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Scaling Hybrid Cloud Workflows with SecureX Orchestration and Remote Connector

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DEVNET-2109

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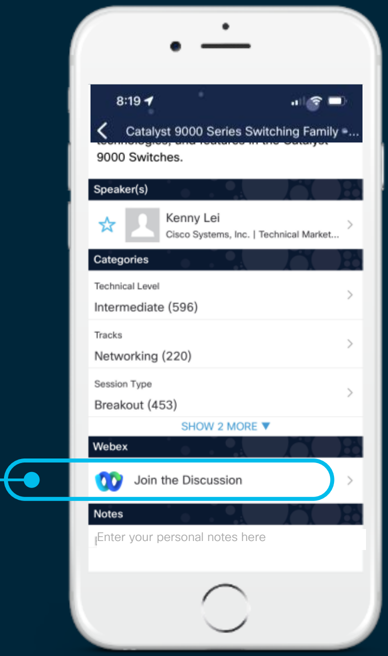

8:19

Catalyst 9000 Series Switching Family ...

9000 Switches.

Speaker(s)

Kenny Lei
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Categories

Technical Level
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Agenda

- SecureX Orchestration Overview
- Remote Connector Overview
- Using Sidecars to Scale workflows
- Example implementation
- Summary
- Link dump

SecureX Orchestration

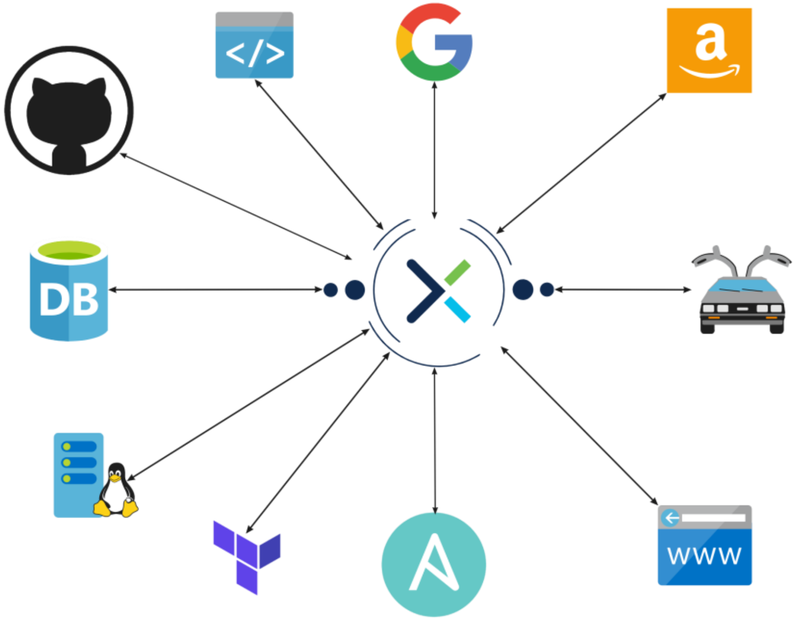
What is SecureX Orchestration? (SXO)

- Component of SecureX
- Cross Domain, Technology Agnostic Orchestration Platform
- Will talk to practically anything

- Drag and drop logic
- Lives in the cloud – no babysitting
- Free with all qualifying Cisco Security products:
- https://bit.ly/38Ps8zQ

Why use SXO?

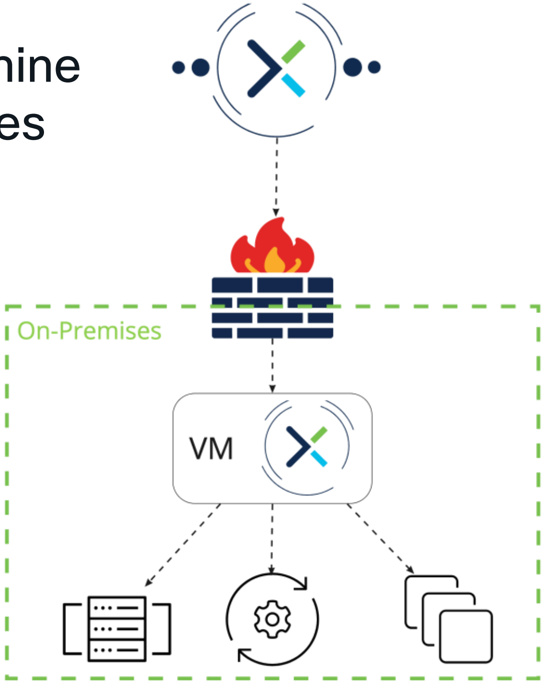
- Easily Wire up inputs & outputs
    - SSH
    - REST
    - JDBC
    - Many more
- Programmatic constructs
    - Loops
    - Conditions
    - Variables
    - All the usual stuff!
- Graphical drag and drop ui
    - Accessible to everyone



Remote Connector

Remote Connector

- Reverse proxy packaged in a Virtual Machine
- Used to make calls to on-premises devices



Remote Requirements

Hosting resources

- Vsphere 5.5 or newer
- 2 vCPU
- 2 GB RAM
- 30 GB Disk

Network connectivity

- TCP Port 8333
- North America:
  - securex-sxo-remote.us.security.cisco.com
- Europe:
  - securex-sxo-remote.eu.security.cisco.com
- Asia Pacific:
  - securex-sxo-remote.apjc.security.cisco.com

Installing remote:

https://ciscosecurity.github.io/sxo-05-security-workflows/remote/

Sidecar

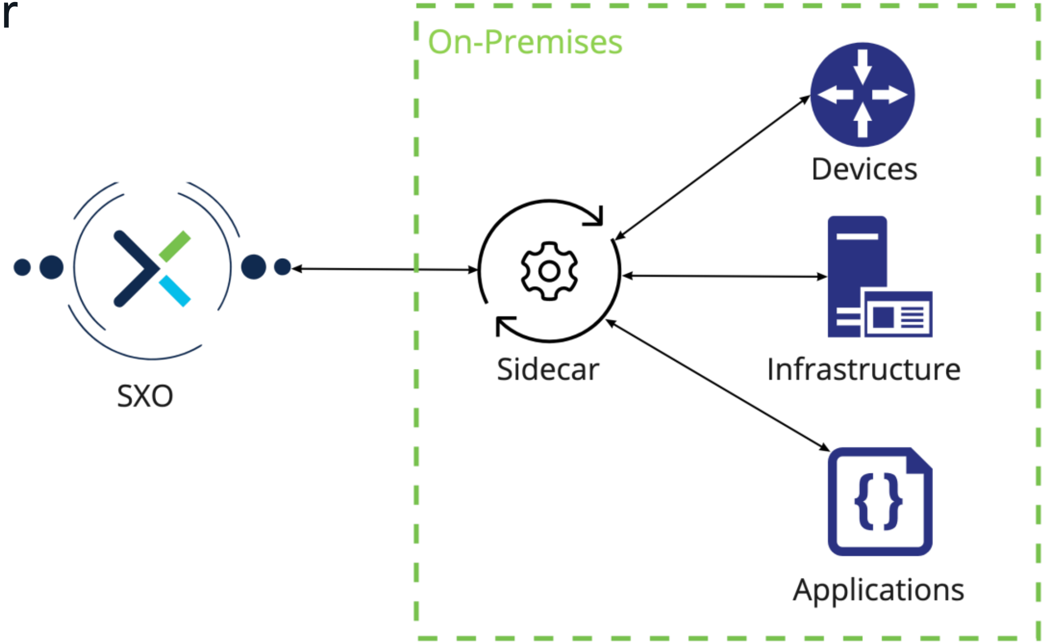
What is a Sidecar

Sidecar

- Helper application
- On same network as the target(s)
- Low latency/high throughput
- Complex detailed tasks
- Not provided as part of SXO

How the Sidecar Fits in

- SXO calls out to sidecar
- Sidecar does work
- Sidecar returns result

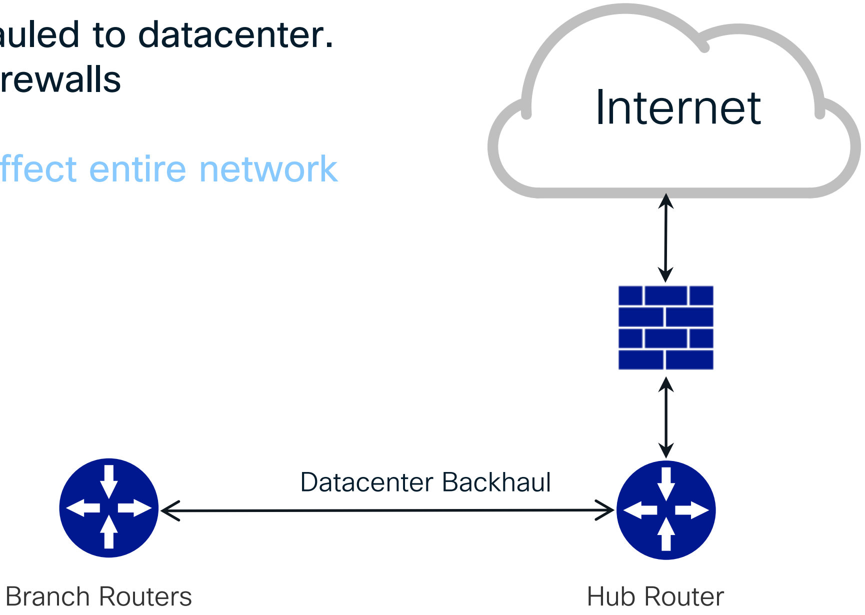


Use case: Sig XE

Classic branch network design

Spoke & hub w/Internet backhaul

- Branch Internet traffic backhauled to datacenter.
- Leverages powerful central firewalls
- Introduces latency
- Problems in the Datacenter affect entire network



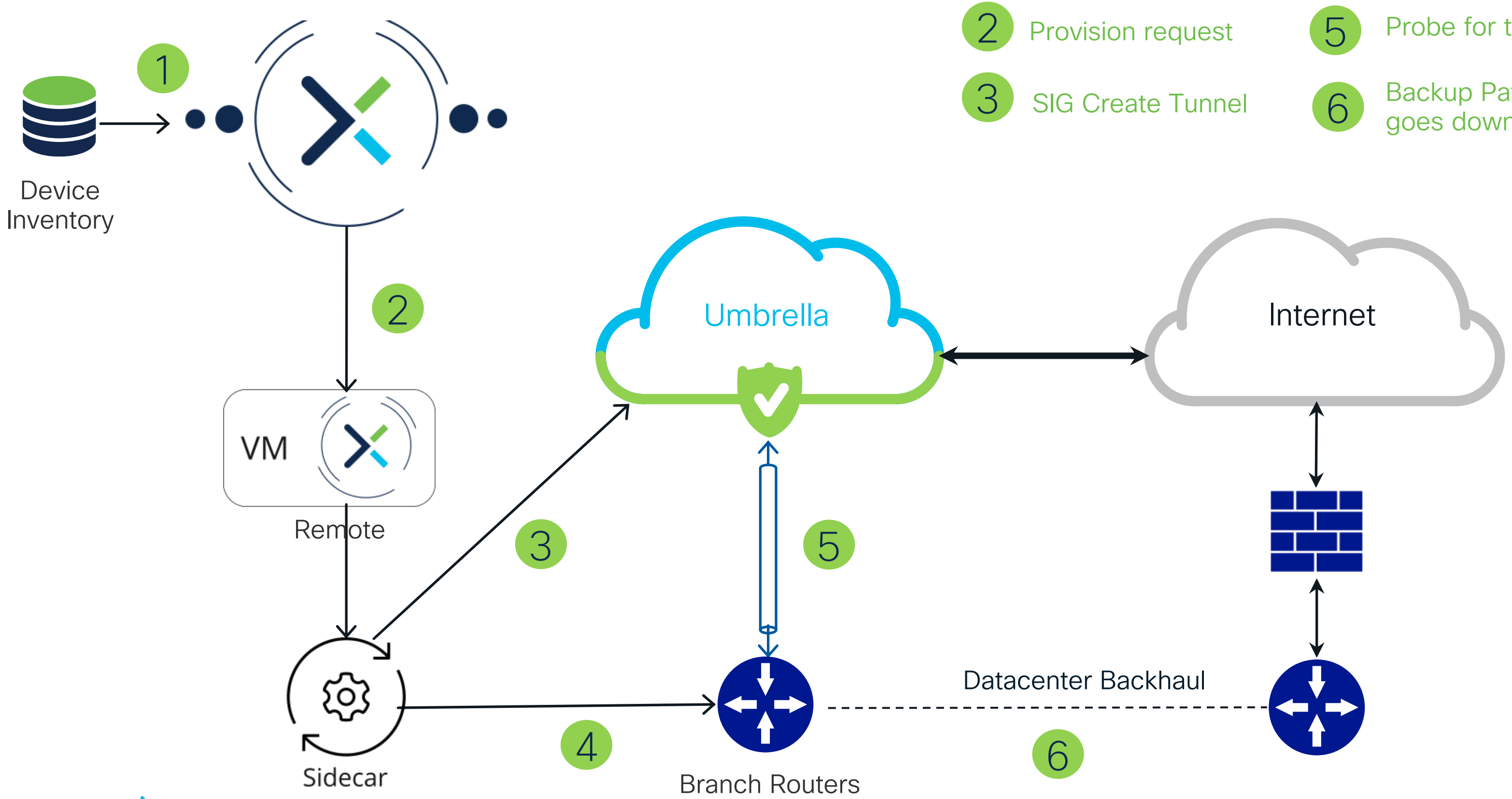
Solution

- Reconfigure routers to use Umbrella Secure Internet Gateway (SIG)
- Traffic takes optimal path to cloud provider
- Datacenter issues don’t affect cloud apps
- SaaS-based firewalls have higher feature velocity than traditional datacenter firewalls

Sig_XE Implementation details

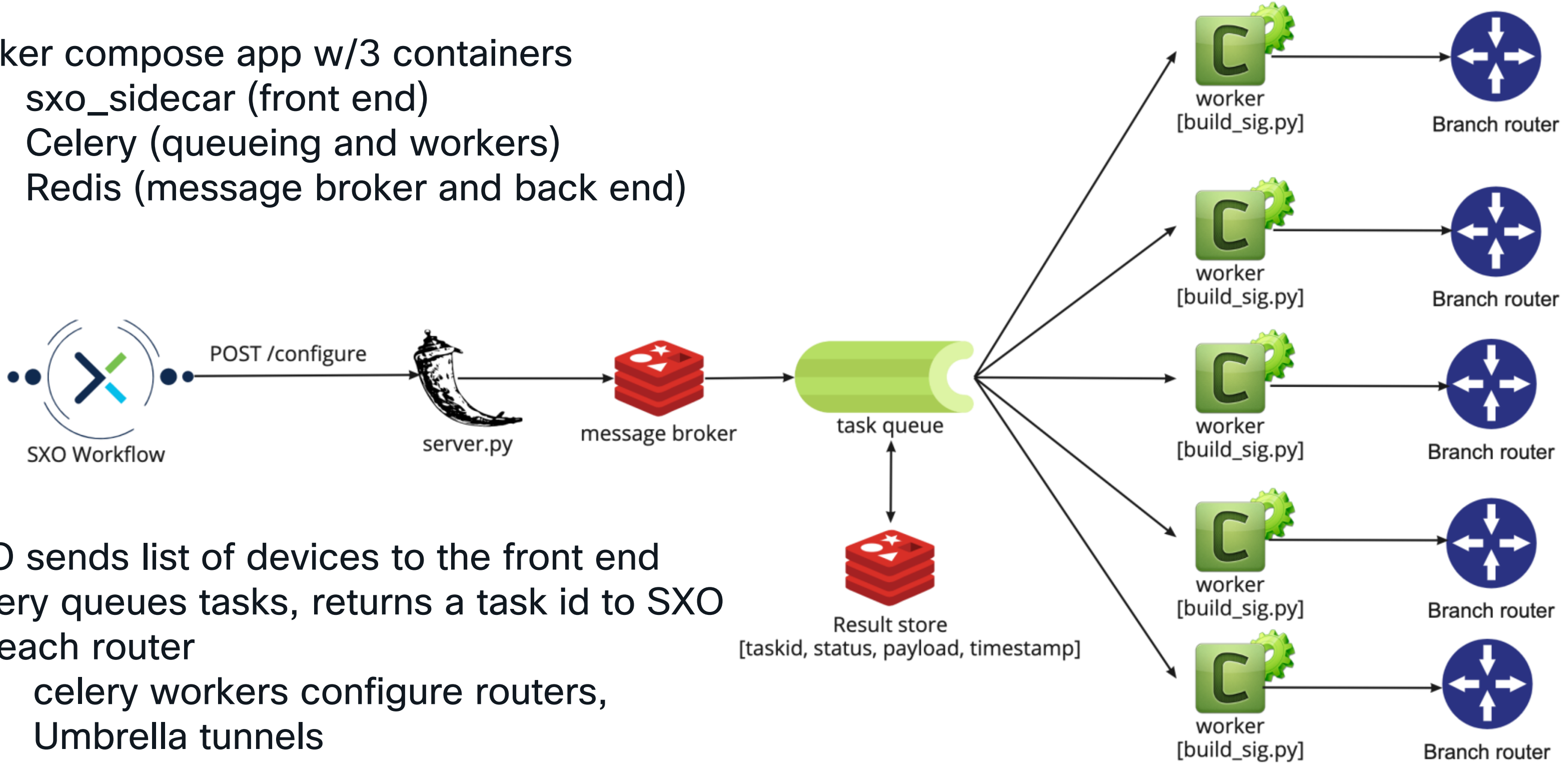
Solution Architecture

1. Load routers from DB
2. Provision request
3. SIG Create Tunnel
4. Configure Router
5. Probe for tunnel up
6. Backup Path if SIG goes down



Closer look at the sidecar

- Docker compose app w/3 containers
  - sxo_sidecar (front end)
  - Celery (queueing and workers)
  - Redis (message broker and back end)



- SXO sends list of devices to the front end
- Celery queues tasks, returns a task id to SXO for each router
  - celery workers configure routers, Umbrella tunnels
- SXO polls for status until all tasks are complete

Demo

Summary

- SXO for high level logic and control flow
- Sidecars to do the actual work
- Have fun!

- Example code:
- https://github.com/srmcnutt/sig_xe

Additional Resources

Resource	Link	Overview
SecureX Academy	https://learnsecurex.cisco.com	Step-by-step guides to using the features of SecureX
SecureX Support	https://www.cisco.com/c/en/us/support/security/securex/series.html	User Manuals, Guides, Data Sheets, etc
SXO Training	https://developer.cisco.com/learning/modules/SecureX-orchestration	Introductory training and hands-on labs
SXO FAQ	https://bit.ly/3vvKp17	Frequently Asked Questions For SecureX Orchestration
Deploy remote	https://ciscosecurity.github.io/sxo-05-security-workflows/remote	Instructions for getting the Remote connector up and running

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