

Q/ how C.R get the services exist in the story?

from vendors and these services may exist internal in the organization or external.

Q / what is services and technologies came together in the business trip story?

online repositories, customer relationship management, online calendar services, travel agencies, car rental

Q / how C. R.'s organization keep track of all customer contacts?

using an online repository and BI

Q / what is mean of standard of data in service-oriented architecture?

standardization mean using defined protocol and messages format between service provider and service consumer for example using XML and SOAP.

Q / what does calendar exist in C.R story?

There were multiple online calendars involved in the example of C. R.'s business trip:

C. R.'s calendar

C. R.'s spouse's calendar

C. R.'s manager's calendar

The calendar for each customer visited.

Q / how standardization of data and web services effect in C.R story?

1. easy to move from one CRM product to another when a new service provides more CRM features or a better price
2. They make calendars communicate with each other.
3. it possible to change calendar services provider
4. C. R. was able to add contact information automatically from his business trip from his calendar service to the online repository
5. when C. R. to receive the instant message concerning a very recent problem that a customer had, the online repository will be updated.
6. it possible for palmtops and cellular telephones to bundle the capability to check flight status in with their product.
7. C. R.'s organization can have switched to a new car rental companies.
8. it will become relatively easy to swap out one service provider for another that mean that some services in this story can treated as commodities

Q / WHAT IS ONLINE-REPOSITORY

its databases of all system data including services available and This repository is behind firewall and is served by a cluster of application servers. the online word means it accessible at any time and always provide up-to date and immediately information. also, the repository must be fault tolerant and provide additional features which is

- keep track of all customer contacts
- using repository with business intelligence (BI) package, allowed C. R. to determine which customers would be best for him to visit.
- use Web Services to connect to various online calendar services.

Q /What is agent?

Is software part of system or services, can use rules to monitor changes and report those changes using Web Services. agent enforces rules established by C.R. These agents are communicating with other service agents to establish the rules. For example, Online calendars are most likely to communicate with other software agents. These could include travel, airline, and hotel software agents. Another example is a customer's calendar agent will respond whether a specific time and date is a good time for a one-hour meeting with C. R.

Q / what is XML and what is its function in web services?

XML its tagged language, use tags to describe its element, Web Services essentially use XML to create a robust connection. The use of XML moves us away from the fragility of fixed record layout connections that can fail if proper formats are not used. XML also allows for the sending of more data than might be used. With Web Services, the extra data will not cause a problem with the receiving service.

Q / why software vendor is best than internal development in service providing AND what internal organization will do?

1. software vendor that can recoup development costs by having many more customers than any internal development organization could imagine.
2. can achieve better product at a lower cost because of specialization

SO Internal development organizations will therefore shift to doing less development. The emphasis internally will shift to making all the connections work properly and integrating new services that might give an organization a competitive edge. An organization might also decide to provide a unique service that can be sold to other organizations.

Q / why sometimes an organization develops its own software?

Increase performance

Q / what is steps of exchanging services between service consumer and service provider?

1. service provider describes its service using WSDL. This definition is published to a directory of services. The directory could use Universal Description, Discovery, and Integration (UDDI). Other forms of directories can also be used.
2. A service consumer issues one or more queries to the directory to locate a service and determine how to communicate with that service.
3. Part of the WSDL provided by the service provider is passed to the service consumer. This tells the service consumer what the requests and responses are for the service provider.
4. The service consumer uses the WSDL to send a request to the service provider.
5. The service provider provides the expected response to the service consumer.

Q / why use XML and why not use?

Use because its international standard and not use because its use tags and these tags may reduce performance because these tags which is additional data to transfer.

Q / Why XML is best than fixed-length record format?

Using the XML tagged format makes systems more resilient in the face errors.

EX:

If service provider adds an additional element not expected by a service consumer then the XML tagged format allows processing to continue without any problems occurring. If fixed-length record format there could be harm because some data may be process instead of other data.

Q / What is Simplified Web Services Notation?

the directory is implicit in the rectangle labeled “Web Services”. You could think of Web Services much like the bus in a PC in which you plug various circuit boards. Other middleware solutions appear similar and use the same “bus” concept so any service producer could also be a service consumer.

IMPORTANT NOTES:

- The only requirement for the switch was that the new CRM service could provide the same data over Web Services to the repository as the old CRM product.
- the calendar services compete on the capabilities of the profiles now that they all exchange data with other calendar services and other external services in the same way.
- When setting up his trip, C. R. used the online repository to select both priority customers and those that would be nice to visit. The necessary contact information was sent to the travel agent from the repository when C. R. pressed the “Submit” button. This travel agent can interact with the software agents that handle the calendars. C. R.’s travel agent also sent the travel information to the car rental company using Web Services. Finally, while C. R. was on the road, one of his customers cancelled. This software travel agent

contacted other names that C. R. had originally provided and arranged new meetings, changed the hotel reservations, and informed both C. R.'s spouse's calendar and his manager's calendar of the change.

- software vendors will compete using features or innovations that are independent of the connections. This could include user interfaces, automated software agents, rule-based systems, or user profiles that allow for highly customized interactions.

Some important definition:

1. **Web Services:** refers to the technologies that allow for making connections. Services are what you connect using Web Services.
2. **service-oriented architectures:** collection of services These services communicate with each other. The communication can involve either simple data passing, or it could involve two or more services coordinating some activity. Some means of connecting services to each other is needed. Those connections are Web Services.
3. **Service:** it is a function that is well-defined, self-contained, and does not depend on the context or state of other services. So, it is end-point of connection provided by web-service.
4. **A composite application:** it is created by combining services. Composite applications are built using a service-oriented architecture.
5. **fault tolerant:** This means that system or database is capable of being accessible virtually all the time even when there are hardware and software failures.
6. **business intelligence (BI):** it's a technique that work along with repository to allow C. R. to determine which customers would be best for him to visit. The BI package also can be used to identify various patterns in customer contacts and purchases.
7. **data-centric approach:** it is based on moving data to where the data might be needed.
8. **distributed-process approach:** the service depends on having the latest information processed at multiple locations distributed through an Intranet or on the Internet.
9. **The UDDI:** is a registry is intended to eventually serve as a means of "discovering" Web Services described using WSDL, the UDDI registry can be searched in various ways to obtain contact information and the Web Services available for various organizations. Even without the discovery portion, the UDDI registry is a way to keep up-to-date on the Web Services your organization currently uses.
10. **SOAP:** (simple Object Access Protocol) protocol provides the envelope for sending the Web Services messages. SOAP generally uses HTTP
11. **WSDL:** (Web Services Description Language) it is a language that is used to describe services in service provider and service consumer and directory parts.it use XML message format to make connection between these parts, these connections may be service request and service response.