

International ATLAS overview



Norman McCubbin
ATLAS Computing Co-ordinator
(RAL)

ATLAS overview



- Introduction and background;
- Organisational structure (since late 99);
- Brief overview of activities;
- International considerations.

ATLAS overview



- Introduction and background:
 - ATLAS **Physics TDR** (2 vols.) submitted May 1999. Huge amount of effort over several years. Used `Fortran/Zebra/Geant3' software.
 - In parallel with TDR effort, major investment of effort over several years in `OO/C++' approach.
 - ATLAS internal Computing Review (H.Neal) reported in Feb 99. Raised some concerns.

ATLAS overview



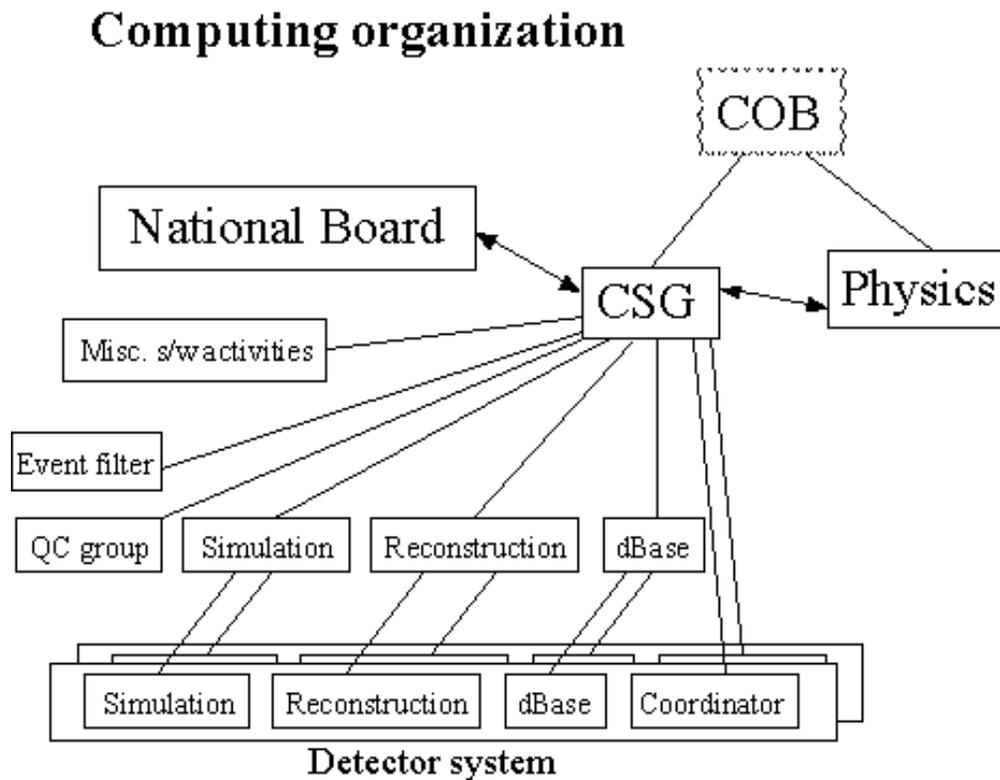
- Introduction and background (contd.)
 - Following recommendations of Neal review, ATLAS Management produced `Action Plan' with new organisation for Computing.
 - The `mission' is clear:
 - to merge algorithmic knowledge and experience from TDR approach with best practice of OO-based software engineering to produce OO-based version of ATLAS software.

ATLAS overview



- New organisational structure: (diagram)
 - `matrix' of sub-detector (e.g. Muon) and `general' (e.g. dBase) activities ;
 - emphasis on close liaison between `physics' and `computing' ;
 - National Computing Board to act as forum for regional and institutional interests.

ATLAS Computing Organization



ATLAS Computing People

	Offline Coordinator	Reconstruction	Simulation	Database
Chair	N. McCubbin	D. Rousseau	A. Dell'Acqua	D.Malon/ RD Schaffer
Inner Detector	D. Barberis	D. Rousseau	F. Luehring	J. Pater
Liquid Argon	J. Collot	J. Schwindling	M. Leltchouk	S. Simion
Tile calorimeter	A. Solodkov	F. Merritt	A. Solodkov	T. LeCompte
Muon	G. Poulard	J.F. Laporte	A. Rimoldi	S. Goldfarb
LVL2 trigger		S. Tapprogge		
Trigger/DAQ	S. George		T. Hansl-Kozanecki	H.P. Beck
Event Filter	V. Vercesi	F. Touchard		

ATLAS overview



- Overview of activities:
 - Reports produced (Nov 99) by Architecture Task Force (ATF) and Quality Control Group. (Architecture discussed further by Quarrie.)
 - Within sub-detector groups:
 - appraisal of existing reconstruction code (Fortran and C++) to assess design;
 - launch of 'ab initio' design (USDP-like) ;
 - major effort to start using **Geant 4** ;

ATLAS overview



- | Development of PLAN: what, who (resources), when (milestones), leading to WBS and resource-loaded schedule.
- Parallel activities in dBase, simulation, and reconstruction groups:
 - | broaden experience of use of Objy (base-line);
 - | develop general approach to Detector Description;
 - | interaction with Geant4 collaboration as we test G4 physics (against Geant3 and Test-beams);
 - | address common issues (e.g. Event model);

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- Training: combination of 'outside' courses run at CERN or Institutes, and ATLAS-run Geant4 course.
- Goals:
 - 2000: finalise PLAN; important year to 'get going' on many fronts (framework, G4, Objy, OO-design, C++ versions)
 - 2001-2: "consolidation, review, test, iterate".
 - 2003: MDC 1
 - 2003-4: TDR (?)

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- International considerations:
 - LHC is `new' in **scale** (pB, channels, people,..) and **expectation** (functionally equivalent access by anyone, from anywhere, at anytime.)
 - CERN will provide smaller fraction of computing resources (people and hardware) than previously.
 - Assessing implications of the above is part of work of CERN LHC computing review.
 - Outcome of review will inform Computing MoU.

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- International considerations (contd.)
 - software component of MoU is novel (Geant4) and ATLAS wanted to start the discussion and process in good time. Hence idea of **`software agreement'** as precursor to MoU.
 - Scope of software agreement and details of process are being considered. NCB has key role here. **`Demand-pull'** from USAtlas is helpful.

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- International considerations (contd.)
 - hardware component of MoU is (relatively) straightforward: like a detector.
 - ATLAS are very active in MONARC;
 - US Grid `phenomenon' is very influential in discussion, bids etc. Discussions have started (Hoffmann) on how to set about EU bid to link national grids.

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■ Summary:

- ATLAS computing has now entered an interesting and challenging phase of `transition'.
- A significant USAtlas contribution is very timely and very welcome. There are areas where US expertise is likely to be very important.