

An Innovative Workspace for The Cherenkov Telescope Array

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Abstract—CTA (Cherenkov Telescope Array) is an initiative to build the next generation, ground-based gamma-ray observatories. We present a prototype workspace developed at INAF that aims at providing innovative solutions for the CTA community. The workspace leverages open source technologies providing web access to a set of tools widely used by the CTA community. Two different user interaction models, connected to an authentication and authorization infrastructure, have been implemented in this workspace. The first one is a workflow management system accessed via a science gateway (based on the Liferay platform) and the second one is an interactive virtual desktop environment. The integrated workflow system allows to run applications used in astronomy and physics researches into distributed computing infrastructures (ranging from clusters to grids and clouds). The interactive desktop environment allows to use many software packages without any installation on local desktops exploiting their native graphical user interfaces. The science gateway and the interactive desktop environment are connected to the authentication and authorization infrastructure composed by a Shibboleth identity provider and a Grouper authorization solution. The Grouper released attributes are consumed by the science gateway to authorize the access to specific web resources and the role management mechanism in Liferay provides the attribute-role mapping.

Keywords—*Workflow Systems; Science Gateways; Collaborative Environments; Astrophysics; DCIs*

ACKNOWLEDGMENT

The authors would like to thank colleagues from the CTA DATA Management group, in particular Nadine Neyroud, Bruno Khelifi from LAPP (FR); Tomasz Szepieniec, Joanna Kocot, Hubert Siejkowski from Cyfronet (PL); a part of this work was developed within SCI-BUS (FP7-INFRASTRUCTURES-2011 contract 283481) project.