Case Study

Citadelle Regional Hospital Center

About CRHC

Citadelle Regional Hospital Center (CRHC) is a major healthcare facility located in Liège (Belgium).

With over 3,600 employees and more than 1,000 beds at over six locations, the healthcare provider focuses on state-of-the-art, patient-centric care, with over one million procedures performed annually.

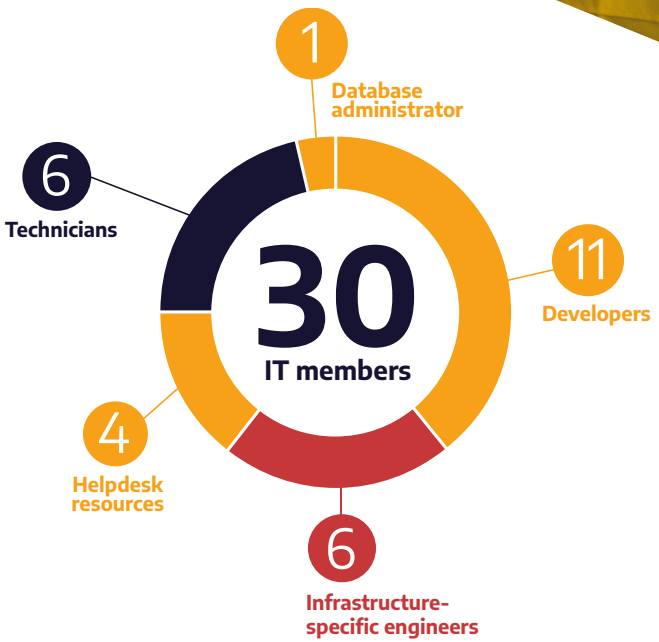
www.chrcitadelle.be

Technical landscape

At CRHC, there were 30 members of the IT team including eleven developers, six infrastructure-specific engineers, four helpdesk resources, six technicians, and one database administrator. There were also over 160 switches, with the Wi-Fi network playing the key role in enabling user access to applications and data.

Business issue

With over 200 active applications and three data centers (two on private clouds), staff productivity and response times—with minimal to no degradation in network or application performance—was critical to delivering unparalleled quality of service (QoS). CRHC was also looking for a performance monitoring solution that would help ensure greater cost efficiencies and that would deliver a quantifiable return on investment (ROI).



Driving over €2 million in annual savings

Calculating ROI

Since the NAPM solution was put in place, CRHC has achieved or surpassed all business objectives and targets, driving almost €2.2 million in annual savings. To determine how to best calculate and assess value, and determine why Skylight™ or any NAPM solution would offer greater bottom-line and productivity benefits, CRHC worked with Accedian to establish key ROI criteria. Here are the following parameters used to calculate ROI savings:

Assessing the cost of a degradation (three key items):

Time that the IT team spends on analyzing and mitigating a degradation or technical issue (workload measured in hours x cost per hour)

Productivity loss for medical and administrative teams in dealing with or reporting an incident or degradation (% of productivity loss x duration of degradation x cost per hour)

Loss of revenue such as the inability to perform billable work or services (# of unperformable billable acts x duration of degradation x revenue per act)

By using these criteria or set of ROI principles, the healthcare provider could determine how an NAPM solution could effectively and quantifiably reduce network and/or application performance issues.

Deep dive: business value and ROI

Here are two deep dives on two separate applications to demonstrate the ROI and the daily cost savings achieved by the deployment of Skylight. Note that while we specifically analyze two individual performance cases below, the hospital center leverages over 200 applications daily, which is why the annual savings of over €2 million was significant.

Deep Dive #1:
Intermittent network and application performance specific to patient electronic medical records (EMRs)

Problem: Citadelle relied on an in-house application for EMRs. The application was continually plagued by degradations and "time outs" that could not be replicated or resolved.

Resolution: With Skylight, resolution time was reduced from approximately 15 days to approximately two hours. The solution identified the source of degradation at the server level, analyzing the flow between client and front-end servers for the EMR application.

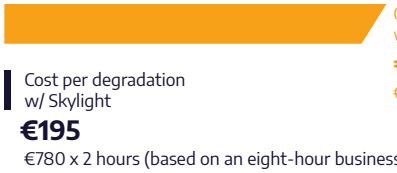
Cost Productivity Loss Analysis: To determine the ROI savings, the following cost per degradation was calculated.

Medical Professional Productivity: 15 minutes of time spent @ €80/hour (€20) + a per-incident cost of €40 = €60

Degradation Daily Cost: Four tickets issued to helpdesk @ €15/ticket = €60

Number of Daily Incidents: Approximately 12 incidents impacting medical professionals (as doctors normally only open a ticket ¼ of the time), which is 12 x €60 (see 'a') or €720

Total Daily Cost: €780 (b + c)



Overall savings per degradation
€11,505
(for a single EMR application)

Deep Dive #2:
Degradation specific to the application used forstocking and restocking of medical supplies in treatment rooms

Problem: Citadelle relied on an in-house application that determined, based on daily inventory, how medical supplies should be replenished each morning in over 42 treatment rooms. Degradations impacted the restocking of these rooms as replenishment orders were not received in time for daily restocking. This impacted a medical professional's daily productivity.

Resolution: With Skylight, resolution time was reduced from approximately 15 days to approximately two days. The solution identified degradation issues not only by looking at network performance but by offering visibility into database transactions and SQL requests.

Cost Productivity Loss Analysis: To determine the ROI savings, the following cost per degradation was calculated.

Medical Professional Productivity: 1.5 hours of time spent @ €60/hour (€90) x four medical professionals (e.g., nurses) = €360

Number of Treatment Rooms: There were 42 treatment rooms located throughout the medical facility, which equates to 42 x €360

Total Daily Cost: €15,120

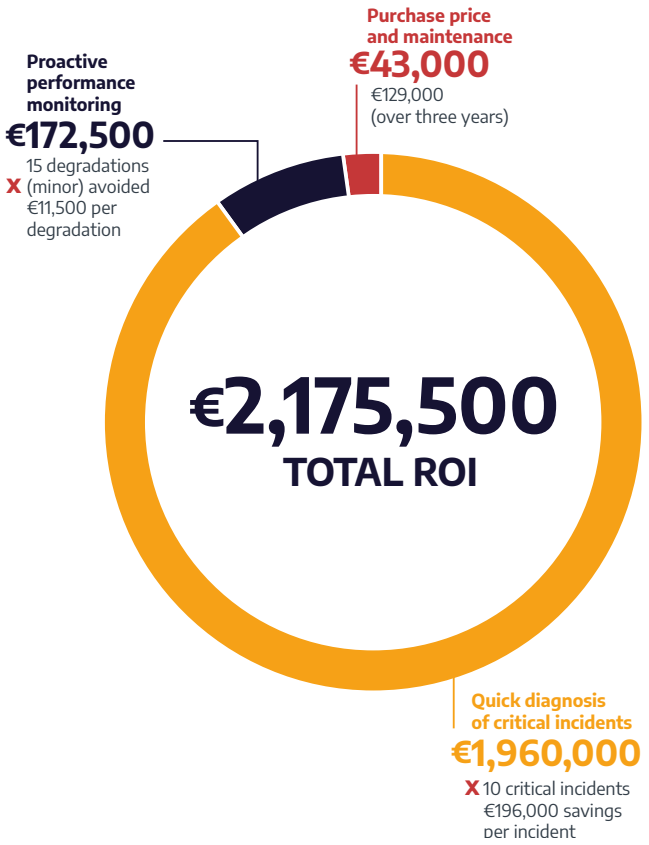
Cost per degradation w/o Skylight
€226,800
€15,120 x 15 days

Cost per degradation w/ Skylight
€30,240
€15,120 x 2 days

Overall savings per degradation **€195,560**

Overall business value and ROI

Using all the criteria outlined above, and deep dives such as the ones around the EMR application, CRHC was able to build a fully detailed ROI framework to show the financial benefits achieved by deploying the Skylight solution. Here is a snapshot of how that €2+ million annual savings was to be realized.



Business and solution benefits

By implementing the Skylight solution, CRHC was able to achieve key technical and business benefits:

- Accelerate the diagnosis and repair of performance degradations
- Achieve better collaboration with API vendors to improve responsiveness as well as streamline project delivery times
- Quantify ROI by analyzing costs of application and network degradations on team productivity, internal/external customer satisfaction, and overall QoS
- Minimize intermittent network and application performance degradation especially around electronic medical records (EMRs), imaging systems, private clouds, WANs, etc. CRHC now has 360-degree visibility into bottlenecks, driving expedited resolution
- Realize higher productivity gains due to the reduction in staff time analyzing, assessing, and tracking user issues and complaints. Just minutes or hours are required to resolve now vs. days and weeks
- Gain real-time visibility into inventory management (through SQL and database transactions) reducing capital waste, eliminating productivity delays, and mitigating potentially life-threatening risks specific to patient care; more time administering patient care and less time spent on administration bottlenecks
- Expedite new application launches by diagnosing and resolving critical issues, defects, and bottlenecks during design and testing phases. This proactive analysis optimizes IT, medical staff, and partner productivity, drives greater brand value, and meets regulatory and internal QoE standards

"One of the major challenges for the IT team lies in the scope of the application portfolio: operations rely on a total of 220 applications. We use Skylight to monitor the performance of each of them. The result is that IT teams can now mitigate problems quickly, and adjust resources to optimize end-user experience proactively."

Marc Thonard, Infrastructure Manager

About Accedian

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