

Making Every IT Dollar Count: A Strategic Approach to IT Cost Optimization

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Making Every IT Dollar Count: A Strategic Approach to IT Cost Optimization

The cost-optimization imperative

The modern business landscape is underpinned by growing technology adoption. But with increasingly complex technical and infrastructure needs, business leaders are now questioning how to get more bang for their buck when it comes to IT.

Companies are under growing pressure to deliver innovative solutions that enhance business operations while managing tightening budgets. Succeeding requires adopting a cost-optimization strategy that balances the costs of people and operating models, alongside key factors such as cloud strategy, software investments, and infrastructure management.

Despite its clear priority, many organizations struggle to execute effective IT cost strategies. According to Gartner's Cost Value Matrix (CMV), 39% of organizations are operating in the 'cost inefficient' quadrant, struggling to deliver strong value for their IT spend. The study also shows companies spend between 1.4% (retail) to 8.1% (finance) of their revenue on IT, on average.

This article explores the levers companies can employ to balance the non-people costs of IT—looking at strategies to reduce expenses while recognizing the wider business implications for teams and operational processes. This isn't simply about cutting costs, it's about optimizing 'good' costs and eliminating 'bad' ones to free up resources for reinvestment in growth and innovation. This strategic approach to IT cost optimization improves operational agility, accelerates time-to-market for products and services, and better aligns IT with core business goals, ultimately answering how organizations can get more value for each IT dollar spent.

For Southeast Asia's fast-scaling enterprises, the challenge is not just managing cost, but doing so while building the digital capabilities needed for sustained growth. This is where strategic guidance—grounded in both business and technology insight—can create real impact. Soaring IT costs are now forcing companies in Southeast Asia to re-evaluate how they spend, making cost optimization a critical lever for staying competitive.



RUN, GROW, TRANSFORM: THE HIGH-LEVEL COST-OPTIMIZATION FRAMEWORK

In an era of rising technology spend and increasing business uncertainty, the **Run, Grow, Transform (RGT) framework** offers a structured foundation for companies to manage costs and maintain competitiveness. Each phase focuses on different aspects of IT costs, ensuring a considered approach that balances both short-term operational needs and long-term strategic transformation:

- **Run: Reducing costs in non-differentiating areas.**
This phase focuses on cost reduction in areas essential for keeping the business running but not providing a competitive edge. Optimizing these areas frees up resources for investment in growth and innovation.
- **Grow: Enhancing existing capabilities for efficiency.**
This phase improves the efficiency and performance of existing IT systems and processes. It aims to enhance the scalability of infrastructure and applications to support future growth without proportionally higher costs. Grow initiatives link IT performance directly to business outcomes, enabling faster service delivery and improved agility.
- **Transform: Reinvesting in differentiating capabilities.**
This phase reinvests savings from earlier phases into strategic initiatives that enhance differentiating capabilities. The focus is on building an agile, low-maintenance tech stack capable of rapid innovation and market responsiveness. Transforming the IT environment positions companies to compete more effectively and unlock future growth opportunities.

RUN: REDUCING COSTS IN NON-DIFFERENTIATING AREAS

The Run phase is about reducing costs in operational areas that don't directly impact your competitive advantage but are critical to your daily business functions. Optimizing these areas can yield valuable savings—**typically 15–25%**—while freeing up budget to fund higher-value transformation initiatives.

Run-phase Checklist

Lever	Potential Savings
 Assess Uptime and Cost Trade-Offs	15–25%
 Reduce the Number of Environments	10–15%
 Consider Low-Cost Cloud Regions	20–35%
 Optimize Licenses Globally	10–30%
 Implement Multi-Stage Container Builds	10–15%
 Optimize Test and Production Environments	10–25%
 Optimize Configuration (incl. Right-Sizing VMs/Containers)	15–30%
 Explore Use of CDNs	10–20%
 Extend Hardware Lifecycle ('Sweating the Asset')	20–30%

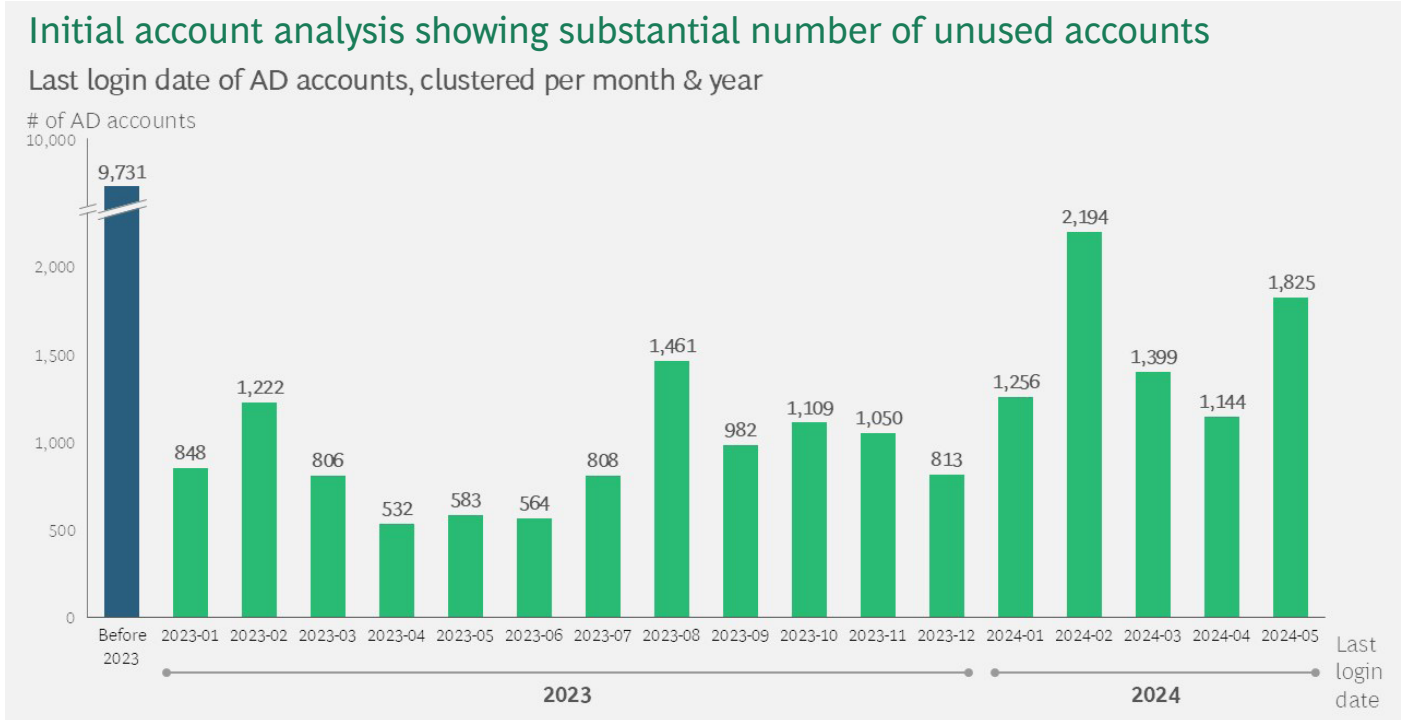
Assess uptime and cost trade-offs to balance reliability needs against cost-effectiveness. While 99.99% uptime sounds ideal, it comes at a steep infrastructure and redundancy cost. For many organizations, targeting 99.5% uptime is a more practical and cost-effective solution, typically meeting business needs without the steep costs of higher guarantees. Carefully evaluate whether the added expense for higher uptime is truly justified for your operational requirements.

Look to reduce the number of environments (development, testing, staging) to simplify infrastructure and cut operational costs. IT environments often accumulate over time due to expansion or legacy practices, rather than genuine business necessity. Assess if these environments can be reduced to optimize costs.

Consider using **low-cost cloud regions** by deploying non-critical workloads to more affordable providers or regions. Less business-critical programs or applications may not require the more expensive, perceived ‘reliable’ cloud providers. This reduction in cost enhances the efficiency and agility of your overall IT ecosystem, allowing reinvestment into value-adding innovation projects.

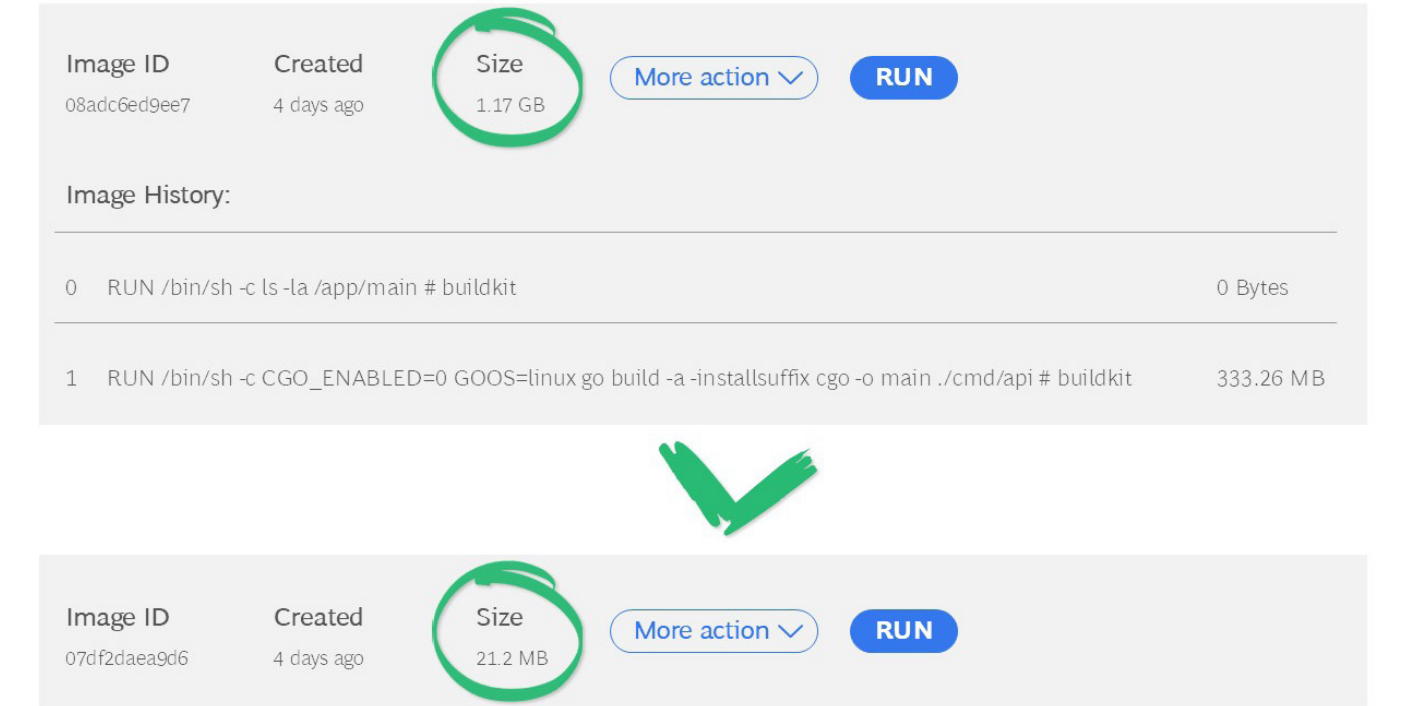
Make an effort to periodically review software licenses as part of **global license optimization**. This can eliminate unused licenses that are adding to overall IT costs. We see many organizations with expensive licenses gathering dust with limited or no usage. [Exhibit 1.] In practice, this frees up resources for more strategic IT investments aligned with broader business objectives, improving financial efficiency.

Exhibit 1:



Implement multi-stage container builds (e.g., in Docker) to significantly reduce final container image sizes by including only necessary components in the production environment. This technical refinement allows more container builds on a single device, speeding up development by reducing cost, execution, and boot times. [Exhibit 2.] This approach also minimizes storage costs and reduces containerized application vulnerabilities, enhancing security.

Exhibit 2:



Carry out **optimization of test and production environments** to find a cost-effective fit. Cloud solutions offer a powerful platform to quickly adapt underlying infrastructure, allowing IT teams to select cheaper options for the bulk of their needs. Experiment with cost-effective alternatives in non-production environments—for example, using CentOS instead of Red Hat, or HDDs instead of SSDs during development. If using Azure, consider the Azure Dev/Test subscription. Only genuine production-grade load tests typically require production configuration specifications.

Optimizing configuration is the next step, fine-tuning settings in the service layer like Java Virtual Machine or Webserver. This includes adjusting memory allocation, garbage collection, thread pools, connection limits, caching, and compression to match specific application workload demands. This reduces memory usage, improves responsiveness, and enhances performance.


We also recommend exploring the use of **content delivery networks (CDNs)** to offload static content such as images and scripts. CDNs leverage globally distributed servers to deliver content from locations closer to the point of need, resulting in faster load times, reduced server load, and enhanced performance.

Finally, look to **extend the hardware lifecycle**—often referred to as ‘sweating the asset’— by delaying refresh cycles for infrastructure that remains functional and secure. For example, extend hardware beyond the traditional lifecycle using alternative maintenance or support options to extend an asset from three-year lifespan to five years. This approach reduces capital expenditures and maximizes the ROI of existing assets, particularly in areas not requiring cutting-edge performance.

GROW: ENHANCING EXISTING CAPABILITIES FOR EFFICIENCY

The Grow phase focuses on enhancing the performance and scalability of existing IT systems to support future business growth without proportionately increasing costs. These improvements help organizations unlock greater efficiency, reduce maintenance overhead, and align IT capabilities more closely with evolving business needs. Typically, this phase delivers 10–50% savings depending on the lever applied, while creating a more agile and sustainable IT foundation for future innovation.

Grow-phase Checklist

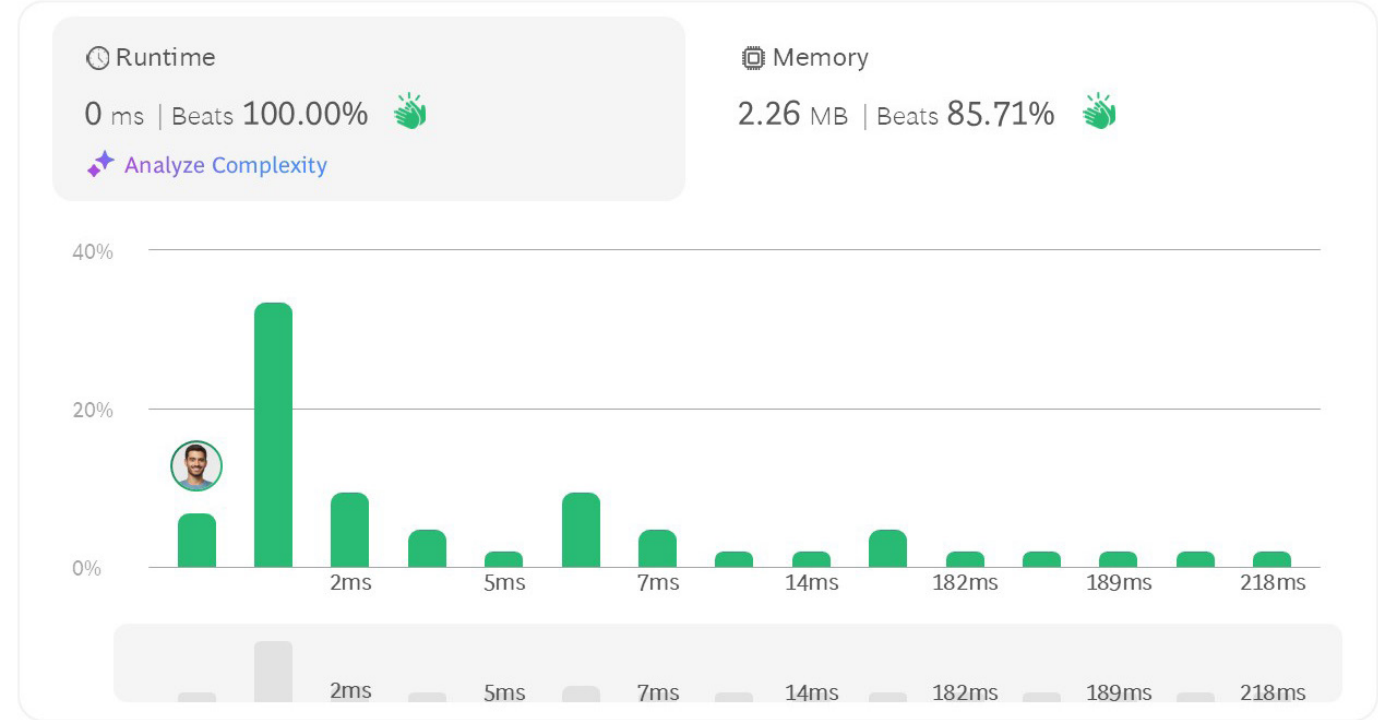
Lever	Potential Savings
 Application Harmonization	10-20%
 Optimize Application Development	10-25%
 Address Database Optimization	15-35%
 Optimize Storage Management	15-25%
 Apply Selective Data Processing	20-40%
 Improve Monitoring and Observability	10-20%
 Implement Data Compression and Format Optimization	15-30%
 Leverage Open-Source Software	25-50%
 Modernize Legacy Applications	15-35%
 Undertake Asset Consolidation	10-20%

Application harmonization begins with mapping your current applications to future-state capabilities. Determine if each asset aligns with your five-year target capability map. Consolidate redundant applications and retire those no longer required. This not only reduces maintenance costs and complexity but also frees up resources for strategic initiatives.

Next, **optimize application development** by leveraging the right language for the task. Consider optimizing for

performance, available talent, maintainability, or quick onboarding. We suggest selecting two, or a maximum of three, programming languages for defined use cases across your applications. Developers should have deep expertise in the chosen languages—even selecting different functions within the same language can substantially impact performance. [Exhibit 3.] Application profiling and benchmarking should be used to avoid guesswork, especially as infrastructure costs scale.

Exhibit 3:



Furthermore, a strong understanding of algorithms and data structures is vital. For example, searching 1 billion records with a simple linear scan may take up to 11 days—while a binary search can return results in 30 milliseconds. Optimizing algorithmic complexity not only speeds up execution but reduces compute load and infrastructure costs.

Number of Elements	Simple Search $O(n)$	Binary Search $O(\log n)$
100	100 ms	7 ms
10,000	10 seconds	14 ms
1,000,000,000	11 days!	30 ms

Next, address **database optimization** beyond simple SQL queries. Indexing frequently queried columns or implementing partitioning are simple steps to improve performance. Switching from a full-table scan to indexed searches can cut query time by over 90% in large datasets. Additionally, archiving old data and reducing database size leads to faster query times and reduced storage costs.

This leads naturally to **storage management optimization**. Implement tiered storage strategies that reflect operational realities—frequently accessed data on faster SSDs, and infrequently accessed data on cheaper HDDs. Regularly archiving log files and application data also reduces overall storage costs and improves performance by freeing up primary storage.

Selective data processing can also help manage costs, especially in data-heavy AI/ML applications. Process only the necessary data subsets instead of entire datasets. Processing 100,000 rows instead of 10 million significantly cuts processing time and cost, accelerating time to insight while reducing the demand on infrastructure.

Improving monitoring and observability is equally crucial for identifying wasted resources and tracking performance trends. Without proper observation, teams have limited ability to optimize resources and address inefficiencies before they escalate. Monitoring also provides the foundation for automated actions, freeing up valuable engineering resources.

Implementing **data compression and format optimization** is another route to mitigate costs. Client-level data compression (e.g., GZIP or LZ4) and converting non-binary payloads to binary formats (like Protocol Buffers over JSON) can significantly reduce network traffic and storage costs. Binary formats minimize data size, lowering bandwidth, storage, and compute costs by decreasing serialization/deserialization needs.

Leveraging open-source software alternatives such as PostgreSQL or MySQL instead of proprietary databases provides a further path to reduce software expenditure. Open-source solutions often meet functional requirements at a fraction of the cost, especially for non-critical applications.

Modernization of legacy applications by refactoring or replatforming outdated software to newer, more efficient architectures is another cost-saving opportunity. This significantly reduces infrastructure and maintenance overhead, leading to improved performance, enhanced security, and better scalability.

Finally, undertake **asset consolidation**. Combining the removal of unused code (tree shaking) with the optimization of necessary code (dead-code elimination) significantly reduces application bundle sizes. In front-end applications, smaller bundles result in faster load times and reduced data transfer costs.

TRANSFORM: REINVESTING IN DIFFERENTIATING CAPABILITIES

The ‘Transform’ phase focuses on reinvesting cost savings to enable businesses to identify and develop new business capabilities, aiming for long-term competitive advantage. The goal is to empower businesses to adapt and rapidly innovate to changing market conditions by providing an IT environment that supports agility and speed.

This phase is strategic in nature, delivering **long-term business advantages while yielding 15–25% in ongoing cost reductions** by optimizing the underlying tech stack. Here are the key levers critical to achieving this goal:

Grow-phase Checklist

Lever	Potential Savings/Benefits
 Enhance Missing or Underdeveloped Capabilities	Typically enhances strategic revenue growth; value significantly exceeds initial investment.
 Optimize Tech Stack for Agility	Reduces maintenance/operation costs 15–25% annually through increased agility.
 Invest in Talent and Skills Development	Efficiency and productivity gains of 10–20% annually due to better-skilled teams.

First, look to **enhance missing or underdeveloped capabilities**. Identifying and investing in essential business capabilities (like innovation or competitive features) previously absent or weak allows companies to align IT environments with their core strategic goals. By realigning IT with long-term business strategy, organizations can unlock new revenue streams and deliver sustained growth. While this may require upfront investment, the long-term value typically far exceeds the initial cost.

Next, **optimize your tech stack for agility**. This can **reduce maintenance/operation costs by 15–25% annually** through flexible, low-maintenance infrastructure. An agile tech stack empowers IT teams to rapidly deploy new features and adjust to market changes. This is vital when considering that 80% of an application’s cost occurs after the first release. Implement practices that enhance agility and reduce time to market, including:

- 1 DevOps and CI/CD practices** to automate build, test, and deployment processes, accelerating delivery and improving quality.
- 2 An infrastructure-as-code (IaC) approach** that manages infrastructure using code to ensure consistency and enable rapid changes.

Finally, **invest in talent and skills development** to ensure your team is equipped to handle new technologies and methodologies. This can deliver **efficiency and productivity gains of 10–20% annually**. Like the business landscape, the IT environment is changing quickly—successful companies invest in ongoing education to upskill teams and continuously develop talent, ensuring that the knowledge and skills of developers remain at the cutting edge.



THE DO'S AND DONT'S OF IT OPTIMIZATION STRATEGY

Optimizing IT costs is not without its challenges. Our experience delivering IT transformation projects highlights a number of pitfalls to be avoided, as well as best-practice guidance to steer these initiatives toward success:

Dos

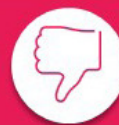


DO: Start with prioritizing business goals.

Successful cost optimization begins with aligning IT with overarching targets. It's crucial to balance short-term savings with long-term benefits, appropriately prioritizing conflicting business goals. This ensures IT investments are used effectively and that sustainable savings are realized, ultimately making relevant business goals materialize.

DO: Identify what needs to be outstanding and what can be 'good enough'. Understand what needs to be outstanding and what can be 'good enough', using these as steps on the journey. A five-year target capability map can help plan capabilities over time, addressing future business needs while ensuring effective IT resource allocation. Differentiating between capabilities that offer competitive advantages and those that can be efficiently managed as commodities is key. Companies should aim for excellence in critical areas (build) while adopting a 'good enough' commercial-off-the-shelf (COTS) approach in others—based on business needs. This ensures IT resources are allocated based on business value, not technical perfection.

Don'ts



DON'T: Reduce costs in isolated areas. Many companies focus solely on tactical adjustments in specific IT areas—like license management or a particular infrastructure component—without adopting a holistic strategy. Sustainable IT cost management must be system-wide, cross-functional, and aligned to broader business goals.

DON'T: Introduce overcomplexity. In many organizations, unnecessary complexity creeps in due to over-planning for edge cases that rarely occur. Simplifying IT infrastructure can reduce maintenance costs by up to 20%, improve agility, and enable faster implementation of changes. Focus on modular, scalable architectures that support change—without adding layers of unnecessary abstraction.

CONCLUSION: DRIVING STRATEGIC SUCCESS THROUGH COLLABORATIVE IT COST OPTIMIZATION

Employing a modern approach to IT cost optimization is a potent business strategy that empowers companies to become more agile, accelerate time-to-market, and scale effectively. Organizations successfully managing costs today are those where business leaders and IT teams work together as part of an end-to-end, collaborative strategy—one where cost reduction is viewed as an opportunity to fuel long-term growth and competitive differentiation.

BCG's technology practice, delivered through BCG TDA and BCG Platinion, supports clients by framing IT cost reduction as a strategic priority that connects technical capabilities to boardroom goals. Our approach goes beyond one-time savings—we implement disciplined, ongoing cost-management practices that keep IT investments lean and effective over time.

By focusing on operational efficiencies in the Run phase, performance enhancement in the Grow phase, and strategic reinvestment in the Transform phase, we help our clients build resilient IT environments that power sustained growth. With this comprehensive, business-driven approach to cost management, our clients are equipped with strategic understanding to not only drive immediate savings but to ensure enduring competitive advantage.

In Southeast Asia and beyond, companies that take a proactive, collaborative approach to IT cost optimization will be better positioned to scale, adapt, and lead. In a competitive digital economy, the right IT strategy isn't just about saving—it's about building the capability to grow smarter, move faster, and stay ahead.

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