Autopsy of a Disaster

General Summary

For years, RMLS™ maintained the data center for RMLS*web* in a colocation center (colo) in downtown Portland. It had become apparent over time that RMLS*web* needed to be moved to a more robust colo facility located in Hillsboro. This move happened on Sunday, February 23, 2020. Despite their assertions, the new colo was unable to allow us to keep our old IP addresses. That, combined with an unfortunate mechanical malfunction, led to the outage, slowness and errors that plagued RMLS™ subscribers over the next few days. What follows is an explanation of what happened and why.

Phase	Timing	Description
0: Installation	Sunday, Feb. 23 4:00pm to 12:00am	We were in maintenance mode from 4:00pm until midnight. We chose this time period because we wanted to be up and running for the nightly jobs that run automatically: emails, prospects, hotsheets, etc. which run between midnight and 3am, daily.
1: Uncertainty	Sunday, Feb. 23 @11:00pm	RMLS™ staff noticed documents and photos were unable to be added. At midnight we cut over to our secondary colo in Roseburg hoping to resolve the issue before people woke up.
	Monday, Feb. 24 around 3:00am	We opened a ticket with our vendor regarding our Netscaler (load balancer) and we tried different settings until our vendor contacted us at 5:30am. RMLS™ staff working 24/7.
2: Theory & Testing	Monday, Feb. 24 6:00am	We began working with settings on our NetApp (that holds documents and photos) and informed staff of the problems with the system. – No resolution in sight, still unknown.
	Throughout the day on Monday, Feb. 24	We began to suspect that the NetApp alone could not be causing the vast number of problems we were seeing. We involved our vendors Nitel and AccessTech.
	Tuesday, Feb. 25 Midnight to 5:00am	Staff still working 24/7 - Increased memory and CPUs on servers hoping to alleviate slowness and menu-bar problems.
	Tuesday, Feb. 25 @9:02am	The Development team begins chasing the menu-bar problem in another direction – it could be the chat button – dead end.
	Tuesday, Feb. 25 All day into the evening	Turned off health monitors and other options on the Netscaler to reduce overhead on servers. This is also when it became apparent that IP issues were the root of the cause.
3: Certainty	Wednesday, Feb. 26 morning	RMLS*web* issues cleared up – menu bar working slowness gone.
		We also started communicating more frequently on the newsletter page of RMLS*web* because we finally KNEW what was happening.
	Wednesday, Feb. 26 afternoon	Spent the day verifying and cleaning up IP address issues. Webservers, mail servers, load balancers, etc..
		We finally began routinely communicating on the newsletter page of RMLS*web*.
	Thursday, Feb. 27 All day	The Development team began contacting email providers to get us back on the whitelist.

Conclusion

There are a million reasons why we do not want to switch colo facilities again, but it is inevitable that we will eventually want to. Even so, we believe that making this move was the right choice. We have higher bandwidth, more services and more resources to work with. More importantly, we have learned that it is critical for us to keep our IP addresses and our need to do a better job of explaining that to our vendors and service providers.