

  
**Hewlett Packard**  
Enterprise

**HPE PROLIANT:**  
**THE INTELLIGENT COMPUTE**  
**FOUNDATION FOR HYBRID CLOUD**

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# HPE PROLIANT: THE INTELLIGENT COMPUTE FOUNDATION FOR HYBRID CLOUD



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# 1. TODAY'S HYBRID CLOUD REALITY

Modern IT is at the core of today's business, helping to create new value and experiences in a world where almost everyone and everything generates and shares data. Whether on- or off-premises; bare-metal, virtualization, or containers; or in a public, private, or edge cloud, modern IT must comprehend the full gamut of hybrid cloud possibilities.

However, implementing and managing a hybrid cloud is complex. Many companies wrestle with costly overprovisioning and underutilization, capital trapped in fixed assets, skills gaps and talent shortages, and unpredictable costs. All too often determining a hybrid cloud strategy that will meet changing and expanding IT needs proves elusive.

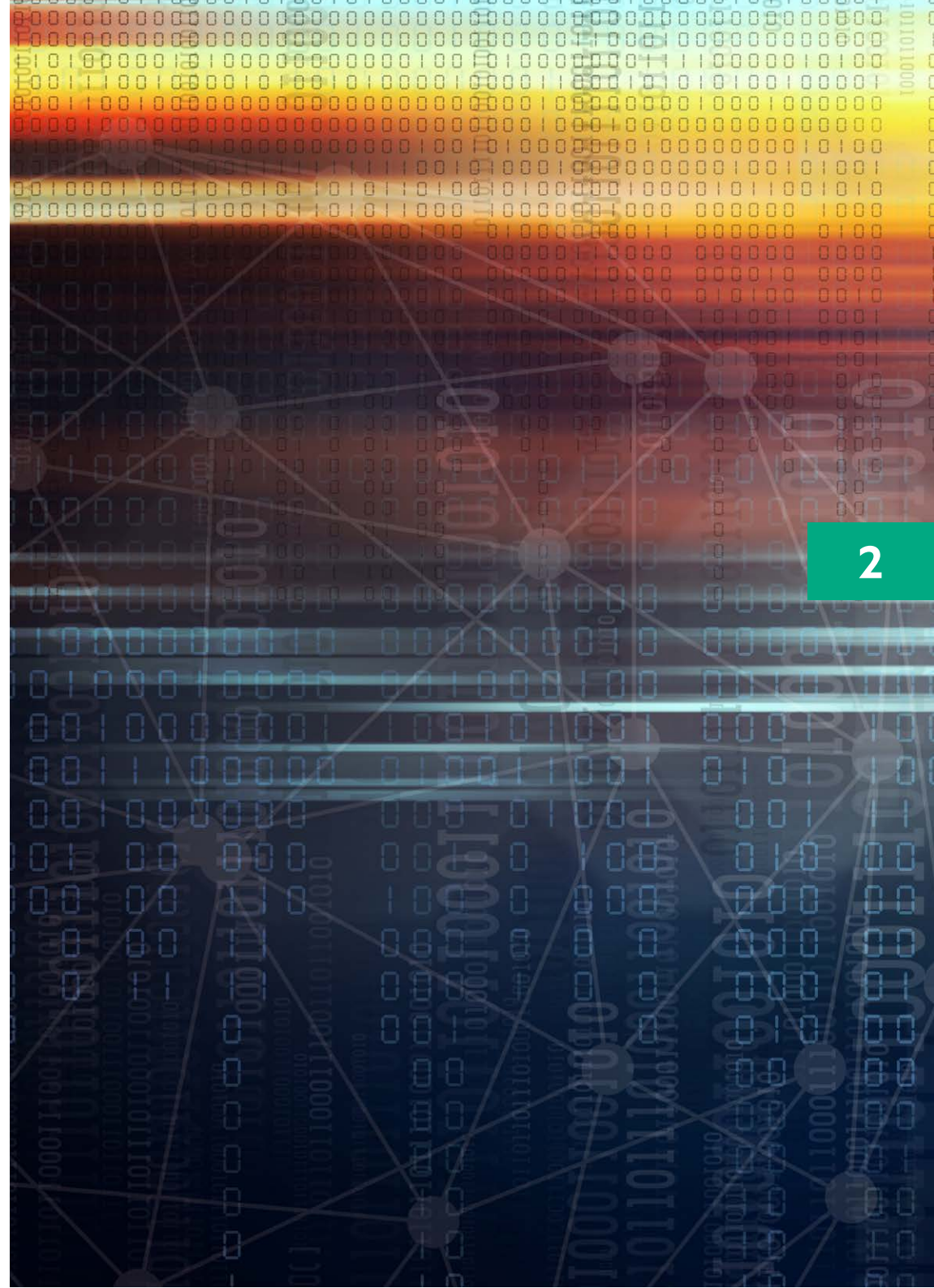
This e-guide demonstrates how HPE's fresh approach to hybrid cloud enables enterprises to navigate this complex landscape and rise to the hybrid cloud challenge.



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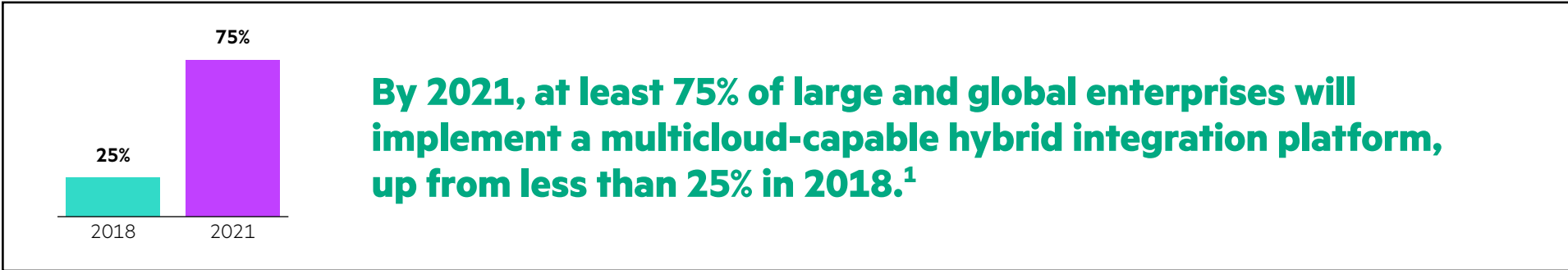


## 2. THE THREE HYBRID CLOUD CHALLENGES



## Challenge 1: Optimizing workload performance in real time

Businesses can no longer rely on tribal knowledge or a trial-and-error process to optimize workloads in a hybrid cloud infrastructure. And yet, optimized workload performance, placement, and efficiency accelerate positive business outcomes and time to value. The server foundation of any hybrid cloud solution needs to come equipped with real-time performance tuning recommendations; this ensures maximized performance from moment to moment. Also, data-driven guidance enables intelligent planning that speeds workload migrations while controlling its costs.



<sup>1</sup> "2019 Strategic Roadmap for Compute Infrastructure," Daniel Bowers, Chirag Dekate, and Tony Harvey, Gartner Inc., April 12, 2019





## Challenge 2: Maintaining a secure infrastructure

Even with performance and flexibility requirements met, a significant IT hurdle remains—security. The threat of cyberassault is increasing exponentially, and hackers are getting more sophisticated with every wave of attack. Just protecting software and networks is no longer enough.

Security must take a 360° approach—a holistic view that extends through the entire lifecycle of the server. The server must be equipped to detect threats, protect against attacks, and recover with intelligent tools and options that accelerate the path back to normal operations.



## Challenge 3: Taking a proactive stance

With IT being stretched like never before, it must be proactive, anticipate demand, and be ready with the flexibility and capacity to meet business needs in moments, not days or weeks.

Server monitoring and management must be simplified, and deployment and provisioning automated, so people are free to focus on strategic initiatives that create real value. This starts with a server intelligent enough to collect information on its own operations, and then share it through a standards-based API to tools for higher-level management, optimization, and orchestration.



**“IT executives have noted to us that identifying the optimal fit for their individual workloads is one of their top challenges today. Past approaches that relied on best practices and manual analysis are now too costly and time consuming.”**

– Jed Scaramella, IDC Program Director, Infrastructure Services



### 3. THE HPE APPROACH

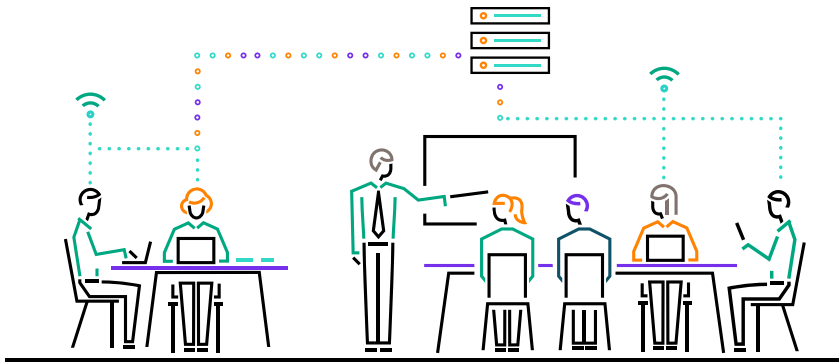
Today's hybrid cloud reality requires a flexible software-defined approach, building on a foundation of intelligence that begins with the server. HPE ProLiant is that intelligent compute foundation for hybrid cloud, delivering unmatched workload optimization, security and automation, all available as-a-service.





## Workload optimized

The foundational intelligence of HPE ProLiant transforms IT with insights that optimize workload performance, placement, and efficiency, delivering better outcomes faster.



**Workload matching:** A standard feature of HPE ProLiant, workload matching encapsulates decades of HPE performance engineering expertise into preconfigured, user-selectable profiles that automatically optimize hundreds of BIOS setting combinations to precisely match server resources to workload requirements. Workload matching eliminates the trial-and-error—and risk—of server tuning, delivering the performance and efficiency of a server ideally suited to its workload tasks.

**Workload Performance Advisor:** Changes in business requirements and workload characteristics can require adjustments to server resources. Workload performance advisor complements workload matching, providing real-time operational feedback on server performance plus recommendations for fine-tuning BIOS settings to adjust to optimize for changing business needs.

**HPE Right Mix Advisor:** Built on the experience of over a thousand hybrid cloud engagements, HPE Right Mix Advisor delivers data-driven guidance to quickly and confidently move workloads to the right mix of hybrid cloud platforms. This ensures optimized performance to meet business-specific needs while speeding migrations from months to weeks and reducing costs as much as 40%.<sup>2</sup>

<sup>2</sup> [CLOUD ECONOMICS—ARE YOU GETTING THE BIGGER PICTURE?](#)

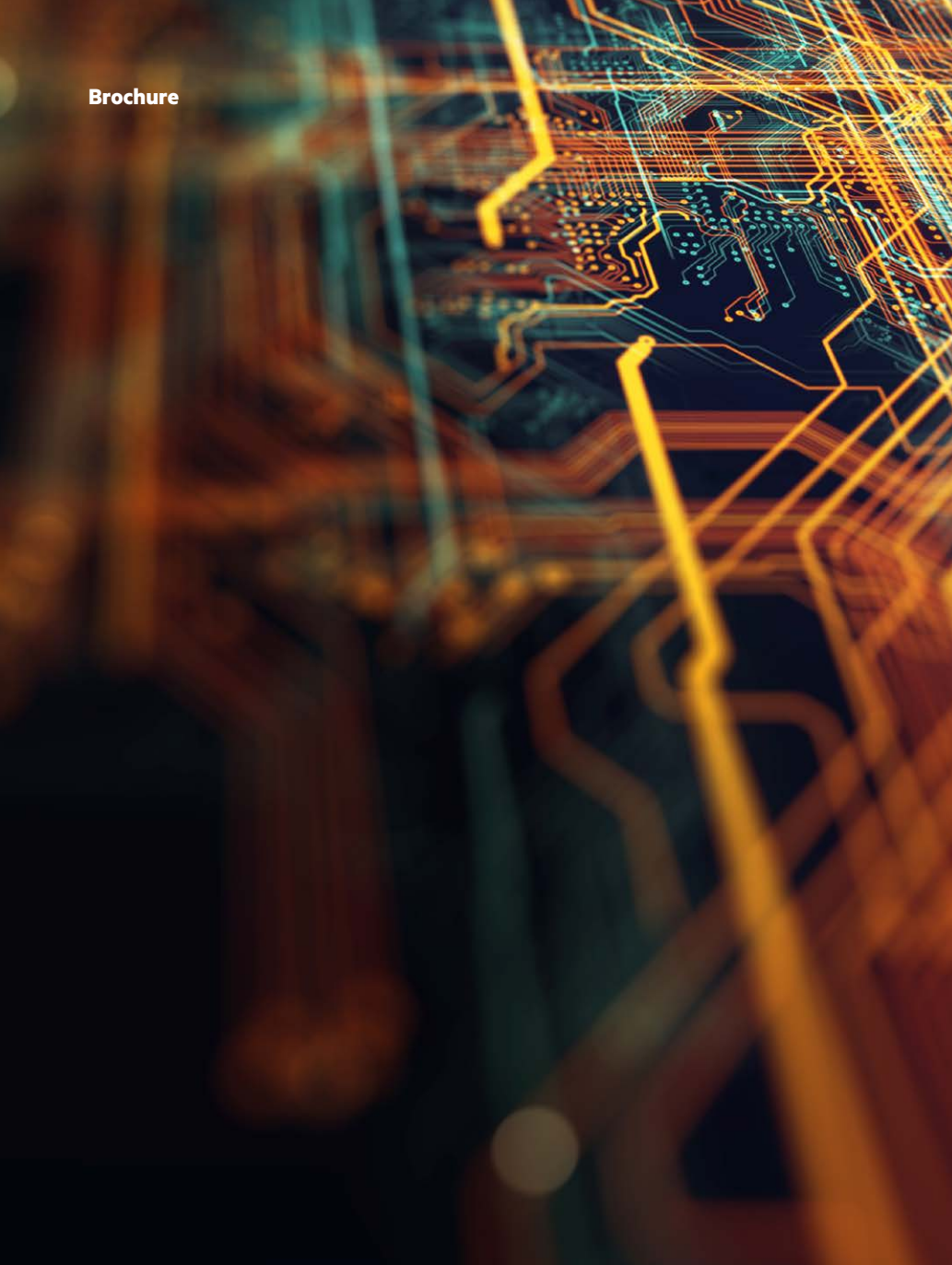


## 360° security

Already the world's most secure industry-standard server, HPE ProLiant provides an enhanced holistic, 360° view of security that begins in the manufacturing supply chain and concludes with a safeguarded, end-of-life decommissioning.



- **Secure supply chain:** HPE ProLiant security begins with the corruption-free manufacture of the server, auditing the integrity of every component—hardware and firmware—providing an assurance that the server begins its lifecycle uncompromised through a secure supply chain.
- **Silicon root of trust:** Silicon root of trust anchors the essential firmware of HPE ProLiant to an HPE exclusive ASIC even before the server is built, creating an immutable fingerprint that must be exactly matched before the server will boot. This ensures malicious code is contained and healthy servers are protected.
- **Server configuration lock:** Secured by a customer-supplied password, server configuration lock creates a digital fingerprint of the server configuration, preventing it from booting should there be an unauthorized configuration change or tampering detected.
- **Security dashboard:** It provides a single interface to display the overall server security status, the current configuration for the security state, and server configuration lock, plus the status of numerous security features. The security dashboard also provides access to change security alerts and manage settings.



- **Security modes:** Equipped with [HPE Integrated Lights Out \(iLO\)](#), HPE ProLiant provides four security modes: production, high security, FIPS 140-2, and CNSA—the highest-level cryptographic algorithm available for commercial systems.
- **Server system restore:** Should a server be compromised, the fastest path to bring it back online and into normal operations again is with server system restore, a feature of HPE iLO. Server system restore provides an automated recovery including restoration of validated firmware, facilitated recovery of the operating system, application, and data connections.
- **One-button secure erase:** When it's time to retire or repurpose an HPE ProLiant server, one-button secure erase speeds and simplifies the complete removal of passwords, configuration settings, and data preventing inadvertent access to previously secured information.



## Intelligent automation

The intelligence built into HPE ProLiant simplifies and automates management tasks, establishing a solid foundation for an open, hybrid cloud platform enabled by composability.

- **HPE iLO RESTful application programming interface (API):** HPE iLO uses a fully Redfish-conformant [HPE iLO RESTful application programming interface \(API\)](#) to provide simple and secure management for today's cloud- and web-based infrastructures across a wide variety of operations and orchestration tools from HPE and others.
- **HPE iLO 5:** Embedded in HPE ProLiant, HPE iLO 5 is the HPE exclusive core intelligence that monitors server status, providing the means for reporting, ongoing management, service alerting, and local or remote management to quickly identify and resolve issues.
- **HPE OneView:** A foundational element in the software-defined infrastructure of hybrid cloud environments, [HPE OneView](#) offers an automated, template-driven approach for deploying, provisioning, updating, and integrating compute, storage, and networking infrastructure.
- **HPE InfoSight:** Building on the operational data of tens of thousands of servers, [HPE InfoSight](#) provides continual AI-driven insight to server operations, predicting and preventing problems before IT operations are impacted.



## Delivered as-a-service

**HPE provides customers choice in how they acquire and consume IT. Beyond traditional financing and leasing, HPE offers options that free trapped capital, accelerates infrastructure updates, and provides on-premises pay-per-use consumption.**

**HPE Accelerated Migration:** Traditional financing, bounded by organizational finance and accounting rules, may require IT infrastructure to be held for five to seven years, or more. To keep infrastructure fresh and ready for the demands of modern business, HPE offers an alternative—[HPE Accelerated Migration](#)—to help fast-track IT transformation by shifting owned IT assets to a flexible usage payment model, freeing up cash for new IT investment and providing for a cost-effective refresh plan to regularly update IT infrastructure.

**HPE GreenLake:** To optimize cost, control, and business agility, [HPE GreenLake](#) provides pay-per-use IT consumption on-premises with real-time tracking and metering of resource usage, so IT capacity is always available to deploy quickly. This ensures that users only pay for the resources consumed, alleviating the threat of costly overprovisioning.



## 4. HPE PROLIANT IN THE REAL WORLD

HPE ProLiant is the intelligent compute foundation for building, delivering, and consuming hybrid cloud services. Deployable as common building blocks all the way through to a fully composable platform to address a range of use cases, it is already benefiting organizations in the real world.



# SaaS-based ERP and private cloud financials

## Segment

Midsized business

## Use case

Retail

## Workload

Data-intensive applications—  
enterprise resource planning

## Challenge

This auto parts distributor needed to move off a legacy ERP, financial applications, and IT infrastructure, ensuring timely access to parts inventory for customer inquiries while expanding its retail footprint.

## HPE value

HPE ProLiant-based hybrid cloud platform enabled cost-effective, enterprise-grade scalability that automated infrastructure management. SaaS-based ERP application interfaced with on-premises private cloud financial application providing real-time inventory and financial information to speed business decision-making and improve the customer experience.

## HPE solution

HPE ProLiant DL560 Gen10, HPE iLO, HPE InfoSight, HPE OneView, HPE Foundation Care, HPE GreenLake

# Office 365 public cloud and private cloud legal data

## Segment

Midsized business

## Use case

Cloud service provider

## Workload

Collaborative applications

## Challenge

A cloud solutions provider offering workspace productivity tools in the public cloud wanted to expand into the legal market but faced data sovereignty issues.

## HPE value

HPE ProLiant for Microsoft Azure Stack coupled with Microsoft Azure enabled a hybrid cloud solution that allowed legal clients' access to Office 365 in the public cloud while complying with security regulations by maintaining privacy-sensitive applications and data in a private cloud. The cloud service provider was able to build applications once and deploy to either public Azure or Azure Stack on-premises.

## HPE solution

HPE ProLiant DL360 Gen10 for Microsoft Azure Stack, HPE Installation and Deployment Services from HPE Pointnext Services, HPE Proactive Care





# Cloud-native DevOps and private cloud patient data

## Segment

Large enterprise

## Use case

Healthcare solution provider

## Workload

Virtualization/cloud for DevOps

## Challenge

A healthcare solution provider needed to be able to develop and deliver healthcare IT solutions quickly and continuously to improve patient care and maintain patient confidentiality requirements.

## HPE value

HPE Composable Cloud for ProLiant DL enabled the healthcare solution provider to automate IT operations and deliver applications and services faster while a hybrid cloud enabled patient data to be stored on-premises. An open, unified API enabled flexible integration with the customer's preferred toolsets. Consumption-based economics enabled healthcare solutions to be delivered in predictable and affordable pay-as-you-go increments.

## HPE solution

HPE Composable Cloud for HPE ProLiant DL, HPE iLO, HPE InfoSight, HPE OneView, HPE Proactive Care, HPE GreenLake Hybrid Cloud



Brochure

## 5. SUMMARY

Today's cloud reality is hybrid. There is no one-cloud-fits-all approach. For enterprises, this presents huge challenges in terms of complexity and determining a hybrid cloud strategy that meets current and future IT needs. HPE understands these challenges and is helping organizations to succeed while avoiding costly mistakes. Our flexible software-defined approach, built on an intelligent HPE ProLiant server foundation, delivers unmatched workload optimization, security, and automation, all available as-a-service.



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