

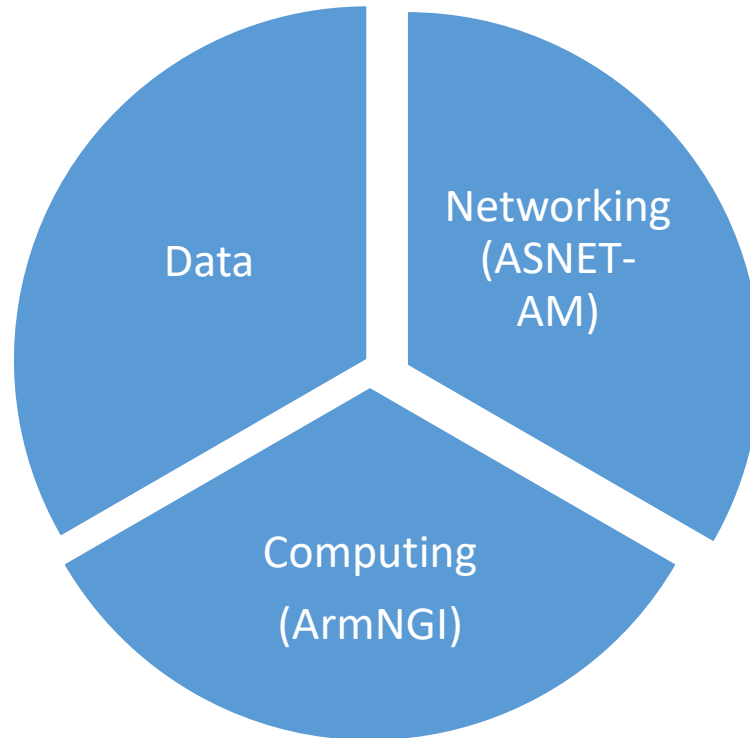


# *II CyberSecurity Workshop*

CSIRT in Armenia: ASNET-CERT  
Sergey Abrahamyan

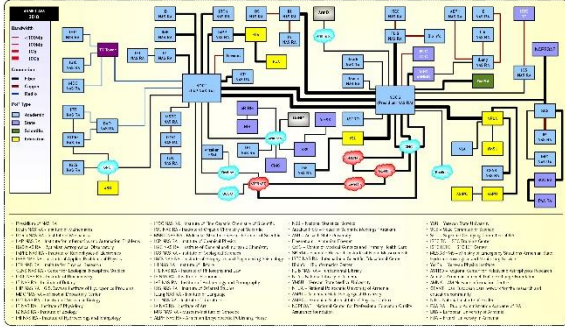
February 9-10, 2022

ASNET-AM is operated under the Institute for Informatics and Automation Problems of NAS RA



# Vision

## High-speed network



## Software

- Libraries
- Packages
- Middlewares
- Queue systems
- Ticketing systems

## Algorithms

- Distributed & parallel
- AI and machine learning
- Data analytics

## Computing resources

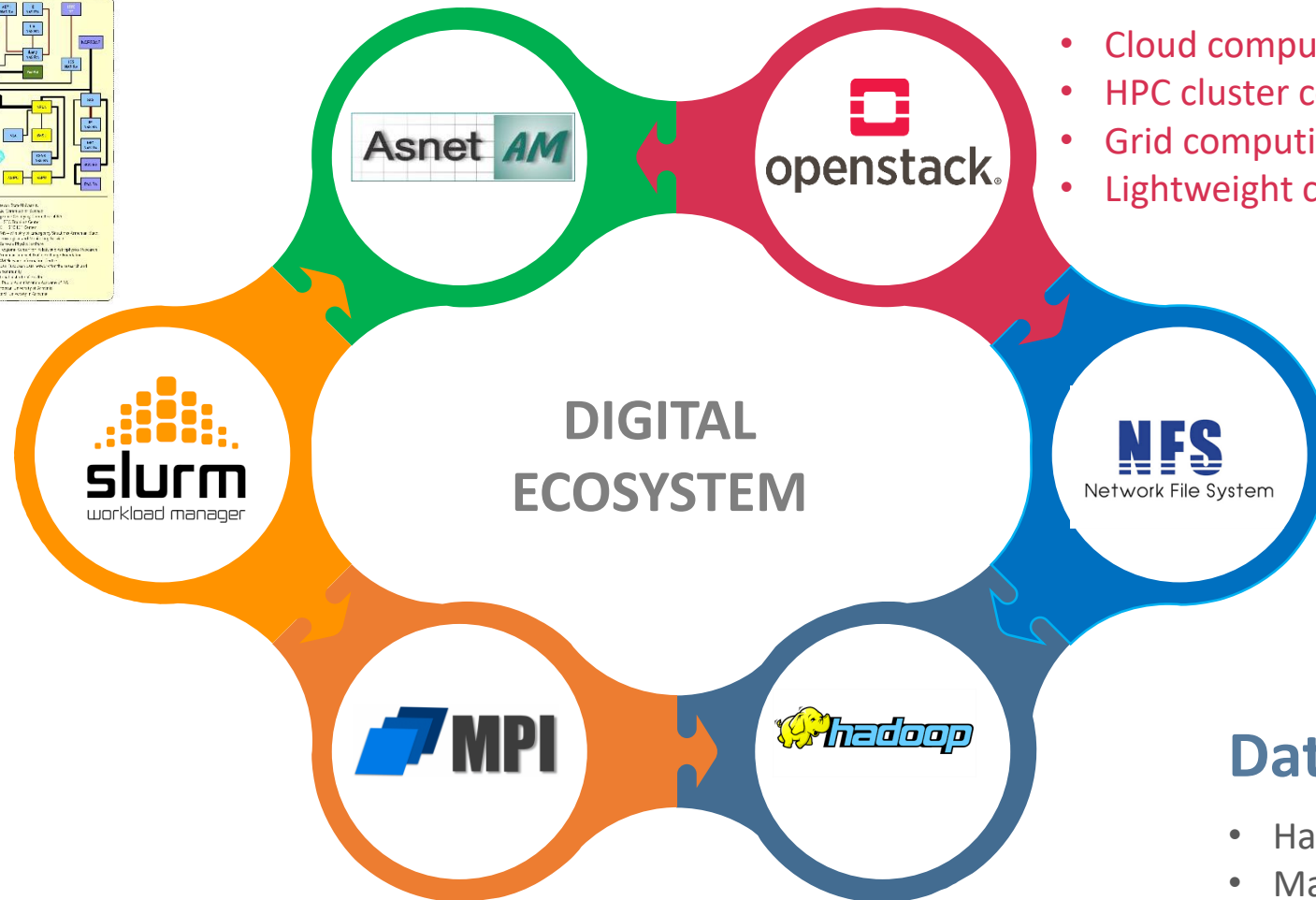
- Cloud computing
- HPC cluster computing
- Grid computing
- Lightweight computing

## Storage resources

- Cold
- NAS
- Hybrid
- All-flash

## Data processing

- Hadoop/Spark
- MapReduce
- Archiving



# ASNET-AM

- The **Academic Scientific Research Computer Network of Armenia (ASNET-AM)** is the **(NREN) of Armenia**.
- Established in 1994 **ASNET-AM** has over 25 years of experience in Networking and Information Technologies.
- More than 20 employees
- **ASNET-AM** aims to provide state-of-the-art networking, computing and data solutions to the Academic, Scientific, Research, Educational, Cultural and other organizations of Armenia and beyond, which are preliminary engaged in scientific and educational activity.

# Capacities

## Networking (ASNET-AM)

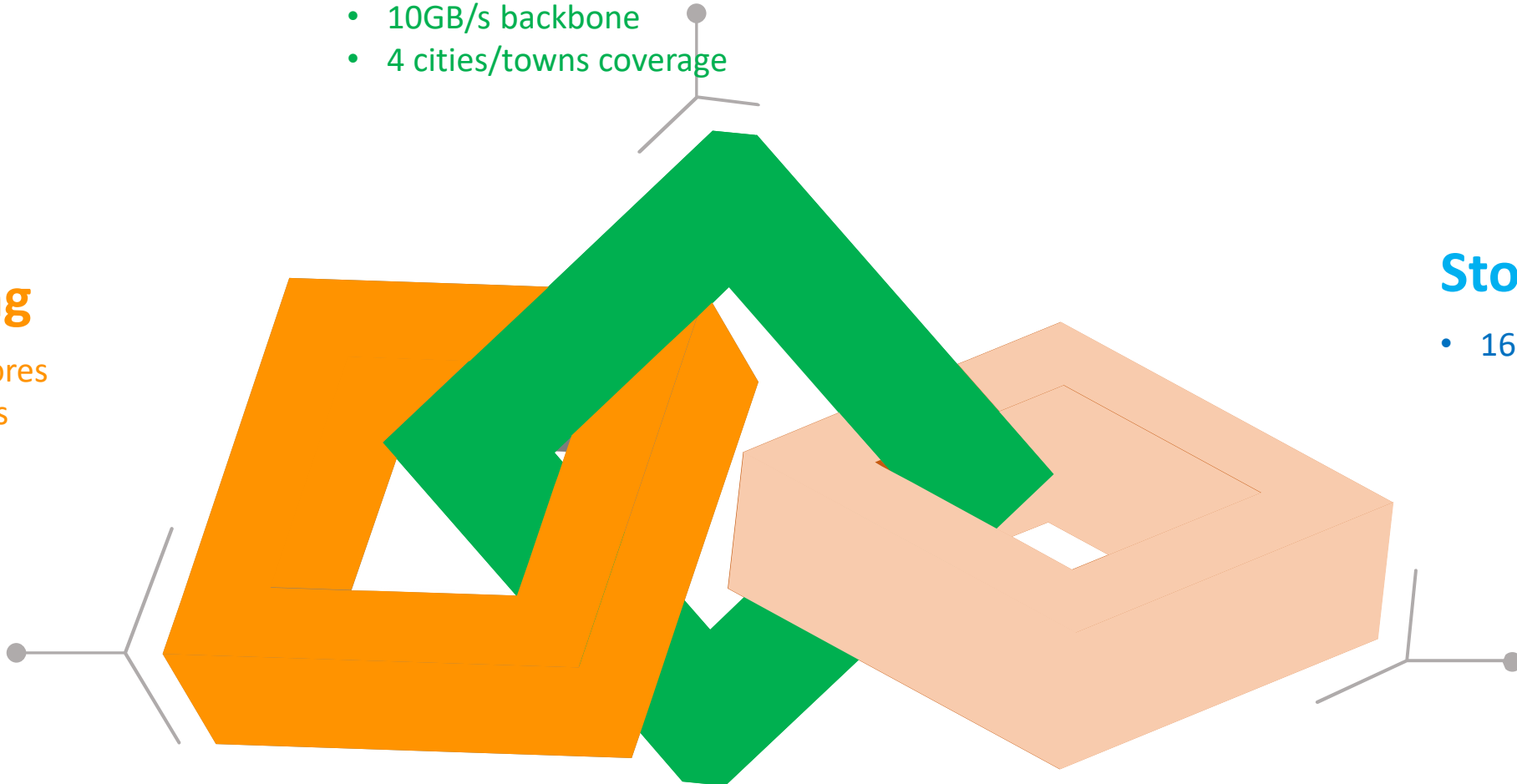
- 65 organizations
- 2 GB/s to GEANT
- 10GB/s backbone
- 4 cities/towns coverage

## Computing

- 20480 GPU cores
- 616 CPU cores

## Storage

- 1620TB



# Services

## 01 INFRASTRUCTURE

1. Internet and GEANT access
2. IaaS Cloud (1-64 cores per VM), cloud.asnet.am
3. AI cloud on GPUs, cloud.asnet.am
4. Container cloud, cloud.asnet.am
5. Connectivity & network management (Perfsonar, DNS, Hosting)

## 02 COLLABORATIVE

1. eduroam, eduroam.am
2. Edugain, afire.sci.am
3. Distance learning, meet.asnet.am
4. Mail system, mail.asnet.am
5. Cloud storage, nextcloud.asnet.am
6. Music without border, Lola

## 03 DOMAIN SPECIFIC

1. Data preservation, noad.asnet.am
2. Earth Observation, datacube.sci.am
3. Repositories & mirroring, mirrors.asnet.am
4. SaaS and Jupyter notebooks

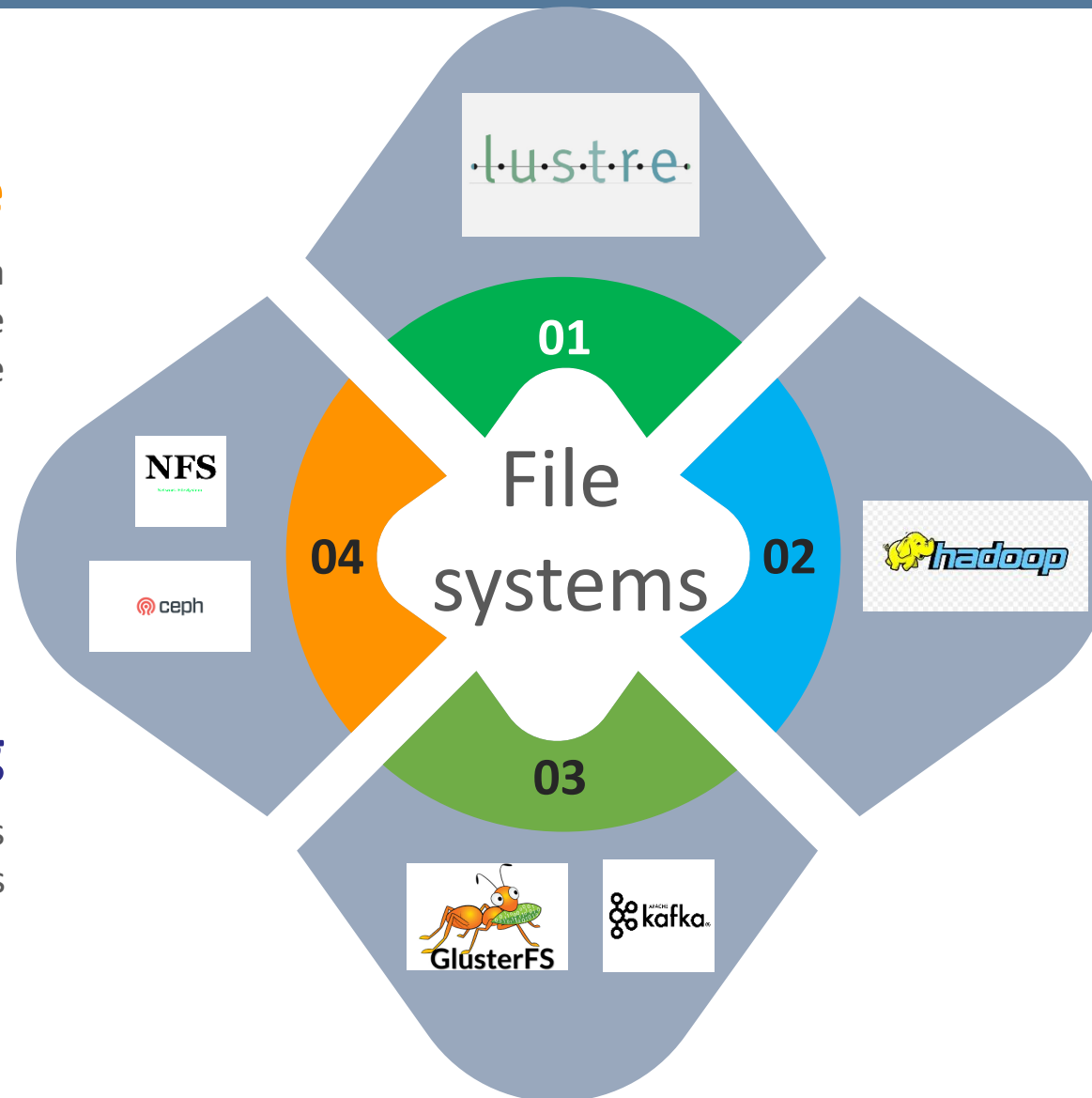
# Capacities – file systems types

## ★ General purpose

To mount file systems over a network and interact with those file systems as though they are mounted locally.

## ★ Data streaming

Large distributed storage solutions for media streaming, data analysis and bandwidth intensive tasks.



## HPC simulations ★

For HPC data-intensive applications to rely on high bandwidth to read/write the data.

## Big Data ★

To store structured and unstructured Big Data sets across various nodes and process using Hadoop ecosystem opportunities, like MapReduce

# Challenges

- In 2019 we decided to establish CSIRT team under the Asnet NREN.
- Evidence Collection
- Policy Development
- Incident handling
- Incident Response (Preferable 24x7)
- Penetration testing



# Our visit to DFN in 2020



# *Our visit to DFN in 2020 within the mentorship program*

Thanks to Leonie Schäfer we had

- Two days of intensive meetings and discussions on 24-25 January
- Group discussions
- Some agreement concerning to future collaboration

# Our visit to DFN in 2020

- With the support of colleagues from DFN and Grena, “asnet-Cert” was become listed in Trusted Introducer(TI)
  
- Special thanks for Ralf Groeper and Martin Waleczek

## Directory

### Team Database

[Recent Updates](#)[Update History](#)

The following list contains all "listed" teams. "Accredited" teams are - by definition - also "listed" teams, and are therefore contained in this list for your convenience.

This list contains the same information as the [alphabetical list](#), but is sorted by countries instead of team names.

### \*Europe

[Ai CERT](#)[Accreditation Suspended \(since 15 Aug 2019\)](#)[David Durvaux](#)[Listing Candidate \(since 13 Jan 2022\)](#)[EGI CSIRT](#)[Certified \(since 02 Oct 2014\)](#)[ESACERT](#)[Certified \(since 30 Apr 2021\)](#)

### Albania

[AKCESK/NAECCS](#)[Accredited \(since 27 May 2020\)](#)

### Armenia

[ASNET-CERT](#)[Listed \(since 30 Apr 2020\)](#)[CERT-AM](#)[Accredited \(since 13 Jan 2014\)](#)

# Asnet-Cert

- Covid-19 From March 2020 up to now
- War between Armenia and Azerbaijan  
From September 2020-November 2020

# First steps and First Obstacles

- We resume our works in 2021
- Two new young employees
- Lot of meetings with professionals

# First steps and First Obstacles

- After the long discussions we decided to start **resource assessment**
- Some meetings with network administrators

# First Obstacle

- Lack of trust
- No one wants to share info with the security team



# New Strategy

- Work as a White hat hackers
- Vulnerability detection
- Vulnerability Analyzing
- Reporting



## *Further activities*

- 7/24 Monitoring system
- Incident handling
- Incident Response (Preferable 24x7)
- Penetration testing

- Thank you For Attention