LiveAction®

LiveSP

User Guide

LiveAction, Inc. 960 San Antonio Road, Ste. 200 Palo Alto, CA 94303, USA +1 (888) 881-1116 https://www.liveaction.com

 $\begin{array}{l} Copyright @ 2021 \ LiveAction, \ Inc. \\ All \ rights \ reserved \end{array}$

20210816-LSPUG_211a

Contents

Chapter 1	Introduction	1
Chapter 2	Network Management	2
	Home	3
	Dashboard	3
	Browse	3
	Library	4
	Drill down	5
	Alert	6
	Active alerts	6
	Alert details	7
	Trigger list	
	Flow	
	Report	10
	Library	10
	Preview	
	Notification	11
	Library	11
	Schedule	12
	Application	12
	Dictionary	12
	Creation	13
	Cluster	14
	Best Practices	15
Chapter 3	Resource Edition	16
	Homes, dashboards, and reports	17
	Home	17
	Dashboard	18
	Report	20
	Clipboard	23
	Dashlets	23
	Inventory	
	Pie chart	
	Sparkline	26
	Timeline chart	26
	Bar chart	
	Table	
	SD-WAN	
	iFrame	30
	Alerts	31
	Cockpit	31
	Threshold alert	
Chapter 4	Multi-tenant Administration	
	Rights	
	User	
	Role	
	Share resources	
	Inventory	

Client	
Network	
Provisioning	
Audit	
Monitoring	42
KPI	43
Polling	44
Library	
Create	
Settings	
Billing	47
Netflow recorder	

CHAPTER 1

Introduction

LiveSP[™] is a multi-tenant platform that delivers service providers with a powerful application-aware management system, helping them and their business customers monitor application performance on the WAN.

For all the traffic and applications going through the WAN, and for thousands of business customers, LiveSP leverages several vendors' features sto provide, in a single scalable instance:

- a client mode to visualize, browse, troubleshoot and report customers' networks and end-user experience issues;
- a multi-tenant mode to build templates, grant rights, create KPI (Key Performance Indicators) to meet marketing and operational requirements.



CHAPTER 2

Network Management

The **network management environment** or **client mode** is dedicated to a specific end-customer. Home pages, dashboards, and reports use the same dashlets component with different purposes:

- the home module is a single page, synthetic updated network visualization for both specialist and non-specialist
- the dashboard module troubleshoots the network using various perspectives from network to interface, application and CoS
- the report module is a static view of network and application SLA for executive meetings or daily status

End-users are given authorization to the home, dashboard, report and cockpit modules according to their customer profile (see *Share resources* on page 37 for more details). Resources may be customized for a single customer if necessary.

Service providers can easily switch from one customer to another.



Home

Client mode / Home

The home page provides a summary view of the network for non-expert and IT managers. It displays the main network metrics to visualize the status of connectivity services and application performance. According to their profile, end-customers can display one or several home pages which are available in their home library.

From the home page, end-users access the dashboard module for more details.

Switch to other customers or multi-tenant mode by clicking **v** in the header.

LiveSP	LIVEACTION -		Ho	me		🗇 ADMIN ADMIN 👻 🚺			
НОМЕ	Customer management Multi-tenant administration	on	×		🛓 EXPORT	ELIBRARY			
@	Inventory	LiveAction	Sites 👻	Traffic Per Transport		· ·			
DASHBOARD	VPN		T v Down	2.00 GB					
A	Network		0 %						
ALERT	Site		Q 0%	MPLS Q 1.00 GB					
77	CPE		0%						
FLOW			From 1 To 4 · Total: 4	15:00 18:00	21:00 27. Oct 03:00 0	6:00 09:00 12:00			
	Top Applications					•			
REPORT NOTIFICATIONS SETTINGS	Braining center		1.00 CB 750 MB 250 MB 0 1500 1800		0100 0600 010	0 1200			
	Top Transports With Loss Rate	a Issues	•	Top Transports With Network Delay I	ssues	-			
	Internet		last: 17.61 %	MPLS		last! 4.01 ms			
	2.34%			4.02 [%]					
	MPLS		last: 0.06 %	Internet		last: 0.00 s			
	0.05%	القدير فاستعاده والاعظم أأحد السرياقة	111111. A. Allinovitadi aktor (s. 1111)	27.4 [%]	المعادية المعادية	and a constant of shifts			

- 1. Edit your **user information** and update your password.
- 2. Switch to other customers or multi-tenant mode.
- 3. Access the library to choose another home page.
- 4. Drill down to dashboards modules for more details.

Dashboard

Browse

Client mode / Dashboard

The dashboard module lets you visualize the network from several perspectives: network load, application health-check, DSCP consistency, etc. across the network or for a specific site. The management bar, at the top of the dashboard, helps you choose the site, application or device, filter on a period and update all dashlets according to the selected scope.

You can add new dashboards in your multi-tab environment by browsing the library or by drilling down a network element for more details (see *Drill down* on page 5 for more details).

Access the dashboard module by clicking 🍄 in the client main menu.

				Dash	board				
SITE, PATH ANALYSIS	× OVERVIEW	• +	0						
Ste Cluster									
12:00	14.00	16:00	1800 20.00	22:00	27. Oct	02:00	04:00	06:00	08:00
Inventory -			CPU and Memory Load per CP	CANCEL		3:ion per Transport	· •	Volume Distribution pe	er VPN
Site CPE WAN Link		4 6 8	Toulouse Q Paloklo Q Barcelona Q Honolulu Q 0 5.% 10.% 11 • CPU • Men	5% 20% 25%	1.00 GB 500 MB 0 12:00	18:00 27. Oct	06:00	1.00 GB 500 MB 0 12:00 18:00 — Accounting Q	27. Oct 06:00 — Retail Store Q
Connectivity per S	te	0 -	Top Applications						
Connect Site T J Down BarceL Q 0% Toulo Q 0%	0.35 % 95	Up 9.65 : * 9.65 : 9.65 : 10 3 ·	Copy to dashlet clipboard Fullscreen Download as PNG Download as CSV		1.00 GB	15:00	18:00 21:00	27. Oct 03:00	06:00 09:00
Top 3 Sites - Loss F	ate Out	-	Top 3 Sites - Loss Rate In	•	Transport Heal	th - Packet Loss Rat	e Out		
Honolulu Q Palo Alto Q 0 0.25 % 0.5 % 0.75 % 1% 1.25 % Closs Rate Out			Honolulu Q Palo Alto Q Barcelona Q 0 0.25% 0.5% 0.1 Closs Rate In	100 % 50 % 0 12:00 15:00 15:00 27:00: 01:00 06:00 — Internet Internet 0 — MPLS MPLS 0			06:00 09:00		
Performances per	Path								
		r 🌣 Réseau	▼ \$ Remote Network ▼	 Connectivity 	Mean	¢ Max	Aax Date	Mean Jitter	Mean Latency

- 1. Open the **library** to display dashboards.
- 2. Include several dashboard **tabs** in your personal workspace; a lock indicates you cannot edit the dashboard (because you are not the author).
- 3. Filter and select **network elements** you want to visualize.
- **4.** Select observation period and zoom in on **timeline** for more details; dashlets will be updated according to the network selectors and time period.
- 5. Update dashboard.
- 6. Use the arrow to expands more options on dashlets, such as **export** your table in CSV file format or your dashlet to a PNG file format.

Library

Client mode / Dashboard / Library

The dashboard library stores public and private dashboards:

- private dashboards are available for the author only;
- public dashboards are created either in the multi-tenant mode as a "dashboard template" or in the client mode.

When created in client mode, the dashboard will be public across the end-customer but will not be available for other customers (see *Rights* on page 34 for more details).

Dashboards are displayed in a multi-tab personal workspace. As dashboards can be different from one customer to another, the personal workspace is also linked to the displayed customer and changes when you switch from one customer to another.

Open a dashboard from the library by clicking + in the tab bar.

T	↑ Name T	Author		Context	Last modified	Site, Overview
MT	Area, CPE Load	livingobjects	•	Site Cluster	10/23/20, 6:05 PM	Sice, Overview
MT	Area, Latency	livingobjects		Site Cluster	10/23/20, 6:05 PM	Displays overall traffic and performance metrics (AVC based metrics)
MT	Area, Overview	livingobjects		Site Cluster	10/23/20, 6:07 PM	🚳 👁 OPEN 💉 EDIT 🖓 DUPLICATE 🚔 DELETE
MT	Area, PFR events	livingobjects		Site Cluster	10/23/20, 6:06 PM	Naghai haga sangari aga kaga kada ka
MT	Area, Traffic per Classname	livingobjects		Site Cluster	10/23/20, 6:05 PM	
MT	Area, Traffic repartition	livingobjects		Site Cluster	10/23/20, 6:05 PM	
MT	Area, WAN Link load	livingobjects		Site Cluster	10/23/20, 6:06 PM	
MT	Area/Appli, Health-check	livingobjects		Site Cluster, Application	10/23/20, 6:06 PM	
MT	Area/Application group	livingobjects		Site Cluster, Relevance	10/23/20, 6:06 PM	Physical Distribution
MT	Area/Class, traffic analysis	livingobjects		Site Cluster, Classname	10/23/20, 6:07 PM	
MT	Data collection Advanced	livingobjects			10/23/20, 6:06 PM	Nething for advancement of the second s
MT	Data collection health-check			Site, CPE, WAN Link	10/23/20, 6:06 PM	
MT	Overview	admin		Site Cluster	10/27/20, 10:32 AM	T E MASSAGE Preview CALLAR - PARAMAN Preview CALLAR
MT	Site, All applications	livingobjects		Site	10/23/20, 6:05 PM	1 See 100 Sim
MT	Site, Device health check	livingobjects		Site	10/23/20, 6:05 PM	
MT	Site, Overview	livingobjects		Site	10/23/20, 6:05 PM	Preview Preview
MT	Site, Path Analysis	admin		Site, Network	10/23/20, 6:15 PM	
MT	Site, Traffic analysis	livingobjects		Site	10/23/20, 6:07 PM	Ri Malifue N
MT	Site, Traffic per class	livingobjects		Site	10/23/20, 6:05 PM	
MT	Site/Appli, Health-Check	livingobjects		Site, Application	10/23/20, 6:06 PM	
MT	Site/Class, traffic analysis	livingobjects		Site, Classname	10/23/20, 6:06 PM	¹ The set of an and and and and and and and and an and an and an and an an an an an an an an and an an and an an an and an an an and an
Ø	0					

- **1.** Name, description, and preview that helps you choose dashboards according to your needs.
- 2. Type of dashboard (📽 for public, MT for multi-tenant, empty for private).
- **3. Open** dashboards into your personal workspace.

Drill down

Client mode / Dashboard

When you detect unusual spikes of traffic or high end-to-end latency for a specific application, you might need more details to understand the issue. The drill down feature will help you deep-dive, step-by-step by displaying the relevant dashboards. When you need more details on a site, DSCP, device or application, click on the magnifying glass beside the legend. LiveSP will automatically propose the relevant dashboards.

Access more details by clicking < on a dashlet legend.

eSP	UVEACTION - Dashboard © ADMIT																							
*	SITE, PATH ANALYSI		VIEW	• +																				
	Site Cluster Default 👻 🔎									10/26	/2020 14:40 To 10/27/2020	Business hours Gran 14:40 24H/24H Aut												
HBOARD	16:00	TENO		20:00		More details on To From 10/26/2020 2:40		2:40 PM	×	08:00														
LERT	Inventory						Site, Device health check Checks device health metrics on selected site (samp metrics based) ort Scope: Site					t Volume Distribution per VPN												
	Site 4 CPE 6 WAN Link 8					Site, Overview Displays Scope: Site	overall traffic and perform	ance metrics (AVC based n	HAMMANN	500 MB	h phinit													
SETTINGS						Site, Traffic per class Scope: Site	Inventories class used on s	elected site	0	5:00 12:00 et Q	Accounting	- Retail Store Q												
	Connectivity per S	iite ivity Status		•		Site, Traffic analysis ∧ Scope: <mark>Site</mark>	nalyses traffic profile for s	pecific site (AVC metrics b.	sed)	_	1													
	Site ▼ → Down Barcel Q 0% Toulo Q 0%	 Partial 0.35 % 0.35 % 	0.35 % 99.65 %		.35 % 99.65 %		35 % 99.65 %	.35 % 99.65 %	35 % 99.65 %	35 % 99.65 %	0.35 % 99.65 %	0.35 % 99.65	.35 % 99.65 9	5 % 99.65 %	5 % 99.65 %	99.65 %	5 %		Site, All applications Displays all applications used on specific site Scope: Site				10/27/20, 2:25 AM amazon 16.7 MB webex 9.31 MB	
			99.6 om 1 To	s «c 93 · Total: 4		Site, Path Analysis <i>Tra</i> Scope: Site / Network	ffic analysis per Path, from	a site		office365 1.15 MB training center 0 B video conférence 0 B	03:00 05:00	09:00 12:00												
	Honolulu Q 1	Honolulu Q					Site/Appli, Health-Check Displays performance metrics for application & site (AVC metrics based) Scope: Site / Application																	
						Site/Class, traffic ana Scope: Site / Classname	lysis Analyses traffic for	a specific class & specific s	te (AVC metrics based)	10/27/20, 2:25 AM MPLS MPLS 0.03 % Internet Internet 0 %	03:00 06:00	09:00 12:00												
	Performances per					Data collection health-check concerns sound of history for selected site CPU and																		
	¢ CPE ▼ ¢ Remote CPE ▼ ¢ Réseau					Remote Netw T	Connerthaltu	t Mean	€ Max															
	CPE T	Remote CPE	-τ	Reseau		• Remote Netw	- Connectivity	⇒ mean	⇒ max	Max Date	Mean Jitter	Mean Latency												

- 1. Click on the **loop** next to selected element you want to **drill down** on (site, device, application, etc.).
- 2. Choose the new **dashboard** to open to display more details.

Alert

Active alerts

Client mode / Alert

Cockpit displays events which have occurred in the network. You define the triggers in the cockpit's settings. The table view displays root-cause and elements. When a specific KPI exceeds a threshold, the timeframe is stored for consultation.

If you create two alerts with the same KPI, operation and breakdown but different severities (one critical and one warning), and if the critical alarm is triggered, then the warning alarm will not show up in the list of current alerts (only the highest severity is kept).

Consult active alerts by clicking \mathbf{A} in the client main menu.



- 1. Summary of alerts per severity.
- 2. Refresh alerts.
- 3. Limit the list displayed in the table to the sites visible on the map.
- 4. Switch to the cockpit trigger list.
- 5. Display alert **history** and **information**.

Alert details

Client mode / Alert / Detail

From the map or the table, it is possible to zoom in on a ongoing alarm to get more information on the alert that is causing it..

Consult active alerts by clicking loop next to the relevant alert.

LiveSP	LIVEACTION +		Alert	⑦ ADMIN ADMIN ▼
НОМЕ	Last status: 10/27/2020 3:02 PM 🛛 😂		Warning Critical	
DASHBOARD				Liachteastein Austria
ALERT		Alert information: interface_is_UP_b	ased_on_itf_Down	Liechtenstein Austria 🛊
FLOW REPORT		Target element WAN Link GigabitEthernet0/0		Milan vence Slovenia
NOTIFICATIONS		CPE 10.3.50.21 Site Additionnal FNF 4451 Informations Site Cluster Default	0 1595 1095 95 95	Genoa San Marino Haly OgenMapTile 6 OpenStreetMap contributors
	Curence Curence Content Conte	Client LiveAction	0 18:00 27. Oct 06:00 12:00 — (Mill) Interface is Down CLOSE	Target element T ret (10.3.50.2) Jo PE (10.3.50.1) Jo PE (10.3.50.17) Jo
	WARN SNMP Memory Load	AVC perf-mon 4451	10.3.50.16	CPE (10.3.50.16)
	interface_is_UP_based_on_itf_Down	AVC perf-mon 4451	10.3.50.16	WAN Link (GigabitEthernet0/0/2)
	interface_is_UP_based_on_itf_Down	EZPM Basic Traffic 4451	10.3.50.15	WAN Link (GigabitEthernet0/0/2)
	interface_is_UP_based_on_itf_Down	EZPM Custom Lo-perf 4451 Dispa	itch 10.3.50.20	WAN Link (GigabitEthernet0/0/2)
	interface_is_UP_based_on_itf_Down	FNF 4451	10.3.50.21	WAN Link (GigabitEthernet0/0/2)
	interface_is_UP_based_on_itf_Down	EZPM Standard 4451 Dispatch	10.3.50.17	WAN Link (GigabitEthernet0/0/2)
		R	unning alarms : 🔵 20 兽 0	From 11 To 20 · Total: 20

- 1. **Drill-down** to a dashboard with the alert context.
- 2. Alert topology context.
- **3. Zoom** on the map.
- 4. KPI history.

Trigger list

Client mode / Alert / Triggers

The trigger list displays all the events which may occur on the network. End-users with specific permissions, can customize default templates or create a new one (see *Alerts* on page 31 for more details). Any customization effected in client mode will remain specific to the selected customer.

Visualize the cockpit trigger list by clicking "Triggers" in the list of alerts.

Label Label (HIB) CPU Laad Critical (HIB) CPU Laad Warning (HIB) Laad Out Warning (HIB) Laad Out Warning	Y ^ Metric (SNMP / Cisco) CPU Usage (SNMP / Cisco) CPU Usage (SNMP) / Cisco) CPU Usage (SNMP) Load In (SNMP) Load Out	Severity CRITICAL WARNING WARNING	▼ Threshold > 90 % > 70 %	Topology Context CPE CPE	Actions
(MIB) CPU Load Warning (MIB) Load In Warning (MIB) Load Out Warning	(SNMP / Cisco) CPU Usage (SNMP) Load In	WARNING	> 70 %		
(MIB) Load In Warning (MIB) Load Out Warning	(SNMP) Load In	WARNING		CPF	
(MIB) Load Out Warning					<u>n</u>
	(SNMP) Load Out	1.11 (2010) 10	> 75 %	WAN Link	L
		WARNING	> 75 %	WAN Link	1

- 1. Label and KPI **describe** the alert.
- 2. Severity and threshold **define** the trigger.
- 3. Override trigger threshold.

Flow

Client mode / Flow

With its WAN path module, LiveSP offers a simple and innovative visualization of end-to-end flows. Designed for VPNs set across just a few or thousands of sites, it combines traffic metrics and distribution aggregated visualization, with performance metrics timeline visualization. By selecting source site, LiveSP discovers destination sites and displays DSCP and networks used to transport the data. You are now able to understand the core functionalities of Cisco Performance Routing features.

Display end-to-end flows by clicking ¬¬; in the client main menu.



- 1. Select source and destination sites.
- 2. Select processing period.

- 3. Add (and remove) performance KPIs.
- 4. Visualize **aggregated traffic** per network on the selected period.
- 5. Use the arrow to **show** or **hide** paths and **drill down** to dashboards.

Report

Library

Client mode / Report / Library

Do you need to schedule a report summary of your application SLA, every day, week or month? Just choose a template from the report library.

Open the library by clicking **b** in the client main menu and opening the library.

Report library			Show private reports of other users MPORT CLOSE NEW
T ^ Name	▼ \$ Author	▼ Sch \$ Last modified	Network summary
MT Application summary	livingobjects	10/23/20, 6:07 PM	Main metrics across the network. Cisco AVC based
MT Network summary	livingobjects	10/23/20, 6:07 PM	Default period : 1 days
MT Site summary	livingobjects	10/23/20, 6:07 PM	👁 OPEN 💋 🖋 EDIT 🛛 DUPLICATE 📋 DELETE

- 1. Quick **preview** the report before opening it.
- 2. **Open** the report to visualize it.

Preview

Client mode / Report

Once opened, you can check your report and test its configuration by sending a mockup e-mail. **Preview** a report by clicking "Open" in the library.

LiveSP	LIVEACTION +				Report							⑦ ADM	IN ADMIN 👻
ма номе	Network summary 10/26/2020 15:33 To 10/27/2020 15:33 24H/2				DPDF	email	🛓 EXPORT		Q	100%	Q	X CLOSE	REDIT
DASHBOARD				Network	summary				26 - 27	Oct			
FLOW	consistent and includes legend indicate metrics	report displays main metri legacy routers (snmp only sources and therefore if th	y), TNF/Nbar2 rout	ters (Application recogni	ition without per								
	1 Traffic ana Total Throughp 25.0 Mbps	· ·											
SETTINGS	20.0 Mbps	~					M	~~~~~		Ì	~		
	10.0 Mbps 5.00 Mbps	1											
	1600 About the char	0 18:00 20: rt (source snmp polling) : Th		27. Oct 02:00 mulated Throughput for a		o6:00 Network.		10:00 12:00 ning Throughput —		4:00 Ig Throughp	ut		
	Total Traffic per	r Business Relevance		1.50 GB				W.	h	M.			
	business (99 unclassified unknown (24	(8.24 GB)		1.00 GB				M	W	In M	l,		

- 1. Print your report.
- 2. Send a test e-mail.
- 3. **Duplicate** the report to create your own.

Notification

Library

Client mode / Notification

Reports can be used in e-mail notification. If a report is attached to an e-mail, it will be sent automatically with fresh data.

Subscribe to a notification by clicking \square in the client.

SP	LIVEA	CTION -				Notifications			0	ADMIN A	DMIN +
ME	Notific	cations								+ so	HEDULE
	Status	Scheduling name	▼ \$ Author	▼	τ \$ Period τ	🗢 Trigger 🛛 🔞	▼	▼ ♦ Next execution	τ	Rec	Actions
BOARD		Email on load alarm	admin			2 alarms	Not executed yet			⊠ 1	🔺 🖉 1
		Monthly report	admin	Network summary	a day	At 10:00 AM, on day 1 of the month	Not executed yet	11/1/20, 10:00 AM		⊠ 1	A Z
ERT											0
⇒ w											
DRT											
NGS											

- 1. Notification name.
- 2. Notification trigger and detail.
- **3. Subscribe** to the notification.

Schedule

Client mode / Notification / Schedule

Once created, you can schedule your report to be sent regularly or when an alarm is raised.

Schedule a report by clicking Schedule in the client main menu.

LiveSP	LIVEACTION +	Notifications	⑦ ADMIN ADMIN ▼
НОМЕ	Monthly report Active 6	8	Delete CLOSE SAVE
DASHBOARD	Name * Monthly report	ATTACHED REPORT	6 CHOOSE REPORT
ALERT	TRIGGER ① Cron Alert	Period	
FLOW	every month 👻 On day 1 👻 At 10:00 👻 💋	24H/24H • 1 Days •	
REPORT	MAIL OPTIONS	Network symmatry	26-27 Oct
NOTIFICATIONS		About the report: The report displays main metrics of all devices monitored by eye to platform. It combines basic sump poling metrics with Glace IRVM constates and includes legacy exame (serie priv); TMT/Nau? instance (deplication recognition without performance metrics) and ARC instance (deplication).	
	Email S ADD	legand induces more a source of develops of the data set includes part or all develops in the Network. 1 Traffic analysis Total Troopolysis Total Troopolysis	
	admin@livingobjects.com	Q.Saya Salaya	
	Solject * Email subject Email message		1400 1400 1400 http://www.second.com
	13,4000	Tata Tata ya harasa Tatanan 113	ATAKK
	Č	Logic field beta (Socia Nacci) files and radia file field beta (Socia Nacci) Socia file deta (Socia Nacci) files and radia file field are applicable press. Nacrisch 69 has an and radia deta president press and file deta (Socia Nacci) files and radia de	lication group. Unclassified

- 1. Select the **type** of notification.
- 2. Configure the **trigger** with a time of dispatch or alert.
- 3. Fill in one or several e-mail addresses.
- 4. Detail subject and message of the e-mail.
- 5. Select the attachment the e-mail.
- 6. Activate or deactivate your notification at will.

Application

Dictionary

Client mode / Settings / Application

LiveSP embeds several application dictionaries. Applications are described by name and can be group by category (browsing, net-admin, etc.) and group (business, leisure, unclassified, etc.).

The category and the group of an application can be overridden in multi-tenant mode and again in client mode. For example:

• in multi-tenant mode you may assign the business group to the "IPSec" application: it impacts the whole client application dictionary;

• an individual client may override that definition again and specify "IPSec" as part of the leisure application group.

When an application is created or customized:

- in the multi-tenant mode, changes will be available for all customers.
- in the client mode, it will be available for the specific customer only.

When SD-WAN is activated, LiveSP also provisions dictionaries relevant to that technology from the SD-WAN manager directly.

Open the application dictionary by clicking s and A in the client main menu.

P							Application				
	Applicatio	on Dictionary	DPI Dictionary Cisco NBAR - vers	ion 51.0.0 🌒							
	🗸 Туре	↑ Overr ▼	¢ld ₹	🗢 Name 2	τ	✿ Description ▼	DPI Category T	Relevance T	¢ Last modified ¢ C	Owner	T Actions
			50331816 (3:168)	rsvd		rsvd	other	unclassified	10/22/20, 1:31 PM		۷ 🕄
			50332641 (3:993)	secure-imap		Internet Message Access Pro	t email	business	10/22/20, 1:31 PM		Y
			50333219 (3:1571)	rdb-dbs-disp		Oracle Remote Data Base	database	business	10/22/20, 1:31 PM		Y
			50333348 (3:1700)	sqlnet		SQLNet	database	business	10/22/20, 1:31 PM		Y
			50331965 (3:317)	zannet		Zannet	file-sharing	unclassified	10/22/20, 1:31 PM		٢
			218104277 (13:469)	winny		Winny	consumer-file-sharing	leisure	10/22/20, 1:31 PM		ų
			218104574 (13:766)	tinyurl		TinyURL	browsing	leisure	10/22/20, 1:31 PM		Y
			16777298 (1:82)	secure-vmtp		Versatile Message Transactio	other	unclassified	10/22/20, 1:31 PM		٢
			218104136 (13:328)	secondlife		Secondlife	gaming	leisure	10/22/20, 1:31 PM		Y
			50332644 (3:996)	vsinet		vsinet	other	unclassified	10/22/20, 1:31 PM		Y
NS			16777294 (1:78)	wb-mon		WIDEBAND Monitoring	other	unclassified	10/22/20, 1:31 PM		Y
			50332135 (3:487)	saft		Simple Asynchronous File Tra	file-sharing	unclassified	10/22/20, 1:31 PM		ĥ
			16777282 (1:66)	rvd		MIT Remote Virtual Disk Prot	other	unclassified	10/22/20, 1:31 PM		Y
			218104428 (13:620)	rakuten		Rakuten	browsing	leisure	10/22/20, 1:31 PM		Y
			50332157 (3:509)	snare		System iNtrusion Analysis and	net-admin	business	10/22/20, 1:31 PM		Y
			218104230 (13:422)	yahoo-voip-messenger		Yahoo VoIP Messenger	consumer-messaging	leisure	10/22/20, 1:31 PM		Y
			50337648 (3:6000)	xwindows		X-Windows Remote Access	business-and-productivity	business	10/22/20, 1:31 PM		ĥ
			50332268 (3:620)	sco-websrvrmgr		SCO WebServer Manager	net-admin	business	10/22/20, 1:31 PM		Y
			218105696 (13:1888)	statistical-download		Statistical Download	other	unclassified	10/22/20, 1:31 PM		Y
			218104904 (13:1096)	siri		Siri	consumer-internet	leisure	10/22/20, 1:31 PM		Y
			218104528 (13:720)	slate-magazine		Slate Magazine	browsing	leisure	10/22/20, 1:31 PM		Y
			218104497 (13:689)	samsung		Samsung	browsing	leisure	10/22/20, 1:31 PM		Y
			218104284 (13:476)	vmware-view		Vmware View	business-and-productivity	business	10/22/20, 1:31 PM		Y
			50332146 (3:498)	siam		Siam	other	unclassified	10/22/20, 1:31 PM		Y
			218104596 (13:788)	usbank		U.S.Bank	browsing	leisure	10/22/20, 1:31 PM		Y
			218104600 (13:792)	t-mobile-web-services		T Mobile	browsing	leisure	10/22/20, 1:31 PM		Y
			50332118 (3:470)	scx-proxy		scx-proxy	other	unclassified	10/22/20, 1:31 PM		Y
			50331685 (3:37)	time		Time	net-admin	business	10/22/20, 1:31 PM		Y

- 1. Application **source** (NBAR2, Qosmos, Sandvine or custom LiveSP applications)
- 2. Application **name** and protocol pack ID (for NBAR2).
- 3. **Override** default relevance.

Creation

Client mode / Settings / Application

End-users can define custom applications based on the IP address, port, URL, etc. using several criteria for a unique custom application. Custom applications always prevail over Cisco applications (for example, if a flow reports a NBAR2 protocol pack ID "HTTP", but also matches criteria for the custom application "Cisco Website", LiveSP will keep the latter). If the criteria overlap with the NBAR2 application ID, the custom application flows will be retrieved from the NBAR2 traffic in order to keep a consistent overall traffic metric.

Create a new application by selecting the LiveSP dictionary and clicking "New" in the application dictionary title bar.

LiveSP	LIVEAC	TION 👻				Application	l.		0	ADMIN ADMIN 👻
НОМЕ	Applica	tion Dictionary	DPI Dictionary	••• 0					EXPORT (CSV) 🕒 NEW
	🗸 Type	↑ Overr ▼	¢ id T	Name	₹ Description	T DPI Category	T Relevance	₹ \$ Last modified	Owner	T Actions
DASHBOARD	Client		-43464312659666	video conference		Voice & Video	business	10/23/20, 5:57 PM	admin	. ≙
	Client		-80665582255049		Add application Hame * Coogle Description DF Categor * Browsing * Attributes IP addresses (eg: 172.10 Ports (eg: 8080) Hostannes (eg: my web service poogle.com × poo		Relevance * Leisure ~	10/23/20, 5:57 PM	admin	28
					Application names (eg: 1	application ids (eg: 33)	ANCEL SAVE			From 1 To 2 - Total: 2 2

- 1. Select the LiveSP custom app dictionary.
- 2. Name and describe your application.
- 3. **Classify** your new application among existing categories and groups.
- 4. Specify at least one application criteria among: IP address, transport port, server name and custom application ID embedded in the routers. You can use a combination of criteria, such as a union of criteria of the same type (OR) and an intersection between criteria of different types (AND). For example: IP address = 1.2.3.4 OR 12.3.4.5 AND port = 443.

Cluster

Client mode / Settings / Cluster

When an end-customer network includes hundreds or thousands of CPEs, it may be useful to group the CPEs into clusters. These clusters are used as filters to easily find specific sites when displaying a dashboard. They can also be used to build reports based on area or business units.

It is also possible to group applications in the same way.

Open the site cluster library by clicking s and :: in the client main menu.

Group sites into clusters by clicking "New" in the cluster menu.



- 1. Name your cluster.
- 2. Add or remove new sites or applications.

Best Practices

The LiveSP custom applications are primarily designed to identify "Unknown" or "Unclassified" traffic. Adding custom applications can have a performance impact on LiveSP; therefore, the following recommendations are suggested:

- Up to 30 custom apps per tenant
- Up to 50 global custom apps (at the SP level)
- No more than 5 values in the 'HTTP(S) Hostname' field

It is the administrator's responsibility to avoid potential overlapping between definitions. If there are overlapping rules, then LiveSP will use the first rule that matches.

CHAPTER 3

Resource Edition

LiveSP embeds tools to customize homes, dashboards, cockpits and reports and meet operating and marketing needs. Admins and end-users granted with edition rights are able to create new dashlets mixing KPIs from several sources (AVC, SNMP, IPSLA, etc.), choose their layout and build resources.



Homes, dashboards, and reports

Home, dashboard, and report modules use the same dashlets component (see **Dashlets** on page 23 for more details). They can be built in client or multi-tenant mode.

- A resource built in multi-tenant mode can be shared within a customer profile. Each endcustomer granted with this profile will be able to use the resource.
- A resource built in client mode will be available for the specific client where it was built.



Home

Client mode / Home / Edition || Multi-tenant mode / Template / Home

The home page is a single page that quickly summarizes the state of the network. It is composed of various dashlets, mixing KPIs from several sources. When you build a home, a random data set is used for preview. This gives you an idea of what the final layout will look like, without waiting for network data processing.

Create a home page by clicking:

- "New" or "Duplicate" in the home page library in client mode,
- "New home page" in the template menu in multi-tenant mode.



- 1. Name and describe the home page, to help your end-users choose the correct home.
- 2. Customize the default **observation period**.
- 3. Insert a new **dashlet** or a dashlet from the clipboard.

Dashboard

Client mode / Dashboard / Edition || Multi-tenant mode / Template / Dashboard

Building a dashboard is basically a question of configuring the "context bar" and inserting the dashlets. The "context bar" filters the dashboard scope on specific network nodes (area, site, application, etc.) and enables to zoom in on a period of time. Each dashlet will be updated according to this scope.

Create a dashboard by clicking:

- "New" or 🖆 in the dashboard library in client mode.
- "Create dashboard" in the template menu in multi-tenant mode.



- 1. Name and describe the dashboard, to help end-users understand the purpose of the dashboard.
- 2. Choose an optional **sparkline** KPI used to browse the time period.
- 3. Choose the network **filters** which will be used to control the dashboard (see below).
- 4. Insert a new **dashlet** or a dashlet from the clipboard.

It is possible to limit or fix the selection of elements that the user can select in the context bar. For example, you might want to be able to select only networks that are named "MPLS" or sites that have "Cisco" CPEs.

Contextualize a dashboard by clicking "Filters."

LiveSP	MULTI-TENANT ADMINISTRATION 👻		Dashboard		② ADMIN ADMIN +
MONITORING	Name* Overview De	scription			X CLOSE SAVE
TEMPLATE	Chronograph's KPI (Netflow) Traffic Total	Edit filters	NE	W FILTER	
RIGHTS					
KPI	Inventory 2 C	Site Cluster 2 What I want to see	Constraints Limit or set choices	X Volume Distributi	° T 🗶 🗅 🗙 🔹
POLLING	CPE	Element type *			MAMACONADA AND A A
ADMIN	WAN Link Preview	Site Cluster 👻 🖉	Optional personnalized label		1430:05 14:30:10
SUPPORT				VPN #	1
	Connectivity per Site 🔻 🧨 🖻				т 2 С Х -
	Connectivity Status	Network What I want to see	Constraints Limit or set choices T	×	
				PLANA	AMADAA
	Site_4 24.52 % 20.59 % 21	7 Umit available choices	Lock a selection 6		ACATA 196
	Site 1 22.76 % 3.16 % 11 ↔ From 1		+ ADD	II 30:04 14:30:06	14:30:08 14:30:10 14:30:12
	Top 3 Sites - Loss Ra 🔻 🖉 🗇	Element type * Property Operator * Un	0R) * LS × ₽		_ T & © × •
	Site #1	Network name equals mer			
	Site #2 Preview.			NIEW	14:30:08 14:30:10 14:30:12
	0 2.5% 5% 7.3			#3 — Network #4 —	Network #5 — Network #6
	Performances per Path		CLOSE	SAVE	▼ ∠ ⊡ × •
		T ⇔ Réseau T ⇔ Remote Netw T → Connectivi	ty 🗢 Mean 🗢 Max	A Max Date	tter 🗢 Mean Latency
	CPE_35 Remote CPE_35	Réseau_35 Remote Networ 29.38 %	12.06 % 13.8 %	1/1/70, 1:00 AM 24.5 ms	14.2 ms
	CDF 40 Damaka CDF 40	Désant 10 Demaka Nahuran 20.2 W	3.55.00 44.53.00	4/4/70 4-00 ANA 40.0 mm	15.5 mm

1. Add a new network element.

- 2. Choose the network element.
- 3. Override its label.
- **4. Constraint** the selection of elements.
- 5. Limit to elements following some criteria.
- 6. Force the selection of pre-selected list of elements.

Report

Client mode / Report / Edition || Multi-tenant mode / Template / Report

Reports are created the same way you build a home or a dashboard, except there are more tools to design an executive view of you network management report.

The report template can be customizable when adding parameters used in dashlets to filter each dashlet context.



Create a report by clicking "Create template" in client or multi-tenant mode.

- 1. Name and describe your report.
- 2. Zoom to adjust the view to your screen.
- 3. Preview your report to duplicate and move pages.
- 4. Customize the default **observation period** which will be used for preview.
- 5. Add the **variables** (in multi-tenant mode) you will use to filter your dashlets.

6. Insert a new **item** such as a text with a date or a dashlet.

7. Edit the selected item.

Clipboard

To reuse a dashlet coming from another module, simply copy it using the dashlet bar menu: \checkmark and a. In the edition mode, the copied resources can be accessesd from the home page, dashboard and report bar menu.

Add a dashlet from the clipboard by copying a dashlet and clicking ⁽²⁾ in the dashboard edition toolbar.

:lip	pboar	d										
F	Table 2			0	ADD 🗙		Table 1				ADD	×
			🗸 Ext							¢ Inte		
			30.0 ms							25.8 ms		
		?_40	29.3 ms	8.14 ms	4.88 ms			2_40	29,3 ms	8.14 ms	4.88 m	
		? 12	29.1 ms					? 12	29.1 ms	12.6 ms		
6	•			From 1	To 4 · Total:	50	↔			From 1	1 To 4 · To	otal: 50

1. Add selected dashlet.

Dashlets

Admins choose the best visualization for their needs: pie or bar for aggregated view, timeline, table, etc. For each dashlet, the data set used to perform the visualization can be filtered within the dashlet (for example, "application group" equals "business") and will be applied whatever the general scope is. Admins have to be careful that filters remain consistent between the dashboard management bar and filters included in the dashlets.



Inventory

An inventory allows you to visualize the number of a type of network elements that a customer has. **Create** an inventory by clicking in the edition tool bar.

LiveSP		CANCEL	🖺 SAVE
TONPLATE	Series		
INCOMORY	Site Cluster O Site Site WAN Link O		
north	Random preview		
121	Relicon prevew		
POLLING	Site Cluster		
ACMIN	Site		4276
SPECIAL	CPE		1030
			1050
	Preview		

- 1. Name your dashlet.
- 2. Choose the **network elements** to display.

Pie chart

The pie chart allows network elements for a specific KPI to be ranked, such as top circuit loads, business / leisure traffic repartition or top 10 sites for a specific application response time. You can choose and display top elements based on a specific KPI, or sort top elements based on one KPI and display another KPI (for example: application response time for my top 10 traffic sites).

Create a pie chart dashlet by clicking **•** in the edition tool bar.



- 1. Name your dashlet.
- 2. Specify breakdown on displayed element:

- a. all = KPI will be grouped and split by network element selected,
- b. top = KPI will be grouped and split by network element selected for the top functionality,
- c. list = KPI will be grouped and split by selected network element.
- 3. Select the **KPI** to display from the KPI library.
- 4. Customize your layout by adding a timeline visualization to the pie and its values if wanted.

Sparkline

The sparkline dashlet displays multiples gauges and timelines to help end-users compare KPIs, visualize trends and spikes and highlight thresholds for performance metrics. It creates a synthetic executive visualization of the network and synthetic health-check of devices.

Create a sparkline dashlet by clicking in the edition tool bar.



- 1. Name your dashlet.
- 2. Select KPIs from the KPI library.
- 3. Move the series.
- 4. Sketch the style of the different lines.
- 5. Add a gauge to the sparkline.
- 6. Filter the data set.

Timeline chart

Timeline helps visualize spikes of traffic and understand performance metrics such as latency over time. The timeline dashlet tools provide standard and advanced functionalities to mix KPIs, configure multi-axes, add thresholds and choose chart types. As many features are optional, it is possible to start with a quick, one-KPI visualization and then turn to multi-KPI / multi-sources visualization.

Create a timeline dashlet by clicking 📥 in the edition tool bar.

Series											
_0 0 METR	CS		5	CUSTOM LABEL		- G	E	LINE STYLE	Y AXIS		
	flow / Cisco AVC) External M	letwork Delay	•	External Delay			area 🕶		Left 🕶		٥
_13 <u>(Net</u> f	'low / Cisco AVC) Internal N	etwork Delay	•	internal Delay							\$
∧ ::: (Netf	low / Cisco AVC) Network I	Delay	•				line 🕶		Left 🕶	0	•
				Metric *							
🗿 🕕 Brea	akdown by Top 🕶	5 Application	▼ based of	on max - (Netflow/Cise	co AVC) Network Delay 🔻	Show others (igregated)	Stacking			
🕖 🔍 Line	ear regression										
🕄 0 Filte	n + AD	D FILTER									
+ (9										
Random previ	ew										
20.0 ms											
15.0 ms											
10.0 ms				A	-						
			Ŵ	A	review						
10.0 ms	1902:34	199236 1992	237 15	902.38 1902.39	1922-10 1922-11	1902-42	19:02-43	19.02.44	19.92.45	9.02.46 19.02	47
10.0 ms	19.02.34 19.02.35			962-38 1962-39 Delay — Application #3					19:02:45	9:02:46	47
10.0 ms									19:02:45	942-46 1942	47
10.0 ms									19:02:45	95246 1952	47
10.0 ms									19.02.45	962-46	47
10.0 ms 5.00 ms 19.02:33 3 Advanced sett	ings								19/2245	942.46 1942	A7
10.0 ms 5.00 ms 9 Sec.33 Advanced sett Legend	⊡ Bottom ▼								1922.45	9/22-66 19/02	47
10.0 ms 5.00 ms 9 Sec.33 Advanced sett Legend	⊡ Bottom ▼								1982-45	962.4	47
Advanced sett Legend Stacking	Bottom • Value • Auto •		Internal I						19/2245	9224	A7
Advanced sette Legend Stacking Granularity Gaps	Lings	External Delay e distinct representation	Internal I						1982-45	9224	A7
Advanced sett Legend Stacking Granularity	Bottom • Value • Auto •	External Delay	Internal I						1992-45	9924 1922	A7

- 1. Name your dashlet.
- 2. Select KPIs from the KPI library.
- 3. Move the series.
- 4. Stack the series.
- 5. **Sketch** the style of the different lines and customize the layout (legend, double axis, threshold, etc.).
- 6. Specify breakdown on displayed element:
- 7. Add a linear regression of the KPI.
- 8. Filter the data set.

Bar chart

The bar chart dashlet allows several aggregated KPIs to be displayed in one dashlet. Select the KPIs and describe the preferred way to display the metrics.

Create a bar chart dashlet by clicking in the edition tool bar.

CD						
Bar New	Bar 🜒					🗅 CANCEL 🖺 SA
Series						
Breakdown by	y Top ▼ 3 Application ▼ ba	eed on max ▼ (Netflow / Cisco A				
				COLOR Y AXIS	FILTER	
[ii <u>o</u>	Netflow / Cisco A 👻	External Delay	Default 🕶	Bottom -	+ ADD FILTER	Ê
s ii <u>0</u>	Netflow / Cisco A 👻	Internal Delay	Default 🕶	•	+ ADD FILTER	E
s = 0	Netflow / Cisco A 👻	Network Delay	Default 🕶	•	+ ADD FILTER	ŧ
00	+ 🕑	L	6			
Random pr	eview					
Application #3						
Application #2						
			Ргеч	view		
Application #1						
	0 500 µs 1.00 ms 1.50 ms 2.00 ms 2.50 m	s 3.00 ms 3.50 ms 4.00 ms 4.50 ms 5.0	10 ms 5.50 ms 6.00 ms 6.50 ms 7.1	00 ms 7.50 ms 8.00 ms 8.50 ms 9.0	0 ms 9.50 ms 10.0 ms 10.5 ms 11.0 ms 11.5 ms 12.0 ms 12.	5 ms 13.0 ms 13.5 ms 14.0 ms 14.5 m
			External Delay Internal	nal Delay 😑 Network Delay		
6 Advanced	settings					
Display val						
Legend	🗔 Bottom 👻					
Stacking	Value 🕶					

- 1. Name your dashlet.
- 2. Select KPIs from the KPI library.
- 3. Move the series.
- 4. Stack the series.
- 5. Specify **breakdown** on displayed element:
 - none = one bar per chosen KPI is displayed,
 - all = KPIs will be grouped and split by network element selected,
 - top = KPIs will be grouped and split by network element selected for the top functionality,
 - list = KPIs will be grouped and split by selected network element.
- 6. Sketch the style of the different bars and customize your layout (legend, axis, etc.).
- 7. Filter the data set.

Table

Table can be used to display more details and KPIs in a single view. Start by choosing the network elements. Select the KPIs that need to be displayed. And finally define the table layout: merge cells and customizable.

Create a table dashlet by clicking ^{III} in the edition tool bar.

Top table New Top table)						CANCEL
Element types							
NETWORK	3 ATTRIBUTE	ALIGNMENT	LEGEND	cc	DLUMN SIZE		
Application -	attribute	Left 🕶	legend	10	00	ළු ම	Ì
Relevance 👻	attribute	Left 🕶	legend	10	00	ළු ම	Ì
+ 🛛		L		-0			
Metrics				-0			
METRIC	5 AGGREGATION	ALIGNMENT	LEGEND	COLUMN SIZE	ADDITIONAL LEGEND	6 DEFA	ULT SORT
iii (Netflow / Cisco A 🔻	None 👻	Left 🕶	External	100	additional legend	-	• •
▲ III (Netflow / Cisco A ▼	None 👻	Left 🕶	Internal	100	additional legend	-	· • 1
∧ III (Netflow / Cisco A ▼	None 👻	Left 🔻	Network	100	additional legend	-	
+ 0							
Random preview							
Application	₹ \$ Relevance	T - Exter	mal	Intern	al	\$ Netv	vork
?_19	?_19	30.0 ms		25.8 ms		7.74 ms	
	?_30	29.3 ms		18.9 ms		4.88 ms	
?_30		29.3 ms		8.14 ms		25.7 ms	
?_30 ?_40	?_40			12.6		18.6 ms	
?_40 ?_12	?_12	29.1 ms	Desuis	12.6 ms			
?_40		28.9 ms	Previe	10.1 ms		3.94 ms	
2_40 ?_12 ?_41 ?_36	?_12 ?_41 ?_36	28.9 ms 28.9 ms	110110	10.1 ms 20.4 ms		3.94 ms 29.8 ms	
?_40 ?_12 ?_41	?_12 ?_41	28.9 ms	110110	W 10.1 ms		3.94 ms	

- 1. Name your dashlet.
- 2. Select network elements.
- 3. Display an **attribute** of the network element.
- 4. Select KPIs from the KPI library.
- 5. Override the **aggregation** of the KPI.
- 6. Sort the data set.
- 7. Sketch the style of the different lines and name columns.

SD-WAN

When the customer is linked to an SD-WAN manager (such as a vManage or FortiManager), LiveSP can launch simple GET queries to that manager in order to display information.

In dashboards, it is possible to add parameters to the query and to use attributes of the network element selected in the context filter to specify the request (for example: /device/config?devi-ceId={cpe.deviceIP}).

Create an SD-WAN dashlet by clicking 🚔 in the edition tool bar.

佘sD-₩	AN New SD-WAN			CANCEL
Vendor *				
Cisco SD-W	AN vManage 👻			
3 Request				
	Endpoint URI (API) *			
GET	/client/about			
4 JSON fill				
[ers .			
Path	version', 'applicationVersion', 'time', 'timeZone']			
ducut	version, appredictorrelation, come, comezone j			
				Stefan Goessner "JSON Path" specification Online validat
3 Replacer	nents +			
B Replacer	nents +	Value	ê	
		Value	8	
Target	d settings	Value	8	
Target Advance Wrap	d settings	Value	8	
Advance Wrap Show	d settings content	Value	8	
Advance Wrag Shov Alter	d settings content /line numbers	Value	â	
Advance Wrag Shov Alter	d settings content line numbers nate background color	Value	â	
Advance Wrag Shov Alter	d settings content line numbers nate background color	Value	â	

- 1. Name your dashlet.
- 2. Select the **vendor**.
- 3. Enter the API **endpoint** to request.
- 4. If the endpoint returns a JSON, filter the data to be display.
- 5. List text strings to be replaced.
- 6. Sketch the style of the text.

iFrame

In order to display a HTML page of documentation or presentation, you can include into a dashboard or homepage a dashlet that included and iFrame.

It is also possible to embed PDFs or images hosted online.

Insert an iFrame dashlet by clicking </>

LiveSP	Ølframe New Iframe	່ງ CANCEL	🖺 SAVE
	Source		
	Please enter a valid url. url - https://www.liveaction.com/		
1045	Random preview		
POLINE	Rahoom preview		
Acres			
Longer	Preview		

- 1. Name your dashlet.
- 2. Enter the **URL** of the HTML page.

Alerts

The alert module leverages KPIs built into LiveSP to trigger alerts. Alerts are grouped in cockpits. Each customer profile has one and only one cockpit. End-customers can customize their default cockpit by changing the threshold or adding new triggers.



Cockpit

Multi-tenant mode / Template / Cockpit

LiveSP allows admins to configure alerts based on network or application metrics in order to increase the visibility of end-user experiences or network events.

An alert is an alarm that is triggered when a KPI goes under or over a threshold. A cockpit is a list of alerts. A profile can only have one cockpit assigned to him.

Create a cockpit by clicking "Create cockpit" in the template menu in multi-tenant mode.

ve <mark>SP</mark>	MULTI-TENANT ADM	INISTRATION 👻			Cockpit		Ø	ADMIN ADMIN 👻	
NITORING	Name Default cockpit	Description Basic MIB alerting	lerting 🥥 🖾 NEW ALARM 🔀						
LATE	 Label 	T Ametric	Y Severity	Threshold	Topology Context	Restricted access	₹ \$ SNMP Trap	▼ Actions	
ORY	(MIB) CPU Load Critical	(SNMP / Cisco) CPU Usage	CRITICAL	> 90 %	CPE			6 ∠ ≘	
	(MIB) CPU Load Warning	(SNMP / Cisco) CPU Usage	WARNING	> 70 %	CPE	enabled		ℓ 🔒	
5	(MIB) Load In Warning	(SNMP) Load In	WARNING	> 75 %	WAN Link			ℓ 🔒	
	(MIB) Load Out Warning	(SNMP) Load Out	WARNING	> 75 %	WAN Link			.⁄ ≘	
S									
RT									
								Tota	

1. Name and describe your cockpit.

- 2. Create and add a new trigger alert.
- 3. Edit or delete current triggers.

Threshold alert

Multi-tenant mode / Template / Cockpit

An alert is an alarm that is triggered when a KPI goes under or over a threshold. Creating an alert also creates an outlier, a new KPI that takes 1 or 0 for value, depending on if the alert was trigger or not respectively. It allows you to count the number of times the alert was triggered. An alert can be complete, overloaded or partial when defined:

- a complete alert is an alert that can be used as such by the customer;
- an overloaded alert is an alert that has a redefined threshold by the customer;
- a **partial** alert is an alert that will need added information on the threshold by the customer to work.

An alert is defined by 4 key parameters: the **KPI** it is based on, the **severity** of the alarm, the **opera-tion** of comparison, the **breakdown** that is applied on it. Once you created an alert with these key components, it will permanently be added to the library of alerts available to the application. The alert will be available for any cockpit but changing its label or default threshold will impact all the cockpits.

Create a threshold alert by clicking "New Alarm" in the cockpit edition menu.

LiveSP	MULTI-TENANT ADM	INISTRATION +	Cockpit		
MONITORING	Name Default cockpit	Description Basic MIB alerting		ki NEW ALARM	X CLOSE
TEMPLATE	 Label 	T * Metri		Restricted access	s T Actions
INVENTORY	(MIB) CPU Load Critical	(SNMP /	Alarm		18
	(MIB) CPU Load Warning	(SNMP /		enabled	∠ 8
RIGHTS	(MIB) Load In Warning	(SNMP) L	Label *		18
KPI	(MIB) Load Out Warning	(SNMP) L	(MIB) CPU Load Warning		∠ 🗎
POLLING			A Be aware an alarm definition is shared between all cockpits and not unique to your cockpit. Changing its name will reflect in other cockpits using the same alarm definition. The name doesn't have to be unique though.		
ADMIN					
SUPPORT			TRICGER THE KPI WHOSE VALUE WILL BE WATCHED		
			I want to measure the KPI (SNMP/Cisco) CPU Usage - and trigger a Warning -		
			level alarm when measured values are > to the defined thresholds 1 time(s) over a period of		
			5 minutes -		
			BREAKDOWN BY ELEMENTS IN NETWORK TOPOLOGY ON WHICH THE MEASUREMENT APPLIES		
			CPE T B		
			THRESHOLD(S) THRESHOLD(S) TREGERING THE ALARM FOR EACH RESULT OF THE BREAKDOWN		
			Threshold on : 70 %		
			VISIBILITY		
			Alarm will be shown to a restricted public only		
			CANCEL SAVE		
					Total: 4

- **1. Name** your alert.
- 2. Define the trigger: the **KPI** you want to survey, the **severity** (warning or critical), the **operation** of comparison, the number of times the threshold is broken over a selected period of time.
- 3. Refine or expand the **breakdown**.
- 4. If wanted, select a **filter** to apply on the breakdown and define the **threshold**.
- 5. Limit the visibility of the alarm in the customer alerting module to users in a role with the right to access restricted resources (see *Role*).

CHAPTER 4

Multi-tenant Administration

The multi-tenant mode provides the necessary tools for service provider to operate and manage service teams and to easily administrate a massive deployment of application aware features in a single instance. It improves productivity with easy and powerful reporting tools and helps standard-ize network consulting across manage service teams.



Rights

LiveSP users' rights policy is based on user roles and customer profiles. A specific role gives access to modules (such as home pages, dashboard, etc.). End-customers access resources (such as specific dashboards and reports) based on their customer profiles.

End-users can access the LiveSP portal using logins and passwords or can connect through an existing extranet through SSO authentication.



User

Multi-tenant mode / Rights / User

Named users access the application using logins and passwords managed in LiveSP. Mandatory attributes are: login ID, first name, last name, email address and password.

Only users with access to "All" customers can access menus of the multi-tenant mode.

Access the list of users by clicking on "Rights" and "User" in the multi-tenant main menu.

LiveSP	MULTI-TENANT ADMINISTRATIC	on -			User				0	ADMIN ADMI	ч т
MONITORING	Users									0	NEW
TEMPLATE	¢ Login ▼	Last name		₹ ≑ First name	r 🗢 Email	٣	Role	٣	Clients	T Acti	ons
INVENTORY	admin	admin							All	1	Ê
	blebail	Le Bail	E	dit					All	l.	Ê
RIGHTS	cfaure	Faure					_		All	l.	Ê
KPI	ddefer	Defer	11						All	l.	Ê
	demo	demo		User			^		IWAN Platform, LALA	l.	Ê
POLLING	farmando	Armando		Username	Email *		_		All	I.	Ê
ADMIN	gbitot	Bitot	0	admin	admin@livingobjects.com				All	l.	Ê
ADMIN	jdat	Dat		First name *	Last name *				All	l.	Ê
SUPPORT	jdoe	doe		admin	admin				All	1	: ê
	ltonon	Tonon							All	l.	: ê
	msu	Sutcliffe	8	Edit password					All	l.	Ê
	pascal	Pratmarty	1.5						Cisco-SDWAN	l.	Ê
	ppratmarty	Pratmarty	11						All	l.	Ê
	rct	Cabassot		Role			^		LALA	I.	ê (
	sdaudin	daudin		Role *					All	1.	Ê
	snajarian	najarian	0	Admin 👻					All	1.	Ê
			9	Clients		CANCEL	SAVE				
	↔									From 1 To 10	· Total: 16

- 1. Create a new user by clicking "New" in the user library.
- 2. Fill in **credentials** for the user.
- 3. Fill in a **password** for the user.
- 4. Grant the appropriate role.
- 5. Choose if the user will be able to access **one or all of customers' networks**.

Role

Multi-tenant mode / Rights / Roles

A role is a group of users with identical rights. This module helps administrators create and manage roles, in order to grant customers with appropriate rights. The resulting roles can be compared to highlight differences.

New rights will be applied only once the end-user logs out and back in to LiveSP.

Access the list of roles by clicking on "Rights" and "Roles" in the multi-tenant main menu.

ve <mark>SP</mark>	MULTI-TENANT ADMINI	STRATION -		Rol	e	O ADMIN ADMIN ~
NITORING	Role Library					
ENTORY	T Search min 2 char.	ж	Unfold	Default	Account Manager	
	Admin		₩ Home ∨			
ITS	Default	之自	Read Write			
				U	× •	
	Account Manager	2 🖉 🕯	Read	v		
.ING			Write		0	
IN			Alert >			
			⊐ Flow >			
ORT			🖺 Report 🗸			
			Read	~	V	
			Write		V	
			☑ Notifications > ✿ Settings >			
			Additional features			
			≡ Multi-tenant			
			Monitoring			
			○ Template >			
			fx KPI 🔉			
			■ Polling >			
			lnventory >			
			Admin >			
			Settings			
			Support >			
			✓ Additional features >			
			Public API			
			<> Access >			

- **1.** Create a new profile by clicking "New" in the role library.
- 2. Select one or more profile(s) and compare them.
- 3. Grant appropriate **rights** to the profiles.
- **4. Save** the profile.

Share resources

Multi-tenant mode / Template / Share

A profile is attached to a customer and is used to limit each customer to a specific list of resources (dashboards, home pages, reports and cockpits). Once templates are created, administrators create profiles according to marketing needs and available metrics in customers' networks: SNMP based monitoring, application visibility metrics, optimization features such as PFR and WAAS, SD-WAN metrics, etc.

The share module helps administrators to grant resources and compare profiles.

Share a resource by clicking "Template" and "Share" in the multi-tenant main menu.

/e <mark>SP</mark>	MULTI-TENANT ADMINIST	RATION -			Share		⑦ ADMIN ADMIN ▼
ITORING	Share						
	T Search min 2 char.	ж	Selected resource Dashboard	• 0			
rs	Default 😢	ℓ 🕯	Filter	00	Default	Viptela 🌀 🖹 🏷	
	Fortinet	2 🖻	Area, CPE Load	livingobjects	✓	0 ≥ 5 ⊘ < 0	
NG	Nuage	1 🖻	Area, Latency	livingobjects	<u>~</u>		
	Viptela	1 🕯	Area, Overview	livingobjects	~		
N			Area, PFR events	livingobjects	\checkmark		
ORT			Area, Traffic per Classname	livingobjects	~		
			Area, Traffic repartition	livingobjects	\checkmark		
			Area, WAN Link load	livingobjects	\checkmark		
			Area/Appli, Health-check	livingobjects	\checkmark		
			Area/Application group	livingobjects	\checkmark		
			Area/Class, traffic analysis	livingobjects	\checkmark		

- 1. Create a new customer profile by clicking "New" in the share menu.
- 2. Select the customer profiles you want to manage.
- 3. Choose the resource type (home pages, dashboards, cockpits, and reports) you want to share.
- 4. **Filter** the list of resource.
- 5. Share specific resources.
- 6. Save your changes.

Inventory

LiveSP discovers most of the information it needs to run. A seed file provides additional information, such as the name of the customer, contracted bandwidth, when it's not available in the MIB, or site addresses for the status map. The network module helps administrators to enable LiveSP with its tens of thousands of routers, analyze provisioning workflow and troubleshoot router template issues.



Client

Multi-tenant mode / Inventory / Client

Admins can access the full list of customers and check their attached profile for a quick view of their park. From this menu they can also completely delete a client, removing all its inventory, users and resources.

Visualize all your clients by clicking "Inventory" and "Client" in the multi-tenant main menu.

LiveSP	MULTI-TENANT ADMINISTRATION \rightarrow		Client		0 4	DMIN ADMIN 👻
MONITORING	Clients					
TEMPLATE	¢ Client	♦ Client ID	↑ Profile 🕕	Profile ID	Default role	Actions
INVENTORY	LiveAction	8	Premium	160346936179e948ea	Default	ê 2
RIGHTS						
KPI						
POLLING						
ADMIN						
SUPPORT						
	↔					From 1 To 1 · Total: 1

- 1. Check your client profile.
- 2. Delete your client.

Network

Multi-tenant mode / Inventory / Network

Admins can check and download the inventory of customers' networks embedded in the platform. LiveSP checks orphan nodes (CPEs without interface, clients without CPE, etc.) in order to help admins manage consistent provisioning. If needed, administrators can manually change attributes and network element names and delete obsolete nodes.

Visualize all your network elements by clicking "Inventory" and "Network" in the multi-tenant main menu.

ive <mark>SP</mark>	MULTI-TENANT ADMINISTRATIO	N -			Ne	twork					ADMIN ADMIN 👻
ONITORING	Current Inventory: Equipment	Client * LiveAction •					0	Fields	LOGS	EXPORT (CSV)	
MPLATE	Client		Site			CPE			4	0	0
/ENTORY	¢ name		¢ name		,	τ \$ name			τ ≑ ip		
	LiveAction		Barcelona			Barcelona			10.3.77.	'1	
HTS	LiveAction		Palo Alto 🍞)		PaloAlto			10.3.77.	2	
	LiveAction		Honolulu	🖉 Update		Honolulu			10.3.77.	3	
	LiveAction		Toulouse			Toulouse			10.3.77.	4	
LING	LiveAction		Toulouse	📋 Delete		10.3.77.109			10.3.77.	09	
IIN	LiveAction		Toulouse			10.3.77.110			10.3.77.	10	

- **1. Choose** the inventory you want to display.
- 2. Select the customer to display.
- 3. Select the network elements and attributes to display.
- 4. Consult the latest action logs.
- 5. Export the inventory.
- 6. Reprovision the current inventory.
- 7. Edit or delete the attribute of a network element.

Provisioning

Multi-tenant mode / Inventory / Provisioning

Provisioning is the process of providing LiveSP with all information about the routers to be monitored. It can be done using a seed file, of which a template is available in the Provisioning Guide or through SD-WAN servers. Administrators import the provisioning file or the URL to the SD-WAN server and check status and error logs. They can also download the source file previously imported.

Provision manually your network by clicking "Inventory" and "Provisioning" in the multi-tenant main menu.

LiveSP	MULT						
MONITORING	Provisionin Import I	nistory 👻					
TEMPLATE	\$ Sta	🗸 Date 🛛 🕇		imported Y \$ Lines in error Y \$ Content tags Y Sou	urce file 🗿		Result file 🕖
NVENTORY	A	3/23/21, 2:27 PM					Q
	۲	3/23/21, 2:11 AM	Manual import				Q
RIGHTS	۲	3/23/21, 2:11 AM					Q
KPI	۲	3/23/21, 2:11 AM 🛛	1 CHOOSE FILE	custom.csv	O	4.csv	Q
AT I	۲	3/23/21, 2:11 AM					Q
POLLING	۲	3/23/21, 2:11 AM	Checking column aliase Verifying identifiers	S		12.csv	Q
	A	3/23/21, 2:11 AM	Identifiers are valid. Verifying File			. <u>csv</u>	Q
ADMIN	۲	3/23/21, 2:11 AM	File is verified.	-Yeards and services		23 010000.csv	Q
5UPPORT	۲	3/23/21, 2:10 AM	Adding latitude and lo Client topology schem	set.		20210323 010000.csv	Q
	۲	3/23/21, 2:09 AM	Importing data in topo Topology batch import	ogy ed ImportStatus{linesImported=1, linesInErrors={}}		3 010000.csv	Q
	۲	3/23/21, 2:09 AM				20210323_010000.csv	Q
	۲	3/23/21, 2:07 AM				3.010000.csv	Q
	۲	3/23/21, 2:07 AM	Advanced settings			20210323_010000.csv	Q
	۲	3/23/21, 2:04 AM				23_010000.csv	Q
	۲	3/23/21, 2:04 AM	Discover device	informations using SNMP	^	20210323_010000.csv	Q
	۲	3/23/21, 2:02 AM				23 010000.csv	Q
	۲	3/23/21, 2:02 AM	MANDATORY	Device must respond to SNMP polling or it will be ignored.		20210323_010000.csv	Q
	۲	3/22/21, 2:14 AM	POLLING				Q
	۲	3/22/21, 2:14 AM	STRICT	Use credentials in provisioning file only. SNMP settings will be ignored.			Q
	۲	3/22/21, 2:14 AM	AUTHENTICATION	ose credencios in provisioning the only. <u>Show Securgo</u> white Egitored.		0.csv	Q
					CLOSE UPLOAD	0	

- **1. Import** a new seed file.
- 2. Select the seed file from your computer.
- **3. Configure** the settings of the provisioning.
- 4. Launch the provisioning.
- 5. Check operation **status** and information.
- 6. **Download** previous source file for analysis.
- 7. View import logs.

LiveSP is able to connect to SD-WAN managers in order to provision and collect from them. Before the automatic provisioning can start, you must first give LiveSP at least the URL of the manager (vManage, VSD, FortiManager, etc.) and the credentials of an account that LiveSP will use to connect itself to it that has at least read-only rights.

Add an SD-WAN manager by clicking "Inventory," "Provisioning," selecting "Sever library" and clicking on "New" in the multi-tenant main menu.

LiveSP	MULTI-TENAN			Provisioning				⑦ ADMIN ADMIN +		
MONITORING	visioning rver library v	Server type Cisco SD-WAN vManage 👻 🕕						🛛 🗋 NEW		
TEMPLATE	Status	¢ URL ▼		τ \$	Client Name	¢ Username ▼	Password	Version	T Actions	
INVENTORY	٢	https://10.4.201.215/dataservice	us-sdwan-lab	U	JS SDWAN labs	test	@	20.3.3.1	0 ≈ ≘ ≎	
	0	https://10.3.77.127:443/datase				admin	@	Platform Version: 19.2.0	2 8 2	
RIGHTS	٢	https://10.3.77.68:8443/datase	7	Ci	lisco SD-WAN	admin	····· @	20.3.3.1		
KPI POLLING ADMIN SUPPORT										
									Total:	

- 1. Select the **technology**.
- 2. Add a new SD-WAN server.
- **3. Provisioning** all the SD-WAN servers.
- 4. Edit, delete or re-provision the SD-WAN server.

Audit

Multi-tenant mode / Inventory / Audit

This module allows administrators to detect inconsistencies in the provisioning information that was used through several key features (such as different CPEs associated to the same IP address). It allows administrators to check that there are no incoherent data between customers' networks.

Check all your network elements by clicking "Inventory" and "Audit" in the multi-tenant main menu.

LiveSP	MULTI-TENANT ADMINISTRATION 👻	Audit	③ ADMIN ADMIN +
MONITORING	Last update: 11/2/20, 5:23 PM 🏾 🕽		
TEMPLATE	1		
INVENTORY	Childless entities (21 messages) > ②		
RIGHTS	Oevices missing key technical information for proper data collection (6 me	ssages) >	
KPI	⊗ IP addresses assigned to multiple devices (1 messages) ✓		
POLLING	3 Multiple cpe [215.159.215.72, 120.72.191.11, 85.100.158.123, 160.6.20	02.193, 181.85.137.122, 146.169.32.34] share the same IP and recipient ID (null / 1)!	
ADMIN	Oevices assigned to multiple customer sites (1 messages) >		
SUPPORT	 CPE Netflow viewPoints sharing common interfaces (0 messages) 		
	 Multi-scoped element in the same lineage (0 messages) 		
	Customer sites declaring multiple PfR Master Controllers for one IWAN do	omain (0 messages)	
	 Customer and Scope synchronisation (0 messages) 		

- 1. Refresh menu.
- 2. Consult **detailed** information of issues a by clicking the arrow.

Monitoring

Multi-tenant mode / Monitoring

Administrators can check the health status of LiveSP through the monitoring menu. It gives a quick display of the state LiveSP's functional elements. The menu automatically refreshes every minute.

Check LiveSP's health status elements by clicking "Monitoring" in the multi-tenant main menu.

LiveSP	MULTI-TENANT ADMINISTRATION -	Monitoring	⑦ ADMIN ADMIN
MONITORING	https://anchois.liveaction.com/service o		🕚 Last update: 3/23/21, 2:43 PM 🌫
TEMPLATE			1
INVENTORY	2 collect 🗸		
RIGHTS	bridge The last bridge at esus-all-1:rest/cisco-sdwan-approut	es-approutestatsstatistics-class=cluster,clien 3	
KPI	memdex The last memDB for context iwan/pxs-vmanage-itt/res	tapi/cisco/sdwan/path/Sminutes is at 2021-03-22T1	
POLLING	📀 countType 🕨		
ADMIN	odisk-usage		
SUPPORT	snmp/registration >		
	remoteServer/hearbeat There is no backup server registered		
	🤣 apollo 🗲		
	babylon/service/presence		
	🤣 banshee >		
	bazoocaster/hal/config/sync		
	bazooka/service/presence		
	cello/service/presence		
	📀 cosmos >		
	🤣 doorman 🕽		
	S farcaster >		
	graphity/service/presence		

- 1. Refresh menu.
- 2. Check status of elements.
- 3. Consult **detailed** information by clicking the arrow.

KPI

Multi-tenant mode / KPI

Besides default KPI included in the library, administrators can define custom KPIs they need to assess the network and end-user experience. They can use the KPI menu in multi-tenant mode to build formulas mixing raw counters and operand. New KPIs are immediately available for building new graphs or tables.

Visualize the available KPIs by clicking "KPI" in the multi-tenant main menu.

/e <mark>SP</mark>	MULTI-TENANT ADMINISTRATION 👻	KPI		② ADMIN ADMIN -
IITORING	KPI Library		± IMPORT ± EXPORT	X CLOSE
PLATE	T Search min 2 char.	Label* (SNMP) Traffic Total		
	(SNMP) Packet Size In	Unit *		
TS	(SNMP) Packet Size Out	byte 🕶		
	(SNMP) Packet Throughput In			4 + Add formula
٩G	(SNMP) Packet Throughput Out	Formula	Scope	
N	(SNMP) Packets In	ifHCOutOctets + ifHCInOctets	WAN Link	◎ ∡ ×
	(SNMP) Packets Out			
ORT	(SNMP) Packets Total	DESCRIPTION 2		
	(SNMP) System Uptime		• Format • Font • Size •	
	(SNMP) Throughput In		Pormat Pont Size File	
	(SNMP) Throughput Out	te te l'éc éc le v te le		
	(SNMP) Traffic In	Sum of octets coming in and out of a WAN link. Uses MIB2 library, can be used on routers of any vendor.		
	(SNMP) Traffic Out			
	(SNMP) Traffic Total			
	(Trigger / Cisco IPSLA) Jitter			
	(Trigger / Cisco IPSLA) Loss Rate			
	(Trigger / Cisco IPSLA) Transit Delay			
	(Trigger / OneAccess PPA-PM) Jitter			
	(Trigger / OneAccess PPA-PM) Loss Rate			
	(Trigger / OneAccess PPA-PM) Transit Delay			
	(Trigger) Load In			
	(Trigger) Load Out			
	PFRpourtous			

- 1. Create by clicking "New" or edit a KPI from the library by selecting the KPI and clicking "Edit".
- 2. Name, describe and choose the unit of your KPI.
- 3. Edit the **formula** of the KPI.
- 4. Add a second alterative **formula** to your KPI.
- 5. **Import** a list of KPIs.
- 6. **Export** a selection of KPIs.

Polling

Library

Multi-tenant mode / Polling

"Polling" is the act of regularly sending a request to get a particular value. Each poller is used to feed LiveSP with counters, the basic building block for KPI formulas. By default, pollers use the SNMP protocol (version 2 and 3).

List the available pollers by clicking "Polling" in the multi-tenant main menu.

LiveSP	MULTI-TENANT ADMINISTRATION 👻			Polling			② ADMIN ADMIN -
MONITORING	Polling					🛓 EXPORT 😭 Dele	
TEMPLATE	▼ Search min 2 char. ×	ifOperStatus			0	0	0
RIGHTS	if OperStatus 🛛 2	Equipment level : interface Description :					
KPI	ifHCInOctets ifHCInUcastPkts	oid					
POLLING	ifHCOutOctets	OID: 1.3.6.1.2.1.2.2.1.8 Incremental: No					
ADMIN	ifHCOutUcastPkts	Counter: type	▼ ‡ Name	₹ Description	▼ ♣ Aggregation	▼ \$ Value type	▼ \$ Default value ▼
SUPPORT	ifInDiscards ifOutDiscards		ifOperStatus	Current operational state	of the AVG	DOUBLE	2
		÷					

- 1. Add a new poller or edit an existing one.
- 2. Select an existing poller.
- **3. Import** a list of pollers.
- 4. Export a list of pollers.

Create

Multi-tenant mode / Polling / Edition

Administrators can create pollers to check their own requests. We recommend using the same name for pollers and counters.

Create a poller by clicking "New" in the polling library.

LiveSP	≓ Poller			CANCEL	🖺 SAVE
0	ciscoMemoryPoolFree router 2	tion			
	ADD OID				
norm	oid 🗙				
101	filter				
POLING (Vendor Cisco				•
ACMIN	old * 1.3.6.1.4.1.9.9.48.1.1.1.6.1				
	Incremental				
	Counter				
6	ciscoMemoryPoolFree	description Free Memory Size in bytes	Unit Bytes	lue type OUBLE	• default v

- **1.** Name and describe the poller.
- 2. Choose the **equipment level** (interface or router).

- 3. Add a counter.
- 4. Select the **vendor** (or leave "None" to poll every CPE with that OID).
- 5. Check if the poller is incremental (for example traffic) or not.
- **6.** Name and describe the counter. Also select its unit, type, default aggregation and default value.
- 7. Save the poller.

Settings

Multi-tenant mode / Admin / Settings

LiveSP is highly customizable. Administrators can easily manager SNMP authentication, SMTP configuration, LiveWire drilldown, and SAML2 parameters through the web UI.

More information on SNMP authentication can be found in the Provisioning Guide. More information on SAML settings can be found in the HOWTO SSO Authentication Guide.

Change your settings by clicking "Admin" and "Settings" in the multi-tenant main menu.

LiveSP	MULTI-TENANT ADMINISTRATION 👻	Settings	⑦ ADMIN ADMIN +				
MONITORING	Settings						
TEMPLATE	SNMP Library of SNMP credentials		SAVE ^				
RIGHTS	USED FOR DISCOVERY + 1						
KPI	1. <u>V2 Public</u>	Authentication level * Community * Community * COMMUNITY *	3 🕯				
POLLING	MISC. +						
SUPPORT							
Q	SMTP Email server configuration Network Host S87 O ADVANCED CONFIGURATION	Aumenmication Source address	SAVE ^				
	S LIVEWIRE Base URL to Packet Captur	servers	SAVE ^				
•	URL https://\${cpe.ip}/omnipeek/forensics		Ø				
	It looks like you are using a dynamic URL that will not be resolved correctly: X \${cpe.(p) \rightarrow unknown property (p)						
	SAML Integration to your SSO environ	vent using SAMI. 2 protocol	~				

- 1. Add a new SNMP authentication.
- Fill information on the SNMP authentication. The "ID" will be the one stored in the LiveSP topology database for each CPE.
- 3. Order authentications from more to less favored.
- 4. **Remove** an obsolete authentication.
- 5. Save and apply your changes.
- Edit your SMTP settings. The LiveSP back server must be able to join your SMTP server for emails to work.
- Save and apply your changes.

- 1. Edit your LiveWire base URL. This setting will be used to create the link to the packet capture UI for LiveWire devices.
- 2. Save and apply your changes.
- 1. Edit your SMTP settings.

Billing

Multi-tenant mode / Admin / Billing

LiveSP billing system is a monthly subscription based on your consumption. To evaluate your consumption a count of the number of monitored routers is done every month. You will need to share an export of this count with your LiveAction's account manager every month.

Consult your billing count by clicking "Admin" and "Billing" in the multi-tenant main menu.

iveSP	MULTI-TENANT ADMINISTRATIC		Billing]	0	ADMIN ADMIN 👻
ONITORING	Total (2021-07-01): 99				C HELP EMAIL	🛓 EXPORT (CSV
MPLATE	🗸 Date	T Client	♦ Client ID	₹ \$ervice	♥ ③ ▼ \$ Number of units	0
VENTORY	2021-07-01	US SD			4	
	2021-07-01	US SD	Send by email		0	
GHTS	2021-07-01	US SD			3	
2	2021-07-01	Fortin	NOW	4 Send	4	
	2021-07-01	Fortin		a send	0	
DLLING	2021-07-01	Fortin			4	
	2021-07-01	Custo	Send billing count by email to the following addresses:		0	
NIM	2021-07-01	Custo			0	
JPPORT	2021-07-01	Custo	🖂 Email	ADD	0	
	2021-07-01	Custo			0	
	2021-07-01	Custo	admin@liveaction.com	ê	0	
	2021-07-01	Custo			0	
	2021-07-01	bidet			0	
	2021-07-01	bidet	EVERY MONTH	SAVE	0	
	2021-07-01	bidet			0	
	2021-07-01	bidat	Send billing count every month by email to the following addres	sses: G 🕥	0	
	2021-07-01	bidat		•	0	
	2021-07-01	bidat	☑ admin@sp.com	6 ADD	0	
	2021-07-01	Cisco	admin@sp.com	ADD	7	
	2021-07-01	Cisco	admin@liveaction.com	ê	0	
	2021-07-01	Cisco			6	
	2021-07-01	ORG2	· · · · · · · · · · · · · · · · · · ·		3	
	2021-07-01	ORG2		CLOSE	0	
	2021-07-01	ORG2		CLOSE	3	
	2021-07-01	LiveAct	tion 31	lsp-s-w	0	
	2021-07-01	LiveAct	tion 31	lsp-s-n	12	
	2021-07-01	LiveAct	tion 31	lsp-s-m	13	
	2021-07-01	LSPD-2	609 30	lsp-s-w	0	
						From 1 To 29 · To

- **1. Export** your billing count to a CSV format.
- 2. Display the help of how your billing count is performed by LiveSP.
- 3. Open the **e-mail** pop-up.
- 4. Send the CSV export of your current billing by e-mail.
- 5. **Enable** the application to send the billing by e-mail at the beginning of each month.
- 6. Add an e-mail recipient of the monthly e-mail.
- 7. Save your configuration.

Netflow recorder

Multi-tenant mode / Support / NF Recorder

LiveSP can store raw flow coming from CPEs. The files are stored in CSV file format and are available for further analysis. Administrators can explore Netflow templates, CPE application dictionary and raw counters coming from the CPEs. It helps them to validate CPE configuration or troubleshoot issues when data is not consistent when displayed in the LiveSP user interface.

Record network elements' activity by clicking "Support" and "NF Recorder" in the multi-tenant main menu.

veSP	MULTI-TENANT ADMINISTRATION 👻		NF Recorde	r				② ADMIN ADMIN -	
MONITORING	Recording devices: 0	Devices with records: 23		Space left on disk:27.2 GB/39.6 GB				0	
PLATE	Client	T Site	٣	IP address	▼ Start	End	Size	Mode Debug	₹ Actions
INTORY	ORG1			85.100.158.123				•	
	ORG1			215.159.215.72				•	
ITS	ORG1			120.72.191.11					
1	Cisco IWAN	SITE 2		10.3.78.107			0 B	2 II	🚯 🔎 📋
	Cisco IWAN	SITE 2		10.3.78.108			0 B		Ø ₿
LING	Cisco IWAN	SITE 1		10.3.78.105					
DMIN	Cisco IWAN	SITE 1		10.3.78.106					
	Cisco IWAN	DC1		10.3.78.101			0 B		Ø 🔒
PORT	Cisco IWAN	DC1		10.3.78.102			0 B		Ø 🔒
	LiveAction	COS-TEST		10.3.77.120				►	
	LiveAction	Huawei129		10.3.78.9				•	
	LiveAction	Demo-OneAPM		10.3.77.99			0 B		Ø ĝ
	LiveAction	OneAccessV6		10.3.78.124			0 B		₽ ê
	LiveAction	VRF-TEST		10.3.77.122					
	LiveAction	AVC perf-mon 4451		10.3.50.16				►	
	LiveAction	EZPM Basic Traffic 4451		10.3.50.15				•	
	LiveAction	EZPM Standard 4451 Dispatch		10.3.50.17			0 B		Ø ĝ
	LiveAction	EZPM Custom Lo-perf 4451 Dispatch		10.3.50.20			0 B	►	Ø ĝ
	LiveAction	FNF 4451		10.3.50.21			0 B	•	¢ ĝ
	LiveAction	VRF-TEST2		10.3.77.124				►	
	LiveAction	Huawei160		10.3.77.100			0 B	►	¢ و
	LiveAction	Orange_BVPN_LA		10.3.50.49				►	
	LiveAction	ezpmLA		10.3.5.255				►	
	LiveAction	ezpmciscoperfLA		10.3.50.2				►	
	LiveAction	fnfLA		10.3.50.1	2020-10-28	2020-11-02	2.29 GB		рê
	ORG2			146.169.32.34				►	
	ORG2			160.6.202.193				•	
	ORG2			181.85.137.122				►	

- 1. **Refresh** menu.
- 2. Start or pause recording.
- 3. **Open** a CPE records' repository to download record files.