NFC Like Wireless Technology for Monitoring Purposes in Scientific/Industrial Facilities

Badillo, M. Egiraun (ESS-Bilbao)
J. Jugo (University of the Basque Country)

MOMMU002
Project Goal

• It is intended to set out a wireless monitoring architecture valid on large scientific facilities. More specifically it is applied in ESS-Bilbao.
• The goal is to ease the task of the operators during normal operation mode and maintenance stages.
• All the desired information from the EPICS control system is displayed in a mobile device.
• The project is applied to monitor the vacuum system of negative ion source, ISHN.
Solution Outline

• The security of the communication can be assured by means of a weak wireless signal, following the same idea as in NFC.
• Client/Server based application.
• The server based on Python gets the EPICS PVs from the network.
• The client, located on an Android based mobile device request those PVs values from the Server and displays them.
• Communication is managed with the ICE middleware.
Conclusion

- A rapid and flexible monitoring system is achieved, helping operators to know machine status avoiding the dependence of a central computer.
- The limited wireless signal transmission provides protection against external attacks.
- Security related features, as message encryption will be implemented. In addition, EPICS Gateway will be used.