

## Strategy area: end to end performance

**Mission:** To ensure that the users of the Janet IP and Lightpath networks know what to expect from the network, how to use it effectively, and to give them the visibility to see that they are using it effectively, together with ensuring Janet has the infrastructure and knowledge to diagnose instances where data transfers do not live up to expectation.

### Context

Some of Janet's users rightly expect to be able to transfer large amounts of data in short amounts of time across multiple network management domains. Sometimes these data transfers do not live up to their expectations. This area of work will attempt to provide the education required to know what to expect from the networks involved, to maximise the performance of data flows across them, and provide the tools to help diagnose when those transfers do not perform as expected.

### Customer requirements

- To know what performance to expect from the Janet network;
- Confidence in creating systems that can transfer large amounts of data efficiently;
- Greater understanding of why certain transfers perform slowly and assistance in rectifying the causes of poor performance.

### Strategic response

- Manage expectations as to the capabilities of the Janet network at the high end;
- Provide guidance on campus and edge system interactions with the Janet core to maximise their performance in large scale transfers;
- Deploy tools that allow users to measure and verify the performance of their transfers;
- Develop tools and resources that assist users in diagnosing issues resulting in low-performance transfers, promoting use of existing tools where appropriate;
- Disseminate best practice information and establish relationships with other practitioners in this area to share knowledge;
- Support our colleagues in the Janet NOC in rapid fault diagnosis on the core and to assist customers with problems outside our domain, through both sharing knowledge and development of appropriate tools.

### Current programme 2012-13

Project	Description	Priority
Share best practice	Produce information assets to complement existing resources (e.g. ESNET wiki <a href="http://fasterdata.es.net/">http://fasterdata.es.net/</a> ), including a brief 'fact sheet' setting out achievable performance and potential bottlenecks; Organise workshops/tutorials highlighting successful uses of Janet IP and the Lightpath service.	High
Weathermap	Provide an at-a-glance indication of the utilisation of links on Janet.	Medium
Test targets	Deploy systems to test performance against, at both GEANT border and Janet PoPs.	Medium
perfSONAR	Evaluate perfSONAR against Janet community requirements	Low

Reference	ST/STRATEGY/DOC/005
Author	Rob Evans
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Previous versions	1.1