

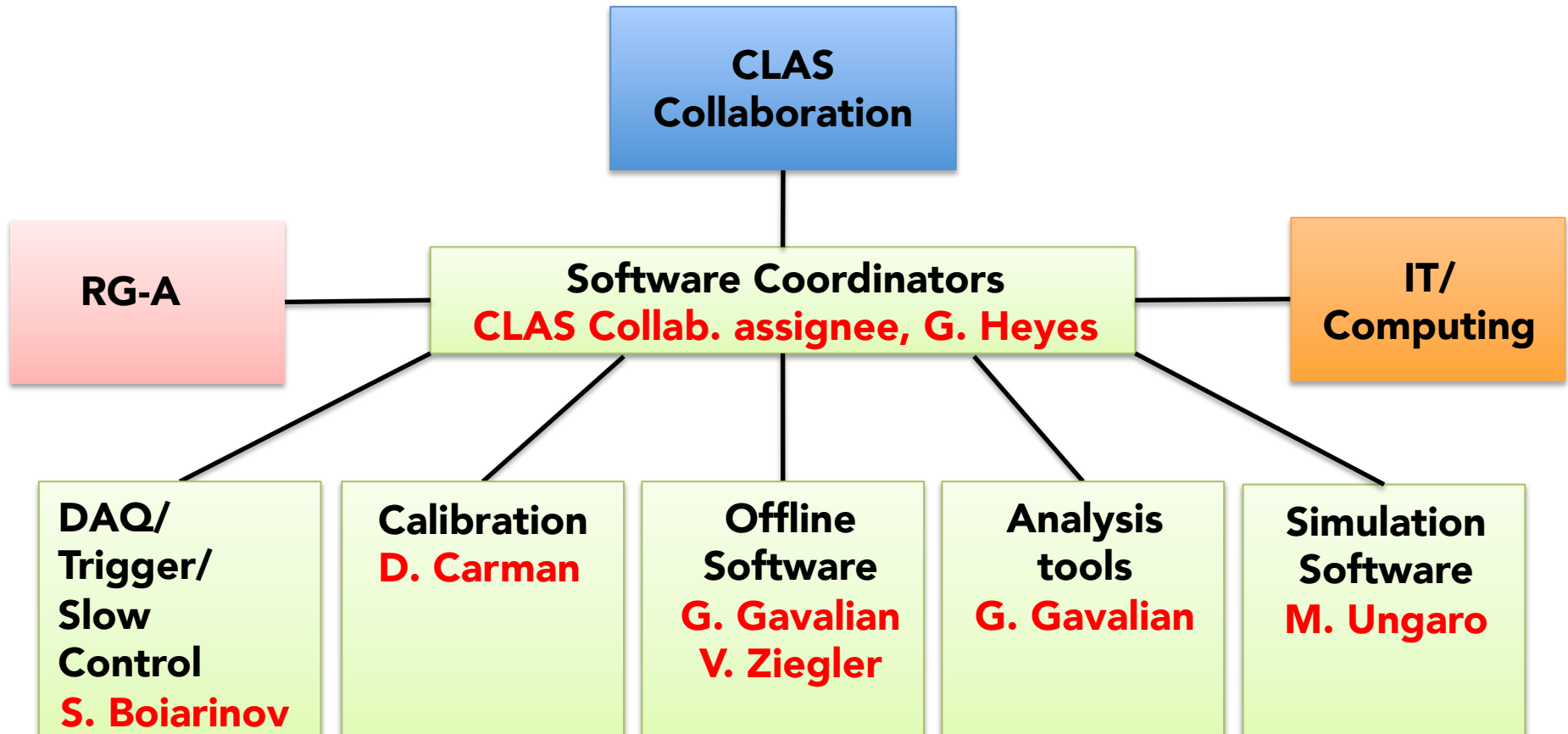
1. It is recommended that the Lead Software Developer delegate some tasks she is currently solely responsible for to experts within the collaboration at least until the tracking optimizations are completed.
2. It is recommended that Hall B urgently addresses the slow controls support, provides adequate backup for the one person responsible for DAQ, and looks at areas where the DAQ can more closely align with what the rest of the lab is using (or planning to use) as this will reduce the support burden.
3. It is recommended that the Analysis Coordinator + Chef/Librarian formalize how the Analysis chain will be formed and begin gathering the services.
4. It is recommended that the offsite resources that will be used for Monte Carlo be identified and data challenges be performed on each of them as soon as possible using the simulation software in whatever state it is currently in.
5. It is recommended that Hall B carefully evaluate the factors driving event size. In particular, does the raw pulse data need to be stored for every event? What tuning of thresholds etc. can be made? It is also recommended that Hall B invest the effort required to implement the ability to write compressed raw data from the online system.
6. It is recommended that Hall B carefully evaluate areas where spares should be carried and plan to fund spares at an adequate level for the online system.
7. It is recommended that the Hall B group engage the IT division in planning for expanded online compute capacity, especially if they wish to install in the computer center.
8. It is recommended that the CLAS12 collaboration establish a realistic project management plan with milestones, decision points, and staffing to present meaningful and significant results at DNPI9 while maintaining on-going operations.
9. It is recommended that the CLAS12 collaboration work with Physics Division Management to appoint a Software and Computing Architect who has the expertise to address these issues and the authority to make decisions.
10. It is recommended that the CLAS12 Chair distribute the report to the collaboration and schedule a discussion at the next collaboration meeting.

- Several areas of concern identified in CLAS12 software organization and current computing requirements
- Potential impact on our ability to analyze CLAS12 data and obtain relevant physics results in timely manner
- Work to reduce the demand for computing resources (data rate and processing time) at sustainable levels actively underway
- Action from the Collaboration required to support CLAS12 software:
  - Software management and coordination
  - Software development and maintenance

# Software organization



As proposed by the Physics Division:



- R. De Vita, CLAS Collaboration assignee, appointed by the CCC
- G. Heyes (Head of CODA group) appointed by the Physics Division
- G. Gavalian assigned at 100% on Hall B software

- **Software coordinators:**
  - Short term:
    - G. Heyes, appointed by the Physics Division
    - R. De Vita, CLAS Collaboration assignee, appointed by the CCC
  - Long term:
    - Hall B software architect (open position)
  - Overall software coordination, definition of work priorities and plan, liaison between the Collaboration and the Run Groups, IT, and the software leaders
- **Online computing:**
  - Group leader: S. Boiarinov
  - Development and maintenance of DAQ, trigger and slow controls systems
- **Calibration:**
  - Group leader: D. Carman
  - Development and maintenance of calibration procedures and calibration suites, calibrator training and supervision, calibration quality assessment
- **Offline software:**
  - Group leaders: G. Gavalian and V. Ziegler
  - Development and maintenance of the CLAS12 offline software, including framework, detector reconstruction packages and common tools
- **Analysis tools:**
  - Group leader: G. Gavalian
  - Development and maintenance of the CLAS12 analysis framework, including the CLAS12 DSTs (format and tools), analysis trains and analysis tools
- **Simulation software:**
  - Group leader: M. Ungaro
  - Development and maintenance of CLAS12 simulation package, support to use of offsite resources for simulations

- The CLAS Collaboration has been historically supporting the software development in different ways:
  - Volunteered contributions to detector reconstruction or common tools development
  - Analysis tools
  - Service work tasks
  - ...
- Few cases of CLAS Collaborators as leaders of software tasks
- A substantial increase of the Collaboration contribution is required:
  - Contribute directly to software organization, management and coordination
  - Contribute directly to high priority software tasks as defined by the software leaders
  - Improve utilization of service work by better task prioritization, assignment and supervision

- Making “software” more central to the organization of the CLAS Collaboration:
  - Should the Software Group be one of the Collaboration bodies as defined in our Charter?
  - Should the Collaboration nominate regularly a Software Coordinator or Liaison?
  - What should be the role of this person in relation to the Hall B software architect?