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White Paper

# The Smart Service Desk— Three Ways Analytics and Machine Learning Can Transform Your Service Desk

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Imagine an IT organization that can deliver services faster with improved service quality while radically reducing the number of IT tickets. This is not a vision for the future. It is the reality today for growing numbers of organizations that are leveraging machine learning to transform the service desk.

## The Challenge of Complexity

When it comes to service management, it is increasingly clear that many IT organizations feel like they are fighting a losing battle—and the enemy in this battle is growing IT complexity. Hybrid infrastructure, composite applications and services, changing development approaches, mobility, and an ever increasing amount of data all contribute. These then pose challenges to the cost of providing IT, the speed of service delivery, and the experience of both end-users and IT staff.

The service desk team is on the front lines of this battle as a main interface between IT and the organization. Yet, the service desk is often struggling to just provide basic support of handling incidents, problems, changes, and requests. Even with improved interfaces and easier administration, staff efficiency continues to be a challenge with manual tasks and limited knowledge that is either static or not usable. Actually improving processes or providing robust self-service is hindered by lack of actionable information, relevant knowledge, and automation of common tasks.

In this battle to provide business value and meet user expectations, new capabilities are available that identify patterns, simplify common tasks, and supply intelligence across all pertinent information sources. The resulting insight empowers the service desk team to handle tickets more quickly and effectively, become more proactive, and enable comprehensive self-service.

### The IT Service Desk and the Digital Transformation

Whether it is proliferating service providers, Bring Your Own Device (BYOD), social media, or the growth of analytics and machine learning, nowhere do these trends have more of an impact than at the IT service desk. Part of the issue is that the typical service desk today is set up according to a structured and generally reactive process. An incident or request comes into a central queue, agents categorize it according to existing definitions, and then assign it to the appropriate group within IT.

All of this sounds reasonable enough—except that the digital transformation underway today is increasingly decentralized and may not align well with such a service desk structure. As cloud services, devices, and data proliferate, it is often difficult for IT to even get a grip on what it is managing, much less resolve an issue. When things do not move fast enough or provide a suitable outcome, end-users and lines of business can turn to other sources, and increasingly do.

End-users are increasingly solving problems on their own. Before calling the service desk for assistance, many will pursue alternative options, such as tapping a colleague on the shoulder, searching an expert blog, or entering an error message into Google. Lines of business (LOB) or non-IT organizations also need service support and delivery, and they also have a range of choices where and how to obtain it.

Unfortunately, the results from these ad hoc approaches are uneven—depending on variables such as the technical knowledge of colleagues and quality of search results. There can also be hidden or non-optimized costs.

These methods further cloud the view of the IT service desk team. IT loses insight into issues, needs, trends, and they can't fix what they cannot see. Information reuse is hampered and service improvement impaired.

This problem is bigger than the service desk. At stake is the relevance of IT. This is true not only for end-users but for the business as well. It is no secret that the business wants to maximize the value of IT. To do this, IT needs to dedicate fewer resources to standard tasks of keeping the lights on and shift more resources to strategic value-added activities. But given the challenges of growing complexity, how can your IT organization rise to the occasion?

There needs to be a way to better access information and share knowledge more effectively within the service desk team and also with business end-users. The goal is to intelligently connect IT with its consumers, whether the approach is via a self-service portal, traditional calling, or even friendly face-to-face. Capturing and using more of the conversation drives better insight, helps your IT organization solve problems faster, enables self-service, and proactively improve service support and delivery.

This paper charts a way forward, providing details on a new approach for IT Service Management—one that helps organizations like yours turn the challenges of IT complexity into opportunities for dramatically improved IT performance.

## A New Approach to IT Service Management

Analytical data pattern matching and relevancy based on what is currently trending applies to IT Service Management (ITSM) in a number of ways. Current analytics are generally limited to indexed data in records. Descriptions, text strings, images, and searches are marginally used or even lost. Analytics identify trends and relevant information across structured and unstructured data inside the service desk tool and companion knowledge sources.

Even in common scenarios such as an application access or performance problem, fifty different end-users could describe the same issue in fifty slightly different ways. And those fifty different users could be interacting with the service desk in a variety of different ways also—call in, email, or a self-service portal from a range of different devices. How long will it take the service desk to understand that these are all the same issue? If a workaround has been found, how long will it be before the workaround is reused by other agents? Will this issue be quickly matched against similar incidents or other related records?

Analytics and machine learning provide a new approach to ITSM that addresses all of the above and more. Let's take a closer look at three ways analytics and machine learning can transform your service desk:

- Empower service improvement
- Handle tickets more simply, quickly, and effectively
- Enable self-service

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Three ways analytics and machine learning can transform your service desk:

- Empower service improvement
- Handle tickets more simply, quickly, and effectively
- Enable self-service

Unsuccessful changes and self inflicted collisions continue to be a leading cause of outages or related problems. Analytics provides insight and identifies recommended actions that can improve change success and the associated service levels provided by IT.

### **Analytics and Machine Learning Empowers Service Improvement**

Analytics identifies patterns and trends across records and a variety of interaction types. Process owners and managers can apply the resulting insight to be more proactive and improve service quality. For example, insight into incident records identifies patterns in clusters of related data and then facilitates proactive problem management reducing future incidents and improving service quality. By visualizing "hot topics", a problem can be easily created and related incidents associated.



**Figure 1.** Hot Topic Analytics

Further, understanding differences between successful and unsuccessful changes of similar types empowers improvement to change management processes and tasks. Unsuccessful changes and self inflicted collisions continue to be a leading cause of outages or related problems. Analytics provides insight and identifies recommended actions that can improve change success and the associated service levels provided by IT.

For a self-service portal, patterns and trends in searches, requests, and questions can all be identified and analyzed. Reoccurring patterns in searches or questions could then result in IT offering a new service, enhancing an existing service, or creating a new knowledge article. Analytics and machine learning provides the opportunity to capture interactions, conversations, chat, voicemail, email, and other media sources to grow your organizational knowledge.

### **Analytics and Machine Learning Allows You to Handle Tickets Simply, Quickly, and Effectively**

Handling requests and managing incidents are two of the major activities provided by the service desk. Improving the speed and effectiveness of ticket handling reduces cost, further improves service quality, and increases customer satisfaction. Let's look at how machine learning enhances ticket handling.

In the application access or performance issue previously discussed, when fifty different people call into the service desk, they will likely engage with multiple agents while describing the same issue in slightly different ways. It is then probable that the issue will be categorized and assigned in more ways than one. In the best scenario there will be multiple similar records. And if a work around or resolution is quickly identified by one agent, it will take some time for this to be presented to other agents or end-users. With machine learning, the service desk can easily recognize that similar descriptions are referring to the same issue. As an agent types in a description or search, the service desk will identify existing related records.

If no record exists, the service desk can provide recommendations on how to classify the record and then assign it. Based on acceptance of a recommendation or not, the service desk becomes more intelligent and can provide even better suggestions in the future. Tickets are created and handled more quickly and re assignments minimized.

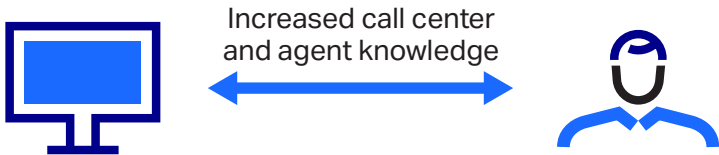


Figure 2. Smart classification

Machine learning can draw from optical character recognition (OCR) for images. When an end-user encounters an issue, they can simply take a picture of it on their mobile device and submit it. The resulting text strings effectively become the description field for a self-service submitted ticket and can also be compared against current trends and existing records for preliminary classification.

Intelligent search provides actionable information across service desk staff and end-users from a broad range of potential information sources—related records, knowledge articles, Microsoft SharePoint, and wikis and then across multiple ITSM processes.

### Analytics and Machine Learning Enable Self-Service

Despite changing demographics and increased expectations based on consumerization, end-user self-service is inconsistently provided by IT. Many service desk organizations do not provide self-service and many that do only provide basic features such as elementary ticket submission and password reset. In the meantime, end-users can turn to a wide range of resources to answer their questions or solve their problems. This exacerbates IT's ability to provide value to the business.

A major challenge in providing effective IT self-service is delivery of relevant knowledge. Most knowledge sources today are static, hard to maintain, have little association with what is currently trending, and being siloed, limit the ability to provide appropriate guidance that is outside of the existing knowledge base.

Let's look again at the fifty users dealing with an access or performance problem and describing it in fifty different ways, but with some of them doing so from a self-service portal. As the end-user is typing a search, the smart service desk will be looking for patterns and provide auto-completion recommendations. Based on what is trending, relevant news, knowledge articles, service offerings, and user suggestions could all be immediately provided. If the end-user pursues requesting support from the service desk, intent-based virtual agent capabilities can facilitate initial exchanges before bringing a human agent on-line or creating a ticket.

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By delivering relevant knowledge and leveraging user interactions, end-users can become more self-sufficient and reduce the number of tickets submitted to the service desk.

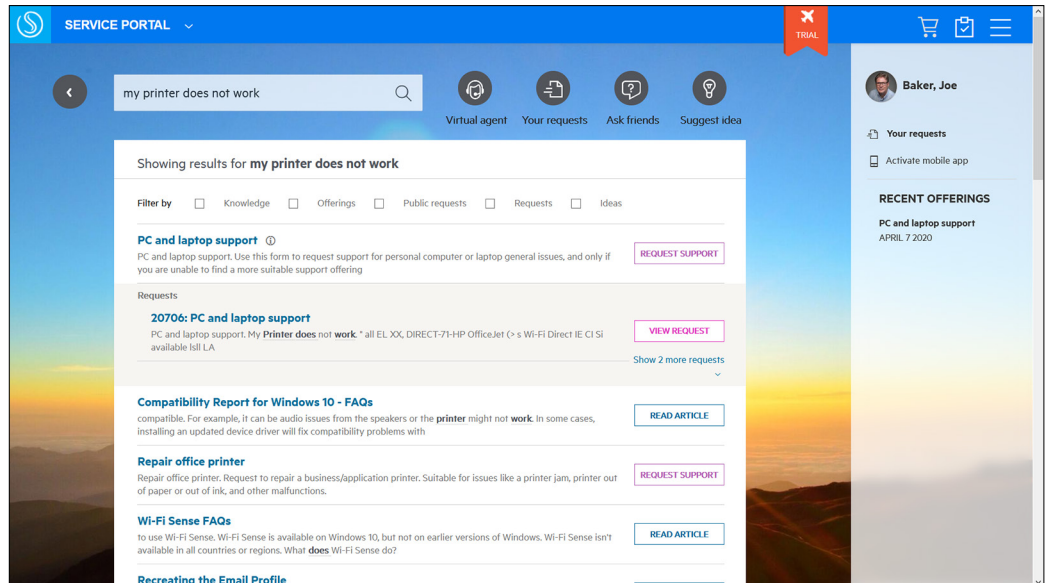


Figure 3. Service portal including smart search for end-users

Self-service is further enabled by providing mechanisms for user communities to exchange information amongst themselves in addition to the service desk. These exchanges are occurring in social forums, but are largely invisible to IT. Facilitating end-user exchanges within the service desk provides another information source that can be leveraged by analytics and machine learning. Understanding what end-users are searching for and the questions they are asking enables the service desk to provide better knowledge and enhanced services.

By delivering relevant knowledge and leveraging user interactions, end-users can become more self-sufficient and reduce the number of tickets submitted to the service desk. For a complete solution, fulfilling requests and automating standard tasks further enable self-service and reduce the number of tickets that are manually handled. This reduces overall cost of IT, increases speed and improves the user experience.

### The Right Tool Makes It All Possible

Successful IT Service Management (ITSM) is equally dependent on people, process, and technology. Industry best practices such as ITIL commonly provide a foundation for ITSM. Services including education accelerate adoption by and effectiveness of people. Ultimately, the right service desk tool is essential. This should include a smart search function to help service desk staff and users access the knowledge they

seek quickly and efficiently. The tool should be able to interpret traditional structured and non-structured data across different data sources and types—including images—and deliver results in a predictive manner. The service desk tool should identify trends and enable proactive process management and improvement. The tool should be simple and increase the effectiveness of all key roles served.

## Technology for Transformative Service Management

OpenText™ provides complete ITSM solutions across services and software. Service Management Automation X (SMAX), with a smart service desk at its core, provides robust coverage of ITSM processes based on ITIL best practices, and other capabilities such as a service portal and collaboration all based on a modern container architecture.

Analytics and machine learning capabilities are deeply woven into Service Management Automation X based on OpenText™ IDOL technology. IDOL is the industry's first comprehensive, scalable, open, and secure platform for analytics. This is the engine that is watching communications, matching patterns, providing actionable insight, and delivering knowledge based on analytics.

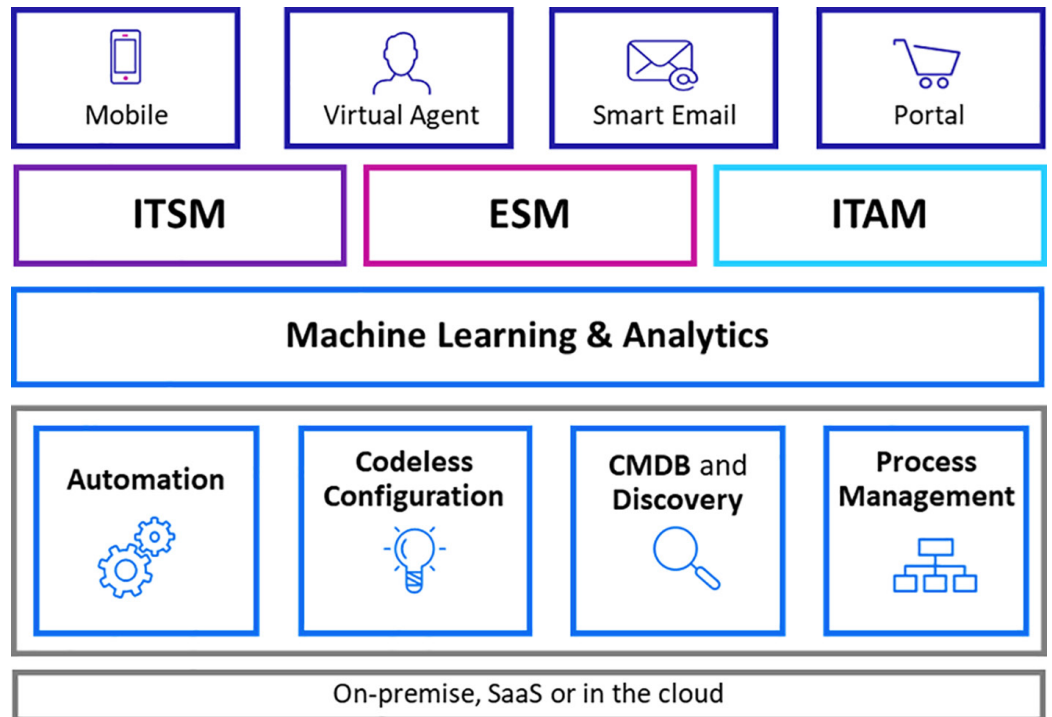
SMAX with IDOL enables your IT organization to capture a larger universe of data from a wider range of sources and put it to use for better, more effective problem solving. This access makes your organization more agile in responding to the constantly changing and growing complexity of today's IT landscape. Virtually no source of information is excluded.

As part of a complete ITSM solution, OpenText also provides industry leading configuration management, discovery, asset management, and task orchestration software. These are frequently combined with event monitoring and management to automate IT Operations Management.

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**Figure 4.** Service Management Automation X solution

**Reducing Cost, Increasing Speed, and Improving User Experience**

OpenText™ SMAX and service desk solutions are designed to simplify and accelerate common tasks. Staff efficiency and effectiveness is improved for managers, process owners, agents/operators, and end-users. Combining more proactive management, service improvement, and increased self-sufficiency, tickets are reduced. All of this then reduces the cost of the service desk, and the service desk staff can focus on more value-added activities.

Leveraging analytical insights, proactive knowledge delivery, and automation of common tasks, reduces the number of tickets and the tickets that are created are handled more quickly. Processes and associated tasks can also be improved increasing the speed at which they are executed. The service desk is more agile and responsive to the business and users.

With improved overall service quality and faster handling of incidents and requests, end-user customer satisfaction is also improved. An engaging self-service portal that supports social interaction and delivers proactive knowledge improves the IT user experience and increases self-sufficiency.

## Key Takeaways

To improve IT service quality, improve service desk staff efficiency, and reduce the number of tickets that must be dealt with, your IT organization needs a service desk with deeply embedded analytics and machine learning. Beyond ITSM, they enable you to deliver actionable insight where and when it is needed to drive superior business outcomes.

OpenText provides comprehensive service desk solutions based on industry best practices, which can be deployed quickly either self-managed in private or public cloud, or delivered as a service (SaaS), and are integrated with OpenText industry leading software to automate and transform operations management.

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