

MISP - GALAXY 2.0

METHOD FOR SHARING THREAT INTELLIGENCE

TEAM CIRCL

INFO@CIRCL.LU

FEBRUARY 9, 2023



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 cluster*

- Coming from the `misp-galaxy` repository¹
- 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

¹<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

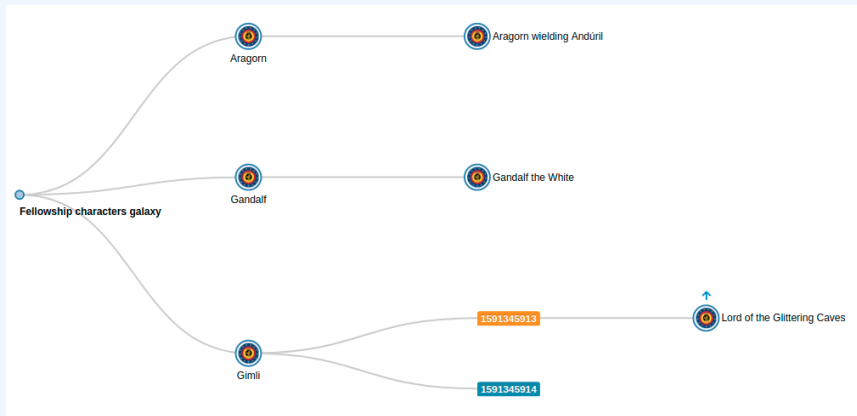
- Standard CRUD
- Soft and Hard deletion
- Publishing
- Update forked cluster to keep it synchronized with its parent
- ACL on the *Cluster* itself, not on its tag
 - ▶ `misp-galaxy:galaxy-type="cluster UUID"`
 - ▶ `misp-galaxy:mitre-attack-pattern="e4932f21-4867-4de6-849a-1b11e48e2682"`

FEATURES IN DEPTH: VISUALIZATION

Advertising

- └ Online Advertising
- └ Postal Advertising

Tree view of forked Clusters

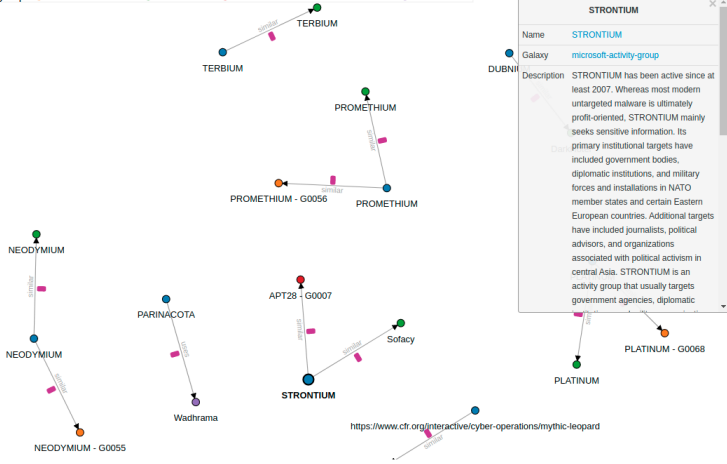


FEATURES IN DEPTH: VISUALIZATION

Tree and network views for Relations between Clusters

Microsoft Activity Group actor galaxy cluster relationships

● microsoft-activity-group ● mitre-intrusion-set ● threat-actor ● mitre-mobile-attack-intrusion-set ● ransomware



FEATURES IN DEPTH: VISUALIZATION

Tree and network views for Relations between Clusters

Source UUID: Relationship type: Target UUID: Distribution:

Tags:

```
graph LR; RB1((Ramnit banker)) --- similar[similar] --- RB2((Ramnit banker)); RB1 --- similar[similar] --- RB3((Ramnit banker)); RB1 --- similar[similar] --- RM((Ramnit malpedia));
```

The diagram illustrates a network of relationships between clusters. A central node, 'Ramnit botnet', is connected to three other nodes: 'Ramnit banker', 'Ramnit banker', and 'Ramnit malpedia'. All relationships are labeled 'similar' and have a tag 'estimative-language:likelihood-probability:~"likely"'. The nodes are represented by colored circles: orange for 'Ramnit banker', green for 'Ramnit botnet', and blue for 'Ramnit malpedia'.

GALAXY CLUSTER ELEMENTS

Hasn't been touched: Still a key-value stored. But new feature have been added²

Tabular view

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

« previous 1 2 3 next » last »

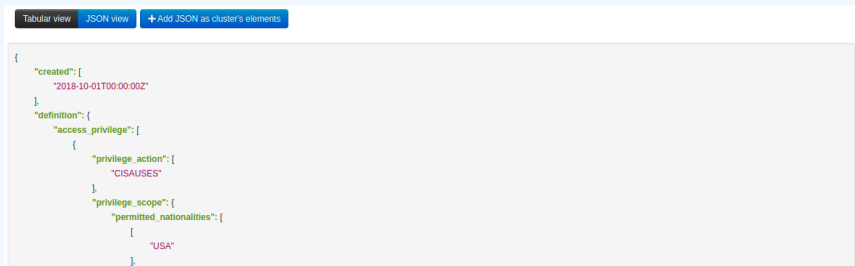
Tabular view JSON view

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	

²Will be included in next release

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



```
{
  "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