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C WS Core

- Implementation of the Web Services Resource Framework (WSRF) and WS-Notification (WSN) family of specifications
  - WS-ResourceProperties support: No QueryResourceProperties provider
  - WS-Notification support is only receiver-side (NotificationConsumer)
- Builds on Globus C Asynchronous Events
  - Non-blocking calls and callbacks
  - Flavors and thread pooling
  - More info: http://www-unix.globus.org/toolkit/docs/3.2/developer/globus-async.html

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C WS Core

- Service Container and Embeddable Service Engine API
- WSDL Binding Generation
  - Pure C parser/generator
  - Doc/lit support only
- Security
  - Transport
  - SecureMessage (Integrity only)
- Type Registries
- Message Handlers

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Clients

- End-to-end solution for WSRF-enabled clients in C
  - Pure C types and interfaces (non-blocking and blocking)
  - EPR encapsulation
  - RP querying
  - Asynchronous NotificationConsumer API

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Services

- Full WS support, some WSRF/WSN support
  - Doc/lit operation invocations
  - WS-I Basic Profile conformance
  - WS-Addressing by default
- Service Container
  - globus-wsc-container
  - No RegistryService (accepting contributions now!)
- Engine API
  - globus_service_engine_start
  - globus_service_engine_stop
- Service Modules

Service Implementation

- Operation Impls and Init
- Resource API
  - Factories and Resource Creation: globus_resource_create
  - Creating RPs: globus_resource_create_property
- Operation Providers
  - Operation Provider Modules
  - How to load WS-ResourceProperties and WS-ResourceLifetime operation providers

Example Client

- Module Activation:
  - globus_module_activate(COUNTERSERVICE_MODULE);
- Create client handle:
  - handle = CounterService_client_handle_init(..);
- Create Resource:
  - EPR = CounterPortType_createCounter(handle, endpoint);

Example Client (cont.)

- Perform operation on resource:
  - CounterPortType_add_epr(handle, EPR, 10);
- Get Resource Property:
  - CounterPortType_GetResourceProperty_epr(handle, EPR, “value”);
- Destroy Resource:
  - CounterPortType_destroy_epr(handle, EPR);
- Teardown
  - CounterService_client_handle_destroy(handle);
  - globus_module_deactivate(COUNTERSERVICE_MODULE);

Receiving Notifications

- Write a notification callback
- Init: globus_service_engine_init
- Create Consumer Resource:
  - ConsumerEPR = globus_notification_create_consumer(engine, callback);
- Start: globus_service_engine_start
- GetRP(Topic) [optional]

Receiving Notifications (cont.)

- Subscribe(ConsumerEPR, <topic>)
- Block:
  - while(!done) { globus_cond_wait(..); }
- Stop: globus_service_engine_stop
- Teardown: globus_notification_destroy_consumer(ConsumerEPR)
- Destroy: globus_service_engine_destroy