



ABOUT THE REGION
TEXAS' GOLDEN TRIANGLE is the affectionate name residents of the most southeastern corner of Texas use to describe the 251 square mile trilaterally shaped region they call home. The region is unique in its isolation, located 90 miles from its closest neighbor (Houston, TX) to the west, 108 miles from Lafayette, GA to the east, and 201 miles from Shreveport to the north. Its southern border is the Gulf of Mexico. "Golden" refers to the wealth that came from the Spindletop oil strike near Beaumont in 1901.

Owners of Isolated Emergency Room Construct Outsourced IT Into Life-Saving Core Competency

Case Study: Golden Triangle Emergency Center, Ground-up Facility IT Planning & Project Management

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Meeting the emergency needs of any community is a costly and daunting undertaking. For the tri-city area in southeast Texas known as the Golden Triangle, the acute economic challenge of caring for the region's patients was so severe that even a federally subsidized community hospital was recently forced to shut down its emergency room. The "golden" moniker associated with the region since the Spindletop oil strike in 1901 has long since become a dry hole. The city's major oil barons moved away after the gushers, leaving little but a large population sequestered by hundreds of miles of ocean on the south and rural land on the north. The cities that make up the upside-down trilateral region - created by Beaumont on the northwest, Orange on the northeast, and Port Arthur on the southern tip - have grown in population to nearly 400,000 residents. Unfortunately, however, the lack of industry and access to preventative healthcare resources has created a population with one of the highest uninsured rates and largest levels of unmanaged hypertension in the nation. So for a group of noble ER (emergency room) physicians in town, finding a way to treat the triumvirates' estimated 465¹ ER patients per day was not just critical, it was absolutely essential.

THE CHALLENGE

In late 2014, a group of emergency medicine physicians in the Golden Triangle region of Texas began to see the writing on the wall – the local hospital ER was struggling financially and the injections of life support in the form of government subsidies were growing smaller and less frequent. The goal of the Affordable Care Act statute enacted and signed into law in March 2010 was to gradually reduce subsidies, supplanting lost revenue to hospital systems with insurance revenue from a higher percentage of insured patients. Unfortunately for the Golden Triangle, the funding to support the uninsured patients slowed in an environment where the trend line representing the same patients it was designed to help went in the exact opposite direction, leaving most of the regions' hospitals in a severe financial lurch.

The ER physicians took it upon themselves to try and formulate a viable solution that would meet the emergency needs of the community in a less costly way than the hospital system without government funding and in a region where one of the "golden three" cities sits at an astounding uninsured rate



CRITICAL NEEDS

- Service in remote area
- 100% uptime 24/7/365
- Immediate access to data
- Rapid login transitions
- Work fast every time, all the time
- Quick and easy onboarding of new staff
- Highly cost effective

SOLUTIONS PROVIDED

- 24/7 Outage monitoring, alerts, & response
- 24/7 Unlimited remote support
- Network design, mapping & maintenance
- Server hosting, management & maintenance
- Local & offsite backups
- Workstation tools: anti-virus, web filtering
- Phone system management
- Email management
- Outage prevention engineering

IT VENDOR MANAGEMENT

- Internet service provider (ISP)
- Printers
- Security cameras
- Electronic Medical Record (EMR) software
- Discharge software
- Radiology
- PACS technology

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of 29.2%². The outcome of the intense planning sessions amongst the ER physician group culminated into the ground-up build of two freestanding emergency centers (FEC, also referred to as freestanding emergency room, or FER), bringing back hope to residents with the name Golden Triangle Emergency Center. These emergency rooms are not connected to a traditional hospital, but are otherwise staffed and equipped under identical guidelines – housing a highly qualified team of emergency physicians and medical staff providing life-saving care 24 hours a day, 7 days a week, 365 days a year.

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IT REQUIREMENTS

1. **The system needed to work fast every time, all the time. No exceptions.** First and foremost, Golden Triangle Emergency Center needed an IT infrastructure that virtually guaranteed no downtime. The ER would be open 24 hours a day and had to be prepared to treat any patient emergency immediately at any time of the day or night. Further increasing the severity of the need was the high volume of critically ill patients the doctors knew would come through the doors. The local physicians already had experience with late-stage hypertensive emergencies inherent in the region, so they knew they couldn't afford one hiccup when it came to connecting to their systems fast, every time, all the time.

2. **System access had to be quick and easy, allowing for multiple, frequent and rapid transitions between staff members.** Golden Triangle Emergency Center knew they would have to employ a very large number of staff in order to have enough pre-scheduled and on-call healthcare professionals to meet the demand for patient care every day of the year. From an IT perspective, this meant they would need the ability to rapidly onboard new staff and get them access to email and critical medical systems in a way that was simple to understand and required no training. Additionally, they needed systems and workstations that could tolerate multiple and frequent staff transitions rapidly. Disassociating old staff members quickly and protecting patient data according to legal standards were also essential elements.

3. **The IT Department had to be remote but seem in-house.** In order to run out of a smaller physical footprint than many hospital emergency departments, on-site IT staff and equipment were a space luxury the Golden Triangle ER wouldn't be able to afford. Moreover, because of complex healthcare requirements surrounding the protection of patient data, they would need access to an expert in the field that would be a challenge to source in their 251 square mile pocket of the state. Finally, even if they were able to find a local IT resource, the Golden Triangle ER's needed one that could be accessible all day every day, without the expense of 3 full time employees to fill each 24-hour day. To surmise, they needed someone they could count on at any time of the day or night to immediately fix complex technical problems- but didn't cost much.

4. **They needed a predictable, quantified expense with no surprises.** The only way for the owners to create an emergency center lean enough to even survive given the region's unique economic and demographic makeup, they had to be assured that the numbers they were plugging into their pro forma calculations were accurate and could be counted on consistently. Every single element of their business plan had to be quantified before they broke ground to make sure it would work. There was no room for reworking IT at a later date, adding a charge for a new installer with a special skill set, or system disruptions creating the need for internal staff to dedicate any additional hours to a job that was not their primary one.

THE CREATION OF A CORE COMPETENCY

The team at Golden Triangle Emergency Center came to Texas Systems Group (TXSG) with an intense requirements list for the facilities they were looking to build. Dr. Tom Vo, one of the ER's managing partners, had worked with TXSG's co-founder Andrew Lam in the past. "I knew if Andrew and his team couldn't do it, no one could," states Vo, "but I also knew I was asking for the impossible. So when Andrew came back with his proposal, I was floored. It met all of our requirements and would cost less than one FTE (full time equivalent staff member)."

As the senior leaders, management, and technicians worked through the outsourced IT Department plan TXSG had engineered, Golden Triangle ER realized that if the IT system could really be installed

and remotely managed with the level of speed, security, stability, consistency and reliability they were discussing, not only would it change the dynamic of their business plan from a cost perspective, it could be a **core competency so significant as to bring their noble mission from viable to nearly inimitable.**

HOW THEY DID IT – TURNKEY PROJECT MANAGEMENT FROM THE GROUND UP

When Texas Systems Group President Andrew Lam first spoke with Dr. Vo on the critical reliability and budget requirements of the project, he knew that if he could find a way to architect an infrastructure within this demand set, **he could ultimately create a solution to help struggling healthcare systems everywhere affordably save lives in their communities.** He boldly accepted the mission and took it back to his team.

Texas Systems Group is a unique player in the IT network infrastructure market. **“When you define processes and then create digital systems that automate repeatable elements, you really augment the capabilities of your organization, because your IT team can then do what they love and do best – collaboratively engineer next-level solutions,”** states Lam. *“The passionate culture at TXSG is contagious,”* states one of Golden Triangle’s favorite technicians from TXSG, Keegan, *“because you’re finally working in a place where you are making things happen – we all work together to design these great solutions – and then a solution for one client begets another solution, which begets yet another. So your solution set is constantly improving and you realize you’re really contributing to changing an entire industry and not just responding to IT emergencies. So when Andrew brought back the challenge with Golden Triangle Emergency Center, we all really wanted to make it happen.”* And make it happen they did.

After designing the architecture of the Golden Triangle ER network, the team tested multiple modalities to ensure the most efficient cross-communication between sites, the best remote management solutions, and the server and redundancy specifications to ensure 100% uptime.

THE CLIENT EXPERIENCE

A conversation with Jen Hardy Lewis, Director of Operations, Golden Triangle Emergency Center

*When I came on board just after Golden Triangle broke ground on the first ER, I remember feeling my jaw drop as Dr. Vo introduced me to Andrew Lam from Texas Systems Group (TXSG) and told me that we were outsourcing our entire IT Department to them. My level of apprehension shot through the roof and I remember wanting to scream: **“Whoa! Are you crazy? You’re going to try to outsource this?”** I hadn’t ever heard of TXSG and I had worked with nearly every IT company in town over the course of my 20 year career in healthcare. I remember regaining my wits, turning to Andrew and carefully asking, “Are you out of Houston?” When he said, “No, we’re out of Austin,” a city 254 miles from our precious town, I looked right at him and said, **“What the heck are you going to do if we crash? Do you realize we save lives here?”** Andrew handled the attack with incredible finesse, looked me in the eye and said warmly, “I promise our team won’t let you down.” I’ll never forget that moment because it was the first of so many incredible personal interactions with the TXSG team. They are just some of the kindest, most thoughtful individuals you will ever meet.*

Looking back now I laugh at that moment and think maybe I was a little harsh on Andrew, but our entire ability to treat patients was co-dependent on our IT system and our ability to get help fast when it crashed. I didn’t care how much money outsourcing IT saved in that initial moment, we need a system that would work and I just couldn’t see it happening through a remote company miles and miles away.

Fast forward to today, and quite frankly I would never use anything but an outsourced IT Department from Texas Systems Group. Most IT service providers are reactive, so you don’t actually realize that they can be proactive until you meet the team at TXSG and see that it can and should be done in a completely different way. With other companies or even within in-house IT Departments, you call in a request when something goes wrong and just wait for them to come troubleshoot and fix the problem. Even “quick” fixes in my experience typically take the better part of a day. In an ER we can’t operate like that – it’s too risky. Thus, in most of my roles I’ve had internal IT because at least you can require them to prioritize your most critical issues. But it’s hard to hire and train IT internally. You have to know exactly what you need from a systems and a compliance perspective, then hire the people with that

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exact skill set, create job descriptions for them, and then trust that you have everything covered. The problem for operations managers is that you nearly have to be an IT expert to even know what you need – and that’s just not a skill set that comes with the territory. But IT staff work in a bottom-up fashion – they respond to issues. Even when they do that part of the job really well, your company is at risk if you don’t have a top-down IT plan in place.

I have managed a number of healthcare IT projects throughout my career, and this installation with Texas Systems Group was the easiest I have ever dealt with. The team at TXSG works really well together and with our team – they communicate wonderfully with the project manager, and they make it so simple you don’t have to be on site. Andrew is absolutely amazing at what he does and he has trained a team that works just like him. You have a lot of IT gurus out there, but if you don’t understand what they’re saying they usually get frustrated with you like it’s your fault. When you can’t walk through the system with them, it’s that communication impasse that brings inherent risk into your organization. Andrew and his team break down everything for you – so you know why this point has to be done before this other one. Their teaching skills are so great I was able to let our Executive Assistant in Orange manage the installation on the 2nd ER. This gave her an incredible learning opportunity and allowed me to dedicate my time to running operations.

Texas Systems Group works as our entire IT Department – from top-down plans that ensure we meet both our regulatory and performance requirements, to installation, maintenance, tests, audits, and support. Further, they proactively designed a system that is so efficient it pre-detects most problems before we even know they are a problem. And when we do have an issue, we literally have access to their tech team 24 hours a day, every day of the year. We maintain about 110 full and part-time staff between the two sites in order to ensure proper coverage, and our systems handle the transitions and heavy demands of our team seamlessly. When we do have an issue, any staff member can call TXSG at any hour and get an immediate response, with no additional expense for multiple tickets or tickets at odd hours. Once we did end up needing to have someone come on site for an issue, and TXSG found a local resource, told him exactly what to do, and had him come out here and do it. It’s stuff like this that just makes you feel secure.

The team at TXSG has been a saving grace so many times they don’t even know it. I inherently understand that that’s the value of having a system and processes and automation, so I get it but I don’t get it. I just don’t think they understand how wonderful they are. The peace of mind alone in the stability and uptime of our IT infrastructure is invaluable to me. When you combine that with the cost savings in salaries we haven’t had to spend, troubleshooting fees we haven’t needed to budget, mistakes we don’t have to pre-plan for, in-house space not needed, and value of my time and staff time not having to be spent on IT, it’s just over the top. TXSG makes it so painless. They protect our patients and us, and they are some of the nicest people you’ve ever met.

RESULTS

Texas Systems Group masterminded a comprehensive ground-up network infrastructure for two Golden Triangle Emergency Center locations that met intense uptime and stability requirements in a highly cost effective manner. The pre-planning afforded through the ground-up process allowed TXSG to build in efficiencies that may not have been possible in a transition situation. Further, the group’s forethought into IT allowed the two companies to create a solution that not only made the ER’s viable, but provided them an unparalleled competitive advantage.

¹ Extrapolated from 2015 U.S. data provided by the Centers for Disease Control and Prevention on average number of ER visits per 100 persons in the U.S.

² Source: <https://www.texastribune.org/library/data/map-health-insurance-texas-2010/>