

# Covering EIGRP Advanced Topics

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# Module Overview



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## EIGRP Summary Routing



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**EIGRP Summary Routing**

**Controlling Query Behavior**



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**EIGRP Summary Routing**

**Controlling Query Behavior**

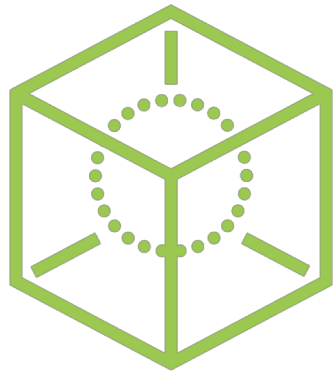
**Significance of EIGRP Router-IDs**



Let's begin with  
EIGRP summarization



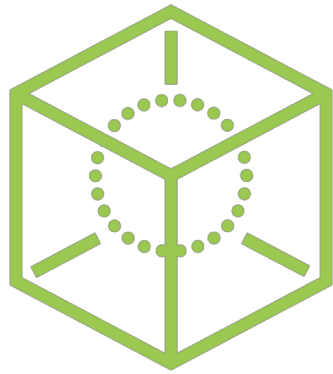
# EIGRP Summarization



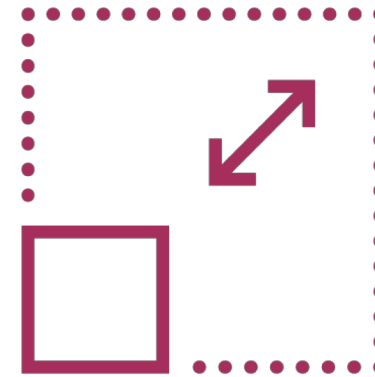
Commonly used to limit table size



# EIGRP Summarization



Commonly used to limit table size



Aggregates multiple routes





# EIGRP Summarization

Typically performed at the:

**Distribution layer**

**Core layer**



# Automatic Summarization

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Automatic Summarization

**Used in older versions by default**



## Automatic Summarization

Used in older versions by default

Typically disabled by default in  
modern software



## Automatic Summarization

Used in older versions by default

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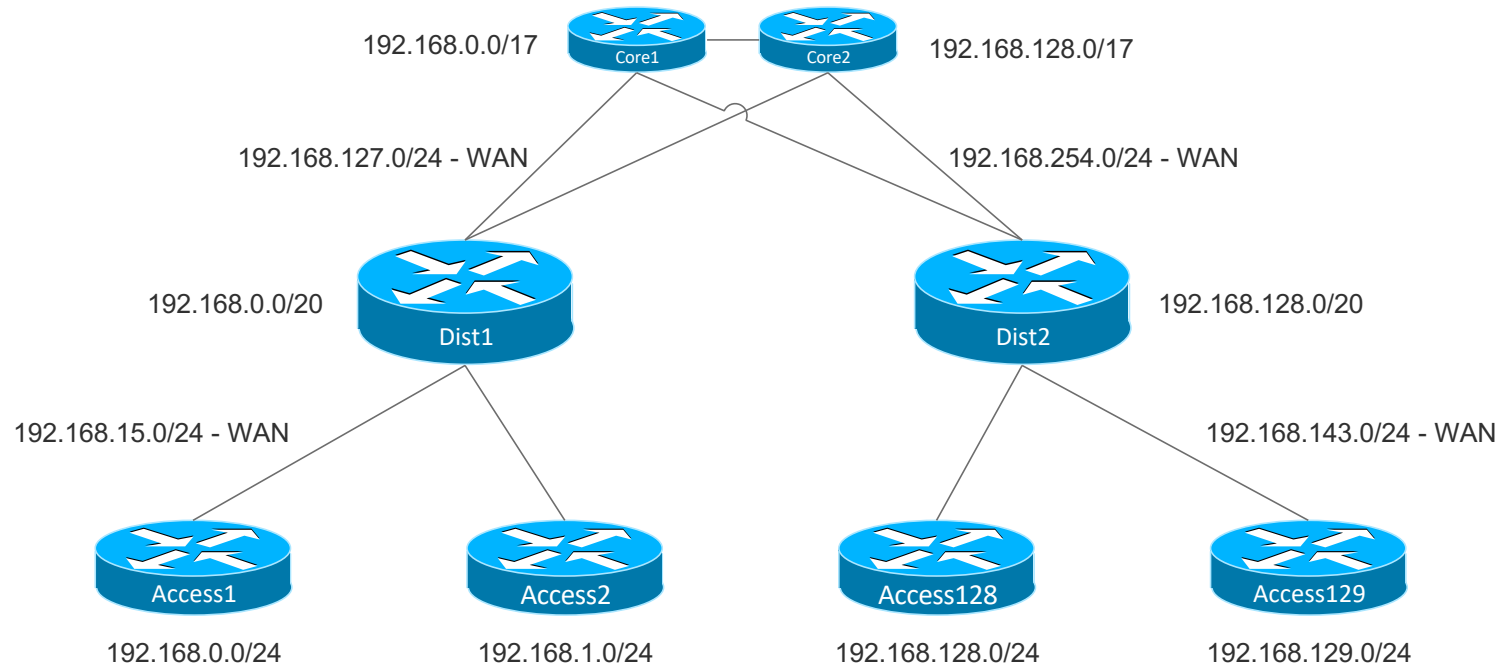
Manual summarization is often used



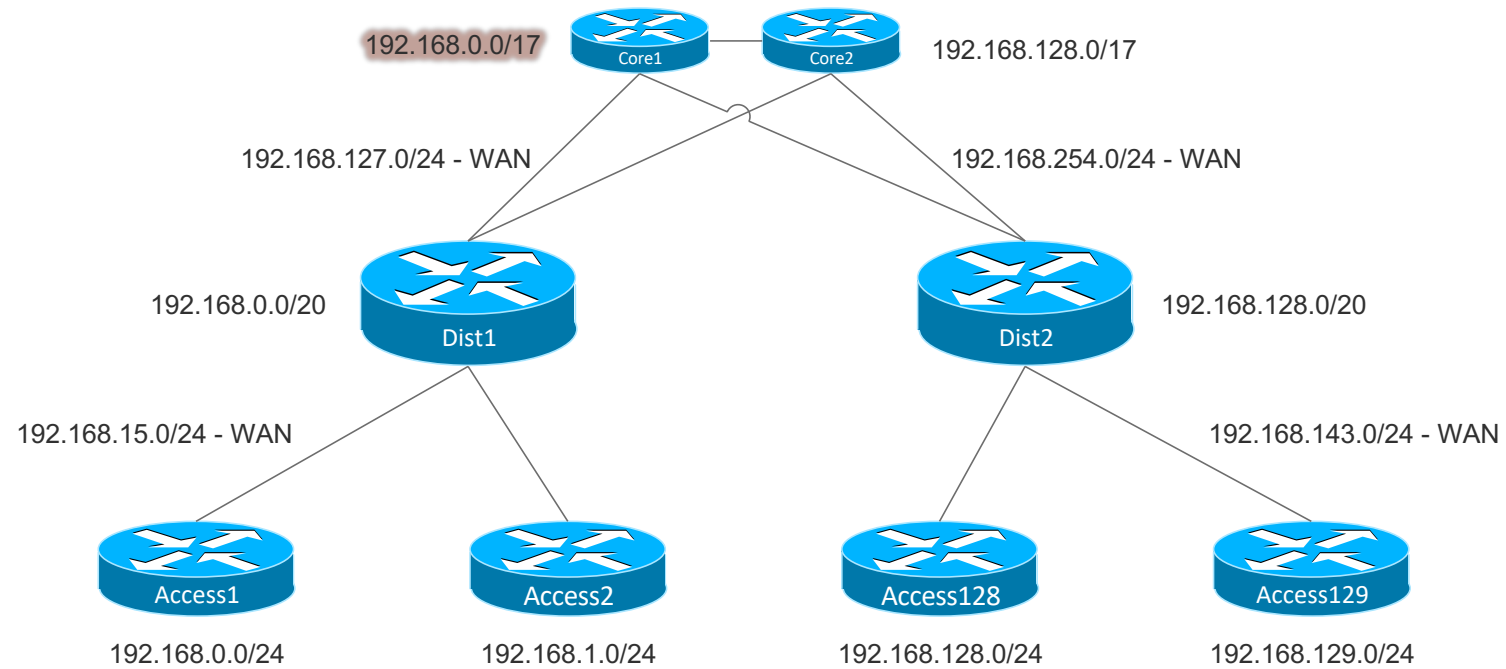
The lab topology is  
changing!



# Lab Topology

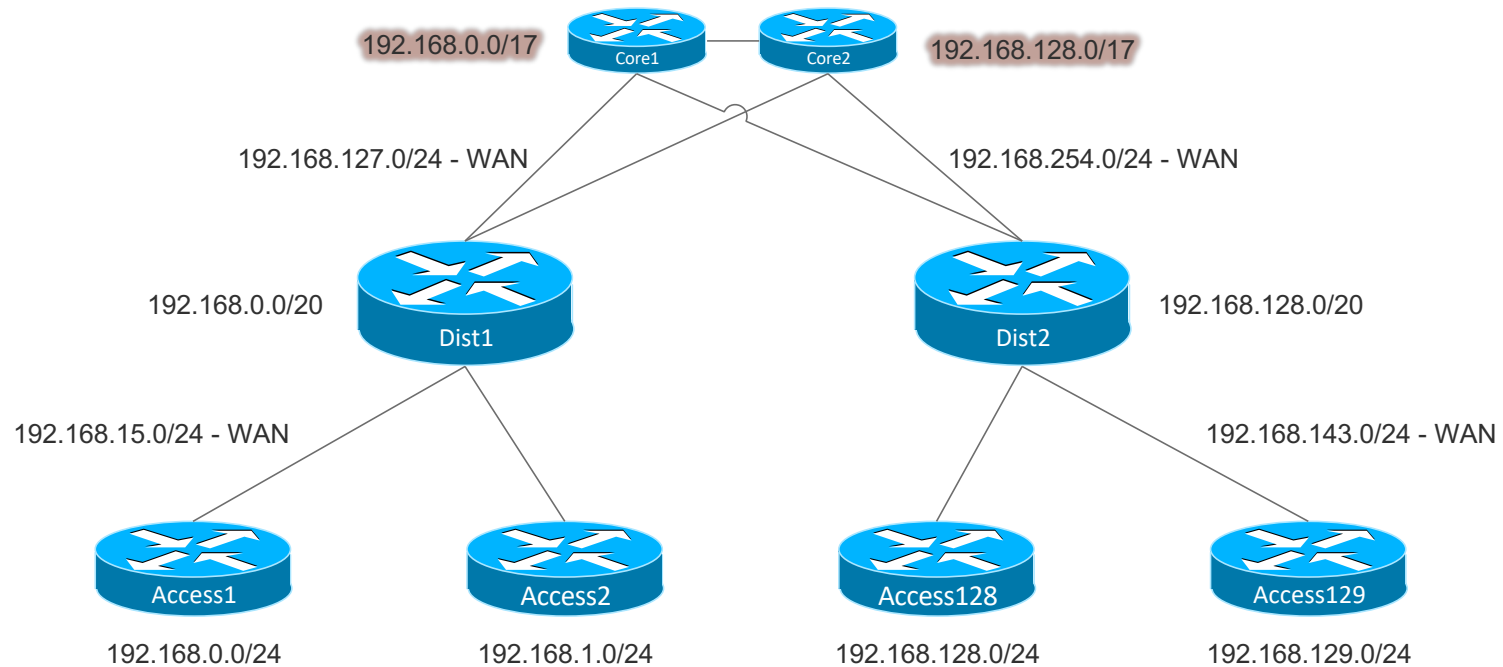


# Lab Topology

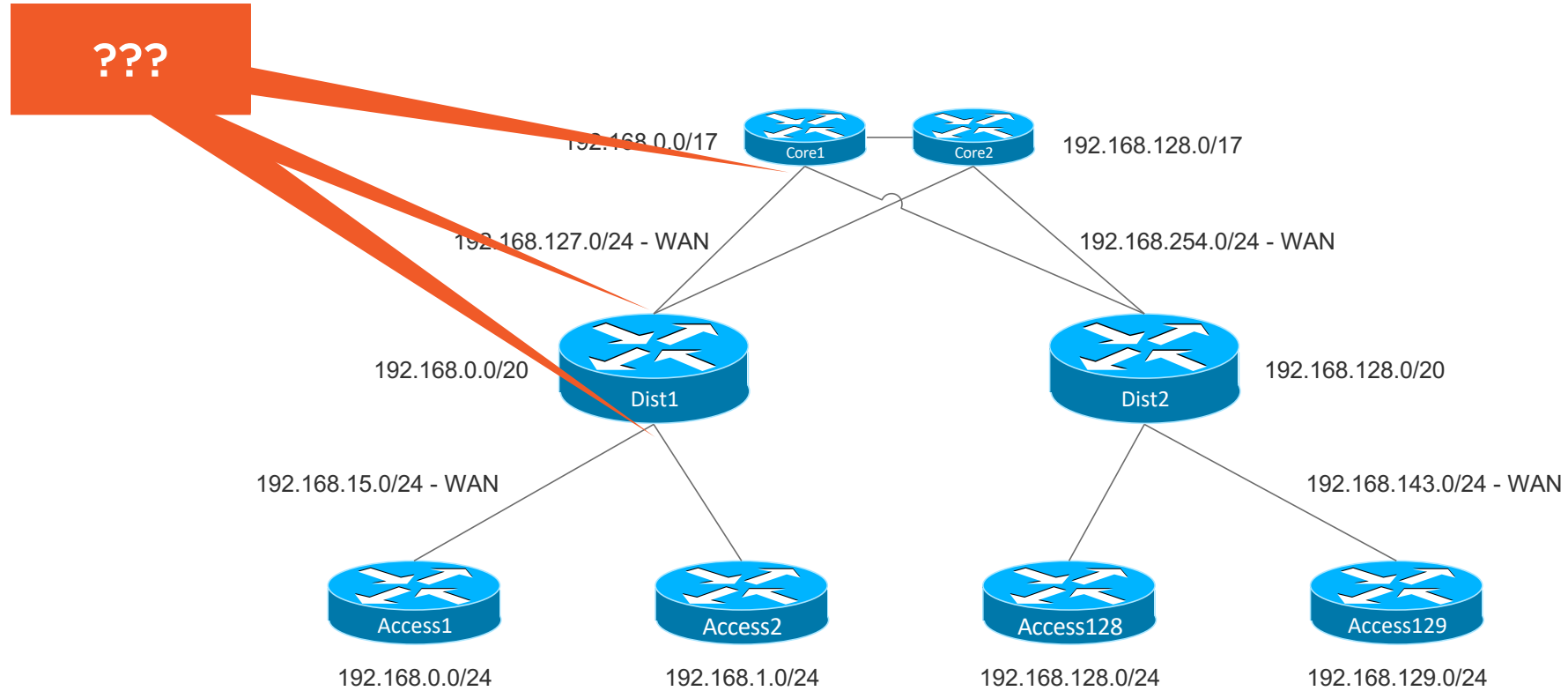




# Lab Topology



# Lab Topology



# Other Uses of Route Summarization?



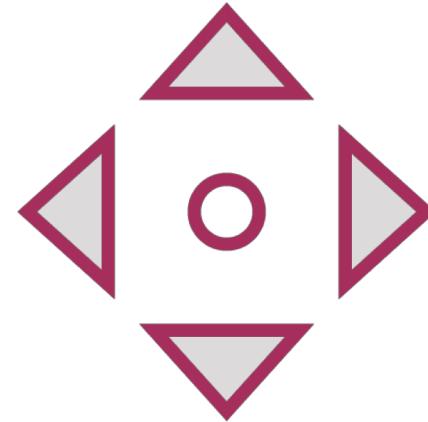
**Limits individual route knowledge**



# Other Uses of Route Summarization?



Limits individual route knowledge



Also limits query range



Summary limits networks to  
be processed



Route Summarization also  
limits the query scope



# EIGRP Stub

Developed mainly for use with  
hub and spoke deployments



# EIGRP Stub

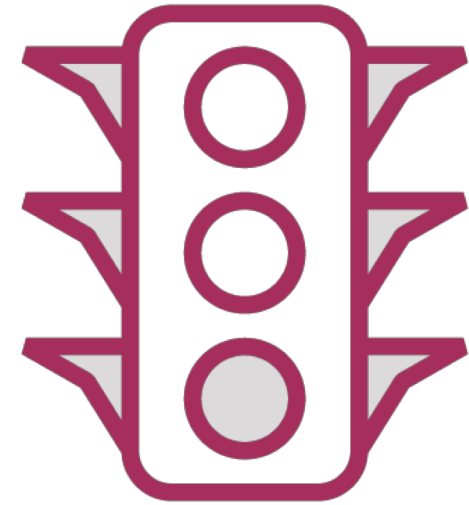
Often seen in WANs with  
branches





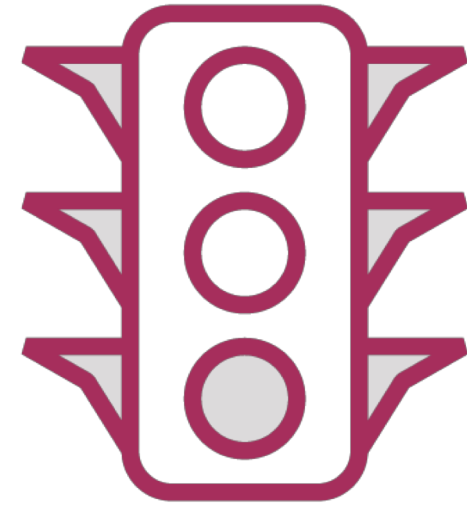
## EIGRP Stub Advantages

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## EIGRP Stub Advantages

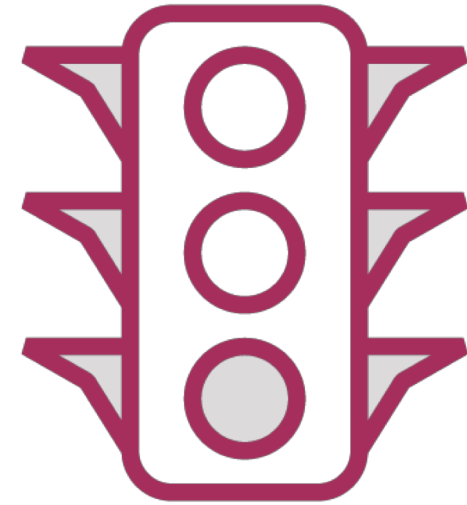
Limits query scope



## EIGRP Stub Advantages

Limits query scope

Spokes rarely are intended for transit





## EIGRP Stub Advantages





## EIGRP Stub Advantages

**Prevents spoke from being used for transit**





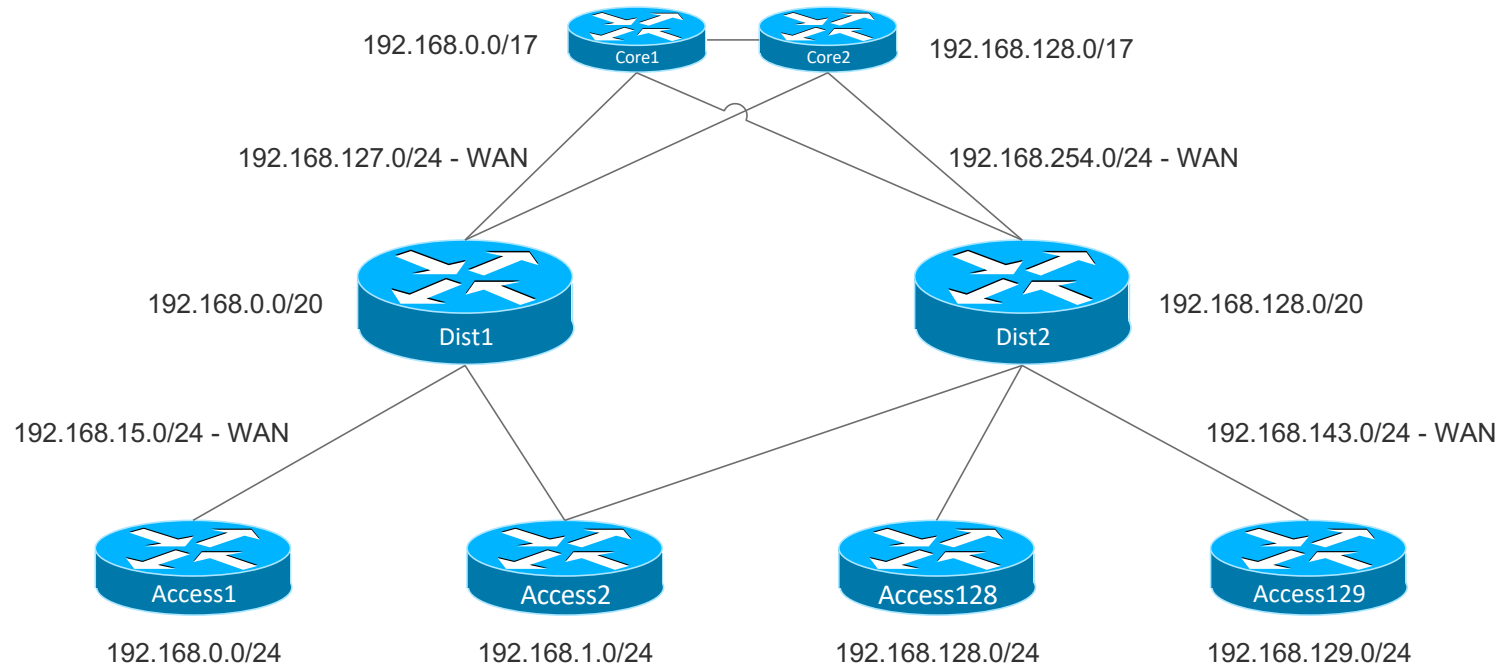
## EIGRP Stub Advantages

**Prevents spoke from being used for transit**

**Let's move into the lab!**



# Lab Topology



Now let's talk about  
EIGRP Router-ID





# EIGRP Router-ID

Used with originating and  
redistributing routes

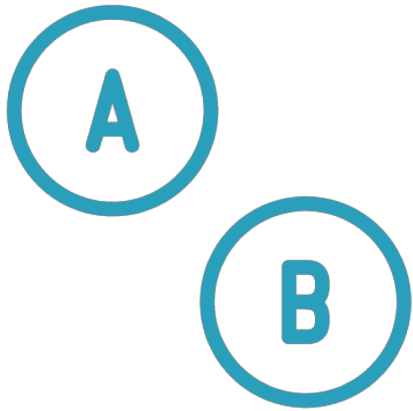


# EIGRP Router-ID

**Misconfiguration can cause  
weird results**



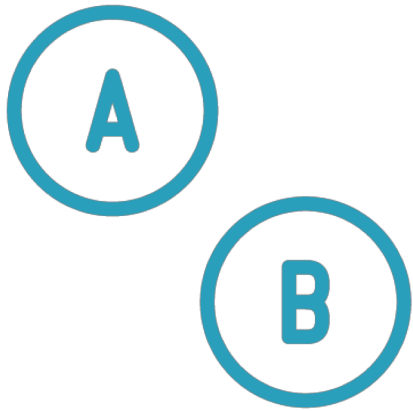
# EIGRP Router-ID



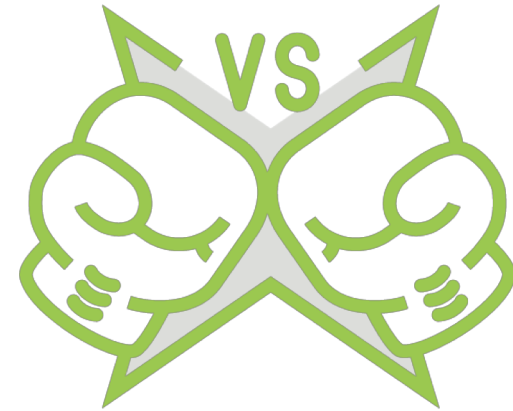
**EIGRP devices only accept routes originating from different router-IDs**



# EIGRP Router-ID



EIGRP devices only accept routes originating from different router-IDs



Remote routes with duplicate router-ID are dropped





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## EIGRP Router-ID





## EIGRP Router-ID

Dropping behavior performed on internal and external routes





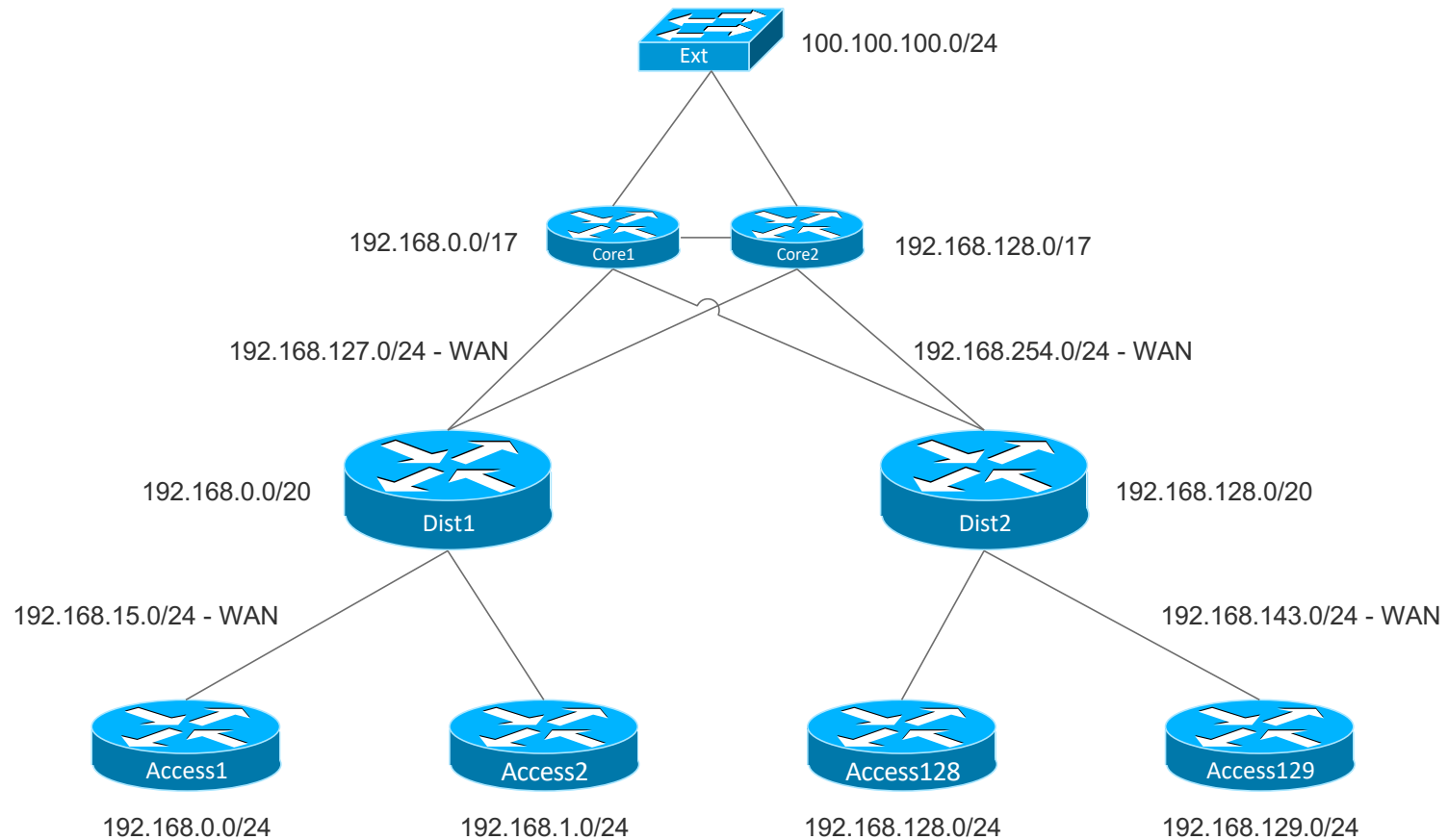
## EIGRP Router-ID

Dropping behavior performed on internal and external routes

Now let's look at this in the lab!



# Lab Topology





# Summary



# Summary



## EIGRP Summary Routing



# Summary



**EIGRP Summary Routing**

**Controlling Query Behavior**



# Summary



**EIGRP Summary Routing**

**Controlling Query Behavior**

**Significance of EIGRP Router-IDs**

