

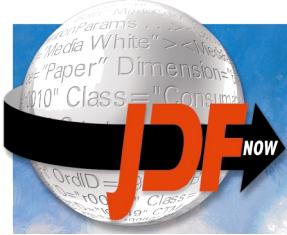
Elk

A Device Framework

<http://elk.itn.liu.se>

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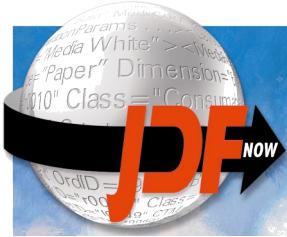
Sunday, May 14, 2006
Tokyo, Japan



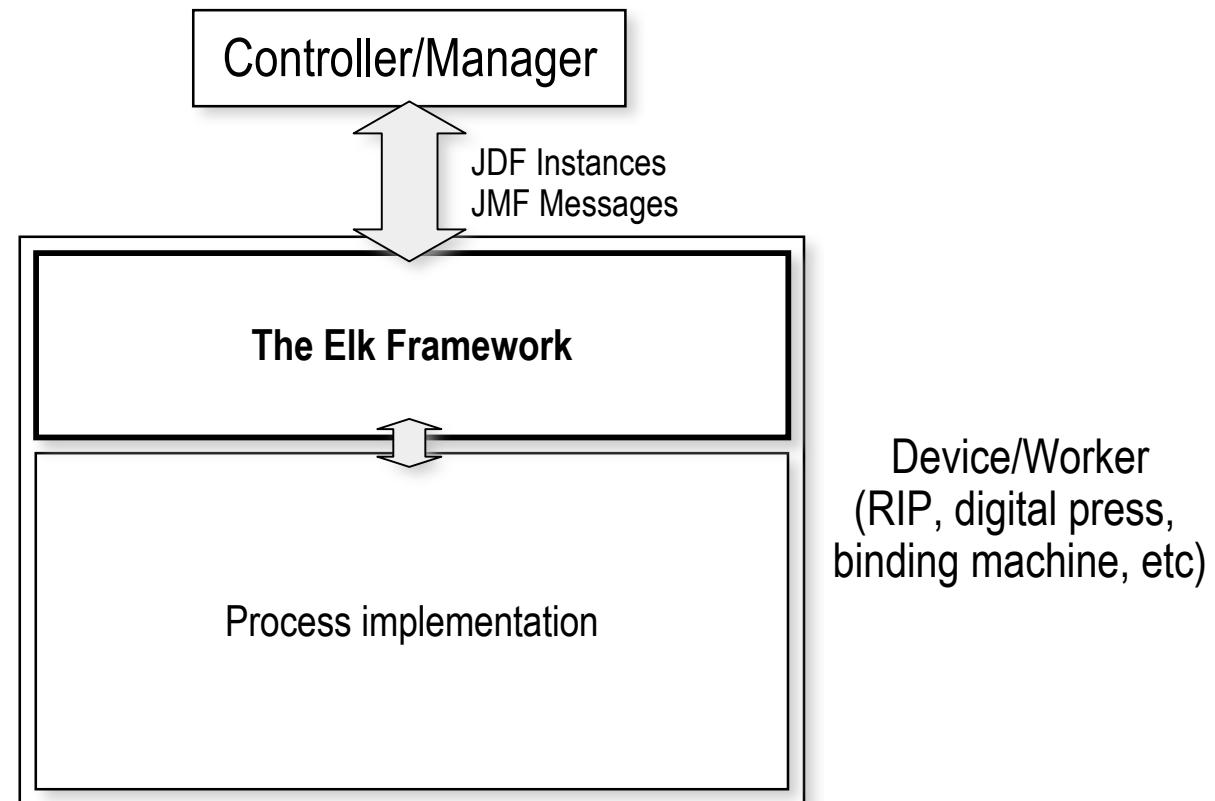
The Elk Framework

- A Java framework to implement the functionality required:
 - Receive and send JDF messages
 - Receive and send JMF messages
 - Job queue
 - Execute JDF nodes
 - Manage subscriptions and send Signal JMF messages
- CIP4 open source license
- Based on JDFLib-J



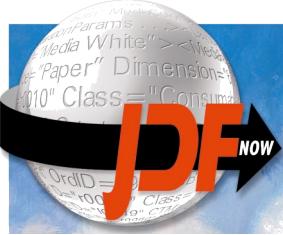


The Elk Framework



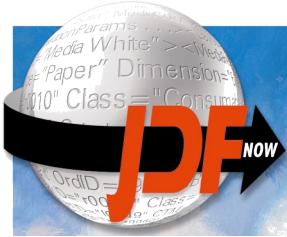
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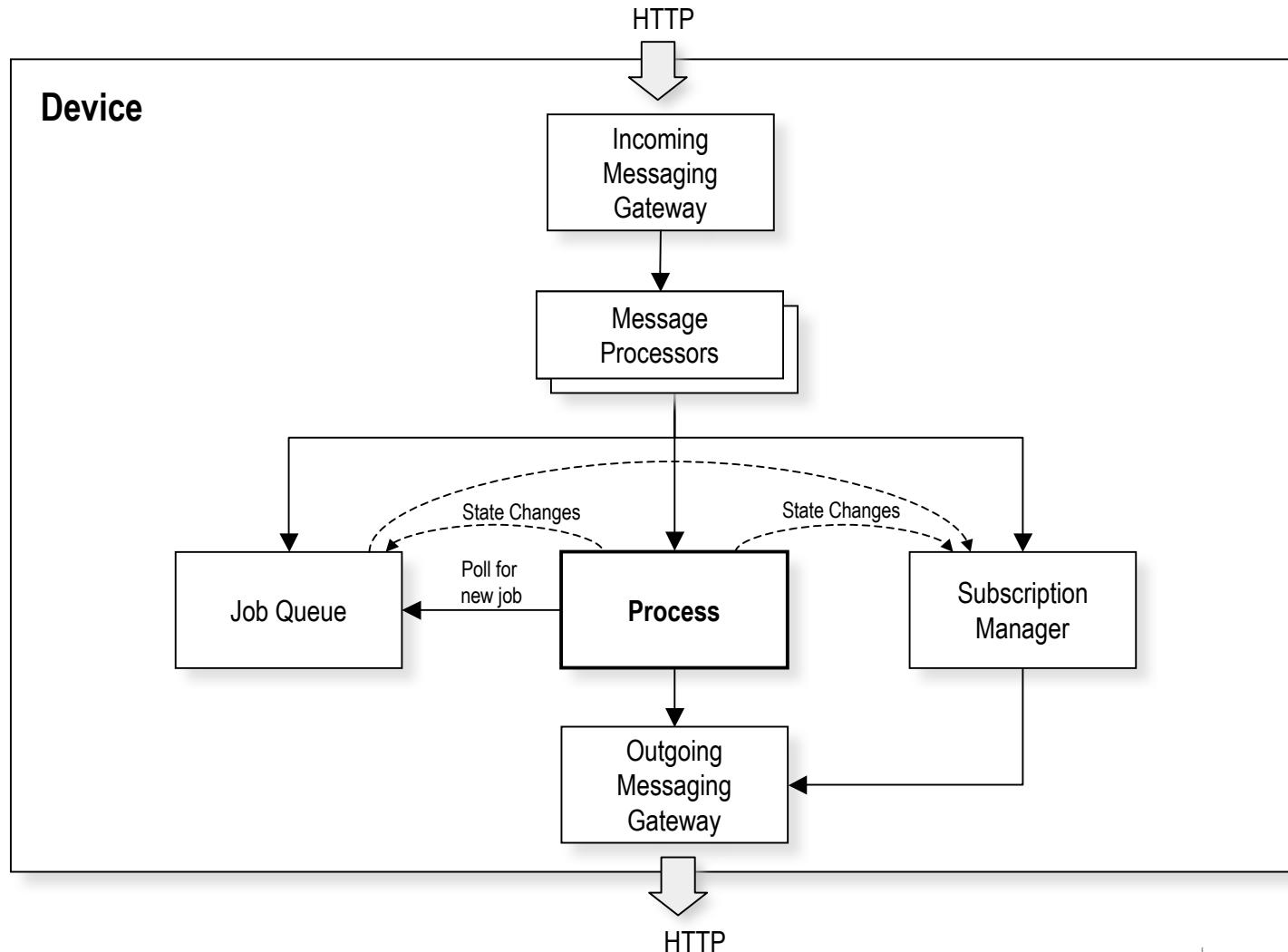


The Elk Framework

- Package name: **org.cip4.elk**
- Interfaces and abstract classes that specify the services needed by a device
 - Incoming message dispatcher
 - Outgoing message dispatcher
 - JMF processors
 - Queue
 - Process
 - Subscription manager



Architecture Overview



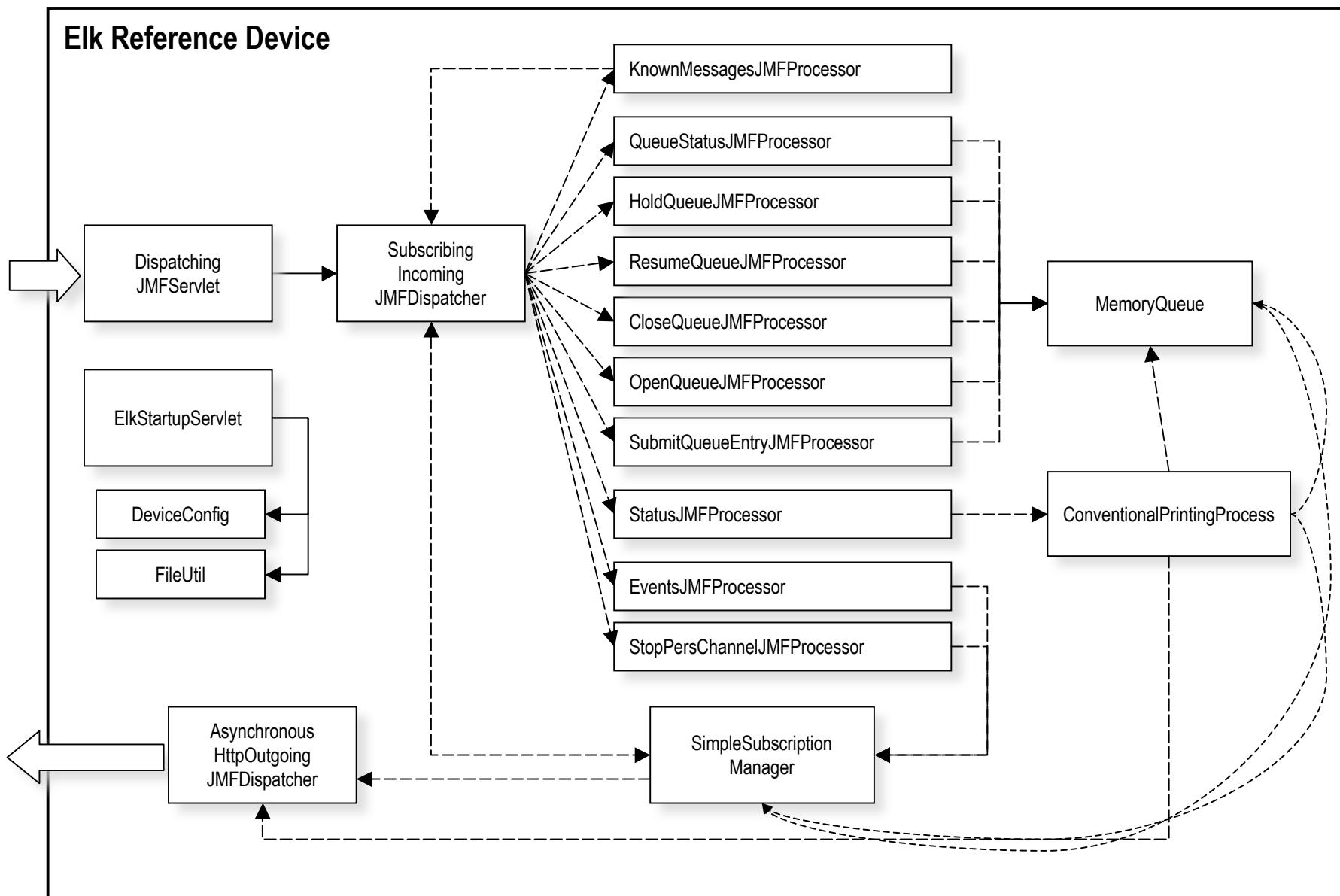
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Reference Implementation

- Package name: **org.cip4.elk.impl**
- Concrete implementations of the classes defined in the Elk Framework:
 - Incoming message dispatcher for receiving JMF
 - Outgoing message dispatcher for sending JMF
 - JMF processors
 - Memory-based subscription manager
 - Memory-based queue
 - Simulated ConventionalPrinting process
 - MIME package reader
 - Web-based user interface





To Do List

- Reference implementation
 - Full compliance to Base ICS Level 3 ✓
 - Partial support for MIS ICS ✓
 - Receive MIME ✓
 - Device capabilities checking ✓
 - Add support for all JMF message types
 - Full subscription/persistent channel support
 - Full queue support
 - Submit MIME
 - Generic process simulation
 - Secure messaging

Volunteers?



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Online Demo

- **<http://elk.itn.liu.se/elk/jmf>**
 - Reference implementation (ConventionalPrinting)
 - Send a *KnownMessages* JMF Query to this URL to find out what it can do
 - Web-based user interface that can be viewed in a web browser: <http://elk.itn.liu.se/elk/>



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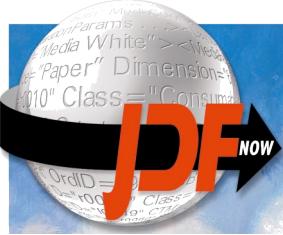


Demo



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Use Cases

- A foundation for building a JDF Device
 - For example, a front-end for a integrated digital printer
- A tool for testing Controllers/Managers
- Implementing a simulation of a Device
- Learning JDF/JMF



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More Information

- The project web site: <http://elk.itn.liu.se>
 - Binaries and source code
 - Documentation
- Related reading
 - *A JDF-enabled Workflow Simulation Tool*, Claes Buckwalter, TAGA 2005 Proceedings
- Current Elk team
 - Claes Buckwalter, Linköping University, Sweden
 - Marco Kornrumpf, Arvato Systems, Germany
 - Markus Nyman, Uppsala University, Sweden
 - Ola Stering, Uppsala University, Sweden
 - Brian Ray, Printable Technologies, USA



Thank you for listening!

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