



Hartree Centre

Science & Technology Facilities Council

The Hartree Centre

Past, Present & Future

Colin Morey - System Architect



The Hartree Centre Establishment

2011 Tildesley Report

- Economic impact through software & modelling
- Investment from BIS
- Creation of Hartree Centre in 2012 as industrial driver in HPC
- Focus on industrial engagement
- Partnership with IBM

2015 Major Investment in Collaborative Research

- Data Centric & Cognitive Computing
- Embedded IBM Research Centre
- Extended industrial & scientific reach



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Past, Present & Future

- Past - GPFS 3.4
- Present – GPFS 3.5
- Future – Spectrum Scale 4.2



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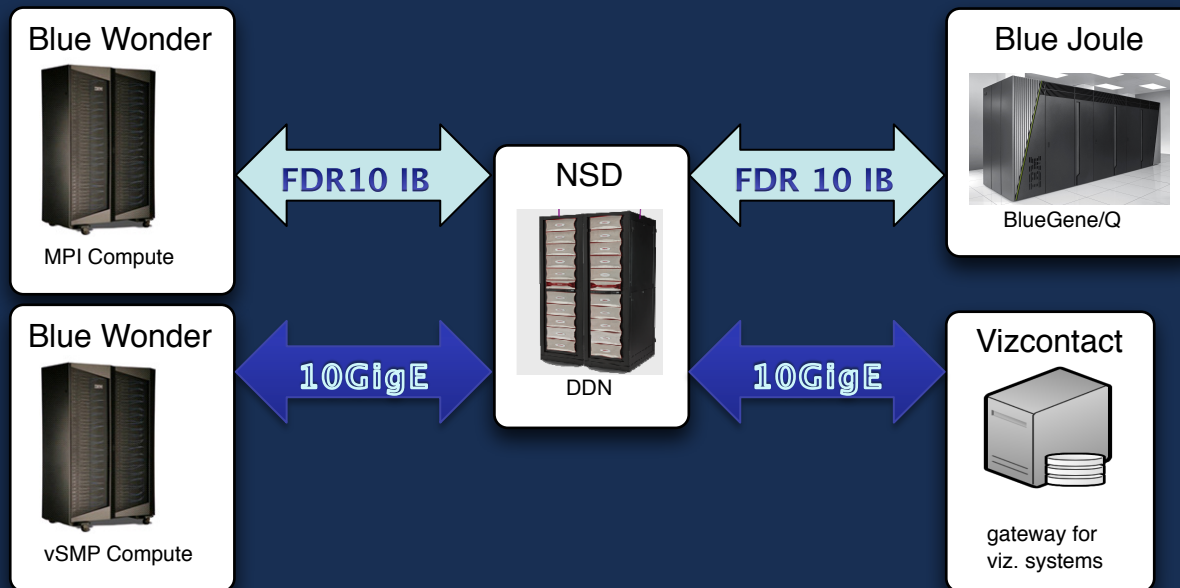
GPFS - Past

Initial Deployment in 2012



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GPFS - Past



Past – Performance issues

- RDMA - Verbs kept silently failing, and wouldn't autofix
- Sub-optimal network layout (initial build problem)
- “Slow” disks
 - Individual bandwidth ok, but slow to respond to requests



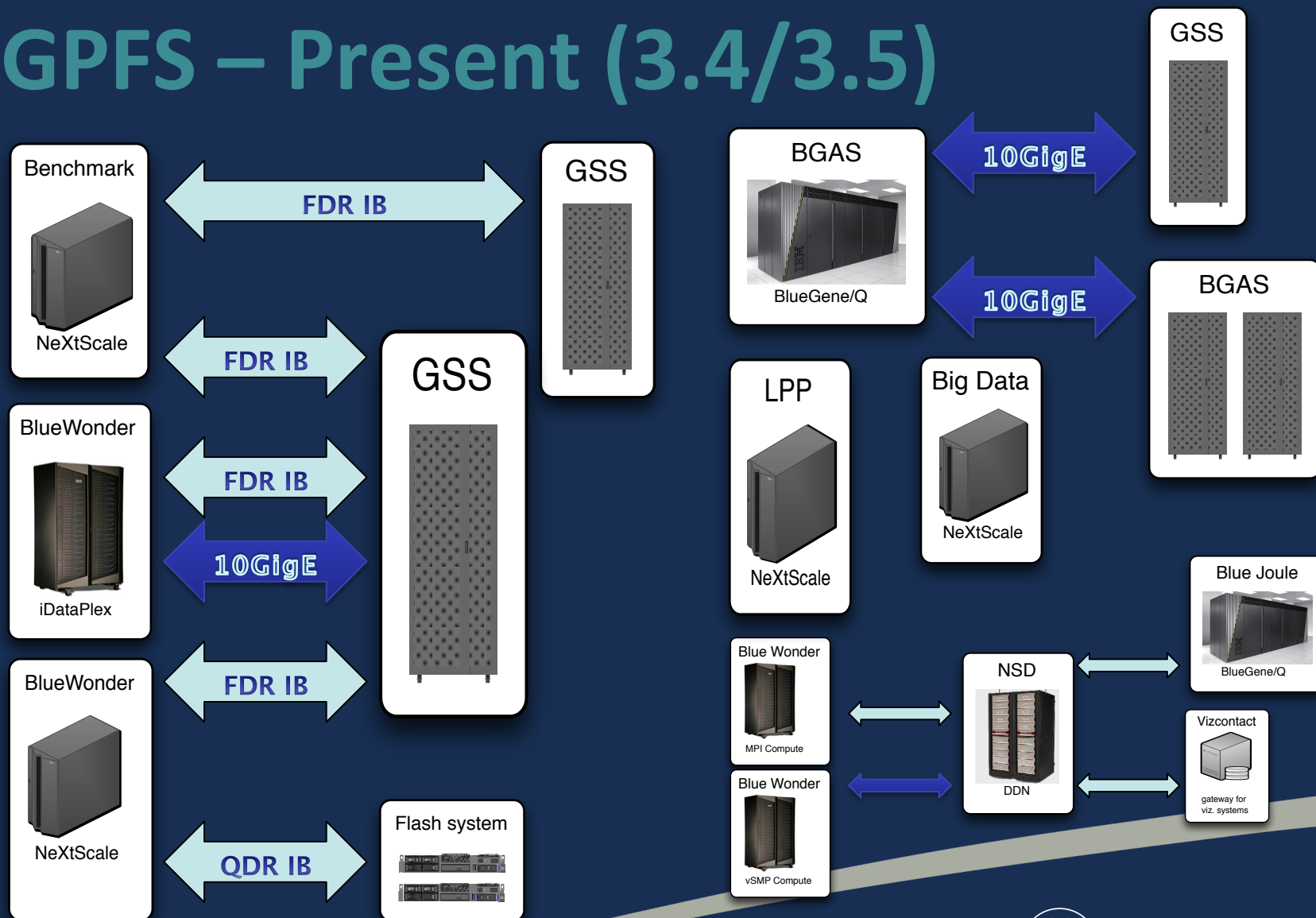
GPFS - Present

Expanded procurement in 2014



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GPFS – Present (3.4/3.5)



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Spectrum Scale - Future



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Spectrum Scale – Future

- Common Data Store
 - Protocol access support
 - CIFS
 - WebDAV
 - AFM
- GPFS AE – Encryption PoC
 - Vanilla, Mixed and Dedicated mode

