PyGridWare Overview

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Python WS Core

- Implementations of the Web Services Resource Framework (WSRF) and Web Service Notification (WSN) family of specifications
  - Based on June 2004 OASIS schemas with minor changes
    - Using 2004/03 version of WS-Addressing specification.
    - WS-BrokeredNotification not supported
- Compatible with the GT4 Java WS Core
A Closer Look

• Provides API and tools for building WS-Resources (Web services that operate on stateful resources)

• Provides Python binding generation from WSDL
  – Focus on WS-I BP-1.0 compliance

• Security
  – Transport layer (https)
  – Secure Conversation
  – Secure Messaging
A Closer Look (cont.)

- Implemented using standard Python software
  - ZSI for SOAP handling
    - Much of our work has been contributed back to ZSI
  - 4Suite and PyXML for XML
  - Twisted for the hosting environment and event loop
PyGridWare Architecture

Service Hosting Environment

- Request
- Response

Client

Security Handler

Lifetime Management

Dispatch

Notification Producer / Consumer

User Code/Generated Code

Storage

Client

Client

Client
pyGridWare Features

• A lightweight standalone container
• Automatic service startup on container start
• Basic API for resource persistence and recovery
• Notification infrastructure:
  – Subscription Manager/Notification Producer
  – Lightweight Notification Consumer
pyGridWare Features

• Security infrastructure:
  – Pluggable handlers for WS-Security
  – Secure Conversation Service
  – Implementing a compatible Delegation Service

• Support for wrapping legacy codes and command line applications as Grid Services
%python setup.py --regenerate build

"config.txt"

BaseFaults=URL
CounterService=URL2
SecureConv=URL3

SCHEMA
WSDL
ResourceProperty configuration

types
Client stubs
service stubs
Properties Context
More Information

- Project site
  - http://dsd.lbl.gov/gtg/projects/pyGridWare/
- ZSI
  - http://pywebsvcs.sourceforge.net/zsi.html
- Twisted
  - http://twistedmatrix.com/products/twisted
- 4Suite
  - http://4suite.org/index.xhtml