

Current XAL Challenges

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Top Challenges

- **Managing External Jars**
- **Lattice Generation Layer**
- **Online Model Channel Access**
- **Collaboration Challenges**

Managing External Jars

- **Distribution rights**
 - **Some Jars cannot be distributed publicly with XAL**
- **API Compatibility**
 - **Latest XML RPC not compatible with XAL**
 - **Latest JMDNS can hang XAL on termination**

Lattice Generation Layer

- **Lattice Generator needs to be replaced**
- **Needs to be streamlined for performance**
- **Adding new device types is complicated**

Channel Access feeding Online Model

- **Blocking connections can cause long waits**
- **Performance can be improved by using non-blocking get requests**

Collaboration Challenges

- **Coding Standards and Quality Control**
- **Source Code Management**
- **Site Specific Support**
- **Migration Path**

Coding Standards and Quality Control

- **Doorkeeper(s) for code**
- **Coding Standard document**
- **Automated tests**

Source Code Management

- **Open Source Repository (Source Forge)**
- **Separate Branches for each site**
 - **How are changes merged?**
 - **Who polices licensing issues for third party code, media, etc. regardless of branch?**
 - **Who can commit code to the repository?**

Site Specific Support

- **Unique Devices and Variations**
- **Unique Device Attributes**
- **Unique applications**
- **Need to avoid hard coding to specific accelerator**
 - **Identify and fix existing problems**
 - **What about scripts?**

Migration Path

- **XAL is currently in stable, production use at SNS**
- **Need migration path to new version**
 - Incremental Migration
 - Parallel XAL versions
- **What do we want XAL to be?**

Tasks

- **Fix Launcher bug for Windows**
- **SCORE - Snapshot Comparison**
- **CA Transforms - Logging State with Data**
- **Replace Lattice Generator**
- **Online Model Improvements**
- **Improve Live Model Synching Performance**
 - **non-blocking connections**
 - **non-blocking batch get**

Tasks (Continued)

- **Create Examples**
- **Automated Tests**
- **Platform Specific Guides**
- **Source Code Management**
 - Pick a Home
 - Pick a tool (Subversion, etc.)
- **Document External Jars**

Tasks (Continued)

- **Solver**
 - Add more algorithms
 - API improvements
- **Site Customization**
 - what needs customization?
 - what needs to be made generic?
 - organization of site specific configuration files
- **Localization Support**
- **Replace XML-RPC with JSON-RPC**