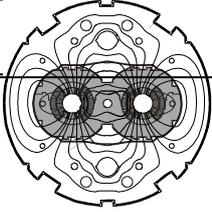


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Architectural overview

THE WEB FIXED DISPLAYS ARCHITECTURE

Abstract

The architecture of proposed Web Fixed Display.

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ABOUT THIS DOCUMENT

It is anticipated that the Web Fixed Displays (**WFD**) will be a web-based Java application used by AB/OP and others in the CERN Control Centre and elsewhere during the commissioning and the operation of the LHC at CERN.

In this document we will only present a proposed architecture to use it as basis for Requirements Document.

In the document, we use the abbreviation **WFD** for “Web Fixed Display”

1. INTRODUCTION AND OVERVIEW

OBJECTIVES

“WFD Architecture” was extracted into separate document by the request of Fermilab LAFS management to separate the architecture and the requirements. This document suppose to explain what we are trying to build, “WFD Requirements” will specify how to measure the success of the projects. It is believed that such a separation will add clarity to project from the management point of view.

PROPOSED ARCHITECTURE

Web Fixed Display suppose to be a Java Web application, deployed on one or several internal CERN web servers. Each of those servers are placed inside CERN Technical Network. Java classes of Fixed Displays are placed into classpath of WFDs. Some of those servers are proxied to allow general public (or operators outside of CERN) to view WFD.

WFD has several components:

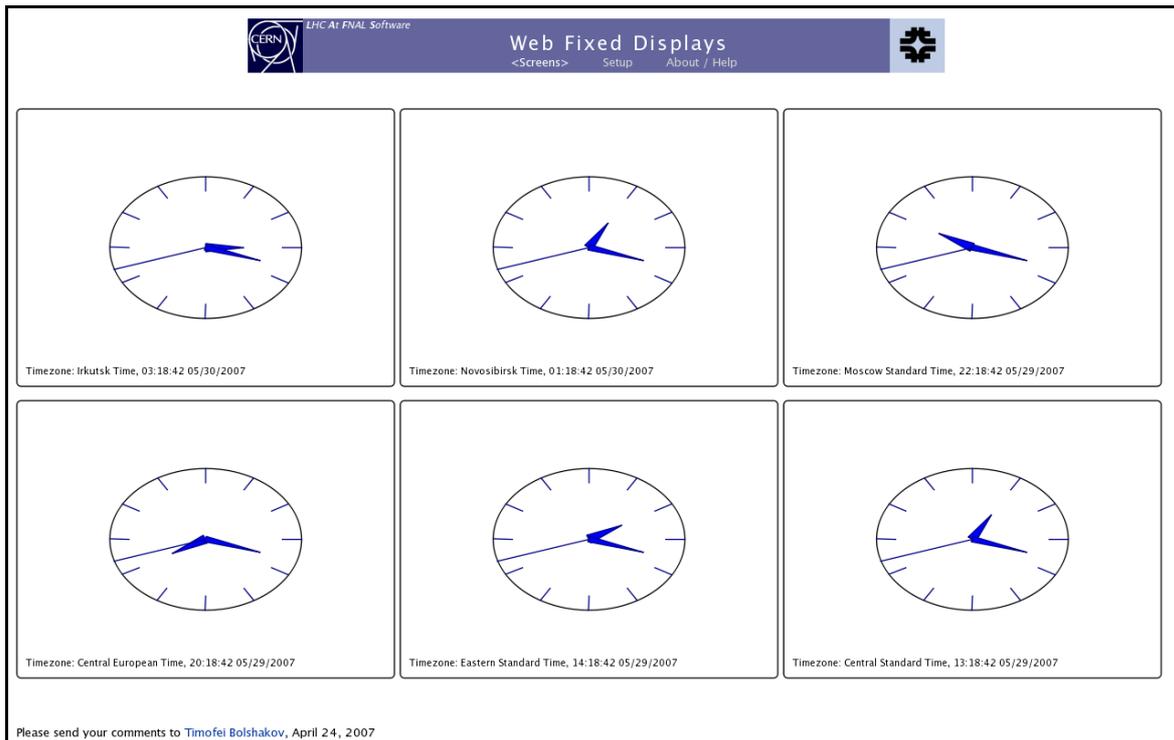
- Servlet for processing web requests.
- AJAX Javascript to update the WFD on client side.
- HTML index page(s) to represent WFD catalogs, help, etc.
- ApplicationManager to handle Fixed Displays on the server side.

The architecture of WFD is an “extract” from similar Fermilab system (1-Synoptic) with consideration of CERN software system and expertise, collected in CERN.

WFD classes can be used later for Drag and Drop Display / Builder as a component.

WFD ApplicationManager on the server side suppose to start several Java applications (Fixed Displays) on the server side in so called X Virtual Frame Buffer. Those applications will be periodically (once a second by default) painted on special “XML DOM SVG Graphics 2D” class. This Graphics2D will provide SVG representation for current visual state of a given Fixed Display.

Client Web pages will request those SVG's and their differential update's via AJAX mechanism and represent those Fixed Display's as web pages. HTML index page(s) will conveniently represent Fixed Displays started on a given server.



Picture 1. Example of WFD index page.

REFERENCES

1. "Synoptic display - a client-server system for Graphical Data Representation", proceedings of ICALEPCS'03, <http://synoptic.fnal.gov>