

- Tips for joining information sharing communities
- Tips for being a good member in a sharing community
- Tips for building your own sharing community
- Tool for managing a sharing community
 - ▶ Managing organisations and contacts
 - ▶ Maintaining distribution lists (aka sharing groups)
 - ▶ Managing a large cluster of MISPs

BEING PART OF AN INFORMATION SHARING COMMUNITY

There is a wide range of MISP communities type:

- Private sector communities
 - ▶ Private organisations, researchers, central hub
- ISACs communities
 - ▶ Central hub for sectorial or geographical Communities
 - ▶ Examples: GSMA, FIRST.org, CSIRT Network, Banking, etc
- Ad-hoc communities
 - ▶ Often use for exercises such as ENISA or LockedShield

Considerations before joining a sharing community:

- Understand the community's objectives
 - ▶ Defense, prevention, collaboration, research, specific reporting duties
- Make sure the use-cases are not conflicting
 - ▶ False-positive appetite, maturity levels, topical interests
 - ▶ Detection rules VS threat intelligence VS prevention

TIPS FOR BEING A GOOD MEMBER OF A SHARING COMMUNITY

- As explained extensively in course e.206, Context is king:
 - ▶ You should try to contextualise as best as you can using:
 - ▶ Normalized vocab: Taxonomies, Galaxies & MITRE ATT&CK
 - ▶ Connected graph using MISP Objects and relationships
 - ▶ Add timeliness with Sightings and `first_seen` / `last_seen`
- Sharing results and reports
- Sharing enhancements or proposals to existing data
- Validating data (sightings) or flagging false positives
- Asking for support from the community

- Different models for your constituents
 - ▶ **Having an account** on a MISP instance
 - ▶ **Hosting** their own instance and connecting to a peer
 - ▶ **Becoming member** of a sectorial MISP community that is connected to multiple peers
- Planning ahead for future growth
 - ▶ Estimating requirements (workforce, hardware requirements)
 - ▶ Deciding early on common vocabularies (i.e. taxonomies)
 - ▶ Offering services through MISP to promote adhesion

- **Lead by example** - the power of imitation
- Don't block sharing with unrealistic quality controls
 - ▶ You might lose organisations that might turn into valuable contributors
 - ▶ Organisations will start sharing junk to stay above the thresholds
- Encourage **improving by doing**
 - ▶ What should the information look like?
 - ▶ How should it be contextualised
 - ▶ What do you consider as useful information?
 - ▶ What tools did you use to get your conclusions?
- Side effect is that you will end up **raising the capabilities of your constituents**

- Convert the passive organisations into actively sharing ones
 - ▶ Help them increase their capabilities
 - ▶ Lead by example
 - ▶ **Give credit where credit is due**
 - Never steal the contribution of your community
 - ▶ Offers the possibility to take over their data via **delegation**
 - Anonymity of organisations might help them building confidence at the beginning

- Encourage sharing of supporting materials, scripts or guidance for protection
- Raise awareness about the benefits of a well modelled, graph-based information
- Again, **context is king!** If possible, make contextualisation a requirement
 - ▶ Users can then filter based on their needs
 - ▶ Classification help your peers to understand why the data is important
 - ▶ And also, why this data can be useful to them

DISPELLING THE MYTHS AROUND BLOCKERS WHEN IT COMES TO INFORMATION SHARING

- Sharing difficulties are not really technical issues but often it's a matter of **social interactions** (e.g. **trust**).
 - ▶ You can play a role here: organise regular workshops, conferences, have face to face meetings
- Legal restrictions
 - ▶ "Our legal framework doesn't allow us to share information."
 - ▶ "Risk of information leak is too high and it's too risky for our organization or partners."
- Practical restrictions
 - ▶ "We don't have information to share."
 - ▶ "We don't have time to process or contribute indicators."
 - ▶ "Our model of classification doesn't fit your model."
 - ▶ "Tools for sharing information are tied to a specific format, we use a different one."

- Often within a community, **smaller bubbles** of information sharing will form
 - ▶ e.g: Within a national private sector community, a dedicated community for financial institutions
 - ▶ If an incident involves multiple organisations
- MISP's sharing group serve this purpose mainly
- If you are building your own community, consider bootstrapping these specific sharing community
 - ▶ Organisations can self-organise, but you are probably the ones with the know-how to get them started

COMMUNITY MANAGEMENT AND OR- CHESTRATION TOOL

- MISP is just one part of the puzzle
- Information sharing presumes knowledge of contacts
- Creating reusable community-specific distribution list need to be maintained
- Fleet management for larger organisations needs additional work

Cerebrate is an open-source tool meant to address these challenges

WHAT IS CEREBRATE?



- Open source **community management and orchestration** tool
- Central tool for the Melicertes 2 project (Co-funded by the EU as a CEF project)
 - ▶ Project for the CSIRT network building a common set of tools and services for the national CSIRTs
 - ▶ Flexible to support a wide range of communities
- Tight **integration** with various open-source tools
- Planned as the primary MISP management tool

WHY DO WE NEED CEREBRATE FROM A MISP PERSPECTIVE

■ **Deficiencies** in our current tool chain

- ▶ Do I really have to jump through hoops and long e-mail chains to **onboard new members**?
- ▶ How do I **find trusted information** on who an organisation is in MISP?
- ▶ How can I **manage a large cluster of MISPs** without tedious manual labour?
- ▶ If I run a community through MISP, how can I reuse my member information for other community tasks such as mailing lists?
- ▶ Information signing has been on the MISP roadmap for a long time - where do we get ground truths for a community from?

WHAT ISSUES IS CEREBRATE TRYING TO TACKLE?

- Community management
 - ▶ **Repository** of organisations and individuals
 - ▶ Management of **sharing groups**
 - ▶ **Exchange** of contact and sharing group information
 - ▶ Cryptographic key lookup for **information signing**
- Local tool management
 - ▶ Instrumentation of **local tool interconnections**
 - ▶ Local tool **fleet management**
 - ▶ **Feeding** the local tools with Cerebrate data

CEREBRATE: WHAT IS AVAILABLE CURRENTLY?

- A set of Common functionalities
- Contact Database
- Sharing group management
- Cerebrate to Cerebrate synchronisation
- Mailing list management
- Local tool orchestration - integration modules
- Inbox system
- Local tool fleet management

- Index of Organisations and Individuals
- Flexible meta-data model (community specific, constituency, etc)
- Content aware search functionalities

CEREBRATE: CONTACT DATABASE

Flexible meta-data model to include community specific data point

Organisations Index > CIRCL

Search in Cerebrate...

Organisation View

View Edit Actions

ID	17
Name	CIRCL
UUID	55f6ea5e-2c60-40e5-964f-47a8950d210f
URL	http://www.circl.lu/
Nationality	Luxembourg
Sector	private
Type	
Contacts	info@circl.lu
Tags	+
Alignments	[Developer] sami.mokaddem@circl.lu [Core Team] sami.mokaddem@circl.lu [Core Team] cedric.bonhomme@circl.lu [Core Team] steve.clement@circl.lu


ENISA CSIRT Network v3 CSIRT Constituency v1


ISO 3166-1 Code	lu
	lu
website	http://www.circl.lu/
enisa-geo-group	EU
is-approved	1
first-member-type	Member
team-name	Computer Incident Response Center Luxembourg

Content aware search functionalities: CIDR block search

ContactDB Organisation Index ⁱ




Activity Past 7 days 0
+ 0
✔ 0

Nationalities 0


Sectors 0


Previous Next

Add organisation | **All** | ENISA Accredited | ENISA not-Accredited | ENISA CSIRT Network (GOV) | Search ▼ ☰

#	Name	Members	URL	Nationality	Sector	Tags	IPv4 address	IPv6 address	AS Number	Domain	Actions
17	CIRCL	21	http://www.circl.lu/	Luxembourg	private		185.194.92.0/22		AS197869	.lu	  

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Global searches on a large variety of data point

The screenshot shows a search interface with a search bar containing the text 'mokaddem' and a magnifying glass icon. Below the search bar, the results are organized into three sections:

- METAFIELDS** (2 results):
 - sami.mokaddem@circl.lu (individual::alternate_email)
 - sami.mokaddem@securitymadein.lu (individual::alternate_email)
- INDIVIDUALS** (1 result):
 - sami.mokaddem@circl.lu
- USERS** (1 result):
 - mokaddem

At the bottom of the results list, there is a button with a magnifying glass icon and the text 'View all results'.

CEREBRATE: SHARING GROUP MANAGEMENT

Allow to define sharing groups composed of organisations that can be download from another Cerebrate or from MISP

The screenshot shows the 'SharingGroup view' interface in Cerebrate. The breadcrumb navigation is 'SharingGroups Index > Test Sharinggroup'. A search bar contains 'Search in Cerebrate...'. The main content area displays the following details for the 'Test Sharinggroup':

- ID: 1
- UUID: ee19cb12-531b-463d-87d6-b37df6b3e730
- Name: Test Sharinggroup
- Organisation: CIRCL
- Releasability: (empty)
- Description: (empty)
- Active: ✓
- local: ✓

Below the details is a section titled 'Organisations' with an 'Add member' button. It contains a table of members:

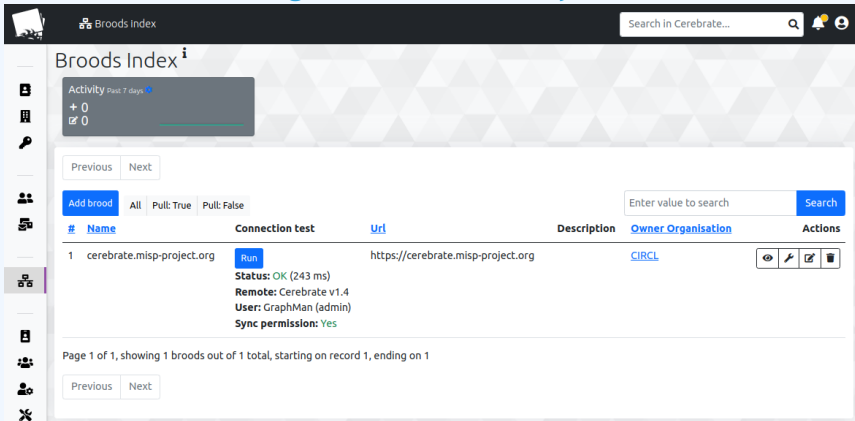
#	Name	UUID	Actions
13	CERT.be	acd27f7f-3dae-4481-b431-807431259c30	
17	CIRCL	55f6ea5e-2c60-40e5-964f-47a8950d210f	

CEREBRATE: SHARING GROUP MANAGEMENT

Sharing groups can also be generated based on filters via the reusable blueprints

```
#19: Non-sanctioned financial organisations  {      
  "AND": {  
    "OR": {  
      "org_sector": "Financial",  
      "sharing_group_id": 127  
    },  
    "NOT": {  
      "org_nationality": [  
        "Russia",  
        "Russian Federation",  
        "Belarus",  
        "Republic of Belarus"  
      ]  
    }  
  }  
}
```


Mechanism to exchange contact data via synchronisation



The screenshot displays the Broods Index web interface. At the top, there is a search bar labeled "Search in Cerebrate..." and a notification icon. The main header shows "Broods Index" with a small 'i' icon. Below the header, there is an "Activity" summary box for the past 7 days, showing 0 additions and 0 deletions. The main content area features a table of broods. The table has columns for "#", "Name", "Connection test", "Url", "Description", "Owner Organisation", and "Actions". A single brood is listed with the name "cerebrate.misp-project.org" and a status of "OK (243 ms)". The connection test details include "Remote: Cerebrate v1.4", "User: GraphMan (admin)", and "Sync permission: Yes". Navigation buttons for "Previous" and "Next" are visible above and below the table. A sidebar on the left contains various icons for navigation.




Broods Index ⁱ

Activity Past 7 days
+ 0
- 0

Previous Next

Add brood All Pull: True Pull: False

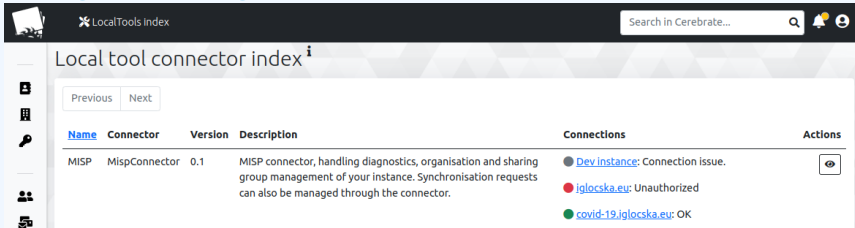
Enter value to search Search

#	Name	Connection test	Url	Description	Owner Organisation	Actions
1	cerebrate.misp-project.org	Run Status: OK (243 ms) Remote: Cerebrate v1.4 User: GraphMan (admin) Sync permission: Yes	https://cerebrate.misp-project.org		CIRCL	  


Page 1 of 1, showing 1 broods out of 1 total, starting on record 1, ending on 1

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Manage and configure local tools (such as MISP) via Cerebrate



The screenshot displays the Cerebrate web interface for managing local tools. At the top, there is a navigation bar with the 'LocalTools Index' logo, a search bar containing 'Search in Cerebrate...', and notification icons. Below the navigation bar, the main heading is 'Local tool connector index'. A sidebar on the left contains several icons representing different tool categories. The main content area features a table with the following structure:

Name	Connector	Version	Description	Connections	Actions
MISP	MispConnector	0.1	MISP connector, handling diagnostics, organisation and sharing group management of your instance. Synchronisation requests can also be managed through the connector.	<ul style="list-style-type: none">● Dev instance: Connection issue.● jglowska.eu: Unauthorized● covid-19.jglowska.eu: OK	

CEREBRATE: LOCAL TOOL ORCHESTRATION

Inter-connect local tools (such as a MISP instance) to another through Cerebrate

Interconnection Request for MispConnector

Request Sent Request Accepted Connection Done

Date	Tool Name	Brood	Individual	Alignment
2021-08-11 12:05:11	MISP (v0.1)	CIRCL cerebrate	andras.iklody@gmail.com	@CIRCL.lu

Inter-connection data

```
{
  "email": "sync_ef11e9f6@cerebrate.pilot.melicertes.eu",
  "user_id": "1680",
  "authkey": "pIBp*****mt5Y",
  "url": "https://\covid-19.iglocska.eu",
  "connectorName": "MispConnector",
  "cerebrateURL": "https://\cerebrate.misp-project.org",
  "local_tool_id": 1,
  "remote_tool_id": 1,
  "tool_name": "COVID-19 MISP"
}
```

Cancel Decline Request Accept Request

- Budapest convention allowed us to have a public inventory of contact information
- Once this data is ingested in Cerebrate, we can make use of the search functionalities to quickly get the information we need

TODO: Include picture of data stored in Cerebrate