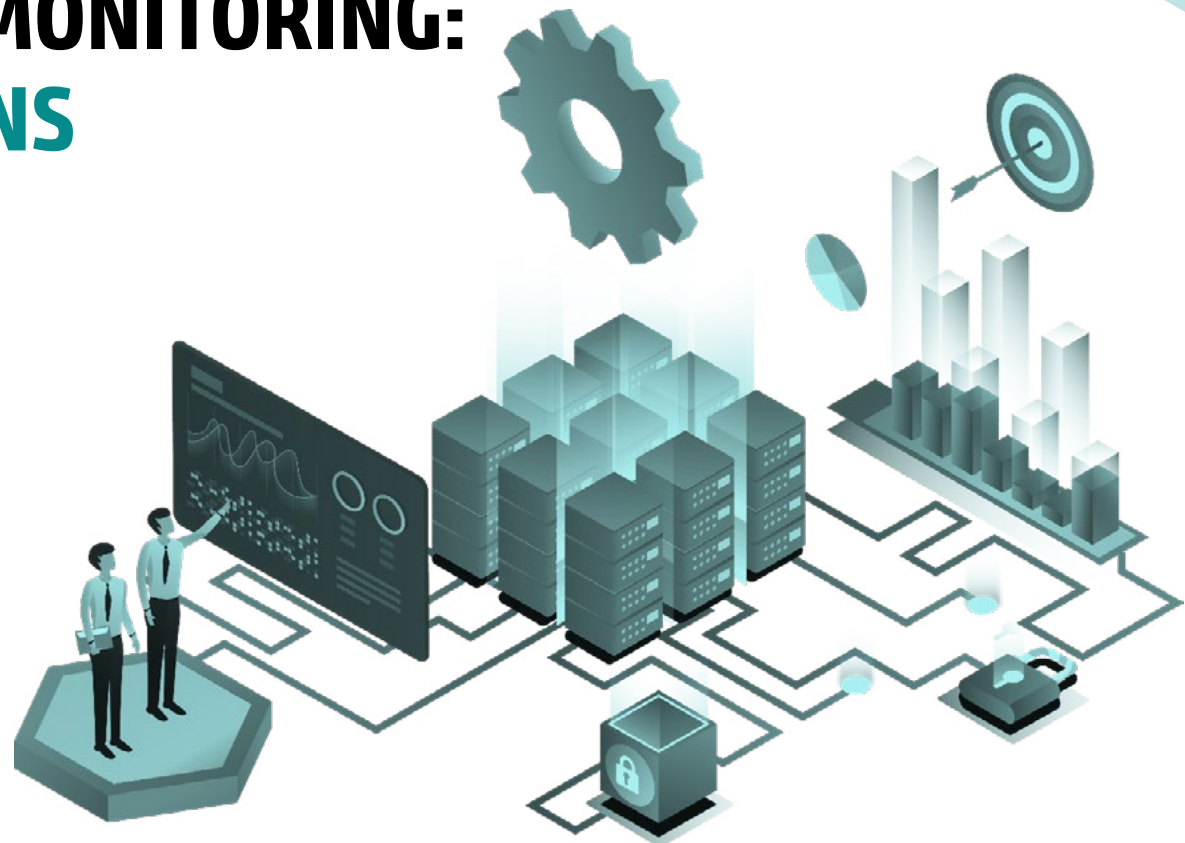




THE IMPORTANCE OF UNIFIED DATA CENTER INFRASTRUCTURE MONITORING: **FOCUS APPLICATIONS**

*What you need to know to keep
your IT infrastructure running
smoothly and efficiently*



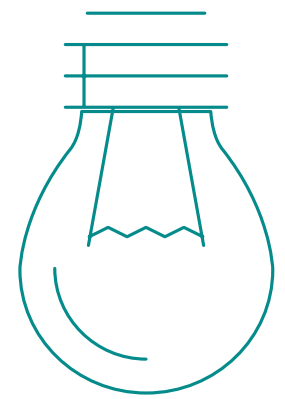


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The current landscape of IT infrastructure operation

When external and internal challenges put pressure on critical infrastructure regularly, keeping your IT infrastructure running at an optimal level is not an easy job.

We now live in a dynamic environment with multiple interconnected systems and all-digital operations. That makes the IT infrastructure even more complex and critical for business. Not to mention that it increases, even more, the risks and potential impact of servers' downtime events.

Streamlining processes and daily operational tasks, adopting vendors' agnostic solutions become more than necessary when aiming for efficiency, performance, and service availability goals.



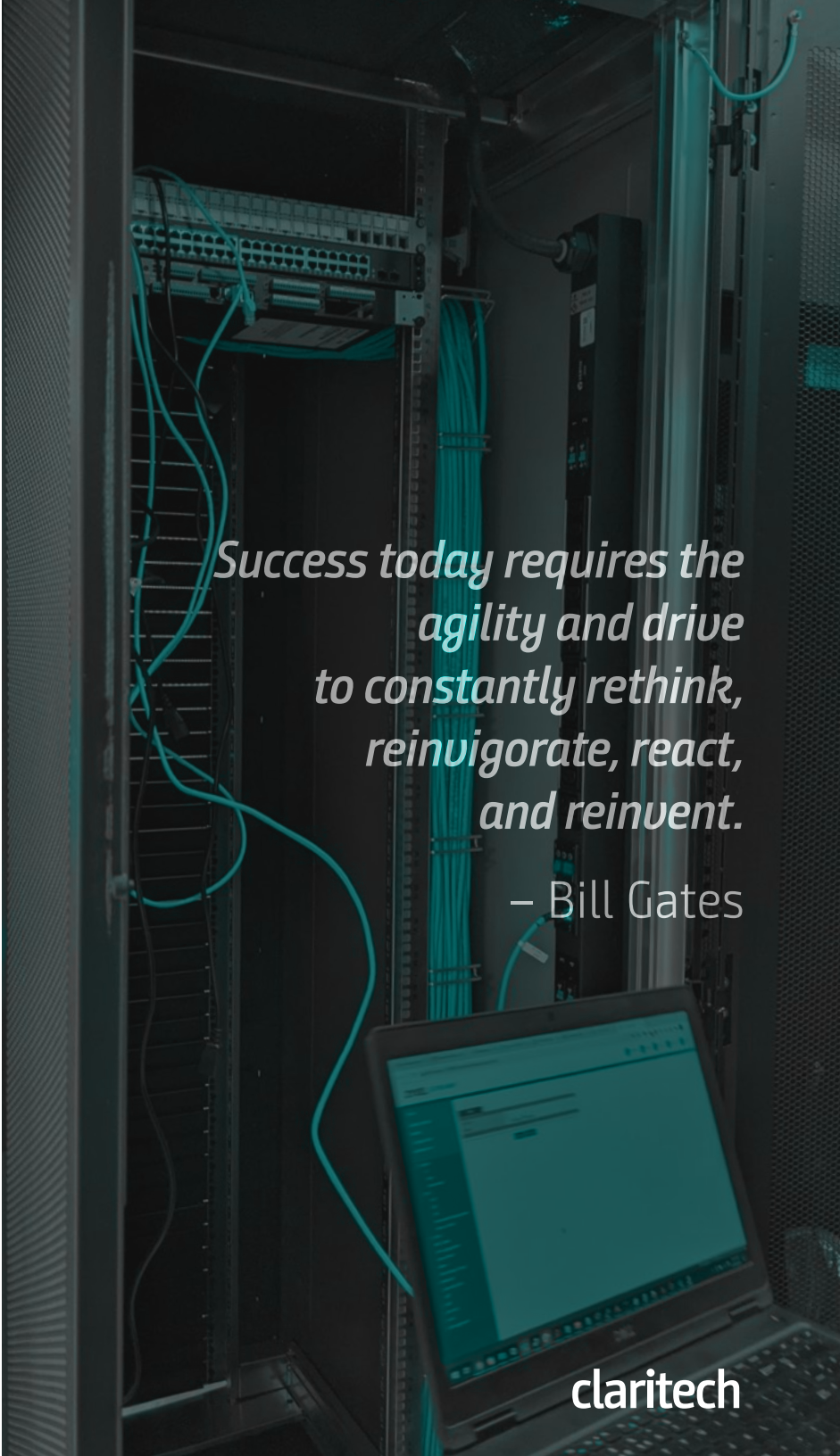
Other than that, it has been noticed a continuous evolution from reactive/ offline systems performance monitoring to pro-active/ real-time infrastructure monitoring.

A study by the Uptime Institute has shown that due to the pandemic, interest for use of remote monitoring and automation became higher.²

Automation is going on a continuous growth curve, from the simple use of sensors collecting temperatures and humidity levels from server rooms to the use of robots operating specific tasks in large data centers.

Scalability and flexibility are two other important aspects that have become relevant in mixed business operations and during crisis times. In times of uncertainty, it's all about being adaptive and creative – businesses have to find the most agile ways to respond quickly to opportunities and threats.

² <https://journal.uptimeinstitute.com/pandemic-has-driven-up-data-center-costs/>



*Success today requires the
agility and drive
to constantly rethink,
reinvigorate, react,
and reinvent.*

– Bill Gates



*“90% of operators would increase their use of remote monitoring
as a result of the pandemic,
and 73% would increase their use of automation.”
(Uptime Institute survey in July 2020)*

Source: www.journal.uptimeinstitute.com*

*Pandemic has driven up data center costs, May 3, 2021, by Andy Lawrence, Executive Director of Research, Uptime Institute,
<https://journal.uptimeinstitute.com/pandemic-has-driven-up-data-center-costs/>

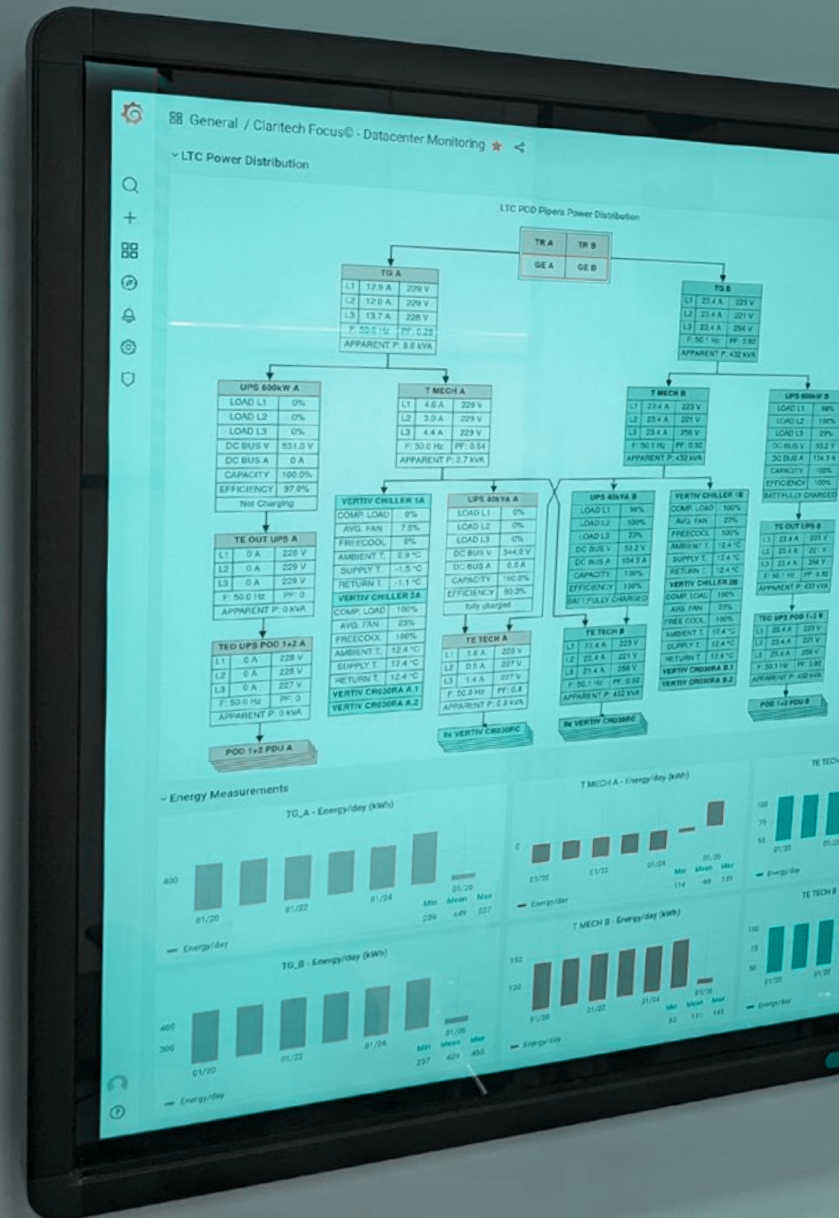
Key benefits of unified data center infrastructure

1. Improved correlation between systems operation

This leads to a better understanding of recurring events and how they are connected, identifying relevant threats and their root cause. Uptime and performance can be improved if incidents and outages are detected and solved on time.

2. Better service due to faster reaction time

Unified data center infrastructure with proper automation can significantly improve response time, performing with minimal intervention and resources. Using historical critical insights you can set the right



thresholds to trigger a real-time action to reduce errors, without depending on limited working hours.

3. Increased energy efficiency due to optimized setpoints

Depending on size and workloads, data centers can contain from few to many racks, so in some cases, each small improvement in each datacenter room operational efficiency could make a difference in saving costs.

4. De-averaged maintenance intervals

As the complexity of the IT infrastructure increases, a continuous process of monitoring the infrastructure becomes essential for the ITOps teams to observe the historical data and learn about the trends. Using real-time critical insights to achieve clarity over the state and performance of equipment enables effective maintenance planning.



Scheduled inspections can be combined with predictive maintenance to maximize the technology's lifespan and uptime.

5. Better planning and forecasting

By gathering data in one place from all systems and applications, having both historical and real-time data, you can leverage the vantage point view for better risk management, helping the team to be more agile and responsive.





From data
to dashboards



to better decisions &
higher productivity



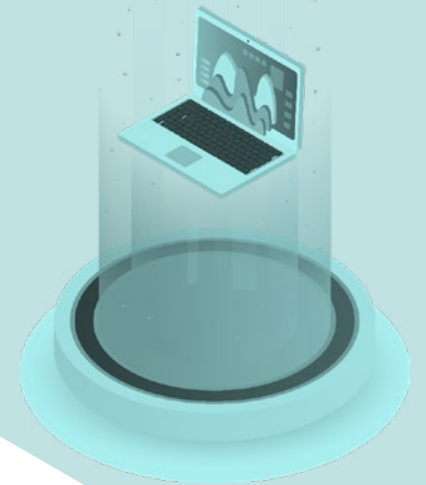
REMOTE MONITORING

A professional reliable integrated monitoring solution can help you supervise the whole tech ecosystem in a single pane of glass and run an effective IT infrastructure management:

- Collect and analyze telemetry data from all systems, applications, networks, and equipment;
- See all infrastructure elements in a centralized view;
- Know the state of the infrastructure in real-time to make the best decisions: prevent bottlenecks, improve performance, and avoid failures.

You can use FOCUS, the unified infrastructure monitoring Claritech solution, which supports CTOs, IT teams, data center managers and operators, to monitor more efficiently critical infrastructure so the business can rely on a safe IT environment.

10 tips to improve infrastructure performance monitoring using Focus



1. Monitor operational status, classify and aggregate alarms based on impact and severity
2. Aggregate and calculate critical infrastructure KPIs
3. Use automatic alerting and diagnostics
4. Manage multiple channel alerts and notifications
5. Plan and prioritize on-site interventions
6. De-average periodic maintenance intervals by correlation of run-time with performance criteria
7. Use automated incident escalation
8. Real-time and audited contractor supervision
9. Mitigate risks reducing unauthorized access and downtime
10. Monitor all IT infrastructure in a single pane of glass – using maps and infrastructure topology diagrams, highlighting outliers and trends

8 tips to improve energy efficiency using Focus



1. Plan and report energy efficiency performance and related infrastructure availability indexes
2. Normalize measurements across multiple vendors and equipment types/ models
3. Use automated display and reporting for real-time and statistical energy consumption and power related parameters for each sub-system
4. Continuously evaluate power reserves and supply/ circuits quality
5. Optimize equipment supply and consumption based on capacity and historical data collection
6. Consolidate backup time calculation
7. Test and report UPS/ Battery system and backup generator(s) availability and back-up time
8. Use PDU outlet aggregation for automated customer invoicing



“

*“60% of respondents believe that their most recent significant downtime incident could have been prevented with better management/ processes or configuration.”
(Uptime Institute’s April 2019 survey)*

Source: www.journal.uptimeinstitute.com*

**How to avoid outages: Try harder!*, September 23, 2019, by Kevin Heslin,
Findings from the 2019 Annual outage analysis: the causes and impacts of data center outages,
<https://journal.uptimeinstitute.com/how-to-avoid-outages-try-harder/>

Top 5 **KPIs** to monitor in your data center operations

1. Uptime

We help you monitor the most important operational index for multiple infrastructure sub-systems, prevent critical incidents and provide detailed root-cause analysis down to seconds. Our equipment provides audit and alarm logs for further event forensics.

2. Power usage effectiveness

Claritech Focus provides real-time and historical PUE monitoring, enabling correlation between power-related events and PUE evolution. By removing the seasonal baseline, you can assess more clearly the impact of infrastructure changes.



3. Power conversion equipment efficiency

We integrate, normalize and aggregate power and energy data from discrete power systems and calculate in real-time the equipment energy conversion efficiency. The customer can evaluate nominal versus real operating conditions and can plan upgrades based on real data.

4. Average IT and cooling energy per rack

We help define relevant energy consumption per rack – to be able to compare between several datacenters and correctly estimate your energy budgets. Furthermore, we track average and total energy expenses per datacenter square meter to be able to standardize and categorize your network of IT facilities.

5. Power capacity reserve trends

Planning for change is an important task of any datacenter manager. We help you estimate the impact of such changes, providing statistical data from Datacenter level down to rack, PDU or PDU outlet level. We automatically calculate power reserves in % for each customer, rack or datacenter, so you can maximize tenancy rates and provide safe reserves for continued operation.

WHAT IS FOCUS?

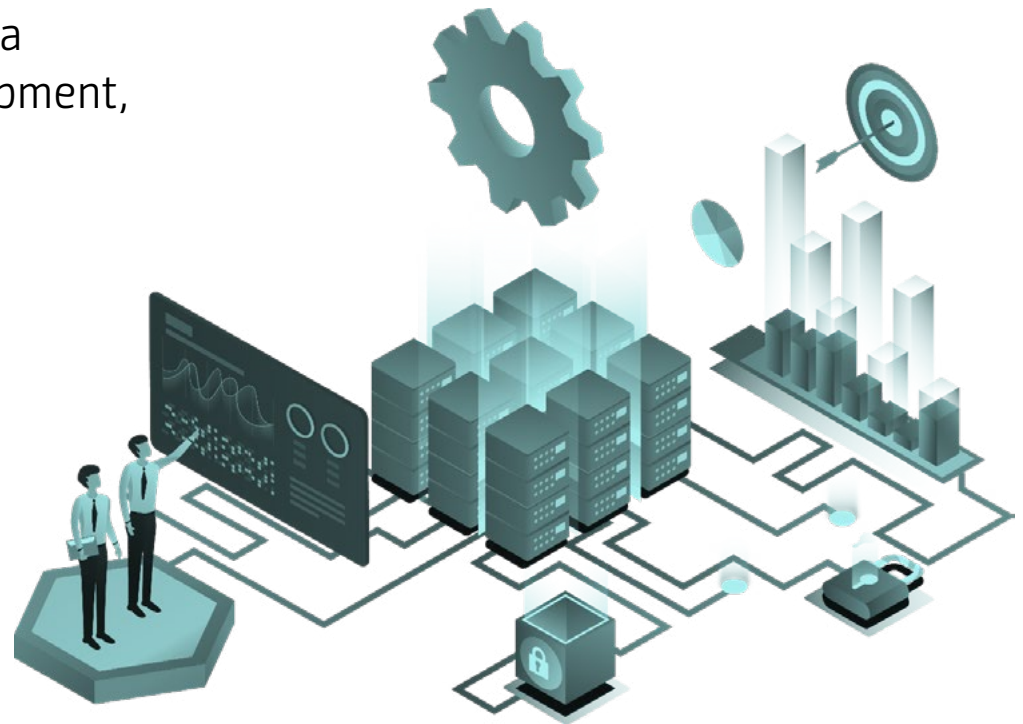


UNIFIED MONITORING SOLUTION FOR YOUR IT INFRASTRUCTURE

The agnostic solution that integrates data from multiple vendor infrastructure equipment, in real-time, at any scale.

For all those who manage critical IT infrastructure – whether in Telecom, Banking, Finance, or Retail – you can get:

- + Visibility
- + Control
- + Efficiency



Trusted by:



DIGI



claritech

FEATURES



ALL-IN-ONE MONITORING, SIMPLIFIED

Remote site monitoring and automation for data centers, head-ends, telecom sites, or communication hubs.

FOCUS fits perfectly for small or large deployments.

See real-time status and a full history of all systems performance in one place with proactive alerting and detailed reporting.



Trusted by:



DIGI



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HOW FOCUS HELPS?



BEYOND VISIBILITY AND CONTROL

Focus offers improved visibility and clarity, integrating multiple data streams into an easy to use but comprehensive dashboard, helping you monitor and effectively operate your critical infrastructure.

Enables root cause analysis and prediction, preventing incidents and saving costs in a timely manner.



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Conclusion

Unified real-time infrastructure monitoring not only can offer a thorough understanding of infrastructure analysis but together with strong management and well-defined procedures can help on reducing the frequency of IT service outages, among other benefits:

- Optimize resource utilization
- Mitigate human error and other causes of downtime
- Increase the sustainability and efficiency of IT infrastructure
- Improve the reliability and performance of the infrastructure
- Facilitate day-to-day operations, performing proper maintenance and upgrades



“Uptime Institute’s surveys have shown that most businesses manage a rich mix of digital infrastructures and services, spanning their own private (on-premises) data centers, leased facilities, hosted capacity, and various public cloud-powered services. This comes at the cost of added complexity, which generates risks, both known and unknown, if not managed with full visibility.”²

² *Fastly outage underscores slow creep of digital services risk*, June 11, 2021, by Daniel Bizo, Director, Uptime Institute Intelligence, <https://journal.uptimeinstitute.com/fastly-outage-underscores-slow-creep-of-digital-services-risk/>

About CLARITECH

Claritech is a technology company that integrates IoT solutions to improve remote operations and support data-driven decision-making for IT infrastructure management.

We supply turn-key solutions, providing complete systems for remote monitoring and automation of power supply, HVAC, and access control/ security systems. We help companies to achieve higher operational efficiency and reduce their energy footprint.

Our integrated solutions aim to solve the challenges in critical infrastructure management by fully leveraging the smart use of technologies and data, focusing on the efficient use of resources.

More than a tool, FOCUS is the essential monitoring solution built to keep clients' infrastructure operations running efficiently.

From a single rack to complex data center infrastructure, FOCUS supports IT teams and facility management teams with visibility, control, and efficiency while managing a single pane of glass.

Want to see what FOCUS can do for your infrastructure?

Let us show you how it works.
Schedule a 1-to-1 meeting:
contact@claritech.ro

SOURCES

- *How to avoid outages: Try harder!*, September 23, 2019, by Kevin Heslin, Findings from the 2019 Annual outage analysis: the causes and impacts of data center outages, <https://journal.uptimeinstitute.com/how-to-avoid-outages-try-harder/>
- *Pandemic has driven up data center costs*, May 3, 2021, by Andy Lawrence, Executive Director of Research, Uptime Institute, <https://journal.uptimeinstitute.com/pandemic-has-driven-up-data-center-costs/>
- *Fastly outage underscores slow creep of digital services risk*, June 11, 2021, by Daniel Bizo, Director, Uptime Institute Intelligence, <https://journal.uptimeinstitute.com/fastly-outage-underscores-slow-creep-of-digital-services-risk/>

OTHER RESOURCES

- Full overview of Focus, the unified IT infrastructure monitoring solution by Claritech
- Case Study - Remote monitoring and control systems for IT&C infrastructure
- Case Study - Aranet, Wireless monitoring and control systems
- Case Study - Remote monitoring and control systems for generators