

Multiservice Activation in Access-Accept Message

The Multiservice Activation in Access-Accept Message feature is part of Access Node Control Protocol (ANCP) and allows multiple services to be included in a single RADIUS Access-Accept message.This feature is similar to the Multiservice Activation and Deactivation in a Change of Authorization (CoA) Message feature, but in this case all requested service activations are processed automatically. This means that if a service activation fails, no further service activations are processed, and any service that has already been activated by the Access-Accept message is deactivated.

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Restrictions for Multiservice Activation in Access-Accept Message

- If one of the service activations fails, all unprocessed services from the Access-Accept message will be ignored, and any services from the Access-Accept message that have been activated will be deactivated.
- A two-stage application process exists when applying a quality of service (QoS) policy via a service in an Access-Accept message. The first stage involves parsing the policy and sending the policy value to the dataplane. The second stage involves the application of the QoS policy on the dataplane. In the instance where stage one is completed successfully, but stage two fails, the relevant service can indicate that the activation was successful.

Information About Multiservice Activation in Access-Accept Message

Multiservice Activation in Access-Accept Message Overview

An Access-Request message is sent by a RADIUS client to a RADIUS server to authenticate the user or subscriber profile included in the message. If the user or subscriber profile is:

- Acceptable--The RADIUS server may return an Access-Accept message
- Unacceptable--The RADIUS server may return an access-reject message

To enable multiservice activation, the Access-Accept message may include multiple Cisco generic VSA 250 (SSG_ACCOUNT_INFO) entries, with each VSA specifying a service name to be activated.

RSIM Format

```
vsa cisco generic 250 string "Aservice-name1"
vsa cisco generic 250 string "Aservice-name2"
vsa cisco generic 250 string "Aservice-name3"
```

RADIUS Format

```
07:06:23.234: RADIUS: Received from id 1645/36 11.12.13.2:1645, Access-Accept, len 112
07:06:23.238: RADIUS:  authenticator 92 C5 A2 F2 24 56 37 1E - 74 F4 C6 92 B0 E8 92 4C
07:06:23.238: RADIUS:  Vendor, Cisco       [26]  23
07:06:23.238: RADIUS:   ssg-account-info   [250] 17  "Aservice-name-1"
07:06:23.238: RADIUS:  Vendor, Cisco       [26]  23
07:06:23.238: RADIUS:   ssg-account-info   [250] 17  "Aservice-name-2"
07:06:23.238: RADIUS:  Vendor, Cisco       [26]  23
07:06:23.238: RADIUS:   ssg-account-info   [250] 17  "Aservice-name-3"
```

Upon receipt of the Access-Accept message, the specified services are extracted and each service is activated serially. If a service activation fails, all unprocessed services from the Access-Accept message are ignored, and any services from the Access-Accept message that have been activated are deactivated.

Note The RSIM format for Access-Accept multiple services requests for QoS services is not applicable for multiple service activation or deactivation requests in a CoA message. The format for CoA messages is VSA 252. For more information see Multiservice Activation and Deactivation in a CoA Message module

QoS Policy for VSA 250

You can use VSA 250 concatenated QoS syntax with the RADIUS Access-Accept message while establishing a session. The syntax parses the VSA concatenated string and activates the QoS and Intelligent Services Gateway (ISG) policy.

Note ISG manages multiple QoS services in one Access-Accept message and applies the message to activate static and parameterized QoS.

How to Configure Multiservice Activation in Access-Accept Message

Activating a Session Service Using Access-Accept

Configure Cisco VSA 250 in the service profile on RADIUS to dynamically activate a session service with Access-Accept. RADIUS uses VSA 250 in Access-Accept messages with the following syntax:

RSIM Format

```
vsa cisco generic 250 string
"Aservice-name-1"
```

Configuration Examples for Multiservice in Access-Accept Message

Activating QoS Services Using VSA 250 Example

To activate QoS Services, use the *qos:vc-qos-policy-out* syntax with the RADIUS Access-Accept message. The concatenated string is parsed and the QoS and ISG policy is activated.

The following example defines VSA 250 concatenated string parsing, and the activation of the ISG service and QoS policies:

qos:<qos-attribute-name>=<attribute value>[;qos:<qos-attribute-name>=<attribute value>...]

qos-attribute-name	Displays the QoS attribute name. The accepted attributes for the QoS attribute name in this special concatenated format are: vc-qos-policy-in vc-qos-policy-out vc-weight vc-watermark-min vc-watermark-max
attribute value	Displays the value to be assigned to the QoS attribute. The acceptable range of values are determined by the platform.

If the target session is an ATM VC, the vc-weight, vc-watermark-min, and vc-watermark-max attributes are interpreted.

The following example displays the concatenated QoS syntax for VSA 250:

vsa cisco generic 250 string "Aqos:vc-qos-policy-out=IPOne_out;qos:vc-qos-policy-in=IPOne_in"

Additional References for Multiservice Activation in Access-Accept Message

Related Documents

Related Topic	Document Title
ANCP commands	Cisco IOS Access Node Control Protocol Command Reference
IEEE 802.1Q VLAN	Cisco IOS IEEE 802.1Q Support feature module
Access-Node Control Protocol	Metro Ethernet WAN Services and Architectures (white paper), Access Node Control Protocol
Queue-in-Queue VLAN Tags	IEEE 802.1Q-in-Q VLAN Tag Termination

RFCs

RFC	Title
ANCP extension draft	GSMP Extensions for Access Node Control Mechanism, Internet draft
RFC 3292	*General Switch Management Protocol (GSMP) V3*
RFC 3293	*General Switch Management Protocol (GSMP), Packet Encapsulations for Asynchronous Transfer Mode (ATM), Ethernet and Transmission Control Protocol (TCP)*

Feature Information for Multiservice Activation in Access-Accept Message

The following table provides release information about the feature or features described in this module. This table lists only the software release that introduced support for a given feature in a given software release train. Unless noted otherwise, subsequent releases of that software release train also support that feature.

Use Cisco Feature Navigator to find information about platform support and Cisco software image support. To access Cisco Feature Navigator, go to www.cisco.com/go/cfn. An account on Cisco.com is not required.

Table 1: Feature Information for Multiservice Activation in Access-Accept Message

Feature Name	Releases	Feature Information
Multiservice Activation in Access-Accept Message	Cisco IOS XE Release 2.4	The Multiservice Activation in Access-Accept Message feature supports dynamic activation of multiple services using RADIUS Access-Accept messages. In Cisco IOS XE 2.4, this feature was introduced on the Cisco ASR 1000 Series Routers. The following command was modified by this feature: **subscriber service multiple-accept**.