

**SIGNATURE STYLES LLC.**

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**Disaster Recovery Scenario  
Case Study:  
Information Technology**



## Profile

Artemiss LLC formally Signature Styles, formerly the world renowned Spiegel Company of the 70's and 80's, who was known as the catalog industry leader of quality designed savvy women's clothing, shoes and accessories is the primary character in this case study. Over the last decade Signature Styles has been converting from the high-end printed catalog business leader into the digital catalog industry business. The company has been developing and implementing a state-of-the-art Internet business that ships thousands of packages daily around the world filling their customers' orders. With various locations in NY and Virginia, including a warehouse capacity of 500,000 sf. The operation housed the various designer products that are shipped worldwide.

## Situation

Signature Styles was hit hard by a heavy rain storm that breached the roof. The storm caused flooding down a weak structural point in the roof through the ceiling of the northern Virginia Data Center. Various offices and locations in this facility were hit with water, moisture, humidity and other contaminants. Which caused a halt in productivity from the printing line, as well as the Network/IT infrastructure. Network equipment was energized during the event, and attempts to De-energize the equipment were halted as the customer instructed to keep the system live, to keep them up and running.

The flood clearly damaged several hundred devices including servers, switches and data storage units and the client's inability to power these systems down wasn't helping the sensitive electronics chance of survival. The second day on site, the network administrator showed us a video he had taken the night of the event. The video provides evidence of direct contact of live systems with water. Both power and network cabling were directly hit as well. The priorities of the company changed as restoration was being performed, with change request from multiple contacts.

Main power was shut down by local authorities due to electrical and fire hazards making the environment unsafe. We proceeded to lock out tag out the main power gear so that power was not inadvertently energize at the same time as the generates causing an elevation accident. Environmental issues (Humidity, Lack of climate control, lighting) hampered recovery efforts. Through the years, and various acquisitions in the companies past, the network grew by adding an assortment of various vendor equipment. Many systems were not upgraded or even serviced since the initial network was created. Various systems were end of life or beyond, and service contracts and support were no longer valid for many systems. Workaround's kept the network running. Virtualization and upgrades were slotted to occur, but have not transpired until the event.

The location of the Main data center was located on leased property with a lapsing insurance coverage. Which presented a major problem and dispute of the location of the equipment. This put our client, Signature Styles, LLC in a very serious business predicament of being in an extremely compromised and vulnerable condition as well as a now uninsured space (as far as we

know no insurance coverage was ever reinstated during the project's term) besides the flood damaged computer equipment. Based on the clients last minute move we had a contingency plan to assist our client with a move/restoration capability (which even out of scope was successful).

## Challenge

Initially the technical assignment portion of this job is the main subject of this case study. As our main focus we were tasked with assisting the client first by assessing and then providing initial mitigation steps to make the client's data/network stable- including hardware, power issues and connectivity along with the support of their IT administration staff. Secondly to ensure that the network was kept up and running 24/7 until the company could arrange for and sustain a scheduled shut down period for a more thorough restoration and analysis. Then as a final step the network could be moved and reconfigured in a new location. We handled the restoration and support of the client during this time, despite the constant changes in the decision making process, as well as changes in priority. We also responded to various tasks and problem troubleshooting while keeping the systems online. We rose to the challenge of keeping the network operational despite the systems being compromised. We also faced the challenge of supporting and maintaining a network despite key people who were instrumental in designing such an ad-hoc system.

## Events

Signature Styles corporate office contracted services with Electro-Mechanical Recertifiers, Inc. within 24 hours of the incident. We mobilized and assessed the current status of the client in all aspects of the project (IT, Power, Safety). There were immediate concerns with the condition of the network and power. We asked the client to shut down the computers for mitigation and subsequent restoration they said "Absolutely NO". Normal shut-down protocols were ignored to keep the system up and running. The client informed us that the main core system that was up had to stay up at all cost for company business needs such as email, payroll, and ordering.

The customer requested all systems to be up and running within 1-2 weeks. Despite the volatile conditions. The computers were up and running on a back-up generator for the computer site. The building had portable AC units powered by additional generators and the building was being dried with additional generators. The client's priority was to keep the network up and running even if the system and environment were being compromised.

We organized a project plan to inventory, and restore systems from moisture and contamination from various airborne products. Corrosion and Airborne contamination levels were prevalent in most equipment. Also various pieces of equipment were continuously powered on while water was present around and inside the equipment. Potential Rainstorms after the initial event as well as a Hurricane and Earthquake post-event further delayed restoration procedures. We responded with containment procedures. Facility contractors were put on notice and drying equipment was staged for another possible flood.

After we mitigated all the first group of devices that could be shut off and turned off then able to be put back in service we simultaneously continued to make arrangements for a planned move. The planned move included a scheduled shut down, restoration of all the items along with an interim move of the entire network. We worked with the client in obtaining a mobile network trailer to allow for their network to be moved out of the damage zone. We presented a layout for the new Mobile trailer with AC, Power, Fuel and UPS requirements. A fiber optic run was expedited on the site and the date was set.

Their backup generator failed during a rainstorm, which brought down their network temporarily. We located and resolved the problem with the client ordering daily fuel replacement and level checks. There were network startup issues when the power dropped. We worked with the client to resolve these issues as they came up. We also located a fault with the UPS back up battery system that needed to be resolved. The battery bank was overheating and the power was not even 100% corrected. After investigation and OEM input the unit had several bad batteries. We monitored the battery system, cooled it and switched some PDU power supplies to ensure power was stable and running properly so power was clean and the computer drives, power supplies and various devices were not exposed to surges, spikes or under voltage conditions. Which can be detrimental to sensitive electronic equipment?

It should be understood that the wet computers and the temporary power and ongoing building dynamics surrounding the situation were very unpredictable and unstable. Eventually after 5 weeks we were able to get the building dried and remove and reroute electrical problems allowing for the building main power to be turned on by the utility company. We tested the building wiring and confirmed the PDU's tested to ensure safety upon return to the main power. Once the power changeover was made everything worked fine. The UPS back up battery was still unstable and needed to be monitored until the move was made. AC had to be started up so that the computer cooling could be maintained.

## Solution

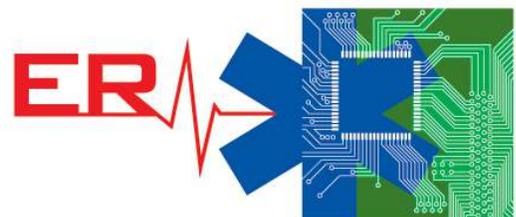
We completed a network ready mobile trailer with all interconnect cabling; patch panels and a new UPS backup battery unit. Fiber optics was terminated to the trailer for a cut over at the appointed time. Generators and a transfer switch as well as 20 tons of portable AC were installed. Other security measures were taken to secure the facility on site. RF transmitters and receivers were installed to transmit to the warehouse. A chain link fence, camera security, 24 hour security guard, and a dual function burglar/fire alarm were installed and tested to ensure trailer could have some additional level of defense against further loss. Daily fuel services were contracted to top off generator tanks. Over the next long weekend we did a planned shutdown of the system on Friday. During this shut down time we were able to dispatch our mobile lab and assemble our advanced team to clean, dry, power and functionality tested over 100 critical core devices and installed them in racks, network cabled, powered and KVM connect them. The Network was up and running 100% by Sunday evening with everything back

on line in working order. There were some minor software bugs and power supply issues after the initial turn up, systems were up and running.

We scheduled a shutdown for a potential hurricane, and had to only assist in some unplanned network shutdowns with the client. The trailer was continuously running for 6 months with our support. In November the Network was taken out of service and transferred to NY (to integrate into their NY Network. We worked side by side with the customer, overcoming challenges with the integration of the two networks. We worked diligently to secure the integration even with constant project changes on the fly. We worked alongside the customer when a few critical failures occurred after the move of the network and some intermittent problems showed in other core pieces. The client is currently running and optimizing the network with cloud computing, virtualization and condensing of equipment as planned.

## Final Result

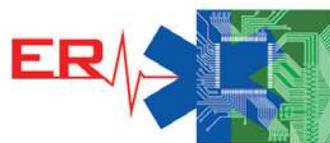
With fast action and vast experience our professional business recovery team was able to assist the client on the fly without any pre-loss disaster plan in place. The goal of keeping the network up and running was accomplished about 90% of time and we faced challenges to keep the core equipment running. No data was lost just hard to access. The client lost some network use due to the initial interruption and was not able to operate at maximum capacity all the time and we were able to make work around to print, ship, pride email and other critical functions. The unplanned flood and other dynamics hampered the client's creative functions of a catalog shoot and purchasing functions but at the end of the day they have recovered from the disaster. Orders were lost and a business interposition claim was filed with the carrier. The entire process to move to a new data site took 6 months and the claim required 1 year to close. Equipment is now being replaced as a planned replacement project during non-peak times. The client their Public Adjuster, Insurance Carrier and various Restoration Contractors and Consultants were eventually able to put Artemiss LLC back into operation and functioning from a serious and complicated claim that hindered their business and could have proved fatal. Because of fast action by the IT staff and the recovery support from ER Inc. Signature Styles is back in business today. This loss event would have put most business into a tail spin. This event occurred at a vital time in the life of the company. The constant challenges created dynamics that were diametrically opposed to the recovery at every single interval but Signature Styles now Artemiss LLC has emerged as a reorganized entity that has turned a bad situation around and heading the right direction moving forward for their clients.



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