

Manage What Matters Now

FireScope Unify Storage Solutions for VMware

Converged Infrastructures Demand Converged Business Service Management

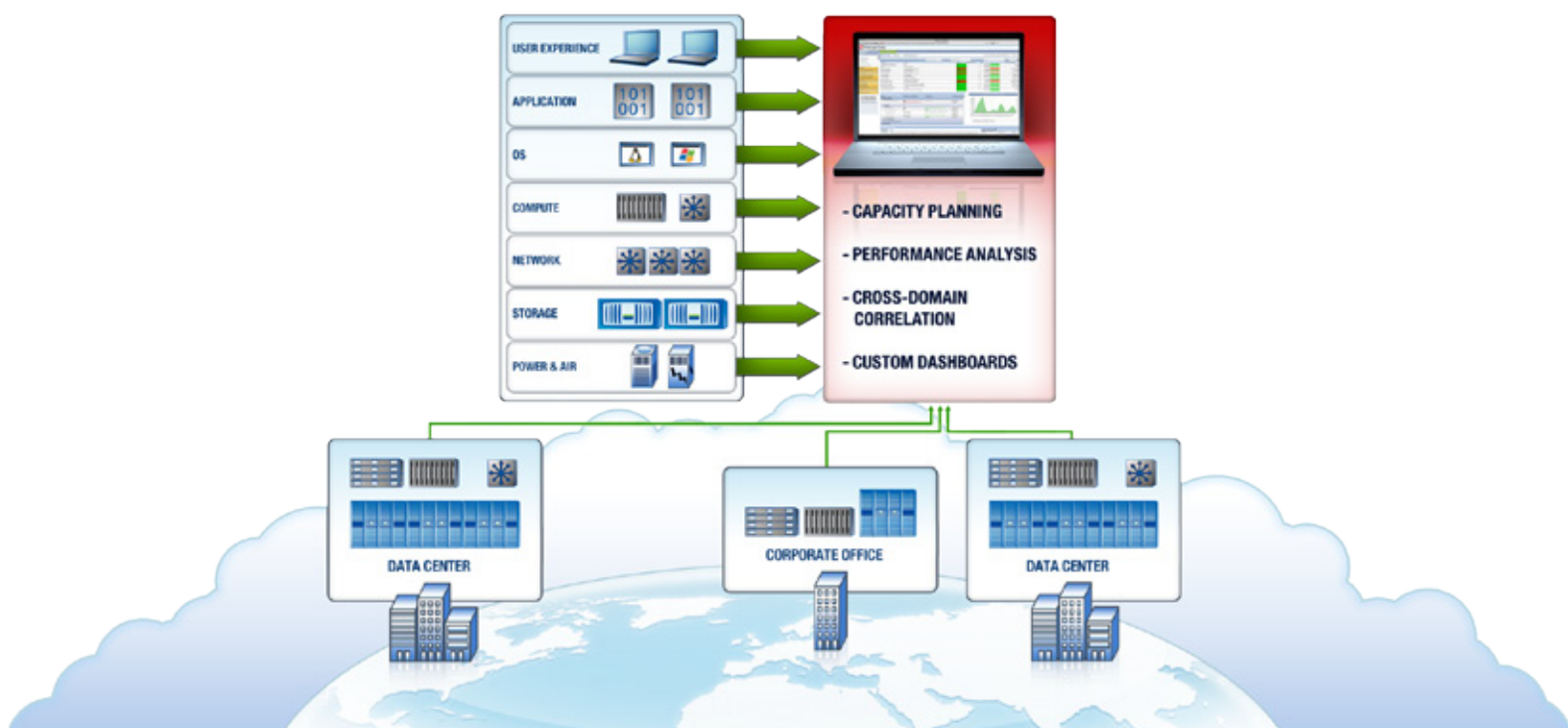
Virtualization has forced many organizations to change how they think about and manage storage. Discreet, independent storage devices for each critical business application has been replaced with converged data stores incorporating hardware from multiple vendors residing at multiple data centers.

While this has enabled organizations to deliver new services in mere days and maximize utilization, converged virtualized storage infrastructures have introduced new challenges. Among these are greater cross-domain communication that complicates troubleshooting, constant change that makes it difficult to maintain good visibility into service performance and too many management interfaces due to vendor silos.

This is why organizations across the globe are turning to FireScope Unify to realize converged management of their virtual storage infrastructure. With a minimum of effort and cost, FireScope delivers visibility into the complete infrastructure stack, from environmentals to user experiences, organized in real-time service-views and linked with key business metrics to enable correlation between technology events and their impact on business outcomes. This executive briefing will describe the FireScope approach to managing storage for VMware, and the capabilities that enable the solution to deploy rapidly and easily adapt to today's dynamic data center.

WHY CHOOSE FIRESCOPE?

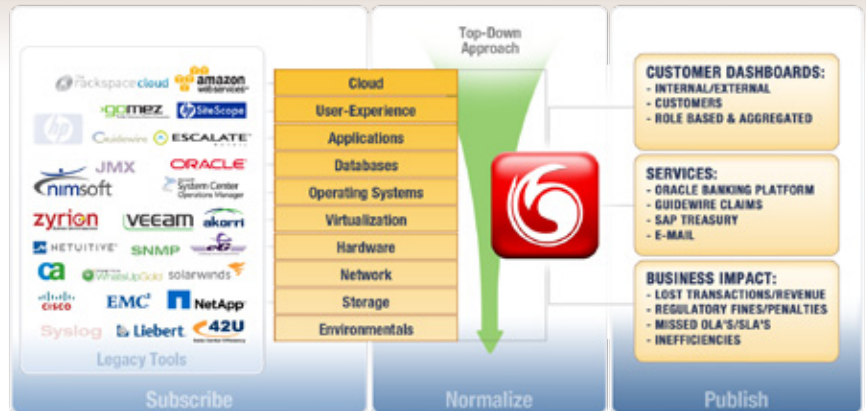
- Top-Down service-view approach to storage management increases efficiency throughout IT by managing what matters now.
- Support for multi-site, heterogeneous storage environments enables global management of storage.
- Single-product solution without the integration risk or high cost of Big-4 solutions, with the ability to leverage and augment legacy point solutions to enhance the value of existing investments.
- Better visibility into business growth and utilization, enabling organizations to right-size allocation, capacity and budgets.



THE FIRESCOPE APPROACH

The vision behind FireScope Unify is to enable organizations to align the management of their technology with the business objectives they were deployed to support. Achieving this requires a radical departure from traditional management approaches in four fundamental ways:

1. **A Top-Down Approach**, which starts at the critical services or applications being delivered, then mapped to their dependent virtual machines, blades, LUNs and VLANs with a focus on measuring each component's impact to business outcomes and customer experiences.
2. **Complete Visibility of the Entire Infrastructure Stack**, from environmentals to applications to user experiences, with a particular focus where layers intersect and interact. In the case of storage, organizations need to understand how issues with a switch impact storage performance, or mis-provisioned computing resources have become a bottleneck for the users' experiences.
3. **Rapid Deployment, Rapid Scalability**, based on FireScope's innovative pre-configured appliance form factor and rapid delivery model, enables organizations to start utilizing real-time dashboards in a matter of days. An integrated discovery engine that makes use of API connectivity to VMWare, NetApp, Cisco and other technologies enables rapid configuration without manual effort. As infrastructures scale or new data centers come online, these new resources can be integrated into your existing dashboards in minutes by powering up additional FireScope Unify appliances, configuring FireScope Unify's multi-site functionality and performing discovery.
4. **Dynamic, Automated Configuration**, utilizing direct API access to VMWare vCenter, NetApp Operations Manager and Cisco Unified Computing System (UCS) Manager, FireScope Unify is able to detect changes to configuration and automatically apply best-practice monitoring as virtual machines or volumes are created or modified. This significantly reduces work for IT operators and enables greater agility for IT operations.

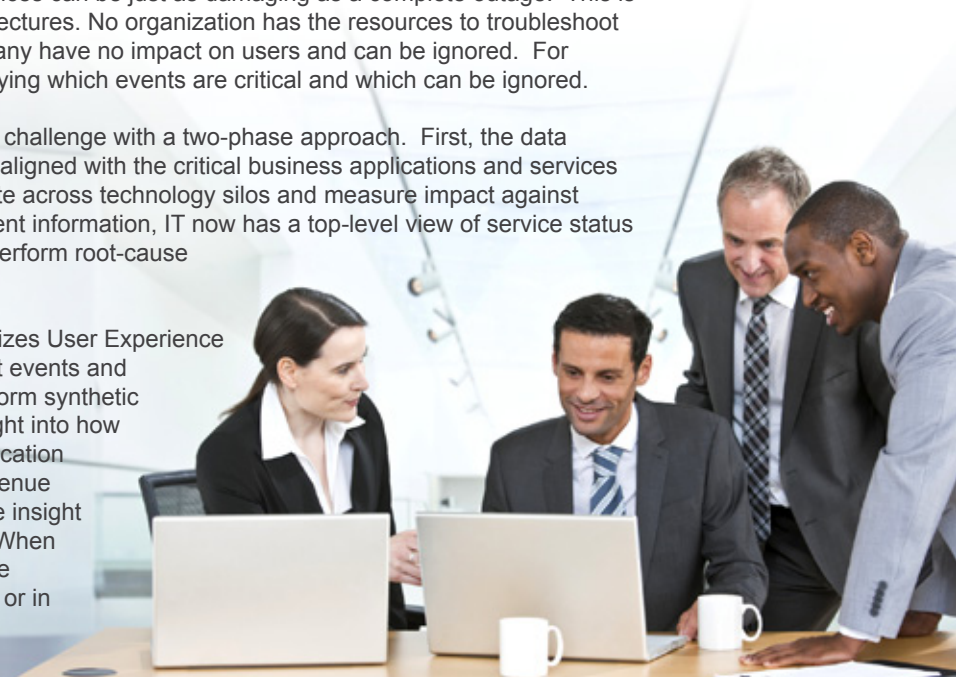


TOP-DOWN APPROACH

Managing each layer of the infrastructure stack in isolation does not translate to well performing user experiences. Misconfigured routing tables on a switch, extended latency in an application message queue or write errors on an individual disk may not raise any flags individually, yet the ripple effects on user experiences can be just as damaging as a complete outage. This is particularly true for today's highly complex cloud architectures. No organization has the resources to troubleshoot every warning message or error, nor should they as many have no impact on users and can be ignored. For maximum efficiency, IT must have the means of identifying which events are critical and which can be ignored.

FireScope Unify was specifically designed to meet this challenge with a two-phase approach. First, the data collected from every layer of the infrastructure stack is aligned with the critical business applications and services they contribute to. This enables the solution to correlate across technology silos and measure impact against service-level expectations. Rather than lists of raw event information, IT now has a top-level view of service status and performance, with drill down capability to quickly perform root-cause analysis.

For the peak of this top-level view, FireScope Unify utilizes User Experience Checks and aggregation of key business metrics to put events and performance in context. User Experience Checks perform synthetic transaction tests of common use-cases to provide insight into how users perceive the health and performance of the application as a whole. Meanwhile, business metrics, such as revenue generation, completed transactions and others, provide insight into how IT is delivering on expected business goals. When combined, IT now has the means to effectively prioritize workloads based on impact to the business and users, or in other words, **Manage What Matters Now**.



COMPLETE VISIBILITY INTO THE ENTIRE VMWARE DEPENDENCY STACK

The key to delivering effective service visibility of virtualization is the collection from every layer of the stack, from environmental to user experiences. Out of the box, FireScope includes over 20+ data collection methodologies that aggregate from devices and applications directly, and also enable leveraging data from existing monitoring and management tools.

Due to FireScope Unify's standards-based approach to data collection, administrators have extensive control over what data they collect and how it is collected. This extensibility means that with FireScope, the question is never 'can you collect from x', but 'how do you want to collect your data?'



THE STACK FROM THE FIRESCOPE UNIFY PERSPECTIVE:

User Experience – FireScope automates testing of common user tasks on the virtualized applications, such as authentication, generating reports or logging customer information. This enables IT to understand how users perceive performance, and prompts operators to drill down through other dependencies for root-cause analysis.

Application and OS – Rich optional agents with the ability to leverage Java Management Extensions (JMX), .Net and other application and OS management frameworks enable FireScope to provide visibility down to the thread-level for unparalleled analysis of OS and application performance.

Database – An easy to configure Enterprise Service Bus that facilitates direct queries of Oracle, MS SQL and other database platforms provides access to a wealth of key metrics that ultimately affect user experiences. It also enables FireScope to collect key business metrics such as opened and closed claims that can be used to quantify the business impact of events and outages.

Virtualization – Direct API connectivity with VMWare vSphere and ESX servers is utilized to evaluate how changes to configuration and utilization impact the big picture.

Compute – By connecting directly with Cisco Unified Computing System (UCS) via the UCS Manager API, FireScope Unify gains access to a wealth of metrics and event data on the blades and chassis.

Network – In addition to monitoring key metrics concerning bandwidth, errors and collisions from the network interconnects that are critical for virtual storage, FireScope also collects metrics from the network beyond, enabling administrators to quickly identify if the source of problems lies outside of the virtual stack itself.

Storage – Direct access to NetApp, EMC, Hitachi Data Systems and other storage systems enable FireScope to leverage granular data about storage allocation and performance.

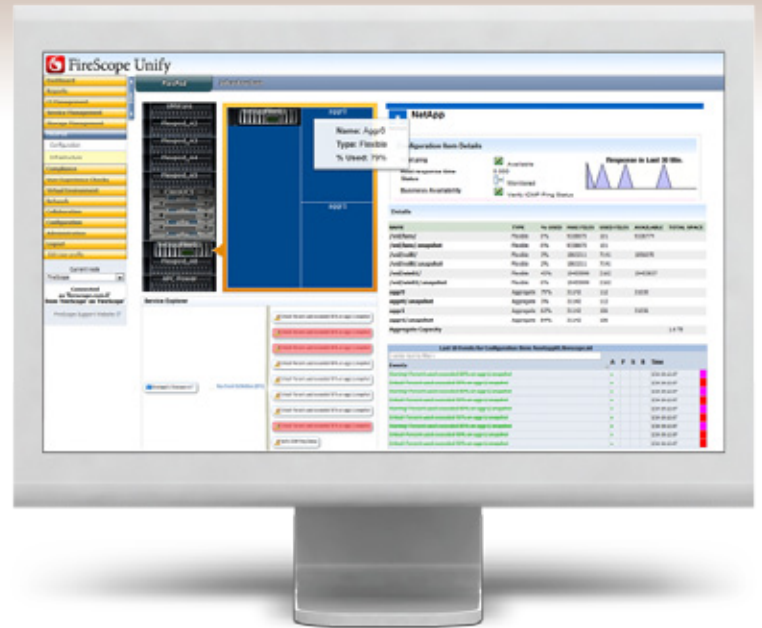
Power and Air – Key metrics from power and air equipment, enables organizations to establish a baseline of consumption and develop a strategy for green IT without going dark.



RICH HTML5 VIEWS

The actionable intelligence generated by FireScope is presented to users via HTML5-powered dashboards with extensive drill-down capabilities. At the highest level, users start with a physical view of individual racks or a Service Explorer for a logical view of physical and virtual assets from the perspective of the critical services they deliver. From here, users can easily drill down from each component to analyze utilization, performance and event details.

For a more personalized perspective, each user can create their own custom dashboards containing interactive graphs, maps and data covering any aspect of IT operations. This enables each member of the IT organization to have a view tailored to their operational role and preferences. While the CIO has their own dashboards communicating SLA status and business impact, storage administrators utilize a more granular view of allocation, performance and events. Configuration of these pages is performed entirely via web-based forms, with no need to edit scripts or configuration files, making it easy for users to adjust their view as the infrastructure and their role evolve.



STRATEGIC ANALYSIS

Scaling virtual infrastructures to support business growth requires accurate, timely knowledge of utilization trends across the entire stack over extended periods of time. FireScope's reporting interface delivers access to the wealth of data collected by FireScope Unify with point-and-click ease, with no need for additional software or professional services. What previously required weeks of intense manual efforts to pull together data from dozens of different systems can be accomplished in mere minutes.

The result: Organizations finally have easy access to the actionable intelligence needed to drive strategic change to slash costs and increase efficiency.

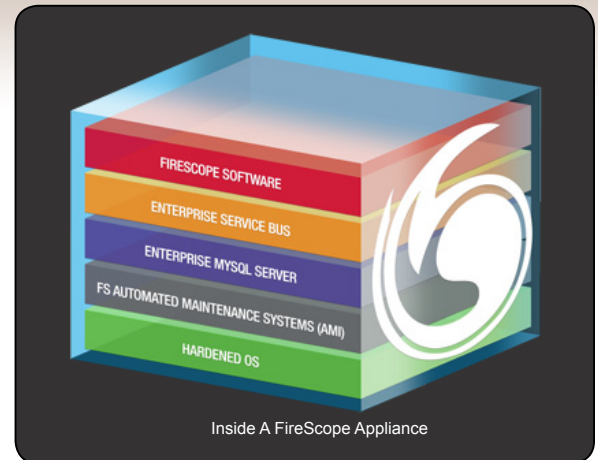


RAPID DEPLOYMENT

Unlike traditional approaches to enterprise management that require months of installation and configuration of a suite of products, FireScope Unify is shipped as a single hardware or virtual appliance with everything installed and ready to go. This alone eliminates weeks of effort. Once plugged in and powered up, the solution's integrated discovery capability can automatically identify physical and virtual assets and configure best practice data collection, event definitions, graphs and dashboards. Within the first hour of a deployment, FireScope Unify is already collecting data and presenting real-time dashboards and reports.

Deployment At-a-Glance:

1. Plug-in and power up appliance.
2. Complete a 2-screen wizard to configure network, time and licensing for the FireScope Appliance.
3. Utilize a drag-and-drop rack builder to configure the infrastructure components and initiate API-level discovery and automatic configuration
4. Define policies and dashboards.

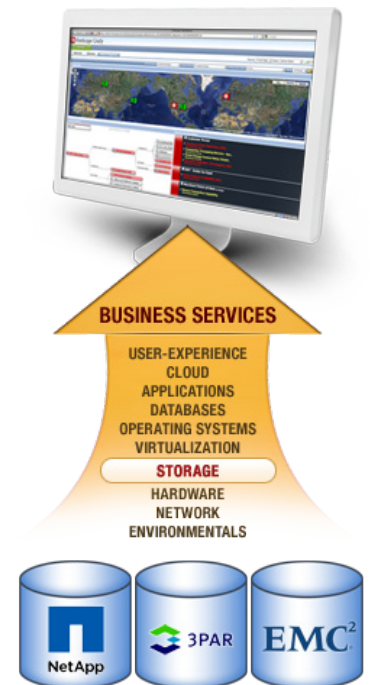


SUPPORT FOR ALL STORAGE TECHNOLOGIES

Rarely does an organization utilize a single vendor for storage. This can complicate troubleshooting and capacity planning as organizations are forced to consult multiple interfaces that have little to no consistency in reporting. FireScope Unify utilizes direct API access and other data collection techniques to collect performance and capacity metrics from NetApp, EMC, 3Par, Hitachi and other commonly deployed storage vendors to deliver a single source of truth on storage.

DYNAMIC OPERATIONS

The same agility in delivering technology resources in minutes that VMware bring to organizations can present challenges to most management solutions. New virtual machines, storage volumes and other resources can be brought online in minutes, yet incorporating them into management dashboards and alerting systems can require hours of manual efforts. FireScope eliminates this effort by incorporating API-access to VMware, Cisco UCS, NetApp and other infrastructures into its integrated discovery engine. As discovery is performed on a scheduled basis and new assets are identified or existing assets are modified, FireScope is able to automatically adjust its own configuration. This enables IT Operations to easily incorporate new resources into their service views as they come online and maintain agility throughout the lifecycle.



EASE OF SUPPORT

While time to deploy receives considerable attention in the selection of enterprise solutions, ongoing maintenance requirements can often be overlooked. Special attention has been paid to driving down the effort required to maintain FireScope Unify. Configurable levels of automation streamline the process of backing up the solution, applying updates to the underlying OS and solution itself, and more. The end result is a solution that requires only minutes a month to maintain and support.



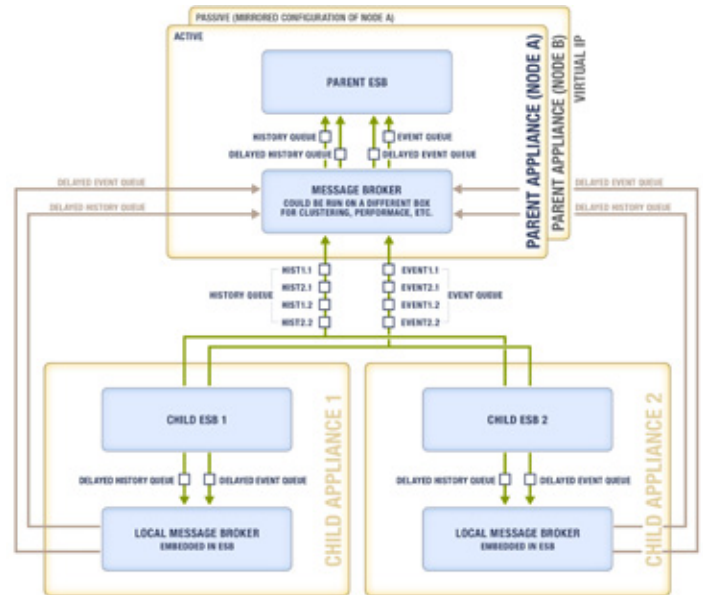
MULTI-SITE ARCHITECTURE

In high volume or geographically distributed environments, multiple FireScope Unify appliances can be configured as child appliances, each collecting metrics from a subset of the infrastructure. Local analysis of events or performance thresholds are performed by the child FireScope Unify appliance directly managing it. Identified events are then published to a master appliance, as well as the attribute data itself. The inclusion of the attribute data in the feed to the master appliance enables FireScope Unify to correlate across devices and technology silos to identify event and performance thresholds across the service as a whole. This provides users with new possibilities for the analysis of service-level performance and availability, tactically and strategically.

RELIABLE ACCURACY

Child to parent appliance synchronization utilizes an advanced message bus queuing architecture designed for speed and accuracy. During normal operation, one queue is dedicated to events while a second queue simultaneously feeds history or attribute data. Message brokers at both ends of the connection continually validate receipt and accuracy of data and ensure that data is processed in the correct order.

In the event of a connectivity issue, child appliances automatically cache data locally until the issue has been resolved. Upon resumption of connectivity, the Event and History queues resume sending live data while two additional queues are utilized to simultaneously begin sending cached data. This approach ensures the parent appliance can evaluate current status as quickly as possible without sacrificing the historic data necessary for evaluating SLA's or producing reports.



ON-DEMAND SCALABILITY

FireScope's innovative form factor and multi-site architecture make expanding the capacity of an existing deployment easier than anything on the market. The process is as easy as powering up additional appliances, completing a short wizard to configure child/parent connectivity, and finally performing discovery. FireScope's integrated discovery feature then automatically identifies devices and applications and automatically applies a best practice set of attributes and event definitions to simplify the deployment process. No major configuration changes are required on any existing appliances, and existing user accounts gain instant access to the new appliance via LDAP integration.



RETURN ON INVESTMENT

An investment in VMware is significant for any sized organization. To maximize the return on this investment requires ensuring highly available, optimally performing user experiences for all applications running from the virtual infrastructure.

Without distracting from business driving project, FireScope delivers the insight needed to deliver on these goals throughout the application lifecycle. By eliminating most manual effort needed to deploy, configure and keep up with the fast pace of change inherent in virtual infrastructures, FireScope is able to boost efficiency throughout IT Operations.

CONCLUSION

FireScope Unify has helped Suncorp, SITA, Hot Topic and other organizations across the globe ensure their virtual storage architectures are highly available and delivering optimal user experiences while slashing costs. This is achieved by delivering visibility into the entire infrastructure stack from a single-product solution with a business-centric approach where each component is analyzed from the perspective of how they impact user experiences. No other solution on the market can match FireScope for its ease of deployment, use and price point. For more information about FireScope Unify, please visit <http://www.firescope.com/Products/Unify/> and schedule a personalized demonstration with a FireScope expert.

THE COST OF DOING NOTHING

- Lost revenue due to outages caused by cross-domain incidents impacting virtual infrastructures.
- Lost customers due to poor performing public and internal facing web interfaces.
- Wasted time and IT resources consulting multiple interfaces to isolate root-cause of issues.
- Lost opportunities to slash maintenance and support costs on Big-4 solutions or multiple point solutions.
- Inconsistent reporting and analysis due to multiple, siloed management products.

ABOUT FIRESCOPE

FireScope's vision is to be the leader in aligning customers technology performance to their business and customer experiences through highly innovative, on-demand solutions. FireScope is dedicated to helping organizations align IT services with the business, simplify the lives of IT organizations and simultaneously save considerable time, money and stress throughout IT Operations. Credit-Suisse, Groupama, Suncorp, Standard Life, Travelex and others have already cut costs and complexity in their IT Operations with FireScope solutions.

Our reputation rests on our steadfast pursuit of driving out complexity and cost in our customers' IT operations. We pride ourselves in our ability to actively listen to our customers and incorporate customer feedback into the company and its solutions. We believe this ongoing process will continue to enhance your appreciation of our family of products.



BOOST IT. AGILITY

IN 10 MINUTES OR LESS!

TAKE THE FIRESCOPE CHALLENGE



MANAGE WHAT MATTERS NOW

WWW.FIRESCOPE.COM - 2130 MAIN STREET, SUITE 250, HUNTINGTON BEACH, CA 92648 - 77.780.3473

NORTH AMERICA SALES
1.877.780.3473

UNITED KINGDOM SALES
+44.207.193.5250

AUSTRALIA SALES
+61.2.9091.0010