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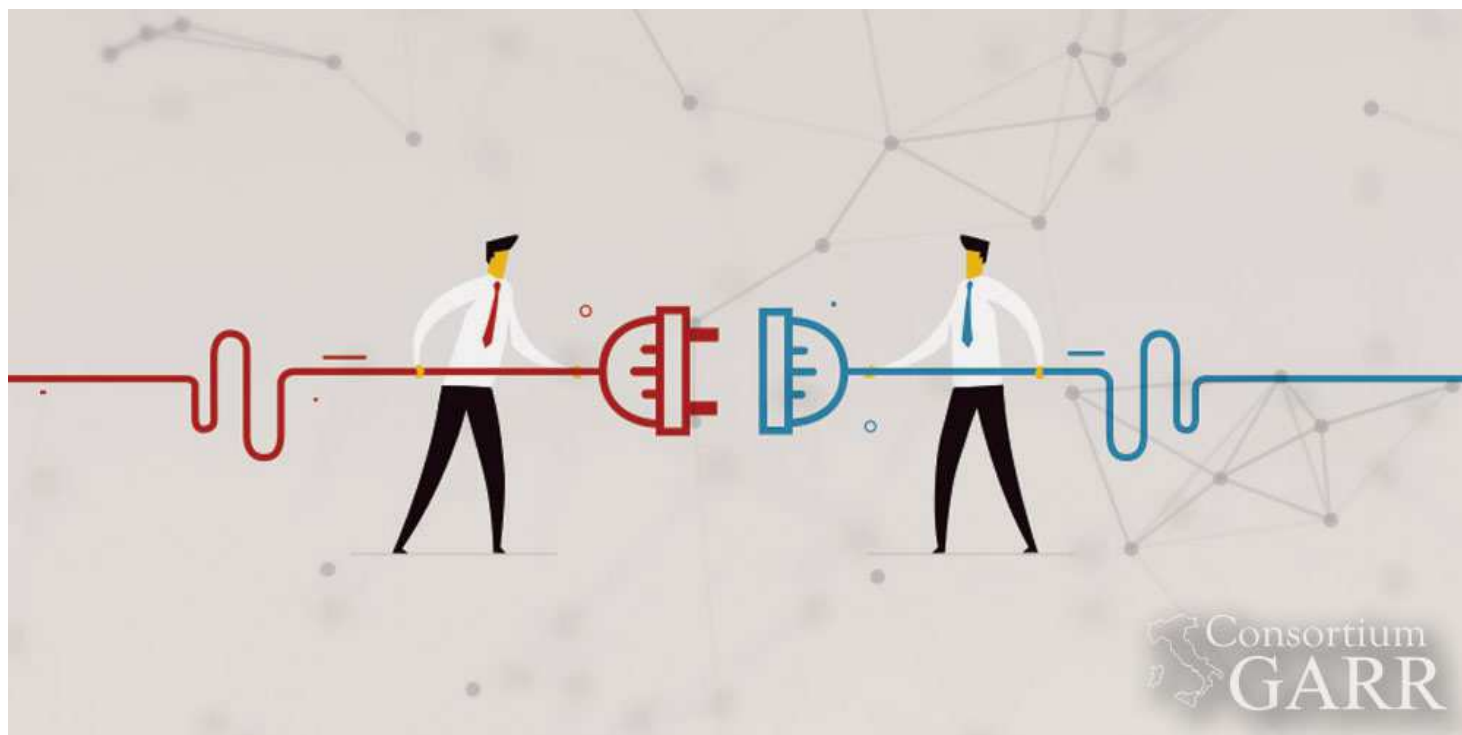
Cable damage? How an international backup saved a national network

🕘 11 months ago

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Elis Bertazzon

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Why are cross-border fibres important? Investing in international connectivity can give NRENs the possibility to quickly set up a backup solution in case of necessity.

This is what happened in Italy on 9 January, when a large number of cables was accidentally cut during construction work for the third lane of the A4 highway, causing the complete interruption of internet services to a wide area of the Friuli region, in the north-eastern part of the country. The incident forced the carrier's engineers to carry out emergency repair work late at night to arrange a temporary fix. The damage was serious and a longer period of time was needed for a permanent fix. The cables affected also included GARR's high-capacity link between Milan and Trieste.

Further to GARR's investment in its international links, it was possible to minimise service disruption for the research and education community affected, in particular, because of collaboration with GÉANT and the Slovenian NREN, ARNES. This precious collaboration made it possible for the city of Trieste to become reachable again in less than 2 hours, albeit via an unusual route. The backup solution, in fact, crossed Slovenia and Austria, covering a distance of 2400 km (Trieste-Ljubljana-Vienna-Milan) instead of the usual direct route of 500 km.

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Marco Marletta, Access Port Manager for the GARR network explains: "Trieste is connected to the GARR network via a double link, but unfortunately both fibres were cut as they lay together next to each other by the highway path. It is not by chance that our plans for the evolution of the network in this region aim to differentiate the routes of these two links. When the cables were cut, both links went down, and to fix the problem we immediately alerted our colleagues at ARNES and GÉANT. In less than 2 hours, we were able to set up a layer-2 VPN which reached Trieste via Slovenia and the European backbone. This solution shows the importance of investing in cross-border fibres with our neighbours and, particularly, of collaborating with other R&E networks. With ARNES, in particular, we have plans to create a more stable mutual back-up solution and this incident has corroborated the validity of this idea. A feasibility study is currently ongoing to ensure that this temporary fix becomes a mutual permanent and stable backup link."

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