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VIAcode

The Ultimate Guide:

Migrating Linux Workloads to Azure

Best for: IT Decision-Makers, DevOps Teams, Cloud Architects

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Introduction

If you're running Linux workloads on-prem, you're burning cash, wasting time, and missing out on AI capabilities that can differentiate your business. According to Microsoft, over 60% of Azure VM cores now run Linux — a clear signal that the future of cloud will be heavily Linux-based, and Microsoft Azure is leading the way.

This guide is built for IT decision-makers, DevOps teams, and cloud architects looking to unlock cost savings, operational efficiency, and AI innovation. In the following pages, we break down the why, how, and what's next of migrating Linux workloads to Azure.

60%+

of Azure cores run on Linux
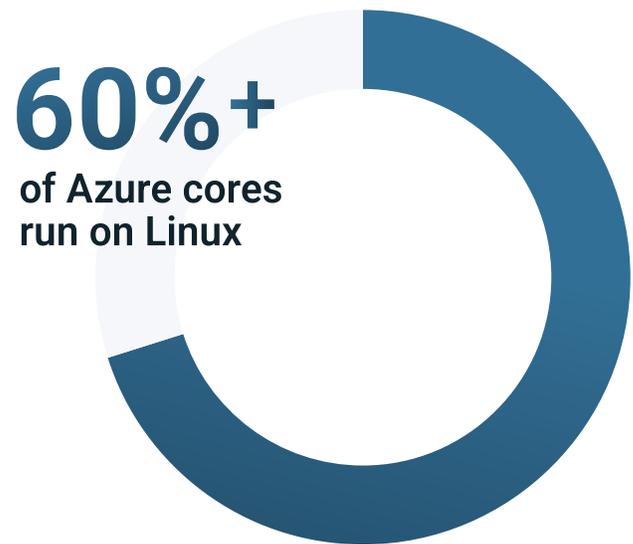
Why Linux on Azure?

Linux has become the dominant operating system for cloud computing, and its adoption continues to rise. Many businesses are moving their Linux workloads to Azure because of the platform's strong support for open-source technologies, advanced security, and cost-saving features. But why should organizations consider Azure over other cloud providers? This section explores the key benefits of running Linux on Azure, categorized into performance improvements, financial advantages, and AI readiness—each of which is explored in the sections below for a deeper understanding of Azure's value.

The Rise of Linux Workloads in the Cloud

Organizations across industries are embracing Linux on Azure due to its scalability, security, performance, and cost efficiency. As of 2024, over 60% of Azure cores run Linux-based workloads, underscoring its dominant presence on the platform. Industries such as finance, healthcare, retail, and manufacturing are leveraging Azure for mission-critical applications, advanced analytics, and AI-enabled services. Microsoft's deep investment in open-source, including strategic partnerships with Red Hat, SUSE, and Canonical, further enhances Azure's suitability for Linux-based deployments. The platform supports a wide range of Linux distributions including Ubuntu, CentOS, Debian, Red Hat, SUSE, and Oracle Linux, offering enterprises both flexibility and enterprise-grade support.

Cost Savings and Operational Efficiency

Managing IT infrastructure can be expensive, particularly for businesses that rely on on-premises data centers. Azure helps companies optimize their cloud spending with features like Reserved Instances and Hybrid Benefits. According to a 2025 TechTarget study, "The Economic Benefits of Migrating On-premises Databases to Azure Database for PostgreSQL," these solutions make it possible to cut infrastructure costs by up to 80%, while also reducing the total cost of ownership for PostgreSQL databases by 62%.

AI-Readiness and Performance Optimization

As artificial intelligence (AI) and machine learning (ML) become central to business innovation, companies need cloud environments that support these capabilities. Azure provides **AI-optimized infrastructure**, including high-performance AMD-powered virtual machines and tools like **pgvector for AI-enhanced database queries**.

Azure's AMD-powered virtual machines deliver high-performance computing power, a requirement to accelerate AI and ML workloads. Offering optimized CPU performance, enhanced memory bandwidth, and advanced data processing capabilities, these VMs handle complex AI models with greater speed and efficiency. Whether you're developing intelligent applications or scaling AI-driven services, Azure's AMD-powered VMs provide the flexibility and power required to push the boundaries of AI innovation.

Pgvector is an open-source PostgreSQL extension that enables efficient storage and querying of vector embeddings, making it essential for use cases such as semantic search and retrieval-augmented generation (RAG).

Other Azure services that can drive AI efforts include Azure Kubernetes Service (AKS), which enables businesses to scale workloads effortlessly, ensuring that their applications remain responsive and cost-efficient. Azure AI Services—including Azure OpenAI, Cognitive Services, and Azure Machine Learning—integrate directly with PostgreSQL and other Azure services to enhance analytics, automate decision-making, and accelerate the deployment of AI models across the enterprise.
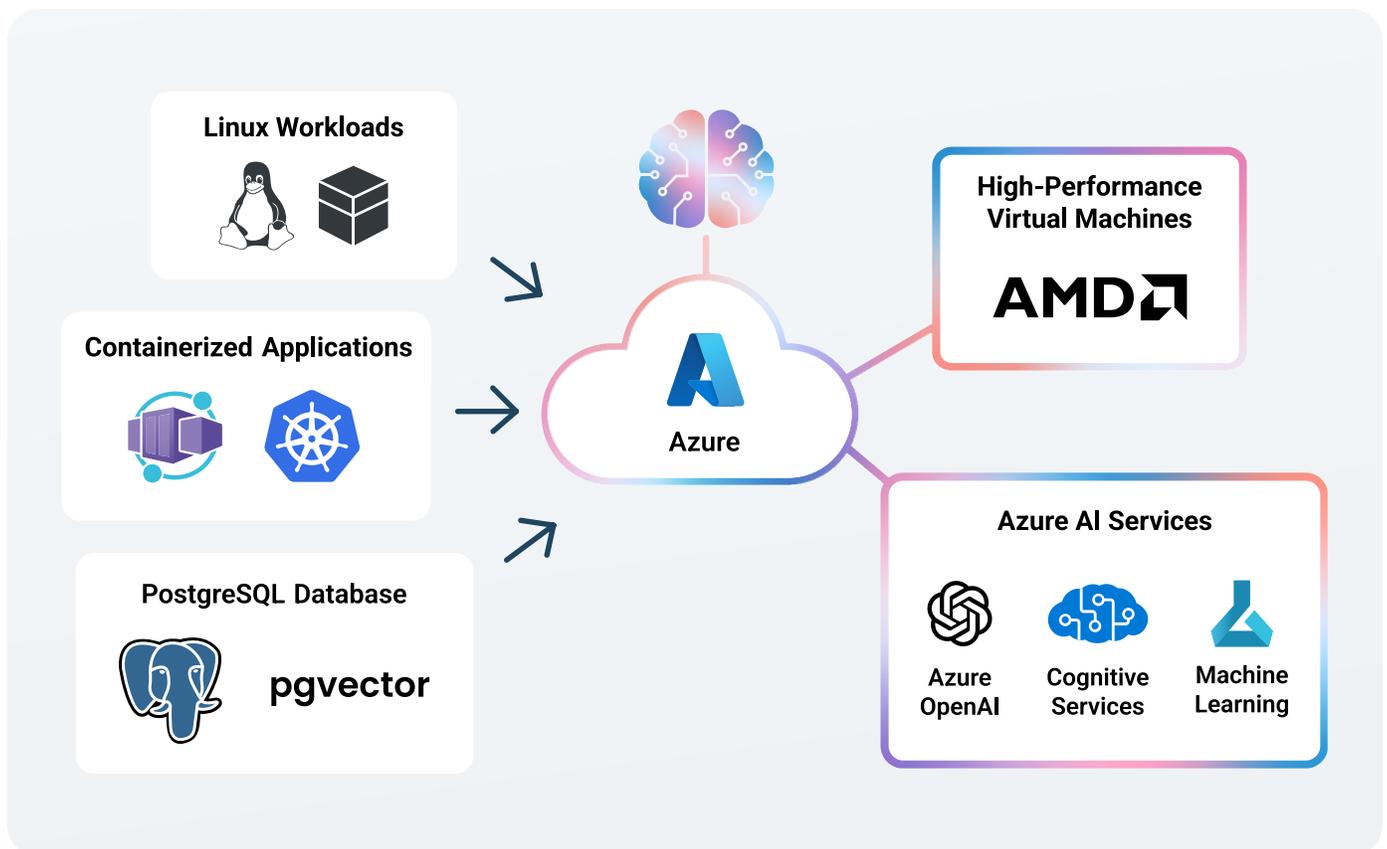
The Business Case for Migration

Migrating to Azure isn't just a tech upgrade — it's a strategic move. Businesses reduce costs, gain agility, and improve security. Azure provides enterprise-grade protection through Microsoft Defender for Cloud and Sentinel. With built-in High Availability/Disaster Recovery (HA/DR) capabilities and 99.99% SLA-backed availability, organizations see fewer outages and lower risks.

Azure also provides the necessary foundation for AI innovation: scalable storage, high-performance compute, and integrated AI services. On-premise environments often lack the infrastructure and agility needed to support AI workloads at scale. By migrating to Azure, businesses gain access to tools that enable intelligent automation, data-driven decision-making, and future-ready applications.

TCO Comparison: On-Prem Linux vs. Azure Linux

Running Linux on-premises requires significant investment in hardware, maintenance, and security. By migrating to Azure, businesses can eliminate these costs while benefiting from scalability, automation, and built-in disaster recovery. Azure's flexible pricing models ensure that companies only pay for the resources they need, rather than over-provisioning expensive hardware. According to the 2025 TechTarget Economic Validation study, businesses can achieve up to an 80% cost reduction and reduce total cost of ownership (TCO) by up to 62% for PostgreSQL workloads by moving to Azure. The study also notes soft cost benefits such as a 4% increase in annual revenue from faster application release cycles and reduced operational overhead that enables IT teams to focus on higher-value innovation work.

Reducing Operational Complexity and Security Risks

Security is a top concern for any business migrating to the cloud. While on-premise environments may offer direct control, they often require significant investment in hardware, personnel, and manual processes to stay current with evolving threats. Azure enhances security by adopting a shared responsibility model — Microsoft secures the infrastructure, while customers manage their data and identities. Azure provides a comprehensive security suite, including Microsoft Defender for Cloud and Azure Sentinel, which help protect workloads from cyber threats using AI-driven threat detection and real-time alerts. Azure's Confidential Computing technology further ensures that sensitive data remains encrypted at all times, even during processing, adding an extra layer of protection.

Real-World Examples: Migrating to Azure with VIAcode

The Challenge

LTC Pharmacy Management (LTC PM)

LTC PM, a provider of pharmacy services to long-term care facilities, faced high IT operations costs and a lack of strategic guidance while working with a third-party provider. Their existing IT environment struggled with outdated infrastructure, leading to frequent downtime and inefficient service delivery. VIAcode, migrated LTC PM's operations to Azure in under 30 days with minimal downtime. As a result, the company reduced IT costs by over 40%, achieved better uptime, and significantly improved service quality.

40%
Cost Savings

Improved Uptime

Valley Cities Behavioral Health

Valley Cities, a nonprofit behavioral health organization, needed a more efficient way to manage a distributed workforce and central IT services. Their previous IT environment lacked automation, was manually intensive, and couldn't meet growing compliance demands. VIAcode implemented Microsoft Configuration Manager and migrated centralized workloads to Azure. This transformation eliminated more than 20 hours of manual tasks per week, reduced IT overhead by 35%, and strengthened security across the organization.

35%
Reduced Overhead

Stronger Security

Step-by-Step Migration Framework

Migrating Linux workloads to Azure can seem complex, but with the right guidance, it becomes a smooth and strategic process. VIAcode offers a structured migration framework that minimizes risks and ensures a seamless transition from on-premises infrastructure to Azure's cloud environment.

Central to this framework is VIAcode's detailed migration assessment, which examines your current infrastructure, identifies performance bottlenecks and security gaps, and outlines opportunities for cost savings and modernization. This assessment results in a tailored migration plan designed to align with your technical requirements and strategic goals. For qualifying organizations, VIAcode can provide this assessment at no cost.

1. Assess Your Current Linux Environment

Before beginning the migration, VIAcode conducts a **comprehensive assessment** of your existing Linux infrastructure. This assessment includes:

- **Application and workload inventory** – Identifying all applications and dependencies.
- **Performance analysis** – Evaluating CPU, memory, and storage requirements.
- **Security and compliance review** – Ensuring alignment with industry regulations.
- **Cost estimation and optimization recommendations** – Estimating the monthly cost of operating in Azure and identifying areas where Azure can provide savings through Reserved Instances and cost-effective services.

This foundational analysis enables VIAcode to design a migration strategy that ensures high performance, strong security, and long-term scalability.

2. Choose the Right Azure Infrastructure

Not all workloads are the same, and selecting the appropriate Azure services is crucial for performance and cost-efficiency. VIAcode helps businesses determine the best fit for their workloads, including:

- **Azure Virtual Machines (VMs)** – Ideal for traditional Linux applications requiring dedicated resources.
- **Azure Kubernetes Service (AKS)** – Best suited for containerized workloads and modern application architectures.
- **Azure App Service** – A fully managed platform ideal for modern web applications and APIs that benefit from automatic scaling and patching.
- **Azure Database for PostgreSQL/MySQL Flexible Server** – Optimized for open-source relational database workloads requiring high availability and burstable performance.
- VIAcode also provides expert consultation on **cost-effective licensing options**, ensuring organizations take advantage of Azure Hybrid Benefits and Reserved VM Instances to reduce costs.

3. Implement Zero-Downtime Migration Strategies

Minimizing downtime is critical for businesses transitioning to the cloud. VIAcode's **Azure Migrate** service ensures a smooth migration with minimal disruption by providing:

- **Automated workload discovery** – Identifying dependencies and compatibility.
- **Live migration support** – Using Azure Site Recovery to maintain business continuity.
- **Containerization and modernization strategies** – Helping businesses transition from legacy systems to cloud-native applications using AKS.
- **Post-migration validation** – Ensuring all workloads are running optimally after the migration.

4. Post-Migration Optimization & AI Enablement

Moving your Linux workloads to Azure is a big step, but what comes next? After the migration, it's important to make sure your systems run smoothly, scale efficiently, and stay secure. VIAcode and Azure provide powerful tools to help businesses get the most from their cloud investment. Here's how you can optimize your environment and enable AI capabilities for future growth:

- **vBox & Azure Assist** – VIAcode's post-migration service delivers real-time cost monitoring, security alerts, and optimization insights. Powered by vBox, this subscription service ensures ongoing governance, security, and performance optimization.
- AI Enablement with **Azure OpenAI and PostgreSQL pgvector** – Integrate machine learning and large language models into your applications, enabling semantic

Migration Framework

Assess → **Choose Infrastructure** → **Migrate** → **Optimize & AI**
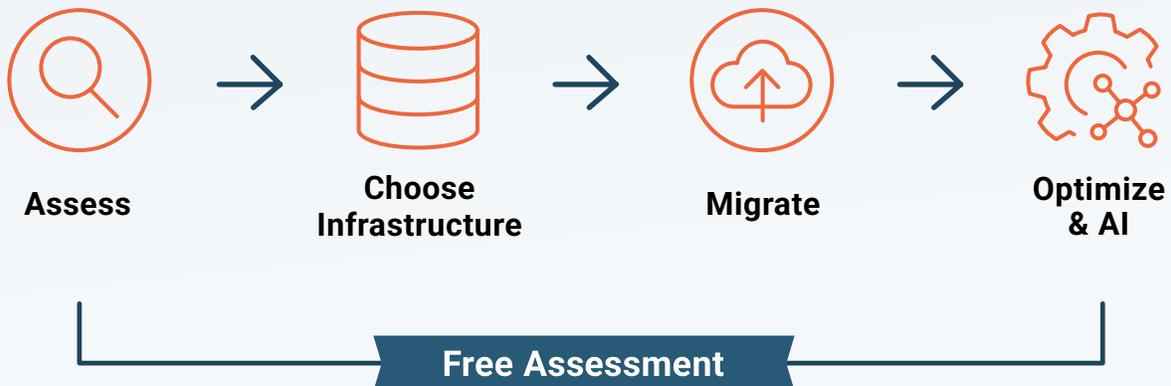
Free Assessment

How to Get Started

If you're unsure where to begin your Linux migration journey, VIAcode can help. We provide expert guidance throughout the entire process—from assessment and planning to implementation and post-migration optimization—to ensure your workloads migrate smoothly and successfully to Azure.

VIAcode Offers

With over 20 years of experience working closely with Microsoft, our team of Azure experts is ready to help you get the most from your cloud investment. VIAcode provides a range of **assessments and services**, free for qualifying organizations, to help businesses optimize their cloud environment:

- **Linux Migration Assessment** – A complete review of your infrastructure to identify areas for improvement, cost-saving strategies, and security enhancements.

- In addition, VIAcode helps estimate ongoing Azure costs based on workload profiles and usage patterns—giving organizations the clarity they need to move forward confidently with migration planning.

- **Migration Execution** – VIAcode supports execution of your migration plan at no cost, helping to move your Linux workloads to Azure seamlessly and efficiently.

- **Azure Health Check** – A detailed post-migration analysis of your Azure environment, ensuring best practices are followed for security, cost efficiency, and governance.

- **Security Assessment** – Post-migration evaluation of your Azure environment's security posture, identifying vulnerabilities and recommending improvements.

- **AI Proof of Value** – A guided evaluation that demonstrates how Azure AI services can be applied to your business needs, including integration with your data and applications.

Conclusion

Migrating your Linux workloads to Azure is just the beginning. AI is now an integral part of our daily lives, transforming industries and unlocking new possibilities. The best part? It doesn't have to be complicated. With the right tools and the support of an experienced company like VIAcode, businesses can seamlessly integrate AI-driven solutions to enhance efficiency, security, and innovation. The future is here, and leveraging AI on Azure has never been easier.

Take the next step toward optimizing your cloud environment— schedule your free assessment today!

Schedule Your Assessment

In partnership with:

About VIAcode

VIAcode has over 25 years of experience delivering Microsoft-branded solutions for management, operations and migration. Today, we are a Microsoft Managed Partner, Direct CSP and a software development partner of the Microsoft SQL and Azure Product Teams. We have earned five Microsoft solution designations and are one of only a few partners with Advanced Specialization in Azure Migration.

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Security