App-based Tethering Detection

Feature Information

Summary Data

Status	New Feature
Introduced-In Release	21.2
Modified-In Release(s)	Not Applicable
Applicable Product(s)	P-GW
Applicable Platform(s)	ASR 5500
Default Setting	Disabled
Related CDETS ID(s)	CSCvd65410
Related Changes in This Release	Not Applicable
Related Documentation	ADC Administration Guide Command Line Interface Reference

Revision History

Important Revision history details are not provided for features introduced before release 21.2.

Revision Details	Release	Release Date
New in this release.	21.2	April 27, 2017

Feature Description

The tethering of IPv4 and IPv6 traffic has increased, and the native device recognition techniques are less viable with the advent of proxy tethering Apps on smartphones.

A new App-based Tethering Detection is introduced with this release. This solution interwork with other existing Tethering Detection techniques.

How It Works

This solution is built around the existing ADC plugins for App identifications. Tethering specific patterns are added on top of recognized App plugins. These plugins successively return if the App flow is tethered or not.

Important With this release, App-based Tethering Detection is introduced only for Netflix and YouTube.

Licensing

This feature requires both ADC, and Tethering Detection License. Contact your Cisco account representative for detailed information on specific licensing requirements. For information on installing and verifying licenses, refer to the *Managing License Keys* section of the *Software Management Operations* chapter in the *System Administration Guide*.

Configuring App-based Tethering Detection

This section describes how to enable support for App-based Tethering Detection.

Enabling App-based Tethering Detection at Rulebase Level

Use the following commands to enable App-based Tethering Detection for ADC traffic under ACS Rulebase Configuration Mode:

```
configure
  active-charging service service_name
    rulebase rulebase_name
      tethering-detection application
      exit
    exit
  exit
```

Notes:

- The **default tethering-detection** command configures its default setting.

  Default: By default, the Tethering Detection feature is disabled. When enabled, unless a specific database is specified to be used, tethering detection will make use of both the databases by default.

- If previously configured, use the **no tethering-detection** command to remove the tethering detection configuration from the rulebase.

Enabling App-based Tethering Detection at Ruledef Level

Use the following commands to enable App-based Tethering Detection for ADC traffic under ACS Ruledef Configuration Mode:

```
configure
  active-charging service service_name
    ruledef ruledef_name
      tethering-detection application flow-tethered
      exit
    exit
  exit
```

Notes:

- If previously configured, use the **no tethering-detection** command to remove the tethering detection configuration from the ruledef.

Enabling App-based Tethering Detection at Rule-variable

Use the following commands to enable App-based Tethering Detection field in EDRs under EDR Format Configuration Mode:

```
configure
  active-charging service service_name
    edr-format format_name
      rule-variable flow tethered-application priority priority
      exit
    exit
  exit
```

Notes:

- *flow tethered-application*: The *flow* specifies Flow related fields. *tethered-application* specifies application based tethering detected on flow.
- **priority** *priority*: Specifies the CSV position of the field (protocol rule) in the EDR. *priority* must be an integer from 1 through 65535.
- If previously configured, use the **no rule-variable** *rule_variable* **[priority** *priority* **]** command to remove the specified rule variable configuration.

Monitoring and Troubleshooting the App-based Tethering Detection

This section provides information regarding commands available to monitor and troubleshoot the App-based Tethering Detection.

Show Commands and Outputs

This section provides information regarding show commands and their outputs in support of this enhancement.

show active-charging tethering-detection statistics

The following fields are available in the output of this show command in support of this enhancement:

```
Current Tethered Subscribers:  0
Total flows scanned:           0
Total Tethered flows detected: 0
Total Tethered flows recovered:     0
Total flows bypassed for scanning : 0

Tethering Detection Statistics (os-ua):
  TAC ID lookups:              0
  TAC ID matches:              0
  OS signature lookups:        0
  OS signature matches:        0
  IPv6 OS signature lookups:   0
  IPv6 OS signature matches:   0
  UA signature lookups:        0
  UA signature matches:        0
  Total flows scanned:         0
  Tethered flows detected:     0
  Non-tethered flows detected: 0
  Tethered Uplink Packets:     0
  Tethered Downlink Packets:   0
  Current tethering-detected indications sent:   0
  Total tethering-detected indications sent:     0

Tethering Detection Statistics (ip-ttl):
  Total flows scanned:                 0
  Tethered flows detected:             0
  Tethered uplink packets:             0
  Tethered downlink packets:           0

Tethering Detection Statistics (DNS Based):
  Total flows scanned:                 0
  Tethered flows detected:             0
  Tethered uplink packets:             0
  Tethered downlink packets:           0

Tethering Detection Statistics (Application):
  Total flows scanned:                 0
  Tethered flows detected:             0
  Tethered uplink packets:             0
  Tethered downlink packets:           0

Change Statistics for Multiple SYN in Flow:
```

```
  Tethered to Non-Tethered:                          0
  Non-Tethered to Tethered:                          0
  Tethered to Tethered:                              0
  Non-Tethered to Non-Tethered:                      0
```

show active-charging rulebase statistics

The following fields are available in the output of this show command in support of this enhancement:

```
Tethering Detection:
     TAC ID lookups:                                 0
     TAC ID matches:                                 0
     OS signature lookups:                           0
     OS signature matches:                           0
     IPv6 OS signature lookups:                      0
     IPv6 OS signature matches:                      0
     UA signature lookups:                           0
     UA signature matches:                           0
     Total flows scanned:                            0
     Tethered flows detected:                        0
     Tethered uplink packets:                        0
     Tethered downlink packets:                      0

     Tethering Detection (ip-ttl):
     Total flows scanned:                            0
     Tethered flows detected:                        0
     Tethered uplink packets:                        0
     Tethered downlink packets:                      0

     Tethering Detection (DNS Based):
     Total flows scanned:                            0
     Tethered flows detected:                        0
     Tethered uplink packets:                        0
     Tethered downlink packets:                      0

     Tethering Detection (Application):
     Total flows scanned:                            0
     Tethered flows detected:                        0
     Tethered uplink packets:                        0
     Tethered downlink packets:                      0
```