

# On-Prem AI Infrastructure Barriers and Solutions

95% of companies say the urgency to deploy AI-powered technologies has increased within the past six months. And this same 95% simultaneously recognizes that AI will raise strain on infrastructure.

On-prem infrastructure offers a flexible and secure environment for deploying AI workloads, though many organizations face perceived barriers to implementation. Get the solutions you need to maximize your on-prem infrastructure without compromising past investments or future results.



# Barriers and Solutions

Barrier:

## Qualified Talent

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**The Problem:** Many organizations struggle to find qualified talent to oversee the infrastructure-deployment process. Additionally, it can be difficult to hire for competitive IT roles.

**The Solution:** Focus on developing a versatile skill set within your team and leveraging external expertise where necessary.

- Invest in continuous training and development programs to upskill your existing workforce.
- Partner with educational institutions and professional organizations to create a pipeline of talent.
- Leverage consultants and third-party experts to fill immediate skill gaps while building long-term internal capabilities.

Barrier:

## Organizational Support

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**The Problem:** Despite the importance of AI to the future of organizations, a lack of familiarity and mistrust of AI can sink your projects before they even begin.

**The Solution:** Create a culture of AI awareness and support across all levels of your organization.

- Develop a comprehensive AI education program that includes workshops, seminars, and hands-on training sessions.
- Highlight successful case studies and pilot projects to demonstrate AI's potential and build confidence among stakeholders.
- Foster a culture of innovation by encouraging open discussions about AI's benefits and addressing any concerns or misconceptions.

## Barrier:

# Capital Expenditures

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**The Problem:** While investing in AI infrastructure is essential, the need to optimize hardware choices and minimize energy consumption will often dictate how much capital on-prem infrastructure requires.

**The Solution:** Strategically manage costs to maximize long-term savings and resource allocation.

- Perform a cost-benefit analysis to compare long-term savings of on-prem AI against initial capital expenditures.
- Consider that while on-prem AI can potentially offer cost savings over time by eliminating recurring cloud service and subscription fees, this may vary based on specific organizational needs and circumstances.
- Identify opportunities to repurpose existing hardware and infrastructure to support AI workloads, reducing the need for new investments.
- Implement energy-efficient practices and technologies to minimize operating costs and enhance sustainability.

## Barrier:

# Data Access

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**The Problem:** Ensuring seamless access to all relevant data is essential for effective AI workloads. However, today's complex systems make this challenging. Too little access can prevent teams from obtaining necessary data, while too much access can lead to security and versioning problems.

**The Solution:** Implement balanced access controls and governance policies.

- Establish role-based access controls to provide necessary data access while protecting sensitive information.
- Implement robust data validation and cleansing processes to ensure data quality and consistency.
- Use tools and protocols to manage data versioning and ensure that users work with the most current data.
- Conduct regular audits and monitoring to identify and address any access issues.

Barrier:

## Software Compatibility

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**The Problem:** With organizations having already invested and built out their technology stacks, they risk service disruptions as well as compatibility issues during AI deployment.

**The Solution:** Ensure seamless integration of new AI technologies with existing systems.

- Conduct a thorough assessment of your current software ecosystem to identify potential integration points and compatibility concerns.
- Invest in solutions like Cisco Validated Designs to ensure hardware compatibility with existing systems.
- Develop a phased implementation plan to gradually integrate AI technologies, allowing for testing and adjustments to mitigate compatibility issues.

Barrier:

## Data Location

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**The Problem:** Data is often spread across different business systems within an organization, making it challenging to consolidate. This fragmentation can hinder the ability to gain a unified view of the data, which is essential for effective AI model training and deployment.

**The Solution:** Consolidate and centralize data to support AI initiatives effectively.

- Create a comprehensive inventory of all data sources and map data flows to identify silos that need integration.
- Implement strategies to enhance data accessibility and integration across the organization.
- Managing various data formats and types, the integration tools needed and synchronizing across different systems can be complex.
- Centralize data on-prem to enhance security and governance, ensuring sensitive information is protected and managed effectively.
- Establish data governance frameworks and standards to streamline data integration and support data management.

To understand more about how you can overcome barriers to on-prem AI infrastructure, visit [ConRes.com](https://conres.com) or email [solutions@conres.com](mailto:solutions@conres.com) to talk to a team of qualified AI experts.