CAML

Thomas Pelaia II, Ph.D.

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Active Team

- **Matej Sekoranja** (Cosylab) - Developer

- **Tom Pelaia**

- **David Purcell**

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SNS
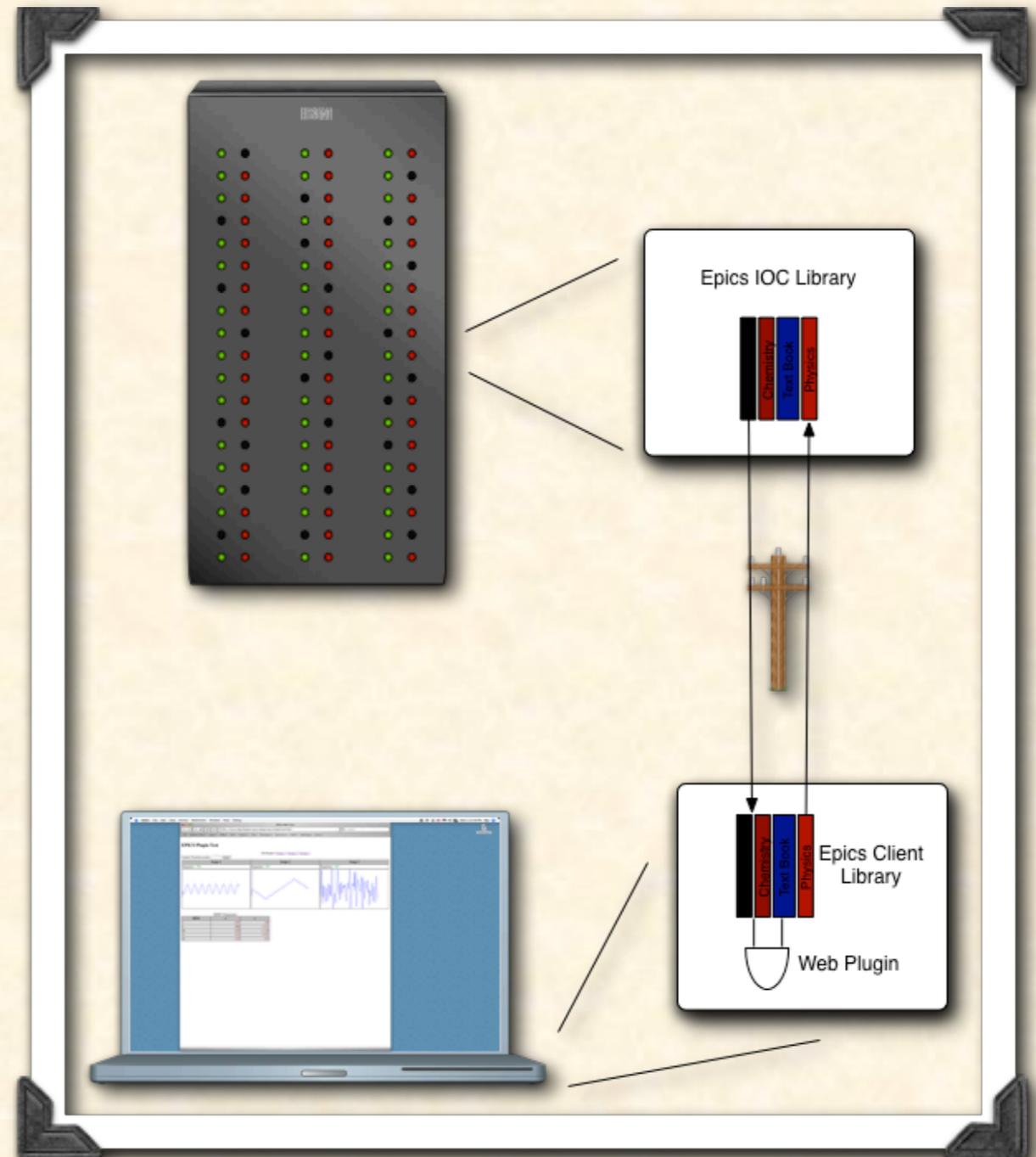SPALLATION NEUTRON SOURCE

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What is CAML?

- **Channel Access Markup Language**
  - **XML description of a Channel Access display**

- **Web browser becomes a Channel Access client through plugin**

- **Delivery of control room applications**

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Motivation

- **Web browsers provide content display using native graphics**

- **Graphical interfaces use standard web protocols: HTML, JavaScript and CSS**

- **Leverage the immense capabilities of web browsers (streaming media, tabbed layout, bookmarks, …)**

- **Integration with other tools (e.g. logbook)**

- **Best platform independent user interface**

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Architecture

- **Web browser is Channel Access client**

- **CAML provides an XSLT sheet to transform XML into HTML, CSS and JavaScript**

- **Channel Access calls through a JavaScript API to the plugin**
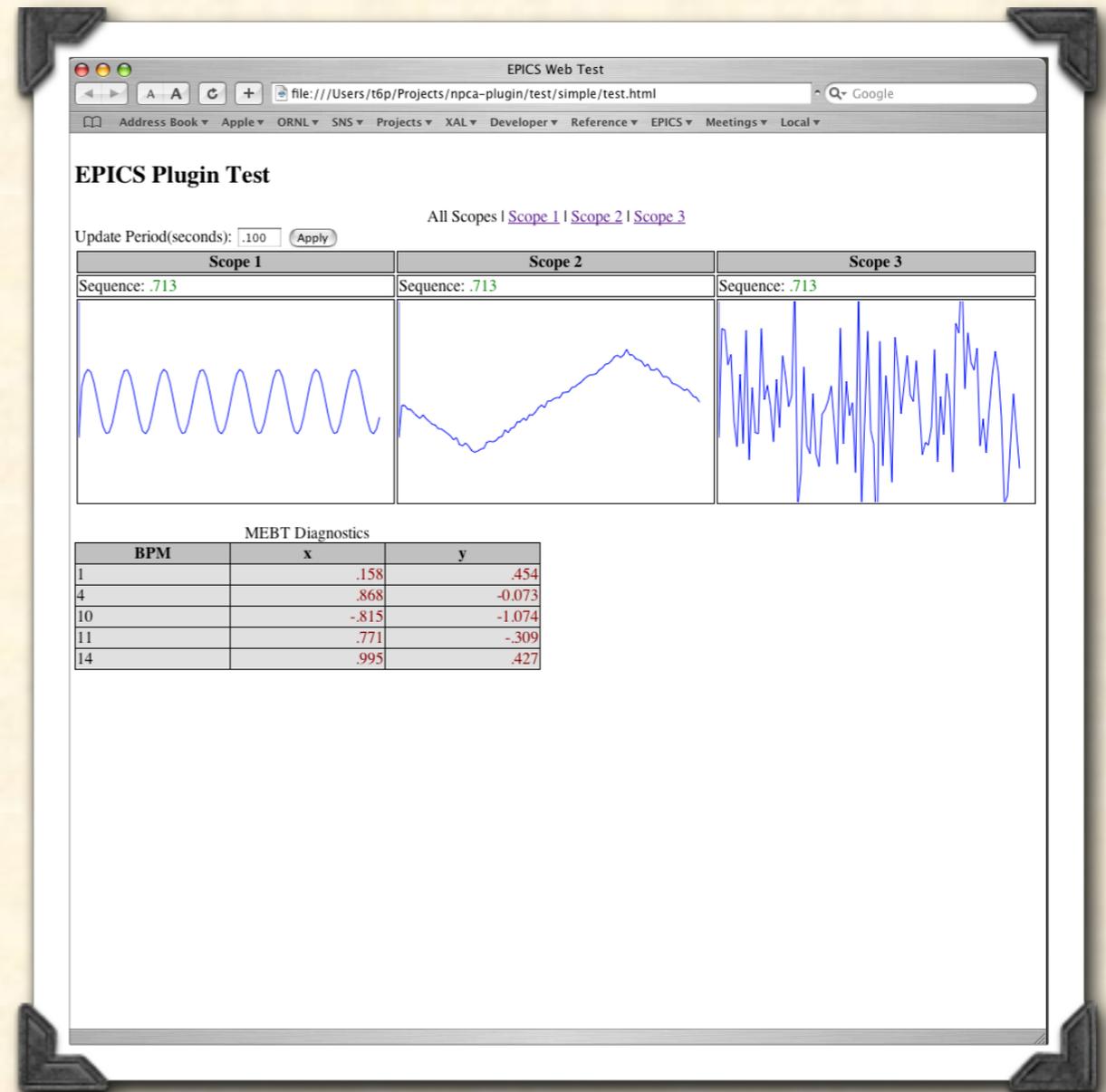
Advantages and Disadvantages

- **Advantages**
  - **Good performance with direct channel access**
  - **Integrates with other approaches (e.g. AJAX)**

- **Disadvantages**
  - **Requires EPICS installation**

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Channel Access Support

- **scalar and waveform values**

- **value, status, severity and time stamp**

- **monitor values**

- **get values**

- **put values**

CAML Document

- **XML file**

- **Describes what to display but not how to display**

- **Formatted text, number fields**

- **Charts**

- **Buttons, sliders, thumb wheels**

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Extensible Stylesheet Language Transformations (XSLT)

- **Transforms the CAML file into HTML, CSS and JavaScript**

- **Enforces display rules (color codes, fonts, …)**

- **Can transform CAML into other documents (e.g. EDM)**

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Document Creation

- **Manual**

- **Dynamic application server with database**

- **Static page creation from database**

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Automated Generation from Database

- Maintains consistency between control system and CAML pages

- Consistent look and feel

- Less overhead for engineers

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Phase I Status

- **JavaScript API for channel access**

- **Complete**

- **Contract with Cosylab to port prototype to work cross platform**

- **Browsers supported**
  - **Mac OS X (Safari, Firefox)**
  - **Windows (Firefox)**
  - **Linux (Firefox)**

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Phase II Status

- **Define CAML, controls and build XSLT**
- **Contract with Cosylab in progress**

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Sample Applications

- **Probe**

- **Scope**

- **Accelerator Browser**

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Conclusion

- **Phase I work demonstrated feasibility**

- **Phase II work is in progress**

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