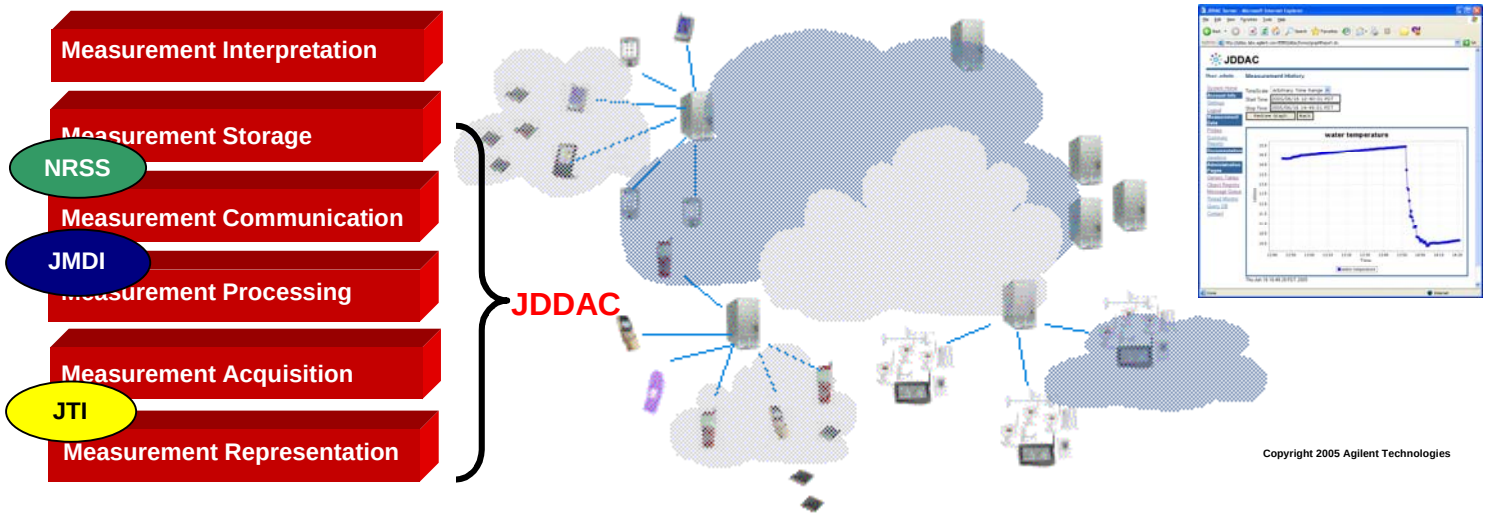
JDDAC

Java Distributed Data Acquisition and Control

http://jddac.dev.java.net



Overview

JDDAC is an **open source platform** for building **sensor networks**. JDDAC helps the system architect to overcome certain obstacles that arise in building a large-scale distributed measurement and control system.

In designing a pervasive sensor network to interact with the physical world, the heterogeneity of the transducers and the physical environment pose significant challenges to the system architect. Without a principled approach to interact with the different types devices and their data, such pervasive systems can be difficult to scale to support all the different devices and the measurements that are generated.

Current Java infrastructure provides a feature-rich computing and communication infrastructure, as well as basic connectivity to the physical world. JDDAC augments standard Java APIs at higher abstraction levels, such as transducer characterization and data interpretation, by offering principled methods for modeling transducers to describe how they, and the data they generate, can be used. JDDAC reduces the complexity in dealing with sensors and actuators at the edge of the network by providing “last mile” functionality between Java applications and the real world.

Platforms

JDDAC is available for J2EE, J2SE, and J2ME platforms. Source code is reused among all three platforms.

Architecture

JDDAC is based on IEEE Transducer Standards 1451.1 and 1451.2, along with open Internet technologies such as XML and HTTP. JDDAC consists of several Java APIs, including:

- **JTI (Java Transducer Interface)** - Specifies how transducers are characterized and accessed. Includes a description of the Transducer Electronic Data Sheet (TEDS).
- **JMDI (Java Measurement Dataflow Interface)** - Specifies how applications are constructed. Includes the measurement data model, the dataflow component model, and measurement communication protocols.

Data is retrieved from JDDAC servers via **NRSS** (Numeric Really Simple Syndication), a variation of RSS 2.0 used for syndicating numerical data.

To find out more...

- **http://jddac.dev.java.net** - Source and binary code downloads, sample applications, documentation, discussion forums, mailing lists.
- **http://www.nrss.org** - Numerical Really Simple Syndication. White papers, sample feeds, code downloads.