

Real world whiteboard design case study

Modern cloud apps





Step 1: Review the customer case study

Outcome

Analyze your customer's needs

Timeframe

15 minutes



Customer situation

Contoso Sports League Association

The Contoso Sports League Association (CSLA) is one of the largest sports franchises.

They run a highly successful e-commerce website that sells merchandise to their legions of sports fans.

This website is built using ASP.NET and currently hosted in a co-lo.

They also have a backend website that supports their call center. Call center employees use this admin website to view customer orders.



Customer situation

- Their website hosts the shopping cart and checkout process, but they defer the credit card authorization and capture responsibilities of the credit card processing to a third-party payment gateway.
- This payment gateway provides a web API that is invoked over TLS from Contoso server side logic.
- The call includes the credit card holder data (name, number, etc) and returns a status indicating a success or failure in authorizing and capturing payment against the credit card.



Customer situation

- When a customer completes a purchase, that customer is emailed a receipt. This email contains the receipt in the body of the email, as well as a PDF attachment.
- They have about 10 GB of PDFs that are currently stored on disks available to the web server via a network share (they don't expect their receipt storage needs to double in less than 10 years).
- They currently store their order, customer, and profile data in SQL Server 2014 and are looking to augment their OLTP database with a data warehouse for analytics (updated nightly).



Customer situation

- CSLA manages the order fulfillment process.
- They store the order details in their SQL database, and also send a message for each order to their inventory management system running the warehouse to perform inventory lookup.
- CSLA experiences a roughly 12-hour window that spans East to West coast business hours, during which they get most of their orders.
- This inventory lookup rarely takes more than a few hours and never more than a day.



Customer needs – Must Have

- Manage their server infrastructure, which is becoming a real challenge. Contoso is interested in understanding more about PaaS solutions.
- Assure-data privacy and protection across all aspects of the system; in transit and at rest.
- Make architectural decisions that help to minimize engineering around infrastructure in favor of those that deliver core business value.
- Ensure that they retain their core functionality, even if the way it is accomplished under the covers might change.
- Provide a failover mechanism in the event of a regional database outage.
- A data warehouse for analyzing their transaction history.



Customer needs – Nice to Have

- Desire an “easy” solution for sending SMS notifications to customers when an order is ready.
- Want to be able to scale their offers’ API independently of the website.

Step 2:

Call to action: Design the solution

Outcome

Design a solution and prepare to present the solution to the target customer audience in a 15-minute chalk-talk format.

Timeframe

45 minutes

Design (30 minutes)	<ul style="list-style-type: none">• Design a solution for as many of the stated requirements as time allows. Show the solution on a flipchart.
Prepare (15 minutes)	<ul style="list-style-type: none">• Identify any customer needs that are not addressed with the proposed solution.• Identify the benefits of your solution.• Determine how you will respond to the customer's objections.• Prepare for a 10-minute presentation to the customer.

Hackathon – Hands-on

Hands-on Walkthrough

- (1) Download source code from - <https://git.io/vFQUN>
- (2) Create Azure SQL PaaS database Instance (S0 Tier)
- (3) Create Azure Webapp & App Service Plan (S1 Tier)
- (4) Update the application setting with connection string information – “MyDbConnection”
- (5) Deploy code via FTP or Kudu Console using publish profile credentials.