Concurrent Technologies Corporation (CTC) is a technical leader in integrating advanced semantic technologies into traditional SOA (Service Oriented Architecture) programs in an effort to improve the ability for users and software agents to discover services.

The “Service Discovery Gap”
Presently, SOA programs that are successfully implemented into operational environments find themselves having significant problems allowing users, as well as software agents, to discover services of interest. This inability to quickly find relevant services can result in a lack of user adoption which can dramatically reduce the overall effectiveness of the SOA program.

An organization-wide, fully pervasive SOA that allows users and software agents to quickly find relevant services can transform and empower users in an organization. Instead of requiring technical developers and engineers every time system or application changes are desired, a non-technical user can create a new application or change the system by connecting existing services together in new ways.

CTC has seen first-hand how the Service Discovery process of a SOA is often overlooked but, in reality, is a key functional component contributing to overall SOA program success. Simply stated, if users can easily find relevant services, they will embrace a SOA-based system; whereas, if they cannot, they will most likely reject it. At the heart of CTC’s technical efforts in this space is the Semantic Service Registry or SSR that empowers the semantic technologies for Service Discovery.

CTC has developed three distinct, semantically powered processes that provide new robust functions for both users and software agents. All three of these processes focus on Service Discovery that dramatically augments traditional SOA approaches:

**Enterprise Wide Taxonomies**
In an effort to assist users to understand what services are available in their enterprise, CTC has developed taxonomies to classify services. In this manner, users can easily navigate through all of the services that they have the ability to access. Users can quickly find new services of interest and explore the taxonomy to fully understand all the available services in the SOA that may be of use to them in the future.
Automatic Identification of Replacement Services
Every service in the SSOA system has a set of semantic descriptions created and loaded into the Semantic Service Registry (SSR). When a service in an existing user workflow is unavailable, software agents can compare the detailed semantic descriptions of the failed service to other available services defined in the SSR. In this manner, user workflows can be recovered in real time by using new services to replace failed services that have equivalent functionality without user intervention.

Proactive Announcement of New Services of Interest
By modeling user behavior, models can be developed that track the semantic characteristics of the services that users typically use. When new organizations add their existing services to SSOA-powered systems, the semantic attributes of the new services can be compared to the historical user models in order to determine if any of the new services are semantically relevant for specific users. In this way, users can be proactively notified when new services of interest become available.

CTC has demonstrated the power of SSOA on multiple programs with different customers. In each instance, SSOA has been able to strategically enhance current SOA programs as an important risk reduction by providing powerful Service Discovery capabilities.

For more information on CTC’s SSOA solutions, contact:

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