

# MISP - GALAXY 2.0

METHOD FOR SHARING THREAT INTELLIGENCE

TEAM CIRCL

[INFO@CIRCL.LU](mailto:INFO@CIRCL.LU)

MARCH 31, 2025



**MISP**  
Threat Sharing

# OUTLINE OF THE PRESENTATION

- Present the features available for Sharing *galaxy clusters*
- Look at the internals of what changed in the datamodel and MISP's behaviors

Galaxy 2.0 introduces various new features for *Galaxies* and their *Clusters* allowing:

- Creation of **custom** *Clusters*
- **ACL** on *Clusters*
- **Connection** of *Clusters* via *Relations*
- **Synchronization** to connected instances.
- **Visualization** of forks and relationships

# DEFAULT GALAXY CLUSTERS

## **Default** *Galaxy cluster*

- Coming from the `misp-galaxy` repository<sup>1</sup>
- Cannot be edited
  - ▶ Only way to provide modification is to modify the stored JSON or to open a pull request
  - ▶ Are not synchronized
  - ▶ Source of trust
- Restrictions propagate to their children (Galaxy cluster elements, Cluster relationships)

## **Custom** *Galaxy cluster*

- Can be created via the UI or API
- Belongs to an organisation
  - ▶ Fully editable
  - ▶ Are synchronized

---

<sup>1</sup><https://github.com/MISP/misp-galaxy>

*Clusters* and *Relations* can be edited.

## ■ New *Clusters* fields



- ▶ *distribution*, *sharing\_group\_id*
- ▶ *org\_id*, *orgc\_id*
- ▶ *locked*, *published*, *deleted*
- ▶ *default*
  - *Clusters* coming from the misp-galaxies repository are marked as default
  - Not synchronized
  - Same purpose as *Event*'s *locked* field
- ▶ *extends\_uuid*
  - Point to the *Cluster* that has been forked
- ▶ *extends\_version*
  - Keep track of the *Cluster* version that has been forked

- *Role perm\_galaxy\_editor*
- Relations also have a distribution and can have *Tags*
- Synchronization servers have 2 new flags
  - ▶ pull\_galaxy\_clusters
  - ▶ push\_galaxy\_clusters
- Clusters blacklist

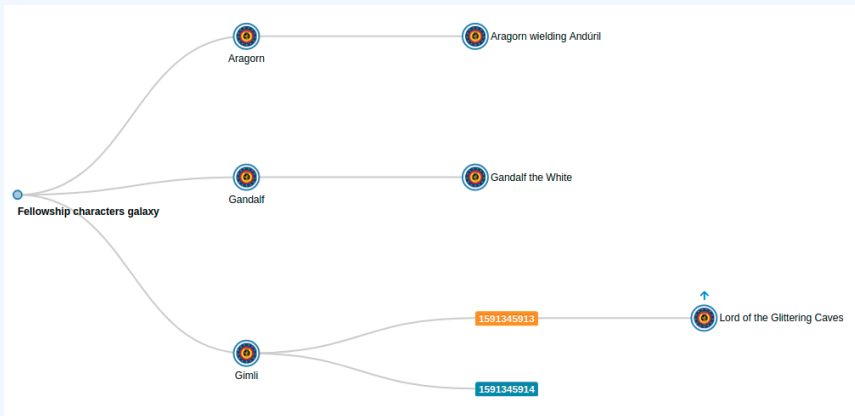
- Standard CRUD
- Soft and Hard deletion
- Publishing
- Update forked cluster to keep it synchronized with its parent
- ACL on the *Cluster* itself, not on its tag
  - ▶ `misp-galaxy:galaxy-type="cluster UUID"`
  - ▶ `misp-galaxy:mitre-attack-pattern="e4932f21-4867-4de6-849a-1b11e48e2682"`

# FEATURES IN DEPTH: VISUALIZATION

## Advertising

- L  Online Advertising
- L  Postal Advertising

## Tree view of forked Clusters

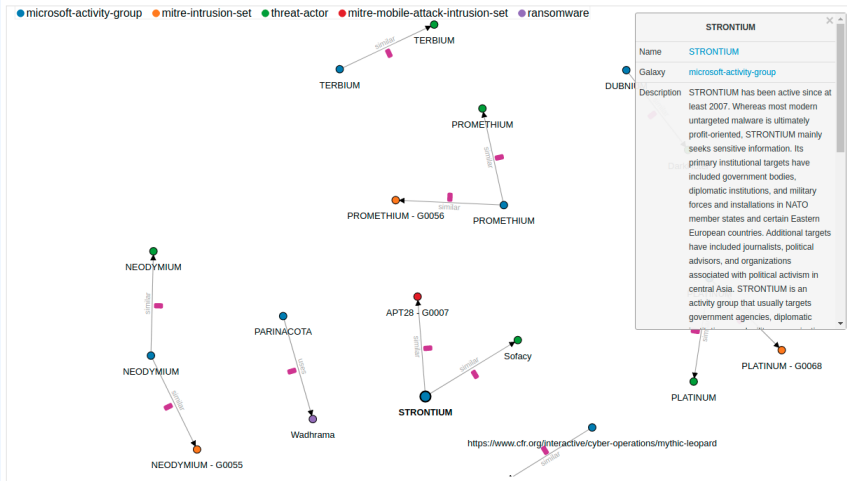




# FEATURES IN DEPTH: VISUALIZATION

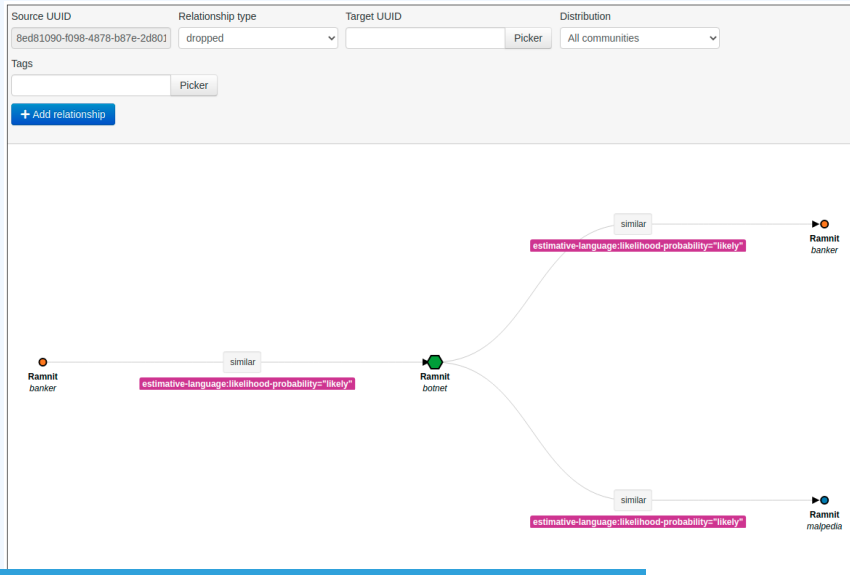
## Tree and network views for Relations between Clusters

### Microsoft Activity Group actor galaxy cluster relationships



# FEATURES IN DEPTH: VISUALIZATION

## Tree and network views for Relations between Clusters



# GALAXY CLUSTER ELEMENTS

Hasn't been touched: Still a key-value stored. But new feature have been added<sup>2</sup>

## Tabular view

- Allows you to browse **cluster elements** like before

« previous

1

2








3

next »

last »

Tabular view

JSON view

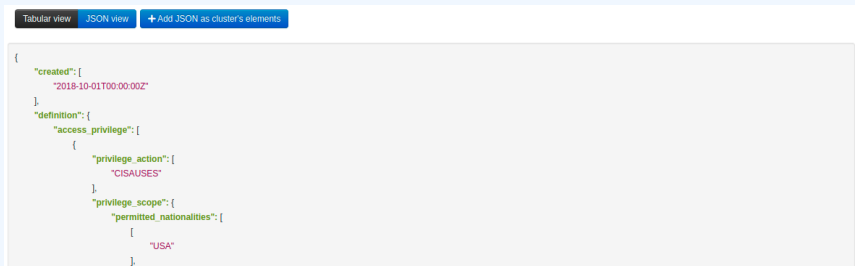
Key ↓	Value	Actions
created	2018-10-01T00:00:00Z	
definition.access_privilege.0.privilege_action	CISAUSES	
definition.access_privilege.0.privilege_scope.permitted_nationalities.0	USA	
definition.access_privilege.0.privilege_scope.permitted_nationalities.1	AUS	
definition.access_privilege.0.privilege_scope.permitted_nationalities.2	CAN	
definition.access_privilege.0.privilege_scope.permitted_nationalities.3	GBR	
definition.access_privilege.0.privilege_scope.permitted_nationalities.4	NZL	

<sup>2</sup>Will be included in next release

# GALAXY CLUSTER ELEMENTS

## JSON view

- Allows you to visualisation **cluster element** in a JSON structure
- Allows you to convert any JSON into **cluster elements** enabling searches and correlations



The screenshot shows a web interface with a top navigation bar containing three buttons: "Tabular view", "JSON view", and "+ Add JSON as cluster's elements". The "JSON view" button is currently selected. Below the buttons, a JSON object is displayed in a light-colored text area. The JSON structure is as follows:

```
{
  "created": [
    "2018-10-01T00:00:00Z"
  ],
  "definition": {
    "access_privilege": [
      {
        "privilege_action": [
          "CISAUSES"
        ],
        "privilege_scope": {
          "permitted_nationalities": [
            "USA"
          ]
        }
      }
    ]
  }
}
```

Has its own synchronization mechanism which can be enabled with the `pull_galaxy_cluster` and `push_galaxy_cluster` flags

- **Pull All:** Pull all remote Clusters (similar to event's pull all)
- **Pull Update:** Update local Clusters (similar to event's pull update)
- **Pull Relevant:** Pull missing Clusters based on local Tags
- **Push:** Triggered whenever a Cluster is published or via standard push