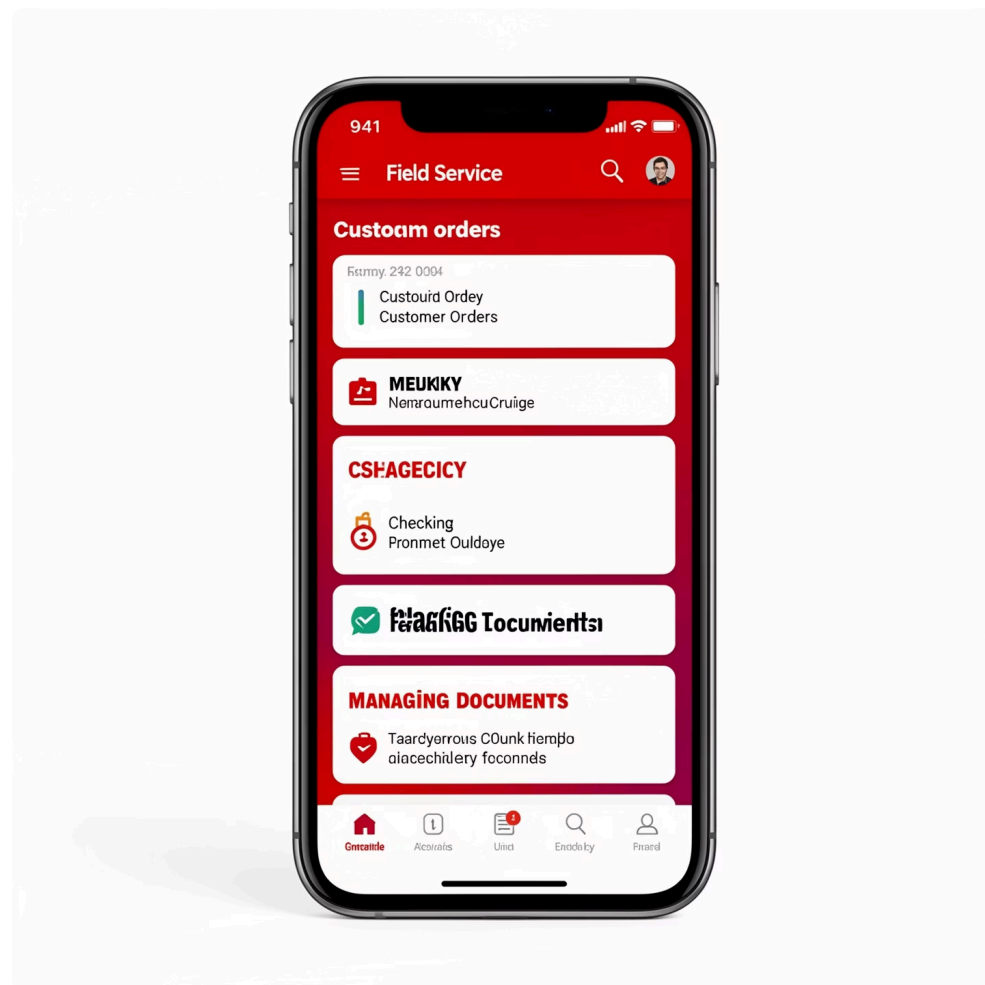
Mobile Applications

User Mobile App



- Users can login through app to access Wi-Fi
- View payment history, password and usage details
- Contact ISP support team and generate tickets for queries
- Modify, renew, and purchase internet package
- Access My Account through mobile app

Field Force App



- Capture customer orders
- Check feasibility
- Edit or update customer order details
- Add or access customer documents
- Customer account bound with sales executives
- Unique order ID for tracking
- Complete reporting of orders

NETRA Platform Scalability

NETRA offers a comprehensive portfolio of access intelligence platforms, each meticulously designed to meet the diverse needs of Internet Service Providers (ISPs), from small local operators to large national carriers. Our solutions scale seamlessly, providing robust performance, high throughput, and advanced session management capabilities. The table below outlines the key specifications and target segments for each NETRA model, ensuring that every ISP can find the perfect fit for their network demands and growth aspirations.

Model Name	Max Users	Max Throughput	Concurrent Sessions (Max NAT Table)	Target Segment
Netra Lite	150	Up to 150 Mbps	Up to 0.30M Sessions	Small ISP / LCO
Netra Lite+	300	Up to 250 Mbps	Up to 0.60M Sessions	Growing ISP POP
Netra Access	700	Up to 750 Mbps	Up to 1.00M Sessions	Access Aggregation
Netra Nova	1500	Up to 1.5 Gbps	Up to 4.00M Sessions	City ISP Core
Netra Core	2500	Up to 2 Gbps	Up to 8.00M Sessions	Regional ISP Core
Netra Edge	3500	Up to 3 Gbps	Up to 15.00M Sessions	Large ISP Core
Netra Pulse	6000	Up to 7 Gbps	Up to 30.00M Sessions	Carrier POP
Netra Zenith	10000	Up to 10 Gbps	Up to 60.00M Sessions	Tier-1 ISP Core
Netra Quantum	25000	Up to 20 Gbps	Up to 120.00M Sessions	National Backbone

Each model is engineered to provide not just high performance but also the stability and security demanded by modern network infrastructures, ensuring an optimal experience for end-users and streamlined operations for service providers.

Get in Touch

Need Immediate Assistance?

Our friendly team is available Mon-Sat, 9 AM
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About NETRA

NETRA is a unified access intelligence platform purpose-built for ISP and Telco environments, delivering integrated AAA, billing, OSS/BSS integration, high-performance access gateway capabilities, and managed internet and captive portal solutions.

It is designed to support service providers and large-scale network operators across broadband, public Wi-Fi, smart city infrastructure, enterprise campuses, transportation hubs, education networks, healthcare institutions, and multi-site managed service environments requiring scalable, secure, and policy-driven connectivity management.