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CASE STUDY

NetHope Uses Data to Tackle Global Disasters and Refugee Crises

NETHOPE

Executive summary

Communication is essential in a crisis. When hurricanes, earthquakes or other humanitarian crises displace populations, time is of the essence. If the government of an affected country decides it needs outside aid, relief agencies must coordinate efforts to quickly direct aid to where it's needed most. The critical step of quickly restoring communications networks lets leaders make informed decisions.

This essential coordination effort is the mission of NetHope, a consortium of nearly 60 leading global nongovernmental organizations (NGOs) that collectively deliver more than 60% of all annual, international, non-governmental aid.

NetHope connects its member NGOs with more than 60 technology companies to solve humanitarian, development and conservation challenges. Splunk for Good is one of these initiatives, focused on three problems that NetHope encountered as it scaled its operations:

- Aggregating data from NGO members and making it available as a shared resource
- Building insights into the networks and devices that NetHope deploys, letting the team manage and maintain gear in the field
- Providing partners with the first-ever mechanism to measure the impact of connectivity on field operations, helping to amplify the humanitarian impact of these technology interventions

Connecting people in a crisis

NetHope began as a mechanism to aggregate demand for bandwidth among several large NGOs, thereby lowering costs. Over the past two decades, this simple economic model has evolved into a clearinghouse for practices and tools that enable more digital operations in the nonprofit sector. Today, NetHope responds to disasters ranging from health crises (like the 2014 Ebola outbreak in West Africa) to sudden-onset emergencies (like the Nepal earthquake of 2015). The connectivity NetHope provides — and specifically, the data generated about the networks themselves — creates a window into the needs of the affected population.

As John Crowley, director of information management and crisis informatics, says, "Our work is primarily focused on making sense of disasters faster to help our member NGOs more efficiently provide the services that let people put their lives back together."

Industry

- Nonprofit

Splunk Use Cases

- Business analytics
- IT operations

Challenges

- Outdated and inaccurate network info; needed to establish network operations center
- No way to aggregate device logs across various network technologies to enable analysis
- Wide assortment of data sources/formats

Business Impact

- Accurate data on deployed networks
- Data-driven planning for how to scale or rearchitect networks
- In-depth tracking of content being accessed
- Rapid response to data set requests

Splunk Products

- Splunk Enterprise

A good example is the response to hurricanes Maria and Irma in Puerto Rico. The 2017 storms wiped out more than 90% of the island's power and communications grid. NetHope installed Internet connectivity and WiFi at 90 locations, helping both the relief agencies and vulnerable residents on this island of 3.2 million people. The network became a significant source of timely, credible information for the devastated island.

In Syria, more than 11 million citizens have been displaced over the past eight years. NetHope has teamed with more than 20 international development organizations in Greece, Slovenia and Serbia to identify such needs as cell phone connectivity and device charging, and to create a central information portal for refugees to learn about their options and provide e-learning for their children (especially where education options are limited). The NetHope-led Syrian Refugee Connectivity Alliance has installed internet and charging stations in 76 refugee camps, helping an estimated half-million users.

Better data, bigger impact

Coordinating communications among a wide range of global relief organizations with diverse budgets, IT infrastructures, and levels of participation in a given disaster zone would challenge a team several times the size of NetHope. Spreadsheets emailed in broadcast list remain the *lingua franca* of humanitarian information management. As a result, NetHope found it challenging to keep track of all its connectivity projects and how they contributed to overall relief efforts.

"I remember trying to explain why our spreadsheets were so limited. We sometimes sent people JPEG files of data sets to explain their complexity," says humanitarian advisor Jennifer Chan.

Through Splunk for Good, Splunk provides technology and expertise that help NetHope better manage and understand its data and communicate valuable insights. For starters, Crowley notes, it helped the organization keep track of all its networks worldwide.

"Being able to communicate specifically the impact of *this* program in *this* place around our connectivity and network initiatives gives us leverage that, to my knowledge, no one else in this sector has."

John Crowley, Director of Information Management and Crisis Informatics
NetHope

"We've never had the infrastructure to run a network operation center for all our distributed networks," he says, noting that when NetHope implemented Splunk, he had only an estimate of how many networks the organization was managing. The number turned out to be almost 300. With Splunk's help, Crowley can monitor and maintain those networks, and let the agencies that rely on them understand how they're being used.

"The process of building up analytics around the health of the networks and understanding usage and how we can actually engage in network planning as opposed to network maintenance — that's all new," he says. "Now I can tell a specific agency, 'Here is your map of the things that are going to your 17 sites operating in the region, and this is their status.'"

Information as aid

NetHope's challenges are never-ending. But the more the consortium and its NGOs learn about just how their efforts are impacting people in need, the better they can serve.

According to Crowley, the questions are, "How do we begin to understand information as a form of aid? Is your connectivity program being effective? If you're doing a campaign to help people understand health information, are they actually accessing health information?" This broad view of trends lets NetHope deliver more efficient aid, helping members — from CARE, the Red Cross, and Doctors Without Borders, to Save the Children and Oxfam — do their jobs and make the most of their donor monies.

Instead of racing to put out one fire after another, it can start to be more proactive. Getting ahead of disasters is the best way to save lives.