



## Chapter XXIII

# Modeling of Customers' Interactive Control of Service Processes

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*Providing customers with an electronic means to control a service that is performed on their behalf in an electronic commerce environment requires analysis and description of the service and a customer's potential interaction with it. Current process and service modeling approaches do not provide adequate means to adequately represent customers' service management functionality and its effects on the service and service-implementing processes. The CoCS conceptual modeling approach provides a meta-model and a modeling language for this purpose. Using the CoCS approach, service designers can specify a conceptual model of a service and its management by the customer in a consistent way such that it can be used to implement the service management interface for customers.*

## INTRODUCTION

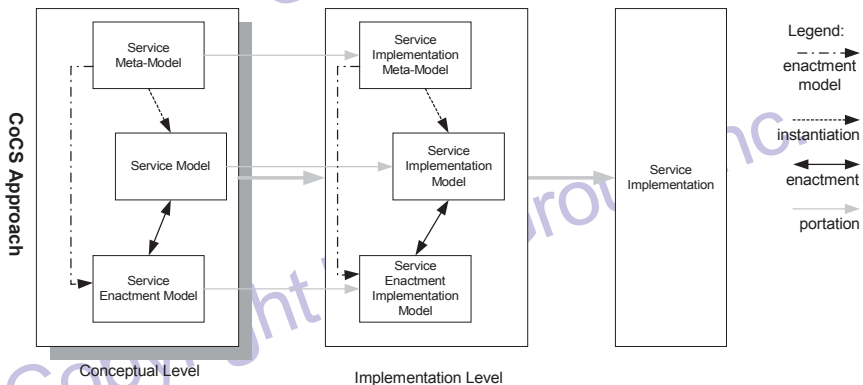
Providing customers with an electronic means to control a service that is performed on their behalf in an e-business environment requires analysis and description of the service to be supported. In the past, customer control of services performance has not been well-supported by electronic means. Today's systems for electronic commerce focus on sales and payment activities related to the electronic trade of goods and services. Organisations can choose from a variety of on-line shop

offerings such as IBM's Net.Commerce or Microsoft's Commerce Server and can rely on electronic payment standards such as SET. Beyond order and payment functionality, only a few businesses exist that offer a custom-made means of monitoring a service as it is being performed. For example Federal Express (<http://www.fedex.com/>) and UPS (<http://www.ups.com/>) offer customers the ability to track the delivery of a parcel over the Web; Dell (<http://www.dell.com/>) provides the PC assembly and delivery monitoring facilities. However, they offer no control over the ongoing service performance, e.g. customers cannot change the delivery address once the parcel is on its way.

Providing service management capabilities to customers is important for both business-to-business and business-to-consumer commerce. Efficient setup and provision of service management systems for customers could be one of the key enablers for service outsourcing on a tactical level (Cole, Dolberg, Lyne, and Gatoff, 1999), i.e. on a case-by-case basis. Why do only few companies provide online *service management systems* to their customers? One of the reasons - aside from implementation problems - is that the relationship between services that are provided for customers and internal business processes are not well understood. The provision of customer control requires precise definition of the way in which a customer can monitor and control a service's performance, when this is possible, and the effects of these operations on the business process that implements the service. Current business process modeling approaches such as SOM (Ferstl and Sinz, 1997) and ARIS (Scheer, 1992) focus on the analysis and design of the main business process that implements a service. Also, more general analysis methods such as the Unified Modeling Language (UML) are being used to analyse and design systems that implement a business process. However, neither of these approaches supports explicitly the specification of the customer's service management capabilities with respect to the specification of the core business process.

In this chapter the CoCS (Control of Customer's Services) modeling approach will be introduced. The CoCS approach provides a meta-model that conceptually relates business processes and services. The purpose of the CoCS approach is to provide service analysts and designers with a means to represent the way in which a customer can manage a service that is performed for them. This service modeling language is based on the CoCS meta-model and builds on existing approaches for

Figure 1: Scope of the CoCS modelling approach.



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