

# 11th SIG-NGN Meeting

Thursday 20th April 2023

SIG-NGN is the Special Interest Group on Next Generation Networks.

This meeting of the 11th meeting of the SIG was held in Prague, Czech Republic.

## Venue:

FZU

Pod Vodárenskou Vží 1  
182 00 Prague 8

Czech Republic

<https://www.fzu.cz/en/about-fzu/contact>

Meeting room: Solid/1.NP/P.23/1 (Solid Sál - 1)

This SIG-NGN meeting is a co-located event with the LHCONE meeting:  
<https://indico.cern.ch/event/1234127/>

## Theme

### "Large science experiments and networking futures"

SIG-NGN held its 11th meeting as a in person workshop on 20 April 2023. The meeting was hosted jointly with the LHCONE meeting in Prague. We have invited speakers representing some of the largest science communities, including HEP, SKA, DOE presenting their future vision and requirements. As well, networking experts from the NREN community presented current and future network capabilities. The workshop concluded with a discussion group to try and map requirements and capabilities, with a goal to leave both scientists and network engineers better informed about the future. Which is always bright.

## Quick Links

[All Presentations](#) (currently past meeting presentations.)

Checkout the discussion on [NREN.slack.com](https://nren.slack.com) ([sign up here](#))

[Subscribe to the NGN mailing list](#) or [View the Archive](#)


Contact the [NGN Steering Committee](#)

## RECORDING

[Registered participants](#) (CLOSED)

Agenda (all times are in CEST)

Thursday, 20 April 2023

Time	What's happening
08:45 - 09:00	Get a coffee and arrive
09:00 - 09:10 ('10)	<b>Introduction and welcome</b> 01_Edoardo Martelli (CERN)  01_11th-SIG-NG...g-20042023.pdf
09:10 - 10:30 ('80)	<b>What R&amp;E networks are doing for Big Science?</b> The session will discuss the services and infrastructure provided by R&E networks, how they support big science users and their needs of large data transfers, and future plans of R&E Networks. <i>Host: Mian Usman (GÉANT)</i> <ul style="list-style-type: none"><li>02_GÉANT - Bram Peeters (GÉANT) - '15</li></ul>



02\_SIG-NGN\_in\_Bram.pdf

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- 03\_IPv6 traffic - Bruno Hoeft (KIT) '15



03\_HEPiX-IPv6-20...ril-20-Bruno.pdf

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- 04\_PerfSONAR - Lætitia A Delvaux (PSNC) '15



04\_20230420-per...GN-Laetitia.pdf

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- 05\_SURF - Alexander van den Hill(SURF) - '10

	<div>  <p>05_SIG NGN Apri...3-Alexander.pdf</p> </div> <ul style="list-style-type: none"> <li>06_Internet2 - Chris Wilkinson (Internet2) - '10</li> </ul> <div>  <p>06_NGN-SIG 2023...inson-Chris.pdf</p> </div> <ul style="list-style-type: none"> <li>Q&amp;A discussion - '15</li> </ul>
10:30 - 11:00 ('30)	Coffee break
11:00 - 12:30 ('90)	<p><b>Big science user requirements I</b></p> <p>This session will discuss the network capacity requirements of big science users and how these requirements are evolving as scientific research becomes increasingly data-intensive.</p> <p><i>Host: Edoardo Martelli (CERN)</i></p> <ul style="list-style-type: none"> <li>07_SKA - Rosie Bolton (SKA) '25</li> </ul> <p>The SKA Observatory and the SKA Regional Centres: Operational model and implications for data transfer.</p>



07\_GEANT Next G...l2023-Rosie.pdf


- 08\_ITER - Peter Kroul (ITER) '25



08\_SIG-NGN meet...023-Peter K.pdf

- 09\_HL-LHC dataflows: An experiment view - Mario Lassnig (CERN)'25

The LHC experiments are facing a ten-fold increase in throughput requirements for the High-Luminosity upgrade. In addition, the complexity of dataflows is ever evolving, pushing the boundaries of our infrastructure. In this talk, we highlight important use cases shared by the LHC experiments, and delve deeper into the specific needs of the ATLAS Experiment.

	<div>  <p>09_HL-LHC Data ...iment-Mario.pdf</p> </div> <ul style="list-style-type: none"> <li>• Q&amp;A discussion - '15</li> </ul>
12: 30 - 14: 00 ( '90)	Lunch break

14:  
00 -  
15:  
00  
(60)

## Big science user requirements II

*Host: Rudolf Vohnout (CESNET)*

- 10\_Computing Models for Processing Streaming Data from DOE Science - Graham Heyes (Jefferson Lab) '25

Graham Heyes is the head of the Scientific Computing Department at Jefferson Lab. He was also the lead of the laboratory's Data Acquisition Support Group. His current research interest is streaming data acquisition and analysis. This talk will explore what that is, and computing models, both hardware and software, that are appropriate for streaming data.



10\_StreamingDa...aham-Heyes.pdf

- 11\_Integrated Research Infrastructure - A DOE ASCR Initiative to Accelerate Science - Chin Guok (ESnet) '25

DOE ASCR has been championing the Integrate Research Infrastructure initiative, which is to enable highly coordinated, collaborative research and integrating capabilities across DOE's world-leading facilities. This initiative has the potential to drive DOE's funding and direction in the next decade.



11\_JRI - SIG-NGN...Apr2023-Chin.pdf

- Q&A discussion - '10

15:  
00 -  
15:  
30  
(30)

## Meeting the requirements

The research and education (R&E) networks will share how they are working together to deliver intercontinental capacity and adequate connectivity links to support the needs of big science users

*Host: Mian Usman (GÉANT)*

- 12\_International Connectivity - Sebastiano Buscaglione (GÉANT) '10



12\_SIG-NGN - GN...-Sebastiano.pdf

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- 13\_International Connectivity - Pieter de Boer (SURF) '10



13\_20230421 - S...ter de Boer.pdf



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- 16\_Multi-domain Spectrum Service - Matteo/Paolo Bolletta (GARR) '5



16\_sig-ngn scs c...Matteo-Paolo.pdf

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- Q&A discussion - '5



15:30 - 16:00 ('30)	Coffee break
16:00 - 16:40 ('40)	<p><b>Mapping big science requirements to what the R&amp;E Networks are doing</b></p> <p>This session will include presentations on the requirements of big science users and how these requirements can be mapped to the services and infrastructure provided by research and education (R&amp;E) networks</p> <p><i>Host: Edoardo Martelli (CERN)</i></p> <ul style="list-style-type: none"> <li>14_ESCAPE: 'Large science experiments and networking futures' - Yan Grange (ASTRON / LOFAR)'20 Yan will present the work that has been executed on the Scientific Data Lake, a data infrastructure targeted at large-scale data management within a network of heterogeneous storage resources. This work was conducted as part of work package 2 of the ESCAPE project.</li> </ul> <div data-bbox="977 705 1479 1203">  <p>14_ESCAPE-GEAN...IG-NGN-Yan.pdf</p> </div> <ul style="list-style-type: none"> <li>15_ESnet science user requirements - Eli Dart - '20</li> </ul> <div data-bbox="977 1236 1479 1734">  <p>15_20230420-dar...Science-Eli.pdf</p> </div>
16:40 - 17:30 ('50)	<p><b>Facilitated discussions</b></p> <p><i>Host: Enzo Capone (GEANT) &amp; Eli Dart (ESnet) - '50</i></p>

17:  
30

*End*