British Orienteering

Commentary, radio controls and systems for Major events

Practical interpretation of the guidelines

Me

"Orienteering is a challenging outdoor adventure sport enjoyed by people of all ages, abilities and backgrounds."

British Orienteering

- Orienteering since ~1983
- WOC 1999 – Commentary Technical Manager
- Day job – Run a technology company (Eseye) providing global GSM communications
- GPProjects – a separate company that designs & manufactures telemetry solutions for orienteering & outdoor events
- The GPProjects team has supported pretty much every major event in the UK since 2004
- In 2011, GPProjects directly supported over 30 major events, across the globe.

BOF Requirements

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- Level A - Event Quality Standards

- Commentary, radio controls and spectator control

Pre-entry

EOD for non-competition/recreation courses

Electronic punching

Commentary, radio controls and spectator control

Results published at the event and on a website by the next day offering post event analysis

Results published on the British Orienteering website within 7 days

Commentary Itself

- Public Address Systems
  - Standard outdoor PA requirements
  - 100V designed for voice & outdoors
  - Power 120W to 240W
  - Switched microphones

- Commentary - Box or Tent?
  - Logistical decision
  - Multi-day or short setup time

Commentators

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- Arguably the most important part

- Its always a team effort

- Some experience essential

- Need to schedule around runs / family commitments

- You can never start too early booking commentators
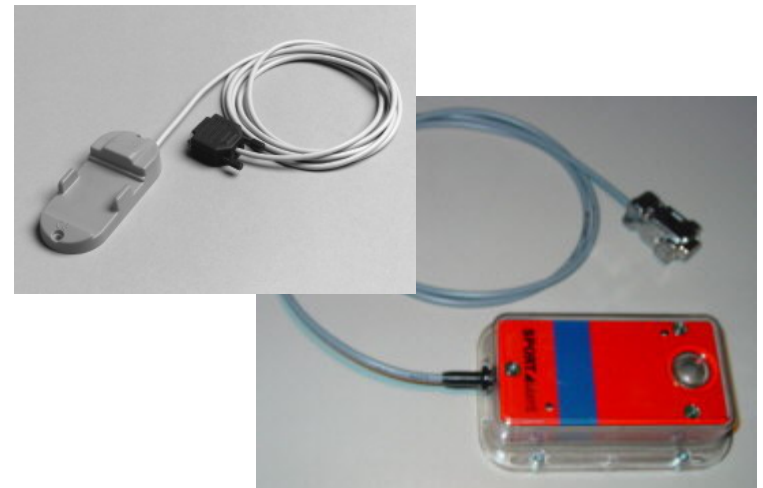
Commentary Software

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- Your results software needs to support commentary & radio controls

- Your commentators have to be happy with the software choice

- In the UK we regularly use 3 systems
  – Sport Software (OE, OS)
  – SportIdent (AutoDownload)
  – Michael Napier (MERCS)

Radio Control Technology

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- Radio Controls
    - SI and EMIT both have online controls
    - These devices send data out of a cable when the competitor punches
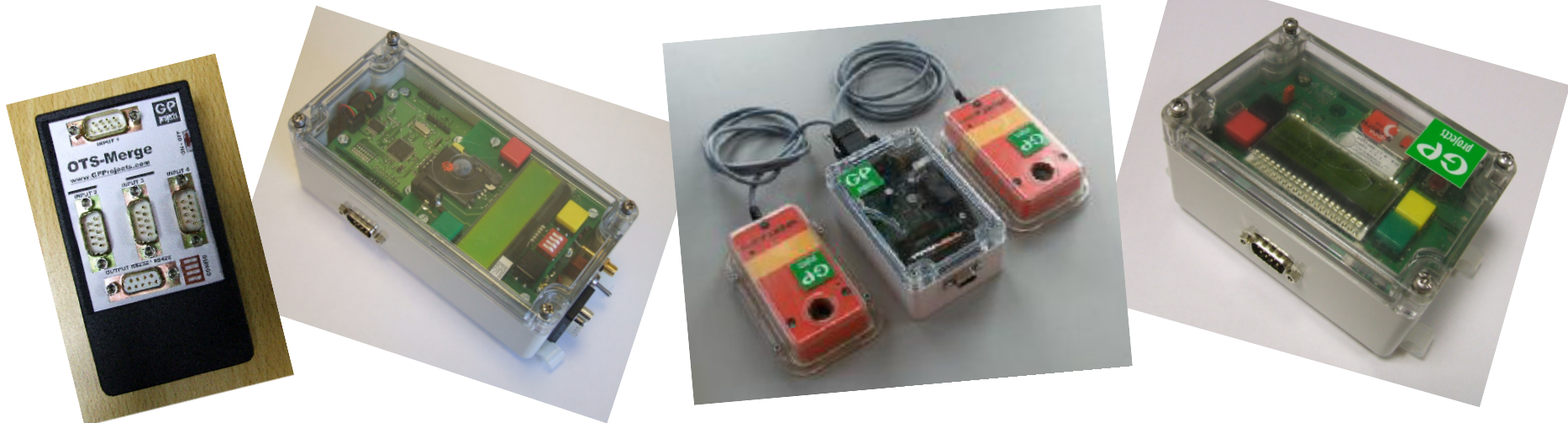   - They need to connect to a radio network to get punch data back to the commentators

Radio Network Technology

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	Name	Capacity	Latency	Cost	Range
Cable	Merge	250 / min	< 10 sec	Fixed	< 500m
Radio	OTS	30 / min	< 20 sec	Fixed	< 1Km
SMS	Osprey	20 / min	< 60 sec	Variable	GSM
GPRS	Eider	40 / min	< 30 sec	Fixed	GSM

Data Flow

"Orienteering is a challenging outdoor adventure sport enjoyed by people of all ages, abilities and backgrounds."

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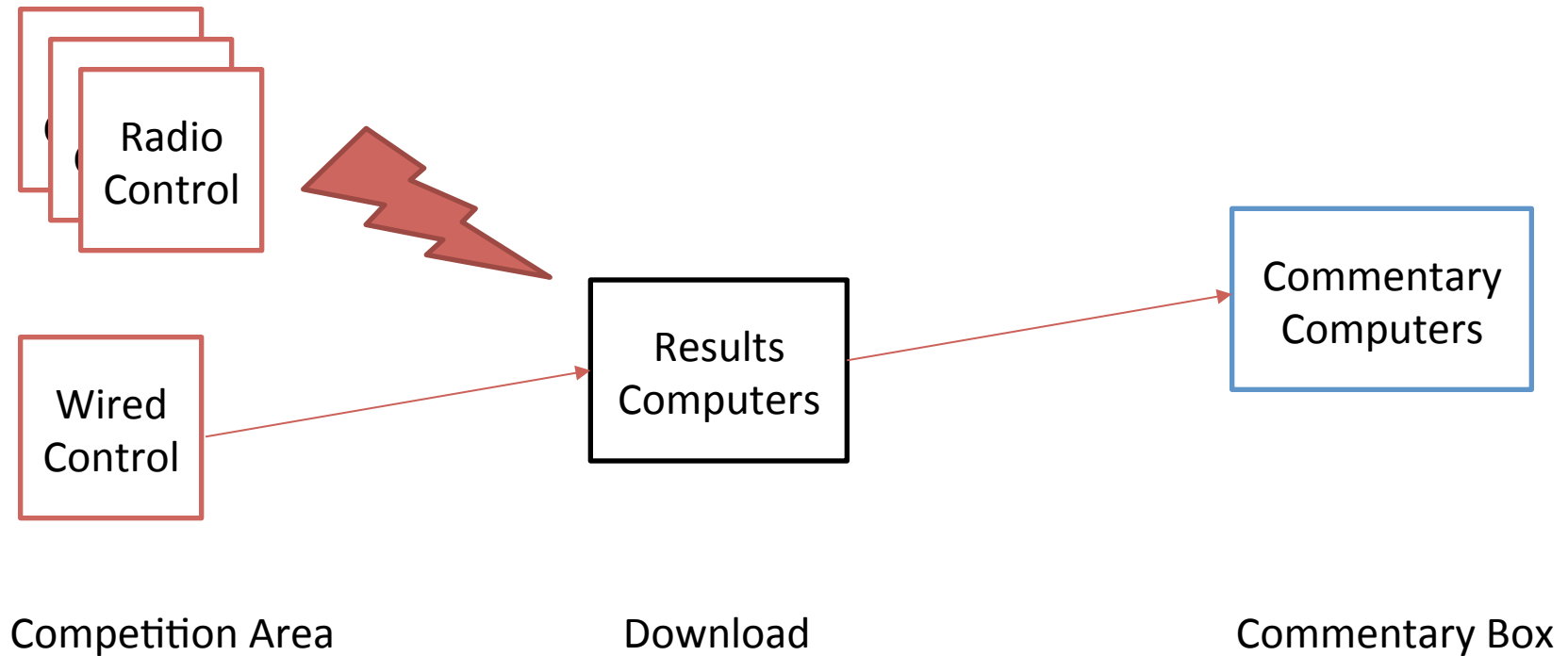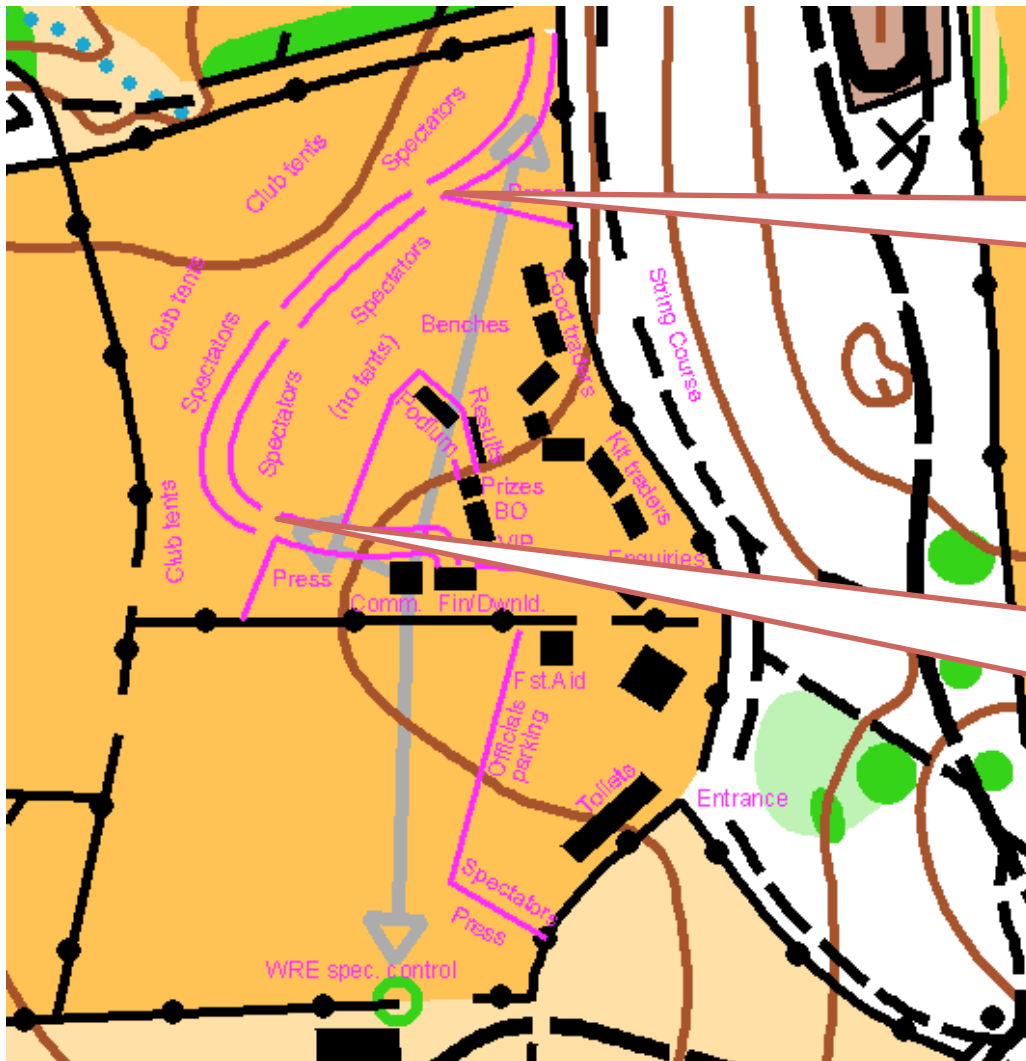Radio Control

Wired Control

Results Computers

Commentary Computers

Competition Area   Download   Commentary Box

Arena Impacts

- Cable from commentary to download (< 150m) – Not Wifi
- Cables from commentary to finish & last controls
- Mains power (circa 2kw) required
- Site commentary team with views of run in
- Ensure good vehicle access
- Prize giving

- In reality it is all about cabling.
- Any cable that crosses public areas needs protecting.
- Allow 5 min per metre of cable to protect

Arena Impacts

British Orienteering

Highly visible last control

Multiple last controls

Long run in

Arena Impacts

Long sweep, means extra 100m of cable required. 300m total

3 pedestrian crossings will require cable trenching, allow extra time

Planners' Considerations

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- Rules of thumb:
  - Less is often better - Less hardware, less cost, less time
  - Data should be on the screen before the spectators can see the athlete
  - Use common controls for interesting classes, where possible
  - Don't have uninteresting classes visit radio controls

- Aim for radio controls at:
  - Elite @ 33% and 66% of course (particularly classic distance)
  - Pre-Spectator (1-2 mins before expected)
  - Pre-Finish (For priority classes)
  - Last (Everybody)
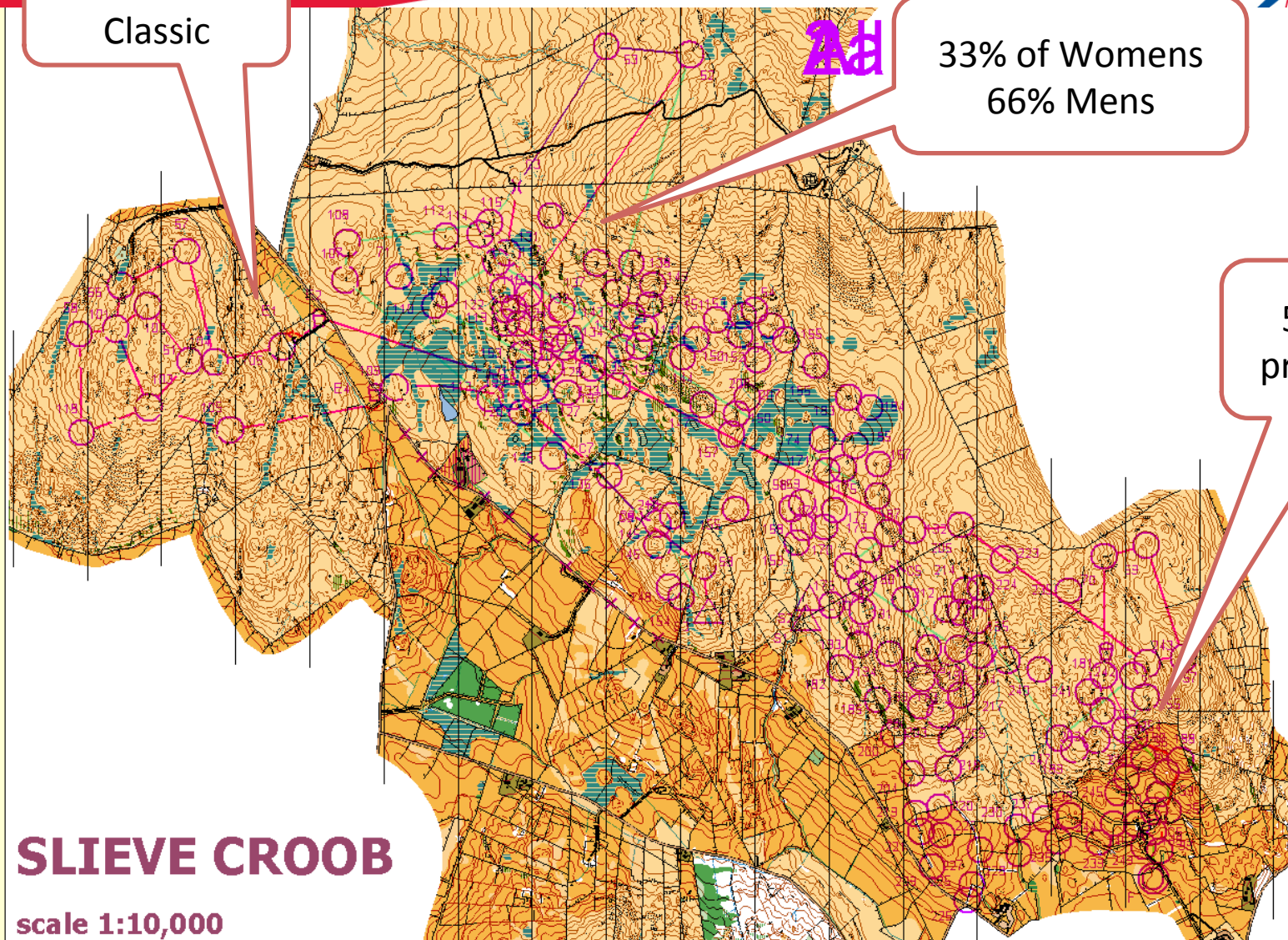 - Finish (Everybody)
  - Road Crossings (If timed)

Real Example - JK

33% of Mens Classic

33% of Womens 66% Mens

5 different pre-warnings

SLIEVE CROOB

scale 1:10,000

Real Example - JK

British Orienteering
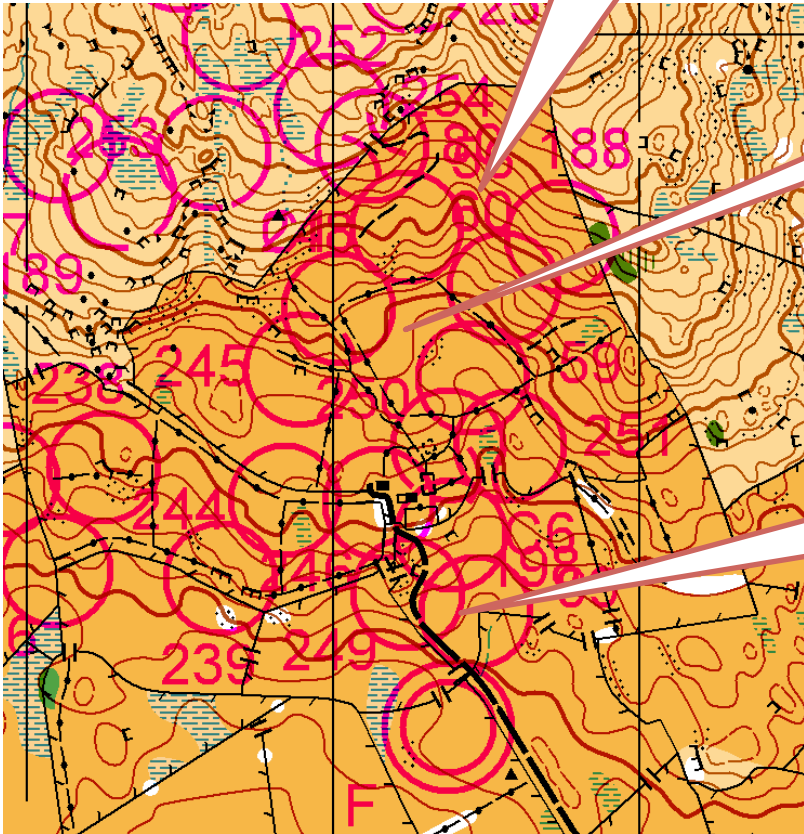
5 different pre-warnings

Highly visible area

Multiple Last Controls

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- This was always was going to be difficult
  - Multi day event
  - Large area
  - Long visible run in
  - Lots of courses / classes
- Two far radio controls may have been better than 3
- A radio control at the road crossing would have been ideal
- One pre-warning on fence crossing and one last control at the end of the run in would reduce equipment and set up time

Control Hanging

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- Controls go out as normal
  - Controller can check sites
  - Radio controls can be swapped in / out before courses close.
- Control hangers may have to put out radio controls
  - Need careful briefing
- Radio controls use large style SI units
- Radio controls are often programmed separately
  - Use radio time throughout

Controller Considerations

- Event must use Radio Time

- Confirm radio control codes

- Do you put the radio control symbol on the description sheet?

H - Other Information	
✚	First aid post
⬇	Refreshment point
⚡	Radio or TV control
🚶	Control check

Commentators' Information

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- Previous day results
- Biographical competitor data
- Start lists
- Full set of maps
- Filler information
  - Event, area
  - Landowners, organizers
  - History
- Announcements
  - Sponsor information
  - Event notices

Relay Considerations

- Dibber check at map issue
  - Catches team changes
- Radio controls can provide data for handover
  - As per harvester
- Vast amounts of data - Manic
  - less is more

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British Orienteering

Like a swan

- Setup is always tight
  - 2 hours to set it all up & put out controls

- Preparation
  - Don't leave it to the day

- Access
  - Tractors
  - Keys

Practical Demonstration

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Merge

OTS

Osprey

Eider

Commentary Computer

Data Collection Computer

Results Server

Internet

GPP Server

Live Results

- Make sure your results software will generate live results html

- In field wifi de-rigueur

- Security / partitioning
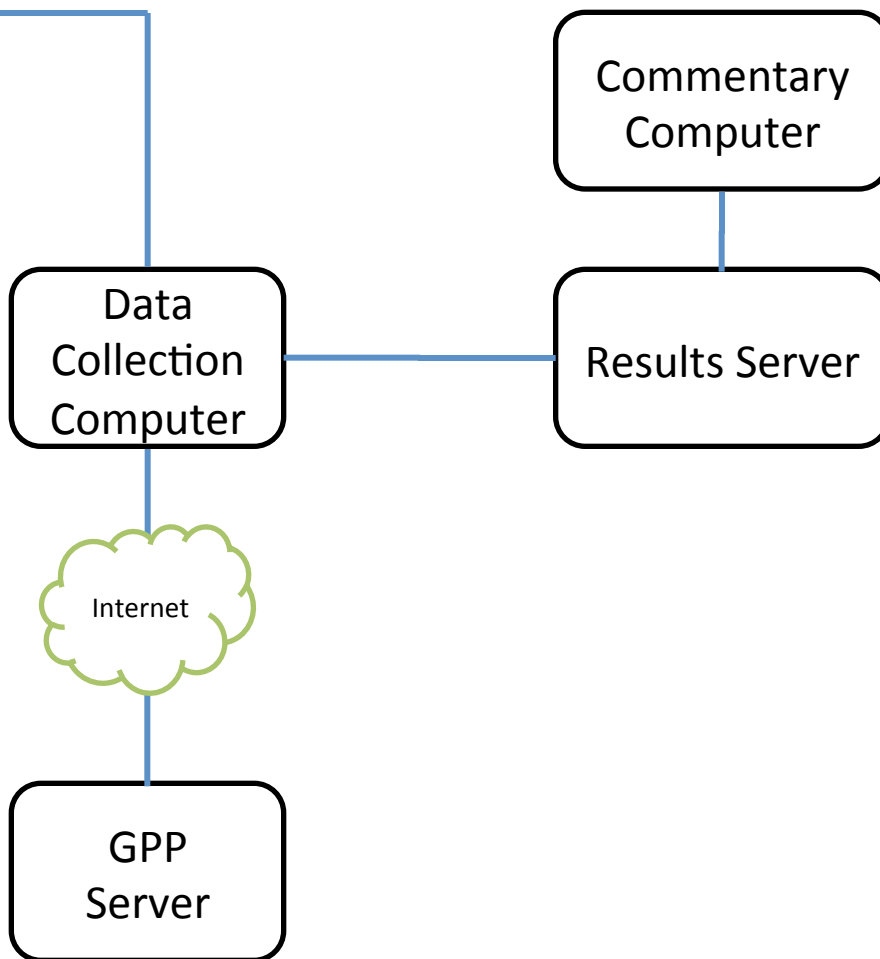 - Users must not effect download / commentary

- Could also provide radio control info

Light Beams etc

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- Accuracy

- Start – On a radio clock

- Finish – Punching
  - Technology allows for sprint mode (sub 1 second timing)
  - Software does not support this today.

Backup timing

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- Required for some events, but lots of effort
- Consensus has been to use video / web cam, with on-screen time synchronised.
- But… woe betide having to use it:
  - Post World Cup 2005 test proved impossible to recreate results accurately
- Best option is to have a last control not very far away, and then the run in could be voided

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British Orienteering

- Live Tracking
  - GSM coverage
  - Big Screen

- Internet Experience
  - Live commentary
  - Live tracking
  - Live results
  - Live video