

# The Software and Computing Committee (SC2)

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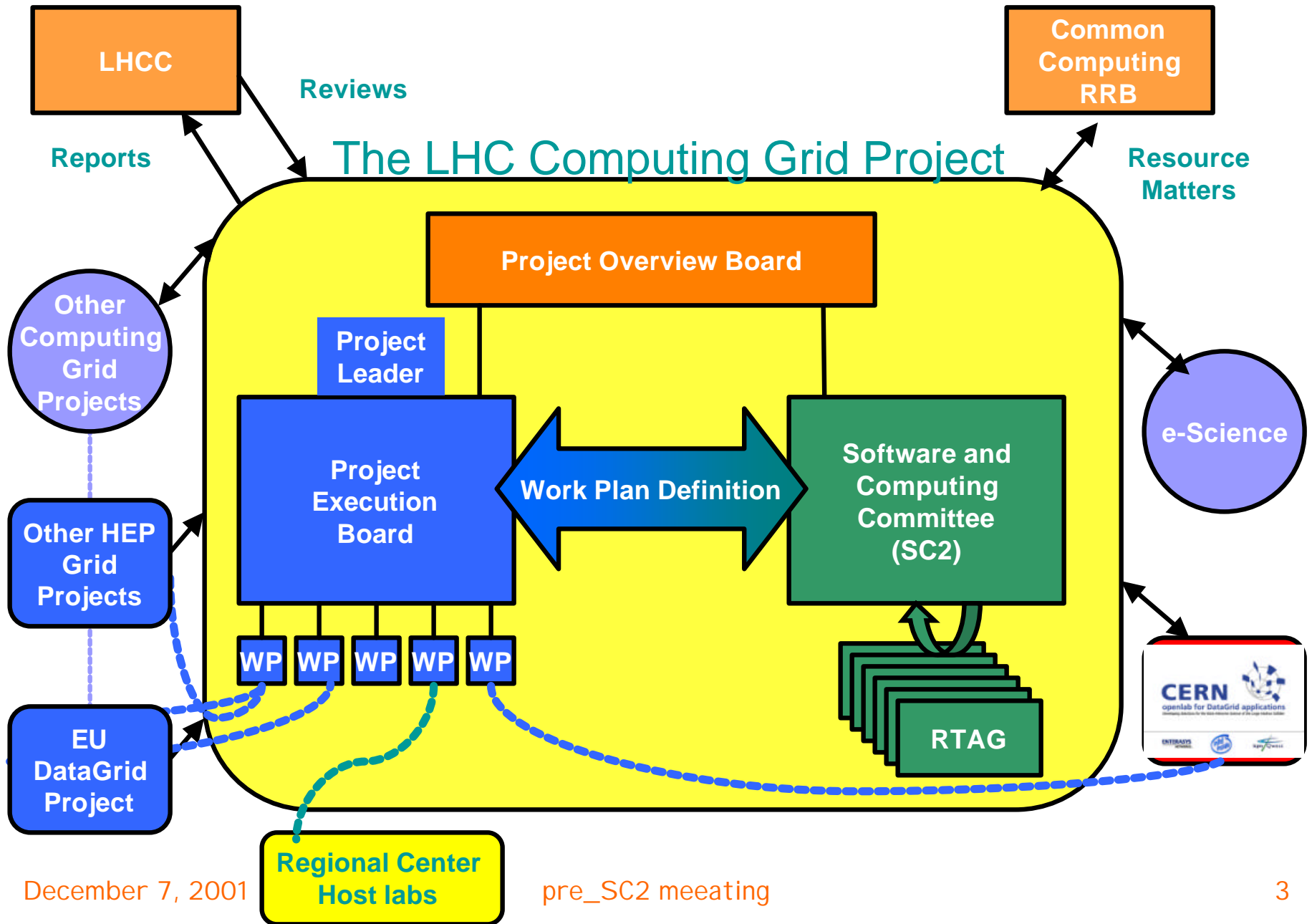
in the LHC Computing Grid Project

Pre-SC2 meeting  
December 7, 2001  
CERN

# Proposed Agenda

- Membership
- How to organize the work of SC2
- Role of SC2
- Initial work program and Goals
- AoB

# The LHC Computing Grid Project Structure



December 7, 2001

pre\_SC2 meeating

# The LHC Computing Grid Project Structure

## Project Overview Board

**Chair: CERN Director for Scientific Computing**  
**Secretary: CERN Information Technology Division Leader**

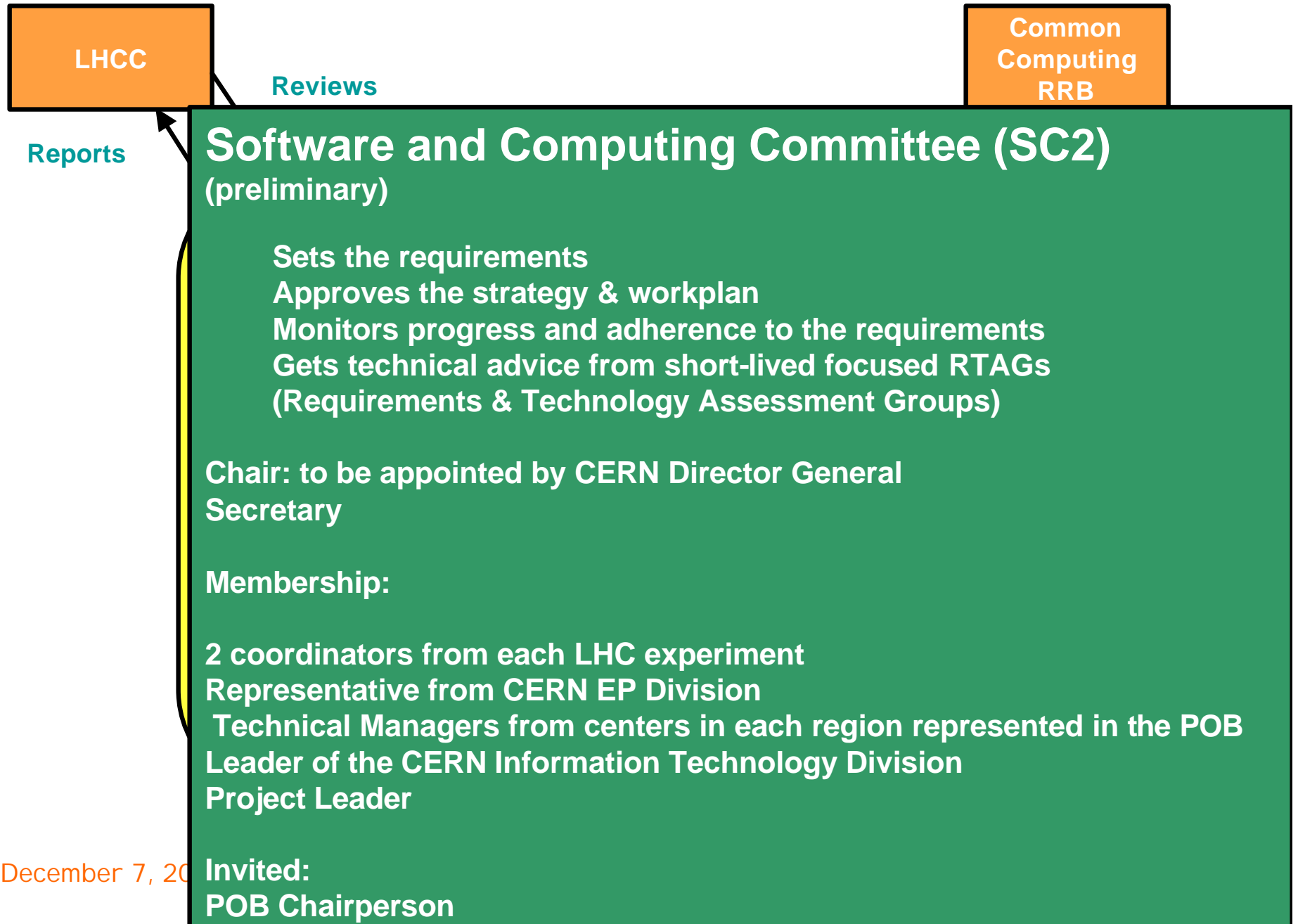
**Membership:**  
**Spokespersons of LHC experiments**  
**CERN Director for Colliders**

**Representatives of countries/regions with Tier-1 center :**  
**France, Germany, Italy, Japan, United Kingdom, United States of America**

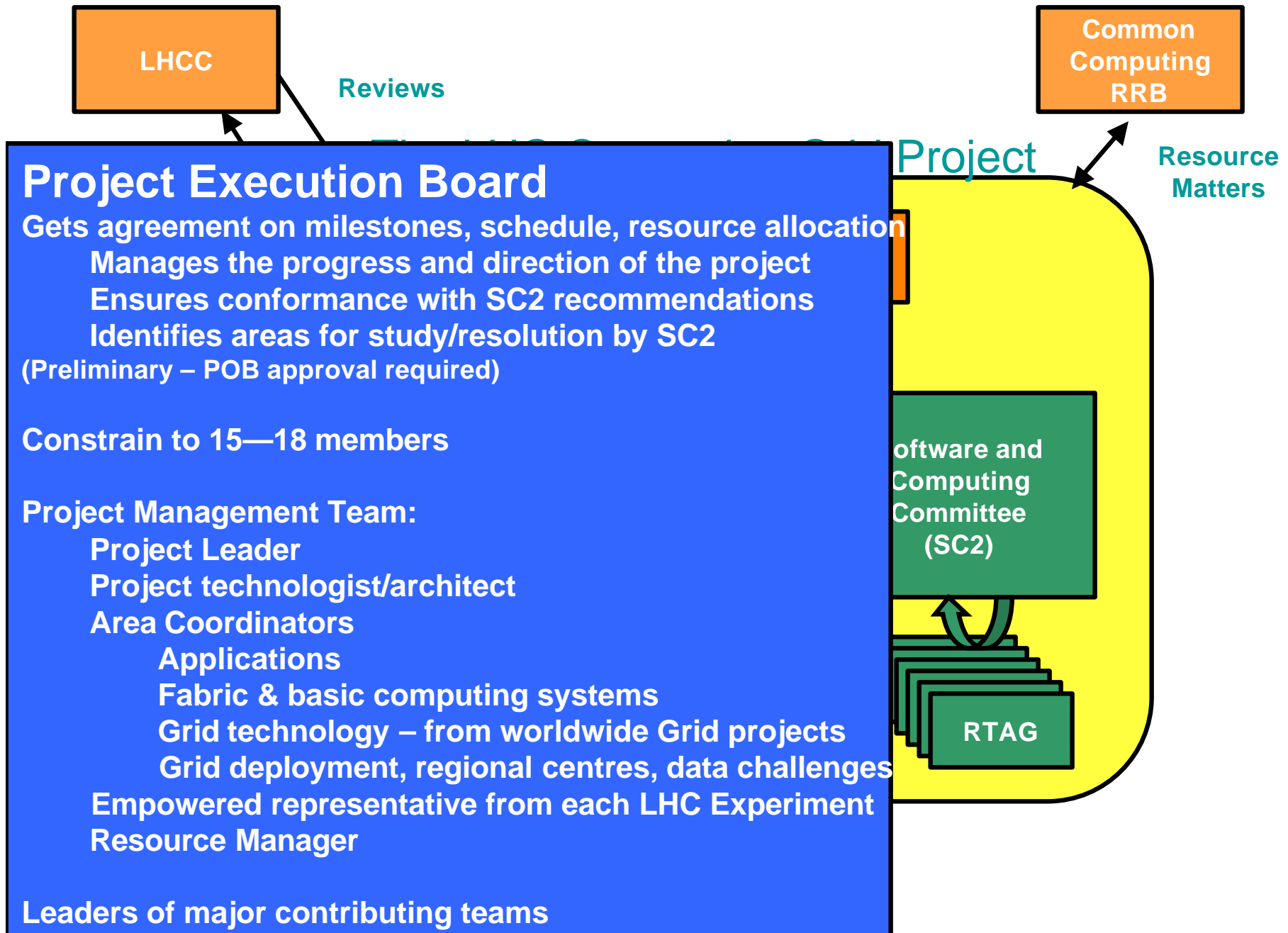
**4 Representatives of countries/regions with Tier-2 center**  
**from CERN Member States**

**In attendance:**  
**Project Leader**  
**SC2 Chairperson**

# The LHC Computing Grid Project Structure



# The LHC Computing Grid Project Structure



# The projects requires Collaboration

- The CERN activity is part of the wider programme of work that must be undertaken as a close collaboration between
  - ◆ CERN
  - ◆ Regional Centres
  - ◆ institutes participating in the experiments
  - ◆ Grid projects
  
- Scope: to develop, test and build the full LHC Computing Grid.
- Once the project has begun and both CERN and the Regional Centres have completed more detailed plans, it may be appropriate to change the balance of the investment and activities made at CERN and in other centres.
- This balance should be reviewed at regular intervals during the life of the project.

# SC2: Members

- Chair: to be appointed by D.G.
- Secretary
- Representatives from regional centers
- CERN EP Representative  
Ioana Videau
- CERN IT Leader
- Project Leader
- Proposed:
  - ◆ Grid projects representation  
Ian Foster
- Invited: POB Chairperson
- Nominated by experiments:
  - ◆ ALICE:
    - Federico Carminati
    - Wisla Carena
  - ◆ ATLAS:
    - Norman McCubbin
    - Gilbert Poulard
  - ◆ CMS:
    - Paolo Capiluppi
    - David Stickland
  - ◆ LHCb:
    - Nick Brook
    - John Harvey

# Organize SC2

- Agenda, Minutes and Documents are publicly available (WWW)
  - ◆ After approval
- Drafts are internal to SC2 (on WWW and mailing list)
  - ◆ Clearly marked as 'drafts'
  - ◆ To be shared inside collaborations and RC's where necessary
- Meetings are accessible by video-conference
- Presentations go to the Web (status reports, see later)

# Organize SC2

- Regular SC2 meetings in 2002
  - ◆ proposal: 1. Friday afternoon per month (with exceptions)  
Jan. 11., Feb. 8., March 8., April 5., May 3., June 7.,  
July 5., Aug. 2., Sept. 6., Oct. 4., Nov. 8., Dec. 6.
  
- One workshop per year
  - ◆ Time for reviews
  - ◆ Time for 'public input'
  - ◆ Time to hear status of projects relevant to the LHC  
Computing Grid Project, RC's, other
  
- LHC Computing Grid Project Launching Workshop
  - ◆ Proposal: February 4 pm – 8 am, 2002

# Experiments meetings in early 02

Proposal:  
Launch  
workshop  
Feb. 4/5 –8



Week	Monday	CMS Meetings			CMS & Non-CMS Meetings
1	31-Dec				NY
2	7-Jan				
3	14-Jan	SC			
4	21-Jan	Referees(21,22)	Tracker		LHCC(23,24)
5	28-Jan	TCM	ECAL		
6	4-Feb	SC	FB(5)		RB(7)
7	11-Feb				
8	18-Feb	MB			LHCb
9	25-Feb	TCM			OPAL, ATLAS, DELPHI, ALEPH
10	4-Mar	CMS WEEK			
11	11-Mar	Referees(11,12)			LHCC(13,14)
12	18-Mar	SC			SPC/FC/CC, ALICE
13	25-Mar	TCM			29 Good Fr
14	1-Apr	MU(3-5)			1 Easter
15	8-Apr	MB/FB			RB(11)
16	15-Apr	TCM	CPT/Tridas		
17	22-Apr	Tracker			RRB(22)
18	29-Apr	SC			1 Mayday
19	6-May	TCM			SPC, USLehm.Rev.(7-9), 9 Asc.
20	13-May	FB	Referees(14)	Electr. Week	LHCC(15,16)

# SC2: Roles

1. The SC2 sets the REQUIREMENTS for the project

The project team, in consultation with the SC2, takes the requirements and CREATES a Work Plan, identifying the high-level activities with associated goals and milestones.

2. The SC2 APPROVES the high-level Work Plan

3. The SC2 MONITORS the project:

1. It received regular status reports
2. It organizes 'peer reviews'

# 1) The SC2 sets the REQUIREMENTS for the project

- The Experiments (and where affected the Regional Center representatives) have to agree on any “requirements document” prepared and worked out in the SC2
  - ◆ With the help of Requirements Technical Assessment Groups (RTAG's)
  - ◆ By receiving proposals from other groups
- Needs formal approval procedure in SC2
  - ◆ each experiment 1 vote
  - ◆ Where affected: RC's have to agree

## 2) The SC2 APPROVES the high-level Work Plan

- Work-plan document needs formal approval procedure in SC2
  - ◆ each experiment 1 vote
  - ◆ Where affected: each RC 1 vote

### 3) The SC2 MONITORS the project:

- Receiving regularly status reports
  - ◆ I propose to have monthly presentations cycling through the areas by area coordinators
    - status/activities/progress
  - ◆ Report from PEB (brings expert if appropriate)
  - ◆ News from POB
  - ◆ I propose to receive a written status every 6-month
    - Contains milestones performance
    - Estimated time/cost to complete
    - Will be 'peer-reviewed' once per year
- SC2 organizes peer-review
  - ◆ Listen to yearly status report presentation
  - ◆ Review documents
  - ◆ Report to SC2, work out how to involve LHCC

# SC2: Next Steps

- Finalize membership:
  - ◆ Need to get regional centres representation
    - should have solid technical background relevant for regional center implementation, operation and Grid software deployment
    - Representatives of countries/regions with Tier-1 centers (France, Germany, Italy, Japan, UK, US)
    - 4 representatives of countries with Tier-2 centers from 'CERN member states'
  - ◆ Propose: get representation covering major Grid projects
- First pre-SC2 meeting scheduled for December 7
  - ◆ Start organizing the work, Rtag's
- Early next year: Launching Workshop for all those doing the work (later ~one "LHC Computing Grid" week/year?)

# Launching Workshop

- Goal:
  - ◆ To recap status of relevant projects
  - ◆ Establish collaborative spirit
  - ◆ Arrive at high level work-plan
- Plenary sessions:
  - ◆ Status of computing in experiments, LCGP, Overview of Grid projects, RC's and other related projects of interest to LCGP
- 4 half-day working meetings:
  - ◆ discuss set of requirements
  - ◆ Priorities
  - ◆ Prepare/work-on high-level work-plan
- First 'official' sessions of POB, approving PEB and SC2
  - ◆ Need to finalize membership before

# For the future

- LCGP Phase1 deliverable: TDR on RC's
- How to report to LHCC?
  - ◆ To discuss with LHCC chair
- MoU's between CERN, Funding Agencies
  - ◆ Dealt with by POB, not for the SC2
- FTE resources contributing to LCGP:
  - ◆ IT
  - ◆ (IT+EP)-managed LCGP contributions
  - ◆ Experiments
  - ◆ RC's
  - ◆ Grid Projects

All managed by the Project Leader

# More Items

- LCGP Resources may work with one experiment for a while as part of the project as agreed by PL and SC2
- Prioritize Rtag's asap

# Action items

- Draft description of LCGP Notes: Hans Hoffmann
- Prepare workshop working groups,
- chairs or working groups:
  - J.H: Applications
  - D.S. Compute systems
  - N. McC. Grid
  - F.C. Grid Deployment
- Invite plenary speakers: SC2 chair
- Inform Area coordinators on their contribution to working groups:  
Les
- Prepare Web area and mailing list: M.Delfino, M. Lamanna
  - [www.cern.ch/LHCGrid/{SC2,SC2\\_private}](http://www.cern.ch/LHCGrid/{SC2,SC2_private})
  - Mailing list: public can post: LCGP\_SC2@cern.ch

## ■ Area coordinators

- ◆ 1) Torre Wenaus
- ◆ 2) Wolfgang von Rueden
- ◆ 3) Fabrizio Gagliardi
- ◆ 4) N.N.

# LCGP: Areas of Work

1. Application: Support and Coordination
2. Computing Systems
3. Grid Technology
4. Grid Deployment, Data Challenges coordination

# 1) Applications: Support and Coordination

- Application Software Infrastructure – libraries, tools
- Object persistency, data management tools, data models
- Common Frameworks – Simulation, Analysis, ..
- Adaptation of Physics Applications to Grid environment
- Grid tools, Portals
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## 2) Computing Systems

- Physics Data Storage and Management
- Fabric Management
- LAN Management
- Wide-area Networking
- Security
- Internet Services
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# 3) Grid Technology

- Grid middleware
  - Scheduling
  - Data Management
  - Monitoring
  - Error Detection & Recovery
  - Standard application services layer
  - Inter-project coherence/compatibility
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- Area for strong collaboration with established Grid projects

## 4) Grid Deployment, data challenges coordination

- Collect data challenges requirements
- Perform prototyping tests
- Manage systems (relative size dynamically resized)
  - ◆ Test systems
  - ◆ Production systems
  - ◆ Development systems
- Support data challenges
- Support developers
- Perform tests with outside RC's