



# Dig Once, Fly Fast

85,000 feet of new fiber, a 3,900% speed jump, and policy-driven SD-WAN—real-world roadmaps for turning legacy backbones into high-velocity platforms.

## Editor's Note

Enterprise networks are racing to keep up with two simultaneous surges: massive traffic from AI-driven workloads and a security mandate to connect anything, anywhere, without a hitch. Market analysts put **2025 global spend at \$87 billion, up 9% year-over-year**—with SD-WAN alone expanding at a **30.9% CAGR through 2030** as organizations abandon hub-and-spoke designs for policy-based fabrics. On the wireless edge, 2025 is set to be the inflection point for Wi-Fi 7: **IDC forecasts 17% of enterprise AP revenue will be Wi-Fi 7 by year-end**. Gartner's 2025 roadmap echoes what every CIO now feels—AI adoption, hybrid work, and cloud-first mandates are exposing gaps in automation and resilience.

The stories in this issue show what progress looks like in the field:

- **Coppin State University** replaced a 20-year-old backbone with 85,000 ft of single-mode fiber and 300 Extreme switches, slashing manual admin time by 60%.
- **Rinchem** ditched a 53-hour-outage-prone hub for C1-managed SD-WAN, gaining round-the-clock visibility across global hazmat logistics.
- **Siemer Milling** modernized three century-old mills with virtualized compute and fabric switching that cut telco costs and boosted IT productivity.
- **Kentucky State University** leap-frogged to 40 Gbps rings and 800 in-room APs, finishing two months ahead of schedule and removing campus Wi-Fi from the complaint list.

Different sectors—logistics, higher-ed, manufacturing—but one pattern: automate the core, fortify the edge, and choose partners who stay until the last packet flows. As you read, look for tactics you can lift straight into your own roadmap; the next wave of bandwidth and AI demand won't wait.

– Jeff Ehrenhart, Editor, C1 Insights

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# Impact Snapshot



**50 - 60% drop in manual switch administration** for **Coppin State University** once 12 buildings were refreshed with 300+ Extreme switches and automated campus fabric.

*"C1's expertise, professionalism, and unwavering support provided us with seamless integration, modernized infrastructure, and increased efficiency across the board."*

*– Taha Mohammed, Assistant Director of Campus Infrastructure Team, Coppin State University*



**+3,900% backbone speed** at **Kentucky State University** after pulling **85,000 ft of single-mode fiber** and lighting 40 Gbps rings; outages have "virtually disappeared." 11,400 VoIP phones now feed precise 911 location data in real time.

*"We understood that to be resilient, to be available 99.99% of the time, we must build an environment and infrastructure that supports that."*

*– Dr. Wendy Dixie, VP of IT, Kentucky State University*



**From 53-hour outage to always-on logistics** at **Rinchem**: a C1-managed SD-WAN and 24x7 Arctic Wolf monitoring turned global haz-mat deliveries into a "secure, reliable and cost effective" platform.

*"We're no longer firefighters ... we respond, we don't react, and we can respond to everything."*

*– Vickie Urias, Director of IT Operations, Rinchem*



**Cost cuts and productivity gains** at **Siemer Milling** after centralizing voice and modernizing three mills' networks.

*"By centralizing our phone lines, we've reduced costs and increased efficiency across our sites."*

*– Alan Waggoner, Information Systems and Security Manager, Siemer Milling*

**Bottom line:** Whether the goal is 40 Gbps rings on a historic campus, policy-driven SD-WAN for global freight, or fabric switching on a 19th-century production line, C1 customers are translating network modernization into measurable uptime, efficiency, and cost control.

*"C1's specialists not only implemented solutions but also helped us do our jobs better and be more productive."*

*– Dedra Wagoner, Senior Systems Analyst, Siemer Milling*

# Switching Gears at a 125-Year-Old HBCU: Coppin State's 12-Building, 300-Switch Network Glow-Up

No one enrolls in college to stare at a loading wheel, and **Coppin State University** decided its students had done enough of that. The 125-year-old HBCU in Baltimore was running on hardware that, in the words of Assistant Director of Campus Infrastructure **Taha Mohammed**, was **"out of support, end of sale."** Classrooms labeled "smart" felt anything but—until Coppin teamed with **C1** for a multi-phase, campus-wide overhaul.



## The Project by the Numbers

- **12 campus buildings** touched
- **300+ access switches** installed
- **50-60% less time** spent on manual admin tasks after go-live (think config backups and switch wrangling)

Those stats are more than bragging rights; they're a lifeline for a lean IT staff suddenly free to work on bigger ideas than "Did someone reboot the closet?"

## Why Tear It All Down?

Mohammed's mandate was simple and sweeping: **"We were looking for a complete refresh from end to end."** Legacy gear required painstaking manual updates and left the team playing network Jenga every time a switch failed. Limited funding meant the refresh had to deliver speedy wins and future-proof tools in one motion.

## Enter C1 (and Extreme Networks)

Coppin chose C1's professional-services crew to plan, stage, and install Extreme Networks Legacy Fabric technology topped off with **ExtremeCloud IQ - Site Engine** for automated configuration and monitoring. The phased approach hit the data-center core first, then fanned out to edge closets and "smart space" classrooms—no semester-disrupting big-bang cutover required.



## What Changed Overnight?

Mohammed sums it up best:

**“Technology is at the core of modern education, shaping the way students learn and interact in today’s world... C1’s expertise, professionalism, and unwavering support provided us with seamless integration, modernized infrastructure, and increased efficiency across the board.”**

Students now roam a Wi-Fi fabric that actually keeps up with streaming labs and AR demos. Faculty push content without praying the LMS page will refresh. And IT finally has dashboards instead of dusty CLI scripts.

## Lessons Worth Copy-Pasting

1. **Count the closets.** Inventory drives scope; Coppin mapped every closet switch before the first box arrived.
2. **Automate or repeat forever.** ExtremeCloud IQ’s policy-driven templates slashed manual work by “50-60%.”
3. **Partner for the marathon, not the mile.** C1 stayed from kickoff through last-mile testing—then documented it all so campus techs aren’t left guessing next semester.

Vice President of Managed Services at C1, **Josh Mustard**, called Coppin’s leadership “a model for higher learning institutions.” With the network infrastructure rebuilt, the university can chase new grants, spin up hybrid-cloud research, or outfit the next wave of smart classrooms—without first asking, “Will the network fall over?”

**Bottom line:** From dusty, end-of-sale gear to a fabric that practically runs itself, Coppin State proves you don’t need Ivy-League budgets to give students enterprise-grade connectivity. You just need the right blueprint—and a partner willing to carry it up 12 flights of telecom closets.

# Always-On Supply Chain: How Rinchem Turned a Global Network into a Growth Engine

When your first day on the job involves a **"53-hour global outage,"** you remember it. That's exactly what greeted **Vickie Urias, Director of IT Operations at Rinchem**—the world's largest network of chemical and gas distribution centers. **"Our first challenge was to redesign our network from the antiquated hub-and-spoke model to SD-WAN and add a security layer,"** she recalls.

## A Mission That Can't Wait

Rinchem's pledge is to be "the most responsive provider of chemical management services." Achieving that meant fixing more than downtime; it meant connecting warehouses, hazmat-trained drivers, proprietary Chem-Star® logistics software, and future robotics plans—all without adding headcount. **"We do not have the time or the resources to put a lot of calories or capital into investing in more people in-house, so C1 takes many things off my plate, allowing me to focus on business strategy,"** Urias says.

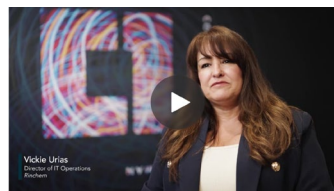


## The C1 Blueprint

C1 deployed a platform built on:

1. **C1MX**, a managed Cisco SD-WAN service that **"simplifies IT operations with automated provisioning, unified policies, and streamlined management, making changes, updates, and resolutions in record time."**
2. **C1CX** voice and collaboration tools, next-gen firewalls, and **DRaaS** to banish sleepless weekends over backups.
3. **Arctic Wolf monitoring** and **Rubrik** backup to give Rinchem a security blanket without hiring a SOC. **"We implemented Arctic Wolf with C1, and we implemented Rubrik to support backup and recovery for our cloud environments."**

*"Rinchem's mission ... requires securely unlocking data across the enterprise," notes Elliot Olschwang, C1 Chief Services Officer. "C1 has been collaborating with Rinchem to connect its infrastructure and security, ensuring it can effectively utilize data to enhance responsiveness to customers."*



Watch the video:

[For Rinchem, Infrastructure is the Foundation That Keeps the Business Steady](#)





## Results that Move Faster than Freight

- **From firefighters to responders** - "We're no longer firefighters... we respond, we don't react, and we can respond to everything."
- **A motto you can measure** - The new base environment is "secure, reliable and cost effective."
- **Global threat coverage** - C1 and Arctic Wolf monitor threats "across the globe and around the clock," even stopping an attack in South Korea before it spread.
- **Employee experience = customer experience** - "Everybody in the organization is getting what they need from the environment, including automation tools."

And the partnership isn't just technical.

"At the end of the day, we can buy technology anywhere. We can't buy a partnership... C1 has done a tremendous job of that and investing in us," Urias adds.

## Three Takeaways for Infrastructure Leaders

1. **Automate the backbone.** Managed SD-WAN replaced Rinchem's hub-and-spoke pain with policy-driven agility.
2. **Security is a service, not a headcount.** Arctic Wolf + C1 gives 24x7 coverage without building a SOC.
3. **Tie tech to people.** Urias insists, "The employee experience is also the customer experience."

**Bottom line:** Aldine's turnaround proves that even the ninth-largest district in Texas can leapfrog from "please reboot" to "bring on 4K VR." Ready to write your own upgrade story? Ask C1 how a 6 GHz foundation and the right partner can turn Wi-Fi woes into bragging rights.



# How 144-Year-Old Siemer Milling Knit Three Mills into One High-Speed Network

When you've been grinding wheat since 1882, you know the value of steady hands. Yet even the most time-tested processes can bog down when the IT stack ages out. At family- and ESOP-owned Siemer Milling, three Midwest mills were running on legacy gear that could no longer keep pace with production analytics, remote support, or modern collaboration.

**"We had multiple projects going on simultaneously, from upgrading our virtualized infrastructure backend to centralizing our phone systems."**

*– Alan Waggoner, Information Systems and Security Manager*



## **A Grocery List of Upgrades—One Partner to Deliver**

Siemer already depended on Cisco for switching and wireless, but the team knew it was time to re-evaluate every layer.

**"We leverage Cisco equipment extensively, but with the changing landscape, we needed to reassess and ensure we were making the best choices for our future needs."** *– Alan Waggoner*

The wish list spanned refreshed servers, campus-wide Wi-Fi, consolidated voice, and tighter security. Handling that internally would have meant hiring or pausing other initiatives—neither option was on the menu.

**"We needed a partner who could understand our specific needs and deliver solutions that truly fit,"** *recalls Dedra Wagoner, Senior Systems Analyst.*

## **C1's Recipe: Virtualization + Fabric + Phones**

C1 assigned a dedicated project manager—Sketch Diddy—to choreograph vendors, freight, and cutovers.

**"Sketch has been instrumental in keeping things moving and ensuring we have the right resources at the right times."** *– Alan Waggoner*



### Key moves included:

1. Modern virtualization stack to run ERP, lab-quality tracking, and OT monitoring.
2. Fabric-based switching that slices VLAN changes from hours to minutes.
3. Centralized phone platform tying three mills into a single dial plan.

Every milestone was locked into a statement of work that Siemer vetted line by line.

**"The review process of the SOW was meticulous, ensuring we received exactly what we needed."** – Dedra Wagoner

### Measurable Wins—Right Out of the Silo

- Lower telco spend and simpler support.

**"By centralizing our phone lines, we've reduced costs and increased efficiency across our sites."** – Alan Waggoner

- Productivity bump for IT and ops.

**"C1's specialists not only implemented solutions but also helped us do our jobs better and be more productive."**  
– Dedra Wagoner

And the relationship is personal, not transactional:

**"Pat McHugh [C1 Client Executive] has been fantastic. It's clear that finding the right solution for our business is more important to him than just making a sale."** – Alan Waggoner

### Three Takeaways for Infrastructure Leaders

1. Bundle the backlog. Tackling network, voice, and compute in one program kept Siemer from juggling three vendor calendars.
2. Insist on runway visibility. A project manager who "keeps things moving" is as vital as the hardware itself.
3. Document the details. A meticulous SOW turns hand-offs into high-fives when auditors—or future upgrades—arrive.

**Bottom line:** From rail-car grain deliveries to real-time inventory dashboards, Siemer Milling now runs on a platform that's as reliable as its flour. If your own production lines still depend on yesterday's gear, C1's blueprint proves you can modernize the backbone without stopping the grind.

# How Kentucky State University Accelerated Performance 3,900% –Two Months Early

Kentucky State University (KSU) is no stranger to bold moves. Chartered in 1886, the 1,100-acre HBCU wanted a network that could match its ambitions for AI-driven research and an all-new online program—but its 20-year-old, daisy-chained fiber backbone was one unplugged truck away from a campus-wide blackout. “We understood that to be resilient, to be available 99.99% of the time, we must build an environment and infrastructure that supports that,” said **Dr. Wendy Dixie, Vice President of Information Technology.**



## The Fix-It List

KSU’s wish list read like an IT director’s dream board:

- Pull **85,000 feet of new single-mode fiber** under lawns and lecture halls.
- Swap a single 1 Gbps lifeline for **10 Gbps to every building** and **40 Gbps** (and beyond) through five new hub sites—a **3,900% speed jump**.
- Refresh the edge with **100+ Extreme Networks switches** and **800 Wi-Fi access points**—one in every residence-hall room.

C1, already a four-year partner, got the call.

## C1 + Extreme: A Two-Month Head Start

As a Diamond Elite Extreme Networks partner, C1 mapped, trenched, and lit the new backbone **two months ahead of schedule**. Student surveys and town-hall forums that once overflowed with Wi-Fi complaints? Silent. Coverage has jumped **220%**, and access points no longer fight through cinder-block hallways.

Dixie calls it “a critical step forward for KSU... positioning us as a leading institution in technology advancements.” Elliot Olschwang, C1’s Chief Services Officer, put it this way: “We believe in the power of technology to transform student and teacher experiences.”





**Results You Can Major In**

Metric	Before	After
Backbone Speed	1 Gbps (best-case)	40 Gbps+
Building Links	Hallway APs	Redundant fiber rings
Project Timeline	0	Finished 2 months early

Outages? “Outages have virtually disappeared... we’d be able to determine where it is and take care of it immediately because of the way the topology is now set,” Dixie reports.

**Three Lessons for Campus CIOs**

- 1. **Backbone first, bells later.** Without single-mode fiber, no amount of clever apps will save bandwidth-starved dorms.
- 2. **Hubs beat chains.** Five fiber hubs with multiple paths turn a 19th-century campus into a modern mesh.
- 3. **Partnership > product.** “To have a relationship and trusted partner who really cares about the outcome... is very important to me,” Dixie says.

**Bottom line:** With 85,000 feet of fiber beneath its quads, KSU is already rolling out a new online program and AI-powered learning tools. For any institution still stuck on multimode relics, this project writes the syllabus: dig once, fiber up, and let a proven partner carry the load—two months early.

## Ready to Put Your Network in the Fast Lane?

Whether you need campus-wide fiber at 40 Gbps, policy-driven SD-WAN, or a hybrid-cloud backbone that just works, C1 has the blueprint and the battle-tested team to get you there—on time and on budget.

- [Coppin State University](#)
- [Rinchem](#)
- [Siemer Milling](#)
- [Kentucky State University](#)



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