



The bridge to possible

How to Achieve Operational Consistency with Hybrid Cloud Networks

Customer success story

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Agenda



Introduction



About Skanska



Business challenges



Cisco solutions deployed



Use cases for hybrid cloud networks



Configuration Workflow



Business outcomes



What next



Q&A

Introduction

Introduction

Eric Nilsson, Senior Network Engineer, Skanska

Technology Expertise



Data center network responsibility



Cisco ACI focus



Cloud networking



VPN

Certifications



CCNP enterprise certification




Cisco certified ACI
implementation certification



Cisco specialist enterprise
design certification

About Skanska



135 years in the making, we're
one of the world's leading project
development and construction groups

SKANSKA

About Skanska



One of the world's largest development and construction companies



30,000+ employees, 2021 revenue totaling SEK 148 billion (13.1B EUR)



Operates across select markets in the Nordics, Europe and US



Hospitals, residence, subway stations, airports

LaGuardia Airport





SKANSKA

CISCO *Live!*



SKANSKA

Skanska and IT



Just a construction company?

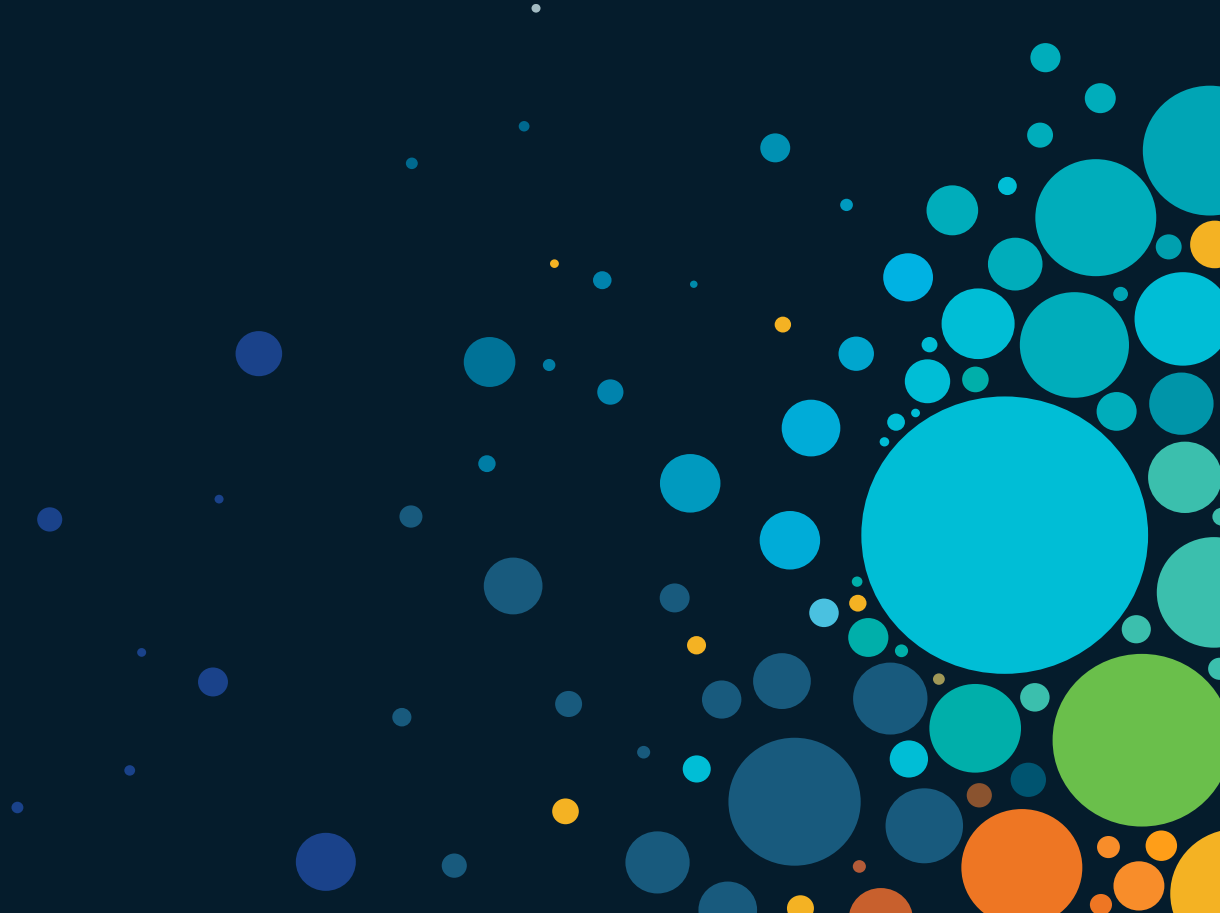


Blueprints and other applications
needed to construct something



Always available

Business challenges



Skanska

Key challenges



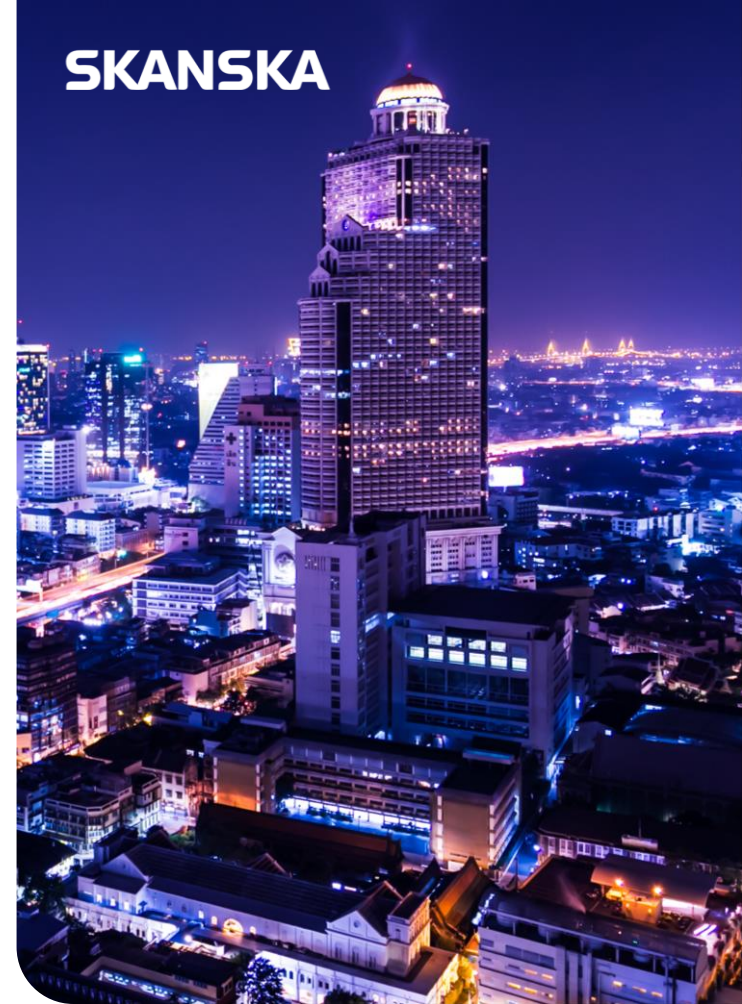
Align data center and cloud environments



Improve network segmentation and security



Accelerate IT operations



Align data center and cloud environments



Reduce number of management tools



Standardize network configuration



Consistent Application deployments On Premises and Cloud

Improve network segmentation and security



Segment On Premises Data Center and Cloud network using the same policy model



Ability to secure traffic within a stretched tenant using micro segmentation

Accelerate IT operations



Reduce learning curve for Cloud



Manage both On Premises and Cloud
via the same toolset

Cisco solutions
deployed

Cisco solutions deployed



On premises ACI



Cisco Cloud Network Controller



Cat8000v



Cisco Nexus Dashboard Orchestrator



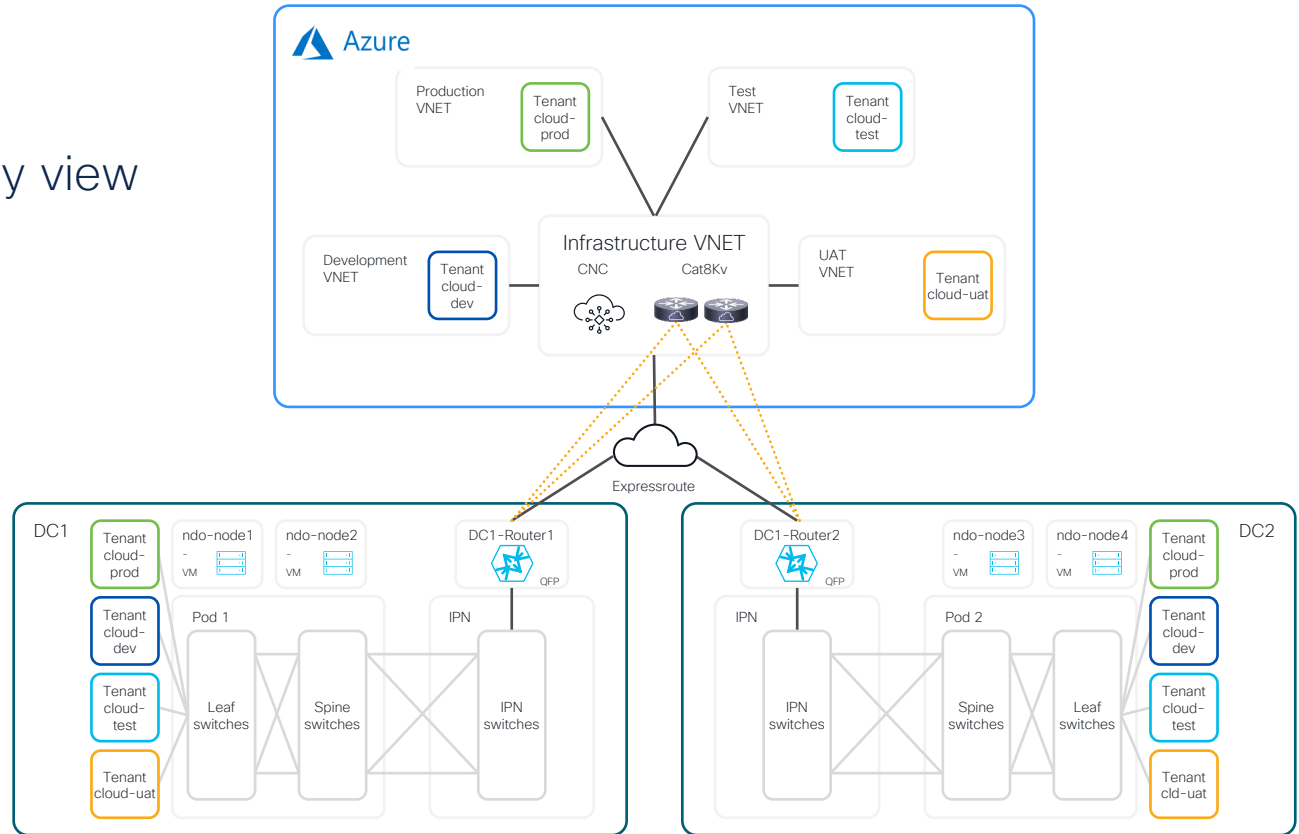
Cisco ASR1000



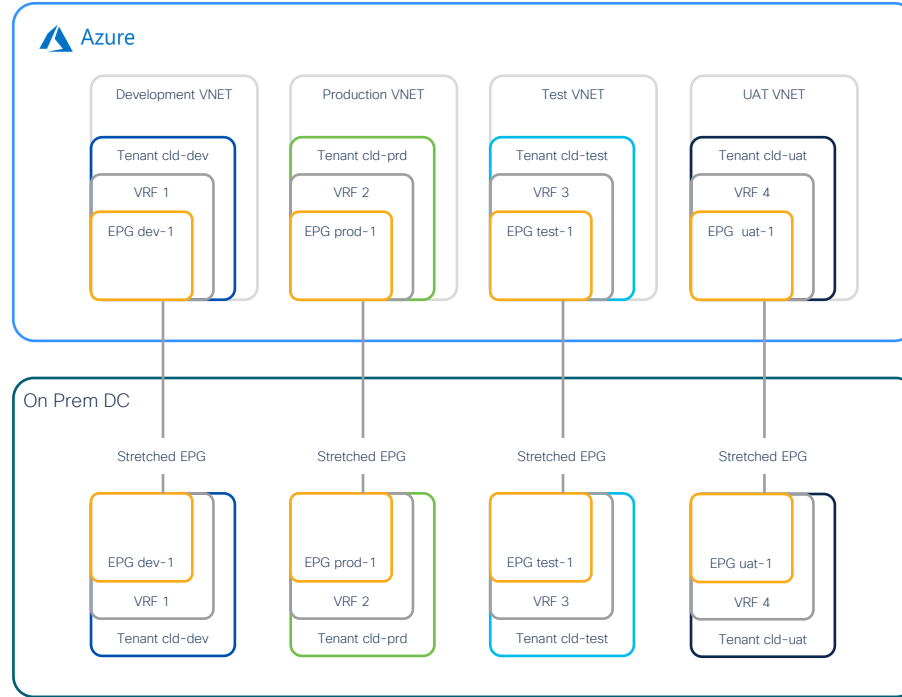
Topology View

Skanska

Hybrid cloud topology view

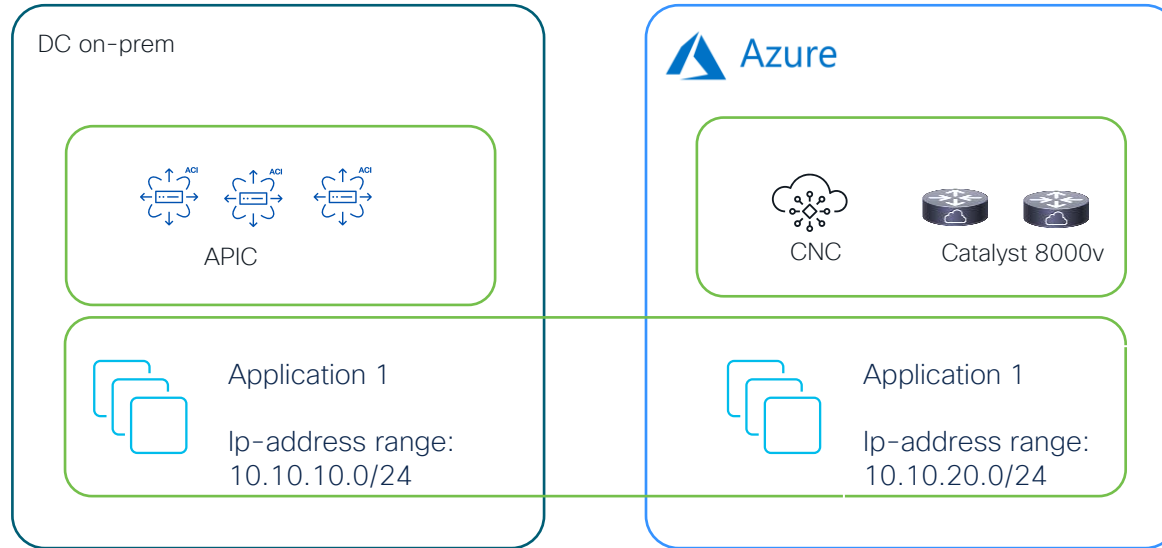


Logical topology

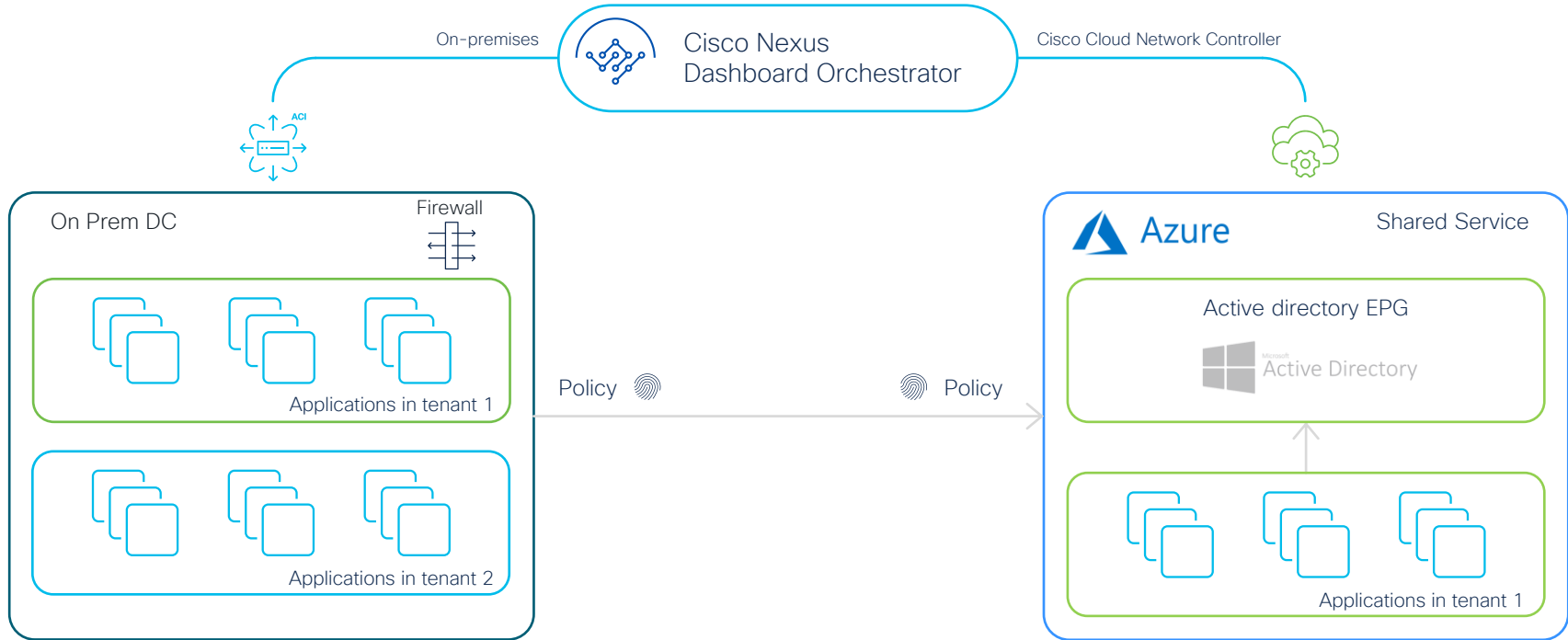


Use cases for hybrid cloud networks

Use case 1: Maintaining stretched application across hybrid cloud






Use case 2: Segmentation





Configuration Workflow


Nexus Dashboard Sites


  Nexus Dashboard


 Admin Console


 Overview


 Sites


 Services

 System Resources

 Operations








 Infrastructure

 Administrative

 Skanska-Nexus-Dashboard

Sites

Filter by attributes

Health Score	Name	Type	Connectivity Status	Firmware Version
 Healthy	Azure <input type="text"/>	 CloudACI 	 Up	25.0(4k)
 Healthy	DC	 ACI	 Up	5.2(6e)

Nexus Dashboard Services

The screenshot displays the Nexus Dashboard Services interface. At the top, there is a navigation bar with the Cisco logo and the text "Nexus Dashboard". Below this is a dark blue sidebar labeled "Admin Console" containing a menu with the following items: Overview, Sites, Services (highlighted), System Resources, Operations, Infrastructure, and Administrative. The main content area is titled "Service Catalog" and includes tabs for "Installed Services" and "App Store". A search bar is located below the tabs. The first service listed is "Nexus Dashboard Orchestrator" by Cisco, with a description "Manage intersite connectivity, provisioning o..." and version "3.7.2d". At the bottom of the service card, there is a green shield icon, a table showing "2" versions, "49/49" pods, and "110/110" containers, and an "Open" button.

Admin Console Skanska-Nexus-Dashboard

Overview Sites Services System Resources Operations Infrastructure Administrative

Service Catalog

Installed Services App Store

Search

Nexus Dashboard Orchestrator
Cisco
Manage intersite connectivity, provisioning o...
3.7.2d

2 49/49 110/110
Versions Pods Containers

Open

Nexus Dashboard Orchestrator

Orchestrator

Dashboard

Application Management

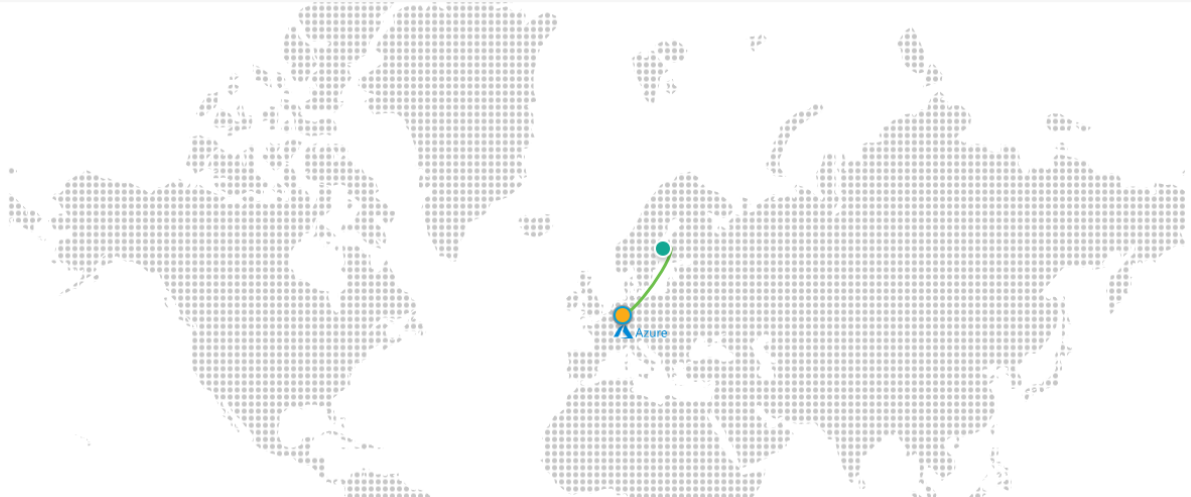
Operations

Infrastructure



Integration

CONNECTIVITY VIEW

VIEW BY



Nexus Dashboard Orchestrator Sites

  Nexus Dashboard

Feedback Help

Orchestrator

Dashboard

Application Management

Operations

Infrastructure

System Configuration


Sites

Site Connectivity

Integration

Sites

Filter by attributes

Health	Name	Type	Templates	State	URL
Major	SkanskaAzure  25.0(4k) Site ID: 4	ACI	9	Managed	https://azure url
Warning	Skanska DC (ACI) 5.2(6e) Site ID: 1	ACI	8	Managed	https:// on-prem url

Nexus Dashboard Orchestrator : Intersite connectivity








Site Connectivity

SETTINGS

General Settings

SITES

 Skanska DC (ACI)
enabled 

 SkanskaAzure 
enabled 

Control Plane Configuration

IPN Devices

External Devices

IPSec Tunnel Subnet Pools

IPN Devices


Name

IP Address

 DC1-R1

10.100.0.1



 DC2-R1

10.100.0.5





 Add IPN Device

Nexus Dashboard Orchestrator : On Prem to Cloud

The screenshot displays the Nexus Dashboard Orchestrator interface. The top navigation bar includes the Cisco logo, 'Nexus Dashboard', and user information 'myuser'. The main header is 'Site Connectivity'. On the left, a sidebar shows 'SETTINGS' (General Settings) and 'SITES' (My DC, Azure). The central area shows the configuration for 'My DC' (ACI), which is 'enabled'. It details two pods: 'pod-1' and 'pod-2'. Each pod contains two spine switches: 'dc1-spine101', 'dc1-spine102' for pod-1 and 'dc2-spine101', 'dc2-spine102' for pod-2. All switches show 'BGP peering on'. A 'Refresh' button is present. On the right, the 'Skanska DC Settings' panel is visible, showing 'Inter-Site Connectivity' settings: 'General' (APIC Site ID 1, ACI Multi-Site Enabled, CloudSec Encryption Disabled, Overlay Multicast TEP 10.35.155.10), 'BGP' (BGP Autonomous System Number 64600, BGP Password field), and a progress bar at the top with values 0, 3, 3, 4.

Nexus Dashboard Orchestrator : Tenant View

 Nexus Dashboard

Orchestrator

Dashboard

Application Management

Tenants

Schemas

Policies

Operations

Infrastructure

Integration

Tenants

Filter by attributes

Name	Description	Assigned To Sites
infra	Infra tenant for use with all other tenants	1
cloud-prod	Hybrid UAT Environment	2
cloud-uat	Hybrid Production Environment	2
cloud-test	Hybrid Test Environment	2
onprem-dev	Application Centric Approach - Dev	1
cloud-dev	Hybrid Development Environment	2
onprem-prod	Application Centric Approach - Production	1

Nexus Dashboard Orchestrator : Tenant mapping

Nexus Dashboard

Update Tenant clduat

Tenant Setting for **Azure** site

General Setting

Security Domains

Select Security Domain(s)

Azure Account Setting

Mode

Create Own Select Shared

Azure Subscription ID *

Your Azure Subscription ID

Security Domain

Select Security Domain(s)

Access Type

Service Principal Managed Identity

General Setting

Display Name

clduat

Internal Name

Description

Hybrid UA

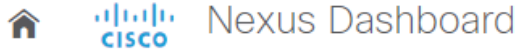
Associated Site

☐ Site

☒ Skanska

☒ Skanska

Nexus Dashboard Orchestrator : Schema



Orchestrator

Dashboard

Application Management

Tenants

Schemas

Policies

Operations

Infrastructure

Integration

Schemas

Filter by attributes

Name	Templates
Development	3
Infra	1
Production	3
Test	3
UAT	3

Policy Groups in Cloud Network Controller

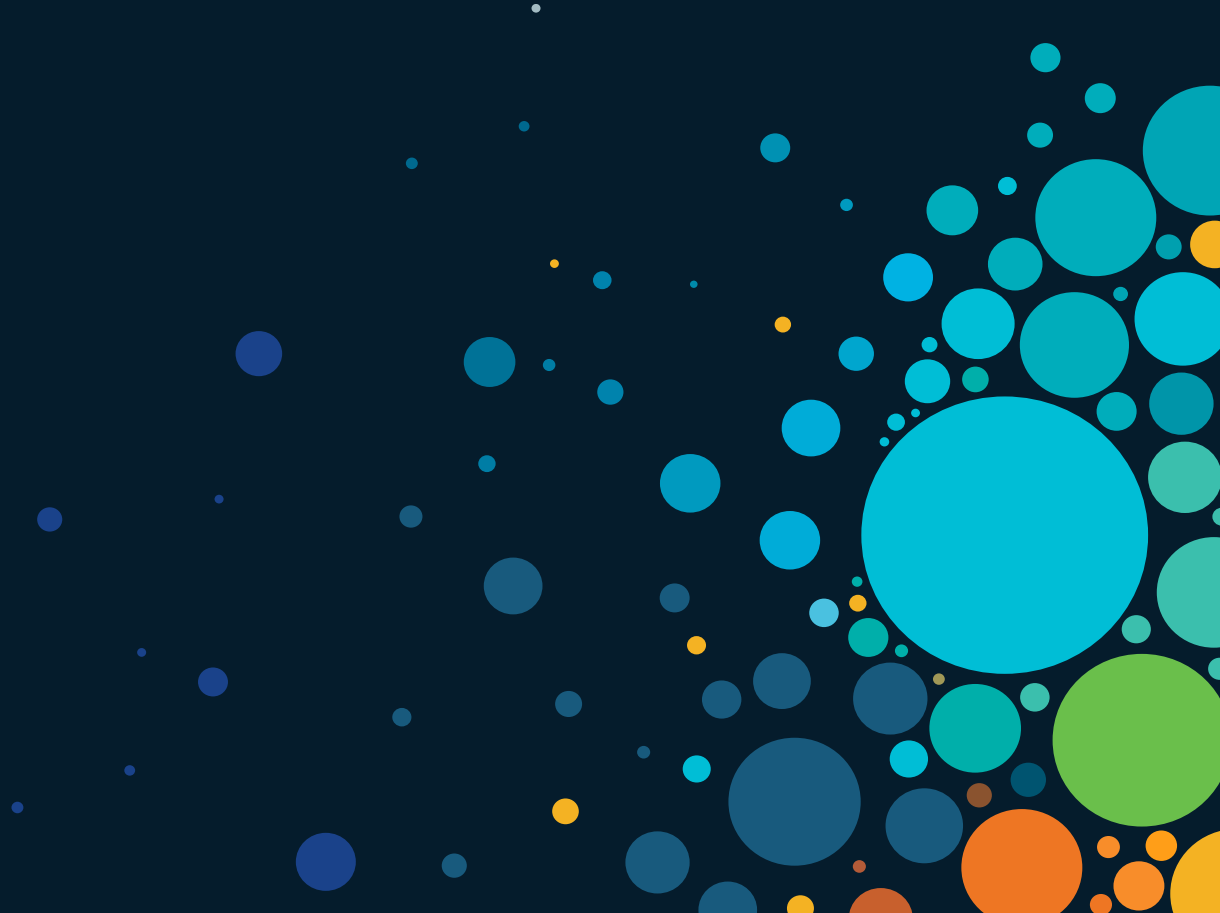
Cloud APIC Azure

EPGs

Filter by attributes

	Health	Name	Type	VRFs
<input type="checkbox"/>	Healthy	ipn-peers infra > cloud-infra	External	overlay-1 infra
<input type="checkbox"/>	Healthy	messaging NDO cldprd > ecommerce	Application	shared cldprd
<input type="checkbox"/>	Healthy	on-premise-networks NDO clduat > infrastructure-n etworking	External	shared clduat

Business outcomes



Business outcomes



Agile response to requirements from application teams



Shortened learning curve for cloud



Increase productivity, gain efficiency and save time



Easier management due to same toolset being used on-prem and cloud

What next

What next



Migrate workloads from brownfield networks into new design (within cloud)



Implement firewalls in the cloud



Configure Internet traffic to directly exit cloud



Service redirect to L4-7 devices for Internet traffic coming into cloud

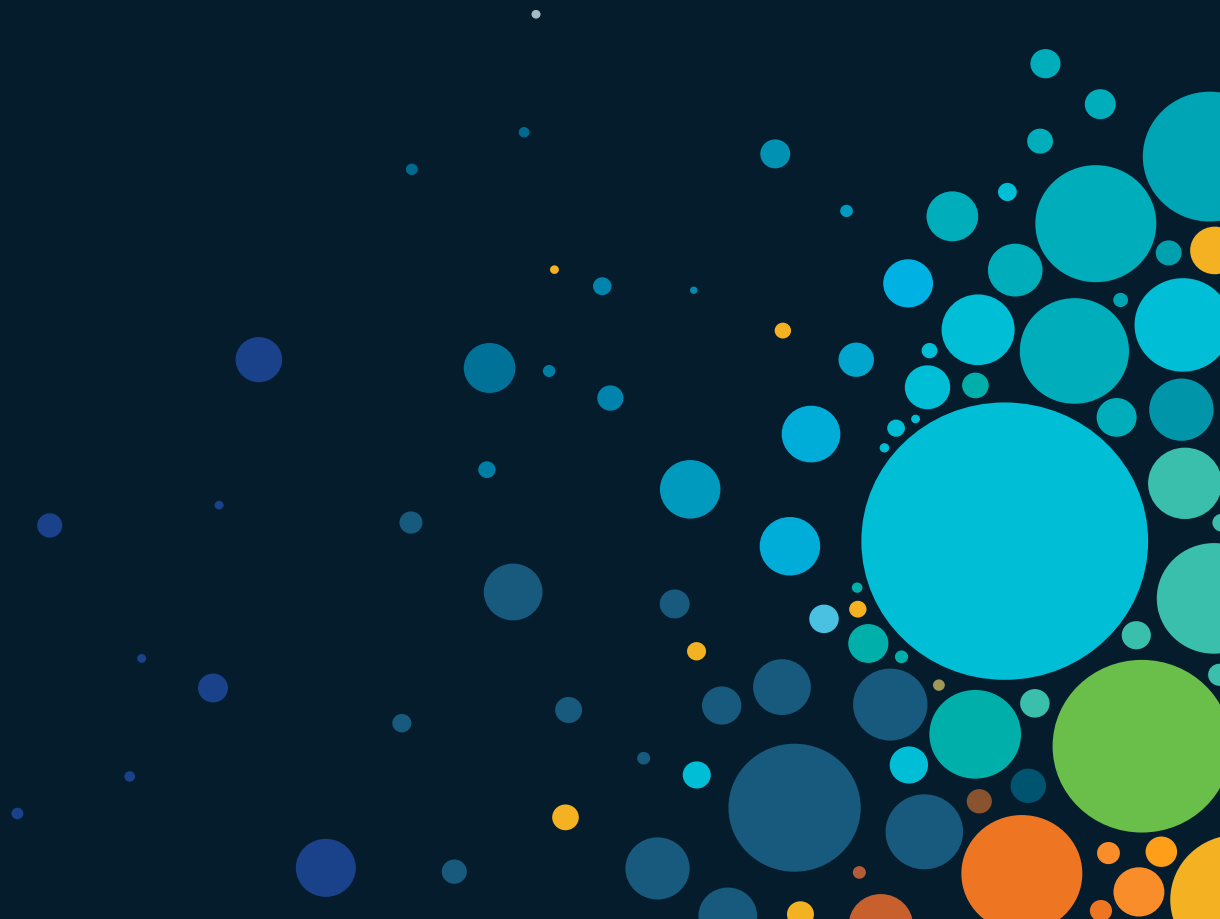


The bridge to possible

Thank you

CISCO *Live!*

Q&A



Are you playing the Cisco Live Game?

Scan the QR code and earn your
Customer Success Stories Theater
points here



CISCO *Live!*

ALL IN