State of the CFEngine

Or Since last time at Config Management Camp

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Releases

7 releases since 2017-01-01

Version	Date
3.7.5	2017-03-30
3.10.1	2017-03-30
3.10.2	2017-08-11
3.11.0	2017-08-11
3.7.6	2017-09-12
3.10.3	2018-02-02
3.7.7	2018-02-02

Contributions

	Core	MPF	Docs
Commits	256	163	207
Contributors	24	14	17
New Contributors	9	4	6

with attribute

```
bundle agent main
{
  vars:
      "todo" slist => { "a 1", "b 2", "c 3" };
      # Here, `with` is the canonified version of $(todo), I

      # intermediate canonification array.
      "$(with)" string => "$(todo)", with => canonify($(todo

      "complex" data => '
{
  "x": 200,
  "y": [ 1, 2, null, true, false ]
}
';

  reports:
      "For iterable '$(todo)' we created variable '$(with)'
```

with attribute

```
R: For iterable 'a 1' we created variable 'a_1' and its valu
R: For iterable 'b 2' we created variable 'b_2' and its valu
R: For iterable 'c 3' we created variable 'c_3' and its valu
R: We can print a data container compactly without creating
R: We can print a data container fully without creating a te
  "x": 200,
  "y": [
    1,
    2,
    null,
    true,
    false
  ]
}
```

inline_mustache

You are no longer required to use an external file template. Now you can provide the template directly within the policy.

```
bundle agent main
{
  vars:
    "d" data => '{ "hello": "world", "feature": [ "render",

  files:

    "/tmp/example.txt"
      create => "true",
      template_method => "inline_mustache",
      edit_template_string => "{{%-top-}}",
      template_data => @(d);

}
```

Figure: Example template_method inline_mustache

inline_mustache

Results in /tmp/example.txt having this content.

```
{
  "feature": [
    "render",
    "inline",
    "mustache"
  ],
  "hello": "world"
}
```

Figure: Example template_method inline_mustache

Multiple augments

NOTE: Current implementation discussion in progress in CFE-2741. Please consider participating.

```
{
  "vars":{
    "my_var": "defined in def.json",
    "my_other_var": "Defined ONLY in def.json"
  },
  "augments": [
    "/tmp/$(sys.flavor).json"
  ]
}
```

Figure: Example `/tmp/def.json`

Multiple augments

```
{
  "vars": {
    "my_var": "Overridden in centos_6.json",
    "centos_6_var": "Defined ONLY in centos_6.json"
  }
}
```

Figure: Example /tmp/centos_6.json

Multiple augments

```
[root@hub tmp]# cf-agent -KIf ./example.cf
R: def.my_var == Overridden in centos_6.json
R: def.my_other_var == Defined ONLY in def.json
R: def.centos_6_var == Defined ONLY in centos_6.json
```

missing_ok

Augments - Append the bundlesequnece of promises.cf and update.cf

- control_common_bundlesequence_end
- control_common_update_bundlesequence_end

```
{
  "vars":{
    "control_common_bundlesequence_end": [ "mybundle1", "myb
    "control_common_update_bundlesequence_end": [ "my_update
  }
}
```

- Order of bundle actuation not guaranteed.
- Agent errors if named bundle is missing.

Augments - Log file retention and rotation limits

`mpf_log_files_max_size` Max file size before rotation

`mpf_log_file_retention` Number of file rotations to keep

`mpf_log_dir_retention` Number of file rotations to keep in `outputs`, `reports`, and the Enterprise application log directory.

```
{
  "vars": {
    "mpf_log_file_retention": "5",
    "mpf_log_file_max_size": "10M",
    "mpf_log_dir_retention": "7"
  }
}
```

Augments - Execution schedule

`control_executor_schedule` Classes that trigger execution of cf-agent.

```
{
  "vars": {
    "control_executor_schedule": [ "Min00", "Min30" ]
  }
}
```

Augments - splaytime

`control_executor_splaytime` Maximum number of minutes exec_commad should wait before executing.

```
{
  "vars": {
    "control_executor_splaytime": "3"
  }
}
```

Augments - allowlegacyconnects

`control_server_allowlegacyconnects` List of subnets allowed to connect using legacy protocol (versions prior to 3.7.0).

```
{
  "vars": {
    "control_server_allowlegacyconnects": [ "0.0.0.0/0" ]
  }
}
```

Augments - maxconnections

`control_serverd_maxconnections` Maximum number of connections allowed by `cf-serverd`.

```
{
  "vars":{
      "control_serverd_maxconnections": "1000"
  }
}
```

Augments - Client initiated reporting (Enterprise)

`control_hub_exclude_hosts` List of subnets to exclude from hub initiated report collection.

`client_initiated_reporting_enabled` List of classes that if defined should initiate reporting to an enterprise hub.

`control_server_call_collect_interval` Number of minutes between client initiated reporting.

```
{
    "vars": {
        "control_server_call_collect_interval": "1",
        "control_hub_exclude_hosts": [ "0.0.0.0/0" ]
    },

    "classes" {
        "client_initiated_reporting_enabled": [ "any" ]
    }
}
```

Augments - files_single_copy

`control_agent_files_single_copy` List of regular expressions matching files that should not be copied more than once.

```
{
  "vars":{
    "control_agent_files_single_copy": [ ".*" ]
  }

}
```

Augments - default_repository

`mpf_control_agent_default_repository` List of classes class will cause these backups to be placed in `$(sys.workdir)/backups`.

`control_agent_default_backup` Directory where backups should be placed (defaults to `$(sys.workdir/backups)`.

```
{
  "classes": {
    "mpf_control_agent_default_repository": [ "any" ]
  },

  "vars": {
    "control_agent_default_repository": "/var/cfengine/edit
  }
}
```

templates shortcut

`dir_templates` Path to common template directory. Shortcut provided by cf-serverd as templates/.

```
{
    "vars": {
        "dir_templates": "/var/cfengine/mytemplat
        }
}
```

```
bundle agent example
{
  files:

    "$(def.dir_templates)/mytemplate.mustache" -> { "myserv

      copy_from => remote_dcp( "templates/mytemplate.mustac
                               $(sys.policy_server) ),

      comment => "mytemplate is necessary in order to rende
```

Automatically restart components on related data change

While the agent itsef will reload its config upon notice of policy change this bundle specifically handles changes to variables used in the MPF which may come from external data sources which are unknown to the components themselves.

`mpf_augments_control_enabled` List of classes that automatic component restart on related data change should be enabled for.

```
{
  "classes":{
      "mpf_augments_control_enabled": [ "any" ]
  }
}
```

Host info report now now renders inventory variables

```
cf-agent -KIb host_info_report

### Inventory

#### Variables tagged for inventory

{
  "default:cfe_autorun_inventory_disk.free": "5.00",
  "default:cfe_autorun_inventory_listening_ports.ports": [
    "22",
    "25",
    "53",
  ],
  "default:cfe_autorun_inventory_memory.total": "32050.27",
  "default:sys.arch": "x86_64",
  "default:sys.cf_version": "3.11.0",
  "default:sys.class": "linux",
  "default:sys.cpus": "4",
```

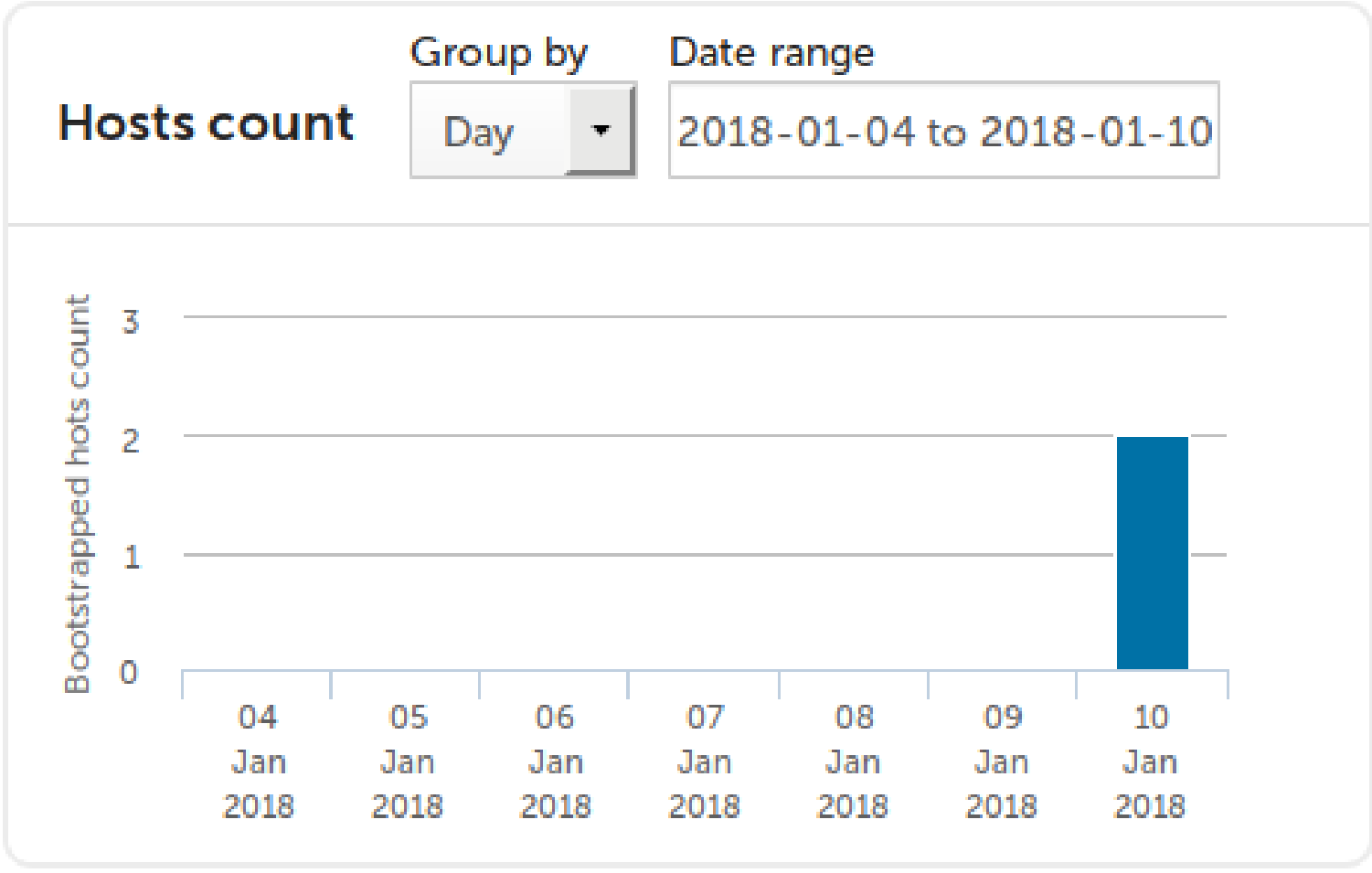
UI responsiveness

- Testing with 50,000 host data sets

Global Host Search

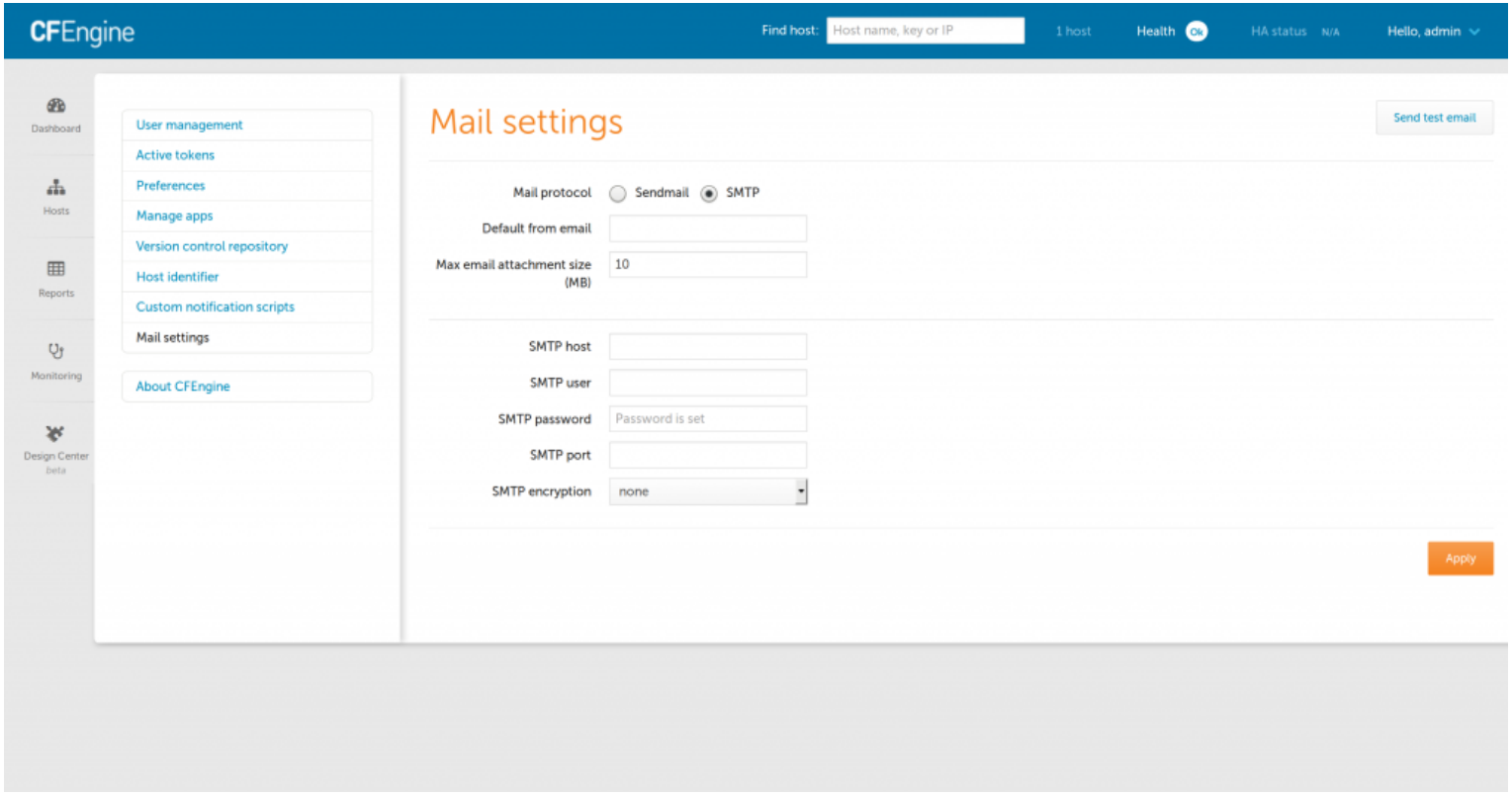
- Easily find hosts by name, ip or identity

host count trend widget

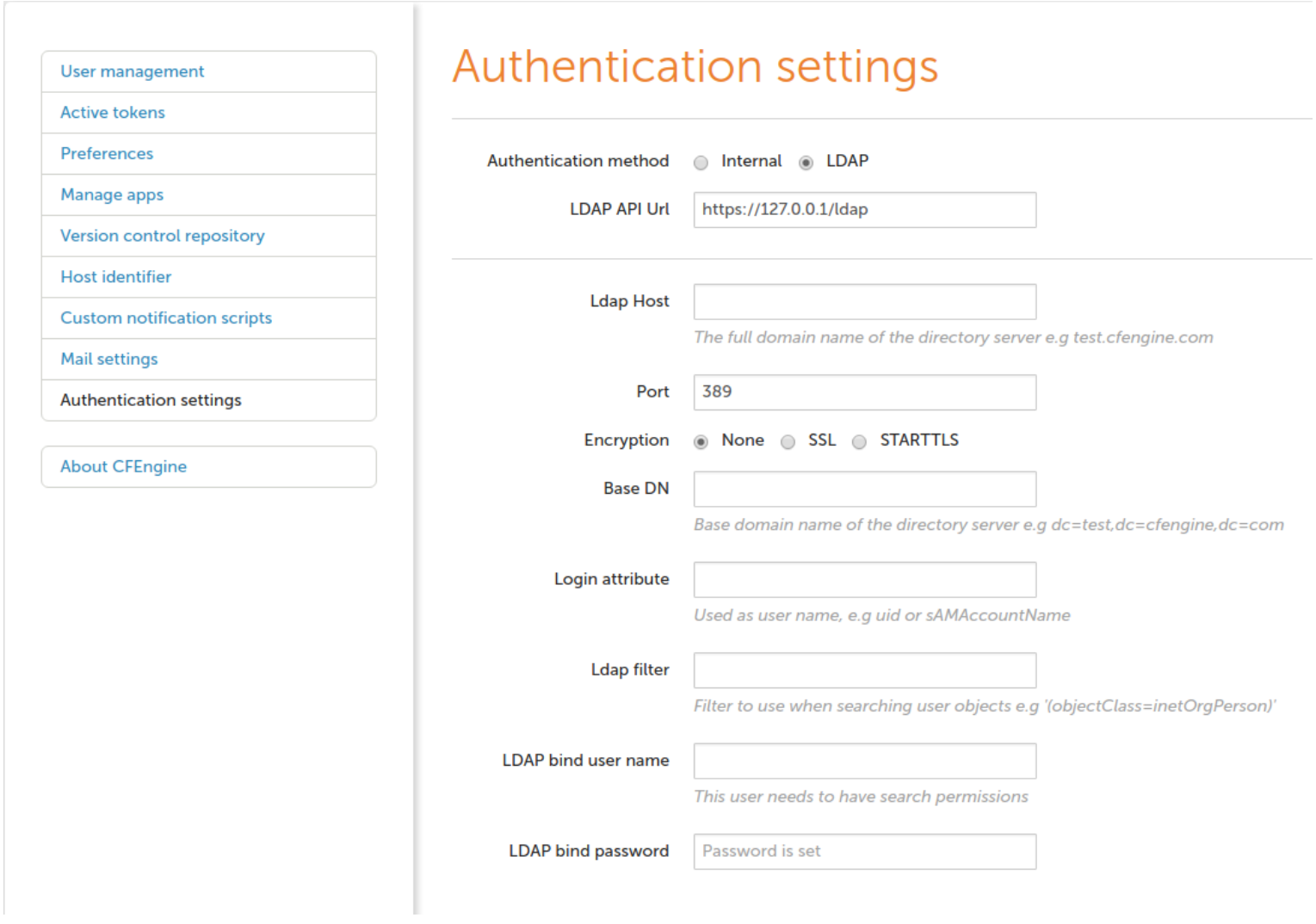


mail settings

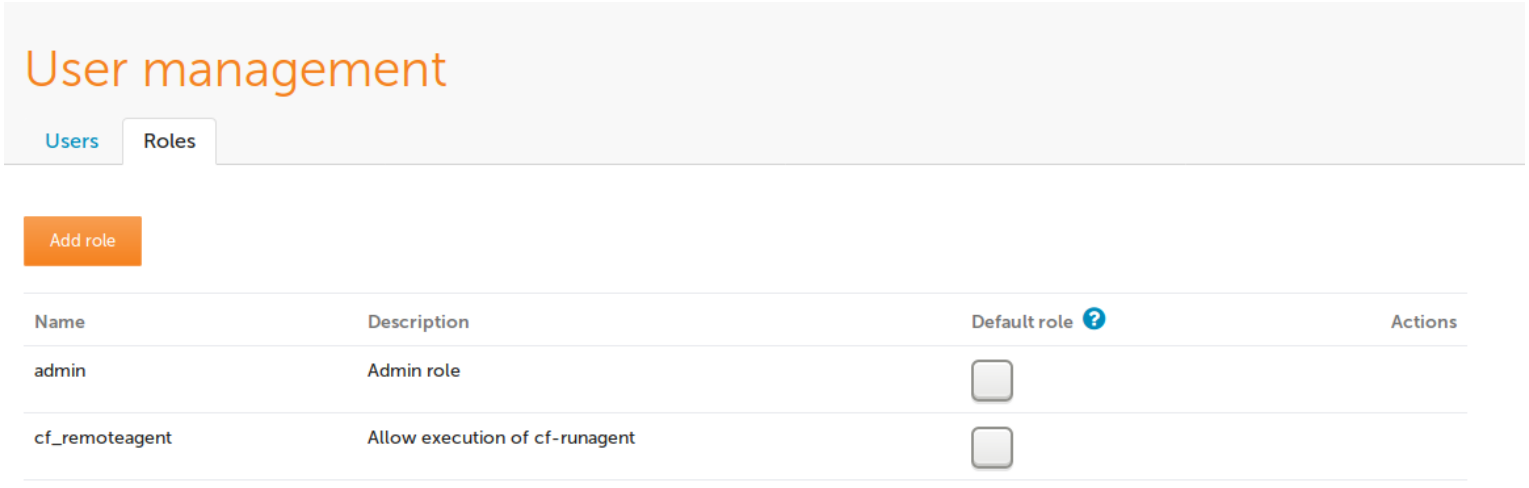
- Exported reports can now be sent as attachments in emails



LDAP settings API



default roles



New OOTB Inventory Attributes

- Policy Release Id
- AIX OS Level

Inventory API

```
curl --user admin -X POST \
  -H 'content-type: application/json' \
  https://hub/api/inventory -d '{ "select":[ "Host name", "(
```

Figure: Example API Query

Inventory API


```
{
    "data": [
        {
            "header": [
                {
                    "columnName": "Host name",
                    "columnType": "STRING"
                },
                {
                    "columnName": "OS type",
                    "columnType": "STRING"
                }
            ],
            "queryTimeMs": 11,
            "rowCount": 2,
            "rows": [
                [
                    "host001",
```