



Hewlett Packard
Enterprise

DMFUG 2018

DMF7 Monitoring and Management

Sergey Shlepakov

Confidentiality Notice

- **The information contained in this presentation** is proprietary to Hewlett Packard Enterprise (HPE) Company and is offered in confidence, subject to the terms and conditions of a Confidential Disclosure Agreement

- **HPE makes no warranties regarding the accuracy of this information.** This document contains forward looking statements regarding future operations, product development, product capabilities and availability dates. This information is subject to substantial uncertainties and is subject to change at any time without prior notification. Statements contained in this document concerning these matters only reflect Hewlett-Packard Enterprise's predictions and / or expectations as of the date of this document and actual results and future plans of Hewlett-Packard Enterprise may differ significantly as a result of, among other things, changes in product strategy resulting from technological, internal corporate, market and other changes. This is not a commitment to deliver any material, code or functionality and should not be relied upon in making purchasing decisions.



Data Management Framework | **DMF 7** Monitoring

- DMF7 team has selected Netdata as the foundation for monitoring:
 - Fast, light-weight
 - Modern, slick UI (Bootstrap dashboards)
 - Sophisticated alerting
 - Extensible, customizable
 - Easy Configuration

Data Management Framework | **DMF 7** Monitoring Metrics

- Currently monitoring:
 - DMF DB (Cassandra)
 - Filesystem event bus (Kafka)
 - DMF Job Queue (Redis)
 - Lots of relevant metrics available out-of-the-box
- Planning to add more stats on jobs, file counts, queue summary, etc.

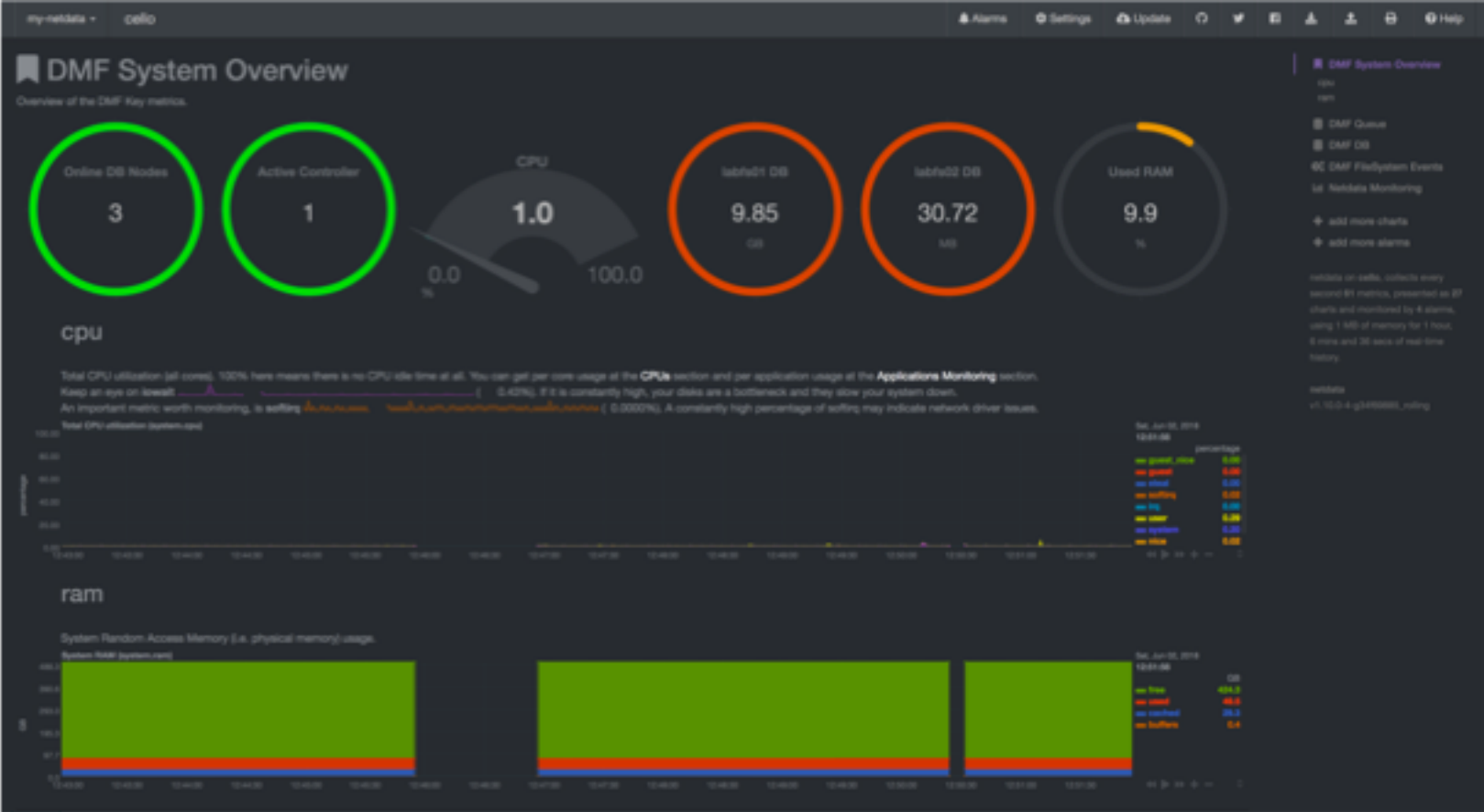
Data Management Framework | **DMF 7** Metrics on Data Servers (DB)

- Read / Write Requests
- Read / Write Latency
- Disk Usage (across cluster and by node)
- CPU Utilization
- Swap Activity, Memory Usage
- Heap Usage
- Garbage Collection Times
- Hinted Handoff Activity

Data Management Framework | **DMF 7** Kafka alerts and Metrics

- Alerts:
 - Number of under-replicated partitions (alert if > than 0)
 - Offline partitions count (no active leader) (alert if > than 0)

Data Management Framework | DMF 7 Netdata Dashboard



Data Management Framework | DMF 7 Netdata – DB Latency



Data Management Framework | **DMF 7** Other Admin Interfaces

- 'dmf status' CLI command
- Marathon UI
- Registry (zk-shell)
- Mesos UI

Data Management Framework | **DMF 7** status command (1)

```
> dmf status
connected to registry
DMF:
- Cassandra:
  - 128.162.240.195: UP
  - 128.162.240.192: DOWN
  - 128.162.240.200: UP
- HAProxy:
  bk_redis:
  - redis_1: UP
  - redis_2: DOWN
  - redis_3: DOWN
  - BACKEND: UP
  ft_redis:
  - FRONTEND: OPEN
- Mesos:
  Frameworks:
  - active: true
    hostname: banjo.americas.sgi.com
    name: dmf-data-manager-b4d20dcd-8c01-4300-8444-aa5fe114c668
```

Data Management Framework | **DMF 7** status command (2)

```
- Marathon:
  FSID b4d20dcd-8c01-4300-8444-aa5fe114c668:
  - healthy: 1
    id: /dmf-data-manager-32667777add5411eb7ac337e6efbb781
    running: 1
  - healthy: 0
    id: /dmf-changelog-processor-999e6cb148ab4de488b9c41b94906a78
    running: 1
  - healthy: 0
    id: /dmf-changelog-processor-ca8e7f3d7621401b887a4686c6ab525a
    running: 1
  - healthy: 0
    id: /dmf-changelog-processor-3da91a0d9ec543d0ab82f27a7c7367a9
    running: 1
  - healthy: 0
    id: /dmf-policy-95a04948c6374a4cbd59c35ff2f97139
    running: 1
  FSID fc9ef96f-67dc-4f65-a1dd-939fc508286b:
```

.

Data Management Framework | **DMF 7** status command (3)

GLOBAL APPS:

- healthy: 1
id: /dmf-anyqd-412f13f1573a46249d84abb87f35509c
running: 1
- healthy: 0
id: /dmf-query-426598a351ec42be9d70317b14fd1656
running: 1
- healthy: 1
id: /dmf-apiserver-6d7b5460865c4ff5981f72cd3fddc471
running: 1
- healthy: 1
id: /dmf-srf-8af592bf99624a998430234503794225
running: 1
- healthy: 1
id: /dmf-apiserver-dfb7275acfe54100b262cf4e0bd9e4ae
running: 1
- healthy: 1
id: /dmf-data-migrator-fefad94fad844ca8849d2e4f51f13efa
running: 1
- healthy: 1
id: /dmf-fsmond-8b4605a6ecf742a691ce963e935d3887
running: 1

Data Management Framework | **DMF 7** status command (4)

```
- FileSystems:
  EXFS:
    b4d20dcd-8c01-4300-8444-aa5fe114c668:
      active mds: viola
      mount point: /labfs01
      mounted: '1'
    fc9ef96f-67dc-4f65-a1dd-939fc508286b:
      active mds: viola
      mount point: /labfs02
      mounted: '1'
```


Data Management Framework | DMF 7 Mesos UI

The screenshot displays the Mesos UI interface for the Data Management Framework (DMF 7). The interface is divided into three main sections: Active Frameworks, Inactive Frameworks, and Completed Frameworks. Each section contains a table of framework details.

Active Frameworks

ID	Host	User	Name	Roles	Principal	Active Tasks	CPUs	GPUs	Mem	Disk	Max Share	Registered	Re-Registered
...82b0-7bc493b5799e-0026	dg-edge2.americas.sgi.com	root	dmf-storage	storage		1	0.5	0	100 MB	0 B	0.149%	2 hours ago	-
...82b0-7bc493b5799e-0013	dg-edge1.americas.sgi.com	root	metronome	*		0	0	0	0 B	0 B	0%	4 days ago	-
...82b0-7bc493b5799e-0006	dg-edge1.americas.sgi.com	root	dmf-policy-e8232741-c38d-4e39-964e-1035eb006aeb	policy		1	6	0	5.5 GB	0 B	1.786%	4 days ago	-
...82b0-7bc493b5799e-0004	dg-edge2.americas.sgi.com	root	dmf-query	query		1	6	0	5.5 GB	0 B	1.786%	4 days ago	-
...82b0-7bc493b5799e-0001	dg-edge2.americas.sgi.com	root	dmf-data-migrator	migrator		0	0	0	0 B	0 B	0%	4 days ago	-
...bcca-762632bd030-0000	126.162.242.186	root	marathon	marathon		14	0.712	0	2.9 GB	0 B	0.452%	5 days ago	40 minutes ago

Inactive Frameworks

ID	Host	User	Name	Roles	Principal	Active Tasks	CPUs	GPUs	Mem	Disk	Max Share	Registered	Re-Registered
----	------	------	------	-------	-----------	--------------	------	------	-----	------	-----------	------------	---------------

Completed Frameworks

ID	Host	User	Name	Roles	Principal	Registered	Unregistered
...82b0-7bc493b5799e-0025	dg-edge1.americas.sgi.com	root	dmf-data-manager-e8232741-c38d-4e39-964e-1035eb006aeb	data-manager		19 hours ago	17 hours ago
...82b0-7bc493b5799e-0024	dg-edge1.americas.sgi.com	root	dmf-data-manager-e8232741-c38d-4e39-964e-1035eb006aeb	data-manager		19 hours ago	19 hours ago
...82b0-7bc493b5799e-0023	dg-edge1.americas.sgi.com	root	dmf-data-manager-e8232741-c38d-4e39-964e-1035eb006aeb	data-manager		19 hours ago	19 hours ago
...82b0-7bc493b5799e-0022	dg-edge1.americas.sgi.com	root	dmf-data-manager-e8232741-c38d-4e39-964e-1035eb006aeb	data-manager		19 hours ago	19 hours ago
...82b0-7bc493b5799e-0021	dg-edge1.americas.sgi.com	root	dmf-data-manager-e8232741-c38d-4e39-964e-1035eb006aeb	data-manager		20 hours ago	20 hours ago
...82b0-7bc493b5799e-0020	dg-edge1.americas.sgi.com	root	dmf-data-manager-e8232741-c38d-4e39-964e-1035eb006aeb	data-manager		20 hours ago	20 hours ago
...82b0-7bc493b5799e-0019	dg-edge1.americas.sgi.com	root	dmf-data-manager-e8232741-c38d-4e39-964e-1035eb006aeb	data-manager		22 hours ago	22 hours ago
...82b0-7bc493b5799e-0018	dg-edge1.americas.sgi.com	root	dmf-data-manager-e8232741-c38d-4e39-964e-1035eb006aeb	data-manager		22 hours ago	22 hours ago



Hewlett Packard
Enterprise



Thank You