



JANET Research Requirements Workshop

Delegates Briefing Note and Agenda

The workshop's aim is to gather views from the research community on requirements for the JANET network over the coming decade, and forms part of the preparation for the next major phase of backbone engineering on the JANET network. Further background information on the workshop can be found on the JANET web-site¹. This briefing note gives an overview of the structure of the workshop, highlights some potential topics which may be discussed, and suggests some points which delegates might consider before the workshop and which may provide useful input to the discussions.

The workshop will begin with some short presentations from JANET(UK) to set the scene. Tim Marshall, JANET(UK)'s CEO, will introduce the workshop, and Jeremy Sharp, Head of Strategic Technologies, will explain the approach to the requirements gathering process and the planning and network design stages which will follow. David Salmon will describe the drivers JANET(UK) sees for the future network, particularly with regard to supporting research, and also some of the features which may be sought for implementation within it. Richard Hughes-Jones from DANTE will then highlight some of the international projects and activities which are likely to need significant network resources within both national networks and the European backbone network GEANT, including peering relationships with other global networks such as those in the USA over which collaborative research projects will operate.

Although these presentations will represent current thinking within JANET(UK), the workshop is intended to provide an opportunity for representatives of the research community to discuss these and to offer their views on future requirements. The remainder of the workshop will be a sequence of breakout discussion sessions on various topics, with reporting back to main workshop sessions for further discussion.

Some of the topics to be discussed may bear directly on infrastructure features or requirements which would need to be incorporated into the network design work to be undertaken next year. Technical developments in optical networking technology have been rapid during the lifetime of SuperJANET5, and JANET(UK) is assessing those features in current commercial products which are likely to provide the greatest flexibility in supporting and delivering future JANET services. A clear example has been the increase in network capacity delivered per wavelength in the optical transmission systems, and this trend will continue to 100Gbit/s and beyond, but another important area is flexibility and ease of management of the optical infrastructures which enables this capacity to be delivered to where it is needed.

Other topics may be less strongly coupled to the deep network infrastructure, but are equally valid and may highlight other important features or services which would be desirable for future support of research on JANET.

¹ <http://www.ja.net/services/events/2010/ResearchRequirements/details.html>

Potential discussion topics

The topics listed below have already been noted by JANET staff through discussions with people within the research community, and are potential themes for discussion at the workshop.

Delegates are invited to suggest additional topics for discussion, both prior to the workshop, and at the beginning of the workshop itself, and these will be prioritized and allocated to sessions according to the level of interest.

- Fundamental network infrastructure requirements and capabilities, particularly features in the optical transmission systems.
- Higher layer network issues – Circuit services, network virtualisation, IP network services (e.g. IPv4/6)
- Making more of the JANET fibre infrastructure – parallel support of the photonics community, greater service flexibility at the optical network level.
- Support for “Big Science” disciplines – for example Particle Physics, Astronomy, High Performance Computing, Natural Environment, Bioinformatics.
- Network Research – requirements for testbeds or overlays, future internet research, access to network traffic information and data.
- Wireless communications capabilities – both access services and research platforms/testbeds.
- Support for future higher-definition media and real-time services. Very high resolution as a research topic/s, and more pervasive “standard” high-definition as a general feature supporting research.
- Energy efficiency – both as an infrastructure requirement and support as a research topic.
- Security and privacy, including identity and access issues.

Although there will be some flexibility in timings, JANET(UK) wishes to enable a broad range of topics to be covered at the workshop so if it becomes apparent that some areas need to be explored afterwards in greater depth, these will be followed up through more focused discussions, and if appropriate, with additional meetings.

Other factors and requirements

Delegates are also asked to consider areas within their research disciplines which are likely to lead to growth in the amounts of data exchanged over networks. For example, any large new projects which are likely to be important, changes in patterns of work, or the introduction of new techniques or capabilities which may impact network provision. Key national and international facilities should also be identified, particularly if these are likely to develop and increase in significance over the coming years.

JANET Research Requirements Workshop - Agenda

The workshop agenda is detailed below, and flexibility has been retained to allocate particular discussion topics to specific breakout sessions at the workshop according to levels of interest.

All of the meeting rooms which we will be using are in the Coach House at Chicheley Hall.

The main space will be Wolfson lecture hall 1 where the workshop will begin, and both this and Wolfson lecture hall 2 will be used for breakout sessions, with the Atrium area for registration and refreshments.

Two parallel breakout discussions are planned for each session, although there is scope to extend into the Wolfson meeting room if extra breakout space is needed for additional topics.

Wednesday 23rd June

12:00	Buffet lunch & registration	
13:15	Introduction and Welcome	Tim Marshall, JANET(UK)
13:25	Planning and requirements gathering	Jeremy Sharp, JANET(UK)
13:45	Service drivers and options	David Salmon, JANET(UK)
14:10	International research projects	Richard Hughes-Jones, DANTE
14:30	Discussion and allocation of breakout sessions	
14:50	Refreshments	
15:15	Breakout sessions (1 and 2)	
16:00	Reporting back and discussion	
16:30	Breakout sessions (3 and 4)	
17:15	Reporting back and discussion	
17:45	Close	
19:00	Gather for group photograph in the main house.	
19:15	Drinks reception	
19:45	Dinner	

Thursday 24th June

09:00	Welcome, recap, allocation of the day's topics	
09:15	Breakout sessions (5 and 6)	
10:00	Reporting back and discussion	
10:30	Refreshments	
10:50	Breakout sessions (7 and 8)	
11:45	Reporting back, final discussions and summing up	
12:30	Workshop close and buffet lunch	