

# ATLAS Nightly Build System Upgrade



G. Dimitrov<sup>1</sup>, E. Obreshkov<sup>2</sup>, B. Simmons<sup>3</sup>, and A. Undrus<sup>4</sup>,  
on behalf of the ATLAS Collaboration

<sup>1</sup>CERN, Switzerland

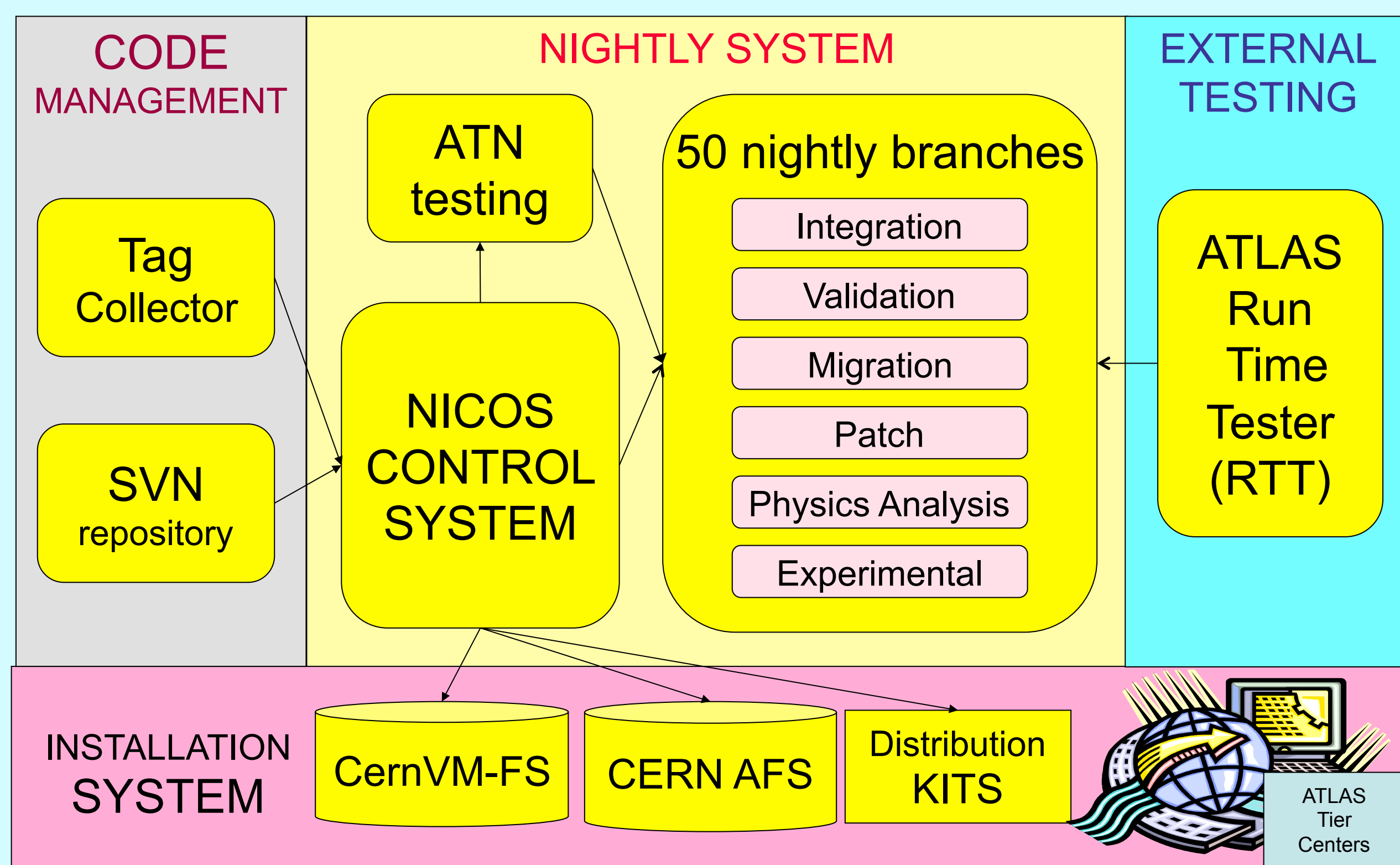
<sup>2</sup>University of Innsbruck, Austria

<sup>3</sup>University College, London, UK

<sup>4</sup>Brookhaven National Laboratory, USA

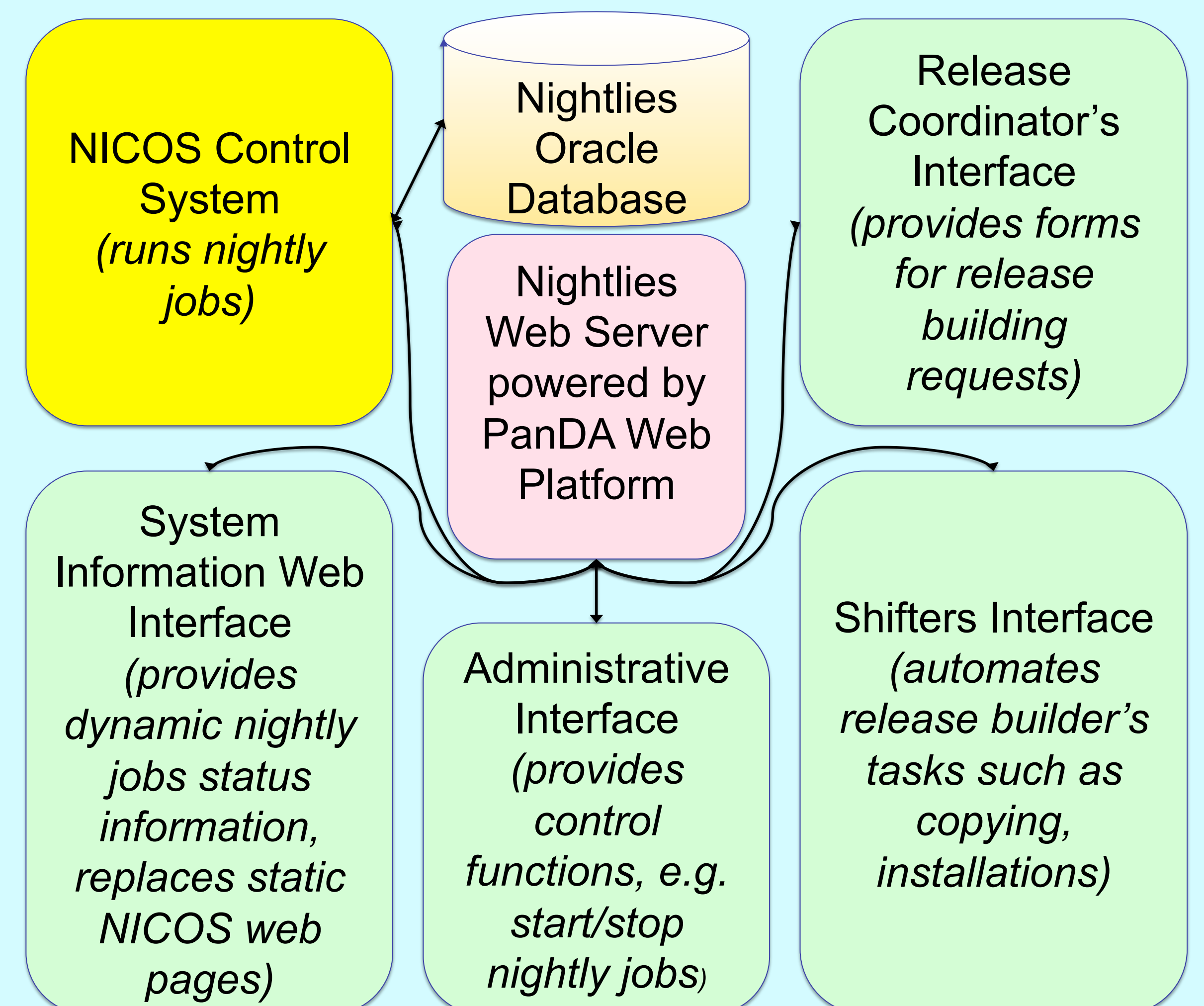


## ATLAS NIGHTLY SYSTEM AT A GLANCE



- Helps coordination between several hundred software developers
- Ample testing opportunities
- Led up to ~400 stable releases in 2012
- Nightlies computing farm:
  - 50 multi-processor nodes, 16-47 GB RAM
  - build parallelism
- Time to rebuild nightly release with 2200 packages: 9 hours
- NICOS Control Tool [1] is the system core interfaced with other ATLAS collaborative tools:
  - Tag Collector [2] web-based tool for managing package tags
  - CMT [3] configuration management and build tool
  - ATLAS SVN Code Repository
  - ATN [4] and RTT [5] testing frameworks
  - PackDist packaging tool [6] and ATLAS Installation System [7]

## ATLAS NIGHTLY BUILD SYSTEM UPGRADE



**Objective:** provide ATLAS developers with improved web user interfaces and automate offline release coordinator and shifter tasks.

### Key Components:

- Nightlies Oracle Database**
  - stores nightly jobs data
  - source of data for user interfaces
  - mediator between the Nightly System modules
- Nightlies Web Server**
  - Apache-based
  - Powered by PanDA Web Platform [8]

## NEW NIGHTLIES WEB USER INTERFACES

User interfaces are generated by the PanDA Web Platform from Python modules

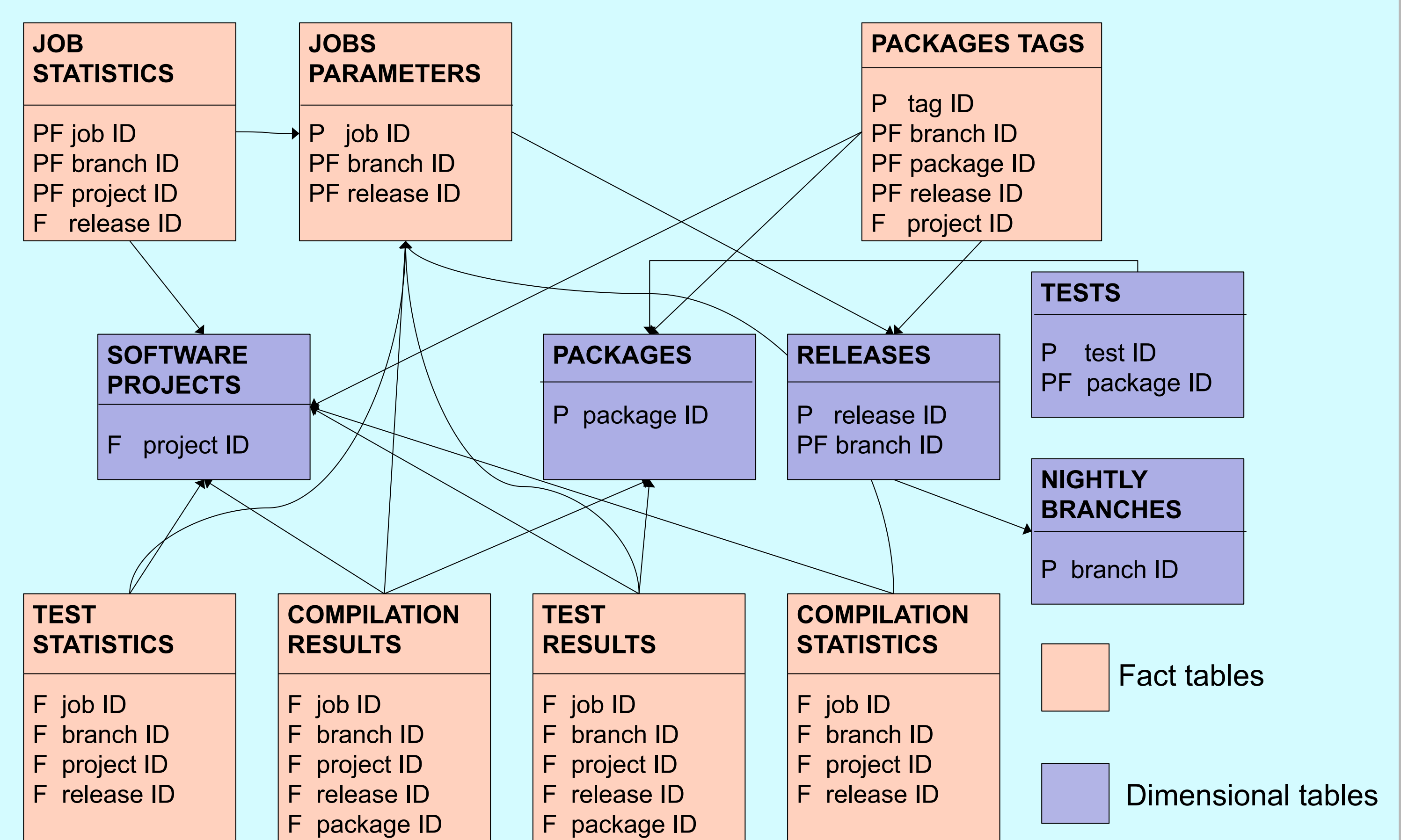
The JQuery-based ThemeRoller web application provides web theme designs with consistent look and feel

Overviews and detailed results are provided

The screenshot shows the 'Atlas Nightlies Global Summary' page. It features a table with columns: Branch, Rel, # Plat/ Proj, TC Rel, TC, Bid, AFS, KIT INST RPM, Ave. Comp. Err. (w/warn), and Ave. Test OK (no warn). The table lists various nightly builds and their status. Annotations highlight the 'Variable table length', 'Search feature', 'Links to other views', and 'Color coding (highlights, icons) for warnings and errors'.

The screenshot shows the 'List of Packages Versions from nightly: 17.2.X, release rel\_1, compared with rel\_3 release'. It includes input fields for 'Branch', 'Release name', and 'To compare with', along with a 'Generate' button. The table below shows columns for STATUS, PROJECT, PACKAGE, VERSION in rel\_1, and Prev. VERSION in rel\_3. Annotations highlight the 'Input fields for page regeneration' and 'Multi-column sorting'.

## NIGHTLIES ORACLE DATABASE



P, PF, F - Primary, primary-foreign, and foreign keys

## References

- [1] A. Undrus, 2012 *J. Phys.: Conf. Ser.* **396** 052070
- [2] <http://atlastagcollector.in2p3.fr>
- [3] C. Arnault, CHEP 01, Beijing, 2001; <http://www.cmtsite.net>
- [4] A. Undrus, CHEP 04, Interlaken, 2004, Conference proceedings, p. 521
- [5] B. Simmons et al., 2010 *J. Phys.: Conf. Ser.* **219** 042023
- [6] G. Rybkin, 2012 *J. Phys.: Conf. Ser.* **396** 052063
- [7] A. De Salvo et al., 2008 *J. Phys.: Conf. Ser.* **119** 052013
- [8] <https://twiki.cern.ch/twiki/bin/view/PanDA/PandaPlatform>