



## vDRA

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# Display Records Count in DRA Peer Monitoring and CRD GUI

### Feature Summary and Revision History

**Table 1: Summary Data**

Applicable Product(s) or Functional Area	vDRA
Applicable Platform(s)	Not Applicable
Default Setting	Enabled - Always-on
Related Changes in This Release	Not Applicable
Related Documentation	<i>CPS vDRA Administration Guide</i>

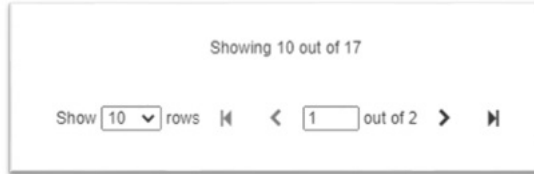
**Table 2: Revision History**

Revision Details	Release
First introduced	22.1.0

### Feature Description

In the vDRA Peer Monitoring and CRD GUI, through Pagination, you can view count of records that gets displayed in the webpage link out of total number of records fetched by API. This value changes as per the change in filtering of records through filter toolbar. The following figure shows an example of records count.

**Figure 1: Displaying Records Count**



For more information, see *Peer Monitoring* section in the *CPS vDRA Administration Guide*.

## Exposing Prometheus API on OAM Network

**Table 3: Summary Data**

Applicable Product(s) or Functional Area	vDRA
Applicable Platform(s)	Not Applicable
Default Setting	Enabled - Always-on
Related Changes in This Release	Not Applicable
Related Documentation	<i>CPS vDRA Operations Guide</i>

### Feature Description

The CPS vDRA supports exposing of Prometheus API queries on OAM network using HAProxy. vDRA allows operators to fetch necessary statistics from the system through the Prometheus API and further analyze in a single consolidated view. The following functions are supported:

- vDRA data gets pulled from Prometheus API and loaded directly into system for visualization. This includes data from the following three data stores:
  - Prometheus Hi-Res
  - Prometheus Trending
  - Prometheus Planning
- GET queries: GET /api/v1/query
- TLS or HTTPS-based authentication



**Note** As per validations, the average number of queries supported without performance impact is approx 70 queries, which are run sequentially at required intervals.

This number varies based on the KPIs used. It is recommended to monitor only critical KPIs.

For more information, see the *Prometheus Queries* section in the *Prometheus and Grafana* chapter of the *CPS vDRA Operations Guide*.

## Import Custom Reference Data Enhancements

**Table 4: Summary Data**

Applicable Product(s) or Functional Area	vDRA
Applicable Platform(s)	Not Applicable
Default Setting	Enabled - Always-on
Related Changes in This Release	Not Applicable
Related Documentation	<i>CPS Central Administration Guide</i>

### Feature Description

In vDRA, the **Export CRD to Golden Repository** and the **Import CRD to DB** features functioned with two different approaches. To reduce CRD fallback steps export and import processes are merged into one. As shown in the following figure, check the (optional) **Export CRD to Golden Repository** check box to export CRD before Import.

Figure 2: Export CRD to Golden Repository

**Import Custom Reference Data**

*Warning: This will overwrite or add into CRD data.*

**Import the tables:**

File to Import...

Relax CRD schema validation.  
\*Please make sure to push existing crd data into Golden CRD repository before performing Import All (by selecting "Export CRD to Golden Repository" checkbox).

Export CRD to Golden Repository. When system experiences errors importing new crd data the crd cache will be built by using golden-crd data.

\*Please enter valid SVN server Hostname or IP

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The **Import CRD** feature allows you to first export CRD to golden repository and then go for the existing Import CRD process to DB. This feature is supported only for bulk CRD import and export.

For more information, see the *Import Custom Reference Data* procedure in the *CPS Central Administration Guide*.

## Ingress and Egress API Rate limit Configuration

### Feature Summary and Revision History

Table 5: Summary Data

Applicable Product(s) or Functional Area	vDRA
Applicable Platform(s)	Not Applicable
Default Setting	Enabled - Always-on
Related Changes in This Release	Not Applicable

Related Documentation	<i>CPS vDRA Configuration Guide</i> <i>CPS vDRA Operations Guide</i>
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**Table 6: Revision History**

Revision Details	Release
First introduced	22.1.0

**Feature Description**

The vDRA uses PCRF session query to query SRK from PCRF to route the request and then recreates the binding entry. There is no rate limit for a PCRF session query triggered from vDRA. Similarly, Ingress APIs (Binding/Session/SLF/CRD/SVN/Topology/Grafana/Prometheus) does not have an overload protection mechanism.

In the CPS 22.1.0 and later releases, vDRA supports a configurable option to rate-limit the incoming traffic and outgoing traffic on the API interface at director level. This rate limiting process protects the system when acting as a client or server. Also, to prevent any back pressure and working on stale messages, vDRA supports configurable queue size and length message SLAs.

For more information, see the *Ingress and Egress Rate Limit Configuration* section in the *CPS vDRA Configuration Guide* and the following *CLI Commands* in the *CPS vDRA Operations Guide*.

- *dra set-ratelimit binding-api-imsi-apn*
- *dra set-ratelimit topology-api*
- *dra set-ratelimit binding-api-ipv6*
- *dra set-ratelimit oam-api*
- *dra set-ratelimit slf-api*
- *dra set-ratelimit session-api*
- *dra set-ratelimit binding-api-msisdn*
- *dra set-ratelimit binding-api-msisdn-apn*
- *dra remove-ratelimit binding-api-imsi*
- *dra remove-ratelimit binding-api-imsi-apn*
- *dra remove-ratelimit binding-api-ipv6*
- *dra remove-ratelimit binding-api-msisdn-apn*
- *dra remove-ratelimit binding-api-msisdn*
- *dra remove-ratelimit binding-api*
- *dra remove-ratelimit oam-api*
- *dra remove-ratelimit session-api*
- *dra remove-ratelimit slf-api*

- *dra show-ratelimit topology-api*
- *dra show-ratelimit binding-api-imsi-apn*
- *dra show-ratelimit binding-api-ipv6*
- *dra show-ratelimit binding-api-imsi*
- *dra show-ratelimit binding-api-msisdn-apn*
- *dra show-ratelimit binding-api-msisdn*
- *dra show-ratelimit binding-api*
- *dra show-ratelimit oam-api*
- *dra show-ratelimit session-api*
- *dra show-ratelimit slf-api*

## Method to Ship Docker, Journalctl, and QNS logs to EFK Stack

**Table 7: Summary Data**

Applicable Product(s) or Functional Area	vDRA
Applicable Platform(s)	Not Applicable
Default Setting	Disabled configuration Required
Related Changes in This Release	Not Applicable
Related Documentation	<i>CPS vDRA Operations Guide</i> <i>CPS vDRA SNMP and Alarms Guide</i>

**Table 8: Revision History**

Revision Details	Release
First introduced	22.1.0

### Feature Description

vDRA supports a unified method to forward all required logs such as journalctl, consolidated-qns logs, mongo logs to elasticsearch. You can have a consolidated view of all the logs with Elasticsearch Fluentbit Kibana (EFK) stack. In addition, using Kibana you can visualize and filter required logs for analysis.

**Prerequisite:** Before enabling this feature or running any CLIs, add the pem key with the name "cps.pem" to the location on master and control VMs at the path: `/data/orchestrator/pemKey`

The following new alarm is added for this feature:

- ELASTICSEARCH\_NOT\_REACHABLE

The following new commands are added for this feature:

- log-forward fluentbit local-forward
- log-forward fluentbit elasticsearch elastic-ip
- log-forward fluentbit filter key
- log-forward fluentbit filter-clear
- log-forward fluentbit tune flush\_interval
- show fluent-bit configurations

For more information, see the following sections:

- *Method to Ship Docker, Journalctl, and QNS Logs to EFK Stack* and *CLI Commands* chapters in the *CPS vDRA Operations Guide*
- *Application Notification* and *Sample Alert Rules* sections in the *CPS vDRA SNMP and Alarms Guide*

The following KPIs are added:

- elasticsearch\_server\_status
- fluentbit\_non\_proxy\_server\_status
- fluentbit\_non\_proxy\_records\_flushed

For more information on statistics, see [Statistics/KPI Additions or Changes](#)

# Regex Wildcard Support for Filtering in Peer Monitoring GUI and CRD

## Feature Summary and Revision History

**Table 9: Summary Data**

Applicable Product(s) or Functional Area	vDRA
Applicable Platform(s)	Not Applicable
Default Setting	Enabled - Always-on
Related Changes in This Release	Not Applicable
Related Documentation	<i>CPS vDRA Administration Guide</i>

**Table 10: Revision History**

Revision Details	Release
First introduced	22.1.0

### Feature Description

In vDRA, you can use Regex/Wildcard values in the Search field when you filter active and inactive peer endpoints or when you view filtered Custom Reference Data (CRD).

In the Peer Monitoring window, you can enter a search value in the Search field, and click either the **Search** icon or press **Enter** to view details. Based on inputs the vDRA searches the entry and displays the output.

In the Custom Reference Data Tables view, open a CRD table and in the search box you can enter Regex/Wildcard expression to view the displayed results according to the expression.

For example, if the input value is "ndc2c\*" then the search results displayed are ndc2c.gx.xom,ndc2c.gxx.com and so on.

For more information, see *View Filtered Data* section in the *CPS vDRA Administration Guide*.

## Support for Automated Log Collection during Outages

**Table 11: Summary Data**

Applicable Product(s) or Functional Area	vDRA
Applicable Platform(s)	Not Applicable
Default Setting	Enabled - Always-on
Related Changes in This Release	Not Applicable
Related Documentation	<i>CPS vDRA Operations Guide</i>

### Feature Description

The Cisco Policy Suite (CPS) supports a single script to collect the orchestrator, various docker, journalctl, and qns logs during outages. Through a single orchestrator CLI command you can collect heapdump and threaddump outputs of application containers.

- All docker container logs from VMs for all containers



**Note** Before enabling this feature or running any CLIs, add the pem key with the name "cps.pem" to the location on master and control VMs at the path: /data/orchestrator/pemKey. You can use a global command **log collect all** to collect all required logs.

- Top outputs from all VMs.
  - All Mongo logs from Database VMs.
  - The logs based on input. You can identify whether the logs are from all VMs or any specific VMs.
- All journalctl logs from all VMs.
- All qns logs.



- Logs that do not impact disk storage. During mongo logs collection when logs exceed the maximum storage capacity, script hard stops the log collection.

Collected logs gets stored as *.tar.gz* files and will be copied to external server.

*Tar.gz* file contains all logs from respective containers and under respective container names.

- heapdump and threaddump outputs from the application containers.

During implementation of binding VNF and Application VNF, CPS collects:

For more information, see the following sections in the *CPS vDRA Operations Guide*:

- *debug log collect*
- *log collect config*
- *log collect all*

## WPS Gx/Rx RAR and Rx ASR Messages Fallback to non-WPS Peer

**Table 12: Summary Data**

Applicable Product(s) or Functional Area	vDRA
Applicable Platform(s)	Not Applicable
Default Setting	Enabled - Always-on
Related Changes in This Release	Not Applicable
Related Documentation	<i>CPS vDRA Configuration Guide</i>

**Table 13: Revision History**

Revision Details	Release
First introduced	22.1.0

### Feature Description

vDRA always routes Gx RAR, Rx RAR, and Rx ASR messages using destination host routing. vDRA uses peer mentioned in the **destination-host** AVP to route Gx RAR, Rx RAR, and Rx ASR messages. Thus, WPS Gx RAR, Rx RAR, and Rx ASR messages gets routed to WPS peer and non-WPS Gx RAR, Rx RAR, and Rx ASR messages gets routed to non-WPS peer.

In this CPS 22.1.0 release, vDRA supports fallback of WPS Gx RAR, Rx RAR, and Rx ASR messages to non-WPS peer using Suffix-Based Destination Host routing when there is no active WPS peer available locally or globally.

For more information, see the *Supporting Fallback of WPS Gx RAR, Rx RAR, and Rx ASR Messages to non-WPS Peer* section in the *CPS vDRA Configuration Guide*.

