

# csstel

## real-time intelligence for every remote site

*Reduce Downtime.  
Cut OPEX.  
Improve Reliability.*

### The Unified Platform for Mission-Critical Infrastructure

Built on decades of mission-critical expertise, ComView is the unified intelligence engine that solves the complexity of managing dispersed networks. It eliminates fragmentation by converting diverse site data into a unified, secure, and extensible operational model — delivering clarity, consistency, and lower operational overhead.

# THE CHALLENGE

## Consolidate Your Site. Unify Your Intelligence.

Whether you manage a few sites or a large geographically dispersed network, the operational challenges are the same: fragmented systems, delayed insight, and rising OPEX.

### The “Swivel-Chair” Problem of Disparate Systems

Remote-site operations often depend on a mix of disconnected tools — separate systems for power, environmental data, security, RF and cellular communications, network/IT devices, and secure remote access. Diagnosing a single issue can require moving between multiple interfaces, each with its own alarms and workflows — resulting in **operational inefficiency**.



#### Data Fatigue

Inconsistent interfaces and credentials



#### Hidden OPEX

Multiple licenses and training burdens



#### Delayed Response

Slow root-cause identification



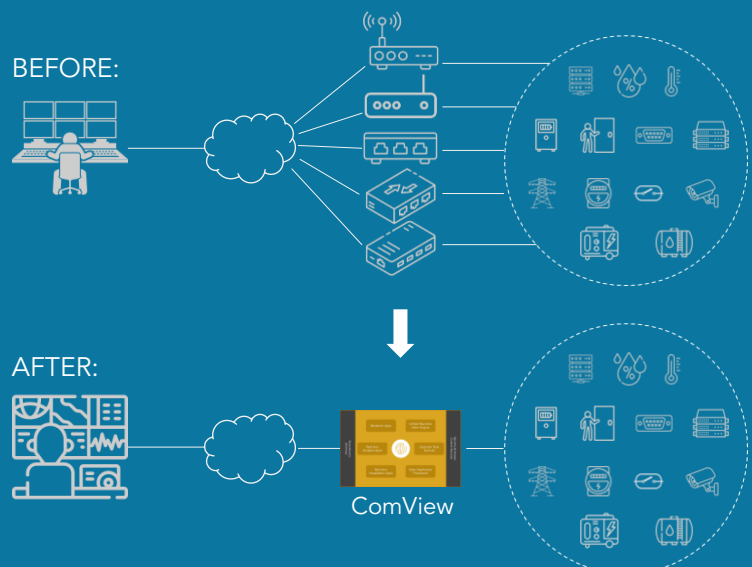
#### Visibility Gaps

Blind spots across legacy and modern systems

### The ComView Solution One Platform. Total Visibility.

ComView eliminates fragmented monitoring by serving as a **Unified Mediation and Intelligence Platform** that standardizes all onsite domains into **one operational model**.

This consolidation streamlines workflows, reduces tool overhead, and delivers consistent visibility across all remote sites.



# CORE TECHNOLOGY

## Intelligence Where It Matters: At the Edge

ComView analyzes data directly at the site for faster, more accurate insight. Unlike simple monitoring devices that depend on cloud platforms or enterprise NMS systems for processing, ComView performs Real-Time Analytics at the Edge — delivering immediate, validated intelligence without waiting for upstream systems.

### Autonomy

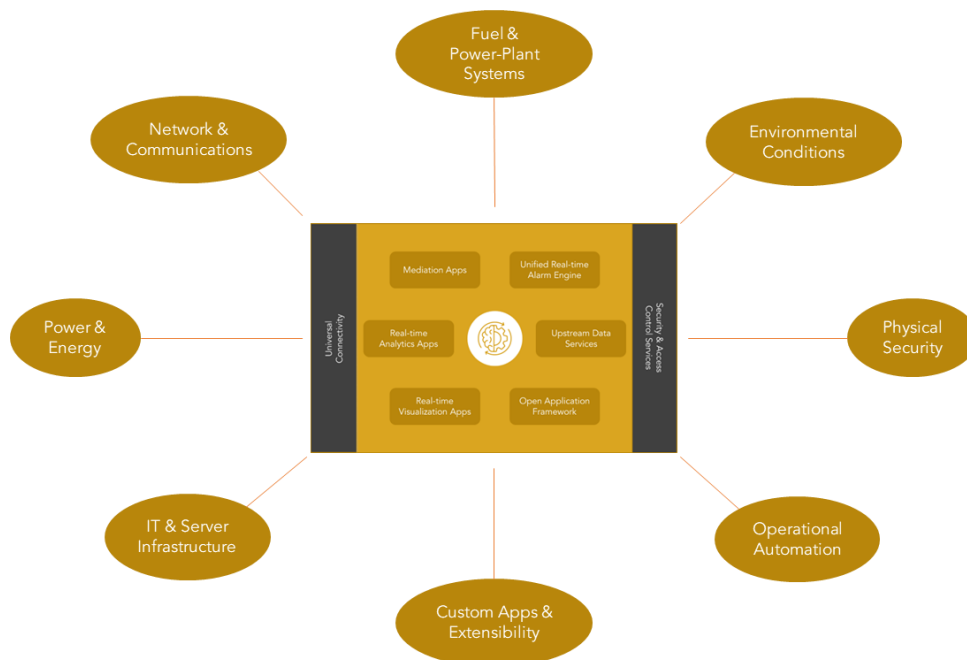
Detects anomalies, identifies trends, and generates alarms locally—without relying on constant backhaul connectivity

### Latency Elimination

Provides immediate operational insight, ensuring site survivability and eliminating the costs associated with cloud-only architectures

### DIY Flexibility

Customize site behavior and add new capabilities without vendor cycles. ComView's Python-based app framework and API let teams build and adapt applications independently



## Universal and Extensible Platform

Connect to virtually any onsite system—legacy or modern. ComView integrates diverse equipment and protocols, normalizes data into a consistent model, and standardizes alarms for effortless system integration.

This universal architecture ensures long-term adaptability, simplifies upstream integration, and keeps your operations future-ready.

# EDGE IT INTELLIGENCE

## Unified Monitoring & Management for Remote IT Sites

Edge IT Sites house critical compute, network, storage, power, and environmental systems — often without onsite staff.

ComView provides [unified visibility](#), [secure remote access](#), and [real time intelligence](#) to keep these distributed environments operational and secure.



### Services & Application Oversight

Monitor application-level services, CPU/RAM usage, and auto restart failed processes



### Secure Out of Band Access

Remote console access to servers and network devices for troubleshooting and recovery



### Serial Data Collection

Capture boot diagnostics, system logs, device messages, and application data to detect early-stage failures



### Task Automation

Schedule scripts for log retrieval, configuration checks, health queries, and security monitoring



### Syslog NG Collection

Aggregate syslog messages and trigger alarms on user defined signatures for immediate response



### SNMP Trap Collection

Real time monitoring of traps from servers, switches, routers, PDUs, and other SNMP capable devices



### Energy & Power Quality Monitoring

Track energy usage, voltage, frequency, power factor, and harmonics for safe IT operation



### Remote Power Control

Power cycle servers, reboot devices, or activate external systems as part of automated recovery workflows



### Environmental Monitoring

Temperature, humidity, airflow, smoke/fire, and water leak detection for thermal and physical protection



### Access Security & Intrusion Awareness

Monitor room and rack access; capture intrusion images/video for immediate action

# SMART MEDIATION FOR MSPs

## Unify Client Monitoring Across All Domains

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MSPs manage diverse client infrastructures with different vendors, protocols, and operational expectations.

ComView standardizes data, alarms, and workflows across all sites — giving MSPs a unified operational model that scales.



### Universal Mediation

Normalize telemetry and alarms across any onsite domain: power, environmental, IT, network, security, and application-level systems

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### Cross Client Visibility

Consistent dashboards and workflows across mixed vendor client environments

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### Vendor Neutral Integration

Eliminate proprietary formats and one-off integrations with a unified data and alarm model

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### Extensible Platform

Add new capabilities or domain specific apps as client requirements evolve — without redesigning workflows

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### Upstream Standardization

Deliver clean, structured intelligence to NOCs and enterprise platforms via SNMP, MQTT, and CSV formatted data

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### Service Scalability

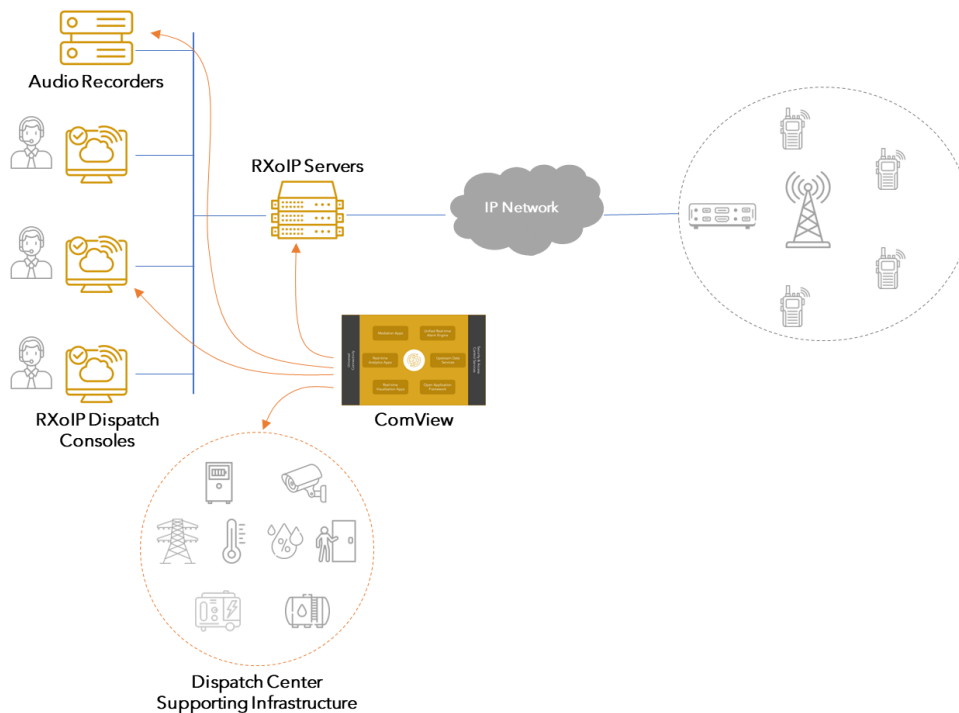
Onboard new clients quickly and expand service offerings without increasing operational overhead

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# DISPATCH SYSTEM MONITORING

## Real-time Visibility for RVoIP Systems

Dispatch centers depend on RVoIP (Radio over IP) servers, consoles, and audio recorders that can fail quietly at the service level. ComView provides real time visibility into these mission critical systems, detecting stalls, resource spikes, and recorder issues before they disrupt communications.

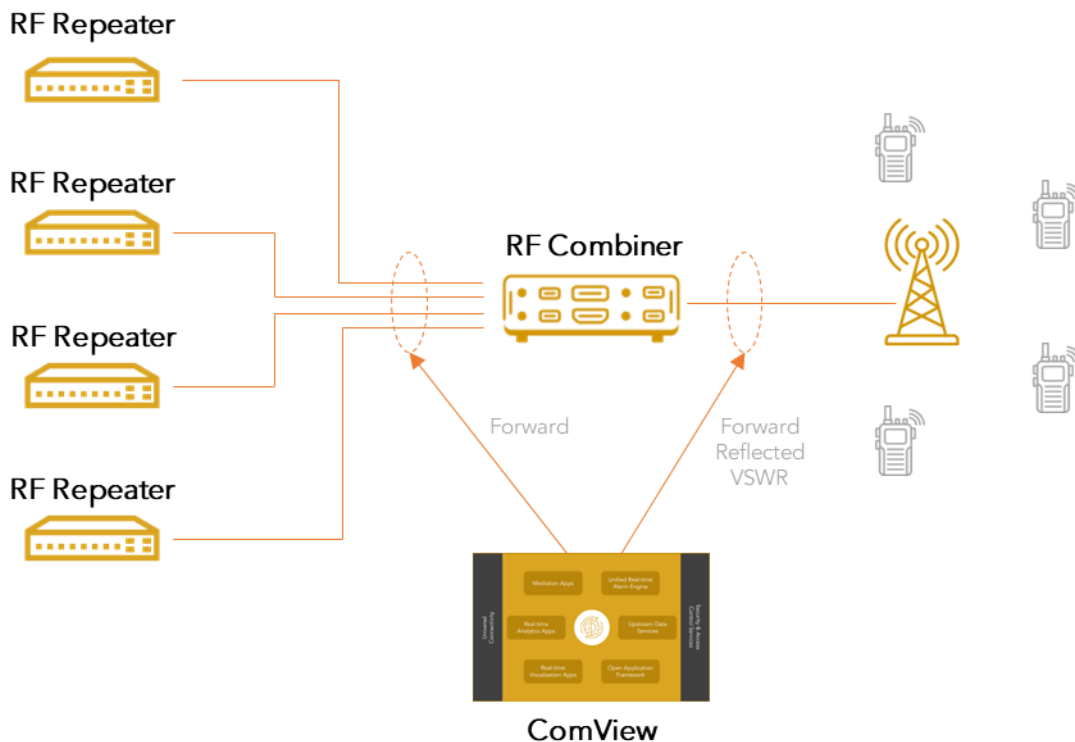


- **RVoIP Service Level Monitoring** — Track the running status of all critical RVoIP services, not just system level checks.
- **Resource Intelligence** — Real-time monitoring of service-level CPU and memory usage, plus system-level RAM and disk utilization to detect early-stage degradation.
- **Anomaly Detection** — Self learned baselines identify abnormal resource consumption before it becomes an outage.
- **Custom Thresholds** — User-defined disk-usage alarms to ensure adequate free capacity for critical services — such as SQL databases — to operate without interruption.
- **Audio Recorder Integrity** — Extract recorder logs by severity level and issue alarms from individual or redundant recorder configurations to ensure continuous recording integrity.
- **Immediate Alarm Reporting** — Send alarms to ComView ARC, NOC/NMS platforms, enterprise systems, or cloud services.
- **Supporting Infrastructure Monitoring** — UPS, temperature, access security, and other supporting systems consolidated into one platform.

# RF LINE ANALYTICS

## Real-time $P_{FWD}$ , $P_{REF}$ , and VSWR Monitoring

RF coverage depends on a clean, healthy transmission line — from repeaters to the combiner to the antenna. Issues like moisture ingress, connector corrosion, cable damage, or impedance mismatch often develop quietly. ComView provides real time visibility into forward power ( $P_{FWD}$ ), reflected power ( $P_{REF}$ ), and VSWR to detect degradation before it impacts coverage.

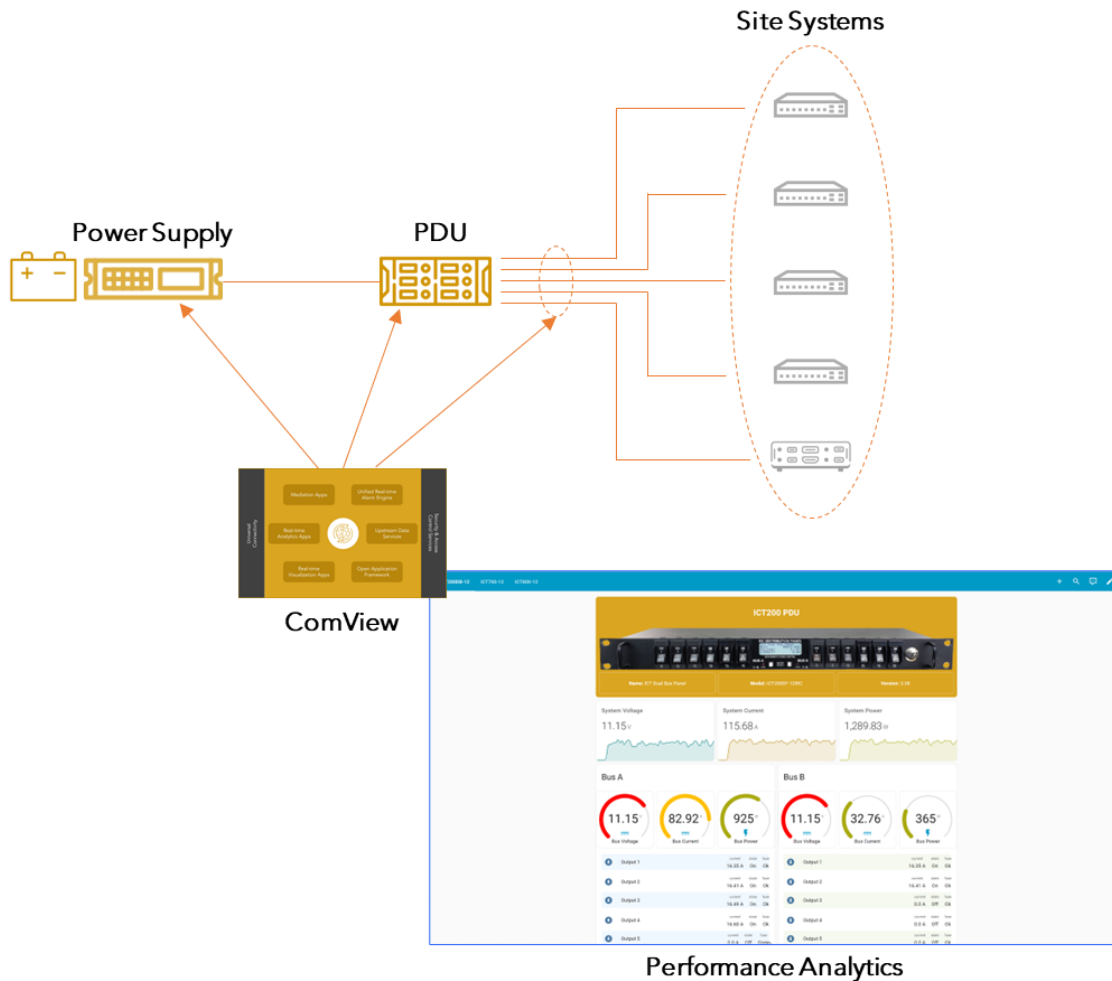


- **Repeater Forward Power Monitoring** — Track transmit power from each repeater to detect power drops, amplifier issues, or failing RF paths.
- **Antenna System Integrity** — Continuous measurement of forward power, reflected power, and VSWR to identify impedance mismatch and antenna degradation.
- **Digital Filtering** — Noise filtered RF measurements for high integrity alarms and fewer false positives.
- **Performance Analytics** — Convert RF measurements into CSV formatted records for onsite analysis, long term trending, and upstream processing.
- **24/7 RF Line Surveillance** — Continuous monitoring of the entire RF transmission line to detect issues early and reduce service interruptions.

# DC POWER ANALYTICS

## Real-time Power Supply and Distribution Monitoring

DC power systems are the backbone of remote site reliability, yet real world issues — unstable AC mains, drifting DC output, or abnormal port level current — often develop quietly. ComView provides system, bus, and port level visibility to detect early electrical or equipment degradation before it impacts service.

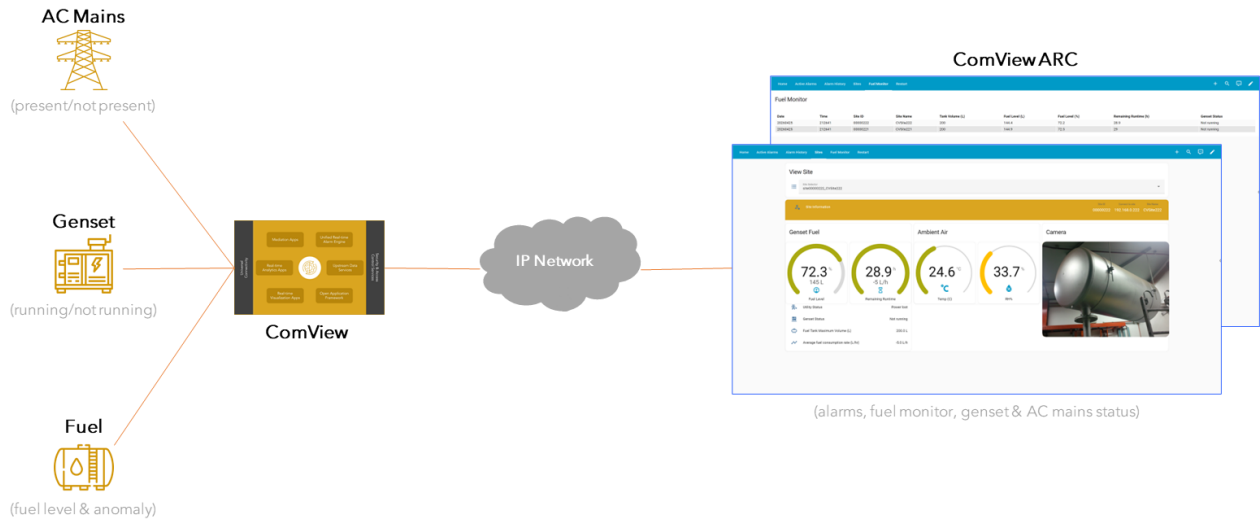


- **DC Power Supply Monitoring** — Track AC mains presence, AC input voltage, DC output voltage/current, and user defined over/under thresholds.
- **PDU System Level Insight** — Monitor system level DC voltage/current and fuse/breaker status across the distribution layer.
- **Per Port Monitoring** — Read voltage and current at each output port to pinpoint device level faults or abnormal load behavior.
- **Power as a Diagnostic Tool** — Identify over current spikes, under current conditions, and repetitive anomalies that reveal early-stage equipment degradation.
- **Performance Analytics** — Visualize long term electrical trends, correlate power behavior with equipment performance, and detect slow developing issues early.

# GENSET FUEL SECURITY & ANALYTICS

## Real-time Anomalies With Predictive Runtime

Fuel dependent sites rely on the genset as the final layer of power protection. Yet fuel issues — shifting consumption rates, unnoticed leaks, inaccurate refills, or theft — often develop quietly. ComView provides real-time, self-learning intelligence at the fuel tank to ensure predictable runtime, verifiable accountability, and complete operational awareness.



- **Predictive Runtime Intelligence** — Self-learned consumption models deliver accurate remaining runtime estimates to help optimize refueling schedules.
- **Fuel Theft Detection** — Identify unauthorized fuel removal in real time with estimated volume lost for immediate response and expense tracking.
- **Fuel Leak Detection** — Detect slow or sudden leaks early to prevent environmental risk and unexpected runtime loss.
- **Refill Verification** — Validate vendor deliveries with estimated refill volumes for audit ready accountability.
- **Edge Side Processing** — Local statistical analysis ensures immediate detection, continuous monitoring, and high-resolution event logging even without backhaul connectivity.
- **High-Resolution Fuel Records** — CSV formatted performance data for every reading, including volume, rate of change, run state, AC mains state, and long-term averages.
- **ARC Fuel Monitor Integration** — Network- wide fuel visibility with sites sorted by remaining percentage, estimated runtime, and tank capacity for fast refueling decisions.
- **ARC Site View Integration** — Visualize long term electrical trends, correlate power behavior with equipment performance, and detect slow developing issues early.

# About Us

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ComView is developed by CSSTEL, a team specializing in remote site monitoring, mediation, and operational intelligence. Our platform is designed to unify diverse systems, simplify operations, and deliver actionable insight across every site you manage.



**Transform** your remote site operations with  
**unified intelligence**

See how **ComView** can simplify your workflows, reduce OPEX, and improve service delivery

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# csstel

Mississauga, Ontario, Canada

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