

N4C Experimentation Experiences

DTN in real context Kocevje, Slovenia and Swedish Lapland

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Experimentation as a methodology to achieve
concrete results: where, how, when?

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The network itself – evolving at protocol and implementation level – behaviour t. b. d.

Because of its nature closely intertwined with:

Applications – instruments (e.g. meteo data),
professional and consumer services

Data on performance – certain factors not
obvious how to interpret

Use in real context – response to access in new
context, on "delayed terms"

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The plan was three generations, each tested twice (summer/winter). Has become more intense and somewhat seamless

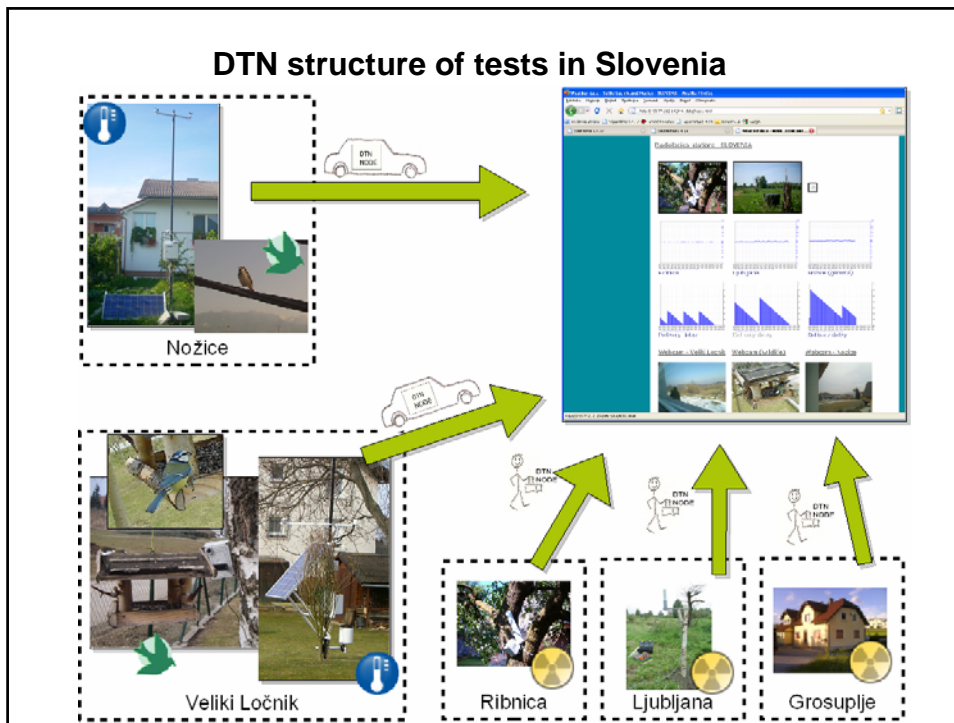
On one hand: stable technology and realistic user interfaces, on the other: put paradigms and implementations to test

Concluding summer tests 2010 shall have content of "Living Labs type ". This takes particularly systematic preparations

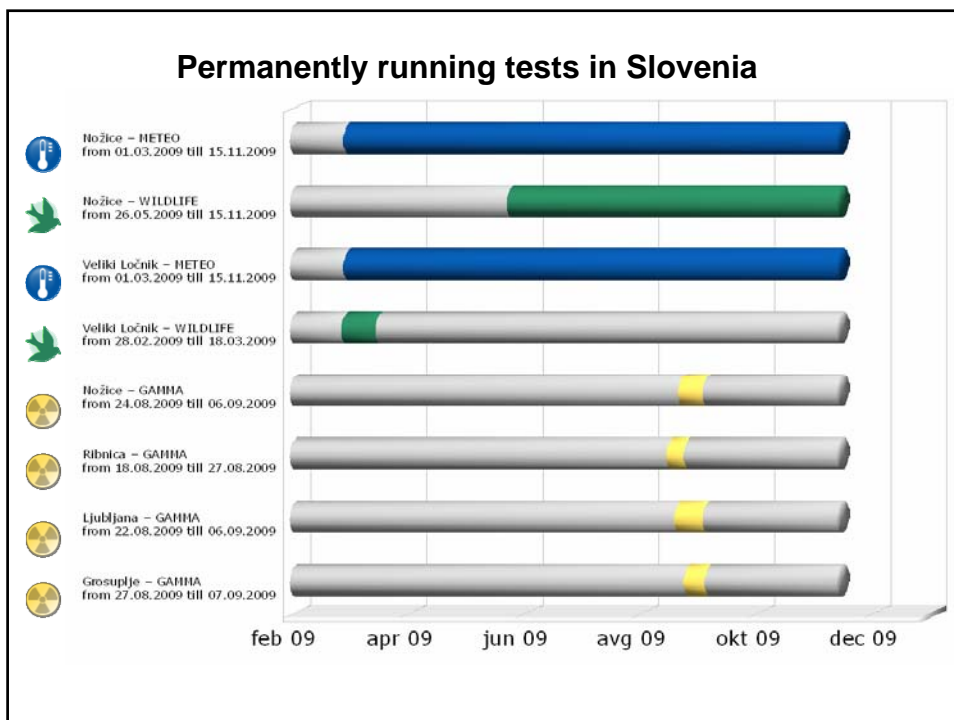
Strong, experienced team needed for this step

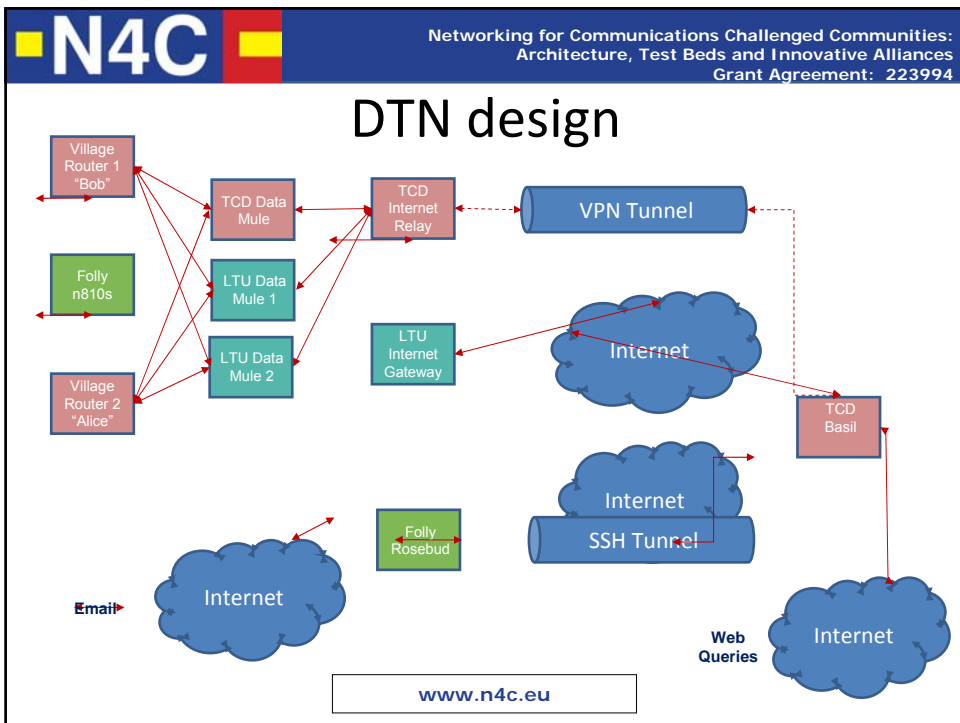
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DTN structure of tests in Slovenia



Permanently running tests in Slovenia





Timeline for the Irish team 2009

- 27th Jul – Shipping to Lulea took 7 days.
- 2nd Aug - Travel to Lulea to setup and test
- 7th Aug – Drive to Ritsem, testing
 - Setup hiker user emails and made some WEB requests
- 9th - Helicopter to Saltoluokta, setup again
- 11th Completed 2 full return rotations
- 12th Hikers arrive in Saltoluokta and check email and WEB requests
- 13th Pickup and move to Staloluokta, setup system and users pickup more mail.
- 15th Home!

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The experimentation facilities as a service
offered to R&D

What are the metrics relevant to
experimentations?

The impact to standardization

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Reflexions – some notes

Lapland tests

- All coordination need be done before the test (almost no coordination during test, as the people involved can not communicate)
- So easy to fail (eg. burned fuse worth few cents can cost several hundreds euros to buy it and replace it - travel/time expenses)
- Lots of improvisation (soldering with a nail heated with a candle, using wooden stick as antenna mast)
- For some experiments impossible to set exactly the same conditions twice one summer (weather, etc)

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Conclusion

To the above comes "taking care of oneself" in field conditions

For capacity, validity, reliability: specialized staff

Reason for permanent test bed = service to researchers

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Contradictions and measures

- New, “better” technology is driver for front line researchers, for N4C e.g. implementations
- The test bed however, requires tuning each time new components are combined
- Optimal strategy for meaningful, strong impact results?
- Without social interaction the capacity to handle this at all goes down

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N4C Networking for Communications Challenged Communities:
Architecture, Test Beds and Innovative Alliances
Grant Agreement: 223994

Some comments..

- Building competence to set up and run the network beyond infra structure – co-work of LTU and Tannak previous to N4C
- Choice of applications is a matter of technical experimentation as well as Living Labs type achievement

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Plans

- Summer 2010 test goals for TCD and Intel
 - Aiming for 3 months
 - 5 village routers, 6 mules (helicopters), 2 gateways
 - Improved apps, Some management