

Overview

Storms damage aerial wireline systems causing outages that require immediate response, often far exceeding in-house staffing and on-hand spare inventory. The difference between chaos and resolve rests on who is hired to help.

The Challenge

ImOn operates a wireline Broadband system in Cedar Rapids, Iowa serving over 15,000 customers with high-speed data and video. On August 10, 2020 a sudden and severe derecho storm struck, a terrible above ground hurricane with sustained winds over 100 mph. Cedar Rapids was devastated with thousands of poles down, and thousands of subscribers without service.



"When that storm hit we knew we were going to need additional help to get through it."

Tony Bennett, Senior Manager Network Operations, ImOn

The Solution

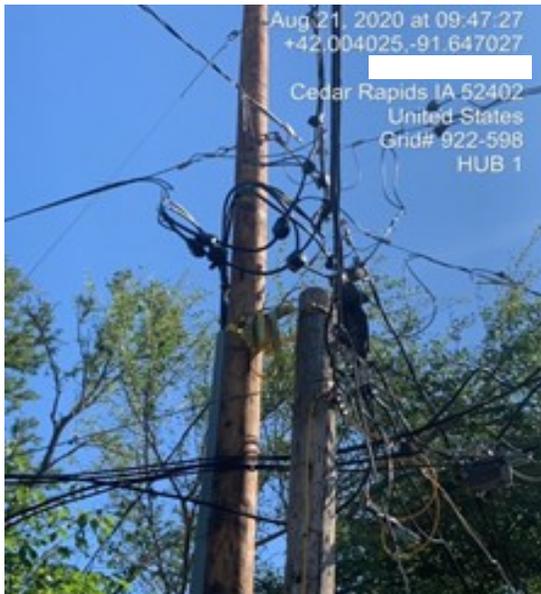
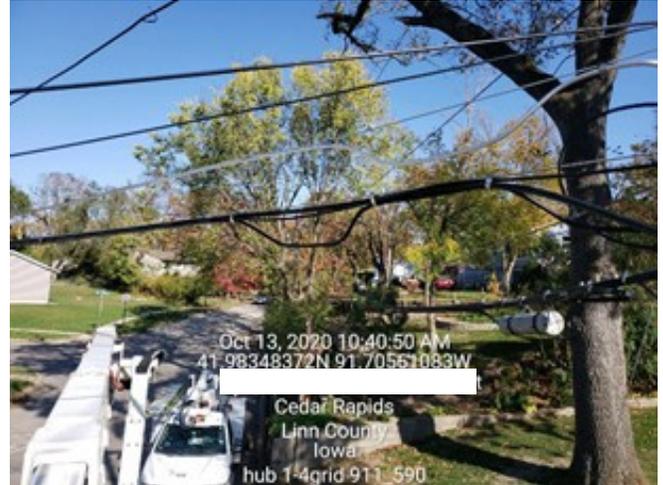
ImOn had been discussing a system upgrade with Advanced Media Technologies (AMT). They called asking about restoration services. Daniel Myers, Technical Operations Manager for AMT, quickly arrived at the site, met with ImOn's Field and Network Operations Management, took the temperature of the situation and assessed the level of damage.

"It was pretty bad. Our customer needed help, and work had to be methodically planned and systematic, not overly-complicated with too many people."

Daniel Myers, Technical Operations Manager, AMT

Step 2: Construct

- Crews performed make ready then hung spans in areas where poles were fixed and power restored.
- Multiple 3-tech crews worked in customer prioritized node areas based on damage to restore that area in conjunction with power crews who often reattached down cables.
- Areas completed were reported to splice crews for response within 48 hours to reattach cables to electronic and passive devices.



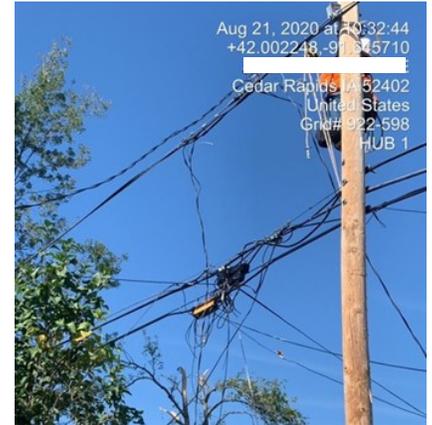
Step 3: Splice

- Coaxial and fiber crews spliced the reattached wires to active components.
- Daily count of spans fixed reported AFTER splicing (coax/fiber) was completed along with crew hours worked.
- Progress reported periodically of % spans hung and fixed by hub/node, and average work per span by crews to manage the utilization of the construction budget.

Step 4: Sweep

- The forward path was swept to identify anomalies in the plant. Return path was monitored using system's tools for upstream SNR.
- Sweep crews repaired TAPs and damaged coax cables as found.
- EOL upstream/downstream performance was checked, and node fully restored.
- Daily metrics were reported of % nodes swept by hub, and average work per node to manage the utilization of the sweep budget.

Step Four			
Hubs	# Nodes	Nodes swept	Complete
1	38	38	Complete
1.1	43	43	Complete
1.4	60	72	Complete
1.8	56	34	
1.9	14	14	Complete
1.10	14	14	Complete
2	36	36	Complete
2.1	25	25	Complete
2.2	49	36	
2.3	46	46	Complete
2.4	53		
2.8	35		
3	37	37	Complete
3.1	27	26	Complete
3.2	27	27	Complete
3.4	48	48	Complete
4	37	2	
5-1	4		
4.1	35	35	Complete
4.2	20	20	Complete
4.3	26	20	Complete
10-2	85	85	Complete
13-2	32	32	Complete
13-3	31	31	Complete
13-4	43	43	Complete
14-2	27	27	Complete
14-4	70	70	Complete
15	36	36	Complete
Total	1 074	923	
Forecast:		64 546	



Step 5: OTDR Fiber

Crews were dispatched to test and repair bad fiber spans at low performing nodes with light level issues, and pro-actively check fibers in areas most damaged.

	1022	80%	1074	74%
	Spans	Avg time	Nodes	Avg time
3-Sep	79	5.10	86	2.69
10-Sep	103	7.66	149	5.48
17-Sep	226	3.12	211	2.94
24-Sep	324	4.80	334	2.58
1-Oct	440	4.55	490	2.17
8-Oct	639	3.89	634	2.38
15-Oct	813	4.21	790	2.26
22-Oct	956	5.14	898	2.63
Average		4.40		2.67
Est need		290.68		469.27

Baselines, Budget, Projection

Efficiency was monitored and reported weekly ensuring average time per span and per node remained constant, and staff optimized for production volume. Command decisions were made constantly in staff purposing between splice and sweep crews, and crew capacity was throttled alleviating bottlenecks. Throughput and budget utilization was predictable.

In summary, the storm hit August 10, AMT began assessment by August 17, and the system was completely restored by early November, saving the holidays in Cedar Rapids.

"I can't thank everybody involved with this last year enough! Without the leadership and willingness to help us with whatever the crisis of the day was, we never could have succeeded. With hurricanes down south and production issues due to COVID, the help we got securing materials was absolutely crucial. To have a whole crew here within days ready to get to work was amazing.

Your team members were real pros and did fantastic work for us. Extremely difficult work I might add. They didn't cut corners, clearly know what they were doing and put our plant back together faster than I would have ever thought possible. I couldn't be more impressed. That, I think speaks volumes about AMT. Looking forward to working with you all in the future."

Terry Loveless, Supervisor Network Operations

About ImOn

ImOn Communications provides high-speed broadband services to residents and businesses in Iowa City, Cedar Rapids, Marion, Hiawatha, and Dubuque, Iowa. ImOn was the first to introduce fiber-to-the-home services in Cedar Rapids in 2011 and residential gigabit service in 2015. As part of ImOn's philosophy of supporting their communities, the company provides free community Wi-Fi service to Downtown Cedar Rapids, the McGrath Amphitheatre, Newbo City Market, the ImOn Ice Arena, Green Square Park, Ladd Library off Williams Blvd., and outdoor areas near the Jane Boyd Community House. ImOn also provides free Wi-Fi at various parks in Hiawatha, Iowa, the Iowa City Ped Mall, Riverfront Crossing Park in Iowa City, Chauncey Swan Park in Iowa City, and in Dubuque at the Fighting Saints Arena and the Five Flags Center. ImOn is locally owned and operated and offers customers tremendous value and choice for telecommunication services. For more information regarding ImOn Communications, visit www.ImOn.net.

About AMT

Advanced Media Technologies, Inc. (AMT) is the performance leader among CATV and High-End Broadband Electronic Equipment and Services Providers. As a value-added reseller of high-performance products from numerous well-known manufacturers globally, AMT targets emerging technology applications in broadband with a complete line of RF and fiber distribution, video, data, OTT, IPTV, and HDTV products. In addition, AMT Services provides expert in-house technical support, including: system design, digital headends, CMTS deployment, outside plant: node segmentation and optimization, retro upgrade, splicing, sweep and noise mitigation, inside plant: rack, stack and wire, and DOCSIS 3.1 performance assessment.

To learn more about AMT Professional Services please visit: <https://web.goamt.com/professional-services/>