Global agricultural company modernizes with worldwide server refresh

A leading international agrochemical company updates operating systems and critical operational server applications with Atos Life Cycle Management (LCM).
The result: Lower expenses, increased cybersecurity, less downtime, and an optimum user experience.

Atos

Keep your infrastructure running like a well-oiled machine

Within large corporations, there often exist multiple server OSs and server applications that continue to operate despite being out of support for years. The inevitable result is decreased security, less efficiency and more frequent downtime. For companies with thousands of servers running multiple operating systems–often representing a capital investment of hundreds of millions of dollars–maintaining server infrastructure with tools like Atos' Life Cycle Management (LCM) service is equivalent to scheduling timely oil changes for a luxury vehicle. The ongoing, proactive maintenance provided today mitigates the occurrence of a catastrophic breakdown in the future – ensuring an optimal user experience to manage and protect the company's business more efficiently and cost-effectively.

1. Life cycle management is the process by which a company stays current on each OSI (operating system instructions) that make a server a functioning piece of technology capable of running business applications. LCM also addresses server-critical applications such as Citrix, Java, DBMS and middleware products. Contractually, this is sometimes referred to as software currency. All software (OS, applications, databases, etc.) have a life cycle that begins when the product is released and ends when it is no longer supported.

2. Common examples of upgrades include moving from Windows 2008 to Windows 2016, or upgrading SQL 2008 to SQL 2016. The benefits of upgrading an OS include better cybersecurity, software and hardware compatibility, better processing speeds, a more user-friendly interface, and a more stable digital environment–conditions that optimize user experience and productivity.

The danger of procrastination

Many companies neglect to update server OSs and server applications because "things seem to be working fine" or "we don't want to spend the money." Atos' client, a global agricultural corporation, had 6,000 servers that required a systematic process to remediate or upgrade their OS. This is a vital process since each OS version had a finite support life cycle after which the OS vendor would no longer provide support or patches. Atos' approach to life cycle management provided timely upgrades and remediations for this customer's servers and applications. In addition to delivering unparalleled satisfaction for the customer, an up-to-date server infrastructure contributed in numerous ways toward a leaner, more efficient operational business environment, which is crucial in managing a huge portfolio of agro-chemical products.

The Atos approach to OS LCM begins with Discovery, a process involving the investigation of relevant system and application details by the client's LCM program Discovery team. During Discovery, numerous tools and resources are used to identify customer stakeholders. Special consideration for application compatibilities and dependencies in migrating their application to newer operating systems is thoroughly reviewed. OS upgrades follow the typical route of testing in the lower environments (dev, quality or test servers) before upgrading the OS on production servers. Other Discovery considerations can include following regulatory documenting compliance requirements or legal holds.

Atos' LCM solution

The LCM management team at Atos created the complete LCM system from scratch, working in collaboration with the customer. The established process includes 7 steps with 52 recognized statuses that are used to track and monitor the program through a waterfall methodology. It starts with the Discovery phase to determine the requirements for remediation. Then it moves to potential procurement of new/replacement hardware if the current system has aged out of vendor support. Next, a server moves into the initial build-out of the new OS platform upon which Atos has deployed the necessary infrastructure monitoring tools, back-up agents, virus agents, and then finally the business applications that are required to run the company. Then Atos initiates deployment of the newly-built server into the company's operational infrastructure. The last step in the LCM program ensures decommissioning of the old image/server and updating the corporate CMDB (Configuration Management Database) with a posted notification that the old server image has been decommissioned from the environment. This systematic process is beneficial to the customer since servers and applications won't "fall through the cracks" to a condition in which support has expired.

Atos' systematic approach to LCM consists of seven major steps.

Admin	Servers not started yet
1	Discovery Process
2	Hardware & Software Purchase & Installation
3	Server Build Processes
4	Handoff to client for application deployment & User Acceptance Testing
5	Server Deployment Processes
6	Decommission & Configuration Management Database (CMDB) Update Processes
7	Remediation Processes Complete (100%)
Admin	Statuses used for administrative program management & flagging of special server

Keeping tabs on tracking and exceptions

To avoid unexpected expense and process-crippling downtime, additional variables need to be considered with each remediation, which is when the team's expertise comes into play. For example, licensing issues or costs could be impacted when moving servers to different regions or clusters. Some organizations do not pursue an update to the server OS even if it's been unsupported for several years. If the stakeholder "opts out" of the OS upgrade, an "exception to policy" process is required within the company to assess risks and vulnerabilities. Within the LCM program, all this extra activity can be tracked and documented to ensure the OS and its applications are updated correctly to avoid future breakdowns and expensive IT assistance.
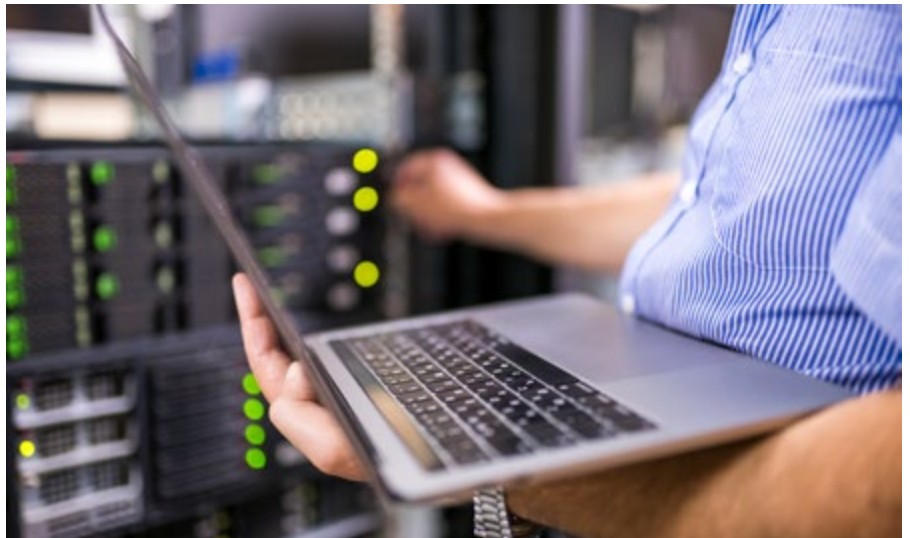
Built from the ground up to automate LCM

To minimize server issues and productivity losses, Atos envisioned an application to manage the entire process for the LCM program by identifying, tracking and reporting the required workflows. From this research, the LCM application was developed. The application is powered by a Microsoft SQL database server with a user-friendly front-end interface. The database is used to enhance the program's 2-dimensional snapshot tracking to 3-dimensional real-time metrics for more robust analytics. The result is insightful performance metrics that improve individual and team performance in addition to allowing detailed resource costing for the customer.

> In the first year of deployment, 2016, Atos' LCM team achieved 1,300 remediations versus a total of 1,400 completed by the client over the previous three years.

Past and present performance

There existed a semblance of an LCM program at the client when Atos started supporting their IT infrastructure in September 2016. An internal team had managed an in-house LCM program in the three years previous. The remediation output was measured at 400, 500, and 600 remediations in 2013, 2014 and 2015, respectively. The in-house LCM effort had a very informal structure; in fact, there were little to no processes or documented procedures in place to support and drive the program. This resulted in multiple servers and applications being out of date and in need of emergency patches to avoid major downtime or weakened capabilities to mitigate security issues.

Seeing an opportunity to bring order to a flawed process, Atos designed, documented and deployed a structured methodology from start to finish. The 52 statuses detail all the various transactions and processes that are required for a server's OS to achieve a successful "remediation." In the first year of deployment, 2016, Atos's LCM team achieved an incredible milestone of 1,300 remediations versus a total of 1,400 completed by the client over the previous three years. The business impact was a massive reduction in cost, improved employee productivity and enhanced user experience across the company.

Year after year, the program has matured while increasing the number of remediations as a result of utilizing best practices and applying enhancements from lessons learned. By identifying imminent end-of-life operating systems, the Atos team works with the client in keeping the environment current to avoid operational and security vulnerabilities – faster and more cost-effectively. In doing so, the global agricultural giant enjoys the benefits of a smoothly running business. The goal for this year (2020) is 2,700 remediations using the Atos LCM program, representing phenomenal growth of twice the output in Year 4 than the total posted in Year 1.
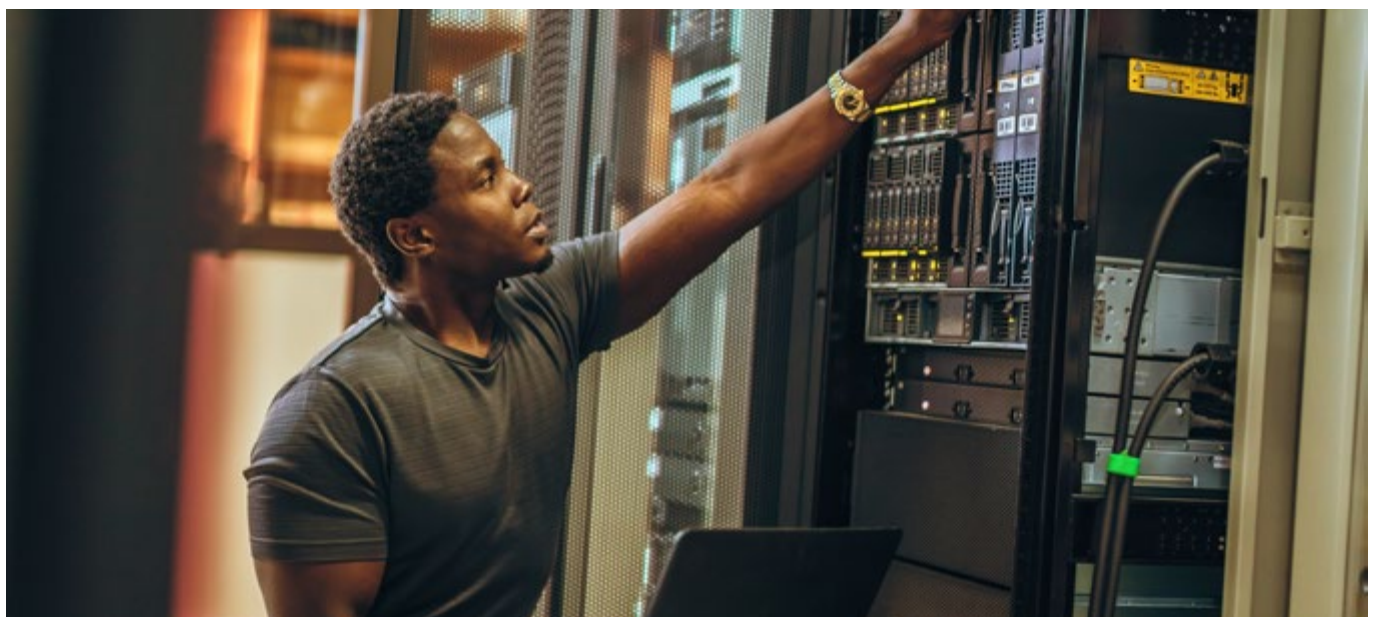
Ensuring OSs and applications are current

The client has, on numerous occasions, acknowledged that the deployment of the Atos LCM program is a significant direct contributor to remarkable improvements in the operations of its production environment, increases in overall cybersecurity and stability of server farms, and reductions to potential hacker penetrations.

Further, the LCM program has contributed significantly to the overall reduction of problem tickets submitted by application owners and users. Some high-value metrics indicate an 80% improvement in system/OS failures and security vulnerabilities (see the table below) – further amplifying productivity and optimized end-user experience.

Many companies perform OS refreshes in-house without the expertise of a dedicated, experienced LCM team – with varying degrees of success. Before Atos' LCM team partnered with the client, there were server OSs and server applications that had been out of support for many years resulting in decreased server security, less efficiency and more frequent downtime. However, by incorporating an LCM to manage a server OS and server applications refresh program, organizations can ultimately save money.

When considering the analogy of the luxury car, it doesn't make financial sense to risk permanent damage to the vehicle when a basic requirement like the oil is not properly maintained. Similarly, OSs and related applications will break down when not properly monitored and maintained. Upgrading operating systems and applications to ensure the ongoing health of the systems and access to uninterrupted support makes good business sense. It eliminates the issues of unplanned downtime or the purchase of costly extended OS support plans from the vendor. Other benefits realized with timely remediations are increased employee productivity and the elimination of many security vulnerabilities. The net, net–a better experience for end users with unhindered access to secure data and information wherever and whenever they need it.

	Ticketing Incidents / Vulnerability	Before Atos LCM (Avg/month)	Now (Avg/month)	After Atos LCM % Improvement
System/OS Failures	P1 incidents (highest priority & impact)	75	15	**80%**
	P2 incidents	150	50	**67%**
Security Vulnerabilities	P3 incidents	2,500	1,300	**48%**
	P4 incidents (lowest priority & impact)	1,800	1,500	**17%**
	Vulnerability Index	1,500	300	**80%**

To request more information on the Atos Life Cycle Management program, click here.

About Atos

Atos is a global leader in digital transformation with 110,000 employees in 73 countries and annual revenue of € 12 billion. European number one in Cloud, Cybersecurity and High-Performance Computing, the Group provides end-to-end Orchestrated Hybrid Cloud, Big Data, Business Applications and Digital Workplace solutions. The Group is the Worldwide Information Technology Partner for the Olympic & Paralympic Games and operates under the brands Atos, Atos|Syntel, and Unify. Atos is a SE (Societas Europaea), listed on the CAC40 Paris stock index.

The purpose of Atos is to help design the future of the information space. Its expertise and services support the development of knowledge, education and research in a multicultural approach and contribute to the development of scientific and technological excellence. Across the world, the Group enables its customers and employees, and members of societies at large to live, work and develop sustainably, in a safe and secure information space.

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