

## DSG-R&D Phoebus Meeting Minutes

**Date: September 29, 2023**

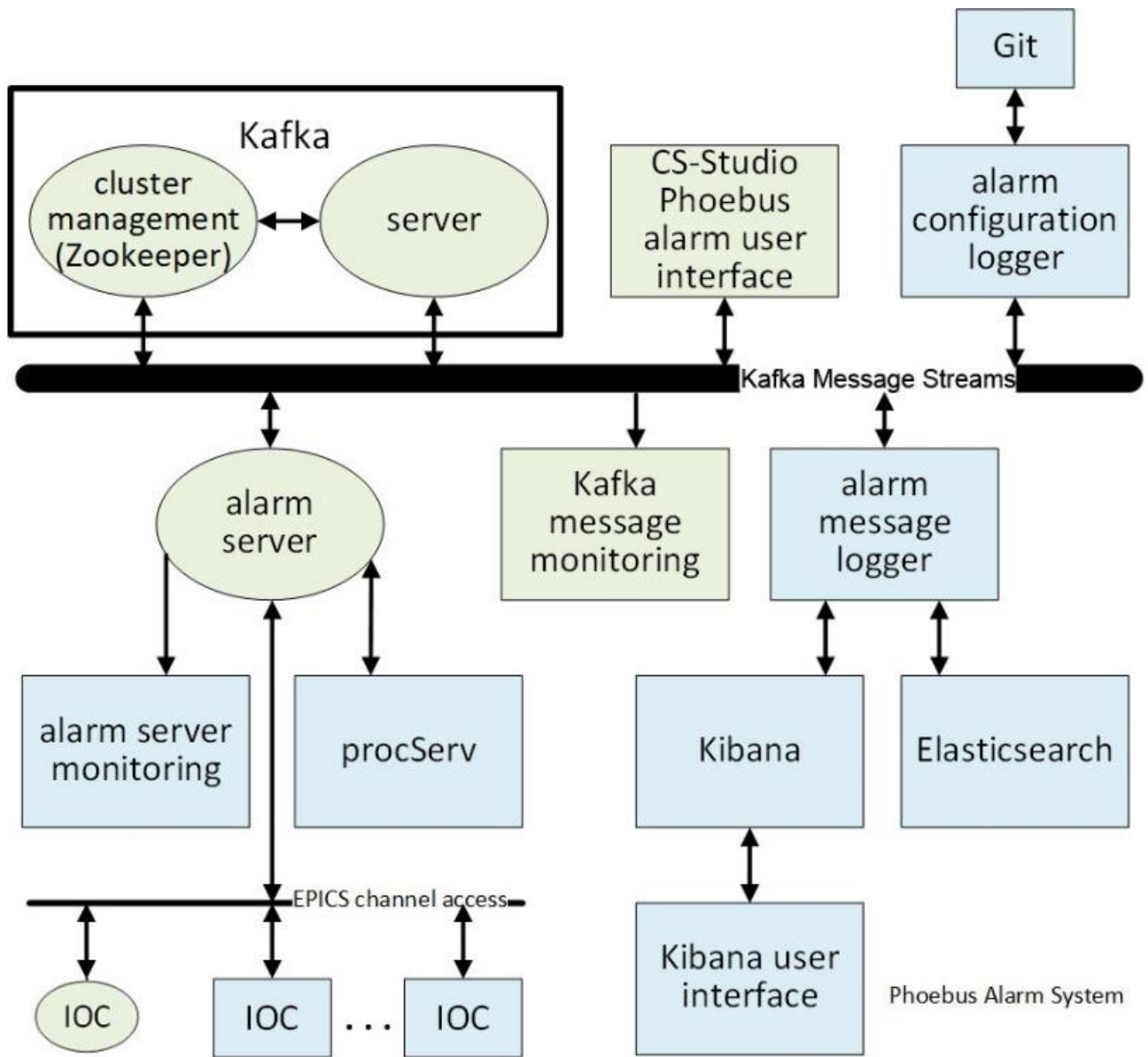
**Time: 2:00 PM – 2:20 PM**

*Attendees: Peter Bonneau, Aaron Brown, Pablo Campero, Brian Eng, Tyler Lemon, and Marc McMullen*

### **1. Development of EIC-DIRC Phoebus alarm system test**

*Peter Bonneau and Tyler Lemon*

1. Discussed the development of Kafka message streaming core programs for EIC-DIRC test
  - Kafka hosts the alarm system message streams that is used to communicate between all sections of the alarm code
    - Cloning Kafka used in NPS simulation test (from a separate computer) failed
  - Using Kafka v2.13-3.2.0 to match Phoebus version 4.6.10 development system
  - Kafka Zookeeper (cluster management)
    - *Zookeeper properties* – configuration file which defines the process operational parameters such as the location of the log file
  - Kafka Server
    - *Server properties* – settings for the location of the message files, data buffer sizes, and communication timeout settings
2. Discussed development of Kafka message streams specific for the Phoebus alarm system test with EIC-DIRC
  - Three independent messaging streams are required for all Phoebus alarm systems
    - Alarm state and configuration stream: bi-directional alarm server stream. The alarm server receives configuration messages and sends PV alarm state updates. Both types of messages are combined into one topic to affirm that their time order is preserved.
    - State: originating from the alarm server – sends out alarm status updates for each PV monitored by the alarm system
    - Configuration: messages originate from the user interface. Used for entering the alarm server configuration settings for each PV monitored by the alarm system
  - Command stream
    - Uni-directional message stream from alarm user interface (UI) to the alarm server. Sends user commands such as alarm acknowledgements from UI to server
  - Talk stream
    - Uni-directional message stream from the Phoebus alarm server to the annunciator program. Upon the detection of an alarm, the alarm server sends a message to the annunciator and instructs the computer to play an audible warning and writes it to the annunciator UI
3. Scripts developed to generate the EIC-DIRC laser interlock messaging streams
4. Testing of message streams
  - softIOC is required for testing



Phoebus Alarm System