# Hortonworks Cybersecurity Platform

## Release Notes

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# Hortonworks Cybersecurity Platform: Release Notes

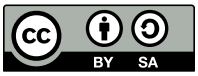


Hortonworks Cybersecurity Platform (HCP) is a modern data application based on Apache Metron, powered by Apache Hadoop, Apache Storm, and related technologies.

HCP provides a framework and tools to enable greater efficiency in Security Operation Centers (SOCs) along with better and faster threat detection in real-time at massive scale. It provides ingestion, parsing and normalization of fully enriched, contextualized data, threat intelligence feeds, triage and machine learning based detection. It also provides end user near real-time dashboarding.

Based on a strong foundation in the Hortonworks Data Platform (HDP) and Hortonworks DataFlow (HDF) stacks, HCP provides an integrated advanced platform for security analytics.

Please visit the Hortonworks Data Platform page for more information on Hortonworks technology. For more information on Hortonworks services, please visit either the Support or Training page. Feel free to Contact Us directly to discuss your specific needs.



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# 1. Hortonworks Cybersecurity Platform 1.4.2 Release Notes

This document provides you with the latest information about the Hortonworks Cybersecurity Platform (HCP) powered by Apache Metron release 1.4.2 and its product documentation.



## 1.1. Apache Component Support

**Component Versions**

HCP is built on HDP 2.6.4 and HDF 3.0.1.1 and later. The official Apache versions of all HCP 1.4.2 components are:

- Apache Metron 0.4.2
- HDP supported component versions

All components listed are official Apache releases of the most recent stable versions available.

The Hortonworks approach is to provide patches only when necessary, to ensure the interoperability of components. Unless you are explicitly directed by Hortonworks Support to take a patch update, each of the HCP components should remain at the following package version levels, to ensure a certified and supported copy of HCP 1.4.2.

### Note

For information on open source software licensing and notices, please refer to the Licenses and Notices files included with the software install package.

## 1.2. New Features

HCP is a cybersecurity application framework that provides the ability to parse diverse security data feeds, enrich, triage, and store the data at scale, and detect cybersecurity anomalies. HCP 1.4.2 provides the following new features:

- Performance enhanced enrichment topology (Technical Preview)

- Support for Solr 6.6 using HDP Search (Technical Preview)
- Support for connecting to X-Pack enabled for Elasticsearch clusters
- Support for Elasticsearch 5.6.2.

  Elasticsearch 2.x is no longer supported.
- Support for Kibana 5.6.2 including updated dashboards.
- Support for Curator utility provided by Elasticsearch.

  Data Pruner is no longer supported.
- Alerts user interface
  - Displaying alerts
  - Searching alerts
  - Saving searches
  - Viewing your recent and saved searches
  - Configuring Alerts table
  - The ability to group alerts into meta-alerts
  - Adding comments
  - Alert status based workflow
  - Ability to escalate alerts to external ticketing systems
- Significant performance improvement for parsing
- M-pack based installation and configuration for Profiling
- Performance improvement for Indexing
- Additional geospatial and hash functions in Stellar
- Short circuit evaluation and multi-line Stellar statements

# 1.3. Platform Support Matrices

This section outlines the platform support matrices for HCP 1.4.2.

- Operating System Support Matrix [2]
- JDK Support Matrix [3]

## 1.3.1. Operating System Support Matrix

Unless otherwise noted, the following operating systems are validated and supported for HDP 2.6.4:

### Table 1.1. HDP 2.6.2 Operating System Support Matrix

| Operating System | Version |
|---|---|
| CentOS (64-bit) | CentOS 6.x and CentOS 7.x |
| Red Hat (64-bit) | RHEL 7.0† |
| Ubuntu | Ubuntu 14.04 |

†Not validated, but supported.

## 1.3.2. JDK Support Matrix

Unless otherwise noted, the following Java Development Kits (JDKs) are validated and supported for HDP 2.6.4:

### Table 1.2. HDP 2.6.4 JDK Support Matrix

| JDK | Version |
|---|---|
| Open Source | JDK8† |
| Oracle | JDK 8 |

†Not validated, but supported.

# 1.4. Unsupported Features

Although the following features exist within HCP 1.4.2, Hortonworks does not currently support these specific capabilities:

- Community Features [3]

## 1.4.1. Community Features

The following features are developed and tested by the Hortonworks community but are not officially supported by Hortonworks. These features are excluded for a variety of reasons, including insufficient reliability or incomplete test case coverage, declaration of non-production readiness by the community at large, and feature deviation from Hortonworks best practices. Do not use these features in your production environments.

### Table 1.3. Community Features

| Feature | Description |
|---|---|
| Vagrant-based deployment | A single-node quick deployment option intended solely for development of Metron. |
| Docker-based deployment | A Docker-container based deployment intended solely for development of Metron. |
| Ansible installs | A multi-node deployment option via Ansible. |

## 1.4.2. Technical Preview Features

### Table 1.4. Technical Preview Features

| Feature | Description |
|---|---|
| Performance enhanced enrichment topology | Replaces split-join enrichment topology with threaded enrichment topology |

| Feature | Description |
|---|---|
| Solr 6.6 | Support for Solr 6.6 using HDP Search |

# 1.5. HCP 1.4.2 Repositories

Use the following table to identify the HCP 1.4.2 repo location for your operating system and operational objectives:

### Note

When installing Elasticsearch with the management pack on Ubuntu, you must manually install the Elasticsearch repositories. The management pack does not do this, like it does on CentOS.

### Table 1.5. HCP Repo Locations

| OS | Format | Download Location |
|---|---|---|
| RedHat Enterprise Linux / CentOS 6 (64-bit) | Repo | http://public-repo-1.hortonworks.com/HCP/centos6/1.x/updates/1.4.2.0/hcp.repo |
| | HCP Management Pack | http://public-repo-1.hortonworks.com/HCP/centos6/1.x/updates/1.4.2.0/tars/metron/hcp-ambari-mpack-1.4.2.0-23.tar.gz |
| RedHat Enterprise Linux / CentOS 7 (64-bit) | Repo | http://public-repo-1.hortonworks.com/HCP/centos7/1.x/updates/1.4.2.0/hcp.repo |
| | HCP Management Pack | http://public-repo-1.hortonworks.com/HCP/centos7/1.x/updates/1.4.2.0/tars/metron/hcp-ambari-mpack-1.4.2.0-23.tar.gz |
| Ubuntu 14.04 | Repo | http://public-repo-1.hortonworks.com/HCP/ubuntu14/1.x/updates/1.4.2.0/hcp.list |
| | HCP Management Pack | http://public-repo-1.hortonworks.com/HCP/ubuntu14/1.x/updates/1.4.2.0/tars/metron/hcp-ambari-mpack-1.4.2.0-23.tar.gz |

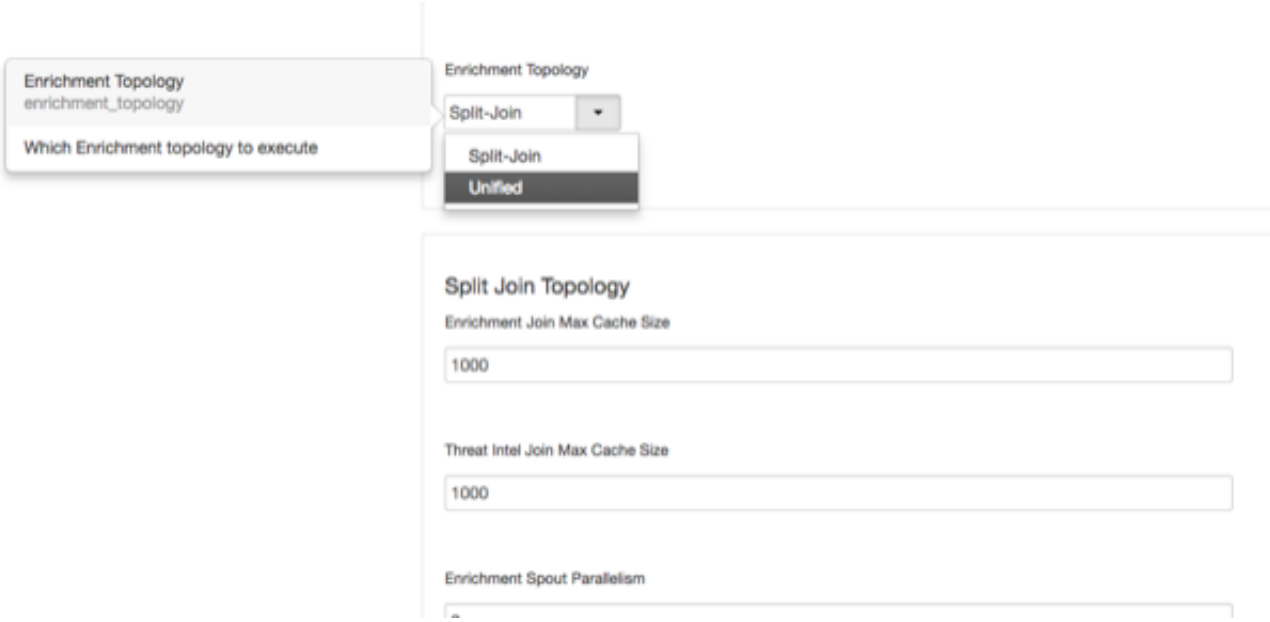
# 1.6. Upgrading to HCP 1.4.2

For information on how to upgrade to HCP 1.4.2 from a previous release, see Hortonworks Cybersecurity Platform Upgrade Guide.

# 1.7. Switching to Unified Enrichment Topology (Technical Preview)

Switching from the current split-join enrichment topology to the new unified enrichment topology can reduce the latency of enrichment messages and avoid overloading the enrichment cache during times of heavy traffic.

1. Stop the Metron enrichment topology in Ambari.
   a. Click **Metron Enrichment** in the **Summary** list.
   b. Choose **Stop** from the menu next to **Metron Enrichment / Metron**.
2. In the **Enrichment** tab, choose **Unified** from the **Enrichment Topology** menu.




Where appropriate, the unified topology reuses the same settings from the split-join topology.

3. Verify that the unified topology settings are appropriate for your system.
4. Restart the enrichment topology in Ambari.

# 1.8. Upgrading to Elasticsearch 5.6.2

For Elasticsearch 5.x, the existing indexes and templates need to upgraded. For more information, see:

- Updating Elasticsearch Templates
- Updating Existing Indexes

There are a number of template changes in Elasticsearch 5.2, most notably around string type handling, that may cause issues when upgrading. If you are upgrading from Elasticsearch 2.x to Elasticsearch 5.6.2, you will need to re-index. For information on the type mapping changes, see Section 1.8.1, “Type Mapping Changes” [5].

For more information, see Upgrade Elasticsearch.

## 1.8.1. Type Mapping Changes

Type mappings in Elasticsearch 5.6.2 have changed from ES 2.x. This section provides an overview of the most significant changes.

The following is a list of the major changes in Elasticsearch 5.6.2:

- String fields replaced by text/keyword type

- Strings have new default mappings as follows:

```
{
  "type": "text",
  "fields": {
    "keyword": {
      "type": "keyword",
      "ignore_above": 256
    }
  }
}
```

- There is no longer a `_timestamp` field that you can set "enabled" on.

  This field now causes an exception on templates. The Metron model has a timestamp field that is sufficient.

The semantics for string types have changed. In 2.x, index settings are either "analyzed" or "not_analyzed" which means "full text" and "keyword", respectively. Analyzed text means the indexer will split the text using a text analyzer, thus allowing you to search on substrings within the original text. "New York" is split and indexed as two buckets, "New" and "York", so you can search or query for aggregate counts for those terms independently and match against the individual terms "New" or "York." "Keyword" means that the original text will not be split/analyzed during indexing and instead treated as a whole unit. For example, "New" or "York" will not match in searches against the document containing "New York", but searching on "New York" as the full city name will match. In Elasticsearch 5.6 language, instead of using the "index" setting, you now set the "type" to either "text" for full text, or "keyword" for keywords.

Below is a table listing the changes to how String types are now handled.

| sort, aggregate, or access values | Elasticsearch 2.x | Elasticsearch 5.x | Example |
|---|---|---|---|
| no | `"my_property" : { "type": "string", "index": "analyzed" }` | `"my_property" : { "type": "text" }` Additional defaults: "index": "true", "fielddata": "false" | "New York" handled via in-mem search as "New" and "York" buckets. **No** aggregation or sort. |
| yes | `"my_property": { "type": "string", "index": "analyzed" }` | `"my_property": { "type": "text", "fielddata": "true" }` | "New York" handled via in-mem search as "New" and "York" buckets. **Can** aggregate and sort. |
| yes | `"my_property": { "type": "string", "index": "not_analyzed" }` | `"my_property" : { "type": "keyword" }` | "New York" searchable as single value. **Can** aggregate and sort. A search for "New" or "York" will not match against the whole value. |
| yes | `"my_property": { "type": "string", "index": "analyzed" }` | `"my_property": { "type": "text", "fields": { "keyword": { "type": "keyword", "ignore_above": 256 } } }` | "New York" searchable as single value or as text document, can aggregate and sort on the sub term "keyword." |

If you want to set default string behavior for all strings for a given index and type, you can do so with a mapping similar to the following (replace ${your_type_here} accordingly):

```
# curl -XPUT 'http://${ES_HOST}:${ES_PORT}/_template/default_string_template'
 -d '
{
    "template": "*",
    "mappings" : {
        "${your_type_here}": {
            "dynamic_templates": [
                {
                    "strings": {
                        "match_mapping_type": "string",
                        "mapping": {
                            "type": "text"
                            "fielddata": "true"
                        }
                    }
                }
            ]
        }
    }
}
```

By specifying the `template` property with value `*`, the template will apply to all indexes that have documents indexed of the specified type (${your_type_here}).

The following are other settings for types in ES:

- doc_values
  - On-disk data structure
  - Provides access for sorting, aggregation, and field values
  - Stores same values as _source, but in column-oriented fashion better for sorting and aggregating
  - Not supported on text fields
  - Enabled by default
- fielddata
  - In-memory data structure
  - Provides access for sorting, aggregation, and field values
  - Primarily for text fields
  - Disabled by default because the heap space required can be large

# 1.9. Third-Party Licenses

Global: Apache 2.0

HCP deploys numerous third-party licenses and dependencies, all of which are compatible with the Apache software license. For complete third-party license information, see the licenses and notice files contained within the distribution.

# 1.10. Known Issues

The HCP 1.4.2 release has the following known issue:

- During HCP installation, some versions of Zeppelin might fail to install. If the Zeppelin notebooks are not installed, import the Apache Zeppelin Notebook manually. See Importing the Apache Zeppelin Notebook Manually for more information.

## 1.10.1. Known Differences Between HCP 1.4.2 and HCP 1.4.1

The following bugs identify known differences between HCP 1.4.2 and HCP 1.4.1.

### Table 1.6. Known Differences Between HCP 1.4.2 and HCP 1.4.1

| Feature | Description |
|---|---|
| METRON-941 | native PaloAlto parser corrupts message when having a comma in the payload |
| METRON-1273 | Website documentation link should point to the current site-book |
| METRON-1318 | Update MacOS Instructions for AWS |
| METRON-1337 | List of facets should not be hardcoded |
| METRON-1386 | Fix Metron Website Required Links |
| METRON-1394 | Create Rest endpoint to add the ACL for current user to kafka topics |
| METRON-1444 | Add Ubuntu Repositories for Elasticsearch to the Mpack |
| METRON-1446 | Fix openjdk issue with Ubuntu |
| METRON-1447 | Heap Size Not Set Correctly by MPack for ES 5.x |
| METRON-1450 | Add REST endpoint docs for index topology split |
| METRON-1451 | On Centos full dev, Metron Indexing shows up as stopped |
| METRON-1452 | Rebase Dev Environment on Latest CentOS 6 |
| METRON-1455 | Patch and Replace methods in the REST UpdateController return 400 |
| METRON-1457 | Move ASF links to main page in the Metron website |
| METRON-1460 | Create a complementary non-split-join enrichment topology |
| METRON-1463 | Adjust the groupings and shuffles in enrichment to be more efficient |
| METRON-1467 | Replace guava caches in places where the keyspace might be large |
| METRON-1468 | Add support for apache/metron-bro-plugin-kafka to prepare-commit |
| METRON-1470 | Update jquery to version 3+ |
| METRON-1471 | Migrate shuffle connections to local or shuffle |

## 1.10.2. Known Differences Between HCP 1.4.2 and Apache Metron 0.4.2

There are no known differences between HCP 1.4.2 and Apache Metron 0.4.2.