



## Administering ESC

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### ETSI Performance Reports

ESC allows you to collect the performance information of the VNFs such as metrics and notifications using the performance management job functionality. You must first create a performance management (PM) job. After creating the PM job, you can perform the following tasks:

- Query, delete, or notify performance management jobs
- Read an individual report, or obtain the performance reports
- Configure the threshold of the performance management jobs
- Query, delete or notify the threshold of the performance management jobs
- Create or update subscriptions belonging to a Performance Management job or Threshold

### Performance Management Jobs

This section describes the performance management jobs.

#### Create Performance Management Job

You must create a performance management job to further query and run reports.

As a part of the job creation, subscription details should be provided to receive any notification.

The NFVO is notified using the `PerformanceInformationAvailableNotification` notification.

Method Type:

POST

VNFM Endpoint:

```
{api_root}/vnfpm/v2/pm_jobs (Data structure=CreatePmJobRequest)
```

## Request Payload:

```
{
  "objectInstanceIds": ["9d20a459-b3ff-4d1c-9b63-0dae7444b645"],
  "subObjectInstanceIds": ["9d20a459-b3ff-4d1c-9b63-0dae7444b645"],
  "objectType": "XYZ",
  "callbackUri": "http://localhost:45247/notification",
  "authentication": {
    "authType": ["BASIC"],
    "paramsBasic": {
      "userName": "admin",
      "password": "P@55w0rd!"
    }
  },
  "criteria": {
    "collectionPeriod": 60,
    "reportingPeriod": 3600,
    "reportingBoundary": "2020-08-01T00:00:00.000Z",
    "performanceMetric": [
      "Gold",
      "Silver"
    ],
    "performanceMetricGroup": [
      "VIP",
      "Europe"
    ]
  }
}
```

## Response Payload:

```
{
  "id": "b375b81c-3236-4b1c-9c47-61455bf5bc74",
  "objectType": "XYZ",
  "callbackUri": "http://localhost:45248/notification",
  "objectInstanceIds": [
    "9d20a459-b3ff-4d1c-9b63-0dae7444b645"
  ],
  "subObjectInstanceIds": [
    "07775e8b-1279-4338-a643-be283d36fa98"
  ],
  "criteria": {
    "collectionPeriod": 60,
    "reportingPeriod": 3600,
    "performanceMetric": [
      "Gold",
      "Silver"
    ],
    "performanceMetricGroup": [
      "VIP",
      "Europe"
    ],
    "reportingBoundary": "2020-08-01T00:00:00.000Z"
  },
  "reports": [
    {
      "href":
        "http://localhost:8250/or_vnfm/vnfm/v2/pm_jobs/b375b81c-3236-4b1c-9c47-61455bf5bc74/reports/1c787c0d-69a5-4ade-b5ca-43f80e17bd58",
      "readyTime": "2022-02-28T07:29:45.609Z"
    }
  ],
  "_links": {
```

```

        "self": {
            "href":
"http://localhost:8250/or_vnfm/vnfm/v2/pm_jobs/b375b81c-3236-4b1c-9c47-61455bf5bc74"
        },
        "objects": [
            {
                "href":
"http://localhost:8250/or_vnfm/vnflcm/v2/vnf_instances/9d20a459-b3ff-4d1c-9b63-0dae7444b645"
            }
        ]
    }
}

```




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**Note** Update the same response for *Query and Individual Performance Management Job* and *Query All Performance Management jobs*.

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### Query an Individual Performance Management Job

The NFVO queries for the individual performance management job.

Method Type:

GET

VNFM Endpoint:

```
{api_root}/vnfm/v2/pm_jobs/{pmJobId}
```

Request Payload:

NA.

Response Payload:

```

{
  "id": "13963644-11b0-4302-a13b-26ca3d9eb8f8",
  "objectInstanceIds": [
    "cc6a34e5-0463-459a-b367-493ba997775f "
  ],
  "criteria": {
    "performanceMetric": [
      "default"
    ],
    "performanceMetricGroup": [
      "default"
    ],
    "collectionPeriod": 3600,
    "reportingPeriod": 14400,
    "reports": [
      {
        "href": "uri_where_report_can_be_obtained",
        "readyTime": "2018-08-20T06:17:35.081+0000",
        "expiryTime": "2018-10-20T06:17:35.081+0000",
        "fileSize": "5000"
      }
    ]
  },
  "_links": {
    "self": {

```

```

        "href": "http://host:port/vnfpm/v2/pm_jobs/13963644-11b0-4302-a13b-26ca3d9eb8f8"
      },
      "objects": [
        {
          "href":
"http://host:port/vnflcm/v2/vnf_instances/cc6a34e5-0463-459a-b367-493ba997775f"
        }
      ]
    }
  }
}

```



**Note** A reports section is added to the response payload (as shown above) only if a report is available.

All the attribute names and the data types referenced from the attribute names in the response payload are supported in the attribute-based filtering.

### Query All Performance Management Jobs

The NFVO gets the list of all the performance management jobs.

Method Type:

GET

VNFM Endpoint:

```
{api_root}/vnfpm/v2/pm_jobs
```

Request Payload:

NA.

Response Payload:

```

{
  "id": "13963644-11b0-4302-a13b-26ca3d9eb8f8",
  "objectInstanceIds": [
    "cc6a34e5-0463-459a-b367-493ba997775f "
  ],
  "criteria": {
    "performanceMetric": [
      "default"
    ],
    "performanceMetricGroup": [
      "default"
    ],
    "collectionPeriod": 3600,
    "reportingPeriod": 14400,
    "reports": [
      {
        "href": "uri_where_report_can_be_obtained",
        "readyTime": "2018-08-20T06:17:35.081+0000",
        "expiryTime": "2018-10-20T06:17:35.081+0000",
        "fileSize": "5000"
      }
    ]
  },
  "_links": {
    "self": {
      "href": "http://host:port/vnfpm/v2/pm_jobs/13963644-11b0-4302-a13b-26ca3d9eb8f8"
    }
  },
}

```

```

      "objects": [
        {
          "href":
"http://host:port/vnflcm/v2/vnf_instances/cc6a34e5-0463-459a-b367-493ba997775f"
        }
      ]
    }
  }
}

```




---

**Note** A reports section is added to the response payload (as shown above) only if a report is available.

All the attribute names in the response payload and data types referenced from the attribute names are supported in the attribute-based filtering.

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### Update a Performance Management Job

The NFVO updates the callbackUri and associated authentication of the individual performance management job.

Method Type:

PATCH

VNFM Endpoint:

`http://localhost:8250/or_vnfm/vnfm/v2/pm_jobs/{pmJobId}`

Request Payload:

```

{
  "callbackUri": "http://localhost:45248/notification",
  "authentication": {
    "authType": ["BASIC"],
    "paramsBasic": {
      "userName": "admin",
      "password": "P@55w0rd!"
    }
  }
}

```

Response Payload:

```

{
  "callbackUri": "http://localhost:45248/notification"
}

```

### Delete a Performance Management Job

The NFVO sends a delete request to the existing performance management job.

`DELETE {api_root}/vnfm/v2/pm_jobs/{pmJobId}`

## Configuring Threshold for Performance Management Job

This section describes how to set the threshold for the performance management jobs.

## Create a Threshold

The NFVO sends a create request to create a threshold for the performance management job.

As part of the threshold creation, subscription details should be provided to receive any notification.

The NFVO receives the ThresholdCrossedNotification if ESC crosses a configured threshold.

Method Type:

POST

VNFM Endpoint:

```
{api_root}/vnfpm/v2/thresholds (Datastructure=CreateThresholdRequest)
```

Request Payload:

```
{
  "objectInstanceId": "9d20a459-b3ff-4d1c-9b63-0dae7444b645",
  "thSubObjectInstanceIds": ["9d20a459-b3ff-4d1c-9b63-0dae7444b645"],
  "objectType": "THRESHOLDJOB",
  "callbackUri": "http://localhost:45247/notification",
  "authentication": {
    "authType": ["BASIC"],
    "paramsBasic": {
      "userName": "admin",
      "password": "P@55w0rd!"
    }
  },
  "criteria": {
    "performanceMetric": "uptime",
    "thresholdType": "SIMPLE",
    "simpleThresholdDetails": {
      "thresholdValue": "74400.0",
      "hysteresis": "10.0"
    }
  }
}
```

Response Payload:

```
{
  "id": "0341d294-f8db-408a-a68b-64b1db306304",
  "objectInstanceId": "9d20a459-b3ff-4d1c-9b63-0dae7444b645",
  "criteria": {
    "performanceMetric": "uptime",
    "thresholdType": "SIMPLE",
    "simpleThresholdDetails": {
      "thresholdValue": 74400.0,
      "hysteresis": 10.0
    }
  },
  "objectType": "THRESHOLDJOB",
  "callbackUri": "http://localhost:45247/notification",
  "thSubObjectInstanceIds": [
    "9d20a459-b3ff-4d1c-9b63-0dae7444b645"
  ],
  "_links": {
    "self": {
      "href":
"http://localhost:8250/or_vnfm/vnfpm/v2/thresholds/0341d294-f8db-408a-a68b-64b1db306304"
    },
    "object": {
      "href":

```

```
"http://localhost:8250/or_vnfm/vnflcm/v2/vnf_instances/9d20a459-b3ff-4d1c-9b63-0dae7444b645"
  }
}
```




---

**Note** Same Response Payload for *Query an individual threshold* and *Query all thresholds*

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### Query an Individual Threshold

The NFVO can query the threshold of a performance management job.

GET

VNFM Endpoint:

```
{api_root}/vnfpm/v2/thresholds/{thresholdId}
```

Request Payload: NA

Response Payload:

```
{
  "id": "23f52511-9f72-4797-881b-c0f72e60a052",
  "objectInstanceId": "cc6a34e5-0463-459a-b367-493ba997775f",
  "criteria": {
    "performanceMetric": "default",
    "thresholdType": "SIMPLE",
    "simpleThresholdDetails": {
      "thresholdValue": 0.8,
      "hysteresis": 0.9
    }
  },
  "_links": {
    "self": {
      "href": "http://host:port/vnfpm/v2/thresholds/23f52511-9f72-4797-881b-c0f72e60a052"
    },
    "object": [
      {
        "href":
"http://host:port/vnflcm/v2/vnf_instances/cc6a34e5-0463-459a-b367-493ba997775f"
      }
    ]
  }
}
```




---

**Note** Attribute-based filtering is not possible when specifying a threshold id.

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### Query All Thresholds

The NFVO can query the threshold of a performance management job.

Method Type:

GET

VNFM Endpoint:

```
{api_root}/vnfpm/v2/thresholds
```

Request Payload: NA

Response Payload:

```
{
  "id": "23f52511-9f72-4797-881b-c0f72e60a052",
  "objectInstanceId": "cc6a34e5-0463-459a-b367-493ba997775f",
  "criteria": {
    "performanceMetric": "default",
    "thresholdType": "SIMPLE",
    "simpleThresholdDetails": {
      "thresholdValue": 0.8,
      "hysteresis": 0.9
    }
  },
  "_links": {
    "self": {
      "href": "http://host:port/vnfpm/v2/thresholds/23f52511-9f72-4797-881b-c0f72e60a052"
    },
    "object": [
      {
        "href":
"http://host:port/vnflcm/v2/vnf_instances/cc6a34e5-0463-459a-b367-493ba997775f"
      }
    ]
  }
}
```




---

**Note** All the attribute names in the response payload and data types referenced from the attribute names are supported in the attribute-based filtering.

---

### Update a Threshold

The NFVO sends a update request to update a threshold for the performance management job.

Method Type:

PATCH

VNFM Endpoint:

```
http://localhost:8250/or_vnfm/vnfpm/v2/thresholds/{thresholdId}
```

Request Payload:

```
{
  "callbackUri": "http://localhost:45248/notification",
  "authentication": {
    "authType": ["BASIC"],
    "paramsBasic": {
      "userName": "admin",
      "password": "P@55w0rd!"
    }
  }
}
```

Response Payload:



```
{  
  "callbackUri": "http://localhost:45248/notification"  
}
```

### Delete a Threshold

The NFVO sends a delete request to delete the threshold configuration of the existing performance management job.

```
DELETE {api_root}/vnfpm/v2/thresholds/{thresholdId}
```

