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Case Study: At CERN, Half Of The World's Particle Physicists Experience Service Management

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EXECUTIVE SUMMARY

As CERN, the European Organization for Nuclear Research, expanded its international collaboration, its general services and IT teams needed to change the way they supported CERN scientists and engineers inside and outside of the organization. From CERN's start, multiple support groups had been created that operated as independent silos. But this model created confusion and inefficiencies in managing, tracking, and resolving various issues of the physics community. In 2010, the general services and IT teams realized how inefficient such a service support model was and created a global service management team to streamline and improve customer support. Now, service support is consistently delivered from one place, which will ultimately reduce cost while improving customer satisfaction.

SITUATION: SILOED SUPPORT CREATED CHALLENGES

The European Organization for Nuclear Research, known as CERN, was founded in 1954 and since has become a prime example of international collaboration, with currently 20 member states. CERN is the world's largest center for research in particle physics, with several interlinked accelerators that provide many kinds of particles for many different experiments, and sits astride the Franco-Swiss border near Geneva. CERN employs just fewer than 2,400 staff members with 10,000 visiting scientists from 608 collaborating universities across the world. This vast diversity of internal and external users is supported by a central team, which ranges from IT to general services, human resources, finance, and procurement.¹

The challenge: CERN staff and visiting scientists were not using a one-stop support model for their issues, questions, and challenges. The support for these issues came from multiple silos and support lines. These multiple silos of support channels inhibited efficiencies around the management, tracking, and resolution of various issues of the physics community for IT. Moreover, the approach of multiple silos addressing and resolving support issues made it difficult to measure service levels and offer transparent reporting on the service quality received.

THE SOLUTION: SERVICE MANAGEMENT BEYOND IT

To deliver measurable and transparent service levels, CERN created a service management team to promote a service culture and install a CERN-wide service management framework for all to adhere to.

The scope of CERN's service management was not just IT. It spanned the human resources, finance, and procurement functions as well as the general services group, which includes a wide range of facilities management functions — from hotels, restaurants, car rentals, and bus transportation to product life-

cycle management, project management, and beyond. CERN's IT organization is not responsible for daily operations of the Large Hadron Collider (LHC). CERN's IT and general services are closely involved in the particle accelerator computing grid and other physics-specific applications.

Best Practice: Efficient And Aligned Service Support Through Unification And Coordination

The goal of the CERN service management team: Create a single service support model to deliver service excellence to CERN staff and its collaborating scientists. To deliver on this goal, the CERN service management team focused on the following:

- **Establishing a service catalog.** The first goal was to establish a catalog of services delivered by the IT and general services group. This created a clear inventory of available services and serves as a baseline for setting service-level agreements with customers.
- **Establishing service management processes.** To deliver service excellence, the team needed to shift its current approach of multiple organizations supporting multiple customers to a more coordinated and customer-centric approach. The team adopted a service management approach across all customer support organizations to manage CERN's services with the customer's perspective of the contribution of IT and general services to the physics research community.
- **Implementing a single point of contact.** Too many informal support lines created confusion for users about where to obtain support for their issues, which were ineffectively transferred and lacked formal tracking and communication. This had to stop. CERN created a single point of contact, with the goal of providing a consistent view of the services, measurable service levels, and transparent reporting on service quality.

Best Practice: A Single Point Of Contact With Process Adherence

The CERN service management team applied the following best practices to achieve a much more organized, streamlined, and efficient service support organization:

- **Streamlined adoption.** The intention of the project was not to replace existing best practices in any group but to add a service management framework that was missing. The team positioned its effort as enabling the support organization to streamline support efforts and touted the benefits of better service levels and transparent reporting on the service quality to the CERN user population.
- **Implementation of ITIL Lite.** Previous attempts to introduce ITIL or other standards had never reached past a small subset of the community. The service management team ignored past failures and selected an ITIL Lite approach, which implements key components of ITIL v3 to ensure a sound basis either as a starting point for full implementation or as a deliverable for those not wishing to fully implement ITIL v3.²

- **Coordination of incident and service request management inside and outside of IT.** Employees who had already dealt with issue tracking had to be convinced that a generic issue tracking system for all was feasible and that they could abandon the tools configured for their specific needs. Groups with more traditional organizational structures had to be convinced of the usefulness of a service desk system and the fact that it could be applied to non-IT environments.
- **Automation and efficiency through a unified tool.** The team identified multiple ad hoc solutions in the different silos. These tools had been brought in by teams to support their own function but without any consideration of how to support customers best. By identifying a common use case for the creation of overall reports on service delivery and service quality, the different silos agreed to leverage a unified tool.
- **Joint tool requirements definition.** Tool requirements were defined based on previously defined and approved processes, past interactions with existing systems, and prior data sources. A market survey of many alternative products was generated, where tools were ranked according to more than 300 specific criteria. Many of these criteria were specified by IT experts from various groups of future users of the system, with some being very technical and others being more concerned about vendor stability and market position. The highest-ranking vendors were invited to presentations and proof-of-concept sessions and then ranked on technical and commercial criteria. ServiceNow was selected as the service management tool of choice.³

THE RESULTS: CERN SUPPORTS THE GATEWAY TO THE UNIVERSE BY WORKING SMARTER

CERN's labs are the most advanced of their kind for researching the basic building blocks of the universe. As the need for CERN's labs grows, so does the need for support by an IT and general service group that can scale. Scalability must also occur through increased efficiency and economy of scale. The service management team can now provide overall metrics of the services delivery process and works more efficiently to support the growth of CERN's lab without necessarily adding resources to IT and general services.

Next Steps: Extend Service Management Into More Services

Based on its success and improvements such as high customer satisfaction, improved first-call resolution (FCR), and an overall better reputation for CERN's IT organization, the CERN service management team is planning to expand into new service management processes, which will extend the scope of the service catalog. In addition, it would like to improve integration and functionality with other existing systems such as financial management, asset management, and some of the highly specialized systems for worldwide physics computing.

RECOMMENDATIONS

CREATE A PLAN, INVOLVE OTHERS, AND SHOW YOUR SUCCESS EARLY

CERN's service management team has learned some key lessons during its service management journey that other infrastructure and operations professionals should take note of:

- **Select the right process before tools.** The team selected ITIL Lite as a guideline to improve its processes. However, its success was due to the fact that it defined the processes first and only then started with the selection of the tool.
- **Demonstrate value through success.** Another important strategy was not creating expectations and only announcing successes once they were demonstrated.
- **Avoid overambitious rollout planning.** Obstacles and unforeseeable roadblocks are inevitable. The CERN team's overambitious rollout plan did not consider certain challenges, such as the time for communication, training, and coaching, which required it to announce some delays.
- **Train, train, train.** Insufficient technical training of the support teams in the various groups made rollout more difficult than necessary and delayed general acceptance of the new system.
- **Support education, training, and awareness of IT service management.** Insufficient service management awareness and basic ITIL understanding was another inhibitor to the program. Training the right resources with ITIL and communicating the benefits of service management would have gone a long way right from the start.

ENDNOTES

- ¹ There is no contractual relationship between Forrester Research and CERN. Forrester Research has not provided any consultancy services for CERN.
- ² Source: Malcolm Fry, *ITIL Lite: A Road Map to Full or Partial ITIL Implementation*, The Stationery Office, 2010.
- ³ Source: ServiceNow (<http://www.service-now.com/>).