The Observatorio Astrofísico de Javalambre (OAJ) is a new astronomical facility located at the Sierra de Javalambre (Teruel, Spain) whose primary role will be to conduct all-sky astronomical surveys leveraging two unprecedented telescopes with unusually large fields of view: The JST/T250, a 2.55m telescope with a 3deg field of view, and the JAST/T80, an 83cm telescope with a 2deg field of view.

OAJ Control System

OAJ Control System's Network - OCSN

OCSN Overview

OCSN is composed of three functional layers: hardware layer (OCSSH), software layer (OCSIS) and network layer (OCSEN)

OCS Layers

OCSN is defined as an architecture consisting of several components: controller, monitoring, management, security, infrastructure and networking. The controller layer is responsible for supervising the other layers, while the monitoring layer provides information on the status of the system and allows for the detection of anomalies. The management layer is responsible for managing the resources of the system, while the security layer ensures the confidentiality, integrity, and availability of the data. The infrastructure layer provides the necessary services for the operation of the system, such as networking, storage, and computing. Finally, the networking layer provides the connectivity between the different components of the system.

OCSN Nodes & OCS Servers

OCSN overview

Heterogeneous Systems Integration: EPICS & ADS

EPICS is a standard software package for controlling physical devices in a control system. It provides a comprehensive set of tools for managing and monitoring the status of a wide range of devices, including telescopes, cameras, and other astronomical instruments. EPICS is designed to be highly scalable and flexible, allowing it to be used in a wide range of applications. ADS (Advanced Data System) is a software package for managing and analyzing astronomical data. It provides a range of tools for data reduction, analysis, and visualization, making it a powerful tool for astronomers.

CIA & OEE

CIA (Control Integrated Architecture) is a framework for designing and implementing control systems. It provides a set of best practices and guidelines for creating robust and scalable control systems. OEE (Overall Equipment Effectiveness) is a metric used to assess the performance of a manufacturing or production system. It measures the percentage of time that a machine is available, working, and producing good quality products.