Alien Wavelengths in National Research and Education Network Infrastructures Based on Open Line Systems: Challenges and Opportunities - DTU Orbit (11/08/2019)

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The European National Research and Education Networks have a long tradition of shared use of resources, in particular, by deploying alien wavelengths (AWs) that disaggregate the transponders from the optical transport network. This network evolution is being extended by making use of White Boxes and fully disaggregated transport networks. In this paper, management architecture and White Box interoperability scenarios are discussed, and it is shown that a software defined networking based solution can be used to manage selected optical White Boxes. Novel transport network simulation tools are compared with existing tools and validated against physical links to highlight the potential and applicability of such tools for analysis and estimation of performance evolution trends for AW deployments. Results show good correlation between new and existing tools, although initially developed for different purposes.

General information
Publication status: Published
Organisations: Department of Photonics Engineering, Networks Technology and Service Platforms, Department of Energy Conversion and Storage, CESNET Association, Poznan Supercomputing and Networking Center, GÉANT, SURFnet, Greek Research and Technology Network, Uninett AS
Pages: 118-29
Publication date: 2019
Peer-reviewed: Yes

Publication information
Journal: Journal of Optical Communications and Networking
Volume: 11
Issue number: 3
ISSN (Print): 1943-0620
Ratings:
BFI (2019): BFI-level 1
Web of Science (2019): Indexed yes
Original language: English
Keywords: Alien wavelengths, Optical fiber networks, Software defined networking, White Box
DOIs:
10.1364/JOCN.11.000118
Source: FindIt
Source-ID: 2444121576
Research output: Contribution to journal › Journal article – Annual report year: 2019 › Research › peer-review