



Welcome Power of The Platform

Henrik Stær

October 2023





Partner Booths





Pick – Up T-Shirt

Power of the Platform

After the last session
On the way to lunch



Agenda of today

Time	Sessions	
09:00 - 09:55	Keynote Cisco Secure Enterprise Networking, Incl Rema 1000 Reference Case Speakers: Henrik Stær, Mikkel Vesterled, Nicolai Lund	
5 min	<i>Break room into two rooms</i>	
	Track A	Track B
10.00 – 10.45	Catalyst X-Series Switching Innovations <i>Speaker: Rene Andersen</i>	Meraki Full Stack Innovations <i>Speaker: Peter H. Andersen</i>
10.45 – 11.30	Catalyst Wireless Innovations <i>Speaker: Ib Hansen</i>	Secure Service Edge og SDWAN <i>Speaker: Søren D. Andreasen</i>
11.30 – 12.15	Cloud Management af Wired og Wireless <i>Speaker: Søren D. Andreasen, Peter H. Andersen</i>	Zero Trust story <i>Speakers: Per Jensen, Rene Andersen</i>
12.15 – 13.00	Catalyst Center Management <i>Speaker: Søren D. Andreasen, Per Jensen</i>	High Speed Firewall Innovations <i>Speakers: Nikolaj P. Nielsen, Christian Heinel</i>
 T-Shirt pick-up → Lunch		
Tak for i dag		

It is time for a
platform approach

Simplify. Unify.



Complexity & Risk

Almost 90% of reported security breaches are due to outdated and unpatched software



15%

Only 15% of organizations globally have a cybersecurity posture '**Mature**' enough to defend against risks of a hybrid world.



82%

Readiness is critical as 82% of respondents said they **expect a cybersecurity incident** in the next 12 to 24 months.

“

Organizations should leverage **platforms** to **simplify IT infrastructure**, whether it is located in the cloud, data center, or edge.

Gartner

To deliver and secure these unified experiences, we need a new approach to networking



Operationally simple

A single, consistent way to configure, optimize, and update infrastructure.



Secure at every connection

Consistent enforcement of policy, access, and security, across the network



Sustainable and flexible

Lower cost, lower energy needs, and least effort to maintain



Simplifying Operations



You got Prime, we got
answers

It has served all of us
very well!



Too many
disconnected
tools lead to...



Complexity and inefficiency

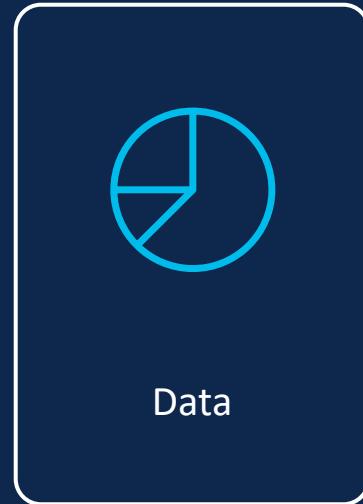


Security and business risk



Lack of agility and innovation

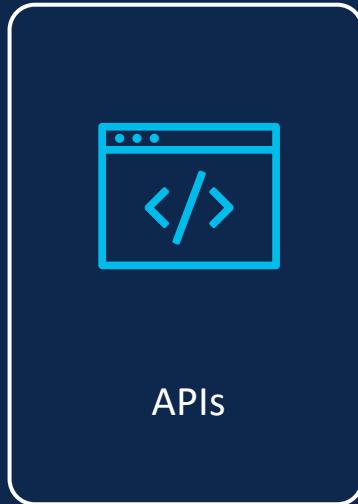
Platform—an integrated system



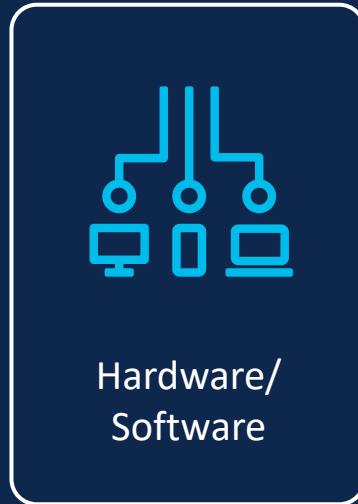
Data



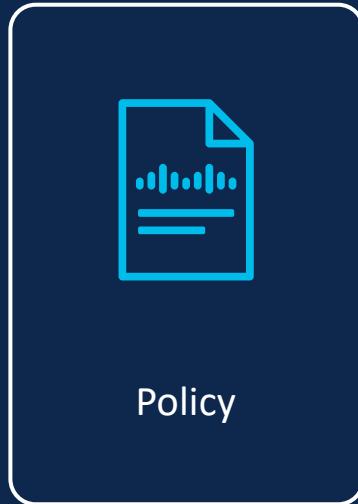
User
Interface



APIs



Hardware/
Software



Policy

The power of a platform



A networking platform applies a consistent user experience, automation, intelligence, and an API-driven ecosystem to deliver...

Simplified operations
at scale

Secure digital experiences

Faster
innovation

Whatever you're focused on next



Operational simplicity

Use cases

Cloud-monitored Catalyst

Common policy

End-to-end assurance



Secure networking

SASE

Secure campus and branch



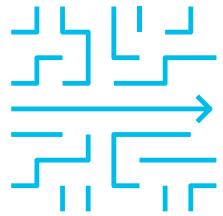
Hybrid work and sustainability

Secure teleworker

Energy management

Environmental wellness

Simplification starts with Cisco platforms



Management and assurance



Unified hardware
portfolio



API consistency



Cisco Networking Cloud

An integrated platform for on-premises and cloud-operating models

The screenshot displays the Cisco Networking Cloud interface. On the left, a sidebar lists navigation options: Overview (selected), Policies, Reports, Sources, Investigate, Settings, and Admin. The main content area is titled "Overview". It includes a "Deployment health" section with counts for Online (3), Pending (36), and Offline (8). Below that is a "Network breakdown" section with tabs for All, DNS, and Web. Under "All", there's a chart for "Active networks" showing 98.5K total, up 7% vs. previous 24 hours, with a line graph from 0 to 4000 over 12 hours. To the right is a chart for "Total blocks" showing 6743 total, up 11% vs. previous 24 hours, with a line graph from 0 to 4000 over 12 hours. Further down are sections for "App discovery and control (last 90 days)" showing 591 Discovered cloud apps and 51 risky cloud apps, and "Flagged categories" with Anonymizer listed.

Unified experiences



Key capabilities

End-to-end assurance and AI/ML across domains

Multi-domain topology and workflow

Unified design system

Common policy across security and networking domains

The screenshot displays the Cisco Networking Cloud interface. At the top left is the Cisco logo and the text "Networking Cloud". A search bar is at the top right. On the left, a sidebar menu includes "Overview" (which is selected), "Policies", "Reports", "Sources", "Investigate", "Settings", and "Admin". The main content area is titled "Overview". It features several cards: "Deployment health" (3 offline, 36 alerting, 8 blocked), "Network breakdown" (All, DNS, Web), "Active networks" (95.8K total, 7% vs. previous 24 hours), "Total blocks" (6743 total, 11% vs. previous 24 hours), "App discovery and control (last 90 days)" (591 discovered cloud apps, 51 risky cloud apps), and "Flagged categories" (Anonymizer). The interface has a dark theme with light-colored cards.

Platform UX simplification



Single sign on across all platforms



Easily switch between applications



Streamlined management



Unified design system for Cisco Networking and Security

Same navigation between all platforms

The composite image displays four views of the Cisco Platform UX across different devices:

- Desktop View:** Shows the "Network-wide" dashboard with sections for Health, Usage and clients, and Compute Center.
- Tablet View:** Shows the "Data Center Networking" application with tabs for Overview, Operate, Configure, Analyze, and Admin.
- Smartphone View:** Shows the "Cisco Networking Cloud" application with categories for Compute, Data Center Networking, IoT Operations Dashboard, and Meraki.
- Mobile Phone View:** Shows the "Cisco Networking Cloud" application with categories for Compute, Data Center Networking, IoT Operations Dashboard, and Meraki.

All views share a common navigation bar at the top and a consistent design language, illustrating the "Same navigation between all platforms".

Cloud monitoring for Catalyst

New cloud-first troubleshooting capabilities



Customizable, proactive alerting



Read-only CLI to accelerate troubleshooting



Streamlined packet capture and download in the dashboard

Cloud management for Catalyst 9300 switches available today

The screenshot shows the Cisco Meraki dashboard interface. On the left, there's a sidebar with navigation links: Network (selected), SW5, Network-wide, Switching, and Organization. The main area is titled "Meraki" and has a "Search Dashboard" bar. A terminal window displays the output of a "show version" command from a Cisco IOS XE Software version 17.03.05 switch. The output includes details like the software type (Cisco IOS Software [Amsterdam], Catalyst L3 Switch Software (CAT9K_IOSXE)), version, and copyright information. Overlaid on the terminal window is a "Packet capture" dialog box. It contains fields for "Switch:" (set to "Sw5-C9300L-48"), "Ports:" (empty), "Output:" (set to "Download .pcap file (for Wireshark)"), "Duration (secs):" (set to "60"), "Filter expression:" (empty), and "File name:" (set to "SW5 - switch_MS-Sw5-C9300L-48_IF-"). A large blue "Start capture" button is at the bottom right of the dialog.

Cisco Security Cloud and Cisco Networking Cloud

Cisco Security Cloud

A unified, AI-driven, cross-domain security platform

Cisco Networking Cloud

An integrated platform for on-premises and cloud operating models

Open APIs | Unified UX | Unified policy | Telemetry

Cloud-centric or on-premises



Access

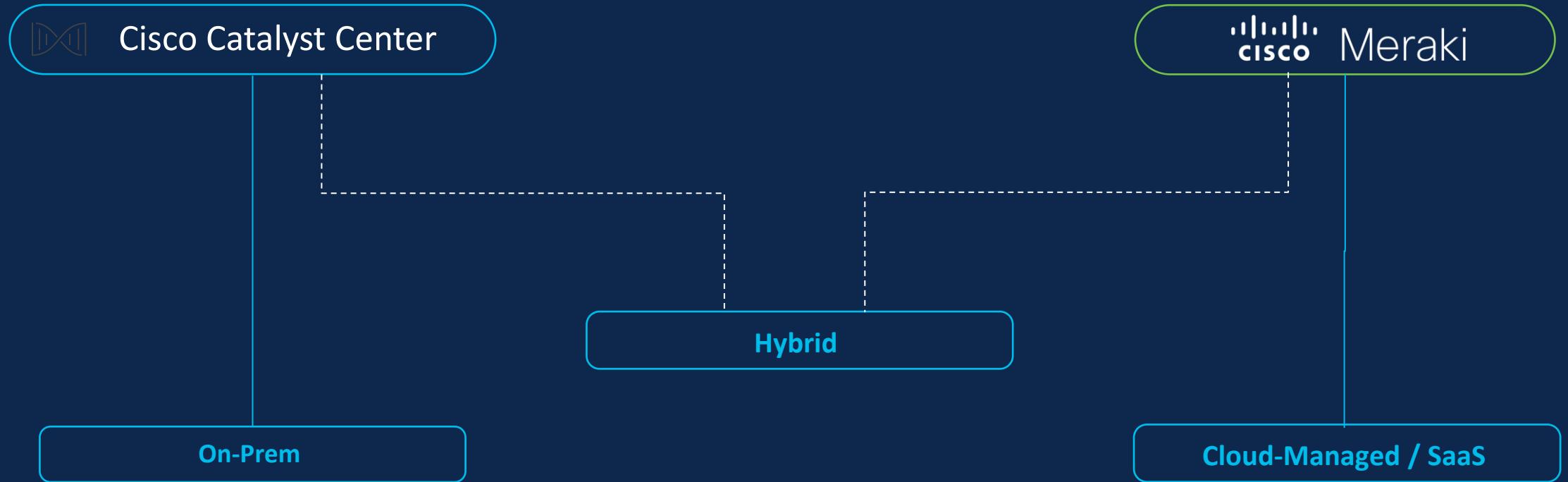


Internet



Cloud

We meet the customers where they are



What you will hear about today!



Operational
simplicity



Secure
networking



Hybrid work
and sustainability

Catalyst Center

Cloud Management

ThousandEyes

Secure Service Edge

Cisco Firewall Solutions

Zero Trust Network Access (SDA
with Catalyst Center)

Secure Service Edge

Energy monitoring and
management

Cisco Spaces



Power of the Platform

Rema1000

Mikkel Vesterled & Nicolai Lund



REMA 1000



Agenda

- Om REMA 1000 Danmark
- Nuværende infrastruktur
- Fremtidig infrastruktur og udrulning
- Cisco SD-WAN
- Erfaringer

Mikkel Vesterled

Network Lead

Infrastructure and Network



Nicolai Lund

Network and Security Specialist

Infrastructure and Network



REMA 1000 Danmark i tal

368



butikker og købmænd



15.100+



medarbejdere
slut 2022



24,7

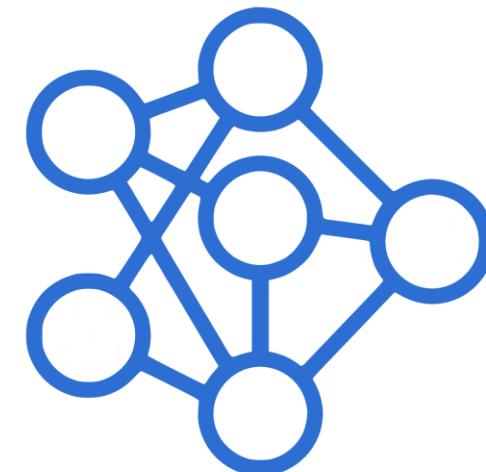
milliarder



omsætning i 2022

1.100+

Switcher/Routere



30.000+
End Devices

2
Datacentre

2.600+

Access Points

500+

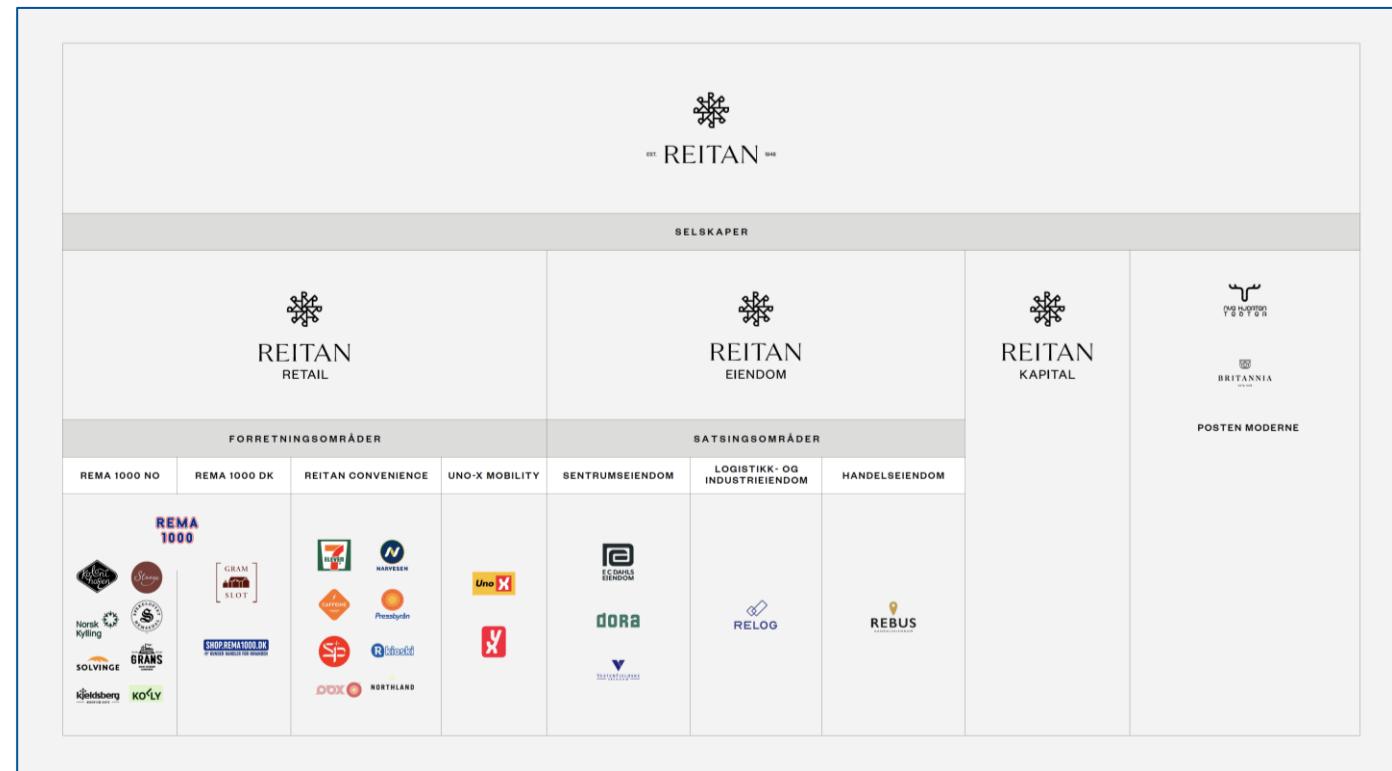
Virtuelle Maskiner



Om REMA 1000 Danmark

- Selvstændig drift ift. Reitan Retail i Norge / Frihed under ansvar

- 1.900.000 transaktioner/dag
- 3.850 butikker
- 39.000 medarbejdere
- 7 lande



REMA 1000 - Discount med holdning



Om REMA 1000 Danmark

- Franchise koncept med selvstændige købmænd
 - Købmandens penge
- Bagland til administration
 - Indkøb
 - Økonomi
 - IT osv.
- Investeringer
 - Nyt distributionscenter/automatiseret højlager
 - Nyt datacenter
 - ALDI Danmark opkøb (114 butikker, hvoraf 60-80 butikker bliver til REMA 1000)



Nuværende infrastruktur i butikkerne

- ISR 4321 routere, manuel konfiguration via templates
 - Catalyst 2960X switcher, manuel konfiguration via Excel-ark
 - Aironet 2702 AP'er, manuel konfiguration via WLC
-
- DMVPN, traditionel hub & spoke
 - Alt trafik via HQ
 - 50Mbit/s internetforbindelse
 - Statisk tildelte switchporte



Fremtidig infrastruktur i butikkerne

- ISR 1121X routere, Zero-Touch Provisioning via SD-WAN
- Catalyst 9200 switcher, Plug-and-Play via Catalyst Center
- Catalyst 9164 APer, Plug-and-Play via Catalyst Center

- SD-WAN, controller-baseret hub & spoke
- Direct Internet Access (DIA)
- 250Mbit/s internetforbindelse
- Dynamisk tildelte switchporte via ISE



Planer for HQ og fjernlokationer

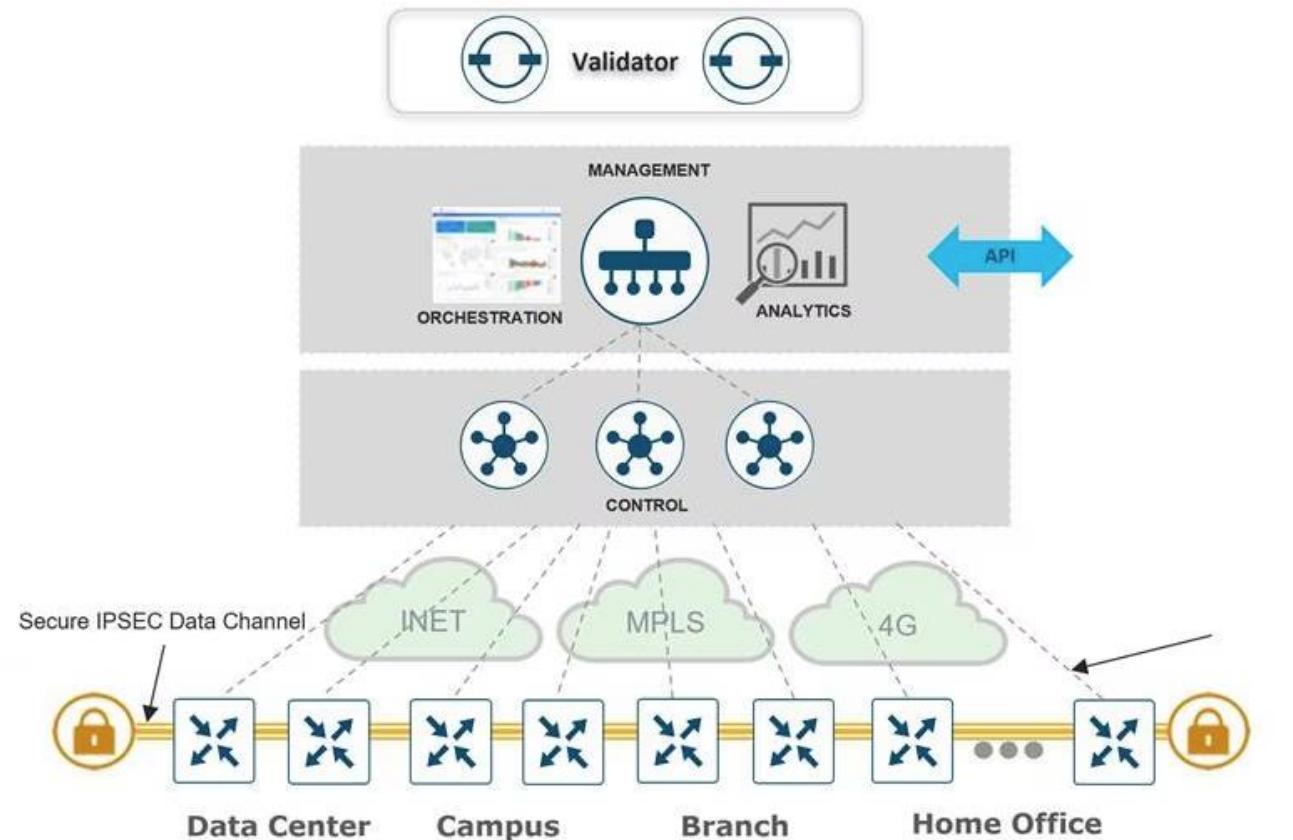
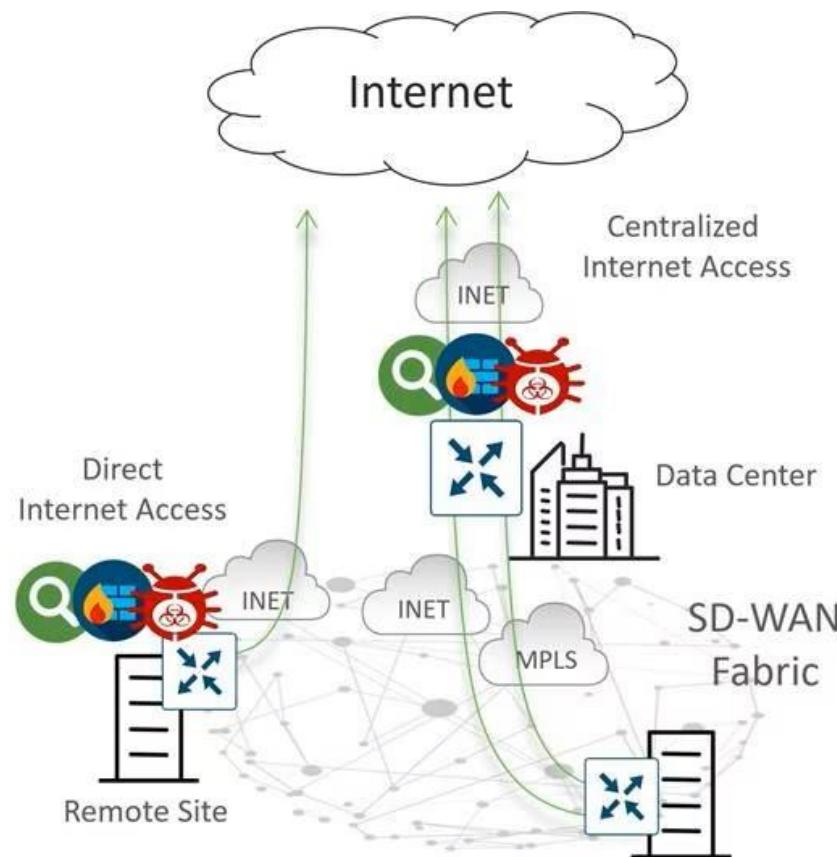
- Catalyst 8200/8300 routere
- Catalyst 9300 switche
- SD-WAN, controller-baseret hub & spoke
- Dynamisk tildelte switchporte via ISE
- SD-Access



Hvorfor Cisco SD-WAN?



Cisco SD-WAN Topologi/Arkitektur



Udrulningsplan 2023-24

- Router udskiftning i alle 368 butikker
- Switch udskiftning i over 290 butikker
- AP udskiftning i over 250 butikker
- 60-80 nye butikker ifm. ALDI opkøb
- HQ og fjernlokationer



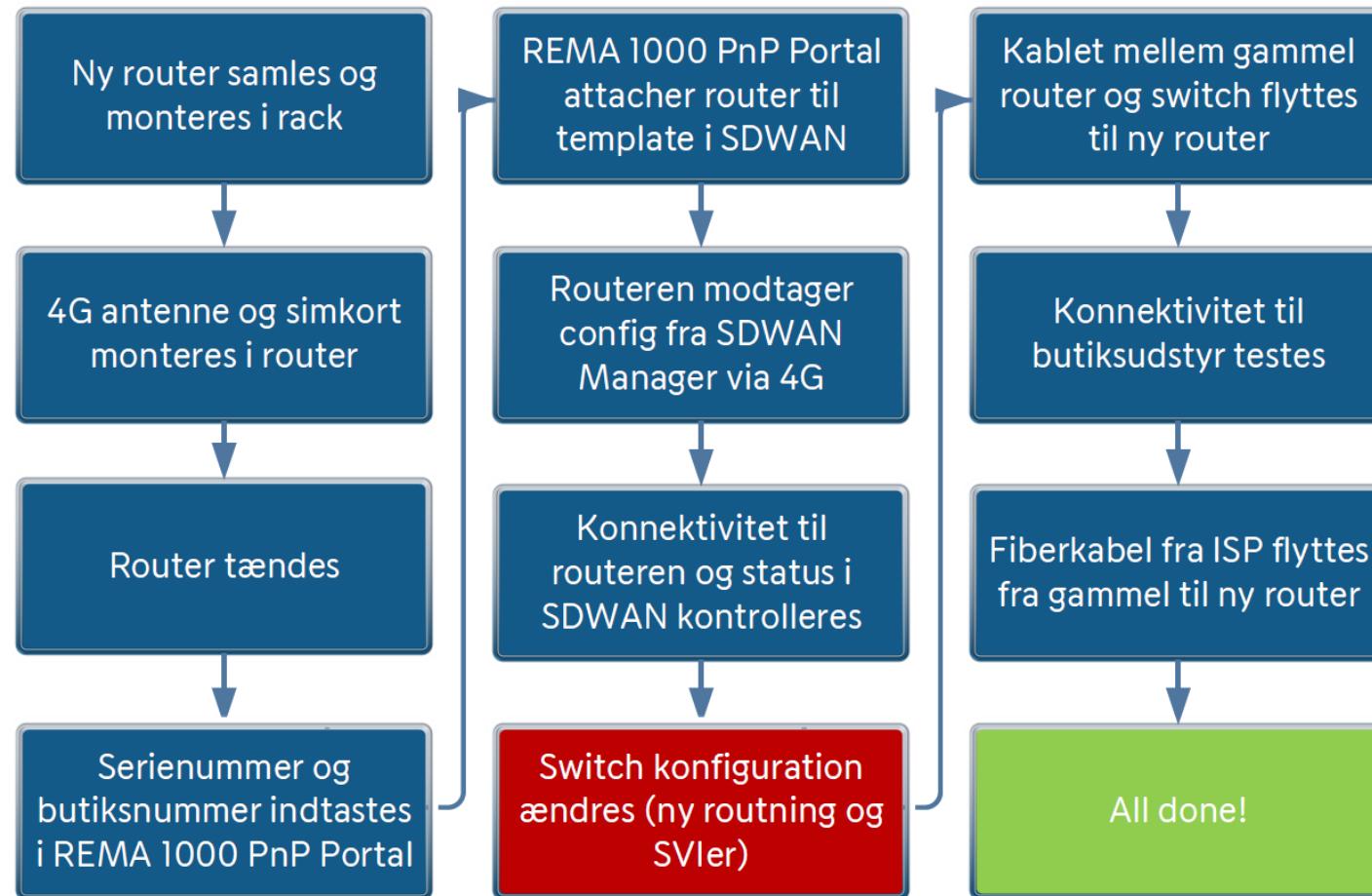
Cisco SD-WAN Onboarding Script

- Egenudviklet løsning via SD-WAN API
 - Skal kunne køres af ”ikke-tekniske” parter
 - Proces skal kunne køre uden vores hjælp

```
1 #Get session cookie
2 url = VMANAGE_URL + "/j_security_check"
3 payload = 'j_username=' + ISE_USER + '&j_password=' + ISE_PASS
4 headers = {
5     'Content-Type': 'application/x-www-form-urlencoded'
6 }
7 s = requests.Session()
8 response = s.post(url, headers=headers, data=payload, verify=False)
9
10 #Get cross site forgery prevention token
11 url = VMANAGE_URL + "/dataservice/client/token"
12 payload = ""
13 headers = {
14     'Content-Type': 'application/json'
15 }
16
17 response = s.get(url, headers=headers, verify=False)
18 x_xsrf_token = response.text
```

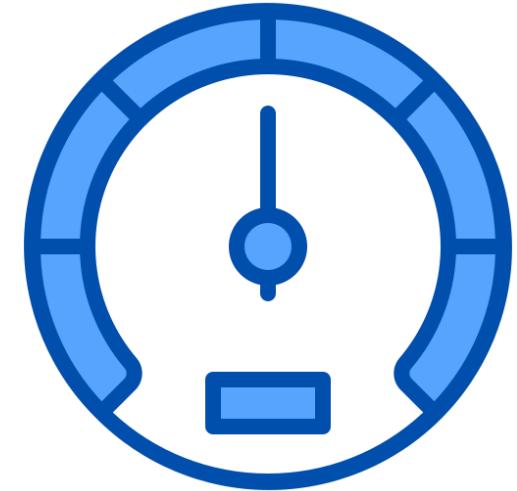


Router udskiftning



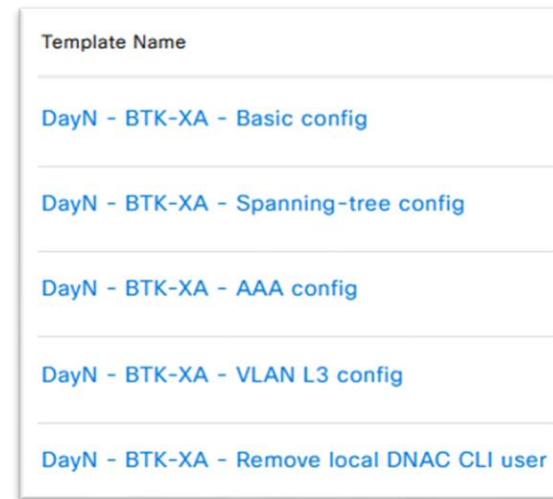
Erfaringer med Cisco SD-WAN

- API
 - Dokumentation
 - Onboarding
 - RMA workflow
 - Template migration
- Security Policies
 - Mange objekter/variabler, ingen wildcard masker via SP
- Performance
 - Unified Security Policy vs. Security Policy



Tidlige erfaringer med Catalyst Center

- Plug-and-Play
 - Husk efterfølgende provisioning
 - Day0 vs. DayN + Composite Templates
- Ingen matematik i templates
 - Lange "elseif" lister



```
###SET IPs
#if ($butik > 0)
#if ($butik > 395 && ${butik} < 500)
#set ($butik_scope = '10._____')
#set ($management_scope = '10._____')
#set ($loopback = '10._____')
#set ($tun11_ip = '10._____')
#set ($tun12_ip = '10._____')
#set ($tun14_ip = '10._____')
#set ($tun18_ip = '10._____')
#elseif ($butik == 396)
#set ($butik_scope = '10._____')
#set ($management_scope = '10._____')
#set ($loopback = '10._____')
#set ($tun11_ip = '10._____')
#set ($tun12_ip = '10._____')
#set ($tun14_ip = '10._____')
#set ($tun18_ip = '10._____')
#elseif ($butik == 397)
#set ($butik_scope = '10._____')
#set ($management_scope = '10._____')
#set ($loopback = '10._____')
#set ($tun11_ip = '10._____')
#set ($tun12_ip = '10._____')
#set ($tun14_ip = '10._____')
#set ($tun18_ip = '10._____')
#elseif ($butik == 398)
#set ($butik_scope = '10._____')
#set ($management_scope = '10._____')
#set ($loopback = '10._____')
#set ($tun11_ip = '10._____')
```



Tak for jeres tid
Nogen spørgsmål? ☺



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09:00 - 09:55	Keynote Cisco Secure Enterprise Networking, Incl Rema 1000 Reference Case Speakers: Henrik Stær, Mikkel Vesterled, Nicolai Lund	
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 T-Shirt pick-up → Lunch		
Tak for idag		