



cNISv2 – DANTE's perspective

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cNISv2 Kick-off Meeting, Roma IT

03 September 2007



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Overview

- Background to cNISv2
- Expectations of cNISv2



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Background

Before cNIS v2 there was ...

cNIS v1!

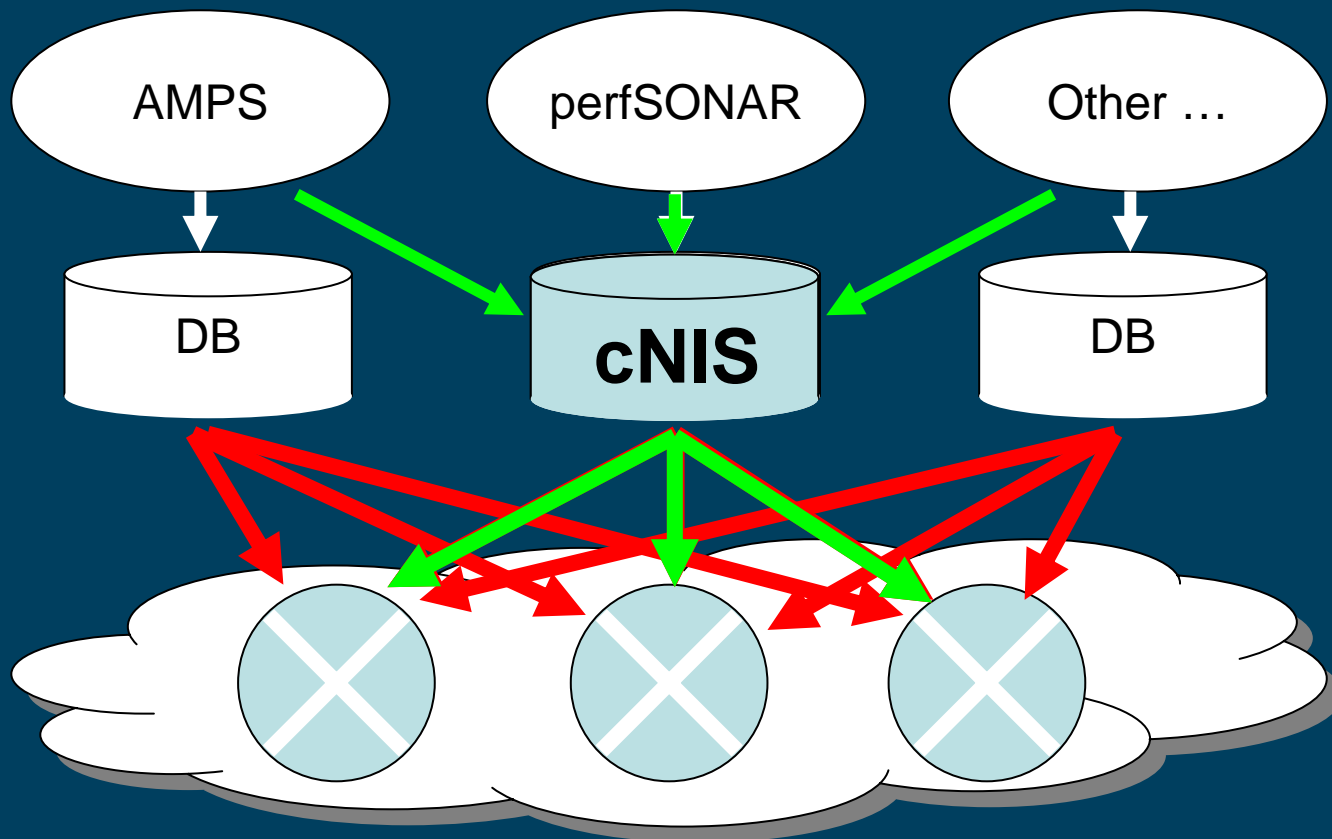
- Motivation
 - Most GN2-developed applications, including perfSONAR apps and AMPS, require a topology model of the **steady-state** network
 - Multiple copies of network topologies undesirable
 - Unnecessary extra load on nodes (however small)
 - Greater risk of some topologies not being updated, or getting corrupted

The Problem

The Solution - cNIS



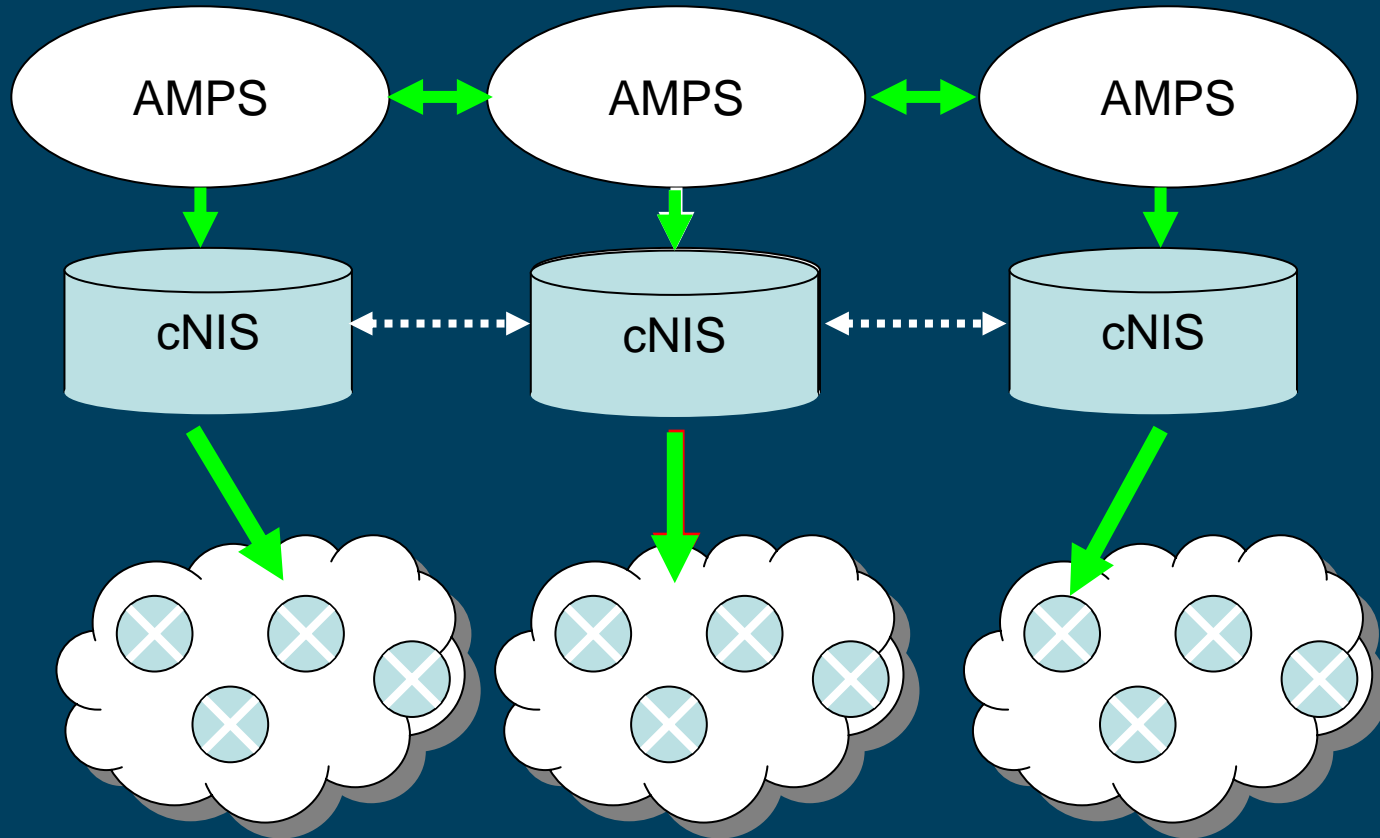
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cNIS v1 Approach



Evolution of Requirements



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- Early on in Y3 two issues arose
 - Some consortium members wanted to see cNIS expand beyond its modest goals of supporting just AMPs and perfSONAR
 - Several (many?) NRENs already have (or plan to have) databases from which steady-state information can be derived.



cNIS Progress over Y3

- It was agreed that
 - cNIS development should continue, so as to be ready to support AMPS, perfSONAR and (when possible) autoBAHN.
 - Uses cases for the wider employment of cNIS should be researched
- The continued development of cNIS would become cNISv1; the results of the use cases study would form the requirements for cNISv2



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Initial Use Cases

Cause and Effect Analysis

1. Scheduled maintenance (its effect on both the local and other domains)
2. Network element failure (its effect on both the local and other domains)
3. Error message correlation (to identify possible root causes of incidents)

Service Provisioning

4. Establish and remove cross border fibre based wavelength connections or a multi-domain end to end link and their monitoring
5. Negotiate, then establish and monitor a GE service
6. Set up (and remove) a premium IP service

Service Support

7. Multi Domain Monitoring (MDM) support



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cNISv2

Expectations

- A new name!
- A new “protocol”
- Reference implementation – schema, perhaps complete system?

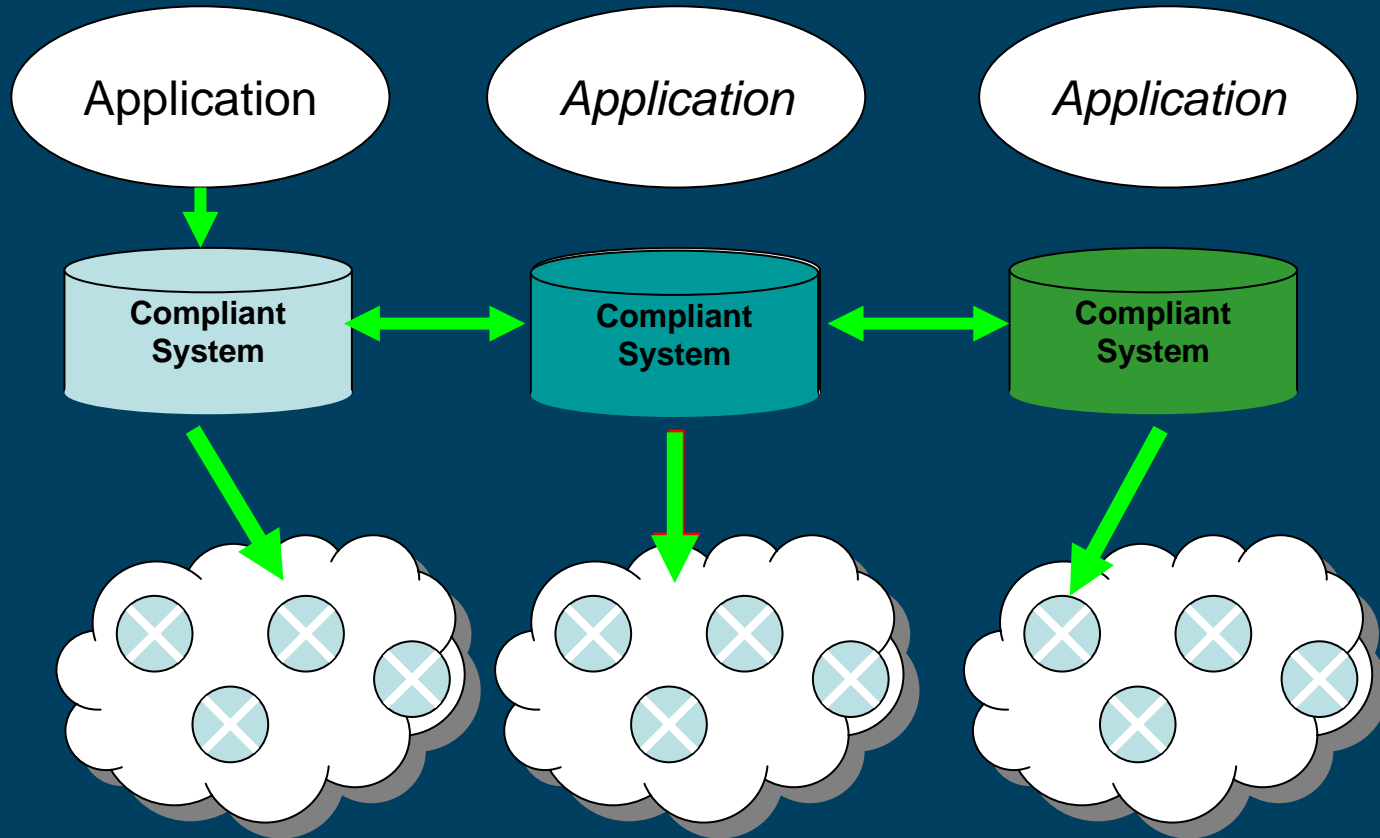
Issues

- What data can we require from NRENs? Is there data we may want but cannot assume we will get?
- Naming – universal naming scheme(s)? Or just locally agreed?



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cNIS v2 Approach?



GEANT2



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The GEANT2 logo, featuring a stylized purple and white swoosh above the text "GEANT2" in a blue, sans-serif font. The letter "A" is replaced by a white star.The DANTE logo, featuring a stylized grey and red swoosh above the text "DANTE" in a dark blue, sans-serif font. The letter "A" is replaced by a red star, and there are several smaller red stars along the upper curve of the swoosh.



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Additional Use Case

- Given a list of IP addresses (e.g. traceroute), cNISv2 returns information on the associated routers (name, make, model) and the relevant interface (name, data rate, MTU)