DEVOPS & INFRASTUCTURE SERVICES

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INTRODUCTION

RadiumBlock has infrastructure in multiple locations and offers a full range of DevOps services. We can work alongside your in-house team or take on the role of your entire DevOps team. This lets your developers focus on innovation and growth while we handle infrastructure and operations.

RADIUMBLOCK SERVICES & PRODUCTS

DEVOPS

CONSULTING
CI/CD SERVICES
RELEASE MANAGEMENT

VALIDATORS / COLLATORS

VALIDATORS
COLLATORS
NODE-AS-A-SERVICE

ENDPOINTS

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DECENTRALIZED
IN 6 CONTINENTS
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CLOUD / HYBRID

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MANAGEMENT
MONITORING
UPGRADES /
MAINTENANCE

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DAPPS & SUBSTRATE
RESPONSIVE UI
PWA & MOBILE
WALLET INTEGRATION
API INTEGRATION

1. DEVOPS SERVICES

RadiumBlock provides DevOps services to optimize development and operational workflows. Our offerings include DevOps Consulting, CI/CD services, and Release Management and Orchestration, helping teams simplify complex infrastructure. We also collaborate with networks to create customized solutions for deploying and managing TestNets.

CONSULTING

RadiumBlock optimizes operations with strategic DevOps consulting. We assess, plan, and strategize for seamless automated workflows that improve operational efficiency.

CI/CD SERVICES

RadiumBlock ensures fast, reliable software delivery through CI/CD pipelines. Leverage automation with tools like Jenkins and GitLab for error-free releases and streamlined development.

RELEASE MANAGEMENT AND ORCHESTRATION

RadiumBlock simplifies complex deployments with advanced release management and monitoring. We automate processes for error-free delivery and reduced downtime.

Link: RadiumBlock supports DevOps on cloud and on-prem. Polkadex has partnered with RadiumBlock to enhance its DevOps infrastructure, aiming to improve development efficiency and system reliability. Read More here.

2. VALIDATORS / COLLATORS

RadiumBlock provides comprehensive support for Validator and Collator nodes on Substrate-based chains, including Polkadot, Kusama, Polymesh, and others. Our services ensure efficient setup, management, and maintenance of Validator and Collator nodes, offering high availability, secure performance, and seamless integration with the network. By handling the complexities of node operations, we allow projects to maintain the stability and security of their blockchain while focusing on growth and development.

NODE-AS-A-SERVICE

We provide Node-as-A-Service for substrate-based networks. Highlights of our services include:

- Fully Managed Nodes
- Weekly Back-ups
- Snapshots of Popular Blockchains - Instant Deployments
- Self-managed Fail Safe
- Scalable and secure Blockchain Infrastructure
- Continuous monitoring of node uptime and health status

3. RPC ENDPOINTS

RadiiumBlock provides RPC endpoints for over 20 blockchain networks in Dotsama ecosystem. Highlights of our services include:

- **Decentralized Endpoint Service**
  Provides secure and reliable access to blockchain networks.
- **Fully Secure**
  Encryption and advanced security protocols safeguard data.
- **High-Traffic Robustness**
  Capable of handling high-traffic loads with low latency.
- **Global Availability**
  Endpoints are available in 20 locations across six continents.
- **Flexible Deployment Options**
  Options for OnPrem, Public Cloud, or Hybrid deployments.

Tip: RadiumBlock has expertise in managing complex high-traffic RPC enpdpoints in the Dotsama ecosystem. See Appendix 1 for details.

OVERVIEW OF RADIUMBLOCK'S HYBRID-MODEL

RadiumBlock is currently providing enterprise-level reliable hosting for its RPC endpoints. This critical service not only provides 99.9% uptime reliability but also ensures a seamless and trustworthy experience for the core team and their ecosystem.

Our public RPC endpoints serve as a gateway for developers, enabling them to query real-time data, submit transactions, and access essential information from the blockchain. With a commitment to uptime reliability, RadiumBlock's RPC infrastructure is engineered with redundancy measures, failover mechanisms, and load-balancing strategies. This ensures continuous availability and optimal performance, even during unexpected surges in traffic.

Our team constantly monitors and fine-tunes the RPC endpoints to distinguish between temporary spikes and sustained increases in user activity, guaranteeing a consistently reliable experience for developers and users alike. RadiumBlock's RPC endpoints play a pivotal role in supporting decentralized applications (dApps), wallets, and other blockchain services, providing a secure and dependable gateway for seamless blockchain interaction.

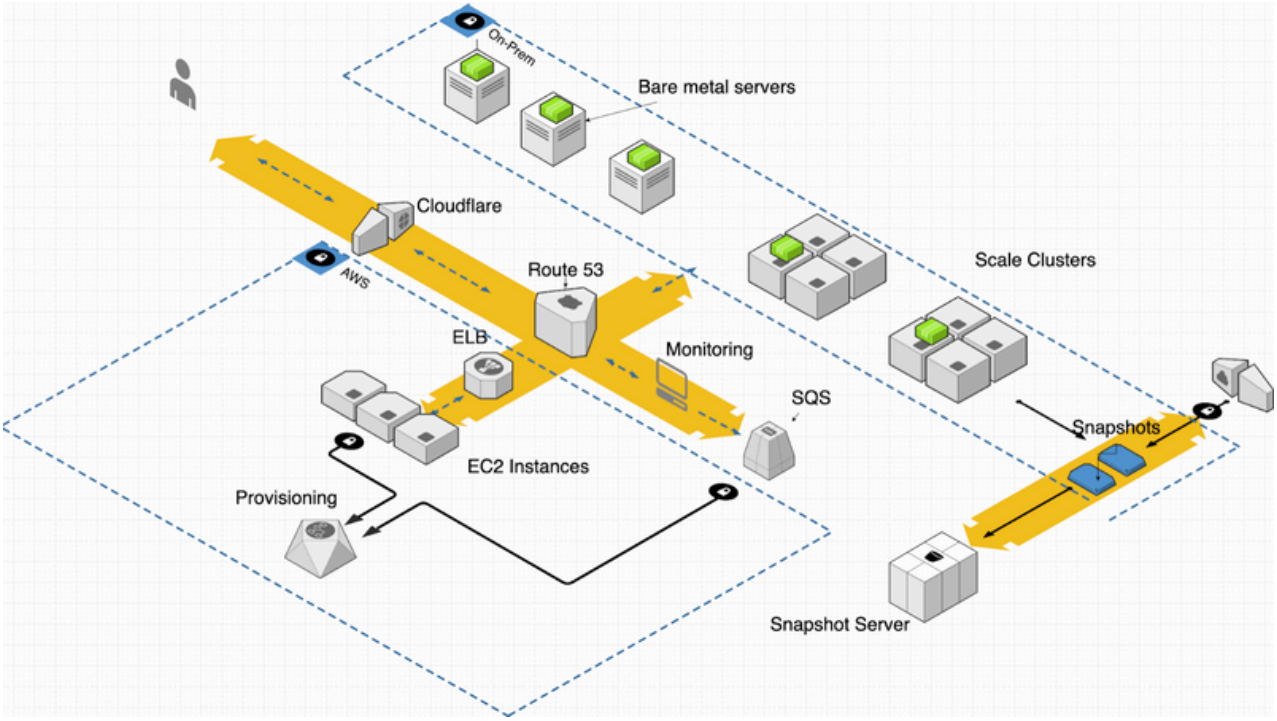
RadiumBlock effectively manages drastic increases in traffic by employing a hybrid infrastructure strategy.

- **On-Prem Bare-Metal Servers:** RadiumBlock employs on-prem bare-metal servers as the backbone for handling regular traffic to blockchains.
- **Public Cloud for Sudden Surges:** During unexpected traffic spikes, cloud services step in to effectively manage the sudden influx, ensuring a seamless user experience.
- **Monitoring:** Our team constantly monitors traffic patterns, distinguishing temporary surges from sustained increases in user activity.
- **Scalability with Additional Servers:** If a sustained surge is detected, RadiumBlock swiftly integrates more bare-metal servers to accommodate the growing demand, maintaining near 100% uptimes.

- **Cost-Effective Hybrid Model**: This hybrid infrastructure not only ensures reliability but also significantly reduces operational costs thereby optimising resource utilisation.

- **Guaranteed Uninterrupted Uptime**: Ensures guaranteed uninterrupted uptime by implementing automated failover mechanisms, server redundancy, and advanced load balancing for consistent platform performance.

- **Highly Secure Infrastructure**: Robust end-to-end encryption protocols, and fortification against cyber threats through a multi-layered firewall system for comprehensive security.



Note: The architecture diagram above is an indicative illustration of RadiumBlock's hybrid infrastructure design. A bare metal configuration or a public cloud-only set-up will differ from this.

TECHNICAL DETAILS

- RadiumBlock offers a bare-metal and hybrid infrastructure approach, utilizing on-premise servers for decentralization and cost efficiency, while leveraging cloud resources as a backup for redundancy and scalable performance.

- **Node Deployment**

  - **Global Presence:** Nodes can be deployed in multiple regions, including the USA, India, Frankfurt, Singapore, London, and Tokyo, ensuring broad geographical coverage and resilience.

  - **Dynamic Scaling:** Nodes can dynamically scale based on traffic, ensuring optimal performance during high-demand periods.

  - **Automated Failover:** In case of node failure, automated failover mechanisms ensure continuous service availability.

- **Endpoint Architecture**

  - **Hybrid Computing Approach:** Combines on-premise servers for cost efficiency and cloud resources for redundancy.

  - **DNS-Based Load Balancing:** Uses DNS-based load balancing to route traffic to the nearest available endpoint, reducing latency.

  - **Advanced Security Protocols:** Implements OCSP stapling, TCP stack tuning, and other optimizations to enhance security and performance.

- **EVM Compatibility**
  - Our services are fully compatible with EVM, ensuring seamless integration and operation for developers which are designed as application-specific chains and modular, without focusing on DEFI or customer-focused applications.

BENEFITS FOR DEVELOPERS

- **Scalability and Performance**
  RadiumBlock's infrastructure is designed to handle traffic bursts and scale seamlessly, ensuring developers can manage increased demand without compromising performance.

- **Reliability and Redundancy**
  Our global node distribution and hybrid infrastructure ensure high availability and fault tolerance, minimizing the risk of downtime and service disruptions.

- **Cost Efficiency**
  By leveraging our managed services, developers can reduce operational costs and focus on core business activities, leaving infrastructure management to RadiumBlock's experts.

- **Security and Compliance**
  RadiumBlock employs industry-leading security practices, ensuring the safety and integrity of data and operations for developers.

- **Global Reach and Accessibility**
  RadiumBlock operates from 20 locations across 6 continents, strategically positioned to address traffic increases. This allows RadiumBlock to optimize latency and response times, enhancing the accessibility of blockchain applications.

- **Speed**
  RadiumBlock's strategically located nodes and advanced load-balancing techniques ensure that data is processed and delivered with minimal latency. This speed is crucial for the high-performance requirements of developers, allowing these platforms to provide real-time services and seamless user experiences.
  - Proof of Speed:
    - 1. RadiumBlock on Ethereum Mainnet
      (results of tests the independent website camparenodes.com)

- **24/7 Technical Support**
  RadiumBlock offers comprehensive technical support, assisting blockchain projects with troubleshooting, optimization, and ensuring a smooth deployment process.

- **On-Demand Resource Scaling**
  On-demand resource scaling, allowing blockchain projects to dynamically adjust computing resources based on real-time demand ensuring cost-effectiveness and efficient resource utilisation during periods of increased activity.

- **Cross-Chain Compatibility**
  RadiumBlock supports cross-chain compatibility, allowing seamless integration and interoperability between various blockchain networks and protocols.

- **Software Updates and Upgrades**
  RadiumBlock ensures that its infrastructure is up-to-date with the latest software releases and upgrades relevant to blockchain technologies.

- **Energy-Efficient Practices**
  RadiumBlock uses energy-efficient infrastructure practices, employing green technologies to minimize the environmental impact of blockchain operations while aligning with sustainability goals.

DEVELOPMENT EXPERTISE

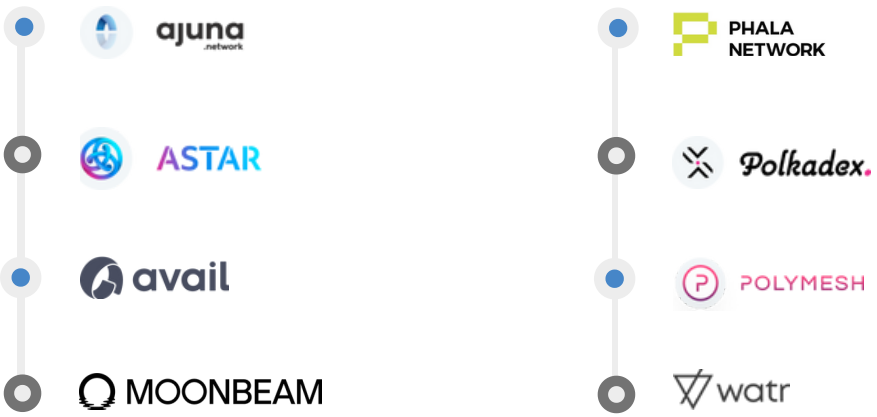
With over **20 years of experience,** we specialize in providing comprehensive development solutions designed to integrate seamlessly with DevOps environments.

FRONT-END DEVELOPMENT

RadiumBlock has started offering front-end development services. With experienced developers from our sister company, we create Substrate solutions and dApps using Vue.js, React.js, TypeScript, Golang, and more.

We offer responsive UI design, seamless blockchain integration, wallet support (e.g., MetaMask, WalletConnect), gas optimization, PWA development, mobile compatibility, and API integration.

PARTNERSHIPS



ABOUT RADIUMBLOCK

RadiumBlock is wholly owned by *RealWeb LLC*. RealWeb has been in business since 2004. Every year, our team manages millions of dollars in AWS infrastructure, making us one of the industry's most dependable and trustworthy web hosting companies.

- Performance/Reliability
  - RadiumBlock is operationally striving for a minimum of 99.99% reliability, which means less than an hour of downtime each year. We've heavily invested in a specialised team to optimise our services (Devops, Node-as-a-service, RPC Endpoints) and high-performance infrastructure solutions.

- RadiumBlock's Team
  - RadiumBlock is guided by seasoned experts having **15+ years** in Server/Cloud Management who manage the company's Blockchain and cryptocurrency DEV-OPS-AS-A-Service. Our dedicated team comprises **5 senior engineers** and a **24/7 team of 15 support engineers** who monitor, update, audit, conduct performance testing, and provide swift responses to alerts and notifications.

RADIUMBLOCK'S ENDPOINTS

Network	Endpoint
Ajuna Mainnet	wss://ajuna.public.curie.radiumblock.co/ws
Astar Mainnet	wss://astar.public.curie.radiumblock.co/ws
Bajun Mainnet	wss://bajun.public.curie.radiumblock.co/ws
Collectives Mainnet	wss://collectives.public.curie.radiumblock.co/ws
Kusama Mainnet	wss://kusama.public.curie.radiumblock.co/ws
Polkadex Mainnet	wss://polkadex.public.curie.radiumblock.co/ws
Polkadot Mainnet	wss://polkadot.public.curie.radiumblock.co/ws
Polkadot Westend	wss://westend.public.curie.radiumblock.co/ws
Shiden Mainnet	wss://shiden.public.curie.radiumblock.co/ws
WATR Mainnet	wss://watr.public.curie.radiumblock.co/ws
Moonbeam Mainnet	wss://moonbeam.public.curie.radiumblock.co/ws
Moonriver Mainnet	wss://moonriver.public.curie.radiumblock.co/ws

RADIUMBLOCK'S ENDPOINTS

Network	Endpoint
Bifrost	wss://bifrost.public.curie.radiumblock.co/ws
Phala Network	wss://phala.public.curie.radiumblock.co/ws
Kusama	wss://kusama.public.curie.radiumblock.co/ws
Khala	wss://khala.public.curie.radiumblock.co/ws
Westend	wss://westend.public.curie.radiumblock.co/ws
People	wss://people-polkadot.public.curie.radiumblock.co/ws
Avail	wss://avail.public.curie.radiumblock.co/ws
Polygon	wss://polygon.public.curie.radiumblock.co/ws
Ethereum	wss://ethereum.public.curie.radiumblock.co/ws

Speed Test: Speed tests are conducted on the independent comparenodes.com across different networks. Here's proof of speed of RadiumBlock on Moonbeam, on Polkadot, on Avail, on Khala.