



The bridge to possible

# Deploying QoS using Cisco Catalyst Center Application Policies

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- 4 Enter messages/questions in the Webex space

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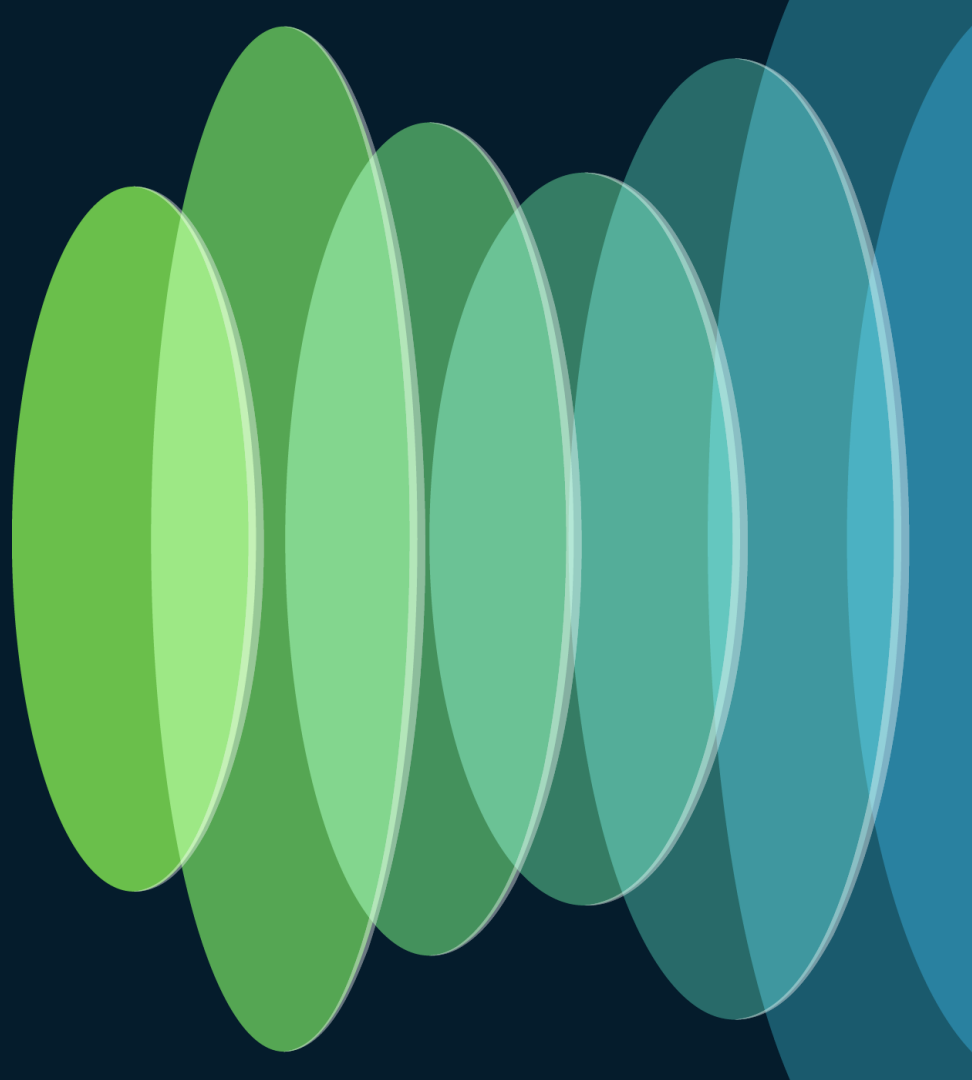




# Agenda

- Why This Session
- Quality of Service (QoS) Refresher
- Cisco Catalyst Center Application Policies Walkthrough
- Defining Custom Applications
- Deploying The Policy
- Maintaining The Policy
- Now What?

# Why This Session



# Why This Session – “It’s the network.”

- “The network is always slow on Tuesdays.”
- “Network shared drive transfers are bad.”
- A branch WAN link showed 100% utilization for 30 minutes straight

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By default, networks are “Best Effort”

# Why This Session – QoS can be complex

- Example QoS policy programming: 900 lines
  - 2 x 48-port switch stack
    - 440 lines of IP Access Lists
    - 120 lines of Class Maps
    - 90 lines of Policy Maps
    - 250 lines of Service Policy (Input / Output)
- QoS is different on different device models and license levels

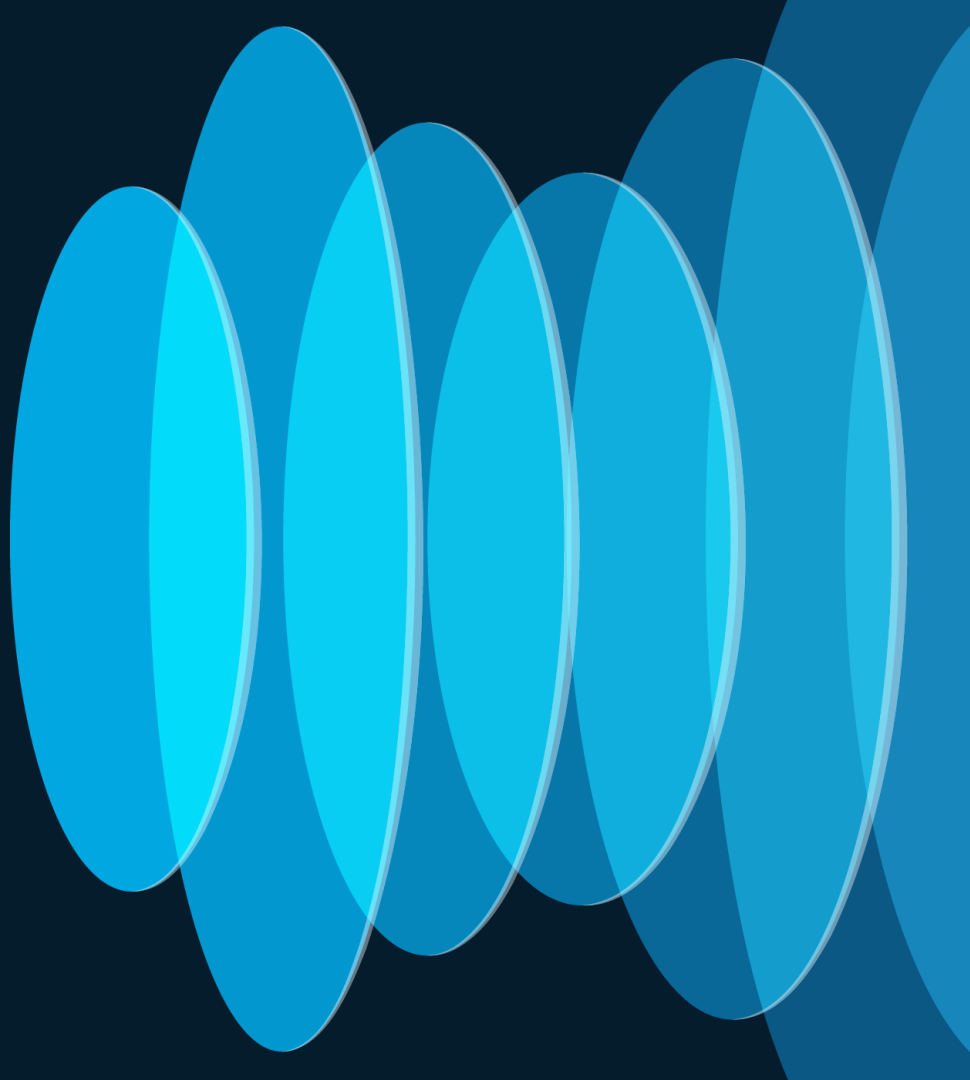
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    - 90 lines of Policy Maps
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Maintaining QoS policy “by hand” is complicated and error-prone.



# QoS Review



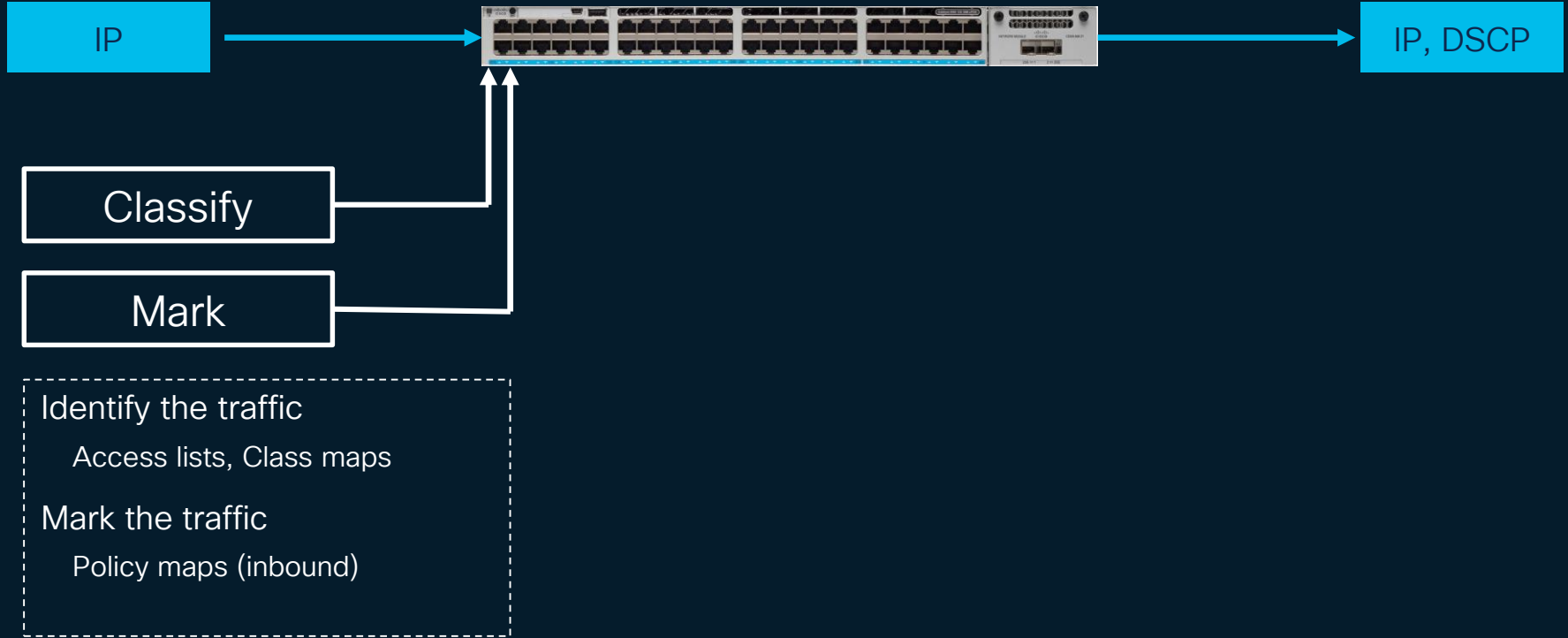
# QoS Refresher – Basics

DSCP = Differentiated Services  
Code Point



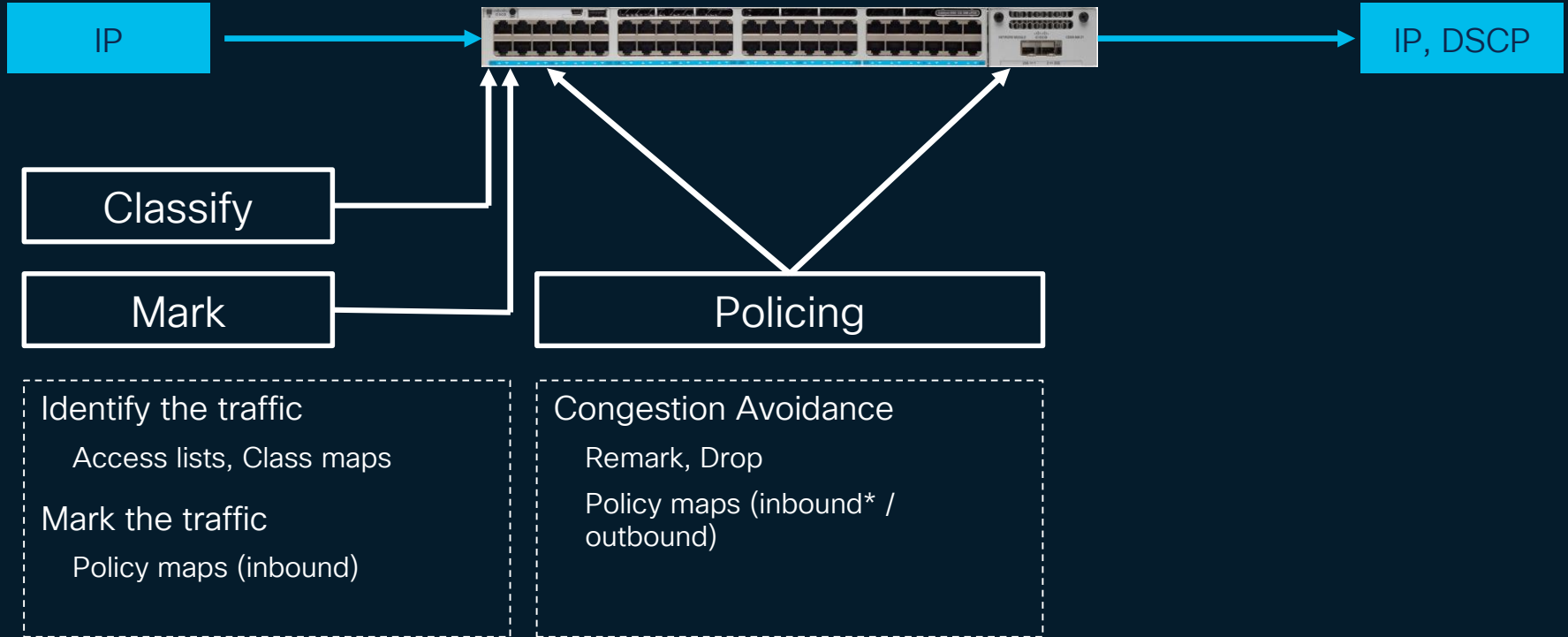
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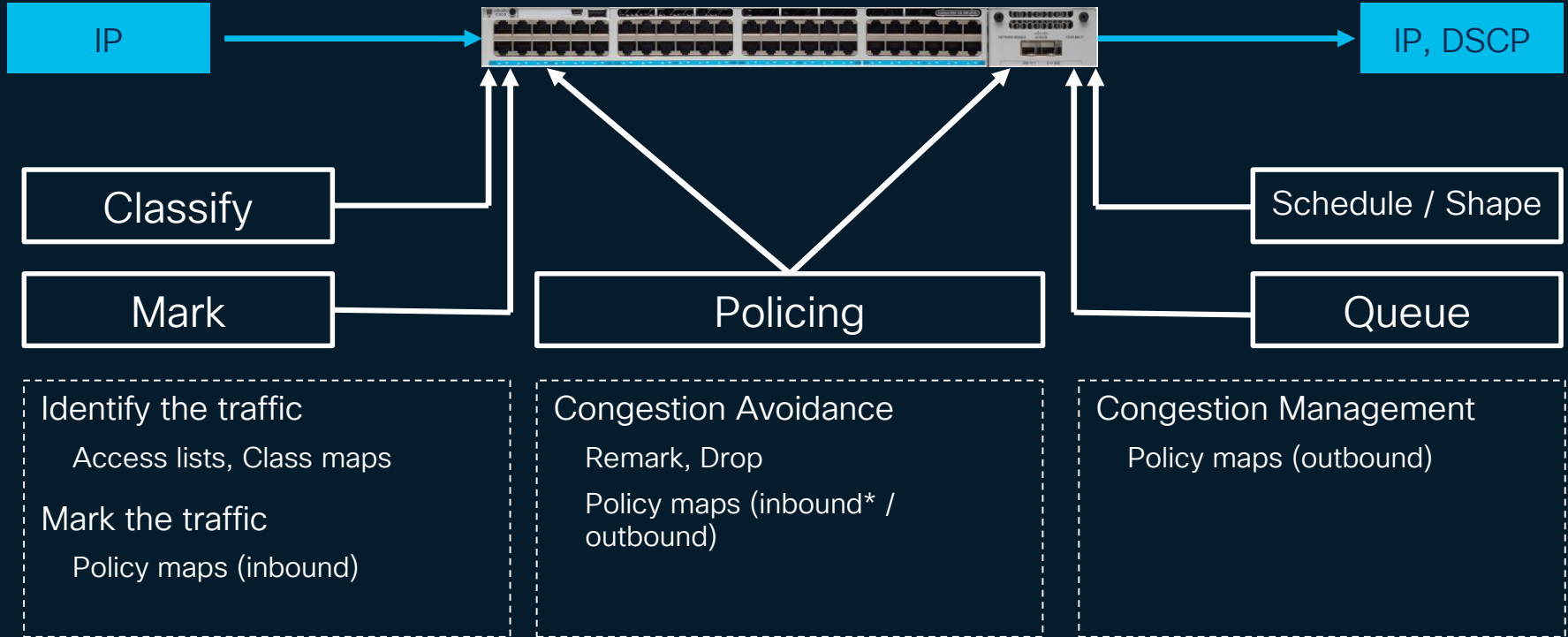
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Code Point



# QoS Refresher – Basics

DSCP = Differentiated Services  
Code Point



# QoS Refresher – RFC 4594 / Cisco Validated Design (CVD) Traffic Classes


Traffic Class	CVD DSCP PHB / Value	Queuing and Dropping
VoIP Telephony	EF / 46	Priority Queuing (PQ)
Broadcast Video	CS5 / 40 (CS3 / 24 in RFC)	PQ
Real-Time Interactive	CS4 / 32	PQ
Multimedia Conferencing	AF41 / 34	Bandwidth (BW) Queue + DSCP Weighted Random Early Detection (WRED)
Multimedia Streaming	AF31 / 26	BW Queue + DSCP WRED
Network Control	CS6 / 48	BW Queue ONLY
Signaling	CS3 / 24 (CS5 / 40 in RFC)	BW Queue + DSCP
Operations, Administration, Management (OAM)	CS2 / 16	BW Queue + DSCP
Transactional Data	AF21 / 18	BW Queue + DSCP WRED
Bulk Data	AF11 / 10	BW Queue + DSCP WRED
Default	BE / 0	Default + RED
Scavenger	CS1 / 8	Minimum BW + DSCP

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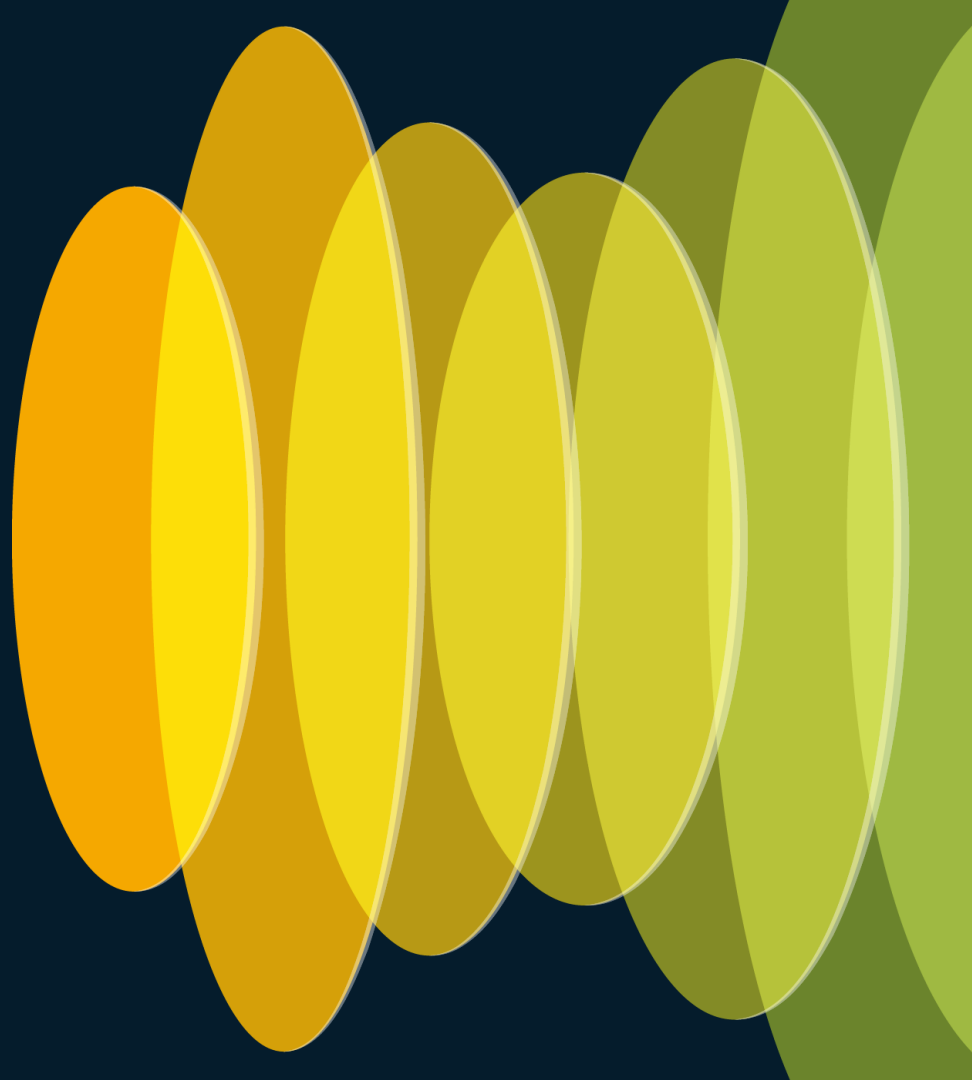
# Network Based Application Recognition (NBAR)

```
CiscoLive-9300# show ip nbar protocol-attribute rtp-audio
  Protocol Name : rtp-audio
    encrypted : encrypted-no
    tunnel : tunnel-no
    category : voice-and-video
    sub-category : enterprise-media-conferencing
  application-group : other
  p2p-technology : p2p-tech-no
  traffic-class : voip-telephony
  business-relevance : business-relevant
  application-set : collaboration-apps
  application-family : instant-messaging
```





# Cisco Catalyst Center Application Policies Walkthrough



# Catalyst Center Application Policies – The “Why”

- Centrally define / maintain / deploy QoS policies
- Centrally remediate “out-of-compliance” QoS policies
- Cisco Catalyst Center translates the policy into the proper CLI commands for each device / license level

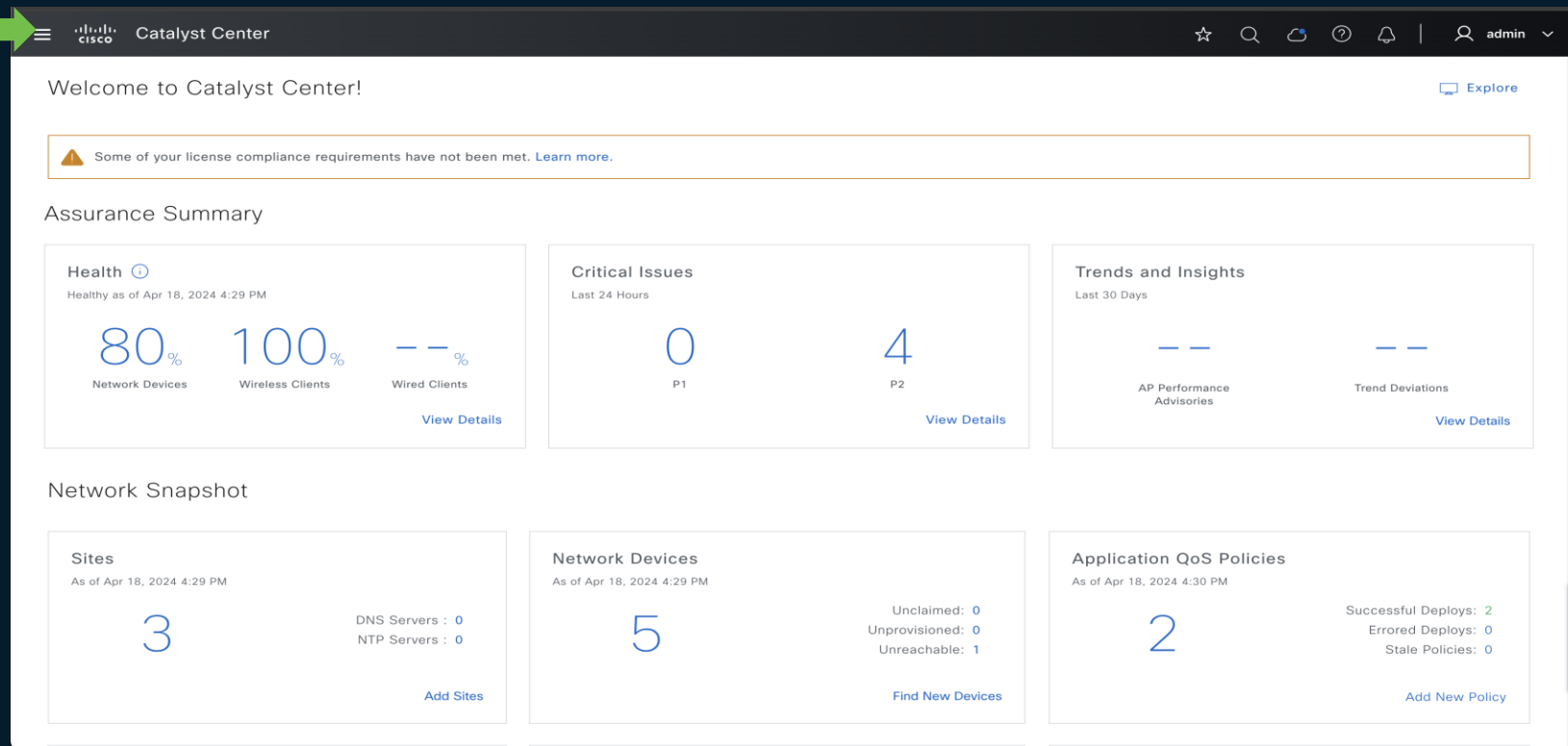


# Catalyst Center Application Policies – Prerequisites

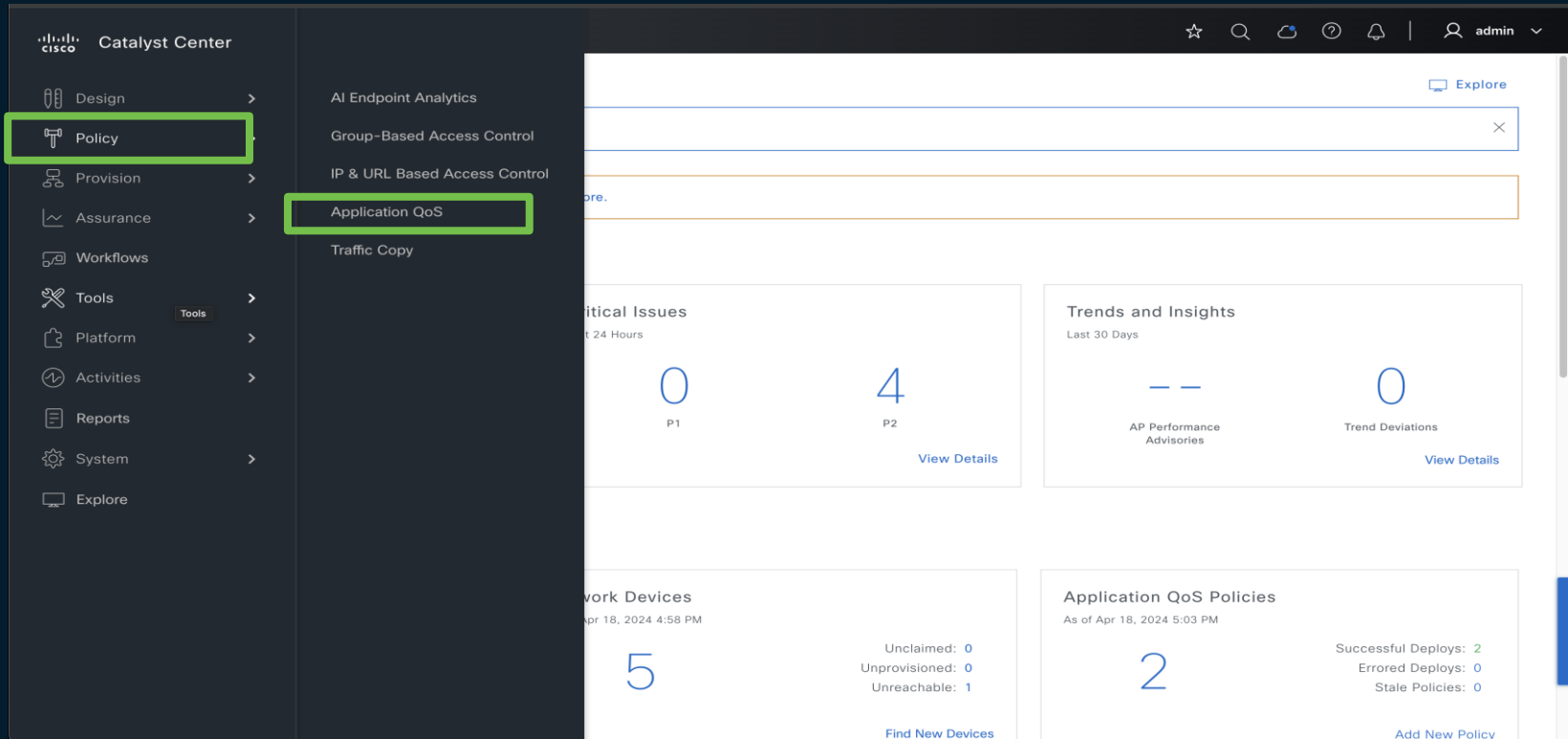
- Devices must be “Application Policy Compatible”
- Devices must be fully managed by Cisco Catalyst Center
- “Device Role” must be correctly assigned in Cisco Catalyst Center
- Device license level should be properly configured.



# Catalyst Center Application Policies – Getting There



# Catalyst Center Application Policies – Getting There



# Catalyst Center Application Policies – Adding a Policy

The screenshot displays the Cisco Catalyst Center web interface for managing Application Policies. The top navigation bar shows the Cisco logo, 'Catalyst Center', and the breadcrumb 'Policy / Application QoS'. On the right, there are icons for favorites, search, refresh, help, notifications, and a user profile labeled 'admin'. Below the navigation bar, the 'Application Policies' tab is selected, with 'Queuing Profiles' as a sub-tab. A toggle switch for 'Deploy by default on wired devices' is present, along with a timestamp 'As of: Apr 18, 2024 5:59 PM' and a refresh icon. A green box highlights the 'Add' button in the top right corner. Below this, there is a 'Filter' section with '1 Selected' and an 'Actions' dropdown. A table with columns 'Policy Name', 'Version', 'Policy Status', 'Deployment Status', 'Scope', and 'Queuing Profile' is shown, but it contains no data, displaying 'No data to display'.

Catalyst Center

Policy / Application QoS

Application Policies Queuing Profiles

☐ Deploy by default on wired devices ⓘ

As of: Apr 18, 2024 5:59 PM

[Add](#)

Filter Actions 1 Selected

Policy Name	Version	Policy Status	Deployment Status	Scope	Queuing Profile
No data to display					

# Catalyst Center Application Policies – Adding a Policy

**Catalyst Center** Policy / Application QoS

Application Policies Queuing Profiles

Application QoS Policy Name\* ☒ Wired ☐ Wireless [+ Application Registry](#)

Site Scope 0 Sites Queuing Profiles CVD\_QUEUING\_PROFILE Service Provider Profiles 0 Profiles [Find Application / Application Set](#)

Business Relevant (16)	Default (6)	Business Irrelevant (6)
<ul style="list-style-type: none"><li>&gt; authentication-services (39 applications)</li><li>&gt; backup-and-storage (14 applications)</li><li>&gt; collaboration-apps (64 applications)</li><li>&gt; database-apps (34 applications)</li><li>&gt; desktop-virtualization-apps (18 applications)</li><li>&gt; email (29 applications)</li><li>&gt; enterprise-ipc (20 applications)</li><li>&gt; local-services (2 applications)</li></ul>	<ul style="list-style-type: none"><li>&gt; file-sharing (32 applications)</li><li>&gt; general-browsing (14 applications)</li><li>&gt; general-media (12 applications)</li><li>&gt; general-misc (494 applications)</li><li>&gt; software-updates (15 applications)</li><li>&gt; tunneling (22 applications)</li></ul>	<ul style="list-style-type: none"><li>&gt; consumer-browsing (226 applications)</li><li>&gt; consumer-file-sharing (39 applications)</li><li>&gt; consumer-gaming (15 applications)</li><li>&gt; consumer-media (101 applications)</li><li>&gt; consumer-misc (11 applications)</li><li>&gt; consumer-social-networking (16 applications)</li></ul>

# Catalyst Center Application Policies

Classify

Mark

The screenshot displays the Catalyst Center web interface for managing Application Policies. The top navigation bar includes the Cisco logo, the text 'Catalyst Center', and the path 'Policy / Application QoS'. On the right, there are icons for favorites, search, settings, help, notifications, and a user profile labeled 'admin'. Below the navigation bar, the 'Application Policies' section is active, with a sub-tab for 'Queuing Profiles'. A search bar for 'Application QoS Policy Name\*' is present, along with radio buttons for 'Wired' (selected) and 'Wireless'. An 'Application Registry' button is on the right. Below this, a breadcrumb trail shows 'Site Scope 0 Sites', 'Queuing Profiles CVD\_QUEUEING\_PROFILE', and 'Service Provider Profiles 0 Profiles'. A search bar for 'Find Application / Application Set' is also visible. The main content area is divided into three columns: 'Business Relevant (16)', 'Default (6)', and 'Business Irrelevant (6)'. Each column contains a list of application categories with their respective application counts. Green arrows point from the 'Classify' and 'Mark' labels to the 'Business Relevant' and 'Business Irrelevant' columns respectively.

Business Relevant (16)	Default (6)	Business Irrelevant (6)
<ul style="list-style-type: none"><li>&gt; authentication-services (39 applications)</li><li>&gt; backup-and-storage (14 applications)</li><li>&gt; collaboration-apps (64 applications)</li><li>&gt; database-apps (34 applications)</li><li>&gt; desktop-virtualization-apps (18 applications)</li><li>&gt; email (29 applications)</li><li>&gt; enterprise-ipc (20 applications)</li><li>&gt; local-services (2 applications)</li></ul>	<ul style="list-style-type: none"><li>&gt; file-sharing (32 applications)</li><li>&gt; general-browsing (14 applications)</li><li>&gt; general-media (12 applications)</li><li>&gt; general-misc (494 applications)</li><li>&gt; software-updates (15 applications)</li><li>&gt; tunneling (22 applications)</li></ul>	<ul style="list-style-type: none"><li>&gt; consumer-browsing (226 applications)</li><li>&gt; consumer-file-sharing (39 applications)</li><li>&gt; consumer-gaming (15 applications)</li><li>&gt; consumer-media (101 applications)</li><li>&gt; consumer-misc (11 applications)</li><li>&gt; consumer-social-networking (16 applications)</li></ul>



# Catalyst Center Application Policies

Police, Queue, Schedule and Shape

**Application Policies** **Queuing Profiles**

Application QoS Policy Name\* ☒ Wired ☐ Wireless [+ Application Registry](#)

Site Scope 0 Sites **Queuing Profiles CVD\_QUEUING\_PROFILE** Service Provider Profiles 0 Profiles [Find Application / Application Set](#)

**Business Relevant (16)**

- > authentication-services (39 applications)
- > backup-and-storage (14 applications)
- > collaboration-apps (64 applications)
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- > desktop-virtualization-apps (18 applications)
- > email (29 applications)
- > enterprise-ipc (20 applications)
- > local-services (2 applications)

**Default (6)**

- > file-sharing (32 applications)
- > general-browsing (14 applications)
- > general-media (12 applications)
- > general-misc (494 applications)
- > software-updates (15 applications)
- > tunneling (22 applications)

**Business Irrelevant (6)**

- > consumer-browsing (226 applications)
- > consumer-file-sharing (39 applications)
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# Catalyst Center Application Policies – Adding a Policy

**Application Policies** Queuing Profiles

Application QoS Policy Name\* ☒ Wired ☐ Wireless

Site Scope 0 Sites Queuing Profiles CVD\_QUEUEING\_PROFILE Service Provider Profiles 0 Profiles

[+ Application Registry](#)

Find Application / Application Set

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- > consumer-gaming (15 applications)
- > consumer-media (101 applications)
- > consumer-misc (11 applications)
- > consumer-social-networking (16 applications)

# Catalyst Center Application Policies – Policy Scope

The screenshot displays the Cisco Catalyst Center web interface for configuring Application Policies. The top navigation bar shows the Cisco logo, the text "Catalyst Center", and the current path "Policy / Application QoS". The user is logged in as "admin".

The main content area is divided into two panels. The left panel, titled "Application Policies", shows the "Queuing Profiles" tab. It includes a search bar for "Application QoS Policy Name\*" and radio buttons for "Wired" (selected) and "Wireless". Below this, there are tabs for "Site Scope 0 Sites", "Queuing Profiles CVD\_QUEUEING\_PROFILE", and "Service Provider Profiles 0 Profiles". A list of "Business Relevant" categories is shown, each with a list of applications and a count:

- authentication-services (39 applications)
- backup-and-storage (14 applications)
- collaboration-apps (64 applications)
- database-apps (34 applications)
- desktop-virtualization-apps (18 applications)
- email (29 applications)
- enterprise-ipc (20 applications)
- local-services (2 applications)

The right panel, titled "Site Scope", shows a search hierarchy. A green box highlights the "Edit Scope" button. The search hierarchy shows a tree structure with "Global" and "Las Vegas" as sites. A "Search Help" link is visible in the top right corner of the search area.

# Catalyst Center Application Policies – Policy Scope

The screenshot shows the Cisco Catalyst Center interface for configuring Application Policies. The top navigation bar includes the Cisco logo, the text 'Catalyst Center', and the path 'Policy / Application QoS'. A search bar and a user profile 'admin' are also present.

The main content area is divided into two panes. The left pane, titled 'Application Policies', shows a list of application categories under 'Business Relevant (16)' and 'Default (6)'. The right pane, titled 'Site Scope', displays a search hierarchy with 'Global' and 'Las Vegas' selected. A green box highlights the 'Las Vegas' selection, and a green arrow points to the 'Configure devices' button.

**Application Policies**

Application QoS Policy Name\* ☐ Wired ☐ Wireless

Site Scope 0 Sites Queuing Profiles CVD\_QUEUING\_PROFILE Service Provider Profiles 0 Profiles

**Business Relevant (16)**

- > authentication-services (39 applications)
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- > collaboration-apps (64 applications)
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- > email (29 applications)
- > enterprise-ipc (20 applications)
- > local-services (2 applications)

**Default (6)**

- > file (32 applications)
- > ge (14 applications)
- > ge (12 applications)
- > ge (49 applications)
- > so (15 applications)
- > tu (22 applications)

**Site Scope**

Once you have selected sites, you must assign a Service Provider Profile to an interface of any WAN facing devices to ensure your policy is configured correctly.

Search Hierarchy

- > ☒ Global
- > ☒ Las Vegas

Configure devices

# Catalyst Center Application Policies – Policy Scope

Policy / Application QoS

Site / Devices

Devices in "Las Vegas"

Find Device

Device Name	Device Role	Policy Exclusions	Service Provider Profile Settings
CiscoLive-9300.dqccie.com	ACCESS	<input type="checkbox"/> Exclude Device <a href="#">Exclude Interfaces</a>	N/A
CiscoLive-2960XR.dqccie.com	ACCESS	<input type="checkbox"/> Exclude Device <a href="#">Exclude Interfaces</a>	N/A
CiscoLive-4331.dqccie.com	BORDER ROUTER	<input type="checkbox"/> Exclude Device <a href="#">Exclude Interfaces</a>	Not configured

Showing 3 of 3 [Show more](#)

Cancel Save

# Catalyst Center Application Policies – Relevance Groups

Application Policies Queuing Profiles

Application QoS Policy Name\* ☒ Wired ☐ Wireless [+ Application Registry](#)

Site Scope 0 Sites Queuing Profiles CVD\_QUEUING\_PROFILE Service Provider Profiles 0 Profiles [Find Application / Application Set](#)

Business Relevant (16)	Default (6)	Business Irrelevant (6)
<div>&gt; authentication-services 39 applications</div>	<div>&gt; file-sharing 32 applications</div>	<div>&gt; consumer-browsing 226 applications</div>
<div>&gt; backup-and-storage 14 applications</div>	<div>&gt; general-browsing 14 applications</div>	<div>&gt; consumer-file-sharing 39 applications</div>
<div>&gt; collaboration-apps 64 applications</div>	<div>&gt; general-media 12 applications</div>	<div>&gt; consumer-gaming 15 applications</div>
<div>&gt; database-apps 34 applications</div>	<div>&gt; general-misc 494 applications</div>	<div>&gt; consumer-media 101 applications</div>
<div>&gt; desktop-virtualization-apps 18 applications</div>	<div>&gt; software-updates 15 applications</div>	<div>&gt; consumer-misc 11 applications</div>
<div>&gt; email 29 applications</div>	<div>&gt; tunneling 22 applications</div>	<div>&gt; consumer-social-networking 16 applications</div>
<div>&gt; enterprise-ipc 20 applications</div>		
<div>&gt; local-services 2 applications</div>		

> Unassigned Application Sets (1)

Close Deploy

# Catalyst Center Application Policies – Business Relevance Groups

Business Relevance Group	Traffic Class	CVD DSCP PHB / Value	Queuing and Dropping
Business Relevant	VoIP Telephony	EF / 46	Priority Queuing (PQ)
	Broadcast Video	CS5 / 40 (CS3 / 24 in RFC)	PQ
	Real-Time Interactive	CS4 / 32	PQ
	Multimedia Conferencing	AF41 / 34	Bandwidth (BW) Queue + DSCP Weighted Random Early Detection (WRED)
	Multimedia Streaming	AF31 / 26	BW Queue + DSCP WRED
	Network Control	CS6 / 48	BW Queue ONLY
	Signaling	CS3 / 24 (CS5 / 40 in RFC)	BW Queue + DSCP
	Operations, Administration, Management (OAM)	CS2 / 16	BW Queue + DSCP
	Transactional Data	AF21 / 18	BW Queue + DSCP WRED
	Bulk Data	AF11 / 10	BW Queue + DSCP WRED
Default	Default	BE / 0	Default + RED
Business Irrelevant	Scavenger	CS1 / 8	Minimum BW + DSCP

# Traffic Class – Defined Per Application

rtp-audio

Details

QoS Settings

Real Time Protocol Audio

Edit Details

Description

RTP Audio is the audio portion of Real-time Transport Protocol (RTP) which is used for streaming audio in real time for various applications. RTP works in conjunction with some streaming control protocols like RTCP, SIP, H.225 or H.245

Details:

IP/Subnet: Any

UDP Ports: 3478,5060

TCP Ports: 80,3478,5060

Traffic Class: Voip Telephony

Application Set: collaboration-apps

► Policies associated through consumer or bi-directional settings



# Catalyst Center Application Policies – Administration

Application Policies

Queuing Profiles

Application QoS Policy Name\*

CL-Wired-Policy

☒ Wired ☐ Wireless

Application Registry

Site Scope 1 Sites Queuing Profiles CVD\_QUEUING\_PROFILE Service Provider Profiles 0 Profiles

Find Application / Application Set

Business Relevant (16)

> authentication-services  
39 applications

> backup-and-storage  
14 applications

> collaboration-apps  
64 applications

> database-apps  
34 applications

> desktop-virtualization-apps  
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> email  
29 applications

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2 applications

> Unassigned Application Sets (1)

Default (6)

> file-sharing  
32 applications

> general-browsing  
14 applications

> general-media  
12 applications

> general-misc  
494 applications

> software-updates  
15 applications

> tunneling  
22 applications

Business Irrelevant (6)

> consumer-browsing  
226 applications

> consumer-file-sharing  
39 applications

> consumer-gaming  
15 applications

> consumer-media  
101 applications

> consumer-misc  
11 applications

> consumer-social-networking  
16 applications

Pre-check

Save Draft

Reset to Cisco Validated Design

Close Deploy

# Catalyst Center Application Policies – Pre-check

Pre-check Policy Configurations			
Notification		Find device	
ALL			
Errors			
Warnings			
Device Name	Device Type	Device Role	Pre-Check Result
CiscoLive-2960XR.dqccie.com	Cisco Catalyst 29xx Stack-able Ethernet Switch	ACCESS	Success
CiscoLive-4331.dqccie.com	Cisco 4331 Integrated Services Router	BORDER ROUTER	Success
CiscoLive-9300.dqccie.com	Cisco Catalyst 9300 Switch	ACCESS	Success
Showing 3 of 3 <a href="#">Show more</a>			

# Catalyst Center Application Policies – Pre-check

Pre-check Policy Configurations			
Notification		Find device	
ALL			
Errors			
Warnings			
Device Name	Device Type	Device Role	Pre-Check Result
CiscoLive-2960XR.dqccie.com	Cisco Catalyst 29xx Stack-able Ethernet Switch	ACCESS	Success
CiscoLive-4331.dqccie.com	Cisco 4331 Integrated Services Router	BORDER ROUTER	Success
CiscoLive-9300.dqccie.com	Cisco Catalyst 9300 Switch		Success

NCAS10218: Policy deployed using IP/Port and not NBAR. License is not enabled on the device.

# Catalyst Center Application Policies – Queuing Profiles

Catalyst Center

Policy / Application QoS

Application Policies

**Queuing Profiles**

Queuing Profiles

Find Profile

CVD\_QUEUING\_PROFILE  
No Policies linked

**CL\_Queue\_Profile**  
No Policies linked

Profile Name: CL\_Queue\_Profile

0%

100%

Business Relevant Voice: 10

Business Relevant Broadcast Video: 10

Business Relevant Real-Time Interactive: 13

Business Relevant Multimedia Conferencing: 10

Business Relevant Multimedia Streaming: 10

Business Relevant Network Control: 3

Business Relevant Signaling: 2

Business Relevant OAM: 2

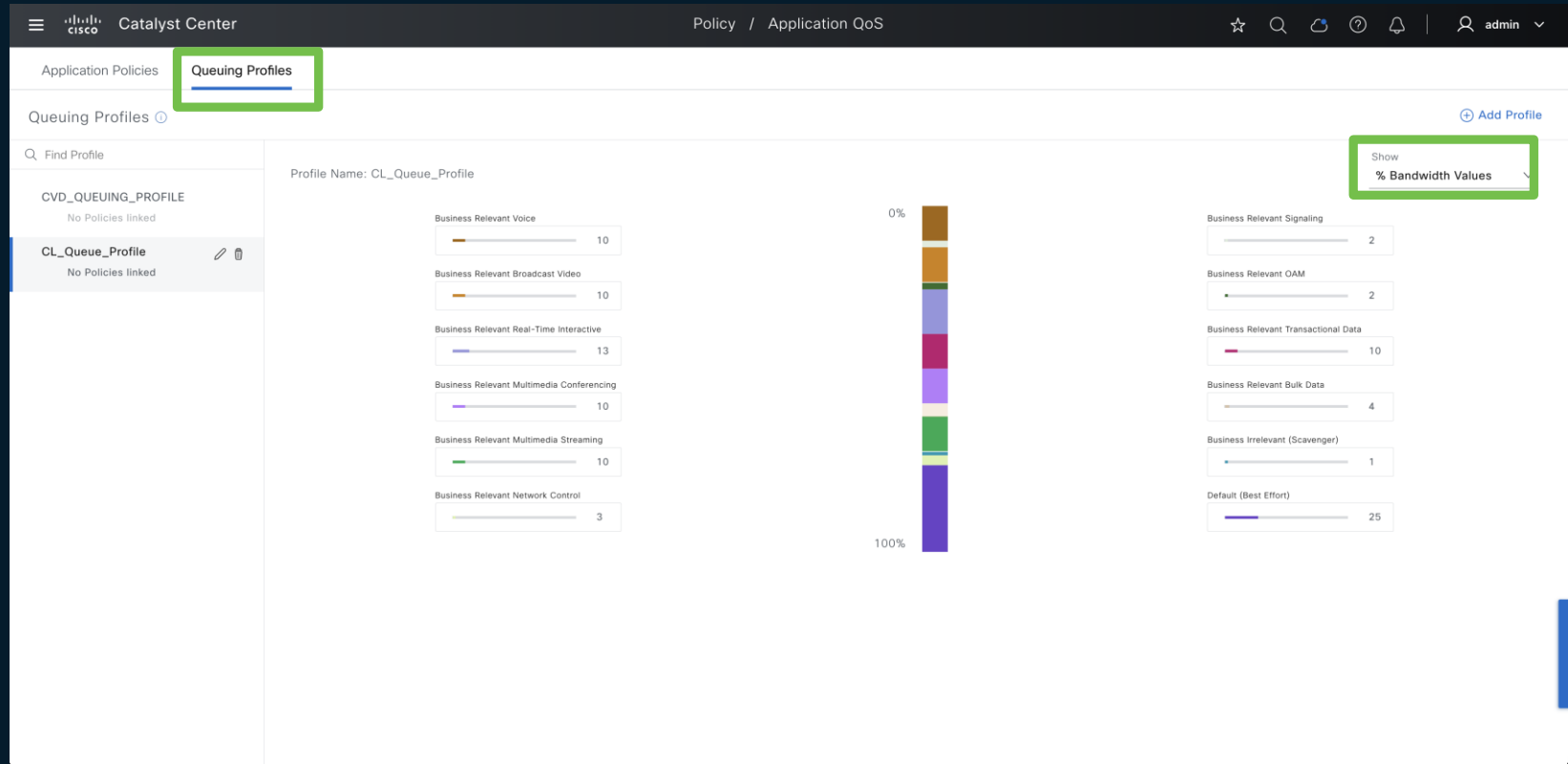
Business Relevant Transactional Data: 10

Business Relevant Bulk Data: 4

Business Irrelevant (Scavenger): 1

Default (Best Effort): 25

Show % Bandwidth Values



Traffic Type	Bandwidth Value
Business Relevant Voice	10
Business Relevant Broadcast Video	10
Business Relevant Real-Time Interactive	13
Business Relevant Multimedia Conferencing	10
Business Relevant Multimedia Streaming	10
Business Relevant Network Control	3
Business Relevant Signaling	2
Business Relevant OAM	2
Business Relevant Transactional Data	10
Business Relevant Bulk Data	4
Business Irrelevant (Scavenger)	1
Default (Best Effort)	25

# Catalyst Center Application Policies – Queuing Profiles

Catalyst Center Policy / Application QoS

Application Policies **Queuing Profiles**

Queuing Profiles ⓘ [Add Profile](#)

Find Profile

CVD\_QUEUING\_PROFILE  
No Policies linked

**CL\_Queue\_Profile**   
No Policies linked

Profile Name\*  
CL\_Queue\_Profile

☒ Apply to all References

Show DSCP Values

Business Relevant Voice	46 (EF)	Business Relevant Signaling	24 (CS3)
Business Relevant Broadcast Video	40 (CS5)	Business Relevant OAM	16 (CS2)
Business Relevant Real-Time Interactive	32 (CS4)	Business Relevant Transactional Data	18 (AF21)
Business Relevant Multimedia Conferencing	34 (AF41)	Business Relevant Bulk Data	10 (AF11)
Business Relevant Multimedia Streaming	26 (AF31)	Business Irrelevant (Scavenger)	8 (CS1)
Business Relevant Network Control	48 (CS6)	Default (Best Effort)	0 (Best Effort)

Reset to Cisco Validated Design

[Cancel](#) [Save](#)

# Catalyst Center Application Policies – Wireless

**Catalyst Center** Policy / Application QoS

**Application Policies** Queuing Profiles

Deploying "Wireless" application QoS policy will configure up to 32 prioritized applications for AireOS based device. You can view the list of applications through "Wireless Applications".

To deploy wireless application QoS policy on IOS-XE based wireless controllers, APs connected to wireless controllers has to be provisioned successfully.

Application QoS Policy Name\* **CL\_Wireless\_Policy** ☐ Wired ☒ **Wireless** SSID

Site Scope 0 Sites Queuing Profiles CVD\_QUEUING\_PROFILE Wireless Applications Find SSID

BRKOPS-2137

Find Application / Application Set

**Business Relevant (16)**

- > authentication-services 39 applications
- > backup-and-storage 14 applications
- > collaboration-apps 64 applications
- > database-apps 34 applications
- > desktop-virtualization-apps 18 applications
- > email 29 applications
- > enterprise-ipc 20 applications
- > local-services

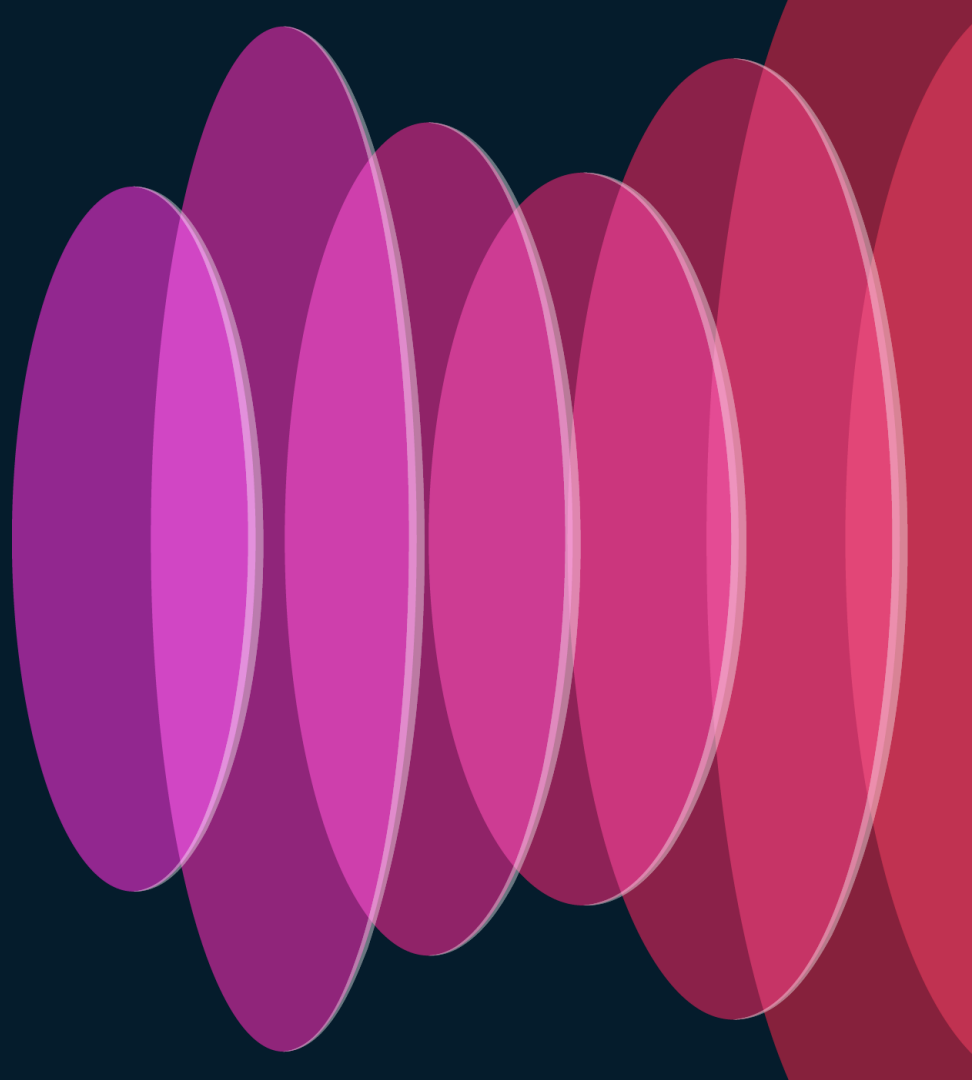
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# Defining Custom Applications

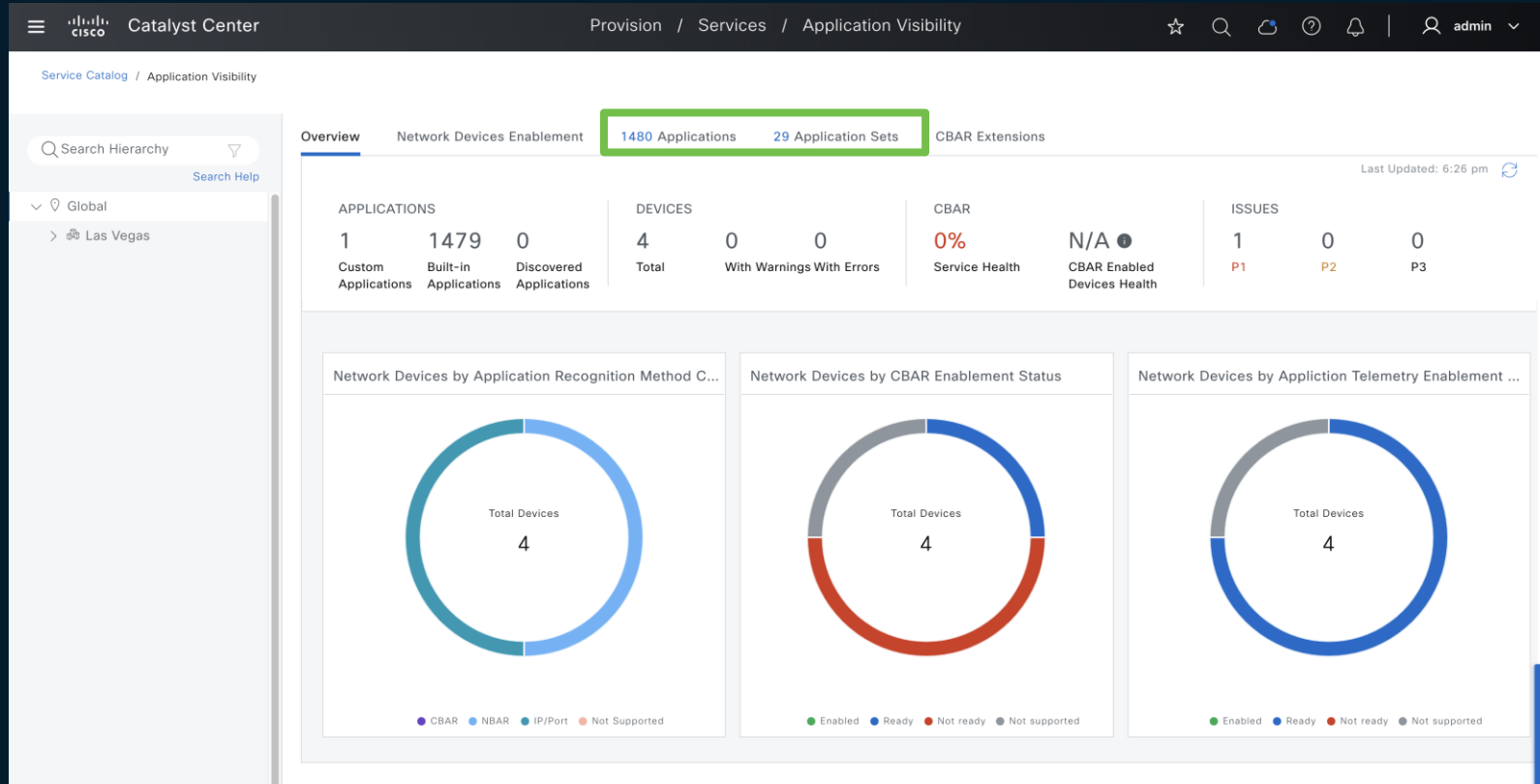


# Custom Applications

The screenshot displays the Cisco Catalyst Center interface. On the left, a dark navigation sidebar contains the following items: Design, Policy, Provision (highlighted with a green box), Assurance, Workflows, Tools, Platform, Activities, Reports, System, and Explore. The main content area is divided into three sections: NETWORK DEVICES (Inventory, Plug and Play, LAN Automation, Inventory Insights), SD-ACCESS (Zero-Trust Overview, Fabric Sites, Virtual Networks, Transits), and SERVICES (Service Catalog, Cisco User Defined Network, Application Visibility (highlighted with a green box), Stealthwatch Security, App Hosting for Switches, IoT Services, Umbrella, and Site to Site VPN). The rightmost pane shows a dashboard with a 'Critical Issues' section containing a 'Application Visibility' card with a large blue '0' and 'P1' label. Below this is a 'Work Devices' section with a large blue '5' and a status summary: Unclaimed: 0, Unprovisioned: 0, and Unreachable: 1.



# Custom Applications – Application Registry



# Custom Applications – Add Application Set

The screenshot displays the Cisco Catalyst Center interface for Application Visibility. The top navigation bar includes the Cisco logo, 'Catalyst Center', and a breadcrumb trail: 'Provision / Services / Application Visibility'. On the right of the header are icons for favorites, search, notifications, and a user profile labeled 'admin'.

The main content area is titled 'Service Catalog / Application Visibility'. It features a left sidebar with a 'Search Hierarchy' section containing 'Global' and 'Las Vegas' locations. The main panel has tabs for 'Overview', 'Network Devices Enablement', '1479 Applications', '28 Application Sets' (highlighted with a green box), and 'CBAR Extensions'. Below the tabs is a search bar 'Find Application / Application Set' and a 'Show' dropdown set to 'All'. A horizontal filter bar shows categories: 'All', '#', 'A - F', 'G - K', 'L - P', 'Q - T', and 'U - Z'. The 'All' category is selected, displaying a grid of application sets. Each set includes a chevron icon, the set name, and the number of applications it contains. A green box highlights the 'Add Application Set' button in the top right corner of the main panel.

Application Set	Applications
authentication-services	39
consumer-browsing	226
consumer-media	101
database-apps	34
enterprise-ipc	20
general-media	12
naming-services	13
remote-access	27
backup-and-storage	14
consumer-file-sharing	39
consumer-misc	11
desktop-virtualization-apps	18
file-sharing	32
general-misc	494
network-control	35
saas-apps	16
collaboration-apps	64
consumer-gaming	15
consumer-social-networking	16
email	29
general-browsing	14
local-services	2
network-management	138
signalling	25

**Summary**

- Total Application Sets: 28
- Custom Applications Sets: 0
- Total Applications: 1479
- Favorite Applications: 0
- Custom Applications: 0
- Discovered Applications: 0

# Custom Applications – Add Application Set

The screenshot shows a web interface for adding a custom application set. At the top, there is a navigation bar with icons for home, search, help, and notifications, along with a user profile labeled 'admin'. The main dialog is titled 'Add Application Set' and contains the following fields:

- Application set name\***: A text input field containing 'CL\_Relevant\_Set'.
- Default Business Relevance**: A dropdown menu currently showing 'Default'. A tooltip labeled 'Business Relevant' is visible next to the dropdown.
- Business Relevance**: A list of three options: 'Business Relevant' (highlighted), 'Business Irrelevant', and 'Default'.

At the bottom of the dialog, there are two buttons: 'Cancel' and 'Save'.

# Custom Applications – Add Application Set

The screenshot displays the Cisco Catalyst Center interface for Application Visibility. The top navigation bar includes the Cisco logo, 'Catalyst Center', and a breadcrumb trail: 'Provision / Services / Application Visibility'. On the right of the header are icons for favorites, search, notifications, help, and a user profile labeled 'admin'.

The main content area is titled 'Service Catalog / Application Visibility'. It features a left-hand sidebar with a 'Search Hierarchy' section containing 'Global' and 'Las Vegas' locations. The main panel has tabs for 'Overview', 'Network Devices Enablement', '1479 Applications', '31 Application Sets' (which is selected), and 'CBAR Extensions'.

Within the '31 Application Sets' tab, there is a search bar labeled 'Find Application / Application Set' and a 'Show' dropdown menu set to 'Custom sets'. Below this is a filter bar with tabs: 'All', '#', 'A - F', 'G - K', 'L - P', 'Q - T', and 'U - Z'. The 'All' tab is active.

A green rectangular box highlights the list of application sets. It contains three items, each with a chevron icon, a name, and a count of '0 applications':

- CL\_Default\_Set**
- CL\_Irrelevant\_Set**
- CL\_Relevant\_Set**

To the right of the list is a blue button labeled '+ Add Application Set'. Further right is a 'Summary' section with the following statistics:

- Total Application Sets: 31
- Custom Applications Sets: 3
- Total Applications: 1479
- Favorite Applications: 0
- Custom Applications: 0
- Discovered Applications: 0

# Custom Applications – Add Application

The screenshot displays the Cisco Catalyst Center interface for Application Visibility. The top navigation bar includes the Cisco logo, 'Catalyst Center', and a breadcrumb trail: 'Provision / Services / Application Visibility'. On the right of the top bar are icons for favorites, search, refresh, help, notifications, and a user profile labeled 'admin'.

Below the top bar, the 'Service Catalog / Application Visibility' section is active. A left-hand sidebar contains a 'Search Hierarchy' with a search icon and a 'Search Help' link. The hierarchy shows a tree structure with 'Global' and 'Las Vegas' as locations.

The main content area has a tabbed interface with 'Overview', 'Network Devices Enablement', '1479 Applications' (highlighted with a green box), '31 Application Sets', and 'CBAR Extensions'. Below the tabs, there's a search bar labeled 'Find Application'. To the right of the search bar are two dropdown menus: 'Show' set to 'All' and 'View By' set to 'Traffic Class'. Further right is an 'Action' dropdown and an information icon.

Below these controls, there's a list of application categories: 'All' (selected), '#', 'A - F', 'G - K', 'L - P', 'Q - T', and 'U - Z'. Under the 'Control' category, there are three expandable items: 'Network Control' (34 applications), 'Signaling' (32 applications), and 'Ops Admin MGMT' (216 applications). Under the 'Voice / Video' category, there are four expandable items: 'Voip Telephony' (19 applications), 'Broadcast Video' (3 applications), 'Real Time Interactive' (1 application), and 'Multimedia Streaming' (79 applications).

On the right side of the main content area, there's a green box containing a '+ Add Application' button. Below this, an 'Applications Summary' section provides statistics: 'Total Applications: 1479', 'Favorite Applications: 0', 'Custom Applications: 0', and 'Discovered Applications: 0'.

# Custom Applications – Add Application

ibility ☆ 🔍 ↺ ⓘ 🔔 | 👤 admin ▾

## Add Application ✕

CL\_Relevant\_App

Type

☐ Server Name ☒ Server IP/Port ☐ URL

☐ DSCP 0 (Best Effort) ▾ ⓘ

☒ IP/Port Classifier

IP/Subnet	Protocol	Port / Range
10.10.10.10/32	TCP ▾	443

+

☐ Similar To

Select an application ▾ ⓘ

☒ Traffic Class

Voip Telephony ▾

Application Set

CL\_Relevant\_Set ▾

Cancel Save

# Custom Applications – Add Application

The screenshot displays the Cisco Catalyst Center interface for Application Visibility. The top navigation bar includes 'Provision / Services / Application Visibility' and a user profile 'admin'. The left sidebar shows a search hierarchy with 'Global' and 'Las Vegas' locations. The main content area features a search bar with 'CL' entered, a 'Show' dropdown set to 'Custom', and a 'View By' dropdown set to 'Application'. A green box highlights a table of applications:

All	#	A - F	G - K	L - P	Q - T	U - Z
<input type="checkbox"/>	★	CL_Default_App				
<input type="checkbox"/>	★	CL_Irrelevant_App				
<input type="checkbox"/>	★	CL_Relevant_App				

Below the table is a 'Load More' link. To the right of the table, there is an 'Add Application' button and an 'Applications Summary' section with the following statistics:

- Total Applications: 1482
- Favorite Applications: 3
- Custom Applications: 3
- Discovered Applications: 0

# Custom Applications – Add To Policy (Drag and Drop)

The screenshot displays the Cisco Catalyst Center interface for managing Application Policies. The breadcrumb navigation at the top shows 'Policy / Application QoS'. The main section is titled 'Application Policies' and 'Queuing Profiles'. The 'Application QoS Policy Name\*' is set to 'CL\_WIRED\_POLICY', with 'Wired' selected as the connection type. A search bar on the right contains 'CL\_'. Below the policy name, there are three categories: 'Business Relevant (0)', 'Default (0)', and 'Business Irrelevant (0)'. At the bottom, there is a section for 'Unassigned Application Sets (0)' which contains two items: '> CL\_Default\_Set' (1 applications) and '> CL\_Irrelevant\_Set' (1 applications). Green arrows indicate the drag-and-drop process from the 'Unassigned Application Sets' to the policy categories. A green box highlights the search bar and the 'Unassigned Application Sets' section.



# Custom Applications – Add To Policy

The screenshot displays the Cisco Catalyst Center interface for configuring Application QoS. The top navigation bar shows 'Policy / Application QoS' and a user profile 'admin'. The main content area is titled 'Application Policies' and 'Queuing Profiles'. The policy name is 'CL\_WIRED\_POLICY', and the 'Wired' tab is selected. A green box highlights the top section of the page, including the policy name, tabs, and the application set cards. The application sets are categorized into 'Business Relevant (1)', 'Default (1)', and 'Business Irrelevant (1)'. Each set contains one application: 'CL\_Relevant\_Set', 'CL\_Default\_Set', and 'CL\_Irrelevant\_Set'. Below the application sets, there is a link to 'Unassigned Application Sets (28)'. At the bottom right, there are 'Close' and 'Deploy' buttons.

Application Policies Queuing Profiles

Application QoS Policy Name\*  
CL\_WIRED\_POLICY

Wired Wireless

Application Registry

Site Scope 1 Sites Queuing Profiles CVD\_QUEUING\_PROFILE Service Provider Profiles 0 Profiles

Business Relevant (1)

CL\_Relevant\_Set  
1 applications ★ 1

Default (1)

CL\_Default\_Set  
1 applications ★ 1

Business Irrelevant (1)

CL\_Irrelevant\_Set  
1 applications ★ 1

> Unassigned Application Sets (28)

Close Deploy

# Custom Applications – “Consumer” Settings

The screenshot shows the Cisco Catalyst Center interface for configuring Application QoS. The top navigation bar includes the Cisco logo, 'Catalyst Center', and a breadcrumb trail 'Policy / Application QoS'. The user is logged in as 'admin'. The main section is titled 'Application Policies' and 'Queuing Profiles'. Below this, there's a form for 'Application QoS Policy Name' with the value 'CL\_Wired\_Policy(Draft)' and radio buttons for 'Wired' (selected) and 'Wireless'. A '+ Application Registry' button is on the right. Below the form, there are three application sets: 'Business Relevant (1)' containing 'CL\_Relevant\_Set' (1 application), 'Default (1)' containing 'CL\_Default\_Set' (1 application), and 'Business Irrelevant (1)' containing 'CL\_Irrelevant\_Set' (1 application). The 'Business Relevant (1)' set is highlighted with a green box.

Producer = Destination of traffic (think ACL)  
Consumer = Source of traffic (think ACL)

# Custom Applications – “Consumer” Settings

The screenshot shows the Cisco Catalyst Center interface for configuring Application QoS. The main panel displays the 'Application Policies' section with a 'Queuing Profiles' tab. The 'Application QoS Policy Name' is set to 'CL\_Wired\_Policy(Draft)'. The 'Site Scope' is '1 Sites', 'Queuing Profiles' is 'CL\_Queue\_Profile', and 'Service Provider Profiles' is '0 Profiles'. The 'Business Relevant' section shows a list of applications, including 'CL\_Relevant\_Set' with 1 application. The 'Default' section shows a list of applications, including 'CL\_Default\_Set' with 1 application. The right panel shows the 'CL\_Relevant\_App' configuration page, which includes a 'Details' tab and a 'QoS Settings' tab. The 'Details' tab shows the application name 'CL\_Relevant\_App' and an 'Edit Details' button. The 'QoS Settings' tab shows the 'Port Classifiers' table, which lists the IP Address '10.10.10.10/32', Protocol 'TCP', and Port '443'. The 'Traffic Class' is 'Voip Telephony' and the 'Application Set' is 'CL\_Relevant\_Set'. A link for 'Policies associated through consumer or bi-directional settings' is also visible.

**Application Policies** Queuing Profiles

Application QoS Policy Name  
CL\_Wired\_Policy(Draft) ☒ Wired ☐ Wireless

Site Scope 1 Sites Queuing Profiles CL\_Queue\_Profile Service Provider Profiles 0 Profiles

Business Relevant (1)

- CL\_Relevant\_Set  
1 applications 1

Find Application

CL\_Relevant\_App

Default (1)

- CL\_Default\_Set  
1 applications 1

CL\_Relevant\_App

Details QoS Settings

CL\_Relevant\_App Edit Details

Port Classifiers:

IP Address	Protocol	Ports
10.10.10.10/32	TCP	443

Traffic Class: Voip Telephony  
Application Set: CL\_Relevant\_Set

> Policies associated through consumer or bi-directional settings

OK

# Custom Applications – “Consumer” Settings

The screenshot displays the Cisco Catalyst Center interface for configuring Application QoS. The main panel shows the 'CL\_Relevant\_App' configuration page, with the 'QoS Settings' tab highlighted. The configuration includes 'Application QoS Settings' with 'Traffic Direction' set to 'Unidirectional'. A green box highlights the configuration text:

```
ip access-list extended DNA-APIC_QOS_IN#VOICE__acl
remark CL_Relevant_App
PERMIT TCP any host 10.10.10.10 eq 443
```

The interface also shows a list of application sets on the left, including 'CL\_Relevant\_Set' and 'CL\_Default\_Set'. The bottom right corner features 'Cancel' and 'Save' buttons.

# Custom Applications – “Consumer” Settings

The screenshot shows the Cisco Catalyst Center interface for configuring Application QoS. The main panel displays the 'CL\_Relevant\_App' configuration. The 'QoS Settings' tab is selected and highlighted with a green box. The 'Application QoS Settings' section shows 'Traffic Direction' set to 'Unidirectional' (selected with a radio button) and 'Bi-directional' (unselected). Below this, the 'Consumer' dropdown menu is visible, with a green arrow pointing to it from a text box. The text box contains the following configuration commands:

```
ip access-list extended DNA-APIC_QOS_IN#VOICE__acl
remark CL_Relevant_App
PERMIT TCP host 10.10.10.10 eq 443 any
PERMIT TCP any host 10.10.10.10 eq 443
```

The 'Consumer' dropdown menu is currently empty, and a green arrow points to it from the text box. The 'Add Consumer' button is visible to the right of the dropdown. The 'Cancel' and 'Save' buttons are at the bottom right of the configuration panel.

# Custom Applications – “Consumer” Settings

The screenshot displays the Cisco Catalyst Center interface for configuring Application QoS. The main panel shows the 'Application Policies' section with the policy name 'CL\_Wired\_Policy(Draft)' and the 'Wired' radio button selected. Below this, there are tabs for 'Site Scope', 'Queuing Profiles', and 'Service Provider Profiles'. The 'Business Relevant' section shows a list of application sets, including 'CL\_Relevant\_Set' which contains 'CL\_Relevant\_App'. The 'Default' section shows 'CL\_Default\_Set'. A right-hand panel titled 'CL\_Relevant\_App' is open, showing the 'QoS Settings' tab. Under 'Application QoS Settings', the 'Traffic Direction' is set to 'Unidirectional'. A green box highlights the 'Add Consumer' button. Below this, there is a 'Consumer' dropdown menu.

Policy / Application QoS

Application Policies Queuing Profiles

Application QoS Policy Name  
CL\_Wired\_Policy(Draft) ☒ Wired ☐ Wireless

Site Scope 1 Sites Queuing Profiles CL\_Queue\_Profile Service Provider Profiles 0 Profiles

Business Relevant (1)

CL\_Relevant\_Set  
1 applications ★ 1

Find Application

★ CL\_Relevant\_App

Default (1)

CL\_Default\_Set  
1 applications ★ 1

CL\_Relevant\_App

Details QoS Settings

Application QoS Settings

Traffic Direction:  
☒ Unidirectional ☐ Bi-directional

Consumer

Unassigned Application Sets (28)

Cancel Save

# Custom Applications – “Consumer” Settings

The screenshot displays the Cisco Catalyst Center interface for configuring Application QoS. The main navigation bar shows 'Policy / Application QoS' and the user 'admin'. The left sidebar contains 'Application Policies' and 'Queuing Profiles'. The main content area is divided into two panels: 'Business Relevant (1)' and 'Default (1)'. The 'Business Relevant' panel shows a list of application sets, including 'CL\_Relevant\_Set' with 1 application. The 'Default' panel shows 'CL\_Default\_Set' with 1 application. A modal window titled 'Application Settings / Consumer' is open, showing the 'CL\_Relevant\_App' consumer. The 'Consumer Name\*' field is highlighted with a green box. Below it, there are input fields for 'IP/Subnet', 'Select Value', and 'Port / Range', with a green box highlighting a plus icon in a circle next to the 'Port / Range' field. At the bottom of the modal, there are 'Cancel' and 'Create Consumer' buttons.

Application Policies / Queuing Profiles

Application QoS Policy Name  
CL\_Wired\_Policy(Draft) ☒ Wired ☐ Wireless

Site Scope 1 Sites Queuing Profiles CL\_Queue\_Profile Service Provider Profiles 0 Profiles

Business Relevant (1)

CL\_Relevant\_Set  
1 applications ★ 1

Find Application

★ CL\_Relevant\_App

Default (1)

CL\_Default\_Set  
1 applications ★ 1

Application Settings / Consumer

CL\_Relevant\_App

Consumer Name\*

IP/Subnet Select Value Port / Range

Cancel Create Consumer

# Custom Applications – “Consumer” Settings

The screenshot displays the Cisco Catalyst Center interface for configuring Application QoS. The main panel is titled 'Application Policies' and 'Queuing Profiles'. It shows a policy named 'CL\_Wired\_Policy(Draft)' with 'Wired' selected. Below, there are sections for 'Business Relevant (1)' and 'Default (1)'. The 'Business Relevant' section shows a list with 'CL\_Relevant\_Set' (1 application). The 'Default' section shows 'CL\_Default\_Set' (1 application). A right-hand panel, titled 'Application Settings / Consumer', is open for 'CL\_Relevant\_App'. It shows the 'Consumer Name\*' as 'CL\_Consumer'. Below this, there is a table for defining application settings:

IP/Subnet	Protocol	Port / Range
10.50.50.50	IP	

A blue plus icon is next to the table. At the bottom right of the right-hand panel, there are 'Cancel' and 'Create Consumer' buttons. The 'Create Consumer' button is highlighted with a green box.



# Custom Applications – “Consumer” Settings

The screenshot shows the Cisco Catalyst Center interface for configuring Application QoS. The left pane displays the 'CL\_Relevant\_Set' application set, which contains the 'CL\_Relevant\_App' application. The right pane shows the 'CL\_Relevant\_App' configuration page, specifically the 'QoS Settings' tab. The 'Application QoS Settings' section is visible, showing 'Traffic Direction' set to 'Unidirectional'. A green arrow points from the 'CL\_Relevant\_Set' application set in the left pane to the 'CL\_Relevant\_App' configuration page. A green box highlights the CLI commands for the configuration.

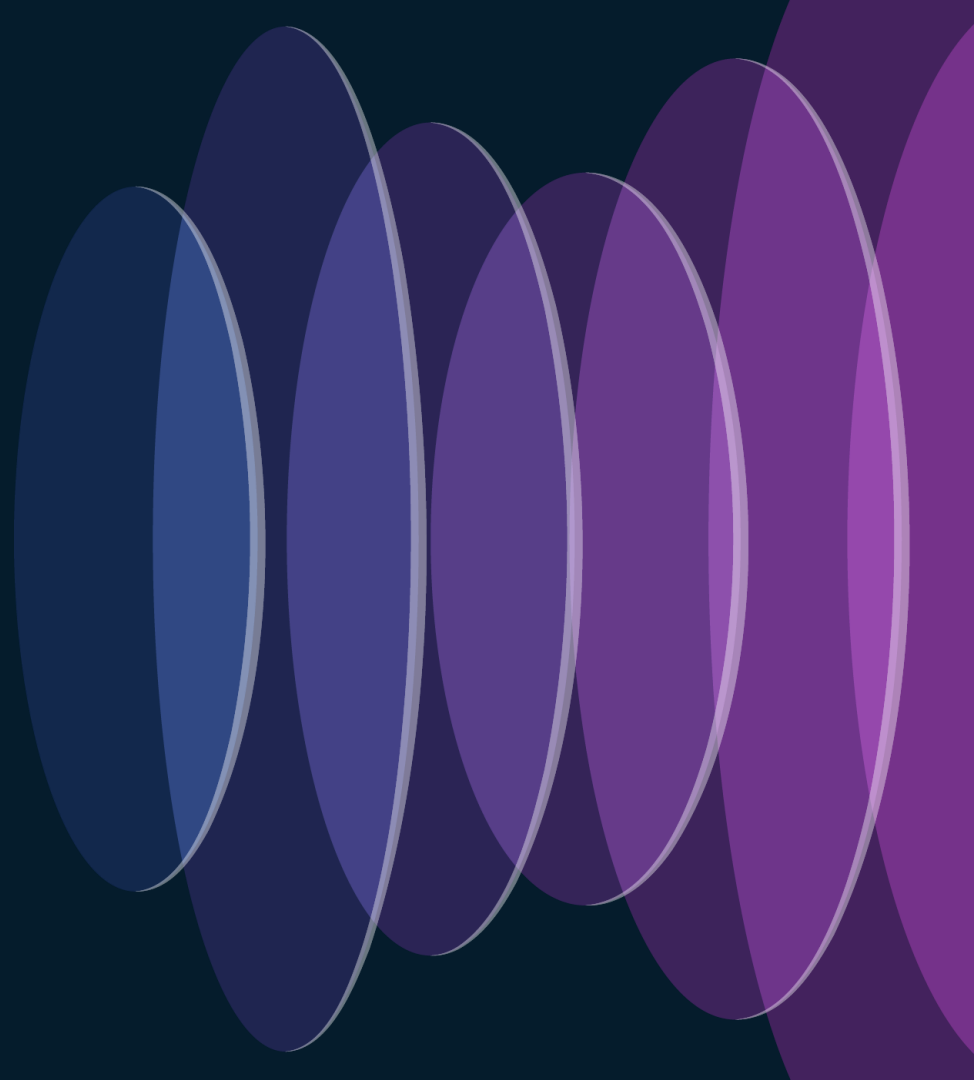
```
ip access-list extended DNA-APIC_QOS_IN#VOICE__acl
remark CL_Consumer__CL_Relevant_App
PERMIT TCP host 10.50.50.50 host 10.10.10.10 eq 443
```

# Custom Applications – “Consumer” Settings

The screenshot displays the Cisco Catalyst Center interface for configuring Application QoS. The main panel shows the 'CL\_Relevant\_App' configuration. The 'QoS Settings' tab is active, showing 'Traffic Direction' set to 'Bi-directional'. A green arrow points from a text box containing the following ACL configuration commands to the 'Consumer' dropdown menu, which currently shows 'CL\_Consumer'.

```
ip access-list extended DNA-APIC_QOS_IN#VOICE__acl
remark CL_Relevant_App__CL_Consumer
PERMIT TCP host 10.10.10.10 eq 443 host 10.50.50.50
remark CL_Consumer__CL_Relevant_App
PERMIT TCP host 10.50.50.50 host 10.10.10.10 eq 443
```

# Deploying the Policy



# Deploying Policy – Scheduling

The screenshot displays the Cisco Catalyst Center interface for managing Application Policies. The main window shows the 'Application Policies' section with a 'Queuing Profiles' tab. A 'Deploy Policy' dialog box is open, featuring a green border. Inside the dialog, a warning message states: 'This workflow supports enforcing network administrators and other users to preview configurations before deploying them on the network devices. To configure this setting, go to [System → Settings → Visibility and Control of Configurations](#)'. Below this, there are three radio button options: 'Now', 'Later', and 'Generate configuration preview' (which is selected). A tooltip points to the 'Generate configuration preview' option, stating: 'As the current setting to enforce configuration preview is disabled, all options including now and later are enabled.' The 'Task Name\*' field is populated with 'Schedule CL\_Wired\_Policy'. At the bottom of the dialog are 'Cancel' and 'Apply' buttons.

**Deploy Policy**

This workflow supports enforcing network administrators and other users to preview configurations before deploying them on the network devices. To configure this setting, go to [System → Settings → Visibility and Control of Configurations](#)

☐ Now


☐ Later

☒ **Generate configuration preview** ⓘ  
Creates preview which can be later used to [Items](#)

Task Name\*  
**Schedule CL\_Wired\_Policy**

Cancel Apply

# Deploying Policy – Scheduling

 Catalyst Center

Policy / Application QoS

☆ 🔍 🔄 ⓘ 🔔 | 👤 admin ▾

## Schedule CL\_Wired\_Policy

As of: 2:11:35 PM

Step 1 of 3: Performing Initial Checks

Cisco Catalyst Center is now performing early validations to ensure a seamless provisioning operation.


✓ Pending Operations ⓘ

Success. No pending operations conflicting with the current operation found.

✓ Device Compliance ⓘ

Success. No compliance violations found for the devices involved in the current operation.

Click [here](#) to see what is included in the configuration compliance check. Certain items like EoX - End of Life, Startup vs Running Configuration, Software Image, etc., which are part of overall compliance calculation are not included in this check as they don't impact the current operation. When compliance run is in progress, then last known compliance data is used to determine the list of the devices.


 Exit

Recheck

Back

Next

# Deploying Policy – Scheduling

 Catalyst Center

Policy / Application QoS

☆ 🔍 🔄 ⓘ 🔔 | 👤 admin ▾

## Schedule CL\_Wired\_Policy

As of: 2:17:56 PM [Refresh](#)

Step 2 of 3: Preparing Devices and Configuration Models

The target devices and new configuration models are now being calculated. Click [Exit and Preview Later](#) to defer the review. The deferred review can be found in the [Tasks](#) menu.


Status: 🔄 In Progress

🔍 Search by device name

CiscoLive-2960XR.dqccle...

CiscoLive-4331.dqccle.c...

Looking for more devices...



Target devices and new configuration models are being calculated. Once complete, you can select devices listed on the left to generate configuration for them.

● ● ● ● ● ● ● ●

[🔗 Generation Status Legend](#)

[Exit and Preview Later](#) [Discard](#) [🔄](#)

# Deploying Policy – Preview Configs

Catalyst Center

Policy / Application QoS

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🔔

|

👤 admin ▼

Schedule CL\_Wired\_Policy

Step 3 of 3: Preview Configuration

Review the device configuration provided below by clicking on each device. When you are done reviewing, click Deploy.

As of: 2:15:55 PM [Refresh](#)

Status: 🟢 Ready

🔍 Search by device name

CiscoLive-2960XR.dqccie... 🟢

CiscoLive-4331.dqccie.c...

CiscoLive-9300.dqccie.c... 🟢

Device IP: 10.64.5.34 Site: Global/Las Vegas/Mandal... 🔍

Configurations - Side by side view

View by Configuration Source • All ▼

🔍 Search all configurations

Configuration to be Deployed 🔍

523 Line(s)

```
1 ip access-list extended DNA-APIC_QOS_INFVOICE_acl
2 remark CL_Relevant_App_CL_Consumer
3 PERMIT TCP host 10.10.10.10 eq 443 host 10.50.50.50
4 remark CL_Consumer_CL_Relevant_App
5 PERMIT TCP host 10.50.50.50 host 10.10.10.10 eq 443
6 ip access-list extended DNA-APIC_QOS_INFSCAVERGER_acl
7 remark CL_Irrelevant_App
8 PERMIT TCP any host 20.20.20.20 eq 123
9 ip access-list extended DNA-APIC_QOS_INF#TUNNELED_acl
10 remark capwap-data
11 PERMIT UDP any any eq 5246
12 PERMIT UDP any any eq 5247
13 remark vxlan
14 PERMIT UDP any any eq 4789
15 class-map match-any DNA-APIC_QOS_INFVOICE
16 match access-group name DNA-APIC_QOS_INFVOICE_acl
17 class-map match-any DNA-APIC_QOS_INF#BROADCAST
18 class-map match-any DNA-APIC_QOS_INF#REALTIME
19 class-map match-any DNA-APIC_QOS_INFMM_CONF
20 class-map match-any DNA-APIC_QOS_INFMM_STREAM
21 class-map match-any DNA-APIC_QOS_INF#SIGNALING
22 class-map match-any DNA-APIC_QOS_INFPOAM
23 class-map match-any DNA-APIC_QOS_INF#TRANS_DATA
24 class-map match-any DNA-APIC_QOS_INF#BULK_DATA
25 class-map match-any DNA-APIC_QOS_INF#SCAVERGER
26 match access-group name DNA-APIC_QOS_INF#SCAVERGER_acl
27 class-map match-any DNA-APIC_QOS_INF#TUNNELED
28 match access-group name DNA-APIC_QOS_INF#TUNNELED_acl
```

Running Configuration 🔍

658 Line(s)

```
1 Building configuration...
2
3 Current configuration : 21404 bytes
4 !
5 ! Last configuration change at 07:52:54 EDT Fri Apr 19 2024
6 !
7 version 17.6
8 service timestamps debug datetime msec
9 service timestamps log datetime msec
10 service call-home
11 service unsupported-transceiver
12 no platform punt-keepalive disable-kernel-core
13 !
14 hostname CiscoLive-9300
15 !
16 !
17 vrf definition Mgmt-vrf
18 !
19 address-family ipv4
20 exit-address-family
21 !
22 address-family ipv6
23 exit-address-family
24 !
25 !
26 aaa new-model
27 !
28
```

🔗 Generation Status Legend

Exit and Preview Later

Discard

Deploy

# Deploying Policy – Deployment

Catalyst Center

Policy / Application QoS

☆

🔍

🔄

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🔔

admin

Schedule CL\_Wired\_Policy

Step 3 of 3: Preview Configuration

Review the device configuration provided below by clicking on each device. When you are done reviewing, click Deploy.

🔍 Search by device name

CiscoLive-2960XR.dqccie... ✔

CiscoLive-4331.dqccie.c...

CiscoLive-9300.dqccie.c...

Device IP: 10.64.5.35    Site: Global/Las Vegas/Mandal... ⓘ

Configurations – Side by side view

View by Configuration Source • All ▾

Configuration to be Deployed ⓘ

284 Line(s)

```
1 mls qos
2 ip access-list extended DNA-APIC_QOS_INFVOICE_acl
3 remark CL_Relevant_App_CL_Consumer
4 PERMIT TCP host 10.10.10.10 eq 443 host 10.50.50.50
5 remark CL_Consumer_CL_Relevant_App
6 PERMIT TCP host 10.50.50.50 host 10.10.10.10 eq 443
7 ip access-list extended DNA-APIC_QOS_INFSCAVENGER_acl
8 remark CL_Irrelevant_App
9 PERMIT TCP any host 20.20.20.20 eq 123
10 ip access-list extended DNA-APIC_QOS_INF#TUNNELED_acl
11 remark capwap-data
12 PERMIT UDP any any eq 5246
13 PERMIT UDP any any eq 5247
14 remark vxlan
15 PERMIT UDP any any eq 4789
16 class-map match-any DNA-APIC_QOS_INFVOICE
17 match access-group name DNA-APIC_QOS_INFVOICE_acl
18 class-map match-any DNA-APIC_QOS_INF#BROADCAST
19 class-map match-any DNA-APIC_QOS_INF#REALTIME
20 class-map match-any DNA-APIC_QOS_INF#M_CONF
21 class-map match-any DNA-APIC_QOS_INF#M_STREAM
22 class-map match-any DNA-APIC_QOS_INF#SIGNALING
23 class-map match-any DNA-APIC_QOS_INF#M
24 class-map match-any DNA-APIC_QOS_INF#TRANS_DATA
25 class-map match-any DNA-APIC_QOS_INF#BULK_DATA
26 class-map match-any DNA-APIC_QOS_INF#SCAVENGER
27 match access-group name DNA-APIC_QOS_INFSCAVENGER_acl
28 class-map match-any DNA-APIC_QOS_INF#TUNNELED
```

ⓘ Generation Status Legend

Deploy

☒ Now    ☐ Later

Task Name\*

Schedule CL\_Wired\_Policy

Once submitted, the progress and relevant information can be tracked from the [Activities > Tasks](#) window.

Cancel

Submit



# Deploying Policy – Deployment

Catalyst Center

Policy / Application QoS

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Application Policies

Queuing Profiles

☐ Deploy by default on wired devices ⓘ

As of: Apr 21, 2024 2:20 PM 

🔄

➕ Add

Filter

Actions ▼

1 Selected

Policy Name ▲	Version	Policy Status	Deployment Status ⓘ	Scope	Queuing Profile
<input type="radio"/> Blank_Policy (Draft)	4	Draft	N/A	1 Sites	CL_Queue_Profile
<input checked="" type="radio"/> CL_Wired_Policy	1	Deploying	0/3 Devices Provisioned	1 Sites	CL_Queue_Profile
<input type="radio"/> CL_Wired_Policy (Draft)	3	Draft	N/A	1 Sites	CL_Queue_Profile

Showing 3 of 3

Task Submitted

View status in [Tasks](#)

# Deploying Policy – Deployment

The screenshot shows the Cisco Catalyst Center interface for deploying a policy named **CL\_Wired\_Policy**. The left sidebar shows the policy selection menu with **CL\_Wired\_Policy** selected. The main area displays a summary of deployment statistics and a table of devices being configured.

**Deployment Summary:**

- Total devices: 3
- Failed devices: 0
- Successful devices: 0
- Terminated devices: 0
- New devices: 0
- Devices being configured: 3

**Device Deployment Table:**

Device Name	Site	Status	Status Details	Device Type	Network Role	Device IP Address
CiscoLive-2960XR.dqccie.com	Global/Las Vegas/Mandalay Bay 3 - Palm	Configuring	N / A	Cisco Catalyst 29xx Stack-able Ethernet Switch	ACCESS	10.64.5.35
CiscoLive-9300.dqccie.com	Global/Las Vegas/Mandalay Bay 3 - Palm	Configuring	N / A	Cisco Catalyst 9300 Switch	ACCESS	10.64.5.34
CiscoLive-4331.dqccie.com	Global/Las Vegas/Mandalay Bay 3 - Palm	Configuring	N / A	Cisco 4331 Integrated Services Router	BORDER ROUTER	10.64.5.36

The table shows 3 devices in the 'Configuring' status. A green box highlights the 'Status' column and the first three rows of the table. Another green box highlights the refresh icon in the top right corner of the table area.

Showing 3 of 3

**Task Submitted**  
View status in [Tasks](#)

# Deploying Policy – Undeploy

The screenshot shows the Cisco Catalyst Center interface for managing Application Policies. The page title is "Policy / Application QoS". The "Application Policies" tab is active, and the "Queuing Profiles" sub-tab is selected. A checkbox "Deploy by default on wired devices" is present. The table lists three policies, with the second one, "CL\_WiFi", selected and highlighted in blue. An "Actions" menu is open for the selected policy, showing options: Deploy, Edit, Clone, Terminate, Undeploy (highlighted), Delete, and History. The table columns are: Policy Name, Version, Policy Status, Deployment Status, Scope, and Queuing Profile.

Policy Name	Version	Policy Status	Deployment Status	Scope	Queuing Profile
Blank_Policy	4	Draft	N/A	1 Sites	CL_Queue_Profile
CL_WiFi	1	Deployed	3/3 Devices Provisioned	1 Sites	CL_Queue_Profile
CL_WiFi	4	Draft	N/A	1 Sites	CL_Queue_Profile

Showing 3 of 3

# Deploying Policy – History

The screenshot shows the Cisco Catalyst Center interface for managing Application Policies. The 'Actions' menu is open, and the 'History' option is highlighted. The table below lists the policies and their deployment status.

Policy Name	Version	Policy Status	Deployment Status	Scope	Queuing Profile
Blank_Policy	4	Draft	N/A	1 Sites	CL_Queue_Profile
CL_WiFi	3	Deployed	3/3 Devices Provisioned	1 Sites	CL_Queue_Profile
CL_WiFi	6	Draft	N/A	1 Sites	CL_Queue_Profile

Showing 3 of 3

# Deploying Policy – History

Cisco

Catalyst Center

Policy / Application QoS

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👤 admin

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Application Policies

Queuing Profiles

☐ Deploy by default on wired devices ⓘ

Filter

Actions ▼

1 Selected

Policy Name ▲	Version	Policy Status	Deployment Status ⓘ
<input checked="" type="radio"/> CL_Wired_Policy	5	Deployed	3/3 Devices Provisioned
<input type="radio"/> CL_Wired_Policy (Draft)	1	Draft	N/A
<input type="radio"/> CL_Wireless_Policy	1	Deployed	1/1 Devices Provisioned
<input type="radio"/> CL_Wireless_Policy (Draft)	2	Draft	N/A

Showing 4 of 4

Policy History

Policy Name: CL\_Wired\_Policy

Version ▼	Date / Time	View	Rollback
5	Current	Apr 22, 2024 07:35:10	
4	Apr 21, 2024 15:01:05	<a href="#">Difference</a>	<a href="#">Rollback</a>
3	Apr 21, 2024 14:59:31	<a href="#">Difference</a>	<a href="#">Rollback</a>
2	Apr 21, 2024 14:54:23	<a href="#">Difference</a>	<a href="#">Rollback</a>
1	Apr 21, 2024 14:52:25	<a href="#">Difference</a>	<a href="#">Rollback</a>

5 Record(s) Show Records: 25 ▼ 1 - 5 < ⓘ >

# Deploying Policy – History

The screenshot displays the Cisco Catalyst Center interface for managing policies. The main view is titled "Application Policies" and shows a list of policies. A modal window titled "Policy History / History Difference" is open, showing the differences between version 4 and the current version 5 of the selected policy.

**Application Policies**

☐ Deploy by default on wired devices ⓘ

Filter Actions 1 Selected

Policy Name	Version	Policy Status	Deployment Status ⓘ
CL_Wired_Policy	5	Deployed	3/3 Devices Provisioned
CL_Wired_Policy (Draft)	1	Draft	N/A
CL_Wireless_Policy	1	Deployed	1/1 Devices Provisioned
CL_Wireless_Policy (Draft)	2	Draft	N/A

Showing 4 of 4

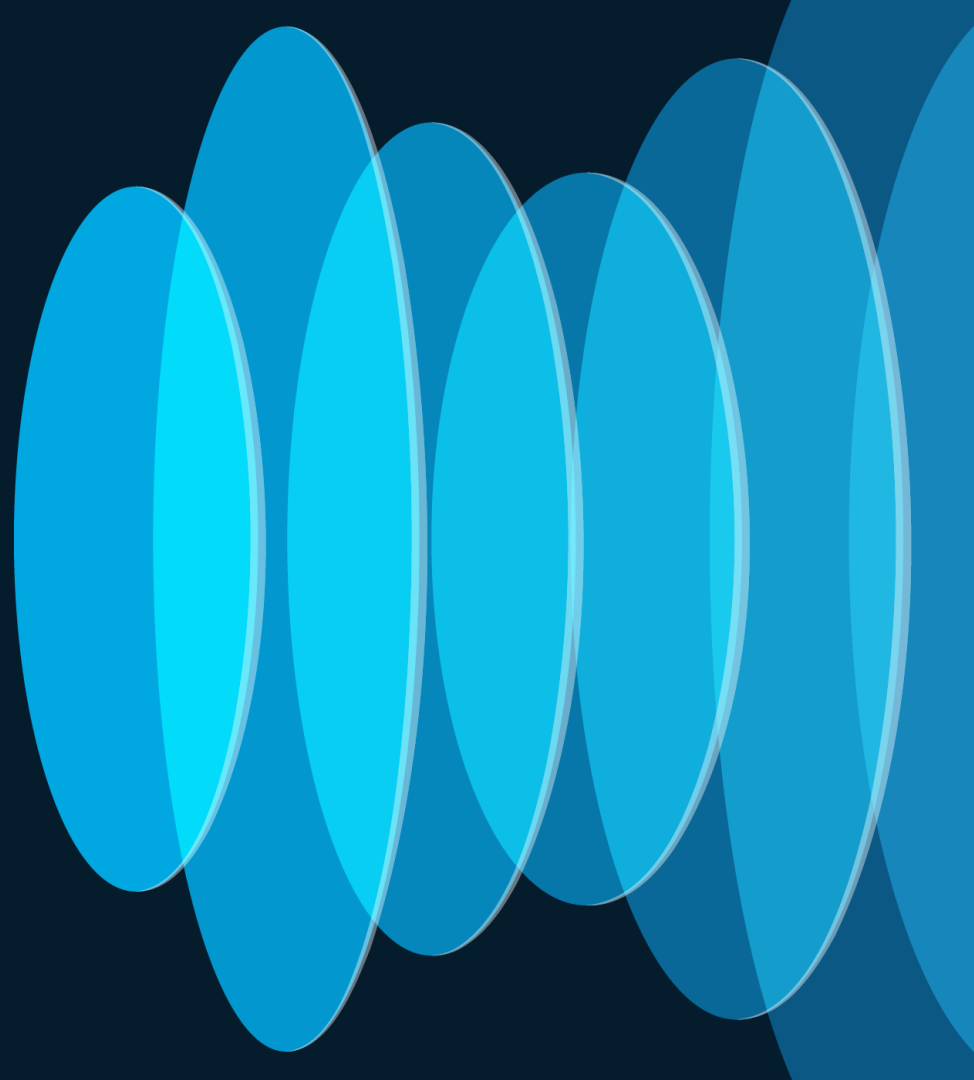
**Policy History / History Difference**

Differences between version 4 and current version 5

Queueing Profiles

Name	Operation Performed	Policy(4)	Current Policy(5)
CL_Queue_Profile_2	Updated	CL_Queue_Profile	CL_Queue_Profile_2

# Maintaining the Policy

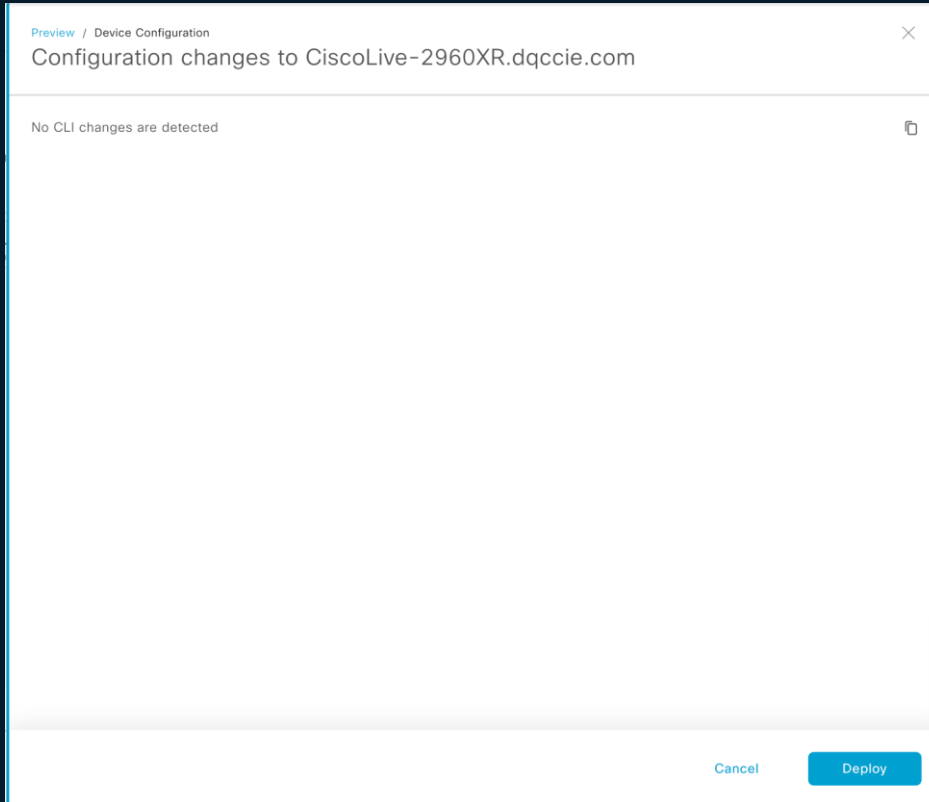


# Maintaining the Policy – Policy Drift

```
CiscoLive-9300#  
CiscoLive-9300#  
CiscoLive-9300#conf t  
Enter configuration commands, one per line. End with CNTL/Z.  
CiscoLive-9300(config)#ip access-list extended DNA-APIC_QOS_IN#VOICE_acl  
CiscoLive-9300(config-ext-nacl)#no PERMIT TCP host 10.50.50.50 host 10.10.10.10 eq 443  
CiscoLive-9300(config-ext-nacl)#exit  
CiscoLive-9300(config)#exit  
CiscoLive-9300#wr  
Building configuration...  
[OK]  
CiscoLive-9300#
```



# Maintaining the Policy – Policy Drift



# Maintaining the Policy – Policy Drift

Preview / Device Configuration

Configuration changes to CiscoLive-2960XR.dqccie.com

No CLI changes are detected

Cancel

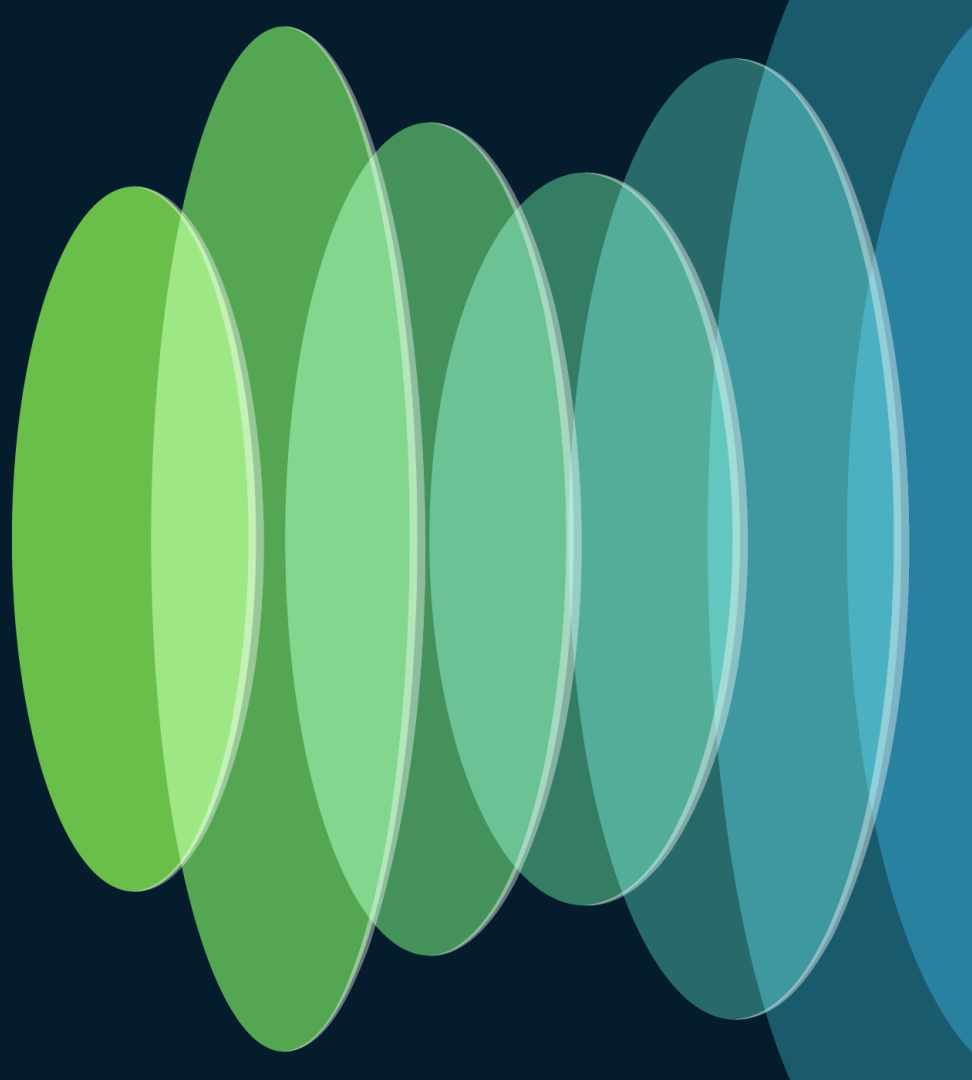
Preview / Device Configuration

Configuration changes to CiscoLive-9300.dqccie.com

```
ip access-list extended DNA-APIC_QOS_IN#VOICE__acl
remark CL_Consumer__CL_Relevant_App
PERMIT TCP host 10.50.50.50 host 10.10.10.10 eq 443
```

Cancel Deploy

Now what?



# Now what?

- Join the Webex room

<https://ciscolive.ciscoevents.com/ciscolivebot/#BRKOPS-2137>

- Review your current QoS policy!
- Get some Cisco Catalyst Center Application Policy hands-on
  - Devnet Sandboxes: <https://developer.cisco.com>
  - Talk to your local Cisco Account Team
  - Lab system, Roadshows, Cisco dCloud

# Reference Material

- Cisco Catalyst Center Compatibility Tool
  - [https://www.cisco.com/c/dam/en/us/td/docs/Website/enterprise/catalyst\\_center\\_compatibility\\_matrix/index.html](https://www.cisco.com/c/dam/en/us/td/docs/Website/enterprise/catalyst_center_compatibility_matrix/index.html)
- Configure Application Policies chapter in Cisco Catalyst Center User Guide (2.3.7 link below)
  - [https://www.cisco.com/c/en/us/td/docs/cloud-systems-management/network-automation-and-management/catalyst-center/2-3-7/user\\_guide/b\\_cisco\\_catalyst\\_center\\_user\\_guide\\_237/m\\_configure-application-policies.html](https://www.cisco.com/c/en/us/td/docs/cloud-systems-management/network-automation-and-management/catalyst-center/2-3-7/user_guide/b_cisco_catalyst_center_user_guide_237/m_configure-application-policies.html)

# Complete Your Session Evaluations



Complete a minimum of 4 session surveys and the Overall Event Survey to be entered in a drawing to **win 1 of 5 full conference passes** to Cisco Live 2025.

---



**Earn 100 points** per survey completed and compete on the Cisco Live Challenge leaderboard.

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Level up and earn **exclusive prizes!**

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Complete your surveys in the **Cisco Live mobile app**.

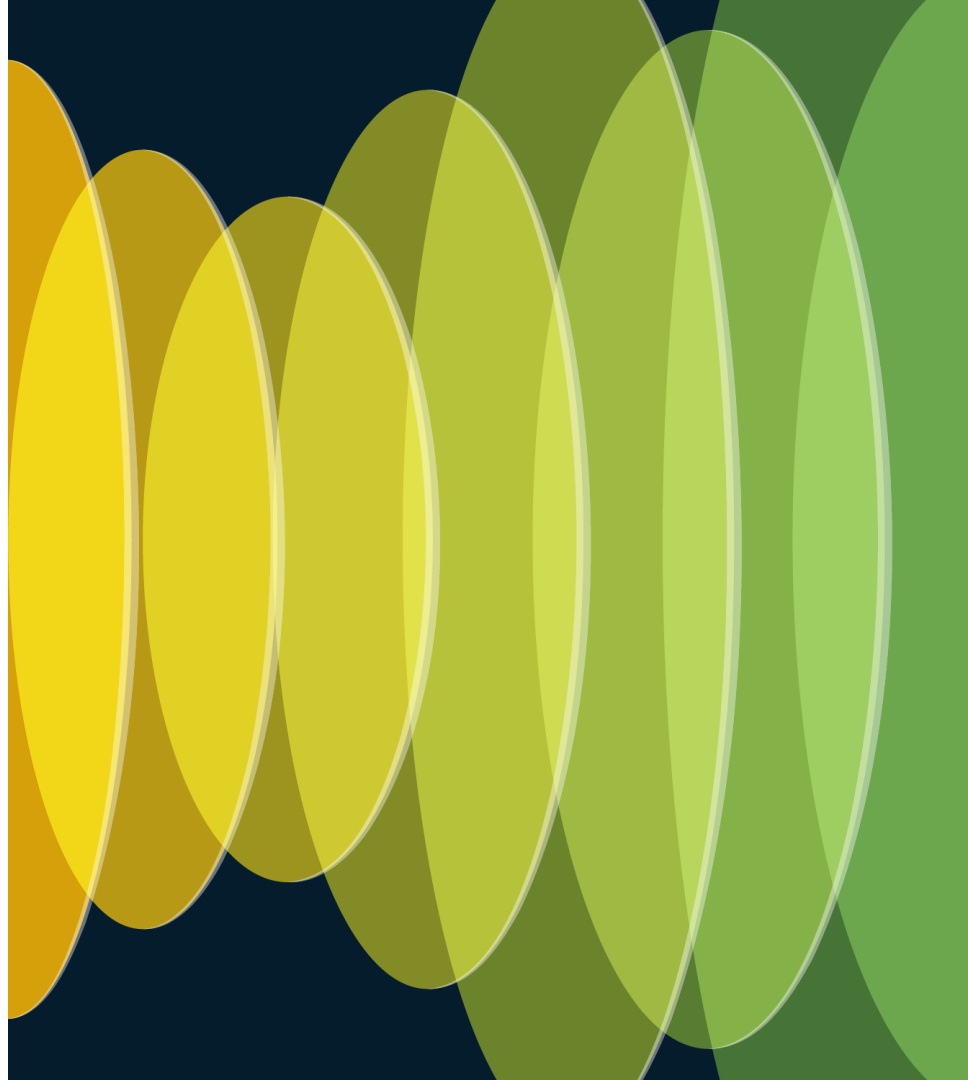
# Continue your education



- Visit the Cisco Showcase for related demos
- Book your one-on-one Meet the Engineer meeting
- Attend the interactive education with DevNet, Capture the Flag, and Walk-in Labs
- Visit the On-Demand Library for more sessions at [www.CiscoLive.com/on-demand](https://www.CiscoLive.com/on-demand)

Contact me at:  
[daquinla@cisco.com](mailto:daquinla@cisco.com) or [dq@cisco.com](mailto:dq@cisco.com)

# Questions







The bridge to possible

# Thank you

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