Managing information sharing communities

E.103

CIRCL Computer Incident Response Center Luxembourg

MISP Project
https://www.misp-project.org/

March 21, 2022

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Objectives of this module

- Joining an information sharing communities
- Tips for being a good member of a sharing community
- Tips for building your own sharing community
- Managing sub-sharing communities
  - Managing organisations and contacts
  - Maintaining distribution lists (aka sharing groups)
  - Manage large cluster of MISPs

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Being part of an information sharing community

Joining an information sharing communities

Wide range of MISP communities:

- 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

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Joining an information sharing communities

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

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Tips for being a good member of a sharing community

- As explained extensively in course *e.206*, Context is king:
  - Taxonomies & Galaxies
  - MITRE ATT&CK
  - MISP Objects and relationships
  - Sightings and `first_seen` / `last_seen`
- Sharing results or reports
- Sharing enhancements or proposals to existing data
- Validating data (sightings) or flagging false positives
- Asking for support from the community

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Tips for building your own sharing community

- Different models for 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

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Tips for building your own sharing community

- **Lead by example** - the power of immitation
- Don't block sharing with unrealistic quality controls
  - You might loose 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**

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- 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 possiblity to take over their data via delegation
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- Encourage sharing of supporting materials, scripts or guidance
- Raise awareness about the benefits of a well modelled, graph based information sharing
- 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 it the data is important
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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."

Managing sub-sharing communities

- Often within a community, smaller bubbles of information sharing will form
  - 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 bootstraping these specific sharing community
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Community management and orchestration tool

Additional challenges of community management

- MISP is just one part of the puzzle in any sharing community
- 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 the new open-source tool meant to address these challenges

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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

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CEREBRATE PROJECT

Motivations 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?

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What issues is it 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

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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
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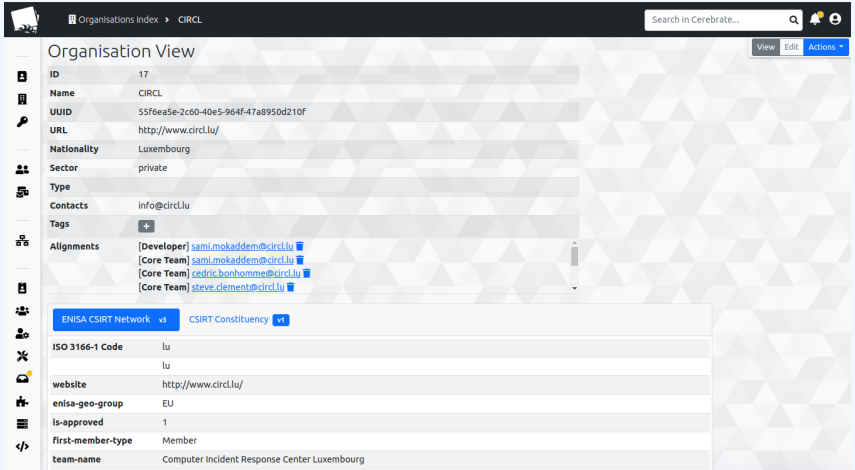
Cerebrate: Contact database

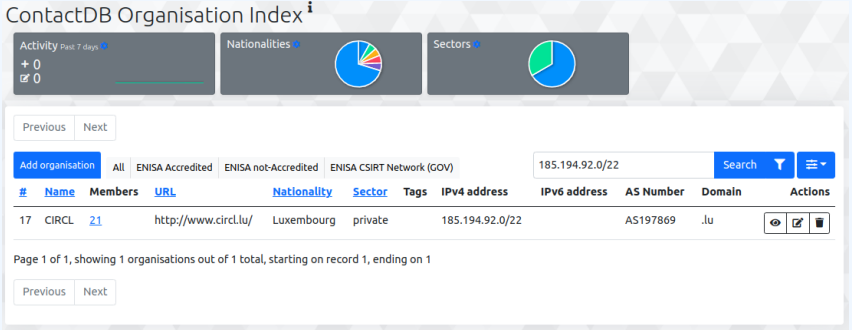
Flexible meta-data model to include community specific data point



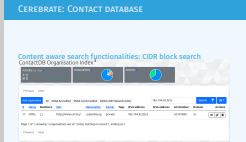
Cerebrate: Contact database
Flexible meta-data model to include community specific data point

Cerebrate: Contact database

Content aware search functionalities: CIDR block search

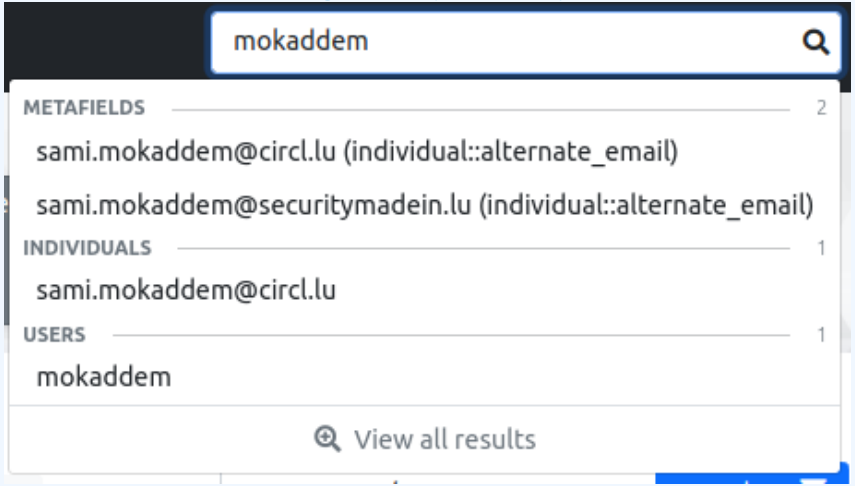


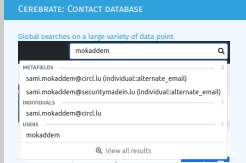
Cerebrate: Contact database



Cerebrate: Contact database

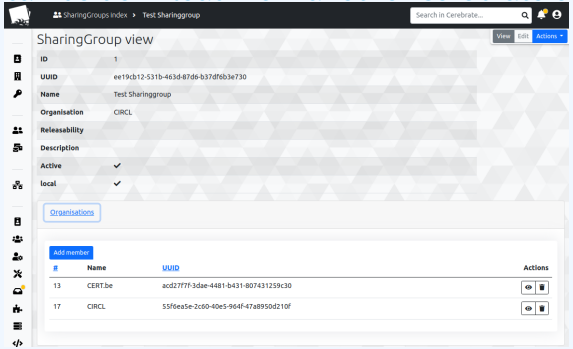
Global searches on a large variety of data point





Cerebrate: Sharing Group management

Allow to defined sharing groups composed of organisation that can be download from another Cerebrate or from MISP



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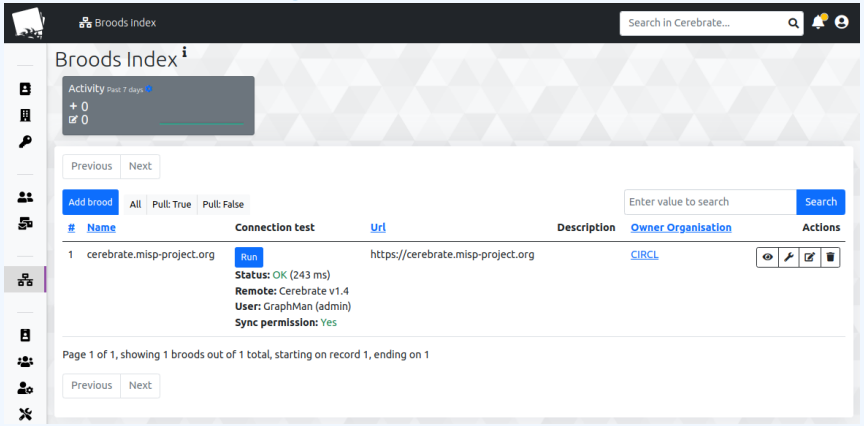
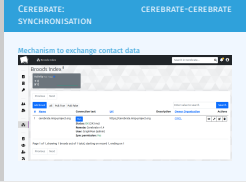
Sharing group blueprints to define reusable blueprints for generating sharing
groups based on filters

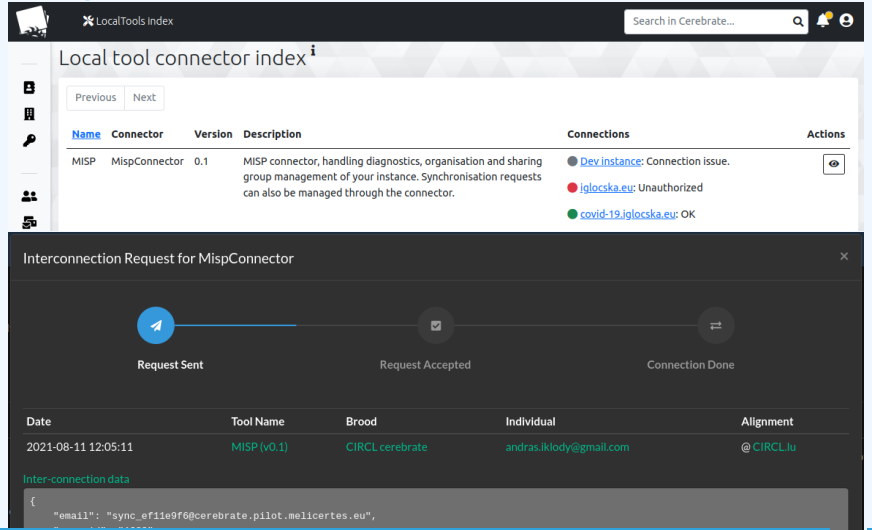
Mechanism to exchange contact data

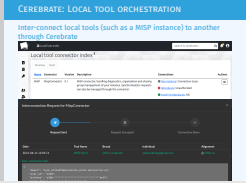




Cerebrate: Local tool orchestration

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





Use case specific to LE

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- Once this data is ingested in Cerebrate, we can make use of the search functionalities to quickly get the infomartion we need

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