Extension Name: CTIOS Web Service
Extension Type: CTIOS

What does this Extension do?
The CTIOS Web Service provides clients with the necessary Web Methods to perform the most commonly used Third Party Agent State Control, Call Control, and methods to retrieve details about Agents and Calls. The CTIOS Web Service methods are completely synchronous in nature. This means that the client calls the particular web method synchronously. Upon receipt of the request, the CTIOS Web Service will call the corresponding CTIOS object method and then waits for the related Asynchronous Events before responding back to the client.

The CTIOS Web Service solution leverages Cisco's server-to-server CTIOS capabilities. The CTIOS Server provides an interface between Cisco Unified Intelligent Contact Manager Enterprise (CUICME) or Cisco Unified Contact Center Enterprise (CUCCE) software and client CTI applications so that these applications can make use of the enterprise wide routing data managed by Cisco UICME or UCCE software. The CTIOS Server runs at the call center site on a Cisco Peripheral Gateway (PG) with ACD interface software. The CTIOS Server accepts commands that are in turn passed on through the PG and to the ACD to which it is connected. In Cisco's CTI OS solution, a client interface library (CIL) approach can be leveraged. The CIL provides programmers with an object-oriented and event driven API. Programmers interface directly with Session, Agent, Skill Group, and Call objects to perform all functions.

The CTIOS Web Service application interfaces to the CTIOS Server using the CTIOS .NET Client Interface Library (CIL). It utilizes an agent mode client connection for each agent that will be handled by the CTIOS Web Service.

The CTIOS Web Service runs as a standard ASP.NET Web Service running on the .NET 1.1 Framework, and will support SOAP 1.1 and 1.2 messages.

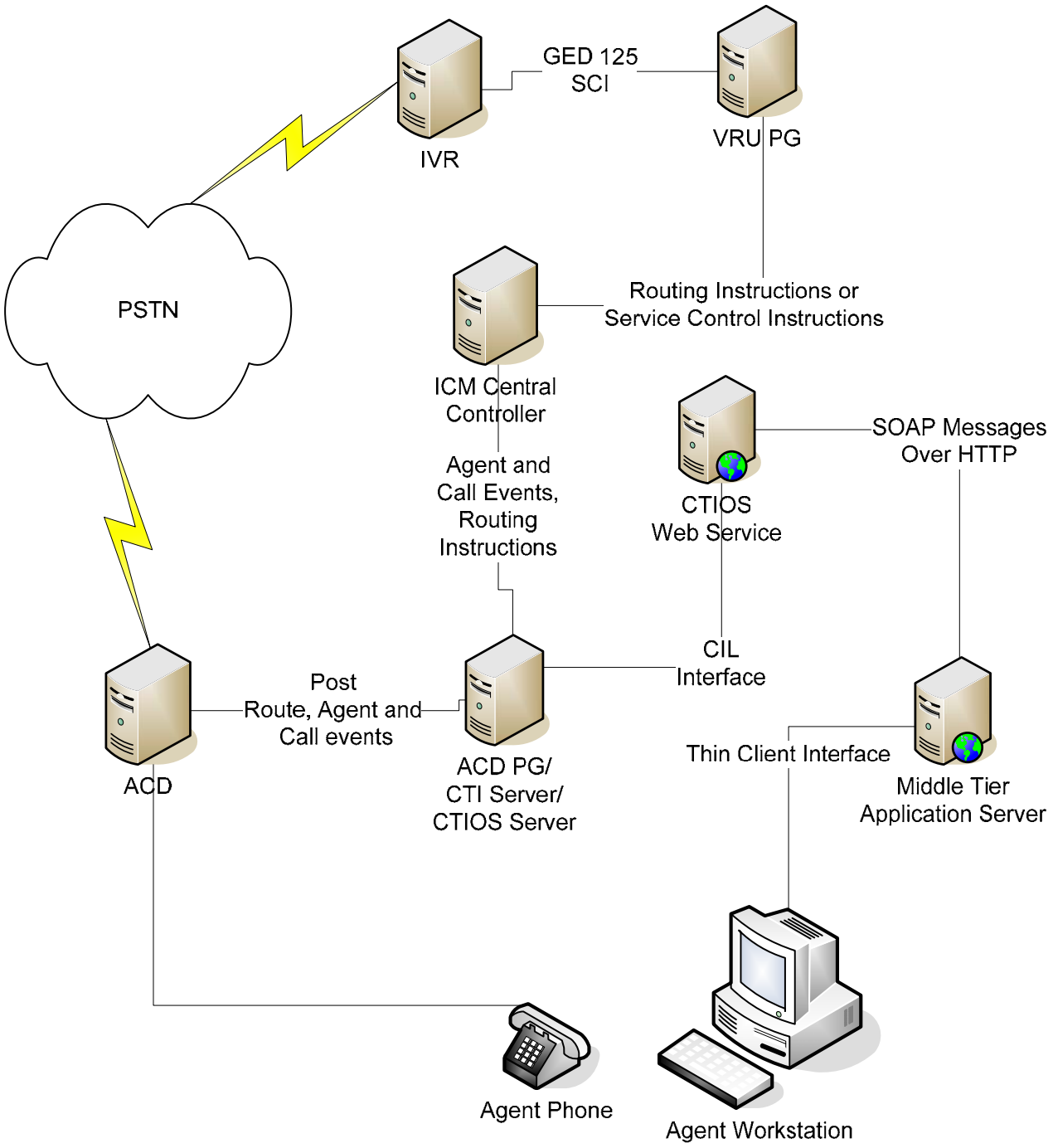
The CTIOS Web Service supports connecting to multiple CTIOS Servers (i.e. Call Center Sites), and all clients of the CTIOS Web Server are required to pass the Peripheral ID of the CTIOS Server along with other necessary parameters on each method call to uniquely identify the specific CTIOS Server that the resource is associated.

The CTIOS Web Service also provides the capability for Clients to register a Callback Web Method to receive Asynchronous event notification. When the Web Service client logs in an agent, if the client would like to receive asynchronous events for that agent, the client can pass an event mask for the events it would like to receive notification, and a URL that the client will be listening on for the event notification. This callback web method can be at a central server location or a unique URL for each specific agent.

The current list of Web Methods available from the CTIOS Web Service are as follows: Login, Logout, Ready, NotReady, WorkReady, WorkNotReady, Wrapup, MakeCall, Answer, Release, Hold, Retrieve, MakeConsultCall, InitializeTransfer, InitializeConference, CompleteTransfer, CompleteConference, SingleStepTransfer, SingleStepConference, Alternate, Reconnect, GetAllAgents, GetAgentDetails, GetAgentCalls, GetCurrentCall, and SetCurrentCall.

Note: Since the CTIOS Web Service uses the CTIOS .NET CIL it does not support CTIOS based Silent Monitoring or Security Socket Layer connections to the CTIOS Server, since these are not supported by the CTIOS .NET CIL.

The following diagram shows a typical Architecture using the CTIOS Web Service.



What is an example use-case for this Extension?
An example of where the CTIOS Web Service can be used is in a Thin Client Desktop implementation. Where the client desktop application is completely thin (i.e. HTML with Java Script running in a Web Browser. No ActiveX Controls or Java Applets to be downloaded and ran at the Agent's desktop). The customer or partner would build a middle-tier application server to handle the presentation to the Agent's desktop, and any business logic that is required outside of interacting with the telephony infrastructure (i.e. interfacing to backend database, etc…). The middle-tier application server would implement the Web Service Definition Language (WSDL) interface for the CTIOS Web Service to place web method calls on behalf of the Agent Desktop to control the agent's state and control calls.

Who will benefit from this Extension?
Customers that have a need for a Web Service interface to CTIOS. This could be for building a Thin Client Desktop application taking advantage of Web 2.0 technologies, or for server to server integrations where the server application needs access to agent information, call information, or to act on behalf of an agent or call.

What is involved with an engagement for this Extension?
The CTIOS Web Service provides a SOAP XML web method call interface to the CTIOS Server. It's use will require the customer or partner to develop an application that implements the CTIOS Web Service WSDL. This can be done with just about any programming language available which supports HTTP and SOAP XML constructs. Table 1 below represents the actives that would be required for a typical engagement.

Table 1: Representative Activities for engagement

Planning	• Purchase and deployment of Cisco UICME or UCCE Product, including the CTIOS Server • Purchase CTIOS Web Service from Advanced Services
Design	• Determine which web methods will be used and how. • Determine the connection information for the CTIOS Server(s).
Implementation	• Build application code using the CTIOS Web Service WSDL. • Ensure CTIOS Server is up and running • Install Internet Information Service (IIS) • Install .NET Framework 1.1 • Install CTIOS Web Service • Configure CTIOS Web Service
Operation	• Knowledge Transfer to customer or partner development team. • 30 day warranty after customer acceptance • Additional Day 2 Support is provided via a Fee-based Annual Subscription Service – see link below.

How do I purchase this Extension?
To attain a quote, additional associated consulting, or more information for this extension – please contact your Cisco Services Account Manager (SAM) for a Statement Of Work (SOW) – and please send your request to: custom-application-request@cisco.com.

Note: The CTIOS Web Service provides a programming interface, which the customer, partner, or Cisco Custom Engineering Services can use to build any number of different applications. Purchasing the CTIOS Web Service software does not include any Advanced Services consulting time around the use of the API. Any additional consulting help with building an application using this API would be purchased separately.

How do I purchase Support for this Extension?
To attain a quote or more information about Custom Application Support (CAS) for this extension – please reference SOW#, PID#, and Customer Name – and send your request to: cerequest@cisco.com.