

## Service Delivery and Assurance for Service Providers

Digital transformation is critical for enterprises. Companies are relying on predictable network performance for cloud connectivity. The line between business-critical and consumer applications has blurred. Consequently, Service Providers have to adapt and meet their customers' needs and differentiate by providing value-added services in a cost-effective manner.

### Deliver Customer Value, Not Just Cost Efficiency

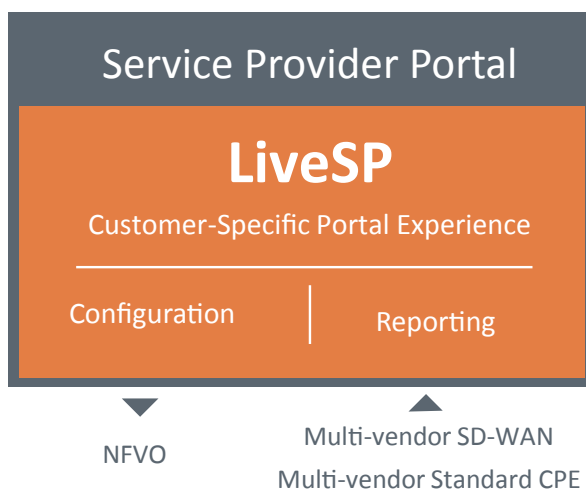
End-user experience is a key differentiator when providing managed network services. Network performance management has to be application-aware to fulfill this commitment. With LiveSP, Service Providers can address a strategic enterprise customer pain point: critical application performance, rather than bandwidth cost.

### Unify Your Managed Services

LiveSP unifies legacy and SD-WAN management in a unique platform which allows an abstraction of the WAN technology complexity. By simply creating templates and automating reports, managed services team can focus on customer needs.

### Enable Your Customers' Unique Requirements

LiveSP provides enterprises with the capability to gain full visibility into their unique network infrastructure. Network service assurance opens the door to confidently bring new value-added services.



## What Is LiveSP?

### Multi-Tenant Platform

LiveSP is a multi-tenant network performance monitoring platform. It provides the required features to customize Service Provider managed service offers and completely automate the provisioning workflow.

### Application-Aware Network Management

LiveSP visualizes application-specific network traffic for business relevance of network performance, and greatly accelerates the workflow to identify issues across LANs, external networks and applications.

### Unmatched Reporting Features

LiveSP report builder helps Service Providers structure their communication with enterprise customers and different audiences. From abstracted executive overviews all the way down to detailed visualization for experts.

### Built for SP Infrastructure Needs

LiveSP is designed to be highly scalable. The flexibility, scalability and elasticity allows SPs to always have an optimal platform on which to provide service delivery, resulting in value from day one.

### Easily Integrate into Service Provider IT

LiveSP is easily integrated into the SP provisioning workflow. For WAN and SD-WAN managed services, it is simple to roll out and manage even massive deployments. Once templates have been established, the provisioning and monitoring workflow can be easily automated.

### Universal SD-WAN Management Platform

With built-in multi-vendor support for SD-WAN deployment and monitoring, LiveSP is a powerful tool to deliver on enterprise customers' expectations of efficient MPLS utilization as well as leveraging standard Internet links for connectivity and cost-reduction.

### Configure and Report in the Same Platform

LiveSP integrates with any orchestration platform to help automate the configuration and provisioning of new services. Simplifying SP operations and sharing some control features with the customers benefits customer

## Become a Key Enabler for Digital Transformation



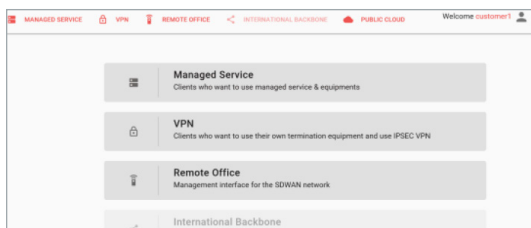
### Real-Time Troubleshooting

From executive summary to expert view, end-users browse the network with use-case centric dashboards, application based metrics. They easily assess network and critical application performance, split traffic into critical and non-business critical categories, provide SD-WAN and generic QoSservice assurance.



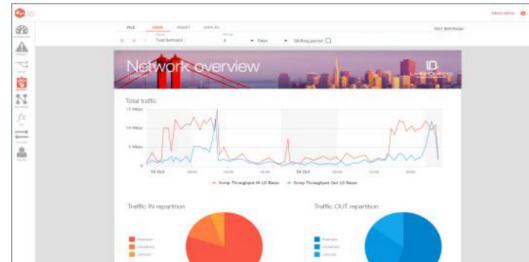
### SD-WAN Topology Visualization

LiveSP analyzes performance metrics and events coming from customers' SD-WAN networks. It displays them through a simple and innovative, vendor-neutral visualization topology. End-users can intuitively visualize where their traffic goes and analyze the cause for re-routing.



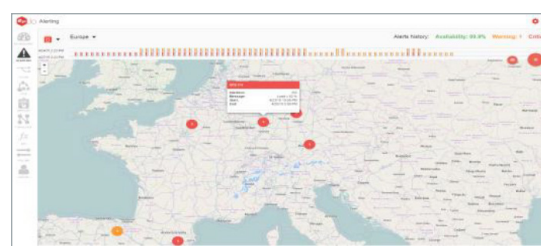
### Automated Configuration & Personalization

LiveSP teams can provide highly customizable user interfaces that deliver on specific enterprise customer requirements. It leverages different tools available in your infrastructure such as NFVO for service orchestration. Your customers can leverage their self-help portal to further configure their network to their needs, or communicate with your experts for advice.



### SLA Report Builder

The report module turns application or network information (graph, TOP, map, alerts, ...) from the LiveSP platform into simple configurable widgets that can easily be moved around, edited and combined. The managed services team can hence focus on value creation rather than time-consuming, manual report customization.



### Out-Of-Policy Alert

Managed Services teams can configure customer-specific alert profiles for their enterprise customers. This triggers personalized alerts when network elements and applications are out-of-policy. Enterprise IT end users can easily drill down to network & application health-checks to understand root causes.

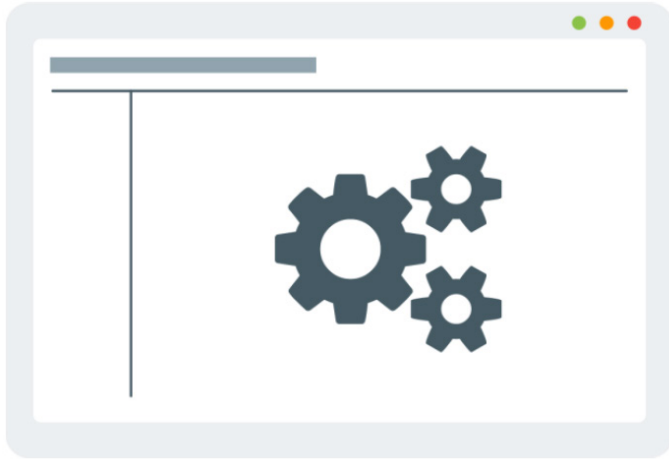
### SLA Report Builder

LiveAction complements its software product offering with professional services tailored to the needs of Service Provider customers. These include:

- IT integration
- Legacy and SD-WAN collection architecture design
- Extranet integration
- KPI definition
- Service customization (Dashboard, monthly reports, alerts, ...)
- End-customer configuration capabilities

You can rely on the LiveActionService Team to help you accelerate service definition and deployment.

## Leverage LiveSP for High Value Added Services



### SLA Report Builder

LiveSP provides highly customizable enterprise network deployments for the digital era, which help differentiate your managed service offerings, tailoring each enterprise implementation to customers' unique business needs. It delivers on:

- Open data sets: SNMP poller, KPIs, application dictionary
- End-user resources : Dashboards, reports, alerts
- Role-Based access control : Features and resources access.
- Authentication : SSO, http BA

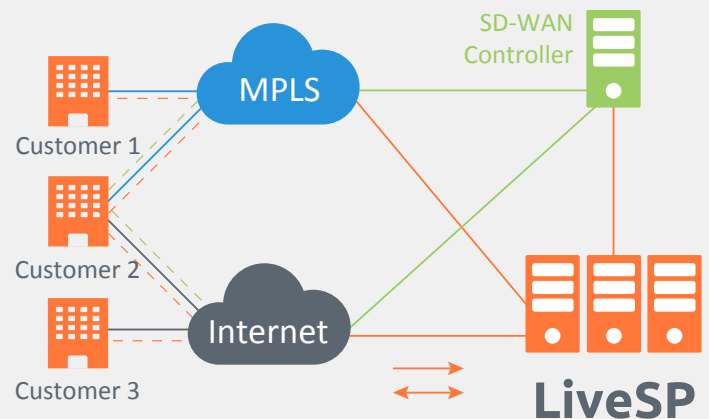
In addition, each customer can customize its dashboards and reports to its particular business needs.

### Unify Network Management for Legacy and SD-WAN

LiveSP is designed for multi-tenant VPNs, supporting from a few to thousands of sites. It easily scales and adapts to every enterprise's needs.

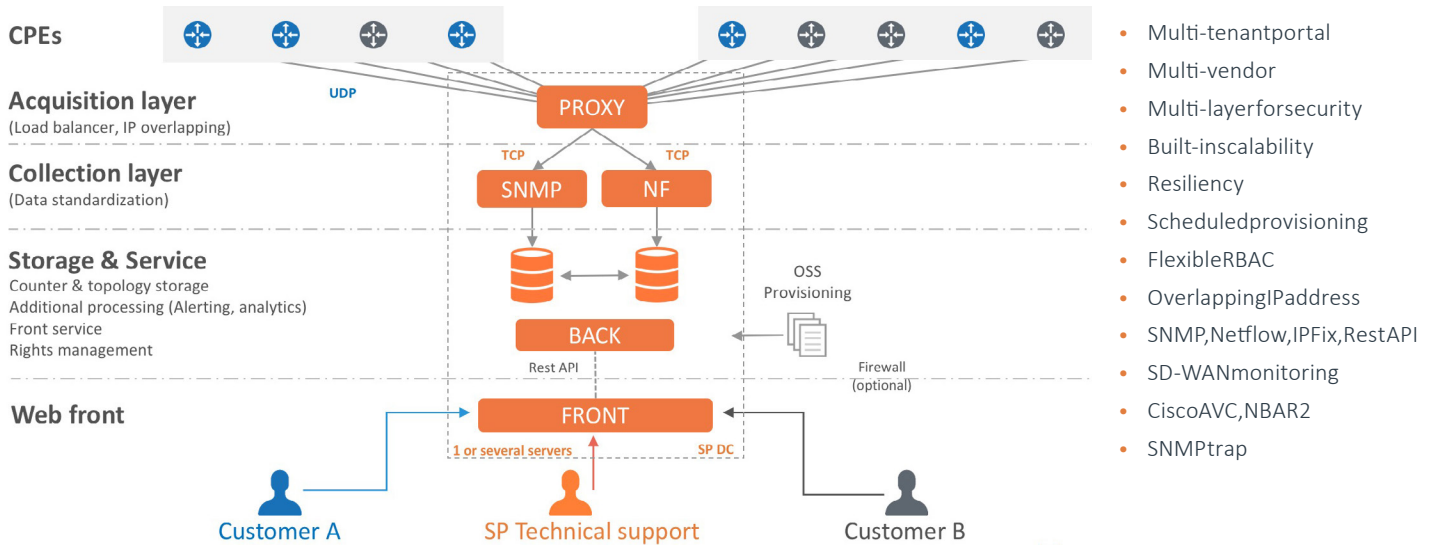
LiveSP collects and standardizes data coming from CPEs, Provider Edges (PEs) and SD-WAN controllers. LiveSP is compliant with SNMP V2, V3, Netflow, IPFix, IPSLA and integrates multi-vendor APIs to collect network analytics data.

LiveSP easily manages legacy CPEs, based on SNMP collection (Traffic, IPSLA), new CPEs, based on application aware metrics, and SD-WAN devices.



Metrics	Vendoragnostic	Cisco IWAN	CiscoViptela	Nokia Nuage
MIB2 (traffic,load, CPU, memory load, ...)	SNMP	SNMP	SNMP	X
CoS	SNMP	SNMP	SNMP	X
IPSLA	SNMP	SNMP	SNMP	
IP/Port traffic recognition	Netflow	Netflow	Netflow	
Application traffic recognition		IPFix	API	API
TCP Application Performance metrics (delay, loss)		IPFix		
Media performance metrics (jitter)		IPFix		
SD-WAN Performance per path (delay, loss)		IPFix	API	API
SD-WAN Events		IPFix	API	API
Optimization metrics		IPFix		

## Architecture



## Deployment Model

### System requirements:

- LiveSP can be hosted on Service Provider DC infrastructure, end-customer DC, or AWS
- LiveSP can be deployed on a single or multiple servers.
- OS Linux distribution Debian, RedHat, Ubuntu with Kernel version greater than 3.10
- Browser : IE 11, Mozilla Firefox, Google Chrome, Safari.
- For large networks, data storage is highly recommended to be implemented on physical

### Provisioning:

- Scheduled or ad-hoc import
- LiveSP seamlessly connects to SD-WAN controller or existing provisioning tool
- Enables provisioning automation authentication
- Single Sign-On
- HTTP BA

## Single Serving Size

Number of devices	Virtual	CPU (3+GHZ)	RAM (GB)	Disk effective capacity
Lessthan200 routers	Yes	8	20	250 GB
Lessthan500 routers	Yes	12	32	500 GB / SSD RAID 1 or 10
From 500 to 1000 routers	Physical	16	32	500GB SSD + 200GB HDD
From 1000 to 2000 routers	Physical	24	64	1TB SSD + 500GB HDD
From 2000 to 3000 routers	Physical	40	128	2TB SSD + 1TB HDD
Above 3000 routers	Custom sizing	IPFix		