

GÉANT Infoshare: European Time and Frequency Services - Principles, Challenges and Use Cases

**GN4-3/WP6-T1
OTFN – Optical Time and Frequency Network**

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Coordinator of the project

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GEANT Infoshares are intended to create a space to engage, improve knowledge sharing and discussion about services and strategic topics, and to build a human network across the Research and Education community.



Co-organised by WP6 and GÉANT Partner Relations Team, within the Community Programme



Public Infoshares are on Wednesdays and are recorded
Other Infoshares will be 'invitation only' events on other weekdays



Go to the main Infoshares Wiki page to suggest future topics



Recordings are available in the e-Academy, GLAD website and on Wiki pages after the event



Questions: partner-relations@geant.org

* During the infoshare, GÉANT may do audio or video recordings, that can include collective or individual images, and collect information provided by others (especially during training sessions), to evaluate your performance as a speaker or as a trainer. We could also make and store a recording of your voice in certain instances. GÉANT may use this information, including your personal data and the recorded sessions, in online communication channels managed by GÉANT such as YouTube, GÉANTtv, GLAD website, eAcademy and Wiki Pages.

GN4-3 WP6T1 OTFN, Optical Time and Frequency Network

to catalyze the emergence of metrological networks in Europe

What:

- Study challenges for setting up a European **T/F distribution service**
- Focusing on holding dissemination events **to raise awareness** of NREN community
- Working on missing pieces that would **help T/F community** (testbed, international hub...)

Who:

- RENATER: Nicolas Quintin
- GÉANT: Guy Roberts
- CESNET: Josef Vojtech, Vladimir Smotlacha
- PSNC: Krzysztof Turza, Wojbor Bogacki
- SWITCH: Ernst Heiri, Konstantinos Chaloulos, Simon Leinen
- Xavier Jeannin, Ivana Golub, Tim Chown, Susanne Naegele-Jackson

When:

- 1st of January 2019, 48 months duration

How:

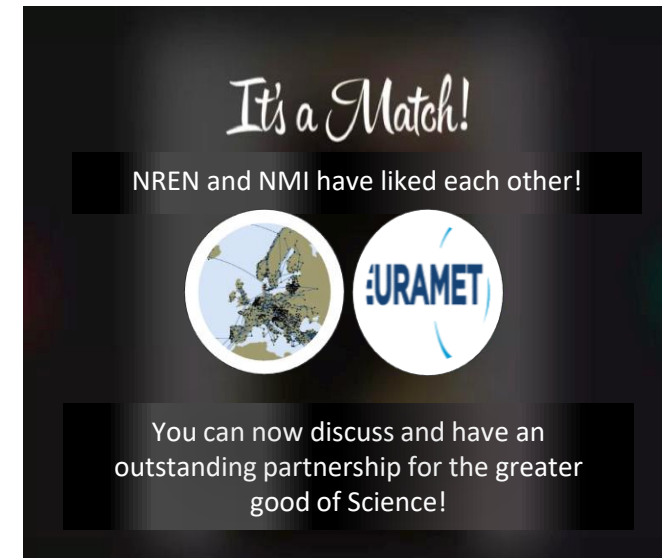
- Facilitate discussions between partners (GÉANT, optical equipment providers and scientists)
- Technical expertise and feedbacks on T/F network infrastructures

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Objectives of this infoshare

T/F community lacks fibre connections between NMI and T/F end-users => understand the **key role of NREN**

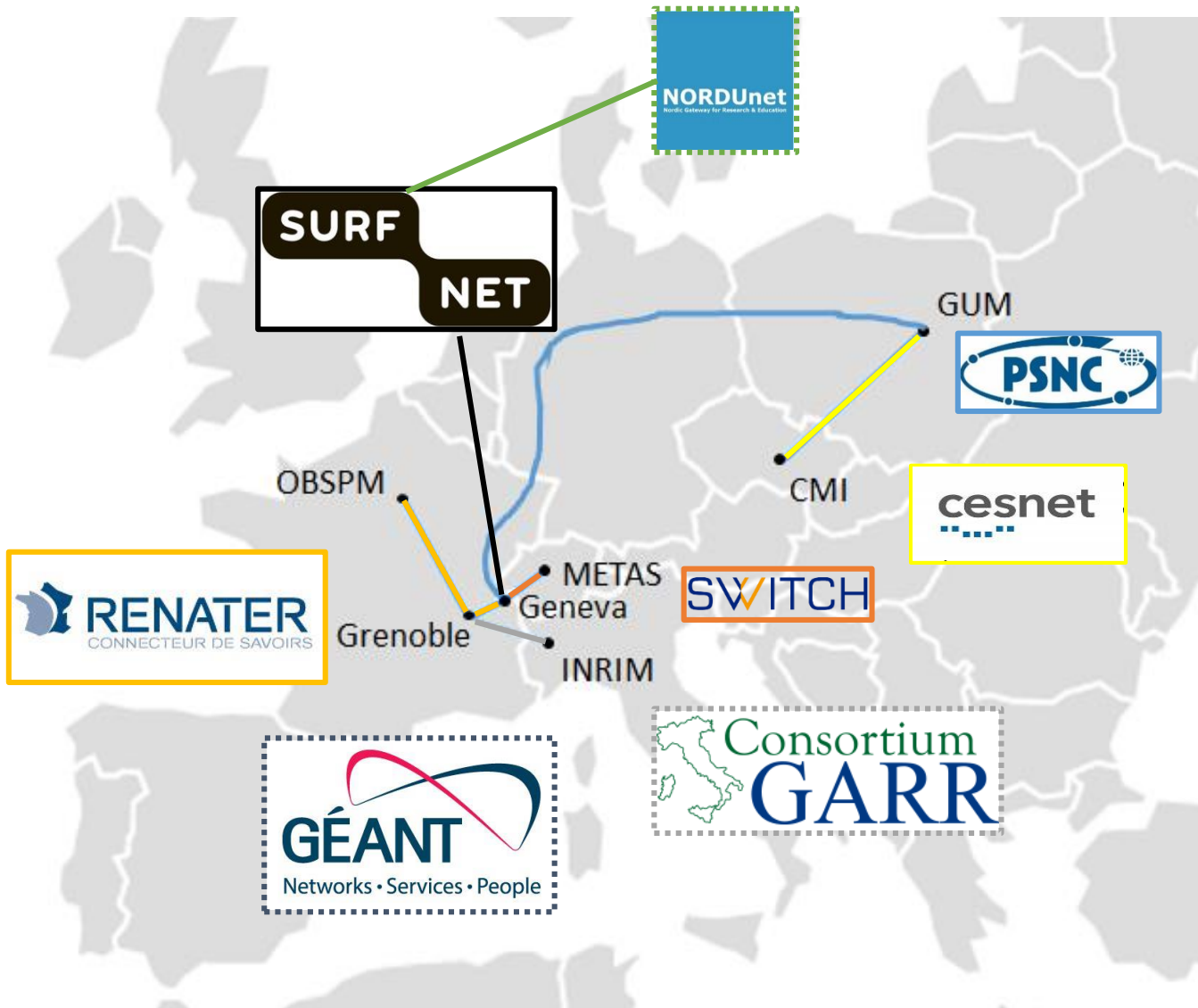
- **Incubators** of revolutionary projects (IPv6, client/server and Cloud computing, QKD...)
- Each NREN is connecting **many Research Infrastructures** that want/can (to) benefit from such precise signals => would **boost scientific collaborations**
- NRENs know how to manage networks
- **Metrological Time and Frequency services distribution in an NREN environment is not only doable but safe and controlled**
- OTFN is helping GÉANT become familiar with the distribution of T/F service (understanding phenomena, relevant tests) and we would gladly help any interested NRENs (please contact gn4-3-wp6-t1-otfn@lists.geant.org)



Raising awareness of NREN community

- White Paper: "Distributing New Performant Time and Frequency Services over NREN Networks"
 - Characteristics of Ultrastable T&F Service Distribution to Distant Users (main T/F elements, existing techniques, component availability...)
 - Implementing T&F Services over NREN Networks (Which wavelength, lead time to service deployment, performances for each technique...)
- Future events
 - Next OTFN infoshare (agenda to be defined with you)
 - Training, workshops?
 - ...

Helping T/F community



Setting up a Time and Frequency hub in Geneva

- Directly connected
RENATER, PSNC, SWITCH, SURFNET
- Indirectly connected
CESNET, GARR
- Gateway to
GEANT, NORDUnet

CERN

- Potential end-users looking for high precision measurements

Couple of remarks before we start

- Please mute your mic during presentations
- Do not hesitate to **write your questions in the chat** during presentations
- This infoshare should be as interactive as possible, your feedbacks are really valuable for us



We hope you'll enjoy this infoshare
OTFN Team



Today's agenda

Time	Topic	Presenter/Discussion Leader
13:00	Welcome and introduction	Nicolas Quintin (GIP RENATER)
	Session 1: Requirements, Use Cases and European projects	Krzysztof Turza (PSNC)
13:10	Why are optical T/F services so popular?	Dr Harald Schnatz (PTB)
13:30	Time and Frequency services for end-users	Jani Myyry (CSC/Funet)
13:50	Time and frequency requirements for radio astronomical interferometry	Paul Boven (JIVE "Joint Institute for VLBI ERIC")
14:05	Break	
	Session 2: Current situation in NREN networks	Nicolas Quintin (GIP RENATER)
14:20	T&F Research and Innovation projects (CLONETS-DS, TIFOON)	Wojbor Bogacki (PSNC)
14:30	Current T&F situation in NREN networks	Dr Josef Vojtech (CESNET)
15:10	Q&A session and open discussion	Nicolas Quintin (GIP RENATER)
15:30	Conclusion	Xavier Jeannin (GIP RENATER)