Moscow Exchange

Moscow Exchange has increased the reliability of its IT infrastructure with the Micro Focus Universal Discovery and Universal CMDB solution, ensuring the stable provisioning of business services.

About Moscow Exchange

The Moscow Exchange Group operates the only multi-functional exchange platform in Russia for trading shares, bonds, derivatives, currency, money market instruments and commodities. The group includes Moscow Exchange PJSC, the central depository (the National Settlement Depository, a non-bank credit organization joint-stock company) and the clearing house (the National Clearing Center, a non-bank credit organization central counterparty joint-stock company), which performs the functions of the central counterparty in the markets. This enables Moscow Exchange to provide clients with a full cycle of trading and post-trading services. The company has three Moscow offices, two data centers and regional branches.

Service Reliability Means Transparency

The IT services at Moscow Exchange are subject to the highest demands because operating the electronic trading platform requires constant availability. There should be no disruptions to the service because every minute of downtime is expensive.

We know that the highest number of incidents occur when changes are made to the systems, so the issue of configuration management is a priority for the company.

"We have very serious requirements for reliability and availability, so it is important to understand what equipment is being installed and where, what versions of the systems are being used and what changes are being made and why," says Yulia Yakovleva, Head of IT Service Management of the Information Technology Unit at Moscow Exchange PJSC.

IT service management only began to develop as a division and as a centralized function fairly recently and the most critical areas in need of attention were configuration management, hardware monitoring and automated

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Head of IT Service Management
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Moscow Exchange PJSC

MOSCOW EXCHANGE

At a Glance

■ **Industry**
Business Services

■ **Location**
Moscow, Russia

■ **Challenge**
Increase the reliability of the IT infrastructure and plan and monitor changes to hardware configurations

■ **Products and Services**
Micro Focus Universal Discovery
Micro Focus Universal CMDB
Micro Focus Network Node Manager i
Micro Focus Operations Bridge

■ **Critical Success Factors**
+ Visibility of the configuration management process
+ Centralization of data on all hardware into a single system
+ Automated discovery of configuration items
+ Use of system capabilities in related IT projects

information collection. That is not to say that they started from scratch; a configuration item database (CMDB) already existed, based on one of the solutions. The problem was that the database could not to be automatically scanned or have information automatically added to it. This had to be done manually, which was time-consuming work and led to low-quality data. In addition, the company needed to not only have inventory information about the IT infrastructure but also build resource and service models. Understanding which components make up the service and which servers and network devices are involved in business systems is another large and important task that was also handled manually.

However, the company has functional divisions that deal with local inventory tasks independently. They maintain their own hardware databases, often with in-house scripts, and some even implement industrial solutions.

Because of this, the IT infrastructure was perceived as piecemeal by different functional teams and also different tools, depending on the maturity of the division's accounting processes. An attempt was made to combine the information into a single federal database but this was a difficult approach that was not successful.

"We realized that we needed a single centralized system that detects the entire infrastructure regardless of the hardware category, operating system, or application software installed," highlights Andrei Nosov, Deputy Head of the IT Service Management Department at PJSC Moscow Exchange, curator of the Configuration Management process.

Reducing Risk

The main goal was to improve the reliability of the company's key business systems and to reduce risk when making changes. Therefore,

the business had to achieve a higher level of service availability.

"We have reduced the risk of failure and downtime of business-critical systems that earn money for the company. This aspect is of extreme financial importance for us. We have unbelievable trading speeds and the failure of any system has catastrophic consequences," remarks Nosov.

The Key Is Functionality and Flexibility

When choosing a solution, the Moscow Exchange specialists analyzed the market, studied the recommendations of analytical agencies such as Gartner and chose 7–8 leading systems. The key requirements were the completeness and accuracy of the discovery of configuration items, the ability to expand functionality, coverage of all the major hardware categories used in the company, convenience of working with data and integration with other systems. After considering these requirements, only three possible solutions remained on the list, which were tested on a pilot stand—a test range with various devices. During testing, Micro Focus Universal Discovery and UCMDB was more accurate than its competitors, especially in identifying virtual systems. It also had advantages in terms of integration, given that other Micro Focus products are also in operation: Network Node Manager i (NNMi), Operations Bridge (OpsB), and Storage Manager. Lastly, it is quite flexible and easy to adapt and the company plans to use it to automate the construction of resource service models for business systems. The Universal Discovery and Universal CMDB solution is very well established, so it can be used in tasks that are not obvious at first.

Integration with other systems is actively used to ensure that money is not wasted on the licensing of discovery processes. For example,

network device data is collected from the Micro Focus NNMi monitoring system used by the network development and maintenance authority. Storage data is obtained from the Micro Focus Storage Manager, which is used by the operations department. Data on work stations is taken from the Microsoft System Center.

Nonetheless, the company aims for full coverage of computing power using standard discovery tools. This year's additional purchase of licenses was fairly straightforward. Management was shown the current amount of infrastructure coverage, the need to increase it was explained and there were no issues.

"This is a big step forward. Just a few years ago, such large infrastructure projects with no direct business impact were heavily criticized. We managed to cultivate these values in the company, so now these projects run more smoothly and are accepted by the business," says Yakovleva.

Convenience and Predictability

"The most important thing is that we have centralized the hardware data and consolidated it into a single system. This is important for completing a lot of tasks. It's convenient, and that's what we've been aiming for," notes Nosov. It is not yet possible to say that 100% of configuration items are monitored but discovery processes cover a significant portion of the hardware. Specialists can see the full picture and have stopped contacting other divisions for clarification. As a result, it was possible to reduce the risk from implementing changes and increase transparency of the effect of various infrastructure components on business services. The process of change is faster and safer and easier to plan. If this is linked to major data center changes, software version updates or replacement of the workstation fleet, the consequences of these actions become

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more predictable. What is more, the system has identified several undesirable events that could have led to incidents.

"One person supports and develops the system, and that's one of the most important things—we have implemented a sufficiently large system that enables the convenient use of operational risk and continuity functions. The customer is completely satisfied and did not need to expand the team," says Yakovleva. In addition, despite the significant cost of the product, all available integrations with existing solutions have been implemented, which eliminates unnecessary purchases. The project turned out to be cost effective.

As for assessing potential failures (i.e., reputational and financial losses) that have been avoided, these are very difficult to measure. Although they are among the most critical risks, it is difficult to put them into figures. One can only say that they have become somewhat less critical on the Moscow Exchange risk matrix. Having achieved coverage of about 90% of the infrastructure, it was possible to ensure convenience for those responsible for the availability of company services.

Centralized Asset Management As Part of the IT Strategy

The related issue of Software Asset Management (SAM) is currently of great interest outside IT, especially in finance. For instance, the CFO is interested in up-to-date information about the use of the software being purchased and regularly requests data on the effectiveness of its use.

"We are now evaluating the maturity of the software asset management process and the next step will be its automation. This is where the software discovery tools are useful, which are logically integrated into this process," says Yakovleva. So far, the Moscow Exchange has focused on computing power and data consolidation through integration solutions. The software part is now covered and there is already a fair number of business customers. It is not just about managing configurations and making informed application changes. The desired functions include procurement management, license acquisition and renewal, and division compliance, which is critical for complying with license integrity. In addition, centralized IT asset management is defined as an important part of the company's IT strategy.

Integrated third-party solution
- Microsoft System Center

Integrated Micro Focus solutions
- Micro Focus Network Node Manager i
- Micro Focus Storage Manager
- Micro Focus Operations Bridge

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