Application Lifecycle Framework (ALF) and Higgins coordination

ALF Contribution to Higgins

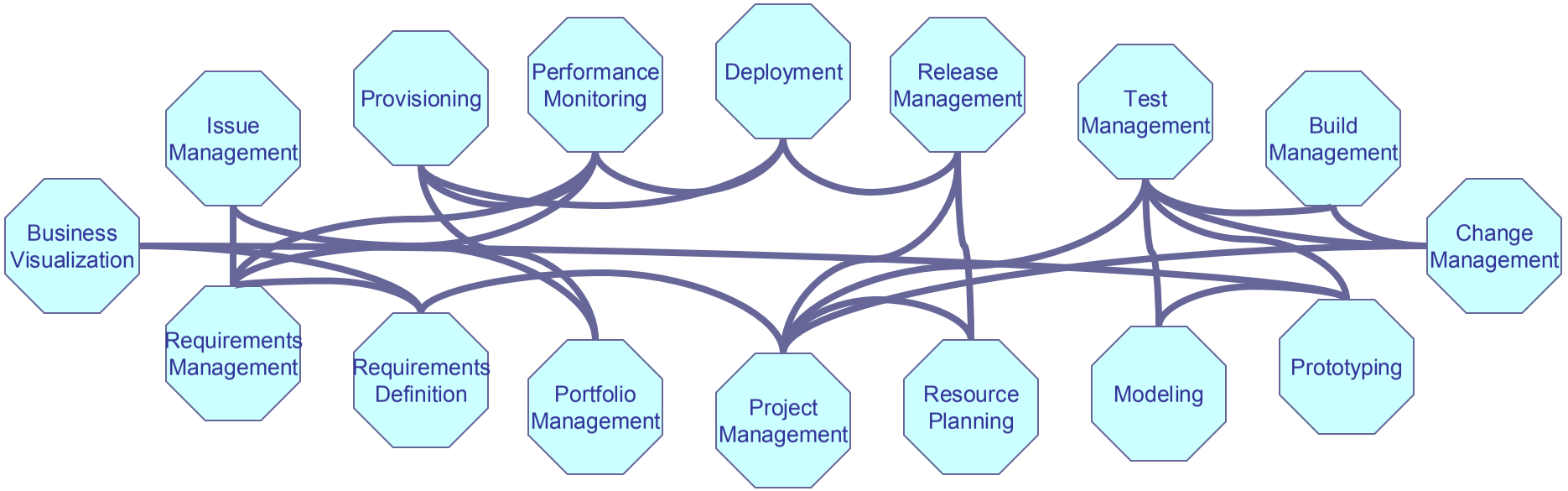
April 12th, 2006

Agenda

- **1. Project background**
  - Into to ALF (7 min) - Ali or Brian/Tim
  - Intro to Higgins (7 min) - Mary/Paul
- 2. **What ALF is building** for SSO (and expects to contribute) (10 min) - Brian
  - Discussion of how it fits with Higgins (10 min) - All
- 3. Identification and discussion of **project touchpoints** (10 min) - Brian leads
- 4. Discussion of **project schedules** (7 min) - Brian/Ali/Mirinda for ALF schedule
- 5. Crafting the **announcement** (7 min) – All
- 6. **Next steps** / Action items

Brief Introduction to ALF

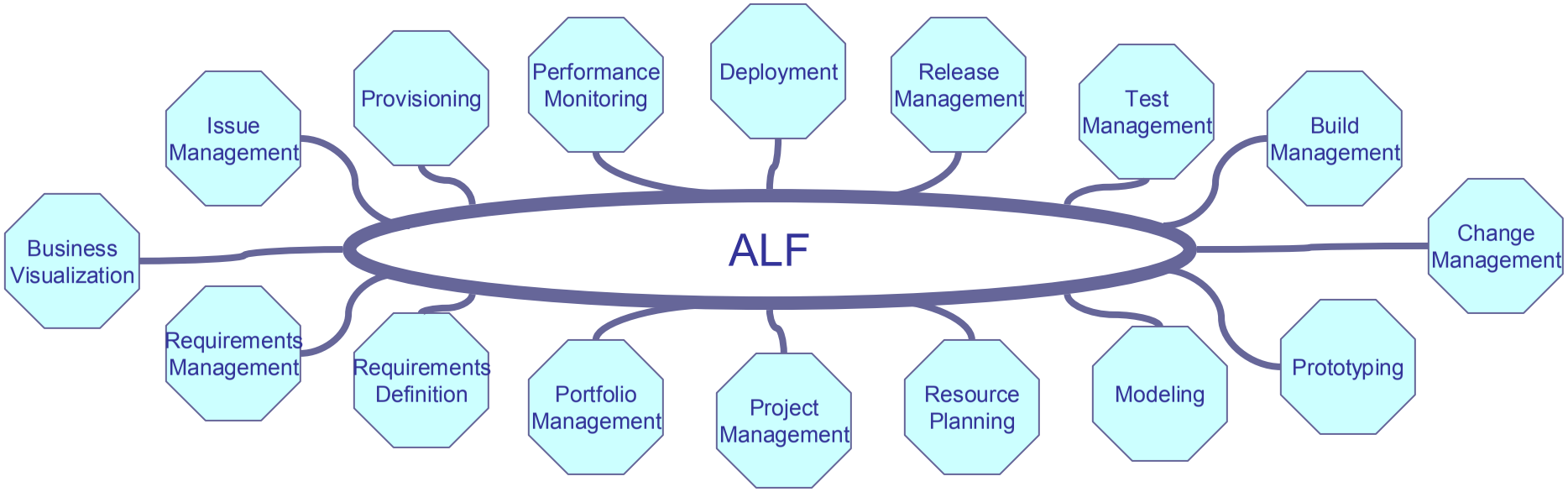
What developers are struggling to support



Point-to-point integration of n tools can mean

up to n(n-1)/2 combinations; This does not scale!

A better approach – Model: electric wall plug

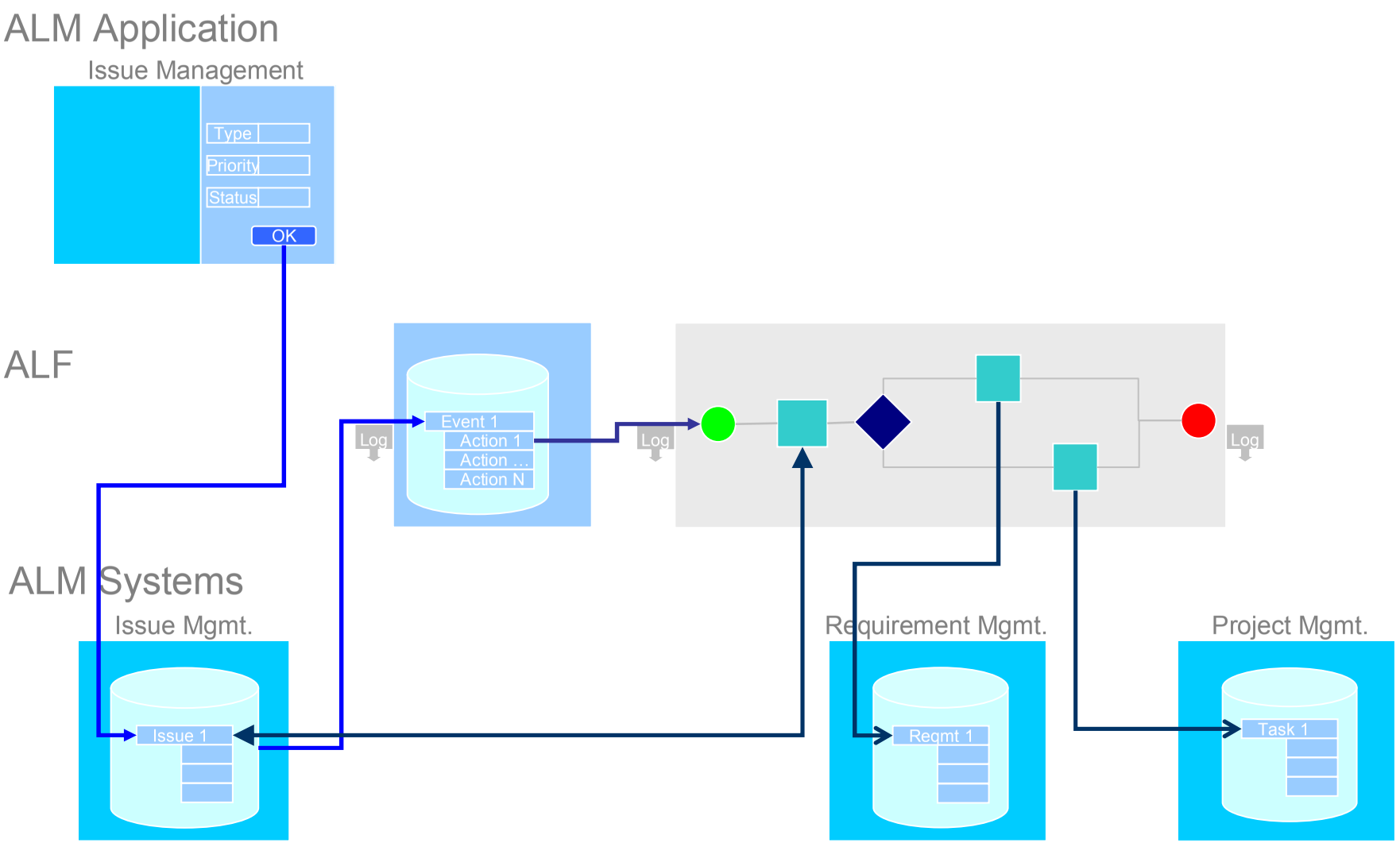


Integration of n tools with ALF requires n integrations; linear growth of connections

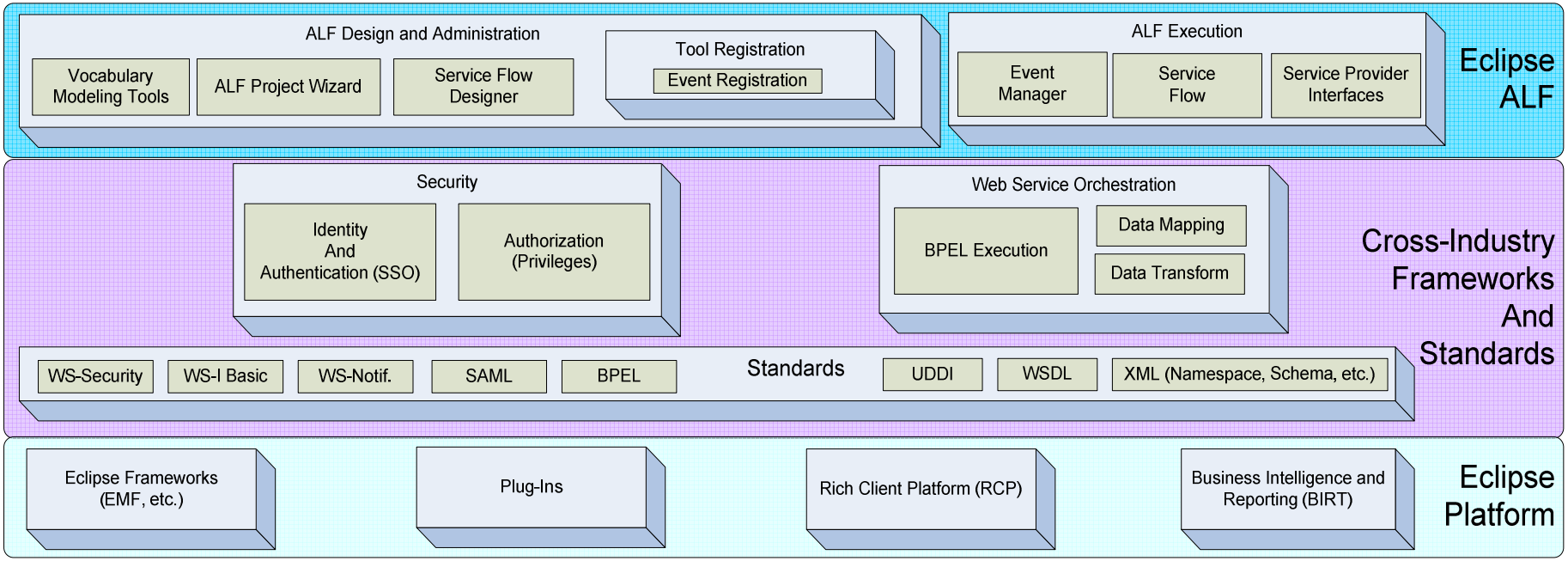
Project Objectives

1. Provide a SOA-based cross-tool communication infrastructure for ALM solutions
2. Leverage Eclipse, open source components, and industry standards
3. Develop common & extensible domain-specific vocabularies for improved interoperability
4. Provide conformance rules for varying levels of participation

ALF Use Case


ALM Application
Issue Management
Type
Priority
Status
OK
ALF
Log
Event 1
Action 1
Action …
Action N
Log
Log
ALM Systems
Issue Mgmt.
Issue 1
Requirement Mgmt.
Reqmt 1
Project Mgmt.
Task 1

ALF Landscape



ALF Plans to leverage or coordinate with the following Eclipse projects or proposals:

- Corona -- For Deployment & System Management
- BIRT -- For Dashboard Reporting
- EMF -- For Data Model & textual UIs (initiation of service flows & inspection of results)
- STP -- For ESB & SOA Enablement
- Higgins -- For User identity and credentials for Single Sign-On
- WTP -- For Web Service Creation & Conformance
- TPTP -- Potentially for BPEL Orchestration

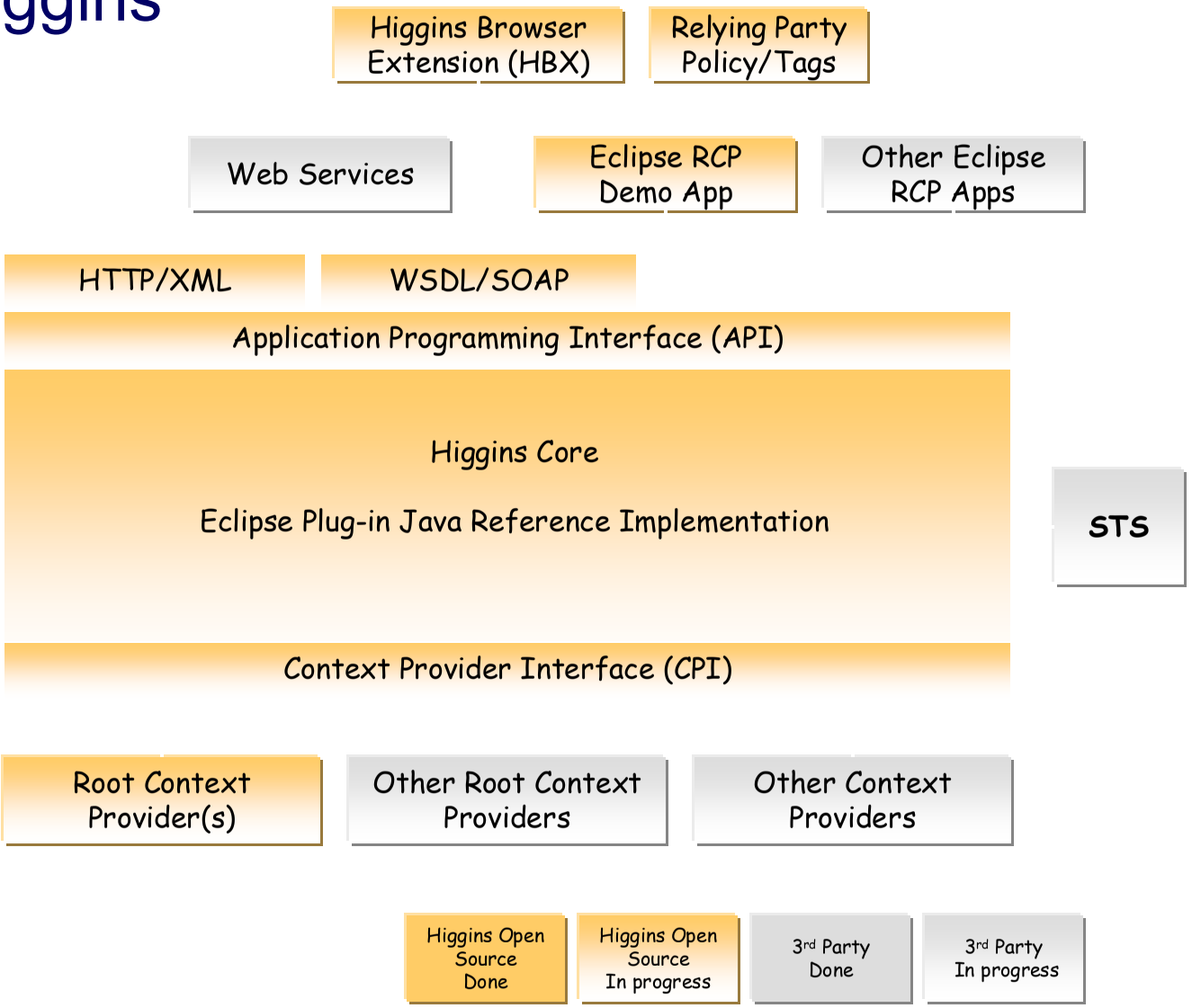
ALF Partners

Brief Introduction to Higgins

What is Higgins?

- Higgins is a framework that will enable users and enterprises to integrate identity, profile, and relationship information across multiple systems.
- Using context providers, existing and new systems such as directories, collaboration spaces, and communications technologies (e.g. Microsoft/IBM WS-*, LDAP, email, IM, etc.) can be plugged into the Higgins framework.
- Applications written to the Higgins API can virtually integrate the identity, profile, and relationship information across these heterogeneous systems.

Intro to Higgins



What ALF is building for SSO

(that is, what ALF will contribute to Higgins)

What is the focus of ALF Security

- Initial focus (for RC1) is on Authentication
  - Authentication of users of web browser based tools
    - Using WS-Trust & WS-Federation Passive Requestor Profile
    - SAML token (ALF TGT)
  - Conveying credentials to all the programs invoked via web services by a ServiceFlow (BPEL process)
    - Using WS-Trust & WS-Federation Active Requestor Profile
    - SAML Token (ALF TGT and ALF ST)
- Later phase focus Expands Authentication and add Authorization
  - Authentication of users of desktop and plug-in-based tools
    - Likely to leverage Corona and Eclipse platform OGSi security initiatives
    - Likely to JAAS (we may accelerate if possible)
  - Optional and/or later focus is on Authorization at the admin and serviceFlow and perhaps tool level
    - Note: not privileges within tools

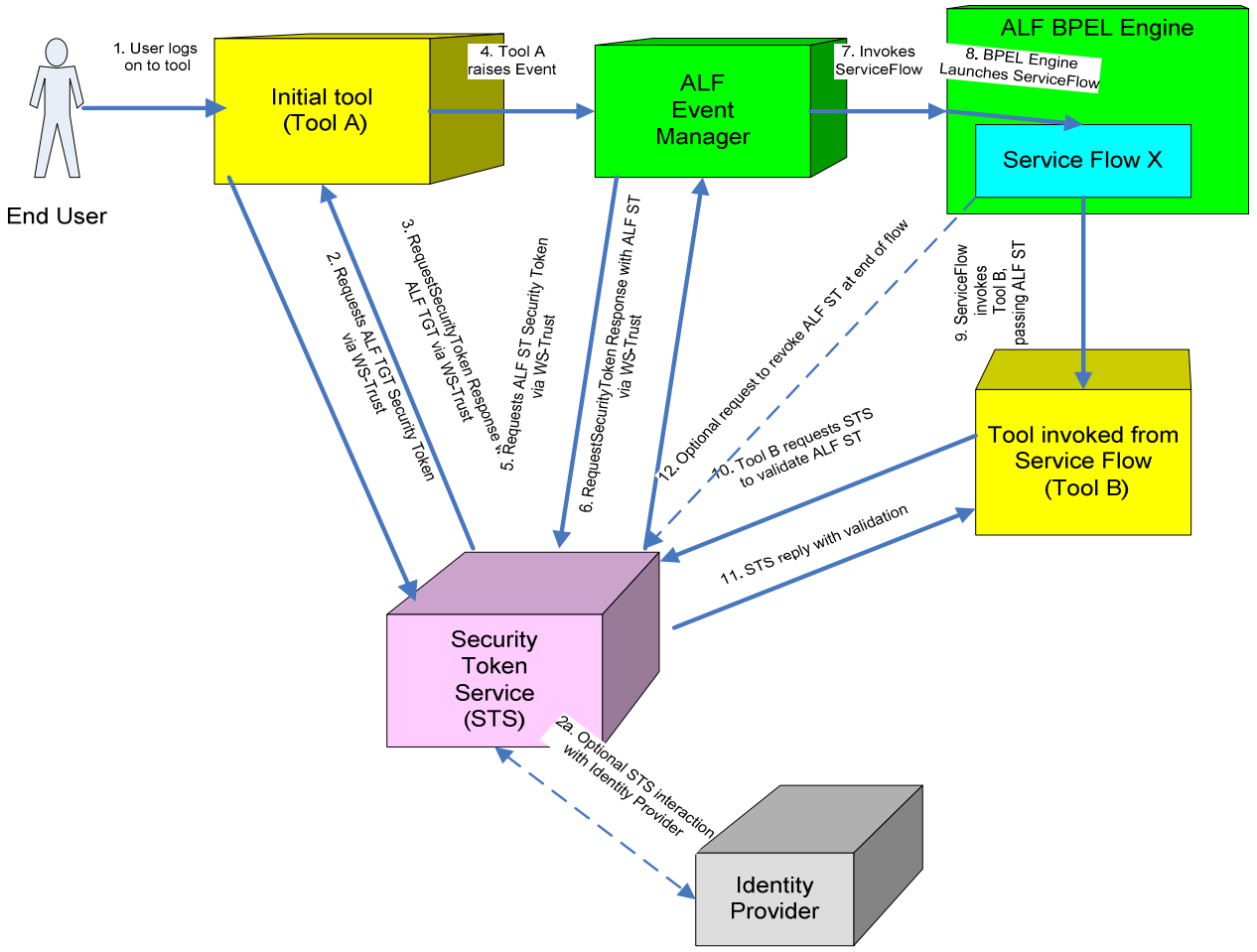
Key Standards ALF is based on

- Standards for ALF RC 1 (Oct 2006)
  - WS-Security
    - UserNameToken
    - SAML Assertion
  - WS-Trust
  - WS-Federation
    - For signoff
    - Active Requestor Profile (Web services)
    - Passive Requestor Profile (Web application)
  - SAML Assertion (1.1 and 2.0)
  - WS-Policy and WS-SecurityPolicy (Static administration for RC 1.0)
- Standards for post ALF 1.0
  - WS-Security BinarySecurityToken
    - For credentials in form of Kerberos and x.509 certificates
  - SAML Protocol (as alternative to WS-Trust)
  - Dynamic discovery and exchange (per WS-Trust)

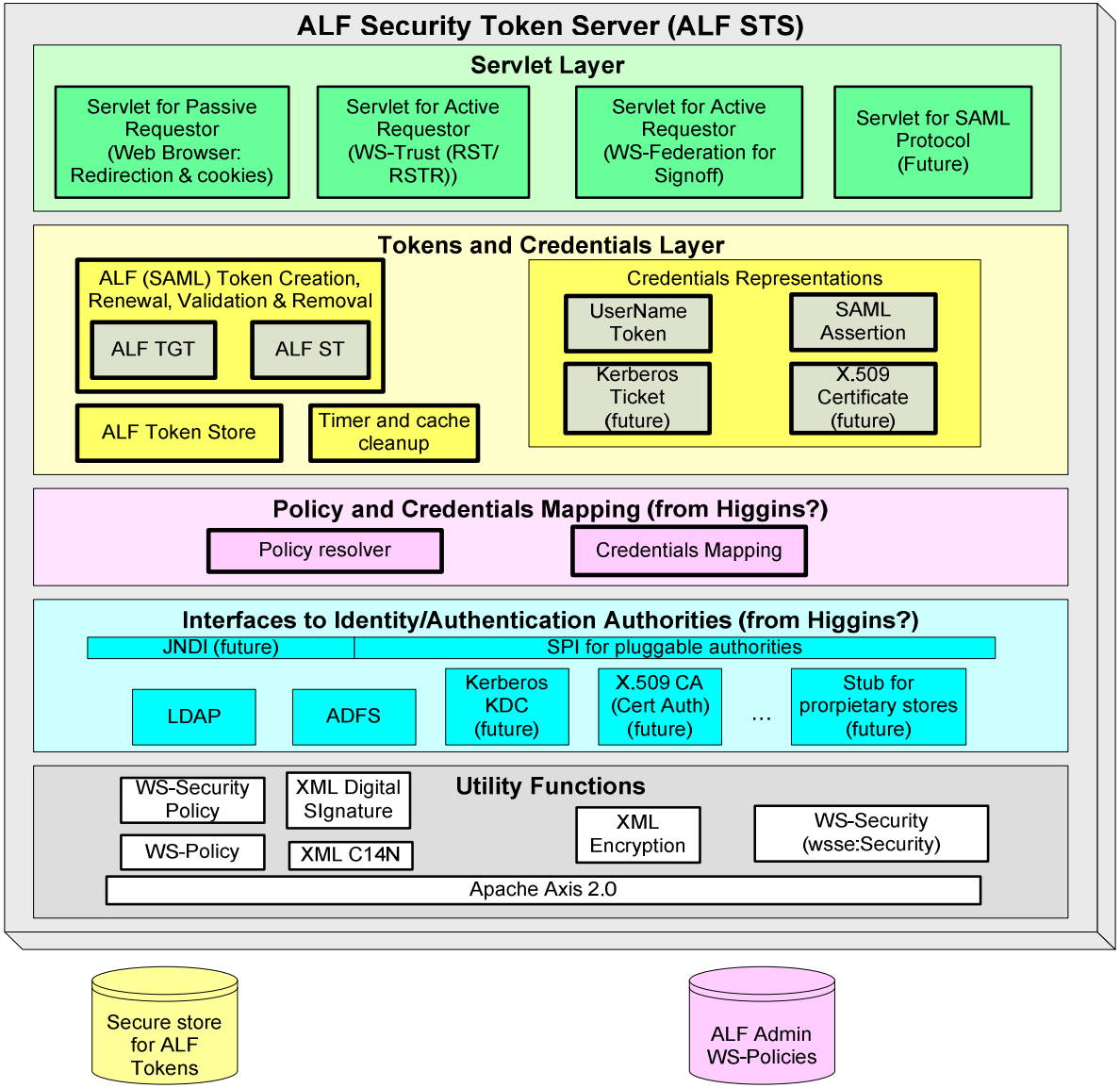
What is ALF building and will contribute to Higgins

- Security Token Server
  - Implementation likely to draw on existing art
    - Open source projects: CAS, Shibboleth, SourceID, …
- Aids for tools to enable to SSO
  - Library of helper functions
    - For Java-based clients and server-based tools
  - Possibly a Web service gateway for tools that don't support WS-Security
    - Intercepts messages, strips off and handles security headers
    - The will pass on web service messages along with logon/logoff messages
    - Adds security headers back on to outgoing messages

ALF SSO Scenario



ALF STS


ALF Security Token Server (ALF STS)
Servlet Layer
Servlet for Passive Requestor (Web Browser: Redirection & cookies)
Servlet for Active Requestor (WS-Trust (RST/ RSTR))
Servlet for Active Requestor (WS-Federation for Signoff)
Servlet for SAML Protocol (Future)
Tokens and Credentials Layer
ALF (SAML) Token Creation, Renewal, Validation & Removal
ALF TGT
ALF ST
ALF Token Store
Timer and cache cleanup
Credentials Representations
UserName Token
SAML Assertion
Kerberos Ticket (future)
X.509 Certificate (future)
Policy and Credentials Mapping (from Higgins?)
Policy resolver
Credentials Mapping
Interfaces to Identity/Authentication Authorities (from Higgins?)
JNDI (future)
SPI for pluggable authorities
LDAP
ADFS
Kerberos KDC (future)
X.509 CA (Cert Auth) (future)
...
Stub for prorpietary stores (future)
Utility Functions
WS-Security Policy
WS-Policy
XML Digital SIgnature
XML C14N
XML Encryption
WS-Security (wsse:Security)
Apache Axis 2.0
Secure store for ALF Tokens
ALF Admin WS-Policies

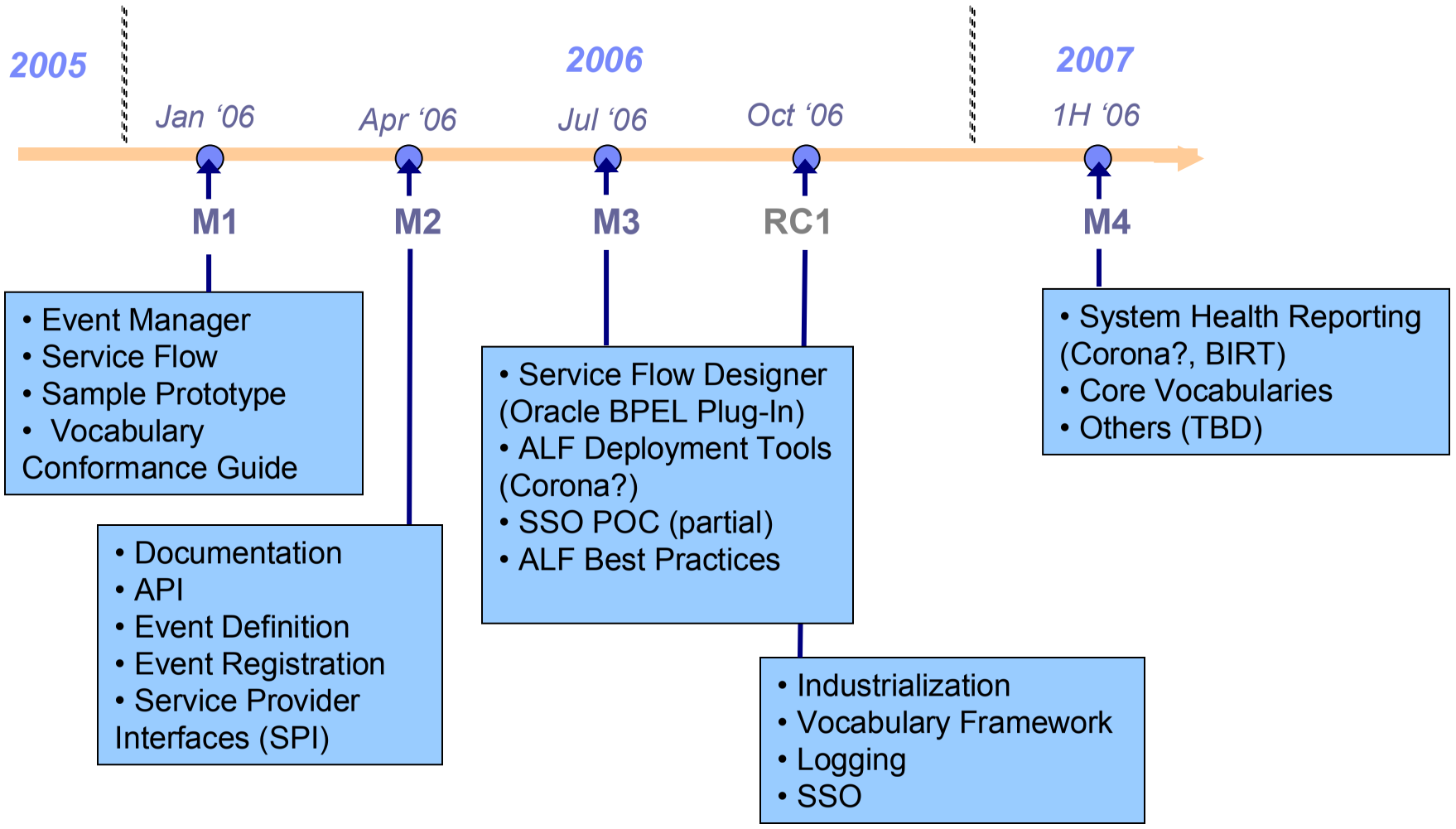
ALF-Higgins Touch-points

ALF-Higgins Touchpoints

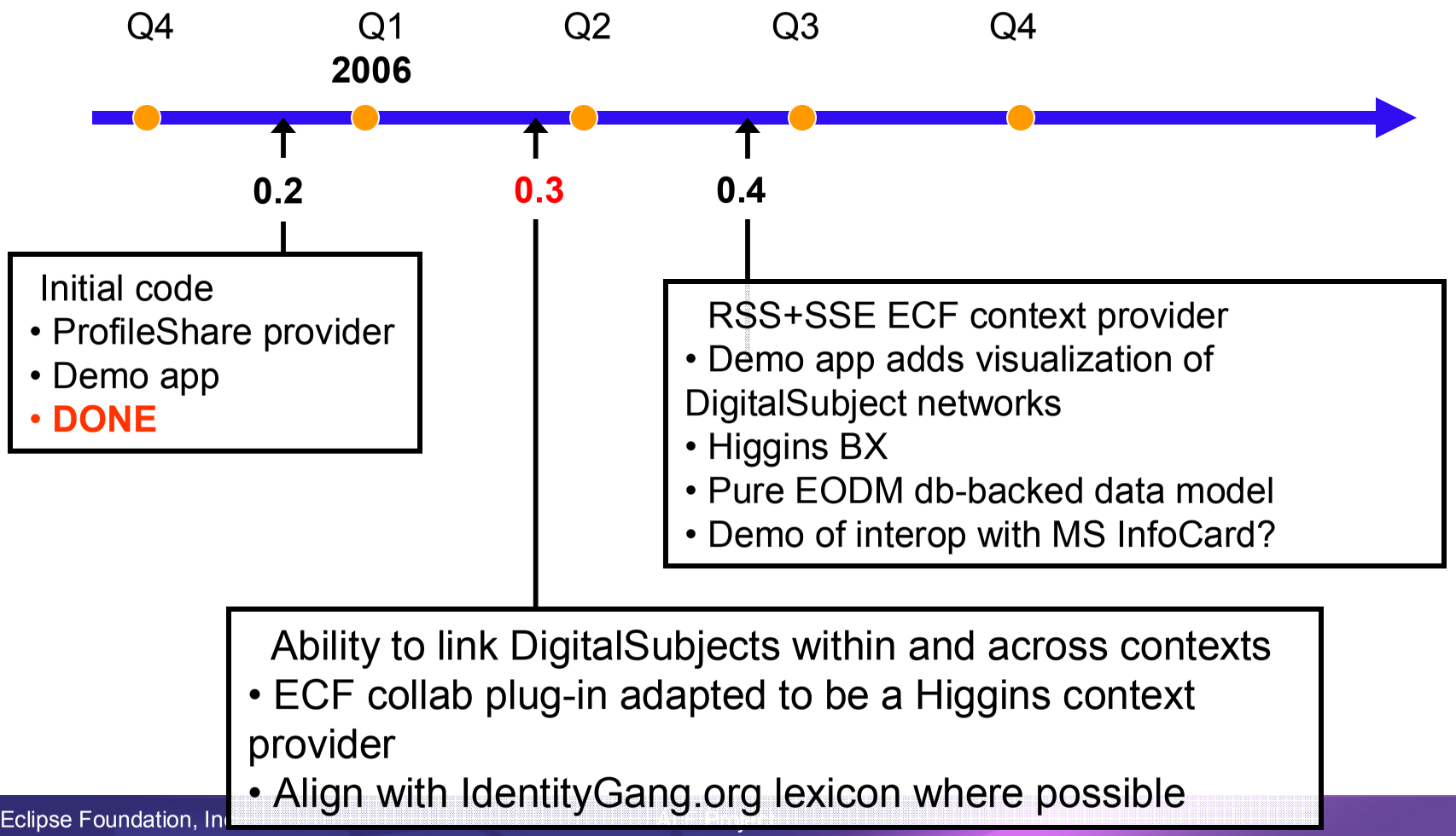
- Basic
  - ALF will leverage Higgins'
    - Implementation and model of user identity (when available)
    - Model of a user with various digital identities for credentials mapping
      - Example: switching to different digital identity to access a mainframe tool
    - Routines that map to backend identity authorities
  - Common use of WS-Policy
  - Higgins community expertise in identity and security reviews and guides ALF STS efforts
  - ALF developer becomes committer on Higgins for the purpose of doing building the ALF STS within Higgins
- Extended
  - Higgins community contributes to building STS
  - Higgins gains additional capabilities (SSO and STS) to provide an offering more desirable to potential users

Synchronizing ALF and Higgins Schedules

ALF Roadmap through RC1



Higgins roadmap



Crafting the Announcement

Draft suggestions for Joint ALF-Higgins Announcement

- ALF will build the following capabilities as part of the Higgins project:
  - Security Token Server
  - Library of helper functions for Java-based clients and server-based tools
  - (As time permits) Web service gateway for tools that don't support WS-Security
- Timing: RC1 is targeted for October 2006
- ALF will leverage Higgins identity management facilities as soon as practical
- Higgins will have a basic STS integrated with its identity management
- Long term goals
  - Coordinate various security-related efforts: Higgins, ALF, Corona, RCP/OGSi JAAS and security, …

Next steps – Action items