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Deliverable D8.13
GÉANT Community Requirements for Crisis Management

Deliverable D8.13

Abstract
This document describes the crisis management measures GÉANT National Research and Education Networks have in place, the challenges they still face, what their needs are and how the Crisis Management Task within GN4-3 Work Package 8 Security proposes to help them.

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Executive Summary

This document describes the crisis management measures National Research and Education Networks (NRENs) have in place, the challenges they still face, what their needs are and how the Crisis Management Task (T4) within GN4-3 Work Package 8 Security (WP8) proposes to help them.

A crisis is defined as an 'unprecedented or extraordinary event or situation that threatens an organisation and requires a strategic, adaptive, and timely response in order to preserve its viability and integrity' [CM_GDSC].

The first crisis management workshop for the GÉANT community, known as CLAW, took place in November 2017, and has grown into an annual two-day event to help all NRENs improve their crisis management preparedness. Over the years, CLAW has been attended by 30 of the 43 GÉANT NRENs. Since 2019, the event has been organised as part of WP8 T4.

This document is based on the findings of a series of interviews held with 14 NRENs in February and March 2021. The NRENs were selected to represent the different regions in the European NREN community, as well as the different organisation structures and sizes, which the interviews have shown to be an influencing factor in how an organisation deals with crises. Of the 14 NRENs interviewed, 13 have attended CLAW.

In terms of formal preparedness, five NRENs have a well-defined procedure reinforced by exercises and/or trainings. Two have a procedure but have not tested it with an exercise; two perform exercises and trainings but do not currently have a written procedure; five do not yet have a procedure.

In terms of dealing with actual crises, the most important conclusions from the interviews were that being prepared helps a lot; knowing who you can rely on for what is crucial; stakeholder management preparation is also key; and the end and aftermath of a crisis need to be dealt with correctly.

For NRENs starting out with crisis management, the biggest challenge to establishing a procedure and training was securing sufficient senior management buy-in. Their needs were help with setting up a crisis management procedure and with securing senior management buy-in, and ongoing learning, knowledge exchange and training/exercise material, as provided by CLAW.

For NRENs with crisis management measures in place, the main challenges were lack of awareness and interest among colleagues, and internal and external communication and stakeholder management. Their needs were a way to check their procedures; crisis management exercises for and/or with their constituents; and ongoing knowledge exchange and training/exercise material, as provided by CLAW.

A need common to both groups was to have crisis management material in their own language.

From the interviews, it can be concluded that WP8 T4 is already meeting some of the NRENs' needs by holding CLAW. In addition, within a 2021–2026 timeline, the Task will organise a series of regional workshops to help NRENs kickstart their crisis management planning; review and update the *Guideline for creating a Crisis Management Plan*; develop a self-assessment and peer review framework; start a pilot in setting up a national simulation exercise; and continue to organise CLAW.

A further deliverable, *D8.8 Crisis Readiness Status Report* on the preparedness of GÉANT and the NRENs for major crises, will be produced in 2022.

1 Introduction

1.1 Crisis Management in the European NREN Community

The first impetus for treating crisis management as a theme to address together in the European National Research and Education Network (NREN) community came at a Special Interest Group on Marketing Communications (SIG-Marcomms) meeting in September 2016. At that meeting, the Belgian NREN, Belnet, shared their experiences and the challenges they encountered during a recent crisis. After this meeting, SIG-Marcomms asked GÉANT if it was possible to organise a crisis management workshop to engage people from all relevant departments from different NRENs. As the Dutch NREN, SURF, had just organised their first national crisis simulation exercise with their constituents in 2016, they were asked to provide a project leader to create a crisis management event. A project committee was formed with people from SIG-Marcomms, the Special Interest Group on Network Operations Centres (SIG-NOC), the Special Interest Group on Information Security Management (SIG-ISM) and the Task Force on Computer Security Incident Response Teams (TF-CSIRT). This initiative resulted in the first crisis management workshop for the GÉANT community – known as CLAW – in November 2017 and grew into a yearly event to help all NRENs improve their crisis management preparedness.

CLAW is a two-day event consisting of:

- Trainings in different facets of crisis management (for instance, stress management, internal and external communication, and leadership).
- Sharing experiences and knowledge between people from different NRENs through presentations and working dinners.
- A crisis management exercise at the end of the event to test the participants' newly acquired skills.

(See for example the agenda and post-event account of the 2019 workshop [CLAW19_A], [CLAW19_O].)

From 2019 onwards, CLAW has been organised as part of the Crisis Management Task (T4) within Work Package 8 Security (WP8) in GN4-3. Each year, about 60 people from around 20 different NRENs participate in CLAW (see Appendix D for an overview of CLAW attendance by NRENs). All the materials are made for the participants to take home to their own organisations, and throughout the years, these participants and other interested parties have organised their own exercises and trainings with

the material from CLAW. (See Appendix C for a summary of all the known exercises based on the CLAW material and/or that were held with help from WP8 T4).

In 2019, a one-day training on How to Organise a Crisis Exercise was organised outside of CLAW, to help NRENs create and run their own exercises for their organisations. This was planned to reoccur in 2021, but was cancelled due to COVID-19 restrictions. Because of the same restrictions, CLAW2020 was held online and adapted to a one-day event.

1.2   Purpose and Scope of this Document

This document describes the measures NRENs have in place in terms of crisis management, the challenges they still face, what their needs are and how WP8 T4 can help them. To ascertain those challenges and needs, the Task interviewed representatives of 14 NRENs (see Appendix A). Each interview lasted for approximately an hour, and consisted of discussions about the way these NRENs prepare for and handle crises and what would help them (see Appendix B for a list of the questions the Task asked).

The 14 NRENs the Task interviewed were selected to represent the different regions and organisation sizes present in the European NREN community, and different levels of crisis management preparedness. The Task mostly spoke to NRENs that have attended CLAW, as they responded to the interview request (the request was sent to 18 NRENs). This means there is an inherent bias in this report, as the Task only spoke to NRENs that have already shown some interest in the subject of crisis management. Appendix D gives an overview of all the NRENs that attended CLAW over the years. In total, 30 of the 43 NRENs in the GÉANT community have attended CLAW at least once. Of the 13 NRENs that have not, only one was interviewed. This means that the Task has no data on the other NRENs that have not attended CLAW and how they are dealing with crises. The question of how the Task will reach out to those NRENs is addressed in the Conclusions section.

During these interviews the Task focused solely on the way NRENs prepare for and handle themselves during a crisis. It did not go into questions about risk management or other matters relating to business continuity management, as a separate document is written about that (*Deliverable D8.12 GÉANT Community Requirements for Business Continuity Planning* [D8-12]). The Task also only gathered information about the level of crisis preparedness anecdotally, and did not do a full benchmark on the level of maturity throughout the whole NREN community, as that will be a deliverable in 2022 (*D8.8 Crisis Readiness Status Report*).

1.3   Document Structure

The document is structured as follows:

- Section 2 describes the crisis management measures NRENs already have in place, in terms of both formal preparedness and what happens in practice, noting the dependency on the organisation's size and structure.

- Section 3 summarises the crisis management challenges and needs of two groups of NRENs: those starting out with crisis management, and those with crisis management measures in place.
- Section 4 outlines how WP8 Task 4 will help address those needs and challenges, and the timeline for doing so.
- The four appendices provide overviews of the parties interviewed (Appendix A), the questions asked (Appendix B), crisis exercises based on CLAW material (Appendix C) and NREN attendance at CLAW (Appendix D).

1.4   Definitions

This document uses the terms 'crisis' and 'crisis management'. Narrowly defined, a crisis is an 'unprecedented or extraordinary event or situation that threatens an organisation and requires a strategic, adaptive, and timely response in order to preserve its viability and integrity' (definition from CEN/TS 1709:2018 *Crisis management – Guidance for developing a strategic capability* [CM_GDSC]). However, during the interviews, the crisis events that were talked about often included major incidents, as those are more often encountered and also require escalation and communication in the same way crises do.

2 NRENs' Current Crisis Management Status

Crisis management is a subject that can be approached very differently by different organisations. The way an organisation deals with crises is very dependent on its size, how it is organised, how decisions are made and who can make them, what is deemed a crisis in the organisation and what kind of external pressure it can expect during a crisis. It is therefore important to note that NRENs vary in size and organisational structure, before discussing the variation in the ways and levels they are prepared for crisis, both formally and in practice.

2.1 Size and Structure Variations

The most important variations encountered during the interviews are:

- Some NRENs are distributed or virtual organisations. The staff of these NRENs work for different universities or are based in different offices throughout the country. In some cases, they are dependent on the university at which they are based for inclusion in the crisis management structure of that university. The upside of this kind of organisation is that people are very used to solving problems virtually.

- Some NRENs are very small (according to the GÉANT Compendium [COMP], the five smallest NRENs range from 3 to 15 employees). These NRENs often do not have the resources to invest time in establishing crisis management procedures. The upside of these organisations is that people know each other very well and know who to call when problems arise.

- Some NRENs are much larger organisations (the five largest NRENs range from 180 to 954 employees [COMP]) and have more resources to spend on creating crisis management procedures. At the same time, it is harder to know everyone in these organisations, which can make it harder to involve the right people during a crisis.

- NRENs also have very different work structures, ranging for instance from highly hierarchical to very flat organisations, making their crisis management procedures very different. Questions of who can start a crisis procedure, who coordinates during a crisis and who can make big decisions are dealt with very differently within those work structures.

2.2 Crisis Management Preparedness

2.2.1 Formal Preparedness

To ascertain what kind of preparation different NRENs have already made for crisis management, the Task asked them if they had a crisis management procedure in place and if they ran regular trainings and exercises with their staff. Of the NRENs interviewed, five have a well-defined procedure, which they have tested with one or more exercises. Two NRENs indicated that they have a procedure, but that they have not done a crisis exercise to test this, while another two did perform a few exercises and trainings, but did not have a written crisis management procedure as of yet. The last five NRENs the Task interviewed were all just starting out with addressing this subject in their organisation and did not yet have a procedure. These results are presented graphically in Figure 2.1.
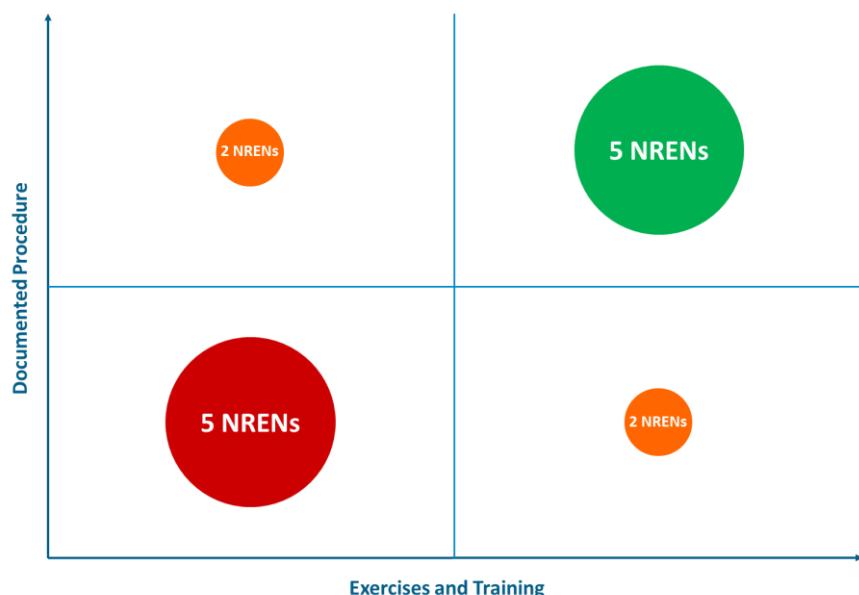
Figure 2.1: NRENs' formal preparedness – documented procedure and exercises/trainings

It is important to note that, as previously mentioned, all but one of the interviewed NRENs have had one or more of their staff members attend CLAW events (of the 43 NRENs associated with GÉANT, 30 have had staff attend CLAW (see Appendix D)). This means that the majority of NRENs have people with awareness and knowledge of the subject. However, due to the obstacles discussed in Section 3, they have not always been able to advance crisis management as a priority for their organisation.

2.2.2 Crisis Management in Reality

As a real crisis is always very different from an exercise, and a procedure can never cover everything that might happen, the Task talked with all the interviewees about how their organisation dealt with actual crises in the past. The most important conclusions from these discussions were:

- **Being prepared helps a lot**. Having a process helps to deal quickly with real crises, especially if that process is tried and tested. Crisis exercises also help to identify weak points in communication, teamwork and procedures. One of the interviewees said that they were able to identify the people who were best equipped (and those who were less comfortable) to coordinate a crisis through exercises. This could also be seen during a data-leak crisis at the Erasmus University of Rotterdam in 2016, which occurred a few weeks after they participated in a two-day simulation exercise. The people from the IT department and the crisis management team were much more comfortable in their roles and were able to work well together because of the exercise. This helped the university to stay on top of the crisis and break the news of the data leak themselves, considerably mitigating any reputational damage.

- **Knowing who you can rely on for what is crucial**. Here one can see a slight advantage for smaller NRENs. The smaller NRENs the Task talked to were often able to navigate real crises quite well, even if they had no crisis procedure in place or training beforehand, because they were able to quickly and informally get the right people together to manage the crisis. The bigger NRENs have more of a challenge on this front, but can eliminate the problem by developing a robust procedure and testing it to ensure no key roles or responsibilities are missing.

- **A very important factor to prepare for is stakeholder management**. This is something that can work well, even when it is not put down on paper beforehand. However, a comprehensive crisis communication plan is the best way to make sure the organisation does not walk into unforeseen difficulties during a crisis. Different NRENs credited the success, or a lot of stress, to, respectively, good and problematic communication with their stakeholders. One NREN mentioned a crisis in which they were able to deal well with the problem at hand and communicate with their constituents, but experienced a lot of stress due to pressure from a ministry with which they did not have well-established communication and expectations. A few NRENs mentioned that they want to organise crisis simulation exercises with their constituents and stakeholders, as this has helped SURF in the Netherlands with testing how the research and education sector works together with the NREN and other stakeholders during a (cyber)crisis.

- **The end and aftermath of a crisis need to be dealt with correctly**. De-escalation and post mortems are important to, respectively, make sure everyone gets out of crisis mode and that the lessons learned from a crisis are evaluated to make improvements. A lot of the NRENs the Task talked to regularly hold post mortems for their major incidents and crises. However, a few of them pointed out that this is done mostly with the technical side of the organisation, which can mean that communication and management are left out.

3 NRENs' Crisis Management Challenges and Needs

As stated in the previous section, the NRENs the Task interviewed are varied both in size and organisational structure, and in level of crisis management preparedness. However, in terms of their needs, they fit broadly into two categories:

- NRENs that are starting out with setting up crisis management procedures and trainings for themselves, and need help in that starting process.
- NRENs that have procedures and trainings in place, who need to keep exchanging ideas and best practices with others to continuously improve their own material.

This section looks at the specific challenges and needs of each of these groups, and at one need common to both.

3.1 NRENs Starting Out with Crisis Management

3.1.1 Challenges

The NRENs that do not have a well-defined crisis management procedure in place indicated that the biggest challenge was to establish a crisis management process and/or regular training. One of the reasons for this is a lack of buy-in by senior management. If crisis management is not seen as a priority by management, no resources will be allocated towards creating a crisis management procedure. Additionally, as a crisis hits at the strategic level of an organisation, it is imperative that senior management play a part in crisis management discussions, trainings and exercises.

3.1.2 Needs

The NRENs in this group expressed the following needs:

1. Help with setting up a crisis management procedure. This could be in the form of templates, workshops and/or ready-made exercises they can easily run themselves. If possible, hands-on help from people in Task 4 would be greatly appreciated.
2. Help with getting buy-in from their senior management. All interviewees from this group mentioned needing some form of outside pressure or help to attain this goal. Many named the GÉANT General Assembly as an important body to officially make crisis management a

priority. Others suggested that GÉANT could set a requirement to have a crisis exercise once a year. All agreed that it would help if outside help from the Task came to their NREN or region to kickstart their process.

3. For CLAW to continue, in order to keep exchanging ideas and learning from NRENs and to be able to take training and exercise material back to their own organisation.

3.2 NRENs with Crisis Management Measures in Place

3.2.1 Challenges

The NRENs that have crisis management procedures and trainings in place named a few challenges in crisis management. The one that was mentioned the most was awareness and interest from their colleagues in the existing crisis management procedures. Because of this, it can be the case that people do not initiate the crisis management procedure in a timely manner and keep treating a crisis like a normal incident, without involving the relevant people. Other challenges that were mentioned were internal and external communication and stakeholder management. Even if an organisation has a tried and tested crisis management procedure, these are themes that always need attention in crisis management and they are addressed in the trainings at CLAW.

3.2.2 Needs

The NRENs in this group expressed the following needs:

1. Some way to check their own procedures. This could be in the form of a checklist, a self-assessment, or through a peer review by someone from another NREN.
2. Crisis management exercises to help their constituents with their crisis management, and/or for the NREN to exercise together with their constituents. This could be in the form of table-top exercises or simulation exercises.
3. For CLAW to continue, in order to keep exchanging ideas with other NRENs and to be able to take training and exercise material back to their own organisation.

3.2.3 Common Need

There was one need that was mentioned by a few NRENs, regardless of their level of crisis management preparedness. This was the need to have material in their own language. Currently, everything the Task produces is in English and NRENs are expected to translate that themselves if they want it in their own language.

4 Conclusions

From the interviews, it can be concluded that Task 4 is already providing for some of the needs that NRENs have by holding yearly trainings and exercises in the form of CLAW. However, as CLAW can never cater to the specific needs of one NREN, there are some key needs that the Task should address in another way.

This section outlines how the Task will address these needs and when it is planning to do so.

Meeting the needs of NRENs that do not have a well-defined crisis management procedure in place

For these NRENs the Task will organise three to five *regional workshops* to help kickstart their crisis management planning, starting in the Baltic and former Yugoslavia. During these workshops, the Task will hold a basic crisis management training, discuss and help participants write a draft crisis management procedure for their own NREN, and conduct a small exercise for them to test their procedure. By doing this regionally, the Task can help two to four NRENs at a time very specifically and they can exchange ideas with people from similar work cultures and same-sized organisations. An added benefit of this approach will hopefully be that higher management is more likely to take notice of this subject, as the workshops will be organised by an external group.

Another way the Task can help these NRENs is by *reviewing and updating the Guideline for creating a Crisis Management Plan* it produced in 2017 with input from the first CLAW [CMG_NRENs]. This guideline can help NRENs to start creating their own crisis management procedure.

Meeting the needs of NRENs that already have crisis procedures in place

For these NRENs, the Task will look into *developing a self-assessment and a peer review system*. For this, the Task will first research what kind of frameworks are already available that could be adapted into a meaningful self-assessment for NRENs. For a peer review system, the Task will need to develop a checklist in concordance with the self-assessment and create a group of peer reviewers from participating NRENs.

Besides the reusable table-top exercises the Task creates for CLAW, it will start a *pilot in setting up a national simulation exercise*. In the Netherlands, SURF has already organised three simulation exercises (named OZON exercises) with their constituents and external stakeholders [OZON]. The Task will adapt the OZON exercise from 2021 for the Danish NREN, DeiC, to see if the material and method can be easily reused in other countries.

Continuing Task 4 Activities

From the interviews, it was very clear that CLAW is appreciated by people from all different NRENs. Task 4 will therefore *continue organising CLAW*, with an extra focus on exchanging best practices and maintaining the themes of internal and external communication and stakeholder management. The Task will keep producing exercises and training material for CLAW that is easily reusable for NRENs. Furthermore, the Task will aim to get all NRENs to participate in CLAW and engage senior management by asking GÉANT to put crisis management on the agenda of the General Assembly (GA) and invite them to CLAW for a senior management exercise. The Task will also actively reach out to the NRENs that have not attended CLAW before, with the help of GÉANT Partner Relations, to find out how to engage them in the subject.

Task 4 will also write the deliverable *D8.8 Crisis Readiness Status Report* on the preparedness of GÉANT and the NRENs for major crises, as already planned. In addition, provided Crisis Management is part of GN5, the Task will review the crisis management needs and readiness of NRENs at regular intervals during the coming years, to make sure it is meeting their needs.

Timeline

The timeline for the activities outlined above is shown in Table 4.1 below.

GN Project	Year	Activity
GN4-3	2021	• Organise CLAW2021 online • Develop trainings and materials for regional workshops • Start pilot to set up a national simulation exercise • Start developing *D8.8 Crisis Readiness Status Report* on the preparedness of GÉANT and the NRENs for major crises
	2022	• Organise CLAW2022 • Hold one regional workshop • Finish pilot to set up a national simulation exercise • Finish *D8.8 Crisis Readiness Status Report* on the preparedness of GÉANT and the NRENs for major crises • Review and update the *Guideline for creating a Crisis Management Plan*
GN5[1]	2023	• Organise CLAW2023 • Hold one or two regional workshops • Start developing a crisis management self-assessment for NRENs
	2024	• Organise CLAW2024 • Hold one or two regional workshops • Finish developing a crisis management self-assessment for NRENs • Research NREN requirements for crisis management again • If possible: help another NREN set up a national simulation exercise
	2025	• Organise CLAW2025 • Hold one or two regional workshops • Set up a peer review system for NRENs

GN Project	Year	Activity
		• If possible: help another NREN set up a national simulation exercise
	2026	• Organise CLAW2026 • Hold one or two regional workshops • Research crisis management readiness again • Continue the peer review system for NRENs

Note 1: Provided Security and Crisis Management are included as a work package

Table 4.1: Timeline for crisis management activities

Appendix A Overview of Interviewed Parties

NREN/Org	Country/Region	Name(s)	Date
Jisc	UK	Simon Cooper	8 February 2021
LITNET	Lithuania	Ieva Muraškienė	9 February 2021
ARNES	Slovenia	Alenka Starc and Jože Hanc	10 February 2021
CESNET	Czech Republic	Radovan Igliar and Jitka Vošicka	10 February 2021
HEAnet	Ireland	Brian Nisbet and Anna Wilson	15 February 2021
CARNET	Croatia	Vlado Pribolšan and Marko Stanec	16 February 2021
Belnet	Belgium	Jean-Christophe Real, Davina Luyten and Laetitia Lagneau	19 February 2021
CSC	Finland	Urpo Kaila	22 February 2021
CSUC	Catalonia	Maria Isabel Gandia i Carriedo	23 February 2021
DeiC	Denmark	Henrik Larsen, Jan Ferre and Ole Kjaergaard	24 February 2021
GARR	Italy	Simona Venuti	25 February 2021
RENAM	Moldova	Ecaterina Matenco and Alexandr Golubev	26 February 2021
SWITCH	Switzerland	Silvio Oertli	1 March 2021
RENATER	France	Dominique Launay	22 March 2021

Table A.1: Overview of interviewed parties

Appendix B Overview of Interview Questions Asked

Questions regarding current crisis management plans and training

- What is your current approach to crisis management?
- Do you have a crisis management process/plan?
    - If so, have you tested this plan?
- Do you have a crisis management organisation?
    - If so, do you have a crisis coordinator and a central crisis management team?
- Have people from your organisation had crisis management training?
    - If so, what kind?

Questions regarding new insights on crisis management due to the pandemic

- What have you learned during the current crisis about your own crisis management preparedness?
- Did it help to have a plan/procedure?
- Did it help to have had crisis management training?
- What aspect of your preparation helped the most?

Questions about needs for the future

- What does your organisation (still) need in terms of crisis management?
- What do you need in terms of training?
- What do you need in terms of material?
- What do you need in terms of knowledge exchange?
- What would you like us (GN4-3 WP8 Task 4 Crisis Management) to focus on in the coming years?
- Have you been to CLAW, and if so: does this help you? What could be improved?

Appendix C Overview of Crisis Exercises based on CLAW Material

NREN/Org	Description of Exercise	Date
Unicane, CSUC	Based on CLAW	2019
Funet/CSC	Based on CLAW	March 2019
RENAM	Held jointly with an emergency hospital after the How to Organise a Crisis Exercise Training	September 2019
Belnet	Held after the How to Organise a Crisis Exercise Training	October 2019
CSC	Held after the How to Organise a Crisis Exercise Training	October 2019
RedIRIS	Based on CLAW material with help from CSUC	November 2019
AfricaCERT	Based on CLAW material	November 2019
DFN	Ran the CLAW2019 exercise for their constituents with help from WP8 T4	February 2020
SWITCH	Ran the CLAW2019 exercise for their constituents with help from WP8 T4	September 2020
DeiC	Ran the CLAW2020 exercise with the Royal Danish Library	February 2021
SUNET	Ran an exercise based on CLAW2020 for their constituents	April 2021

Table C.1: Overview of crisis exercises based on CLAW material

Appendix D Overview of CLAW Attendance by NRENs

Nr	NREN	Attended CLAW at least once	Never attended CLAW
1	ACOnet		X
2	AMRES	X	
3	ARNES	X	
4	ASNET	X	
5	AzScienceNet		X
6	BASNET (UIIP NASB)	X	
7	Belnet	X	
8	BREN		X
9	CARNET	X	
10	CESNET	X	
11	CSC/Funet	X	
12	CYNET	X	
13	DeiC	X	
14	DFN	X	
15	FCT/FCCN	X	
16	GARR	X	
17	GRENA	X	
18	GRNET	X	
19	Harno	X	
20	HEAnet	X	
21	IMCS UL		X
22	IUCC		X
23	Jisc	X	

Nr	NREN	Attended CLAW at least once	Never attended CLAW
24	KIFÜ	X	
25	LITNET	X	
26	MARnet	X	
27	MREN		X
28	PSNC	X	
29	RASH		X
30	RedIRIS	X	
31	RENAM	X	
32	RENATER		X
33	RESTENA	X	
34	RHnet	X	
35	RoEduNet		X
36	SANET		X
37	SUNET	X	
38	SURF	X	
39	SWITCH	X	
40	ULAKBIM		X
41	UNINETT	X	
42	UoM		X
43	URAN		X

Table D.1: Overview of CLAW attendance by NRENs

References

[CLAW19_A]   https://www.geant.org/People/Community_Programme/workshops/Pages/CLAW2019.aspx

[CLAW19_O]   https://connect.geant.org/2019/12/17/claw2019-crisis-creativity-and-a-whole-lot-of-fun

[CM_GDSC]   CEN/TS 1709:2018 Crisis management – Guidance for developing a strategic capability
                  https://standards.cen.eu/dyn/www/f?p=204:110:0::::FSP_PROJECT:62265&cs=145D51B76D14672B45644D295E04E6F64

[CMG_NRENs]   Guideline for creating a Crisis Management Plan
                  https://wiki.geant.org/display/gn43wp8/Crisis+management+information+sharing?preview=/83427897/108029092/Guideline%20Crisis%20Management%20for%20NRENs%20v0.9.docx

[COMP]   https://compendium.geant.org/

[D8.12]   D8.12 GÉANT Community Requirements for Business Continuity Planning
                  https://www.geant.org/Resources/Documents/D8-12_GE%CC%81ANT-Community-Requirements-for-Business-Continuity-Planning.pdf

[OZON]   https://www.surf.nl/en/ozon-practice-how-to-respond-to-a-cyber-crisis

Glossary

CEN   European Committee for Standardisation
GA   General Assembly
NREN   National Research and Education Network
SIG   Special Interest Group
SIG-ISM   Special Interest Group on Information Security Management
SIG-Marcomms Special Interest Group on Marketing Communications
SIG-NOC   Special Interest Group on Network Operations Centres
T   Task
TF   Task Force
TF-CSIRT   Task Force on Computer Security Incident Response Teams
TS   Technical Specification
WP   Work Package
WP8   GN4-3 Work Package 8 Security
WP8 T4   GN4-3 Work Package 8 Security, Task 4 Crisis Management