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Event-Driven Automation with Meraki

Mastering Webhook Alerts and Callbacks

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Solutions Engineer
[DEVNET-1117](#)

CISCO *Live!*

#CiscoLiveAPJC

Cisco Webex App

Questions?

Use Cisco Webex App to chat with the speaker after the session

How

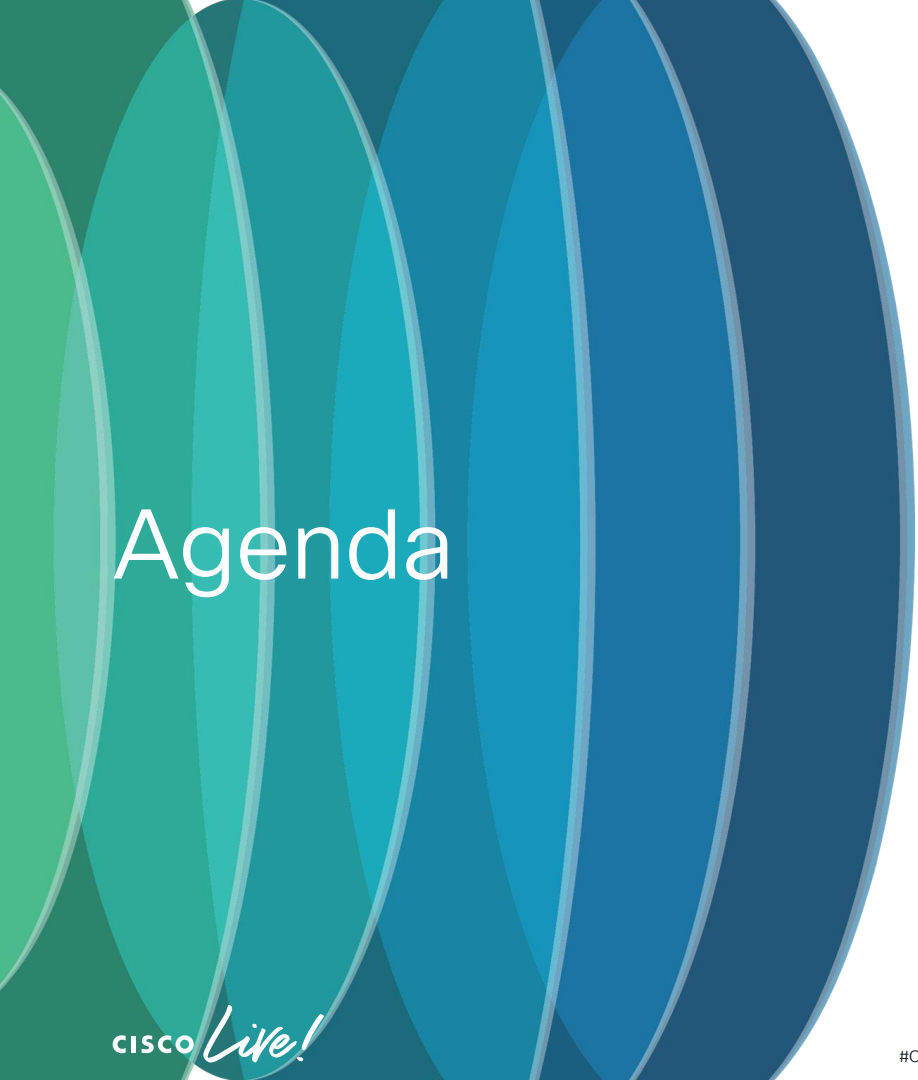
- 1 Find this session in the Cisco Live Mobile App
- 2 Click “Join the Discussion”
- 3 Install the Webex App or go directly to the Webex space
- 4 Enter messages/questions in the Webex space

Webex spaces will be moderated by the speaker until November 15, 2024.



<https://ciscolive.ciscoevents.com/ciscolivebot/#DEVNET-1117>

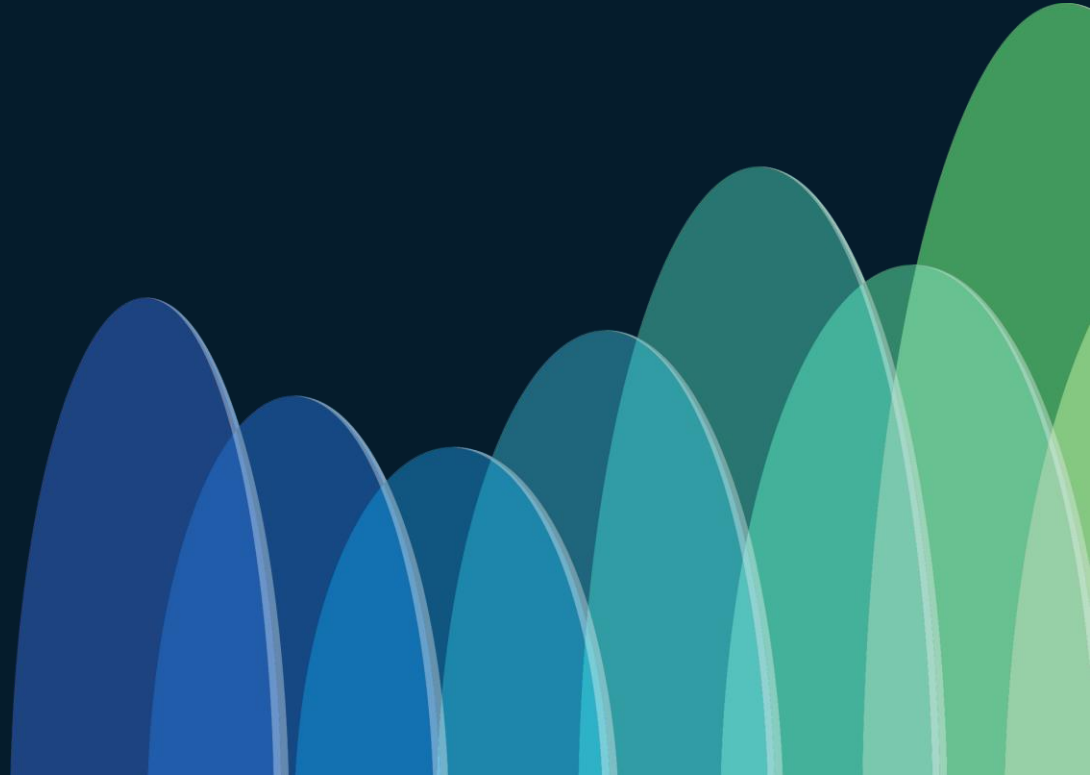




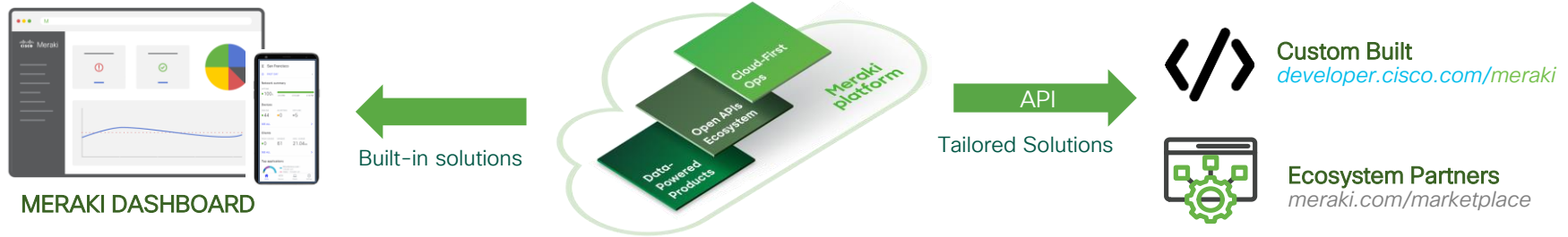
Agenda

- Introduction to Meraki
- Webhooks 101
- Callbacks
- Alerts
- Demo
- Conclusion

Introduction to Cisco Meraki



The Meraki Platform



ACCESS



Wireless



Switching



Mobile device
management

SD-WAN



Security and
SD-WAN



Cellular
gateways



WAN
Insights

IoT



Smart
cameras

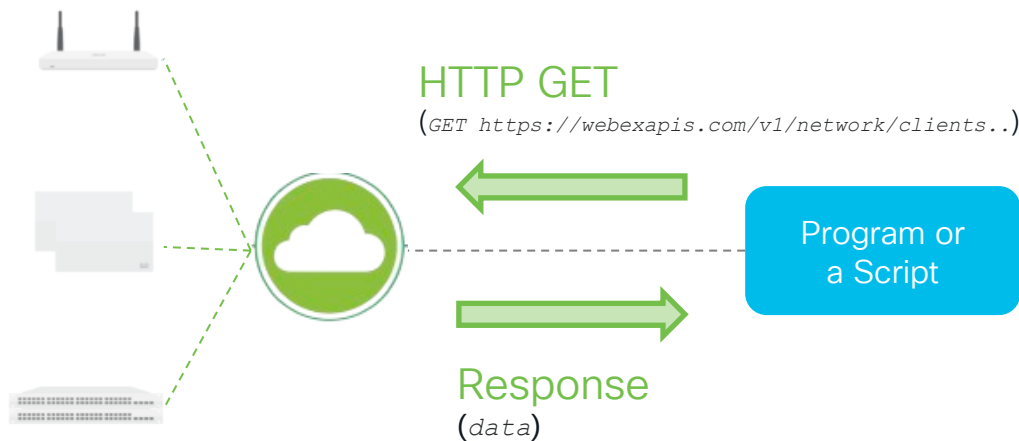


Sensors

Meraki APIs

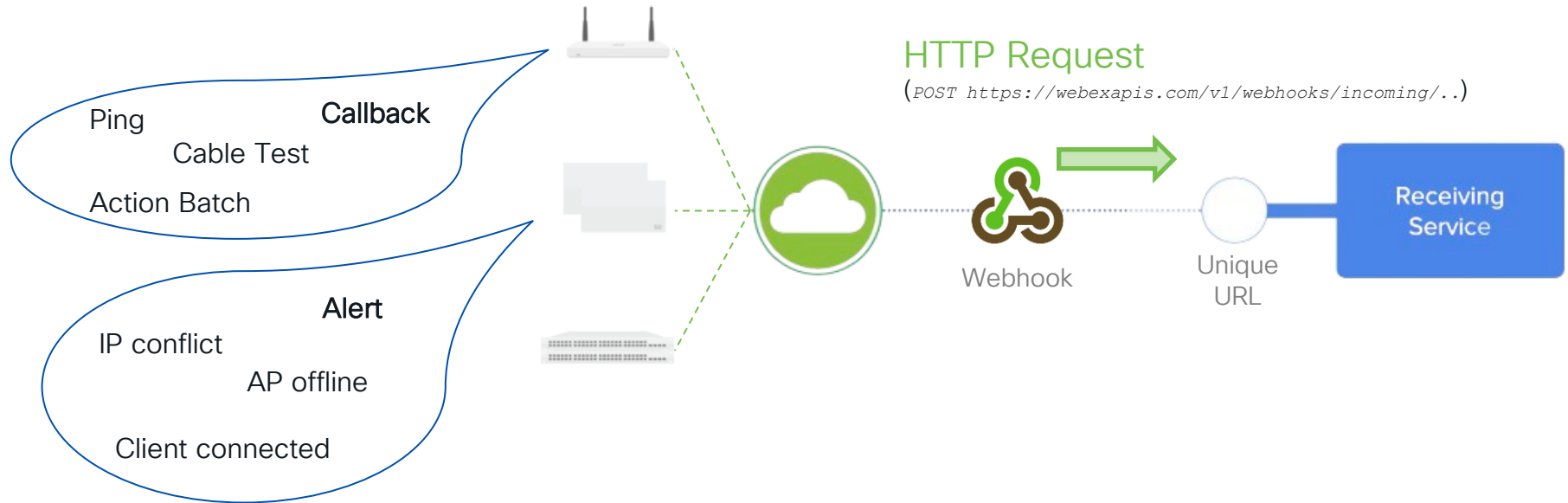
Query information using GET API.

Resource intensive and not efficient for network monitoring or task status checks



What are Webhooks?

They are just **event driven** outbound **API requests**



Callbacks

Sometimes an API call takes time...

“Ping a device for a few seconds”

“Update 100 network names”

“Cable test 48 switch ports”

Setting a “callback” allows the API to send the results as a webhook when completed.

Request body

Schema Definition

Example Body

```
{
  "target": "75.75.75.75",
  "count": 2,
  "callback": {
    "url": "https://webhook.site/28efa24e-f830-4d9f-a12b-fbb9e503503",
    "sharedSecret": "secret",
    "httpServer": {
      "id": "aHR0cHM6Ly93d3cuZXhnbXBsZS5jb20vd2ViaG9va3M="
    },
    "payloadTemplate": { "id": "wpt_2100" }
  }
}
```

Demo



Network Alerts

Alerts are network events that are sent to admins and services when something changes with your environment.

- e-mail
- SMS
- webhook

Alerts

Alerts Settings

Default recipients

Webhook: home-lab x Webhook: Webex Adaptive Cards x Webhook: DataDog EU x

+

Network-wide

☒ Configuration settings are changed

• Hide additional recipients

Webhook: Jira Dexterlabora x Webhook: DataDog EU x

+

☒ A VPN connection comes up or goes down ⓘ

• Show additional recipients

☒ A rogue AP is detected

• Hide additional recipients

Webhook: DataDog EU x

+

☐ Network usage exceeds 10 MB in 20 minutes

Wireless

☒ A gateway goes offline for 5 minutes

• Hide additional recipients

Webhook: Jira Dexterlabora x Webhook: DataDog EU x

+

☒ A repeater goes offline for 10 minutes

• Hide additional recipients

Webhook: Jira Dexterlabora x Webhook: DataDog EU x

+

☒ A gateway becomes a repeater ⓘ

• Hide additional recipients

Webhook: Jira Dexterlabora x

+

Webhooks ⓘ

HTTPS receivers

Name	URL	Shared secret	Payload template	Webhook tests
home-lab	https://home-lab.interne		Meraki (included) ▾	Send test webhook ✕
Slack - Native	https://hooks.slack.com/		Slack (included) ▾	Send test webhook ✕
Jira Dexterlabora	https://dexterlabora.atla		Jira ▾	Send test webhook ✕
Webex Adaptive Cards	https://webexapis.com/v		Webex Adaptive Cards ▾	Send test webhook ✕
DataDog EU	https://api.datadoghq.eu		DataDog EU ▾	Send test webhook ✕

Webhook Alerts

using Liquid templates

Webhook integrations are pre-built payload templates

- Already in dashboard: [Webex](#), [Slack](#), [MS Teams](#), [ServiceNow](#)
- The [Dev Hub](#) is a great place to learn more

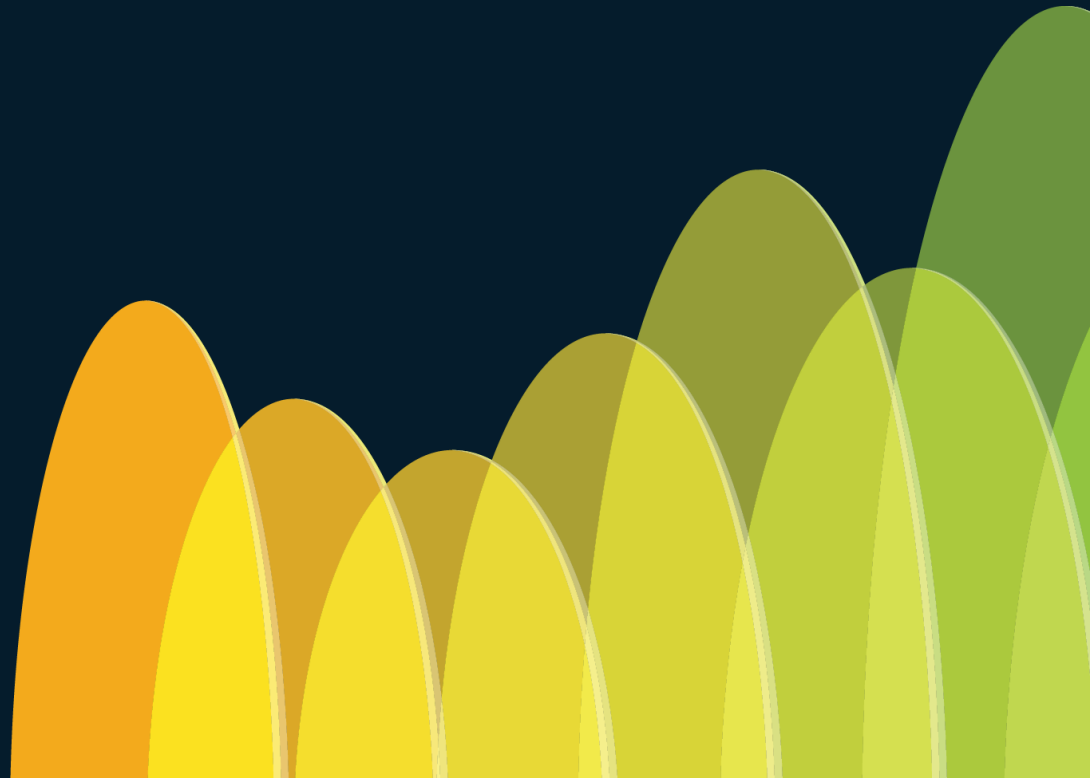
Other payload templates have been built by others in the community

- 3rd party templates available on [Github](#), e.g., Splunk, Cisco XDR, Jira, Datadog, PagerDuty, etc.
- The list of templates is growing



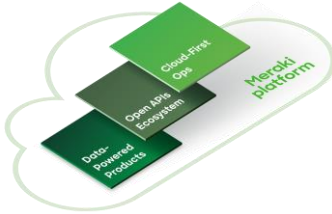
These vendors will usually host their webhook receiving service

Demo

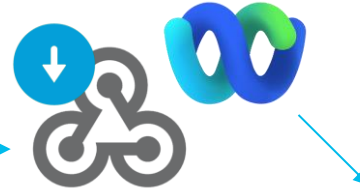


Webex Incoming Webhooks

Device reports to the Meraki dashboard



Meraki dashboard sends a webhook alert to the Webex receiving service



Webex sends a notification!

Name	URL	Shared secret	Payload template
Splunk	https://prd-p-uruu7.splu	*****	Splunk
ServiceNow	https://UserID:Passwor		Included templates
temp - webhook site	https://webhook.site/19	****	Meraki
Webex Adaptive Cards	https://webexapis.com/	*****	Webex
DataDog	https://api.datadoghq.e	*****	Slack
Jira Dexterlabora	https://dexterlabora.atl	*****	Microsoft Teams
filter tests - home lab-2	https://home-lab.intern	*****	Custom templates
Slack - Native	https://hooks.slack.com	*****	Test
home-lab	https://home-lab.intern	*****	Splunk

General
Home IoT

Messages People (2) Content

Meraki-Native-Webhooks 14:35

Power supply went down

Alert level: critical
Occurred at: 2021-03-10T11:25:16.063669Z
Organization name: Sample Corp
Organization ID: 123498785975
Network name: Head Office
Network ID: L_643451796760561416
Device name: Switch-1-a
Device serial: Q3AC-JCTX-XXXX
Device MAC: 2c:3f:0b:ff:ff:ff
Device tags: office, west
Device model: MS220-48P

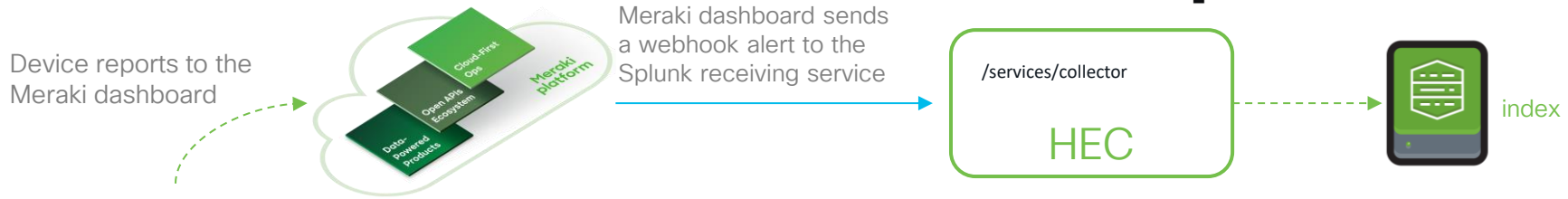
Meraki Alert

Motion detected

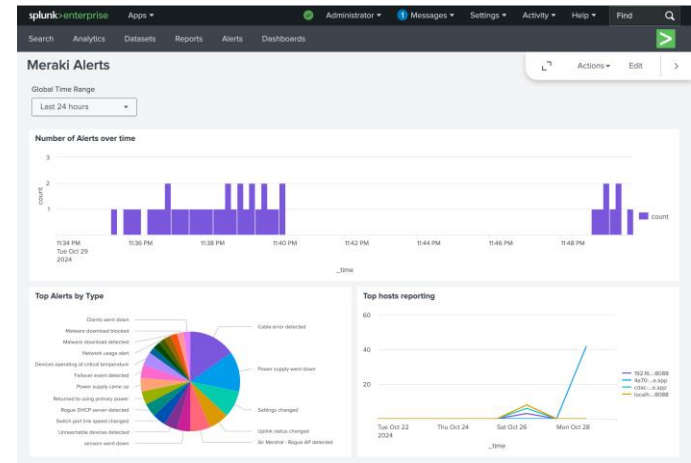
Occurred at 2021-09-30T14:47:32.138999Z
Alert Level informational
Network .Dexter LaBora - Amsterdam

Device Home - Front Door
Tags Home
Model MV12WE

Splunk HTTP Event Collector



Name	URL	Shared secret	Payload template
Splunk	https://prd-p-uruu7.splu	*****	Splunk
ServiceNow	https://UserID:Passwor		Included templates
temp - webhook site	https://webhook.site/19	****	Meraki
Webex Adaptive Cards	https://webexapis.com/	*****	Webex
DataDog	https://api.datadoghq.e	*****	Slack
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Slack - Native	https://hooks.slack.com	*****	Test
home-lab	https://home-lab.intern	*****	Splunk
			Webex Adaptive Cards
			DataDog
			Jira
			filter tests
			Webex Custom



Key Takeaways



Why use Webhooks?

Efficiency

Minimize the need for constant polling

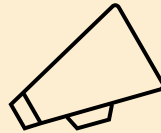
...callbacks can cut the API calls by half, saving both time and resources.



Real-Time Updates

Stay informed

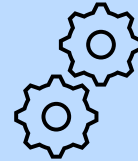
...with immediate notifications about the status of your operations.



Streamlined Operations

Automate workflows

.... Integrate systems, and share monitoring data with 3rd party systems.



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Thank you



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