MOVING CO-BRANDING TO THE WEB: SERVICE-LEVEL AGREEMENT IMPLICATIONS

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Virtual co-branding moves to the Web a popular practice in the physical world whereby a customer partner syndicates the services (e.g. product retail) of a provider partner in his own portal. However, virtual brand integration is more than offering each brand products in the same virtual space. Other aspects such as reliability, usability or quality of distinct supporting services should be agreed upon to guarantee a certain quality of service (QoS) on the final co-branding arrangement. Otherwise, the image of both brands can be eroded. This paper argues that current service-level agreement approaches, mainly centered on reliability issues, can be extended to accommodate other key issues in co-branding. The paper focuses on CRM concerns, and provides some insights on how a QoS framework, IBM's WSLA, can be extended to incorporate CRM QoS concerns.

1. INTRODUCTION

Co-branding involves the long- or short-term association or combination of two or more individual brands, products, or other distinctive proprietary assets to form a separate and unique product [2]. As an example, consider the co-brand alliance between Iberia and Hertz. Each promotes the other to its customers, thereby increasing mutual exposure. Market segments between the two are compatible because Iberia frequent travelers are likely to rent cars. This example illustrates the strategy of co-branding, which occurs between companies with two distinct brands marketed together to form a unique composite offering that adds value for the consumer.

The Web has not been foreign to this strategy. A first approach for two partners to do a joint venture in the Web, could be for a host co-brander to offer participation in its Web site to a potential co-branding sponsor. Under the agreement, the sponsor's products are visible from within the site of the co-brander. The latter might specify in its standard contract that, as the host, it must have sole responsibility for editing, updating, and repositioning the co-brand pages. But the

sponsor might have problems with such a clause, believing it should have some discretion over the general layout because the co-brander might not understand the brand values the sponsor wishes to communicate on the site. If the sponsor were to reluctantly accept the offered arrangement, it could lose some control over the way its message was presented. This will certainly undermine co-branders trust. Hence, the most common approach for virtual co-branding is for each co-brander to have its own site, and make the sponsor's site visible from within the site of the co-brander. This allows for each co-brander to keep the control of its own site.

However, this loose-couple integration prevents the final user from having a holistic experience when interacting with the co-branded site. This has been pointed out in [4]: *"Walking into a physical store, selecting a product, and carrying it to a cash register requires very little learning for a shopper. On the Web, that activity is akin to learning a new desktop application. The new customer must decrypt new interfaces, new naming conventions, and all of the other details that make up an e-commerce experience on the Web. Simplifying this process will undoubtedly lead to more online sales"*.

This observation emphasizes that, although each partner should retain the control of its Web presence, the integration should be as seamless as possible. This implies a careful look at usability issues, but also at other concerns such as customer-relationship management (CRM) integration, privacy policy harmonization, or audit and tracing concerns. Co-branding is inherently risky. You are exposing one of your most valuable assets, your reputation, to the whims of a partner. If your partner's site breaks down time and gain or customer data is leaked, your image will suffer as well.

This situation calls upon Service-Level Agreement (SLA) mechanisms that allow co-branding partners to set a certain Quality of Service (QoS) standard. Such mechanisms are currently commonplace for networking and communication services to monitoring the QoS for crucial parameters such as availability, response time, throughput, etc. In a co-branding setting, other supporting services can be even more important. CRM services are a case in point. Indeed, recent developments show that just like real stores, online shops need to extremely focus on customer service in order to stay competitive. In future online business, it will be sustained customer relations (i.e. customer loyalty) that create long-time value. Therefore, CRM becomes a critical factor for lasting business success.

This observation implies that the hosting partner would be interested in ensuring a certain CRM-based QoS for those "HTML fragments" he is channeling on behalf of the co-branding partner. If a customer accessing your site, is dissatisfied by the CRM support offered by your co-branding partner, your image will suffer as well.

Unlike "analytical CRM" (i.e. data warehousing and the like), collaborative CRM entails the conglomerate of all communication channels that enable the business to communicate directly with the customer. Web wise, FAQ´s, e-mail and newsletters are the most commonly used tools for online customer service. This work provides some SLA parameters to assess the QoS of these tools, and some insights on their validation. To this end, the WSLA framework is used [1].

The rest of the paper is organized as follows. Next section outlines the WSLA framework. Section 3 introduces CRM concerns, and identifies the subjects to be measured. Next, in Section 4, we focus on SLA specification for the FAQ service by means of the WSLA framework. Concluding remarks are provided in Section 5.

2. WSLA IN A NUTSHELL

The WSLA framework is a SLA management system that *"measures and monitors the QoS parameters, checks the agreed-upon service levels, and reports violations to the authorized parties involved in the SLA management process"* [1]. Unlike previous manually-based approaches, one of the main contributions of WSLA is the automated provision of the distinct aspects related with SLA management, specifically, definition, deployment, monitoring and enforcement of SLAs. We focus on the definition part.

A partial view of the main concepts involved in WSLA is shown in figure 1 (refer to [1] for a complete account). *Signatory parties* resolve a certain *service-level objective* on the observable *SLA parameters* of the object to be measured, in this case, a Web Service operation.
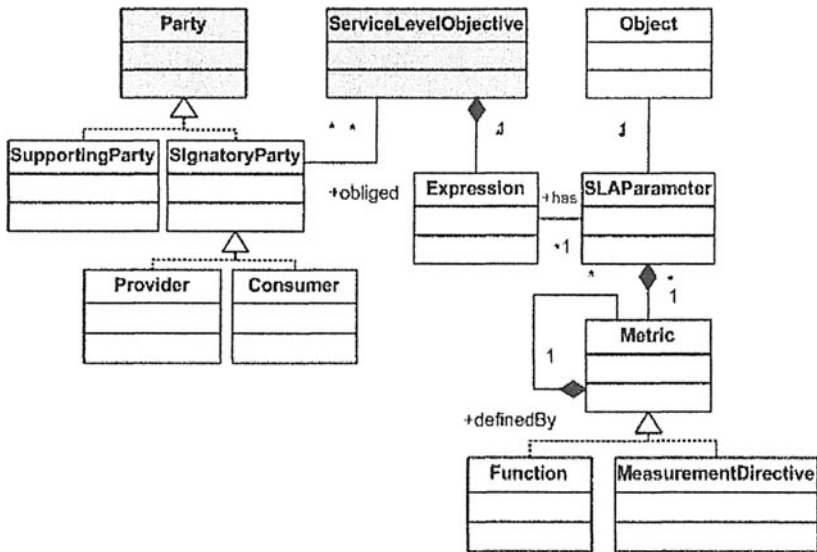

Figure 1 – Main WSLA Concepts

According with the WSLA terminology, the parties that establish and sign the SLA are referred to as *signatory parties*. Moreover, SLA monitoring may involve third parties. This situation can arise when none of the signatory parties has the time or skills to undertake this monitoring, or if one signatory party does not trust the other to perform a function correctly. There are referred to as the *supporting parties*. The delegation of monitoring activities to third parties as part of the SLA specification is also a novel contribution of the WSLA framework.

SLA parameters are defined on target *objects* according with some *metrics*. As an example, consider a broker Web Service. For the operation *getQuote* of this service, we are interested in agreeing a certain service level for the "average transaction throughput", specifically, we want this parameter to be above X

provided the workload of the system is below Y. The computation of SLA parameters is achieved in terms of a metric, whose associated *function* indicates how to work out the metric based on other metrics. This aggregation hierarchy ends when the metric can be directly retrieved from a managed resource. These "leaf" metrics are referred to as ***measurement directives***.

Finally, SLA parameters are used to express the **service level objectives**. They indicate a commitment to maintain a particular state of the service in a given period. An **expression** is used for this purpose.

3. CRM

It was only after companies had started to post-extensive corporate and product information on the Internet when they discovered that the Web would actually support interaction. Until this point, it was common belief that the mere attention a site attracted measured in hits would make for all of its success [3]. For this reason, online retailers rather focused on a wide range of products and competitive prices than on pre- and after sales service. The main reason for businesses to put their customer service online was cost reduction. However, recent developments show the increasing importance of sustained customer relationships as a must for lasting business success. CRM is the technology that makes this happens.

Based on this observation, the consumer partner will be interested in agreeing some QoS for the CRM offered by the provider partner[1]. This work focuses on collaborative CRM, i.e. the conglomerate of all communication channels that enable the business to communicate directly with the customer.

Three objects are considered, namely, FAQ, e-mail and newsletters. For each object, a brief introduction about its impact in CRM is first presented. Then, possible SLA parameters are enumerated, together with the associated metrics, and most important, the measurement directive, i.e. how an individual metric can be retrieved from the co-brander.

E-mail is the most common supporting mechanism for site-to-consumer interaction. It is however vital that customer e-mails are acknowledged promptly. Failure to treat customer questions or complaints fast will result in dissatisfied customers and poor perception of the company. A potentially great opportunity can become a marketing disaster if sites with customer e-mail capabilities are swamped with requests but are unprepared to deal with them.

In order not to lose customer contact by not being able to track down every incoming message, online businesses should use tools that help them manage the bulk of e-mail they receive. These tools are called *Queuing and Routing* tools [3]. *Auto-responders* can also help here. They send out a standardized reply to every incoming e-mail before any human looks at it. This provides an immediate proof-of-delivery and lets the customer know that at least the e-mail he or she sent

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[1] It is interesting to note whether this SLA is reciprocal or not. Traditional SLA frameworks always assume a one-way obligation from the provider to the consumer. However, most of the co-branding agreements tend to be bi-directional. This issue is not addressed here.

was received [3]. Order acknowledgements for example, give quick certainty to the customer that the order was placed correctly. This means that one part of the CRM concept, instant customer care, is fulfilled.

Potential SLA parameters, include, acknowledge promptness and average response time. These parameters can be estimated in terms of the average delay in providing an answer. Some of these metrics can be obtained by obliging the provider partner to send the reply e-mail to both the customer and the co-branding partner (or the supporting partner in charge of working out this parameter).

Newsletter. Customers generally like to be informed about product promotions and helpful hints on how to use a product [3]. For these purposes a newsletter is sent out on a regular basis by some online businesses. A more personalize service can be obtained using customer profiling. Customer data should for example be categorized for outbound e-mail contact. Then, online customer service can remind customers who have bought a specific product when it is time for a maintenance check up or when additional product features of the same product line are available. It is not the sole goal of modern online customer service to provide fast answers to questions. Businesses also need to concentrate on bonding with their customers, and this requires a personalized communication.

Potential SLA parameters, include, frequency, coverage or personalization. These parameters can be estimated in terms of issues per year, newsletters extension, subscription policy, etc. Again the provider partner should submit the newsletter to the co-branding partner for him to verify the fulfillment of the agreement.

The **FAQ page** of an Internet retailer's site provides answers to questions that are asked by customers on a regular basis. It is mostly a non-interactive online customer service tool and the most widely found. Even though the FAQ does not permit instant interaction between the customer and the service page, it may contain some useful information provided that the business has spent some time tailoring it to the target group. This means that before posting an FAQ on the web site the company needs to spend some time with the service people in the field and with some frontline sales people. Keeping the FAQ page in tune with the product catalogue is also a must. The company should strive to anticipate possible difficulties for those new products, and initialize the FAQ page accordingly.

The quality of the FAQ service can be evaluated in terms of its completeness, i.e. the extent to which the potential ranges of problems are addressed by the FAQ. Due to space limitations next section focuses on this SLA parameter.

4. ASSESSING FAQ COMPLETENESS IN TERMS OF SLA PARAMETERS

We strive to assess the completeness of the FAQ page(s). To this end, we use as a measure, the number of questions per products on "web" display. For instance, the hosting partner can agree with the guest partner that it should have a ratio of three questions per product on its e-catalogue. This will serve as a QoS metric. This implies to define:

- an SLA parameter, *CompletenessRate*
- a functional metric, *FaqPerProduct*
- two measurement-directive metrics, *FaqTotal, ProductTotal*

Next paragraphs indicate how the definition of these elements would look like in WSLA. The definition of the SLA parameter follows:

```
<SLAParameter name="Completeness" type="float" unit="">
    <Metric>FaqPerProduct</Metric>
    <Communication>
        <Source>ScrapperCo</Source>
        <Pull>HostingPartner</Pull>
    </Communication>
</SLAParameter>
```

The specification indicates that *Completeness* of the FAQ service is measured in terms of *FaqPerProduct* whose obtention is delegated to the *Scrapper Company*. This supporting company is queried by the hosting partner to obtain this value. The metric *FaqPerProduct* is in turn specified as follows:

```
<Metric name="FaqPerProduct" type="float" unit="Percentage">
    <Source>WrapperCo</Source>
    <Function xsi:type="Quotient" resultType="float">
        <Schedule>Monthly</Schedule>
        <Metric>FaqTotal</Metric>
        <Metric>ProductTotal</Metric>
    </Function>
</Metric>
```

In this example, *FaqPerProduct* is monthly worked out as the quotient between the number of questions and the number of items currently on sale. Finally, the last two metrics, *FaqTotal* and *ProductTotal*, are "measurement directives", i.e. they specify how an individual metric is retrieved from the source. In this case, these values are ascertained using scrapper techniques on the guest HTML pages[2].

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[2] Although scrapper techniques have been criticized by their dependency on the structure of the page being scrapped, we consider that most of the variations on pages supporting the FAQ service exhibit a quite stable structure, where changes, although frequent, mainly affect the content rather than the structure of the page.

The WSLA framework is extended to accommodate this demand with a new type of measurement directive, *scrapper*, and a new element, *requestURLPattern*, which holds a URL pattern that filters the pages to be measured. The specification follows:

```
<Metric name="FaqTotal" type="float" unit="">
    <Source> WrapperCo</Source>
    <MeasurementDirective xsi:type="scrapper" resultType="integer">
        <RequestURLPattern> ... </RequestURLPattern>
    </MeasurementDirective>
</Metric>
<Metric name="ProductTotal" type="float" unit="">
    <Source> WrapperCo</Source>
    <MeasurementDirective xsi:type="scrapper" resultType="integer">
        <RequestURLPattern> ... </RequestURLPattern>
    </MeasurementDirective>
</Metric>
```

Based on the SLA parameters, service level objectives can be defined to state the promises with respect to the state of these SLA parameters. In our example, the guest partner agrees to keep the *completeness* SLA parameter above three. This can be expressed in WSLA as follows (no extension is required):

```
<ServiceLevelObjective name="FAQ_completeness_set_to_three">
    <Obliged>GuestPartner</Obliged>
    <Validity>
        <Start>2003-04-02T14:00:00.000-05:00</Start>
        <End>2003-05-02T14:00:00.000-05:00</End>
    </Validity>
    <Expression>
        <Predicate xsi:type="Greater">
        <SLAParameter>Completeness</SLAParameter>
        <Value>3</Value>
    </Expression>
</ServiceLevelObjective>
```

This objective commits the *GuestPartner* to keep the *Completeness* rate above *3* during the time interval set by the *validity* element. The interested reader is referred to [1] for a detailed description of the WSLA vocabulary.

5. CONCLUSIONS

Despite its wide presence in the physical world, co-branding has not received too much attention in the e-commerce community. This paper brings SLA concerns to the co-branding arena. Besides traditional properties such as availability, security or response time, co-branding raises the need for SLAs in other areas. This paper has outlined possible SLA parameters for QoS in CRM, an area on increasing importance in e-commerce applications. It has also addressed how these concerns

can be accommodated in a traditional QoS framework such as IBM's WSLA language.

Co-branding is a subtle arrangement that impacts a wide-variety of concerns. Other aspects currently under consideration include trace and privacy agreements. The former are necessary as all interactions conducted through the co-brander's pages are transparent to the hosting partner. And vice versa. Due to its importance for auditing and personalization issues, a tracing agreement should be negotiated between the partners for this valuable data to flow in both senses. As for privacy policy agreements, different polls have corroborated the importance that privacy has for Web users. Partnership a Web site will certainly involve a consensus on P3P-related practices.

The final aim of this work is to sustain long-standing co-branding in the Web, and this calls upon SLA mechanisms capable of supporting the heterogeneous concerns that characterize this kind of agreement.

Acknowledgments

6. REFERENCES

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