



THE UNIVERSITY OF TEXAS AT AUSTIN

McCOMBS
SCHOOL OF BUSINESS

BizIT 2006 Business Case Competition

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Attachments:

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Disaster Strikes: Aftermath of Hurricane Relief

Hurricanes Katrina and Rita displaced many thousands of Gulf Coast residents and severely tested the response capabilities of federal, state, and local governments and relief organizations. People from around the world responded generously, sending millions of dollars to relief agencies such as the Red Cross, Salvation Army, and many more. Donated funds were used in a multitude of ways: for emergency supplies, for transportation of supplies into affected areas, for medicines and medical supplies, for materials, and for much more. Some of the funds were used in direct cash allocations to people displaced from their homes.

This disbursement was innately challenging. Many people had lost all their identification. Relief centers were in many locations, from high school gyms to convention centers, often with limited access to electricity and no built-in information technology (IT) infrastructure. The people doing the disbursements were predominantly volunteers from Red Cross, a national not-for-profit organization with state chapters, professional management, and an emergency workforce comprised entirely of volunteers.

To decide who received cash disbursements, Red Cross volunteers interviewed applicants to collect and record their identification information onto a paper form. The forms (multiple pages, stapled) were passed on to a branch of iCountable, the company that volunteered to produce debit cards for the people approved for funds. iCountable filed the paper report and issued the debit card.

Both Red Cross and iCountable realized that, at the time of the Katrina emergency, there was no central database for inputting information and no way to check whether the information given was accurate or true. But because the situation was so dire for so many people, they simply plowed forward and issued cards.

From the initial client interview to fund distribution, documentation of the disbursement, and information sharing with multiple disbursement locations, the system as used in Katrina and Rita relief was burdened with paperwork and a potential for misdirection of funds yet to be realized.

Company Summary

iCountable – Cash Advance Lender

iCountable is a nationally recognized, privately held electronic payments company specializing in debit card issuance. With 225 employees, 10 years of experience, and annual fee-based revenue of \$45 million, iCountable is a leader in their industry. In 2004, iCountable handled debit card transactions close to \$1 billion.

Jim Sterling, CEO of iCountable, was raised in South Texas. His family went through total devastation and loss of all of their property when Hurricane Celia, reported to be the costliest in the state's history, ravaged Corpus Christi on August 3, 1970. Although still at high school, Jim's life was, in his own words, changed forever by the isolation and helplessness he and his family experienced in the aftermath of Celia. It was not a surprise to the people of iCountable that Jim spent the previous two months volunteering to help the Katrina and Rita disaster relief efforts.

Jim returned to work frustrated by the inefficiencies of the disaster relief debit card issuance process and called a special all-company meeting to discuss the recent disaster relief situation. While Jim had improved some of the process with his expertise while volunteering, he realized the problem needed a much larger solution.

To start the meeting, Jim described the problem with debit card issuance and identified why iCountable was the company to solve this problem. First, iCountable had become the industry leader by optimizing the debit card issuance process far beyond their competition's capabilities. Jim wanted iCountable to retain its leader status. Second, the company's primary market was blue collar, and they were used to dealing with people operating close to the edge of survival and with minimal recognized identity. Finally, iCountable was looking to increase its presence in the national marketplace and wanted to use this effort as a motivator to grow.

Jim's assessment generated a flood of excellent ideas from the iCountable staff. After thinking them through Jim called another meeting two days later to announce a challenge: iCountable needed to find a way to improve the debit card issuance process to avoid these inefficiencies for the next disaster.

Jim has a great head for business. Although he is cost conscious, industrious, and always attentive to the company's bottom line, Jim will venture into new territory when there is a good business case for it; iCountable lost several locations in the damage from Katrina, which will limit available cash. Therefore, the first requirement for the iCountable solution is that it must be financially viable with minimal impact on the current year budget, and with a positive ROI. Instead of starting from scratch, the winning team should modify the existing standard

iCountable business model to support the disaster relief organization. Second, Jim identified the distressed situation of relief organizations and their limited budgets, making a cost-efficient solution even more important. Finally, iCountable will be proposing a solution unsolicited by any major relief organization. Because they are generating the solution, iCountable must also convince the relief organization they have a problem that needs fixing.

The staff response to Jim's challenge was so positive that Jim decided to hold a competition among self-formed teams of iCountable innovators. He authorized a charge number for employees and gave the teams two weeks to present a solution to Jim and his senior staff. In addition, he identified the relief organization he wanted to target for partnership: Red Cross. Jim, always the motivator, left the meeting upbeat and believing that a **team from iCountable** could come up with a compelling solution.

Partner in Need is a Partner Indeed

Red Cross

At the center of the debit card chaos was a national relief organization, Red Cross, which administered debit-card-based relief for the Katrina and Rita disasters. The Red Cross had encountered a multitude of challenges and limitations with the debit card effort. These included processing disaster victims, verifying identities, issuing debit cards, reconciling accounts, and preventing fraud--to name only a few.

While Red Cross had been able to address debit card issuance manually for Katrina and Rita relief, Red Cross senior paid staff knew that a computer-based system that Red Cross volunteers could readily master and use could improve the rate and number of evacuees that could be assisted in the disaster immediate aftermath. It should be noted, however, that the Red Cross executive committee had rejected a spin-off of a state-based Medicaid management system because of its complexity and the very demanding training volunteers would need to learn and use the system.

Each year, Red Cross responds immediately to more than 70,000 disasters, including house or apartment fires (the majority of responses), hurricanes, floods, earthquakes, tornadoes, hazardous materials spills, transportation accidents, explosions, and other natural and man-made disasters. Despite this wide range of responsibilities, Red Cross prides itself on treating people who surviving these disasters with respect. Red Cross strongly believes in the human side of disaster relief and promotes strong customer service in all their activities.

Red Cross actively seeks help and in-kind contributions from technology organizations and therefore has agreed to meet with iCountable to hear their ideas about the debit card issuance problem. Given Jim Sterling's requirements and Red Cross's situation, iCountable has a true challenge ahead.

The iCountable Team Challenge Charter

1. Preface

The purpose of this charter is to provide a brief summary from iCountable's point of view of what is expected of a Disaster Relief Debit Card Issuance Program.

2. Business Need and Environment

To win the iCountable innovation competition, your team must create a financially and technically viable solution to help Red Cross efficiently distribute debit cards after a disaster.

The solution would address but would not be limited to:

- Identification process/technology
- Debit card technology
- Database, application, and infrastructure creation and management
- Hardware and software integration with current systems

3. Program Objectives and Constraints

3.1 Objective

The program objective is to enable the immediate distribution of funds to individuals and families who have lost all the usual means of identification with appropriate documentation to deter and detect fraud.

Presentation of the winning iCountable solution for Red Cross should clearly demonstrate value in:

- Improvements in time and labor content of interview processes
- Rapid debit card issuance
- Reduced overall time from evacuee's application to use-authorized cards
- Satisfactory overall client service by volunteer disaster front-line workers
- Improvements in data capture of identity and card issuance
- Improved fraud detection and deterrence

3.2 Constraints

The solution is to be addressed with real, currently available technology. Since this technology solution will be implemented by a nonprofit organization, an important element of the solution is that it be as cost-efficient as possible. Even better could be to use components from companies with a strong track record of charitable giving.

Constraints

Additional constraints are expressed in terms of needs, wants, and exclusions.

Needs

The primary need is to handle the requests for debit card issuance.

- Service majority of the disaster victims as efficiently as possible
- Create an audit trail of all fund disbursements
- Minimize theft and fraud
- Ensure high availability on operations for 7 days a week, 16 hours a day
- Simple enough to train volunteers to handle transactions quickly
- Store transactions for up to 3 years after a disaster
- Be able to handle disbursements over multiple weeks to previously registered evacuees

Wants

- Ensure high level of customer service (maintain human-friendly service)
- Reuse cheap, off-the-shelf components to ensure easy replacement
- Use software with open APIs to empower the volunteer development community
- Adhere to standards for interoperability with other volunteer and partner organizations
- Ensure security and privacy issues of volunteers and disaster victims
- Reduce or eliminate all paper transactions
- Potentially scale nationally to all Red Cross locations, in order to handle a Katrina-sized disaster, although initial focus is localized
- Preferably work with the existing IT infrastructure

Exclusions

- Developing a proprietary database for identification
- Working with a particular vendor that excludes future donations or partnerships
- Complicated user-interface or high-skill requirements of users

Submissions

Each iCountable employee team is to submit a written proposal to Jim Sterling. Following submission, each team will be invited to make a verbal presentation of the high points of their proposal.

Evaluation

Your team's proposal to Red Cross will be evaluated based on, but not exclusively limited to:

- Soundness of the business plan
 - Understanding of the competitive landscape, including market, customers, and alternatives
 - Identification of a proposed business solution that:
 - Meets Red Cross's business needs
 - Produces measurable value/benefit to Red Cross
 - Meets iCountable's business needs
 - Provides the opportunity for alternative business models/revenue streams
 - Development of a go-to-market strategy:
 - Understands and describes resources, structure/organization, and partners needed to proceed
 - Provides a risk analysis
- Soundness of the financial plan
 - Documents financial assumptions
 - Provides a cost analysis including all sources and uses of funds
 - Explains financial analysis, including ROI and Payback
 - Describes both short and long-term financial strategies
- Soundness of the Technical Approach
 - Describes the overall hardware/software/communications requirements, and integration with existing Red Cross infrastructure
 - Satisfies technical objectives of: usability, reliability, and scalability
 - Provides a timeline for delivery, including resources, schedule and costs
- Innovation in the business plan, financial plan, and technical approach
- Professional presentation of the proposed business solution
 - Quality of written deliverables
 - Oral presentation content and delivery
- The ability to incorporate preliminary feedback into the final round presentation

Appendix A

iCountable Standard Business Model (Revenue, Expenses, and IT Infrastructure)

Standard Debit Card Business Model

| | |
|---|---|
| How much do they charge per debit card? | \$10 per card issuance, plus \$1 per card transaction |
| Revenue | \$45M |
| What is their total operations budget? | \$36M |
| IT | \$4M |
| Staff | \$10M |
| iCountable Wholesale issuance costs (per card) | \$3 |
| iCountable Transaction costs | \$0.63 |
| What is the business process (flow) for a transaction? | a) Customer prepays money on the debit card * b) Data is input in web portal and sent to iCountable c) Account is created and card activated d) Funds are sent to issuing bank |
| Government regulations about credit transactions | Need to plan on spending for compliance and regulatory issues. This could come under staff. |
| What is the rate of theft/loss? | 1% |
| Breakage (debit cards will expire after 6 months this is the remaining amount on the cards) | 2% |

*Note: In a disaster situation, Red Cross will pay the money to load the card.

The largest logistic challenge for iCountable is getting the debit card in the hands of the clients in the field.

Infrastructure

| | |
|---|----------------------------|
| How many transactions per month on average? (card issuance) | 100,000 |
| What are peak numbers? | 400,000 |
| What are the training/skills of the employees? | Moderate computer literacy |
| What types of systems are used? | POS terminals, data center |
| Are they backed up? | 24/7 (remote hosting) |

Appendix B

Red Cross Disaster Organization

Budget Allocations

| | |
|---------------------------------|---|
| National Disaster Relief Budget | \$100M |
| Staff | 25% (\$25M) |
| Relief Funds | 25% (\$25M) |
| IT | 10% (\$10M) |
| Facilities and Operating Costs | 40% (\$40M) |
| Local Chapter Operating Budget | \$3 per person per year (of population) |
| What is the rate of theft/loss? | < 5% normal, <10% Katrina |

Disaster Size Requirement

While Red Cross deals with disasters of all sizes, the proposal from iCountable needs to target a solution for 40,000–100,000 people affected per disaster. Hurricane Katrina was an exceptional event with over 1 million people affected. While designing a solution for Katrina is not specifically required, any solution that could scale to this load would be advantageous.

IT Systems

Local and National emails servers

National CAS (Client Assistant System)

CAS is a case work system allowing entry of client ID, needs, and assistance provided. CAS operates on a private network and requires Red Cross machines to access the server. Typically, 4,000 users nationwide have access to CAS with only a small number of them using it at a given time. For large disaster situations, 1000 users are on the system concurrently. For Katrina, 3,500-4,000 people were using the system concurrently every day for a month (1 million clients, 30 days, 10 clients per volunteer per day).

In order to use CAS, volunteers require 4-8 hours of training time. For a Katrina-sized disaster, training of users in general provides the biggest challenge as 20,000 – 30,000 additional volunteers were added to the relief effort. Temp workers were also hired for data entry to keep up with the demand. Typically case work was filled out in a 1 page triplicate by the client and later processed by CAS data entry workers.

The laptops used by the Red Cross can be taken into the field and connected via satellite. However, most operations occurred in an auditorium using desktop machines. For Katrina, there were 50 locations, each with 25-50 machines simultaneously on the network. Demand was so great there were constant outages for 2 weeks until capacity was added to match the demand.

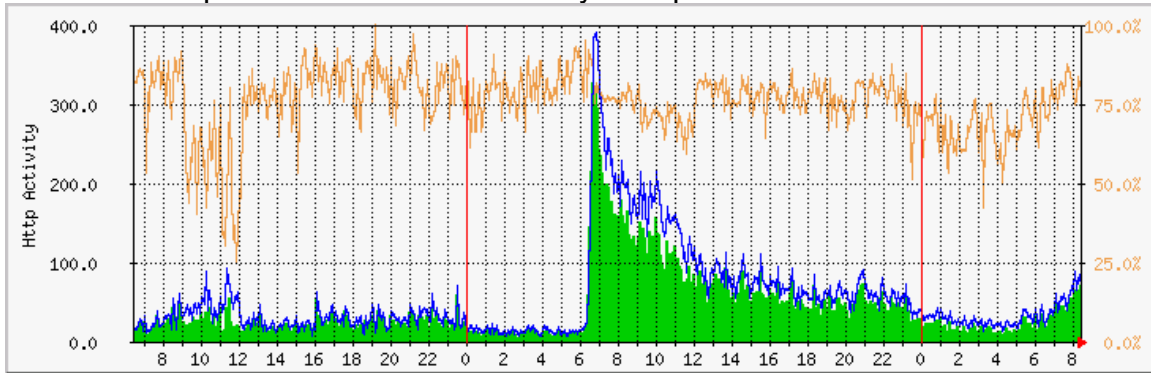
CAS also has the capability to be accessed by other organizations through the Coord System Network. Although it is on a private network, other organizations can gain access by signing a letter of agreement to use the system. To date, there are about 12 other organizations that link into the CAS system nationally.

One of the largest challenges faced with Katrina was fraud detection. Normal disasters have less than 5% theft rate, but due to lack of identifying information, “shoppers” would go to multiple relief locations to obtain funds (essentially giving money to the same person or family twice). This resulted in about a 10% loss. Funding occurs on per family household basis, with \$350 given to each member with a maximum of \$1750 per household. However, Red Cross is a benevolent organization and does not want to make any system too restrictive to turn away people in need.

Appendix C

Typical Disaster Scenario IT Requirements

Here is a sample illustration of the activity to expect for a disaster event.



iCountable will need to estimate the normal and peak transaction levels for a typical disaster. Based on the capacity tolerance of the servers, peak loads, average usage, and scalability, a viable solution should be use the following numbers to estimate loads for their proposed solution.

Peak Disaster Requirements

| | |
|-------------------------|----------------------------|
| Maximum Scenario | 100,000 transactions / day |
| Medium Scenario | 20,000 transactions / day |
| Minimum Scenario | 1,000 transactions / day |
| Max Transactions / Year | 10,000,000 |

IT Capacity

| | |
|-------------------------------------|--------------------------|
| Average Capacity / Server (50%) | 2,000 transactions / day |
| Maximum Capacity / Server (100%) | 4,000 transactions / day |
| Data / transaction | 5MB |
| Peak Network Bandwidth | 10GB / min |
| 3 years of transaction data storage | 750 TB |

Ideal solution should not exceed 75% planned hardware utilization.

Appendix D

Links and Articles

Needs Assessment

<http://dmc.engr.wisc.edu/courses/assessment/BB06-09.html>

Needs Verification

<http://www.npr.org/templates/story/story.php?storyId=5013871Cheats>

What is a natural disaster?

<http://www.icrc.org/Web/Eng/siteeng0.nsf/iwpList78/C3D93BCA051EEE2AC1256B66005C6826>

Current Debit Card Company Practices

<http://www.xlcard.com/>
http://www.xlcard.com/visal_card_terms.htm

ID Security, ID Processing & ID Privacy

http://www.fdic.gov/consumers/consumer/idtheftstudy/identity_theft.pdf
<http://evolution-1.com/government-military.htm>

Smart Cards

<http://www.smartcardalliance.org>

Eligibility Requirements and Services Provided

www.fema.gov/pdf/about/process/help_after_disaster_english.pdf

Identifying Evacuees

<http://www.planotx.org/Katrina/id.html>

Client Expectations

<http://www.jerseycoast-redcross.org/background.html#4>

Miscellaneous

<http://www.wired.com/news/hurricane/0,2904,68788,00.html>
<http://scipionus.com/>
<http://bort.gps.caltech.edu/spikes/gallery/>
<http://www.guidestar.org>
<http://www.fms.treas.gov/tfm/vol1/v1p5c470.txt>
http://www.bain.com/bainweb/consulting_expertise/industries_detail.asp?indID=11
<http://www.irs.gov/pub/irs-pdf/p557.pdf>