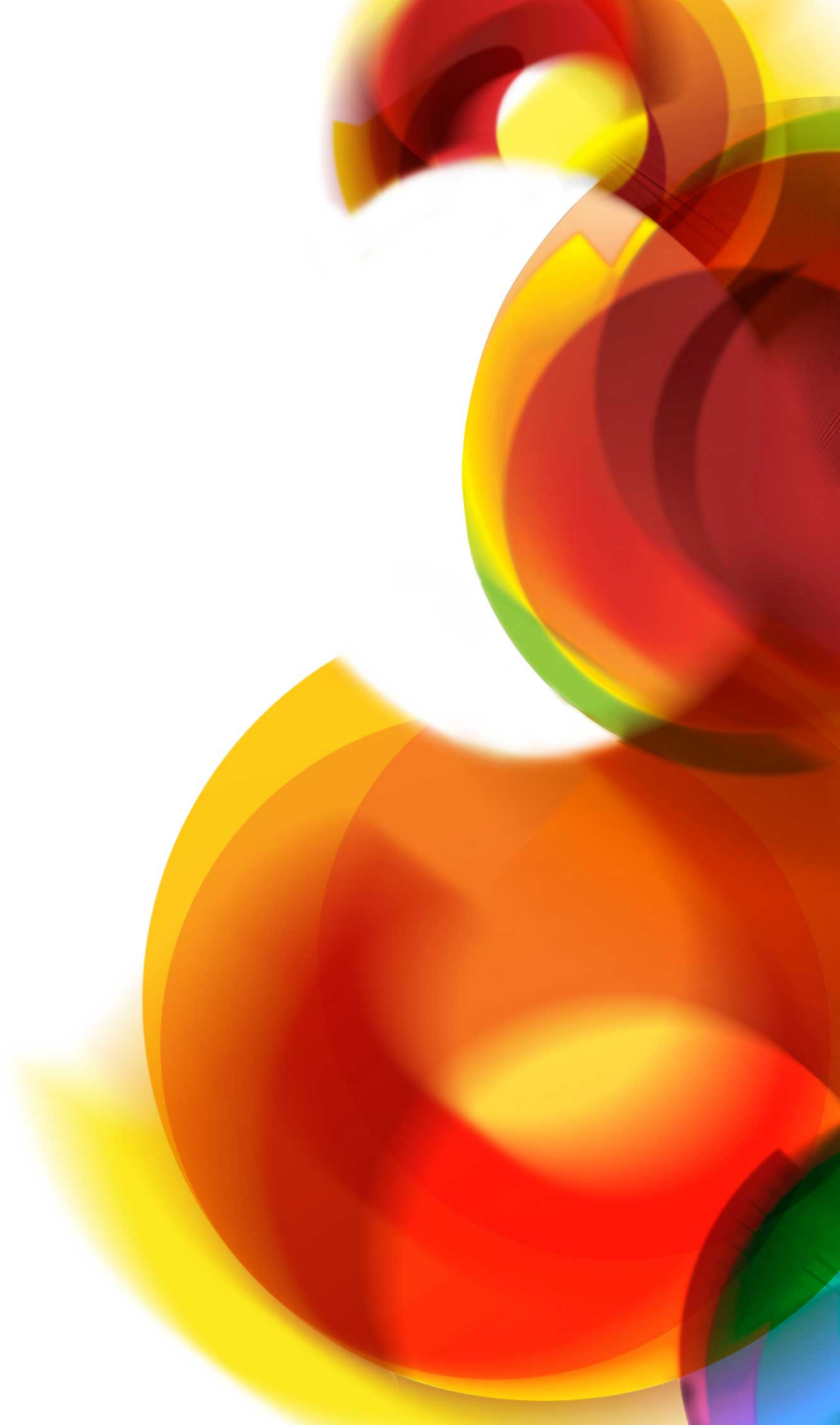


janet

# Building Janet6

March 2013

Jeremy Sharp  
Neil Shewry



## **1. Introduction**

Jeremy Sharp

Head of Strategic Technologies, Janet

## **2. Janet6 rollout status**

Neil Shewry

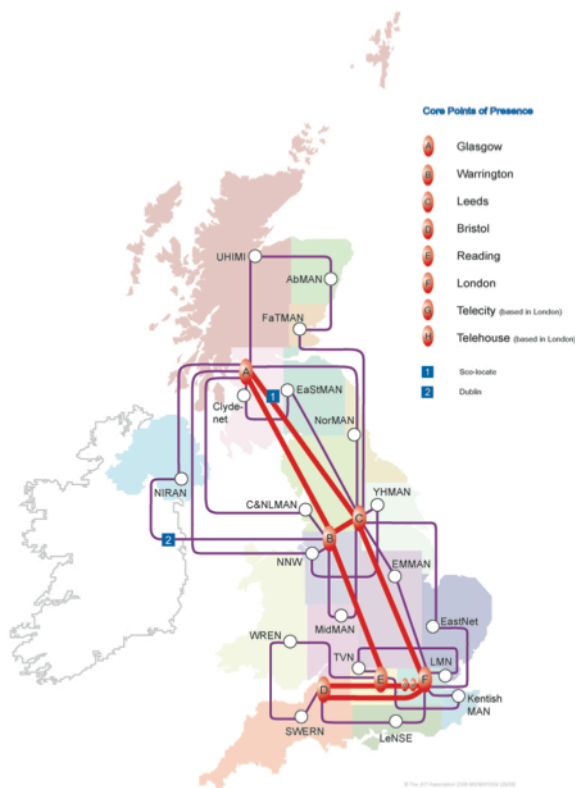
Project Manager, Janet

## **3. Questions and Answers**

Jeremy Sharp & Neil Shewry will be joined by Rob Evans,  
Janet Chief Technical Advisor



## Janet6: Project to replace the UK wide Janet backbone, SuperJanet5



|   |                         |
|---|-------------------------|
| Requirements gathering & analysis   | 2011                    |
| Procurement <ul style="list-style-type: none"><li>Fibre infrastructure</li><li>Optical transmission equipment</li></ul> | Oct 2011 to Sept 2012   |
| Rollout   | Sept 2012 to April 2013 |
| Transition SJ5 to J6  | May 2013 to July 2013   |
| SJ5 'turned-off'  | Oct 2013                |

SuperJanet5: 2006 to 2013

- Fibre infrastructure contract signed: 31 July 2012
- Scottish & Southern Energy Telecoms (SSET)
- 10 year contract
- £30M





Optical transmission contract signed: 6 September 2012

- Ciena Inc.
- Supply and 5 years support agreement
- £12.8M



**ciena**®

Agreement with Juniper channel partner to supply and install router and switch infrastructure.

- Imtech



## Installation and commissioning

|   |            |
|---|------------|
| <b>Fibre</b>                                    |            |
| Core Fibre Accepted                             | Feb 2013   |
| Fibre to regional network entry points accepted | March 2013 |
| <b>Optical transmission equipment</b>           |            |
| Installed and commissioned                      | April 2013 |
| <b>IP and Ethernet equipment</b>                |            |
| Installed and commissioned                      | April 2013 |

## Transition

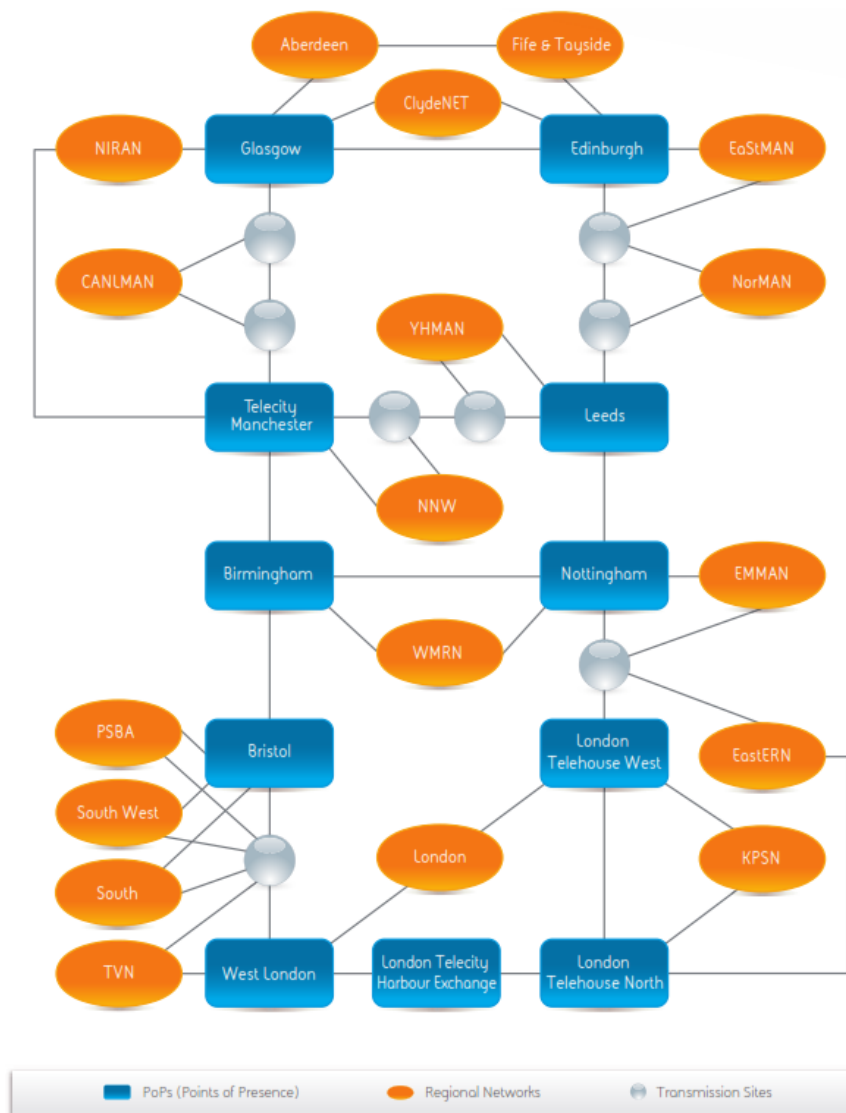
|  |                    |
|--|--------------------|
| Interconnection of SJ5 and Janet6                | Early May 2013     |
| 2 regions per week migration                     | May to August 2013 |
| Janet6 transition complete and fully operational | September 2013     |
| Strategic research facility connections go live  | September 2013     |
| SuperJanet5 stops                                | October 2013       |

## Janet6 Rollout Status

Neil Shewry

Janet6 Project Manager

# What we're building... look familiar?



- $\approx 6,000$ km of G.652 fibre
- 79 Points of Presence
- Core capacity  $n \times 100$ Gbit/s
- RNs connect at  $n \times 10$ G
- Most are getting an upgrade
  - Range from 10G to 60G

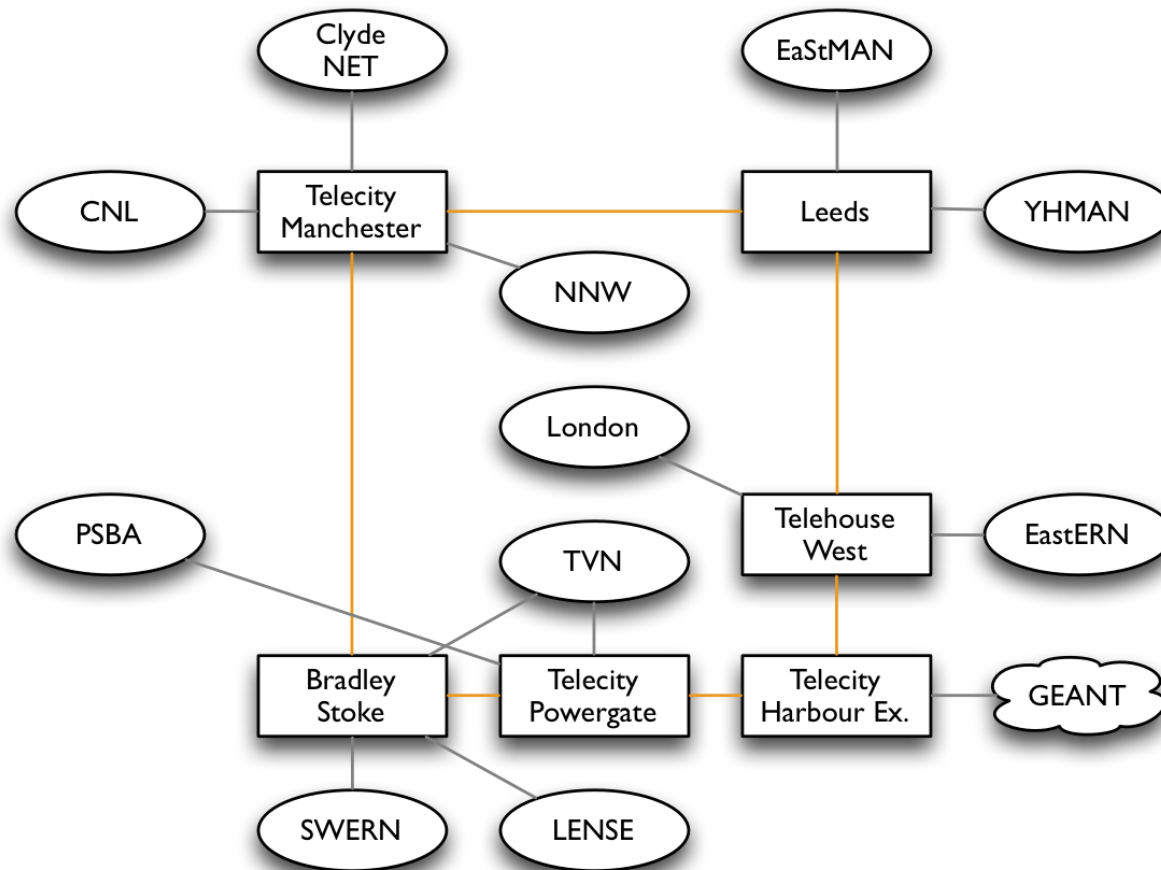
- 7 Janet Core PoPs
  - Tele-xxx, Leeds, Scolocate
- 4 SSET Core PoPs
  - Bristol, Birmingham, Nottingham, Glasgow
- 8 SSET Transmission PoPs
  - Peterborough, Southport, Newcastle...
- 21 SSET ILA sites
  - everywhere
- 39 RNEPs
  - University locations \*





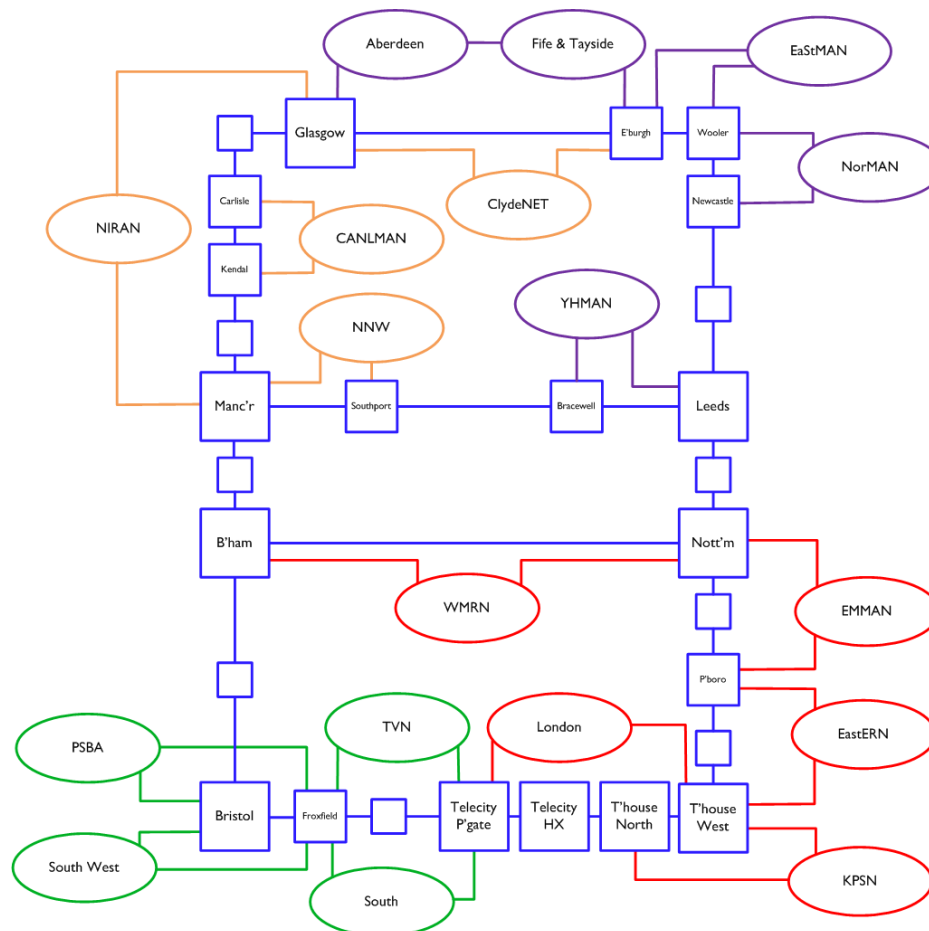
# What we're building - Lightpath

- Increase bandwidth between backbone nodes to 100GE
- Topology reflects what is currently required



# How we're getting on – fibre

- Acceptance of core infrastructure February 2013
- Acceptance of regional infrastructure March 2013



# How we're getting on – DWDM equipment janet

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- Ciena 6500 platform
- All kit is in the country
  - 65% on site
  - 35% in staging



# How we're getting on – DWDM equipment janet

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- Deployment began in January
  - Staging
  - Delivery
  - Installation
  - Commissioning
- Completion end April 2013





# How we're getting on – DWDM equipment janet

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- Training
- Embedded engineer



# How we're getting on – IP routing equipment

- Core: Juniper T1600 → Juniper T4000
- Lightpath: Juniper MX960



- Professional Services

- Regional Network Readiness
  - Space & power
  - RNEP router capability
- Transition Planning
- Operational Readiness
- Service Management
  - SSET
  - Ciena
- Decommissioning planning

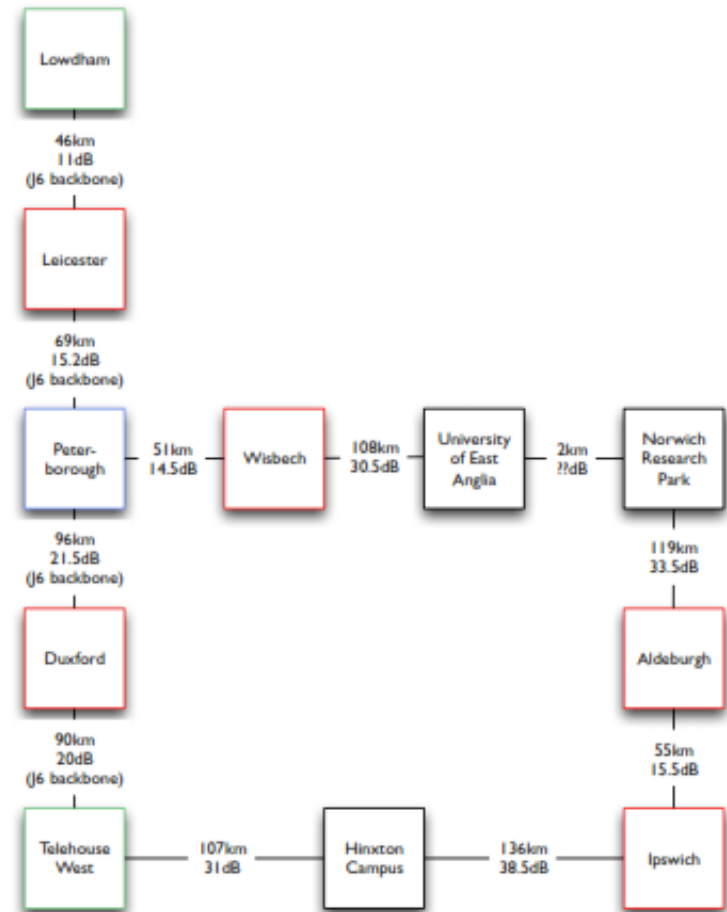




# Strategic Research Facilities

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- Government e-Infrastructure initiative
- Phase 1
  - Met Office, Exeter
  - Norwich Research Park
  - Hinxton Campus, Cambridge
  - Francis Crick Institute, St Pancras

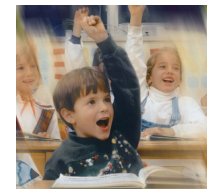


- Complete delivery of the network components
- Commission network
- Finalise transition plans
- Transition of RN from SuperJANET5 to Janet6
  - May to July 2013
- Decommissioning



## ***To deliver a highly reliable and secure network***

- Careful design choices
- Carrier class network equipment & infrastructure
- Strict SLA's
- Management by Janet NOC



# Meeting your requirements

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***To provide a network that is flexible in meeting future demand***

- Design enable capacity scaling at controllable cost



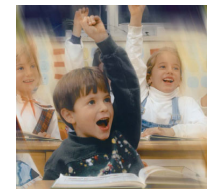
# Meeting your requirements

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***To provide a network that is more agile in dealing with change***

- Management by Janet NOC
- Close working relationship with industry partners



## Questions & Answers

- Jeremy Sharp
- Neil Shewry
- Rob Evans