

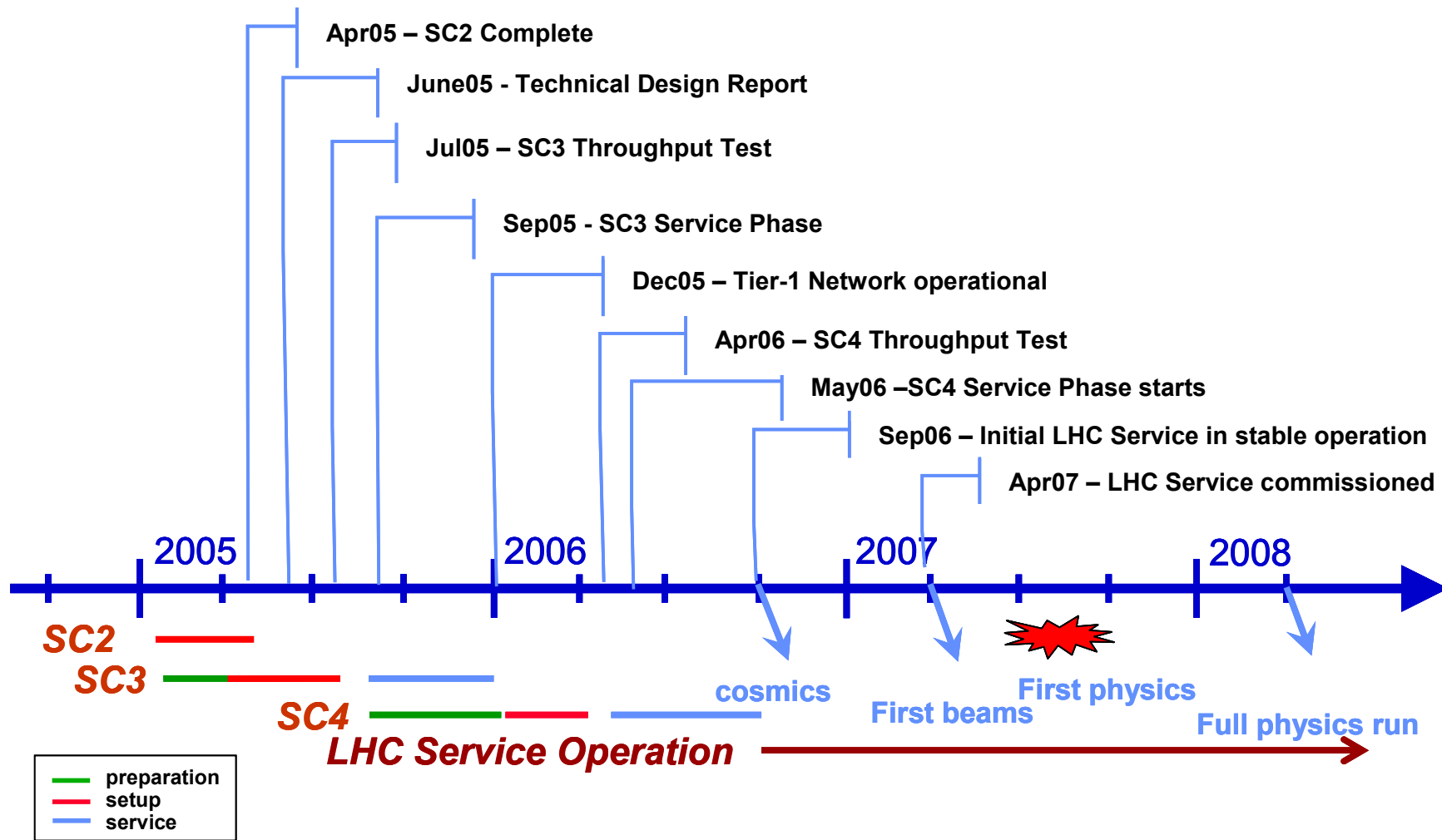
# **LCG Storage Management Workshop**

## **- Goals and Timeline of SC3**

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# LCG Deployment Schedule



# Key Principles

- Service challenges results in a series of services that exist in parallel with baseline production service
  - Rapidly and successively approach production needs of LHC
  - Initial focus: core (data management) services
  - Swiftly expand out to cover full spectrum of production and analysis chain
- Must be as realistic as possible, including end-end testing of key experiment use-cases over extended periods with recovery from glitches and longer-term outages
- Necessary resources and commitment pre-requisite to success!
  - Effort should not be under-estimated!

# Service Challenge 3 - Phases

## High level view:

- **Throughput phase**
  - 2 weeks sustained in July 2005
    - "Obvious target" - GDB of July 20<sup>th</sup>
  - Primary goals:
    - 150MB/s disk - disk to Tier1s;
    - 60MB/s disk (T0) - tape (T1s)
  - Secondary goals:
    - Include a few named T2 sites (T2 -> T1 transfers)
    - Encourage remaining T1s to start disk - disk transfers
- **Service phase**
  - September - end 2005
    - Start with ALICE & CMS, add ATLAS and LHCb October/November
    - All offline use cases except for analysis
    - More components: WMS, VOMS, catalogs, experiment-specific solutions
  - Implies production setup (CE, SE, ...)

# SC3 - Milestone Decomposition

- File transfer goals:
  - Build up disk - disk transfer speeds to 150MB/s
    - SC2 was 100MB/s - agreed by site
  - Include tape - transfer speeds of 60MB/s
- Tier1 goals:
  - Bring in additional Tier1 sites wrt SC2
    - PIC and Nordic most likely added later: SC4?
- Tier2 goals:
  - Start to bring Tier2 sites into challenge
    - Agree services T2s offer / require
    - On-going plan (more later) to address this via GridPP, INFN etc.
- Experiment goals:
  - Address main offline use cases *except* those related to analysis
    - i.e. real data flow out of T0-T1-T2; simulation in from T2-T1
- Service goals:
  - Include CPU (to generate files) and storage
  - Start to add additional components
    - Catalogs, VOs, experiment-specific solutions etc, 3D involvement, ...
    - Choice of software components, validation, fallback, ...

## SC3 - Experiment Goals

- Meetings on-going to discuss goals of SC3 and experiment involvement
- Focus on:
  - First demonstrate robust infrastructure;
  - Add 'simulated' experiment-specific usage patterns;
  - Add experiment-specific components;
  - Run experiments offline frameworks but don't preserve data;
    - Exercise primary Use Cases *except* analysis (SC4)
  - Service phase: data is preserved...
- **Has significant implications on resources beyond file transfer services**
  - Storage; CPU; Network... Both at CERN and participating sites (T1/T2)
  - May have different partners for experiment-specific tests (e.g. not all T1s)
- In effect, experiments' usage of SC during service phase = data challenge
- Must be exceedingly clear on goals / responsibilities during each phase!

## SC3 Preparation Workshop

- This (proposed) workshop will focus on very detailed technical planning for the whole SC3 exercise.
- **It is intended to be as interactive as possible, i.e. not presentations to an audience largely in a different (wireless) world.**
- There will be sessions devoted to specific experiment issues, Tier1 issues, Tier2 issues as well as the general service infrastructure.
- Planning for SC3 has already started and will continue prior to the workshop.
- This is an opportunity to get together to iron out concerns and issues that cannot easily be solved by e-mail, phone conferences and/or other meetings prior to the workshop.
- **Is there a better way to do it? Better time?**

## Conclusions

- To be ready to fully exploit LHC, significant resources need to be allocated to a series of Service Challenges by all concerned parties
- These challenges should be seen as an essential on-going and long-term commitment to achieving production LCG
- The countdown has started - we are already in (pre-)production mode
- Next stop: 2020