LoadTest 07 - Concept

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- **Repeated "cycles" (1 cycle = e.g. N weeks) of continuous test transfers**
  - allows to constantly, repeatedly check (and eventually push) the N major use-cases
  - on day-1 of each cycle, the general testing scope of the overall cycle is agreed
    - at each cycle turn-on, testing activity at sites is well defined for N weeks
  - on day-1 of each week in a cycle, the specific testing focus of that week is identified
    - sites will know exactly which agents to turn on, when, and what others will do, and when
  - end of a cycle ? think&discuss, assess the status, define next more ambitious cycle

- **Cycles/weeks content definition:**
  - mostly looking at the associated sites, not the mesh...
    - may change in some later "cycle"..
  - it gives us baseline and targets
    - and means we can work out where problems are, in the infrastructure instead of the sites (e.g. is FTS fine? Is site X fine? Is the transatlantic link fine?)

- **Aim is to help sites to define how you progress on, e.g.:**
  - prepare your "evolution scneario in 2007", make it public
  - plug your needs in test infrastructure and profit of it
    - all test rounds are repeated (if you fail, you soon get another chance to try)
    - some test rounds are contingent on some previous ones

Traffic load generator: the format (1/2)

➢ **Cycle-N** made of:

❑ **Week-1**: T1→T2 (aka ~daily rate in regional clouds)
   ❖ T1→"assoc" T2 in a regional scope. Aim is on sustainability of T1 aggregate export and T2 import
   ❖ CMS T1 representative should co-coordinate, using different centres each day. T2s must run download agents for 12h and download as much data as possible, to determine ~daily rate to T2s.
      • Proposed metrics: **TARGET** 20 MB/s/T2 sustained for at least 12h; **FAIL** <10 MB/s

❑ **Week-2**: T2→T1 (aka MC output upload) + T1→T1 (aka replication)
   ❖ T2→T1 on a regional scope, plus T1→T1. Aim is to test T2 export and T1 aggregate import
   ❖ Agents at T1 harvest data from all associated T2s (association starts as 'local' and grows to ~all) + move data among T1s. It's a fairly small load week, and it's *not contingent* from week-1.
      • Proposed metrics for T2→T1: **TARGET** >10 MB/s/T2; **FAIL** <5 MB/s/T2. Proposed metrics for T1→T1: tbd

❑ **Week-3**: T1→T2 tails   we are here ...
   ❖ As in week-1, but aim is now to examine the effects of tails on transfers
   ❖ Sites are subscribed to (e.g.) 1.25 * daily affordable rates seen in week-1. Agents run for e.g. 72h or until the transfer is complete. Important to calculate how much data we need at T1s. Week-3 is *contingent* on week-1.
      • Proposed metrics: **TARGET** get *all* files at 20 MB/s/T2; **FAIL** incomplete transfer, or complete but <10 MB/s/T2
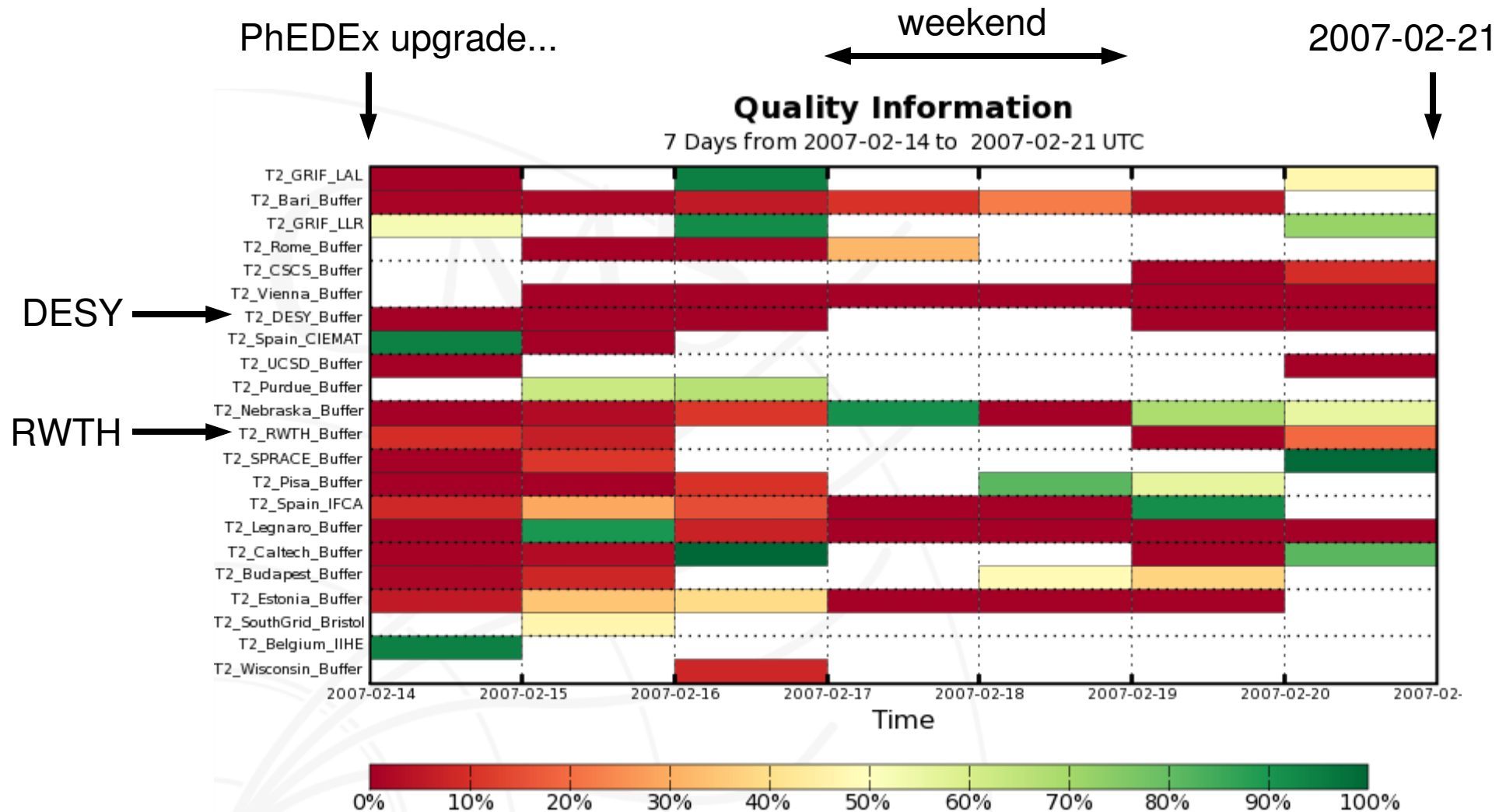
❑ **Week-4**: T1→T2 bursts
   ❖ Aim is not sustainability (as it was instead in week-1), but on running burst transfers
   ❖ Sites run bursts for 2 hrs getting as much data as possible. Delete data between bursts at the T2. Use the days to tune the FTS channels and PhEDEx params.
      • Proposed metrics: **TARGET** >40 MB/s/T2 for 2 hrs; **FAIL** <20 MB/s/T2 for 2 hrs

❑ **Week-5**: bidirectional T1↔T2
   ❖ Aim is to put pieces together and evaluate interferences
   ❖ Enough data is created at T1 for 1 week's worth of transfer. Every 6h a new site is added, so by the end of the week all sites are transferring. It's *contingent* on passing all previous tests
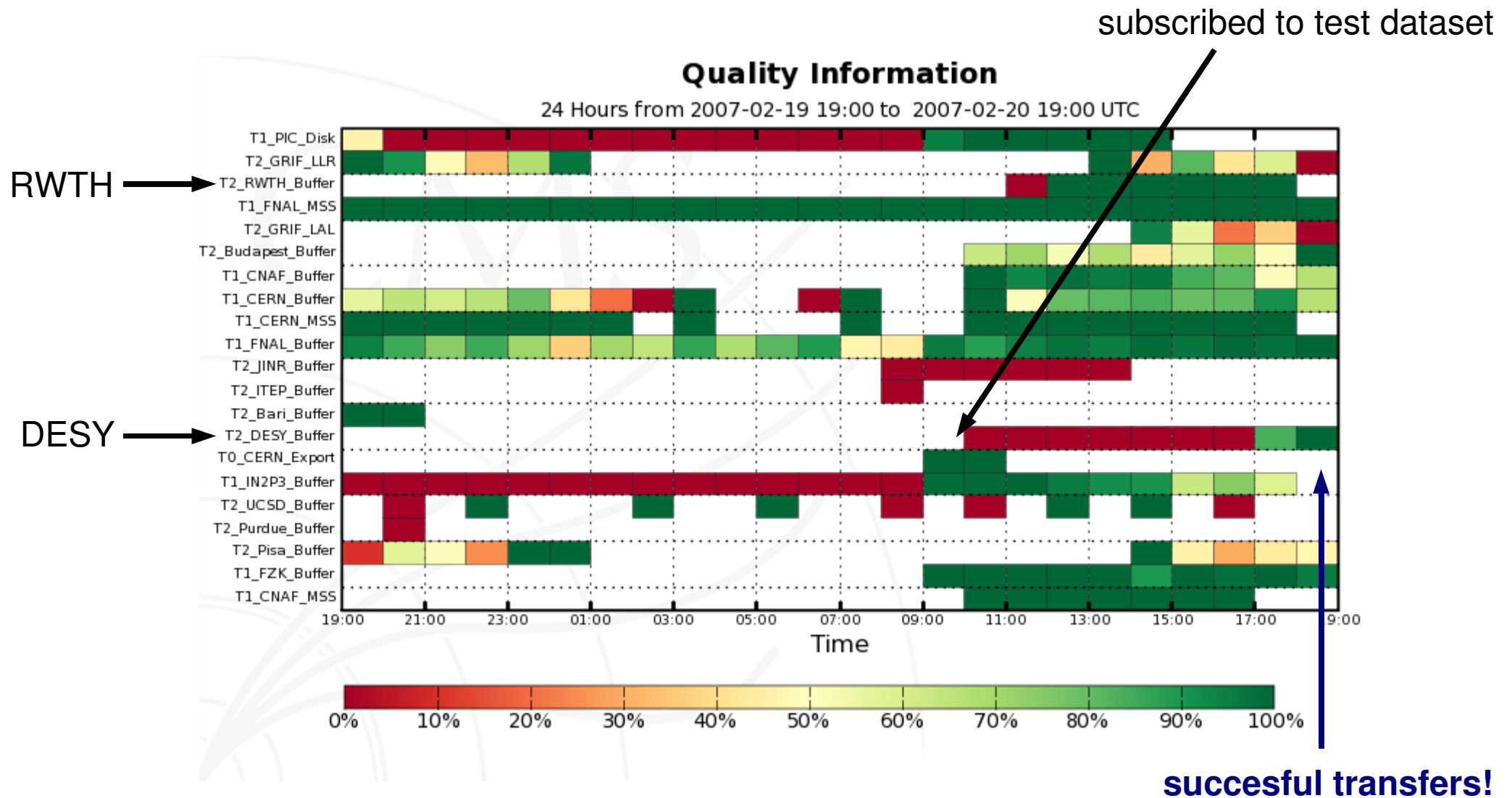   • Proposed metrics: tbd
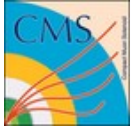
T2 Quality Plots – Dev Instance (7 days)

PhEDEx upgrade...

weekend

2007-02-21

Quality Information
7 Days from 2007-02-14 to 2007-02-21 UTC

DESY →

RWTH →

- **very painful debugging exercise...**
- **strong support from PhEDEx team, DESY IT (Yves & Birgit), FZK (Artem)**

Quality Information

24 Hours from 2007-02-19 19:00 to 2007-02-20 19:00 UTC

subscribed to test dataset

RWTH

DESY

succesful transfers!

- **Tails exercise**
  - not a demonstration that one can get **some** files but that one can drain down **all** files a data request has been placed for

- **concentrate on debugging of transfers to T2**
  - try to get data moving from the T1
  - keep in contact with regional T1 → FZK (Artem Trunov)

- **try to keep data flowing until *all* files are on-site**