

Case study

When ransomware attacks: Answering the call

Sky Lakes Medical Center, Klamath Falls, Ore.

Hospital snapshot



Not-for-profit
standalone hospital



176 licensed beds



100,000 radiology
exams per year



9 radiologists



5,000 inpatient
visits annually



1,500 employees

Organizational profile

Sky Lakes Medical Center is a nonprofit, standalone hospital located 20 miles north of the Oregon-California state border. As the sole hospital in a 10,000 square mile radius, the organization serves 80,000 people. Sky Lakes Medical Center partners with the Oregon Health & Science University (OHSU) for a residency program.

3M technology

- 3M™ M*Modal Fluency for Imaging

“When you find yourself in that circumstance, where every system goes offline and you need to rebuild all of it and bring everything back, you find out who your real partners are.”

– John Gaede, director of information systems,
Sky Lakes Medical Center

Timeline of events



Oct. 27, 2020
Director of Information Systems John Gaede announced Sky Lakes Medical Center experienced a ransomware attack, taking all systems offline



Oct. 31, 2020
Gaede made the call to 3M for help getting back online



Nov. 2, 2020
Kicked off twice-daily whiteboard sessions with Sky Lakes Medical Center, 3M and Sectra



Nov. 6, 2020
Brand new Sectra PACS went live

Transitioning to 3M's radiology speech solution

In 2017, Sky Lakes Medical Center turned to its imaging team to help select a new speech solution for radiology reporting. "We vetted several reporting systems and chose 3M," said John Gaede, director of information systems. "Ease of use and voice recognition are reasons why we selected 3M Fluency for Imaging and why we still have it in the radiology department today."

When Sky Lakes Medical Center experienced a ransomware attack in the fall of 2020, the hospital discovered the partnership went beyond software as the 3M team stepped up to help.

The challenge

In the early hours of Oct. 27, 2020, the Sky Lakes Medical Center support team discovered the hospital had been hit by a ransomware attack. "The ransomware took out every system in our hospital," Gaede said. "We were 100 percent offline. All financial systems, clinical systems, our entire network."

In total, 650 servers and 150 applications were down, so the team at Sky Lakes Medical Center quickly began strategizing about how to completely rebuild the network and get all systems online and working again.

Phase 1: Prioritizing and restoring clinical systems

System recovery began in earnest and was facilitated by backup software purchased a year earlier. "When we bought this backup product for efficiency, we didn't know we were buying ransomware insurance," Gaede said. "We had all of our data and backups that we could recover."

The Sky Lakes Medical Center team prioritized restoring clinical systems, starting with the picture archiving and communication system (PACS). "We were really concerned about the safety of our patients," Gaede said. "When your PACS is down completely, it makes it very difficult for patient care, and it is a huge potential impact for patient safety and continuity of patient care."

"Then we got this harebrained idea – we decided we wanted to go live with a fully integrated PACS," Gaede said. After hearing how long it would take to get the former PACS up and running again, Gaede and team decided to switch to an entirely new vendor that committed to a much shorter timeframe.

Timeline of events (cont.)



Nov. 7, 2020

Restored 3M Fluency for Imaging, enabling radiologists to read new studies and referring physicians to access images; tested 3M preliminary integration



Nov. 8, 2020

3M server accessible and fully configured; worklists autopopulate with ordered exams again



Nov. 15, 2020

Brand new PACS fully integrated with 3M Fluency for Imaging



Nov. 19, 2020

Radiologists read and dictated reports as expected; electronic health record (EHR) went live with fully integrated and tested PACS

“After we purchased Sectra’s PACS through Electromek Diagnostic Systems, then came restoring all of our systems for the hospital,” Gaede said. “3M’s reporting drives the radiology workflow, so we needed to get imaging up and running so we could take care of our patients and our community.” Because there was no time to waste, he called his 3M representative on a Saturday, and the team immediately jumped into action.

Phase 2: Integrating systems with a new PACS

“This is where the relationship came in,” Gaede said. Close collaboration between 3M and Electromek enabled quick mobilization. “Literally, in just a few days, we sat down and white boarded with Sectra and 3M, and we built out all brand new interfaces,” Gaede said. “We had numerous meetings that went well into the night. 3M always made sure their team was available to work with our team. We had to design, build, test, document and validate it all before going live.”

Thanks to this collaboration, Sky Lakes Medical Center went live with a fully integrated system less than four weeks after ransomware hit the hospital. “To do it all on that timeline and those circumstances, that’s just the character of the people at 3M,” Gaede said. When Sky Lakes Medical Center originally implemented 3M Fluency for Imaging, the go-live plan took nine months. This time around, the 3M team got it done in 20 days.

“There are very few companies that would have stood up resources like 3M did. That level of commitment helped us bring the systems back online and go live in the time period that we did.”

– John Gaede, director of information systems, Sky Lakes Medical Center

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Partnerships that go beyond products

In the wake of the ransomware attack, Gaede spoke with another hospital leader going through a similar situation. “They couldn’t get their vendors to work with them that quickly,” Gaede said. “For us, it just took one phone call to the 3M team.”

The flexibility and collaboration between the hospital and its technology partners contributed to Sky Lakes Medical Center’s successful recovery efforts and ability to maintain effective, safe patient care.

“I can’t imagine having gone through the ransomware attack and not having 3M by our side,” Gaede said. “When you find yourself in that circumstance, where every system goes offline and you need to rebuild all of it and bring everything back, you find out who your real partners are.”

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